Spill Prevention, Control, and Countermeasures Plan (SPCC)

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Document Prepared in 2004 by:
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Original Implementation Date of Plan: November 2, 2004

This plan is fully implemented under Reed College management approval and direction. Reed College management personnel must review and evaluate this plan at least once every five years or whenever there is a change in design, operation, or maintenance that could significantly affect the plan. After this review and evaluation, school personnel must amend the SPCC Plan within six months of the review.

Reed College Emergency Phone Numbers

Reed Community Safety Emergency	503-788-6666, ext. 6666
Fire/Police	911
NRC Environmental (Clean-up Contractors)	1-800-337-7455 Or 503-283-1150
Chemtrec (Specialty Spill Responders)	1-800-424-9200
Poison Control	1-800-222-1222
Safety & Supply Co. (Supplies and Equipment)	503-283-9500
National Response Center	1-800-424-8802
Oregon State Emergency Response System	1-800-452-0311
Portland General Electric Outage /Emergency Response (24 Hrs)	503-464-7777 OR 1-800-544-1795

Primary Contact	April Sams, Director, Environmental Health and Safety	971-284-4534 (cell)
Alternate #1	Steve Yeadon Director, Facilities Operations	503-777-7764 503-777-7283 (front desk) 503-421-0011 (cell)
Alternate #2:	Aaron Haddeland EHS Specialist	503-517-7931
Alternate #3:	Gary Granger Director, Community Safety	503-777-7379

Table of Contents

1.0 Purpose and Scope

The Spill Prevention Control & Countermeasure or "SPCC" Plan describes all applicable oil-containing equipment at our facility and establishes the necessary practices to prevent a spill (also called a "release") of oil to the environment. It sets up procedures necessary for proper response, such as containment, clean up, and notification activities, in order to minimize harm to the environment in case of an accidental spill or release.

This Plan is divided into several sections:

Section 2 - Responsibilities of Positions provides an overview of the responsibilities of Reed College managers and departmental heads to prevent, respond to, contain, and document oil spills.

Section 3 - Regulatory Requirements explains the regulatory scope and purpose of a Spill Prevention, Control and Countermeasure Plan, site-specific information about the oil products stored at Reed College, and the administration of our plan.

Section 4 - Facilities Overview contains a summary of our facilities infrastructure, topography, soil conditions, and oil storage.

Section 5 - Spill/Release Countermeasures and Response Procedures describes information about the surface water drainage system at Reed College, the potential causes of oil spills/discharges, and appropriate countermeasures based on the physical properties of various oils. It provides specific information about what to do during a spill/release: how to report a spill, guidance on mitigation and cleanup of a release, proper disposal of related waste, and materials and equipment maintained by Reed College for use in emergency situations.

Section 6 - Spill/Release Prevention identifies policies and procedures designed to reduce the potential for a spill/release. It provides information on past oil releases and response measures; establishes schedules and procedures for inspecting storage areas and equipment containing oil; a description of annual SPCC training; general delivery and storage procedures.

Appendices contain emergency contact information and procedures; more detailed information about the facility and oil-containing equipment, including maps; training and maintenance records; reference and suggested training documents.

The SPCC Plan is located on the EHS website at:
https://www.reed.edu/ehs/assets/downloads/safety-information-forms/spill-prevention-control-and-countermeasure-plan-spcc.pdf

2.0 Responsibilities of Positions

Reed College is committed to providing all the properly trained personnel, equipment, and materials required to prevent oil spills and, if necessary, to expeditiously control and responsibly counteract any oil spilled. Managers in Community Safety, Environmental Health and Safety, and Facilities Services must:

- Allocate necessary resources (e.g. employee time and equipment) to complete site-specific SPCC Plan implementation and corrective measures as identified.
- Communicate issues of concern regarding SPCC plan implementation to site personnel as appropriate.
- Identify and properly train all employees involved with handling oil products.
- Maintain appropriate training and drill records.
- Schedule regular maintenance inspections.
- Meet all record-keeping requirements for fuel- or oil-containing equipment.
- Ensure that appropriate spill-mitigation equipment is maintained and available.
- Maintain up-to-date information on site-specific oil storage and use.
- Provide timely, updated information to Reed's EHS Department.
- Coordinate with Reed's EHS Department on technical issues.
- Provide additional site security in areas affected by a "major" spill (for instance, by using barrier tape and traffic cones to designate an emergency exclusion zone.)

3.0 Regulatory Requirements

Reed College staff have prepared this Spill Prevention Control and Countermeasures (SPCC) Plan to meet the United States Environmental Protection Agency's (US EPA) Oil Pollution Prevention Regulations [Title 40 Code of Federal Regulations Part 112]. This SPCC Plan establishes preparedness and prevention measures, plans to ensure effective response, and notification procedures as currently required by law. Reed College personnel will implement this plan in order to prevent or mitigate a discharge that could violate applicable water quality standards. This plan also establishes guidelines for activities to prevent recurrence of any oil spill.

By definition, a facility that stores, transfers, distributes, uses or consumes oil[1] is subject to SPCC regulations if: the total aboveground storage capacity exceeds 1,320 gallons; and if, due to its location, the facility could reasonably be expected to discharge oil into or upon the navigable waters[2] of the United States or adjoining shorelines. Penalties for not complying with these laws can be as high as $32,500 per day.[3]

Our SPCC plan must be available for on-site review by the EPA regional staff during normal working hours. If Reed College were to release more than:

- 1,000 gallons of oil into or upon navigable waters of the United States or adjoining shorelines in a single event; or
- 42 gallons of oil in each of two spill events within any twelve-month period,

[1] "Oil" is defined in [40 CFR 112.2] as “oil of any kind or in any form, including, but not limited to: fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil.”

[2] "Navigable waters" of the U.S. are defined in Section 502(7) of the Federal Water Pollution Control Act (FWPCA), and include:

- All navigable waters of the U.S., as defined in judicial decisions prior to the passage of the 1972 amendments to the FWPCA, and the tributaries of such waters; and interstate waters (including interstate wetlands).
- Interstate waters (including wetlands) such as intrastate lakes, rivers, and streams which are utilized by interstate travelers for recreational or other purposes; and intrastate lakes, rivers, and streams from which fish or shellfish are taken and sold in interstate commerce.

[3] If an administrative action is filed, the penalty can be up to $137,500. There is no limit if a federal judicial case is filed.

The Federal statute requires that facilities amend their SPCC plan within six months of changes in facility design, construction, operation, or maintenance that materially affect the facility's spill potential. Otherwise, a manager, who can commit the necessary resources to implement the programs and procedures, must review the plan at least once every five years (Certification Forms A-1 and A-2 in this section.). The amended plan must include "more effective prevention and control technology," if such technology has been field-proven to "significantly reduce" the likelihood of a spill event.

3.1 SPCC Recordkeeping

SPCC regulations require the maintenance of various records including:

1. Copy of most recent SPCC Plan and SPCC Responsibilities Matrix.
2. SPCC training-attendance-records (web or classroom).
3. SPCC Inspections Forms (signed & dated).
4. Tank and other oil-containing equipment "as-built" drawings.
5. Tank testing records:
    - Interstitial monitoring
    - Integrity (pressure) testing
    - Cathode protection
    - Tank & Oil-containing Equipment Inventory (up-to-date).
6. Vendor Notification Forms (signed & dated).
7. Spill/Release History (Log Book).
8. All SPCC-related correspondence.

For further regulatory information and forms, see Appendix G: Reference Documents

4.0 Facilities Overview

3.1 Reed College Facility Information and Topographic Map

Facility Name:	REED COLLEGE
Street/Mailing Address:	3203 SE WOODSTOCK BOULEVARD PORTLAND, OREGON 97202-8199
Owner/ Operator:	THE REED INSTITUTE
NAICS CODE:	6113 (College)

Location: Reed College is an institution of higher education located within the city of Portland, Oregon. The 116-acre campus includes the headwaters of Crystal Springs Creek, Reed Lake, and the 26-acre Reed College Canyon wetlands: tributaries of the Willamette River. SE Steele Street borders the facility to the north; SE 37th Avenue to the east; SE Woodstock Boulevard to the south; and SE 28th Avenue to the west.
Latitude: 45º 28' 45.1199"
Longitude: -122º 37' 49.44"

APPENDIX B: MAPS shows the property boundaries, topography, and location of buildings, drains, surface water features, and oil storage sites

3.2 Proximity to Navigable Water

The Reed College campus is located approximately 1.1 miles due east of the Willamette River. Oil-filled equipment is located around the banks of Reed Lake. Storm water drains from the various generator and oil equipment sites to Reed Lake by way of on-site storm drains and/or overland flow. The water from Reed Lake flows out as Crystal Springs Creek, which contributes to Johnson Creek to the south. The confluence of Johnson Creek and the Willamette River is located on the West Side of the intersection of Front and Monroe Streets in Milwaukie, Oregon, approximately 3 miles south of campus.

3.3 Topography and Soil Condition of the Site

The Reed College campus surrounds Reed Lake. The Multnomah County, Oregon Soil Survey by the U.S. Soil Conservation Service describes the soil at this campus as "Urban land: moderately well drained to poorly drained loams and silt loams." The typical equipment locations are protected from erosion by asphalt surfacing, concrete, or landscaping materials.

3.4 Oil Storage Summary

3.4.1 Fixed, diesel-powered backup generators*

Unit Number	**Location**	**Volume** (Gallons)
G-1	Chemistry Building	75
G-2	Physics Building	475
G-3	Eliot Hall	(40)
G-4	Educational Technology Center	392
G-5	Foster/Scholz Dormitory Complex	146
G-6	Gray Campus Center/The Commons	110
G-7	Physical Plant Building	100
G-8	Bragdon Dormitory Complex	85
G-9	Sullivan Dormitory	(40)
G-10	Grove Dormitory Complex/Quad	185
G-11	Psychology Building	226
G-12	Vollum College Center	145
G-13	Performing Arts Building	416
G-14	Trillium Dormitory	256

G-15	Sports Center	135
Total of Diesel Stored in Generators with volumes ≥ 55 gallons		**2746**

*See **APPENDIX C** for details about the petroleum-powered **GENERATORS.**

3.4.2 Biodiesel

Biodiesel (S-2) is stored in two 55-gallon drums in the north end bay in the grounds shop. A secondary containment tray holds both drums and can handle up to 55 gallons.	
Total Biodiesel Storage (in gallons)	**110**

3.4.3 Diesel

Diesel (S-4) is stored in a 5000-gallon tank on the northwest side of the Physical Plant building. A secondary containment tank contains the inner tank and can handle up to 900 gallons.	
Total Diesel Not Stored in Generators (in gallons)	**5000**

3.4.4 Ethanol-Free Gasoline

Ethanol-Free Gasoline (S-5) is stored in a 243-gallon fuel cube at the Facilities Warehouse Complex on SE 28th Street (S-5) The fuel cube is double walled providing 110% containment.	
Total Ethanol-Free Gasoline (in gallons)	**243**

3.4.5 Cooking Oil

Cooking Oil (S-1) is stored in two 233-gallon tanks, one for fresh oil, one for used waste oil, within the kitchen in the Gray Campus Center.	
Total Cooking Oil (in gallons)	**466**

3.4.6 Other petroleum products (Appendix D: Oil Storage) including gasoline, diesel, lubricants, waste oils, and horticultural oils are stored above ground in metal barrels or safety storage cans with volumes of less than 55 gallons per container:

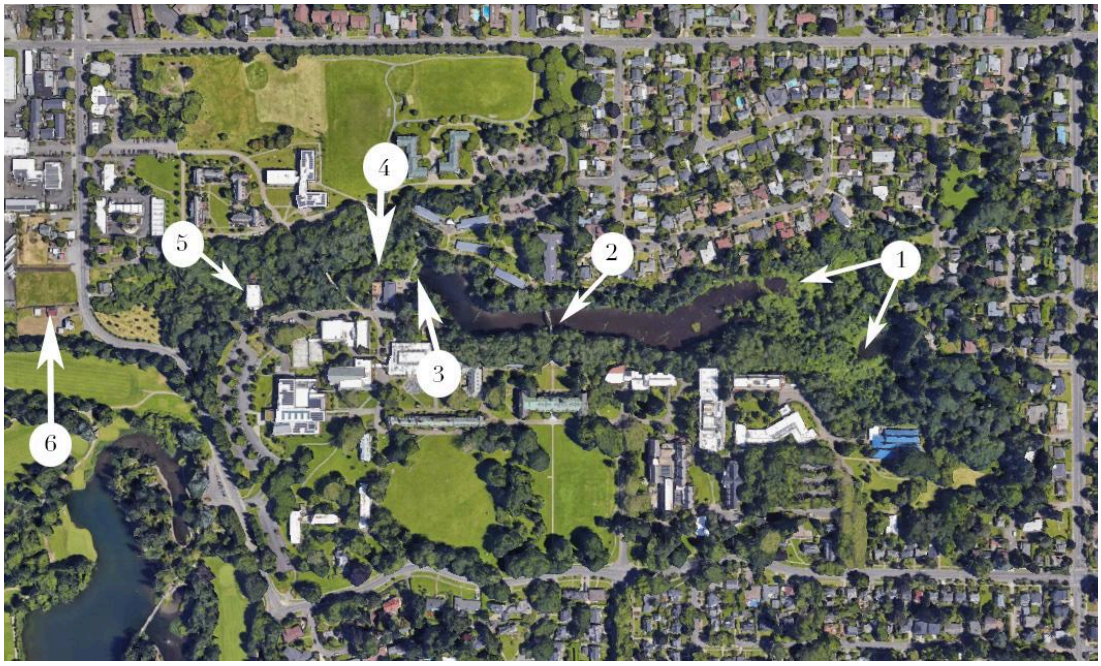
- In and around the Physical Plant Building: the “gas-shack" (S-3), the grounds shop (S-2) – gasoline, diesel fuel, biodiesel fuel, waste oils, lubricants;
- At the Facilities Warehouse Complex on SE 28th Street (S-5) – fuels and lubricants;

At least forty-one electrical transformers, owned by our utility-provider Portland General Electric, exist on campus. All of these, identified as (TO-1) through (TO-35), contain oil as an insulator. (TO-26, TO-28, TO-31, and TO-32 have three transformers each in their locations. TO-29 and TO-30 have two in their locations.) We have not included these in the total oil-storage calculations but have included emergency scenarios for response planning and training purposes in Appendix E: Electrical Transformer Details and Scenarios.

Total Qualifying Aboveground Oil Storage	**8565 Gallons**

5.0 Spill Countermeasures and Response Procedures

5.1 Reed Canyon Map



1. **Crystal Springs.** The water issues from an underground aquifer at several points on the eastern end of Reed lake. The output averages between 4-7 cfs.
2. **The orange bridge.** The cross canyon pedestrian bridge provides the first fully accessible link across the lake. Built in 1992, this bridge replaced an older version that had stairs at each end.
3. **The dam.** The Johnson Creek Basin Protection Plan recognizes Reed lake as the only naturally-occurring pond (or lake) remaining in the inner-city area. Beaver may have built it first, but the earthen dam may have been constructed around the turn of the century.
4. **Fish Ladder location.** The former outdoor pool was built before 1933 and was retired in 2000. A fish ladder and an open stream meander were completed in 2001 linking the upper lake with Crystal Springs creek.
5. **Greenwood.** Built in 1972, it spans the creek.
6. **28th Street, lower canyon and springs.** From here the water flows past Crystal Springs Lake at the Rhododendron Gardens, through the Eastmoreland Golf Course and Westmoreland Park, and south to the confluence with Johnson Creek at Johnson Creek Park. Johnson Creek flows into the Willamette in Milwaukie at the foot of SE Harrison St.

5.2 Physical Properties of Oil Products

Oil products at Reed College consist primarily of petroleum-based fuels of various grades for heat generation, for powering the emergency generator units, and for powering facilities maintenance equipment. In addition, we use and store petroleum-based lubricating oils, transformer oil, vegetable-based cooking oils, and biodiesel fuel. (Only oils that are stored in quantities greater than 55 gallons are included below.)

5.2.1 #2 Diesel Fuel

CAS#: 68476-34-6

#2 Diesel Fuel is used in the emergency generators, tractors, and some other equipment.

- Specific Weight of 7.28 pounds per gallon
- Specific Gravity (average) of 0.83-0.876 g/ml @ 60 °F (16 °C) (lighter than water).
- Vapor density is greater than 1 (heavier than air).
- The minimum flash point is >125 ºF (>52 °C) (P.M. Closed Cup).
- Auto-ignition temperature is 494 ºF (257 °C).
- Flammable range is 0.6% to 7.5% concentration.
- Minimum SUS viscosity @ 40 ºC (104 ºF) is: 1.9 cSt - 4.1 cSt.

5.2.2 #6 Fuel Oil

CAS#: 68553-00-4

#6 Fuel Oil is burned to heat "the boiler" at the Physical Plant is classified as a "middle distillate" petroleum hydrocarbon product.

- Specific Gravity of 0.876-1.00 g/ml @ 60 ºF.
- Minimum flash point is 141 ºF (60 ºC) (P.M. Closed Cup).
- Auto-ignition temperature is (greater than) 765 ºF (>407 °C).
- No data were available on the SDS for Upper and Lower Flammability Limits.
- Minimum viscosity @ 50 ºC (122 ºF) is 3.80 cSt.

5.2.3 Biodiesel

Chemical Family CAS#: 67784-80-9

Biodiesel is a non-petroleum, plant source-based fuel product used in some facilities equipment.

- Specific Gravity (average) of 0.86 g/ml (lighter than water).
- Vapor Density is greater than 1 (heavier than air).
- Minimum flash point is >270 ºF (>130 °C) (P.M. Closed Cup).
- No data were available on the SDS for Upper and Lower Flammability Limits, or Viscosity.

5.2.4 Transformer (Insulating) Oil

CAS#: 64742-46-7

Transformer oil, used as an insulator or coolant in our public utility's transformers (TO-1 through TO-33) is a "hydro treated (solvent refined) middle petroleum distillate."

- Specific Gravity of 0.89 g/ml @ 59 °F (15 °C) (lighter than water).
- The minimum flash point is 563 ºF (295°C) (Cleveland Open Cup).
- Auto-ignition temperature is (greater than) 315 ºC (599 ºF).
- Flammable range is 1.0% to 10.0% concentration.
- Viscosity @ 40 ºC. (104 ºF.) is 12.0 cSt.

5.2.5 Ethanol-Free Gasoline

Mixture CAS#: 8006-61-9

Ethanol-free gasoline is used by Facilities Services for some facilities services equipment.

- Specific Gravity of .76 g/ml @ 59 °F (15 °C) (lighter than water).
- Minimum flash point -45 ºF (-43 °C)
- Vapor density greater than 1 (heavier than air)
- Auto-ignition temperature is 495 ºF (257 °C).
- Minimum SUS viscosity @ 40 ºC (104 ºF) is: 0.216 cSt (0.00216 cm^2 /s)

5.3 Potential Causes for Oil Discharges

The capacity of individual containers in gallons, predicted failure flow-rates (in gallons per minute), and "fail-safe" engineering features vary with each unit. The maps in **Appendix B** show the direction of flow from each piece of equipment or oil storage location. **APPENDICES C, D, and E** provide specific information about each unit by category. Many of the campus storm drains flow directly into Reed Lake.

Implementing routine procedures that minimize the "everyday" potential for spilling/ discharging oil comprises the main part of this SPCC plan. The plan also addresses catastrophic failures – the "worst-case scenarios" in terms of possible environmental pollution – that we are committed to preventing and/or mitigating through planning, training, and preparation.

5.2.1 Routine Operations

Small fuel-oil discharges can occur during equipment fueling, servicing, or maintenance. Recent gasoline theft has increased the potential for small fuel discharges. Fuel-oil hose connectors, pipes, and valves can develop leaks. Transformer Oil (possibly containing trace amounts of PCB's) can leak from defective gaskets or punctures in the coolant reservoir and/or radiator fins of the electric transformers. Facilities maintenance and housekeeping practices require that personnel clean up the surfaces under such leaks and avoid further contamination by repairing or replacing the leaking part. Employees must handle and dispose of all oil-contaminated material as hazardous waste.

For routine fueling protocols and training records, see **Appendix G.**

5.2.2 Catastrophic Failure

Catastrophic failure of large vessels containing oil is generally caused by pressure building up (sometimes resulting from electrical arcing) within the vessel. When this occurs faster than relief valves can reduce the pressure, tank rupture results. Vandalism or natural disasters such as earthquakes may also cause catastrophic tank failure.

Transformers - Up to two-thirds of the oil (as much as 200 gallons) may be discharged from a transformer because of catastrophic failure. Approximately 70 percent of the discharge could occur explosively.

Emergency Generators - Catastrophic failure of these devices may cause most of the fuel oil to discharge immediately. A puncture or "venting tank failure" could also release significant amounts of fuel oil. Failure of hose connections would release fuel oil inside the unit, but it is likely to leak out onto the ground.

Miscellaneous Tanks - Catastrophic failure of these vessels – through puncturing, dropping, or tipping-over – may cause the entire contents to be discharged immediately.

5.4 Analysis of Secondary Containment

5.4.1 Containment

Currently, a "major" spill/ release of fuel oil could occur from emergency generators tanks supported by flat concrete foundations (without curbs or berms). These spills would require intervention by trained personnel to prevent oil products from reaching Reed Lake or its shores. In addition, not all units are in secured areas. Emergency generator units on the campus grounds are not normally energized and thus are not likely to spill oil when in stand–by mode. A contracted fuel supplier refuels the units regularly as required. Some of these tanks have built-in secondary containment in the fuel-storage areas but nothing to contain fuel that could spill outside of the unit.

5.4.2 Method of Detecting Oil Discharges

Facilities maintenance personnel will mitigate incidental leaks, drips and small spills during regular maintenance checks. If a catastrophic failure occurs at a generator, transformer, or other oil-containing unit, Reed College Community Safety will activate the Oil Spill **Emergency Procedures. (See Appendix A.)**

5.5 Types, Locations and Dimensions of Containment Systems

Some of the generator units have built-in secondary containment. **APPENDIX C** provides other details about the generator units.

	Equipment with Secondary Containment		Equipment with No Secondary Containment
G-2	Physics Buildings	G-1	Chemistry Building
G-3	Eliot Hall		
G-4	Educational Technology Building	S-2	Occasional 3rd Biodiesel drum, Physical plant bldg.
G-5	Foster-Scholz Dorms		
G-6	Gray Campus Center / The Commons		
G-7	Physical Plant Building		
G-8	Bragdon Hall Dorms		
G-9	Sullivan Dorms		
G-10	Grove Dorm Complex/Quad		
G-11	Psychology Building		
G-12	Vollum College Center		
G-13	Performing Arts Building		
G-14	Trillium Dorm		
G-15	Sports Center		
S-2	2 x 55 gal. Biodiesel, Physical Plant Building, 55 gal. containment tray		
S-4	Facilities Storage Tank		
S-5	Fuel Cube		

5.6 Drains and Outfalls

Small green and white numbered signs mark the outfall locations of drains into Reed Lake. Surface drains each have small, numbered, aluminum or stainless steel plaques. Maps of oil storage locations show numbered drains and outfalls as well as oil storage locations. The chart below links the numbered outfalls with connecting surface drains.

Outfall Numbers & Location at Reed Canyon, Reed Lake or Crystal Spring Creek		**Drain (by Number) Connecting to Outfall**
#1	Reed Canyon: North of Art Building	#71, 72, 73
#2	Reed Canyon: East of Psychology Building	#1
#3	Reed Canyon: Northeast of Chemistry Building	#2-7, 65-67, 69-70, 92-102
#4	Reed Lake: North of Vollum College Center & Physics Building	#8-10, 44-54, 56-64, 105, 135
#5	Reed Lake: North of Vollum College Center	#74-77, 134
#6	Reed Lake: Northeast of Eliot Hall	#11, 43, 103
#7	Reed Canyon: Gravel Swale Northeast of GCC/Student Union	#12, 78
#8	Reed Lake: North of GCC/Commons	#24, 25, 29,104. Possibly 26 & 27, 36 & 37(see [4]). Possibly 38-41, 68 & 79 (see [5])
#9	Reed Lake: East of Amphitheater	#13-19, 28, 30-35, 80. Possibly 26 & 27 (see [4])
#10	Reed Lake: (by the Dam/north canyon-access road) Northeast of Physical Plant Building	#42

[4] Unable to determine exact path for Drains #26 and 27 (#36 & 37 are connected to #26)

[5] Drain lines for Drains #38-41, 68, and 79 not indicated on map. These drains may connect to Outfall #8 or the sanitary sewer.

#11	Crystal Springs Creek: Northwest of Physical Plant Building	#81, 82
#11A	Crystal Springs Creek: Northwest of Physical Plant Building, west of footbridge	#132, 133
#12	Crystal Springs Creek: Under Greenwood Building	#20, 21
#13	Near Crystal Springs Creek: West End of Botsford Drive	#22, 23
#14	Reed Canyon: South of Woodbridge Dormitory & Near Naito/Sullivan	#83, 84, & 106-111, 136, 137
#15	Reed Canyon: Southwest of Chittick Dormitory (north canyon area)	#85,88,89
#16	Reed Canyon: Southwest Corner of Chittick Dormitory (north canyon area)	#90,91
#17	Reed Canyon: Southeast of Chittick	#86,87

- Drains #44, 45, 46, and 55 connect to a French drain west of the Bio/Physics building.
- Drain lines for Outfalls #8 and #9 appear to connect at the SE area of the GCC/Commons courtyard. Spills affecting one of these outfalls could also affect the other.
- Drains 106-111 and 136 empty to Naito retention pond, when pond reaches limit it then drains to outfall 14.

To the best of our knowledge, drains that are not listed on the map go to the City of Portland Combined Sanitary Sewer System.

5.7 Surface Drain Concerns

(Amended from the "Campus Drain Project" document.)

All of the following drains empty directly into Reed Lake, onto the adjoining shoreline above the Lake, or into Crystal Springs Creek:

- Drains #2, #3, 92, & 96 (96 is under cargo lift) in the Chemistry loading dock area connect to Outfall #3 in Reed Lake. These drains do not have an internal oil/water separator that could retain small quantities of leaking gas and oil. They have the potential to collect anything that might spill on the roadway, spill during a delivery at the loading dock, or spill from Unit G-1 (Chemistry Building emergency generator), Unit G-11 (Psychology Building emergency generator) or the two nearby PGE transformers (TO-1 & TO-2). Two drain-blocking mats stored in the southeast entrance of Chemistry near the loading dock would seal these drains if personnel acted quickly enough in the event of a spill. Unit G-1 does not currently have secondary containment.

- Drains around the ETC Building, particularly Drain #70, (down-gradient from Unit G-4 generator) connect with the East Parking Lot drain system. Although Unit G-4 has secondary containment for internal leaks, a spill during fueling could enter Reed Lake Canyon at Outfall #3. Use the drain-blocking mat stored inside the gate of the garbage recycling area next to Generator #4 or available from Community Safety.

- Drain #11 in Eliot Circle receives surface run-off from the main entrance and Vollum College Center, directly depositing it into Reed Lake at Outfall #6. This drain does not have an internal oil/water separator that could retain small quantities of leaking gas and oil from the main entrance roadway. Any uncontained spills flowing east from the refueling of Unit G-3 (behind Eliot Hall) would enter Drain #43, then Reed Lake at Outfall #6. A drain-blocking mat stored in the mechanical room in Vollum (CC014) would seal this drain if personnel acted quickly enough in the event of a spill.

- Drain #15, in the food service dumpster-area behind GCC/Commons, empties into Reed Lake through Outfall #9. This drain has the risk of a spill from the Unit G-6 generator, or transformer oil from Units TO-8 and TO-9. Both an oil spill kit in the GCC dumpster area by the west gate and drain-blocking mat in the kitchen at GCC are available for use in the event of a spill.

- Drain #16, a “trench drain” at the bottom of the loading dock ramp at GCC/Commons, has no oil water separator and directly empties into Outfall #9. This drain has the risk of receiving fuel and oil from leaking vehicles.

- Drains on Botsford Drive, currently the major food, fuel, and supply delivery entrance, have the greatest potential for accidental spills. Drains #132 & 133, on Botsford Drive in front of the Sports Center, directly empty into Crystal Springs Creek at Outfall #11A. Neither of them have an oil/water separator. In addition, Drains #20 & 21 in front of

Greenwood empty into Crystal Springs Creek at Outfall #12. Drains #22 & 23, at the West End of Botsford Drive, join the Creek at Outfall #13. Thousands of gallons of fuel oil for the boiler are delivered to the facilities storage tank (S-4). Two drain-blocking mats are available at the Physical Plant Building for use in a spill-emergency. Community Safety Officers have additional mats available in the 28 West basement.

- Drain #82 is located directly below the Unit G-7 generator at the Physical Plant Building. It is also the closest drain to the facilities storage tank (S-4) for the boiler. #82 drains directly to the steep canyon wall above Crystal Springs Creek at Outfall #11. In case of a spill-emergency, a drain-blocking mat is available inside the south second floor door at the Physical Plant Building.

- Drain #42 & Outfall # 10 flow directly into Reed Lake just above the Dam/ North Shore access road. Located at the bottom of a steep, paved driveway in a parking area east of the Grounds Department Shop/Physical Plant Building, this drain/outfall is down-gradient from two main fuel and lubricant storage areas -- the Grounds Department's Biodiesel storage area (S-2) inside the north end bay at the Physical Plant Building and the "Gas Shack"(S-3). Only a few feet of pipe separates this drain from its outfall. A drain-blocking mat is available by the Grounds office at the Physical Plant Building.

- The west parking lot bioswale is East of SE 28th Ave. This collects water from Kaul and PAB roofs, as well as, run-off from the parking lot itself. G-13 is located at the top of the parking lot, surrounded by a brick wall. TO-33 is located next to G-13, with no containment. In the event of a spill, the closest drain mat is stored in the PAB loading dock. The swale is designed with plants specifically chosen to filter and contain oils, but in the event of an overflow, the swales on the far west could flow into 28th and potentially into Crystal Springs.

5.8 Internal Response and Reporting

In the event of a spill/release, the person discovering it must first determine if the spill is **incidental** or **major**.

An **INCIDENTAL** spill/release meets the following criteria:

A small quantity with which personnel in the immediate area are familiar and prepared for the hazards of handling and that can be quickly absorbed, or otherwise safely controlled at the time of release. It does not pose an emergency or significant threat to the safety and health of employees in the immediate vicinity or the environment.

Spills that do not meet the definition of "incidental" are considered **MAJOR** spills/releases. These include:

- Spilled/released material that reaches the environment including discharges to a floor drain or storm drain, that enters a body of water or discharges to a soil surface;
- Spilled/released material with which personnel are not familiar or are unprepared to safely handle;
- A spill/ release that has resulted in an injury (actual or suspected);
- Any spill/release that cannot be readily absorbed, neutralized, or otherwise controlled at the time of release and for which a prudent person would request backup help.

If the spill/release is small and can be safely cleaned up, trained personnel should contain and clean up the spill immediately.

If personnel determine that the spill/release is **major**, the individual discovering the spill must immediately report it to the Community Safety Office at **503-788-6666 (On campus: ext. 6666**). The discovering party should make the call from a safe location. The Community Safety Office will report the spill/release to the Environmental Health and Safety (EHS) Office or designee and initiate the College's **EMERGENCY RESPONSE PROCEDURES** (see **APPENDIX A**) until the EHS Director or designee assumes responsibility for the College's response to the spill/release.

5.9 Spill Containment Equipment

5.9.1 Spill Equipment Requirements

All buildings/facilities with oil storage or oil-containing equipment must maintain the following minimum level of spill response equipment:

- Spill absorbent (such as "Ultrasorb")
- Oil spill wipe pads
- Portable oil berms or dikes
- Oil-absorbent pillows
- Personal protective equipment (neoprene gloves and boots, goggles)

In addition, trained personnel must:

- Maintain equipment in a "kit" in a readily accessible area.
- Regularly inspect the kits to ensure that they are fully stocked.

Only SPCC-trained personnel can use spill response equipment.

Supervisors will ensure that auxiliary oil storage areas - such as the "Gas Shack" (east of the Physical Plant building), the Facilities Warehouse Complex (west of 28th Street), and the 28 West / Community Safety Headquarters - have sufficient absorbent materials and personal protective equipment immediately available to handle incidental spills.

5.9.2 Spill Equipment Suppliers

Suppliers who can offer spill response equipment include:

- Safety & Supply Co. 503-283-9500
- New Pig Corporation 1-800-HOT-HOGS
- Lab Safety Supply 1-800-356-0783

5.9.3 Other Equipment Information

Absorbent materials including Ultrasorb™, kitty litter, oil-absorbing pads, pillows, booms, and personal protective equipment are currently stockpiled for emergency use at three main locations on campus:

- The Hazardous Waste Storage Shed east of the Chemistry Building
- The mezzanine level of the Physical Plant Building
- 28 West Building / Community Safety Headquarters

Generic Spill kits containing Ultrasorb™ and basic personal protective equipment are placed throughout campus, including in the trunks of or behind the seats of Reed College campus security and maintenance vehicles.

Drain-blocking mats are located in the following places:

Department	Room	Location	Quantity
Chemistry	Chem. loading dock	Inside chemistry door	1
Community Safety	Basement	28 West	2
EHS	Hazmat shed	Next to kit	1
Facilities	Grounds shop	Grounds hallway	1
Facilities	Maintenance	Maintenance hallway	1
Food Services	Oil dumpster	Inside west door	1
PAB	Loading dock	Inside PAB door	1
Physics	Loading dock	Inside physics door	1
Vollum	Mechanical room	CC014	1
East Parking lot	Dumpster area	NW corner of dumpster area	1

APPENDIX C lists the containment features for each of the generators

5.10 Cleanup Procedures

In the event of a spill or release of oil:

1. Extinguish all sources of ignition and isolate incompatible or reactive chemical substances.
2. Determine if the spill/release is **INCIDENTAL** or **MAJOR** (see sections 5.8 and G.9)
3. For **INCIDENTAL** spills/releases – stop or contain the spill/release at the source without endangering yourself or others. Numerous spill kits are on site, which contain personal protective equipment, appropriate absorbent materials, and forms for documenting a spill event.
4. For **MAJOR** spills/releases - immediately report the spill/release to the Community Safety Dispatch Desk at 503-788-6666 (On campus: Ext. 6666). Community Safety will notify the EHS Director or alternate and initiate the Oil Spill **EMERGENCY RESPONSE PROCEDURES** (see **APPENDIX A**) that outlines steps to control spills and remove the oil. Community Safety may also contact spill response vendors if requested to do so.
5. Isolate all potential environmental receptors including drains, sumps, soil, etc.
6. The EHS Director or designee will conduct any necessary reporting to one or more outside agencies.
    - If a spill/release of oil exceeds 42 gallons on land or any quantity to the waters of the State, it must be reported to the state Department of Environmental Quality.
    - If spill/release migrates off Reed properties and/or results in personal injury, also report to the state emergency response agency.
    - If spill/release enters a storm water drain system or sewer system, report to the City of Portland Water Bureau.
    - If spill/release causes a sheen or discoloration of navigable waters or adjoining shorelines, report to the National Response Center (NRC).
7. Recover all material spilled and used to clean up the spill area.
8. Decontaminate tools and equipment. Collect all absorbents, solvents, soiled personal protective equipment, and debris for disposal as hazardous waste.
9. Under the guidance of EHS, dispose of waste materials in accordance with applicable regulations and College procedures.
10. The EHS Director will conduct any required follow-up notifications to applicable agencies, conduct an incident analysis, and develop plans to prevent recurrence.

6.0 Spill/Release Prevention

6.1 Inspections and Records

The following general guidelines must be part of the monthly preventative maintenance program.

Inspectors will:

- Examine all storage tanks and oil-containing equipment, aboveground foundation and tank structure supports for evidence of leaks from seams, rivets, bolts, and gaskets and for signs of damage to or deterioration of the tank (such as discoloration, corrosion, or cracks.)
- Check all associated piping for dripping, loose joints, damage to supports, and pipe deflection.
- Inspect all connections for leakage, drainage, tightness, and appropriate capping.
- Check all pumps for evidence of leakage, improper operation, and damage.
- Inspect all storage areas and containment systems for integrity and the accumulation of stored product. If oil or a petroleum product is observed in the containment system, the source will be immediately determined and corrected and the product cleaned up.
- Note the security of the tanks. For example, whether equipment is secured and doors to tank or container storage areas are properly locked. Note the presence of graffiti or any other signs of tampering or vandalism.
- If a problem is detected during an inspection, the inspector will promptly notify the appropriate Facilities Management supervisor who will initiate and implement corrective action.

Currently, the Pacific Power Group of Vancouver, Washington contracts to perform the annual maintenance checks on all ten of Reed's generators. Maintaining "usual and customary" business records regarding inspection procedures for a minimum of three years satisfies the requirements of this section. Copies of these records will be kept with the Facilities Services copy of the SPCC plan. See APPENDIX G: REFERENCE DOCUMENTS.

6.2 Security

Security fences with lockable gates surround three of the fifteen of the generator units – Eliot Hall, the Sports Center, and the Education Technology Center (ETC) generator in the East Parking Lot (see APPENDIX B: MAPS). These gates are kept locked at all times, except when authorized Reed College Facilities Services personnel perform regular inspections or activate the units.

Additionally, the Reed College Community Safety Department personnel patrol the campus twenty-four hours a day, seven days a week.

6.3 Personnel Training and Exercises

Studies cited by the Environmental Protection Agency (EPA) indicate that a significant number of oil spills at fixed facilities are caused by operator errors, such as failing to close valves or overfilling tanks during transfer operations. The Federal EPA requires that owners and operators subject to Oil Pollution Prevention regulations conduct training on facility-specific oil spill prevention and response measures. Because operator error is more likely to be a factor in causing spills, training and briefings are critical for the safe functioning of a facility.

Reed College personnel whose job duties involve the handling or management of oil products must complete the SPCC training program. Currently, this includes individuals from the Facilities Services and Community Safety Departments. Supervisors will ensure that training on oil spill prevention, containment, and retrieval methods is provided annually to all employees involved in oil-handling activities and that personnel under their supervision have an adequate understanding of the SPCC Plan and their role in preventing and mitigating any accidental spill.

Training will include:

- Reed's facility-specific spill prevention procedures (such as requirements for inspections and record-keeping), and spill response procedures and proper use of spill cleanup materials and equipment;
- How to comply with applicable federal, state and local oil pollution-prevention laws and regulations;
- The health, safety, and environmental hazards associated with oil products used on site;
- The proper protocols for operation and maintenance of oil-containing equipment to prevent discharges of oil;
- Yearly briefings to include a discussion of any past spill events, an evaluation of practice drills, maintenance practices or any other concerns, and details of any changes in equipment or recently developed precautionary measures;
- Periodic unannounced practice drills to prepare for effective spill response (See section on Exercises/Drills below).

The Facilities Services and Community Safety management will maintain records of spill-prevention training, briefings, and exercises and send copies to the Environmental Health and Safety office to be kept with the SPCC plan.

6.4 Exercises/Drills

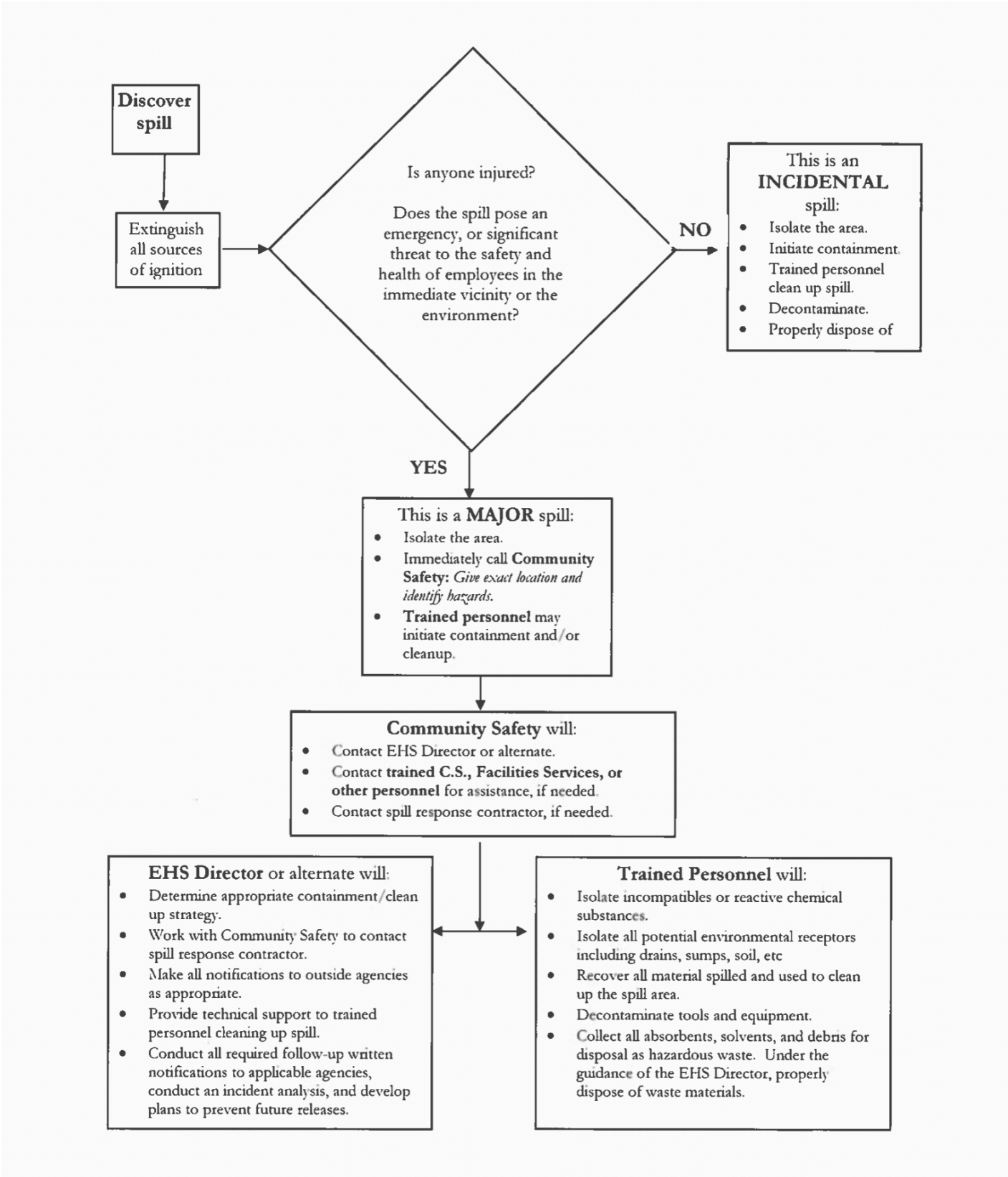
In order to evaluate the effectiveness of the SPCC Plan, Reed College will conduct periodic exercises and drills that attempt to simulate real spill/release scenarios and to test the readiness and preparedness of the responding personnel. The exercises will involve appropriate personnel who would respond to an actual spill. Periodic briefings for operations personnel will keep them informed of current oil spill control techniques, absorbent materials, containment materials, protective clothing, and equipment. Current SPCC Plan requirements and pollution control laws, rules, and regulations are included in these briefings. Periodic informational training sessions are held for other employees who might be involved in oil containment and cleanup operations.

The training program outlines steps to alert various Reed College departments, governmental agencies, and cleanup personnel. Appendix A: Emergency Procedures and Appendix G: Reference Documents provide further information.

Appendix A: Emergency Procedures

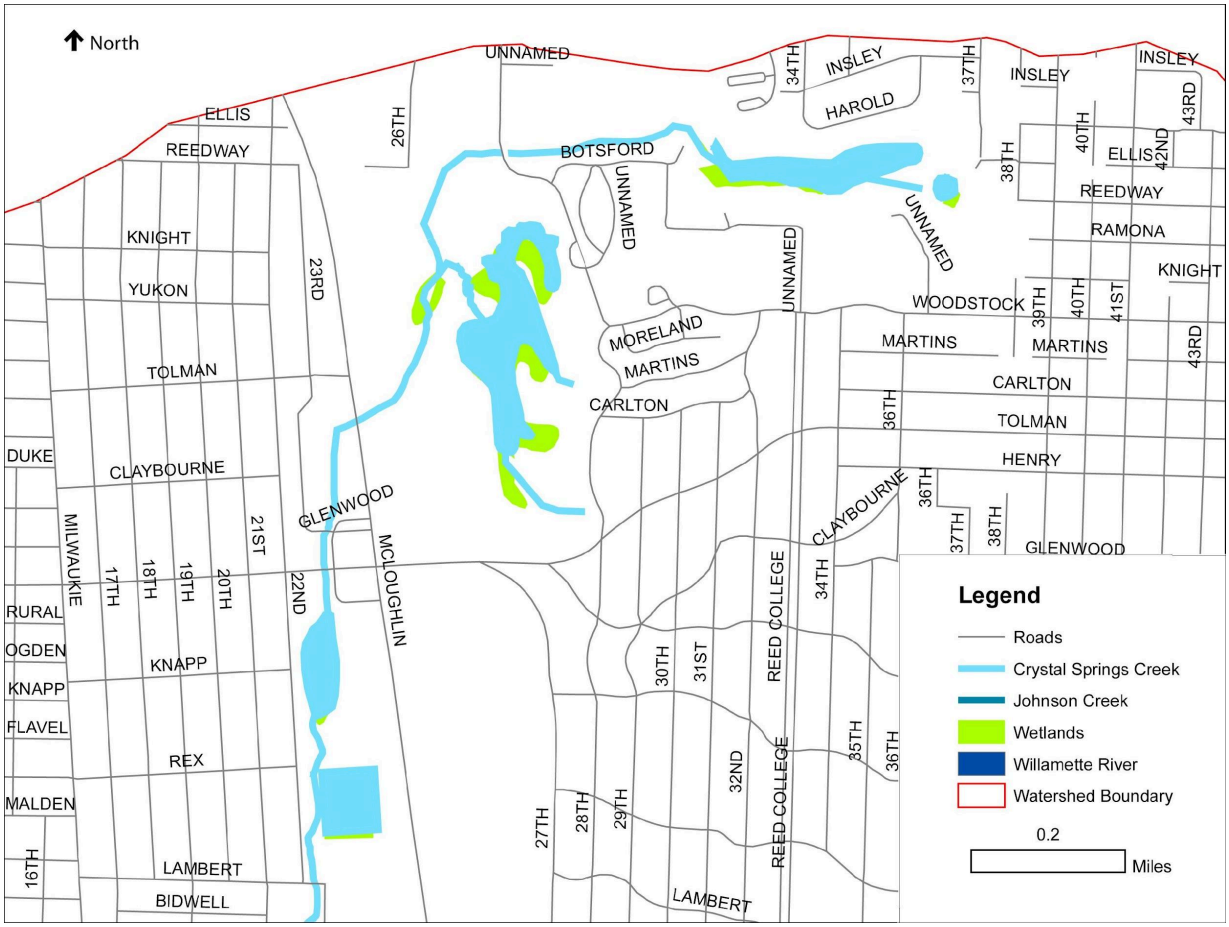
A.1 Reed College Emergency Numbers

Reed Community Safety Dispatch		503-788-6666, ext. 6666
Fire/Police		911
Environmental Health & Safety (EHS)		503-777-7788
Health Center (HCC)		503-777-7281
Reed Telecommunications		503-777-7570
Reed Media Relations		503-517-7815
NRC Environmental (Clean-up Contractors)		1-800-337-7455 OR 503-283-1150
Chemtrec (Specialty Spill Responders)		1-800-424-9200
Poison Control		1-800-222-1222
Safety & Supply Co. (Supplies and Equipment)		503-283-9500
National Response Center		1-800-424-8802
Oregon State Emergency Response System		1-800-452-0311
Portland General Electric Outage/Emergency Response (24 Hrs.)		503-464-7777 1-800-544-1795
Northwest Natural Gas Gas Leak/Emergency Line		1-800-882-3377
Primary Contact	April Sams, EHS Director	971-284-4534
Alternate #1	Steve Yeadon, Director, Facilities Operations	503-777-7763/ 503-777-7283 503-774-2818 Cell: 503-421-0011
Alternate #2	Aaron Haddeland, EHS Specialist	503-517-7931
Alternate #3	Gary Granger, Director, Community Safety	503-777-7379

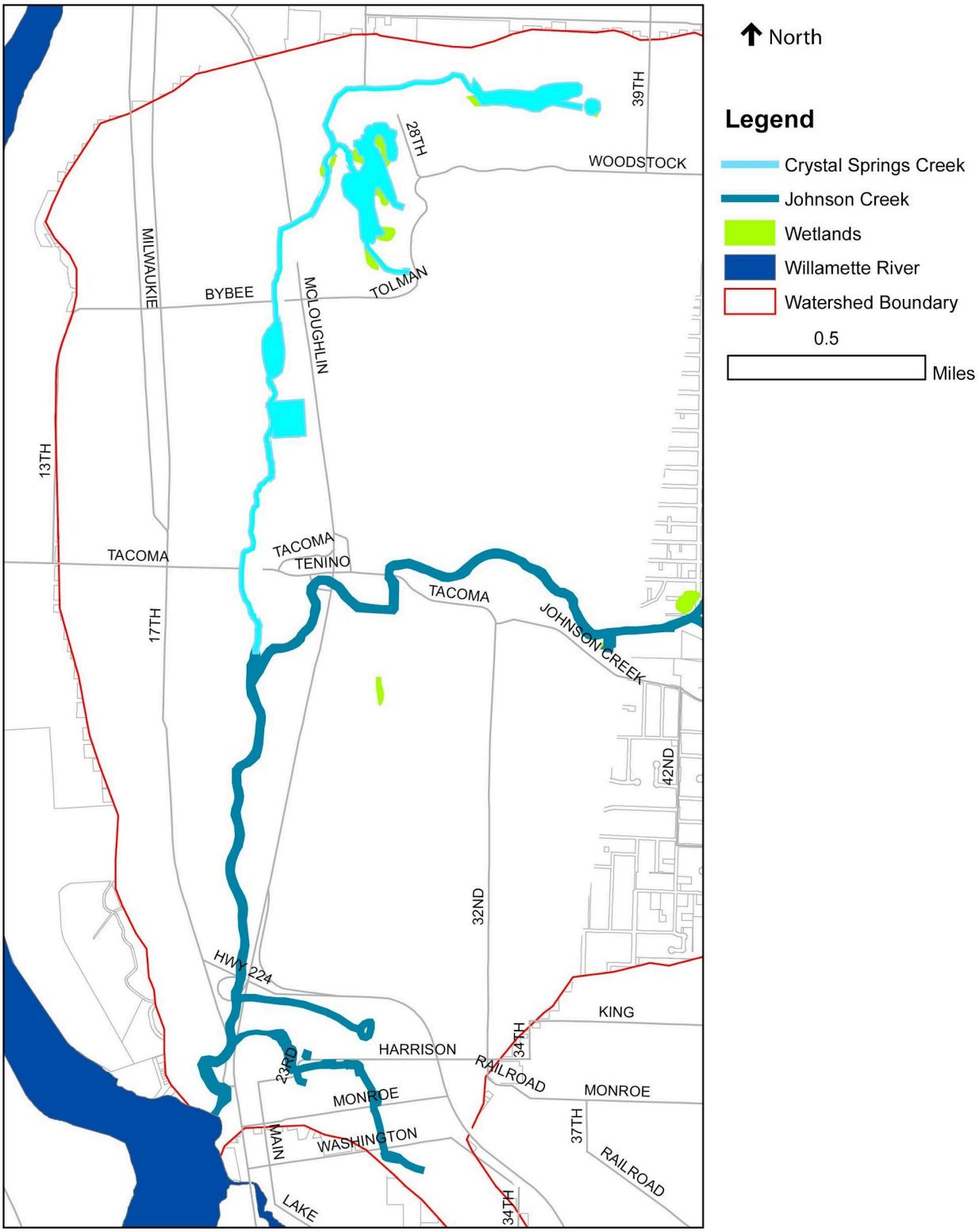

Discover spill
Extinguish all sources of ignition
Is anyone injured?
Does the spill pose an emergency, or significant threat to the safety and health of employees in the immediate vicinity or the environment?
NO
This is an INCIDENTAL spill:
Isolate the area.
Initiate containment.
Trained personnel clean up spill.
Decontaminate.
Properly dispose of
YES
This is a MAJOR spill:
Isolate the area.
Immediately call Community Safety: Give exact location and identify hazards.
Trained personnel may initiate containment and/or cleanup.
Community Safety will:
Contact EHS Director or alternate.
Contact trained C.S., Facilities Services, or other personnel for assistance, if needed.
Contact spill response contractor, if needed.
EHS Director or alternate will:
Determine appropriate containment/clean up strategy.
Work with Community Safety to contact spill response contractor.
Make all notifications to outside agencies as appropriate.
Provide technical support to trained personnel cleaning up spill.
Conduct all required follow-up written notifications to applicable agencies, conduct an incident analysis, and develop plans to prevent future releases.
Trained Personnel will:
Isolate incompatibles or reactive chemical substances.
Isolate all potential environmental receptors including drains, sumps, soil, etc
Recover all material spilled and used to clean up the spill area.
Decontaminate tools and equipment.
Collect all absorbents, solvents, and debris for disposal as hazardous waste. Under the guidance of the EHS Director, properly dispose of waste materials.

Appendix B: Maps

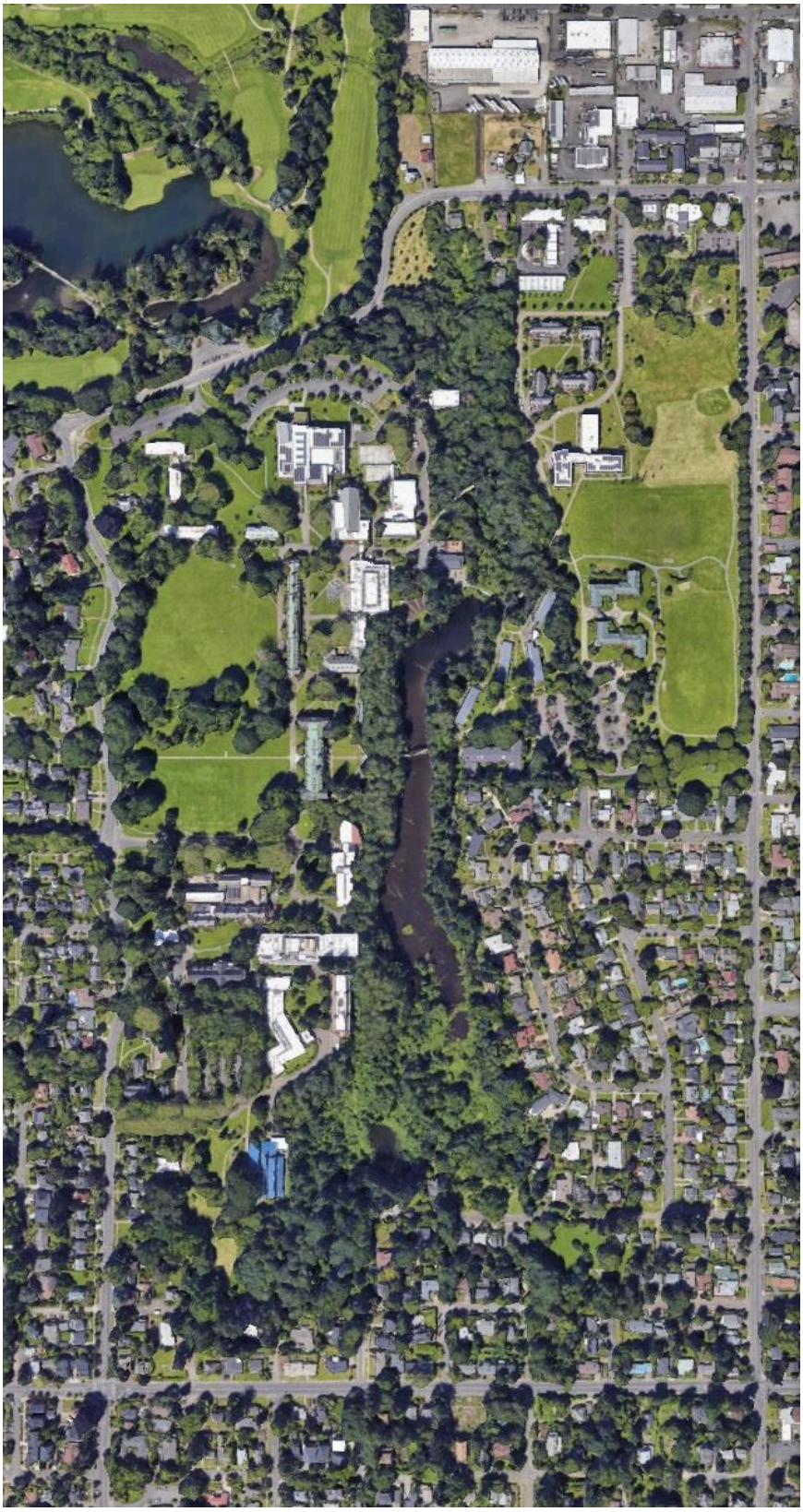
B.1 Upper Crystal Springs Watershed



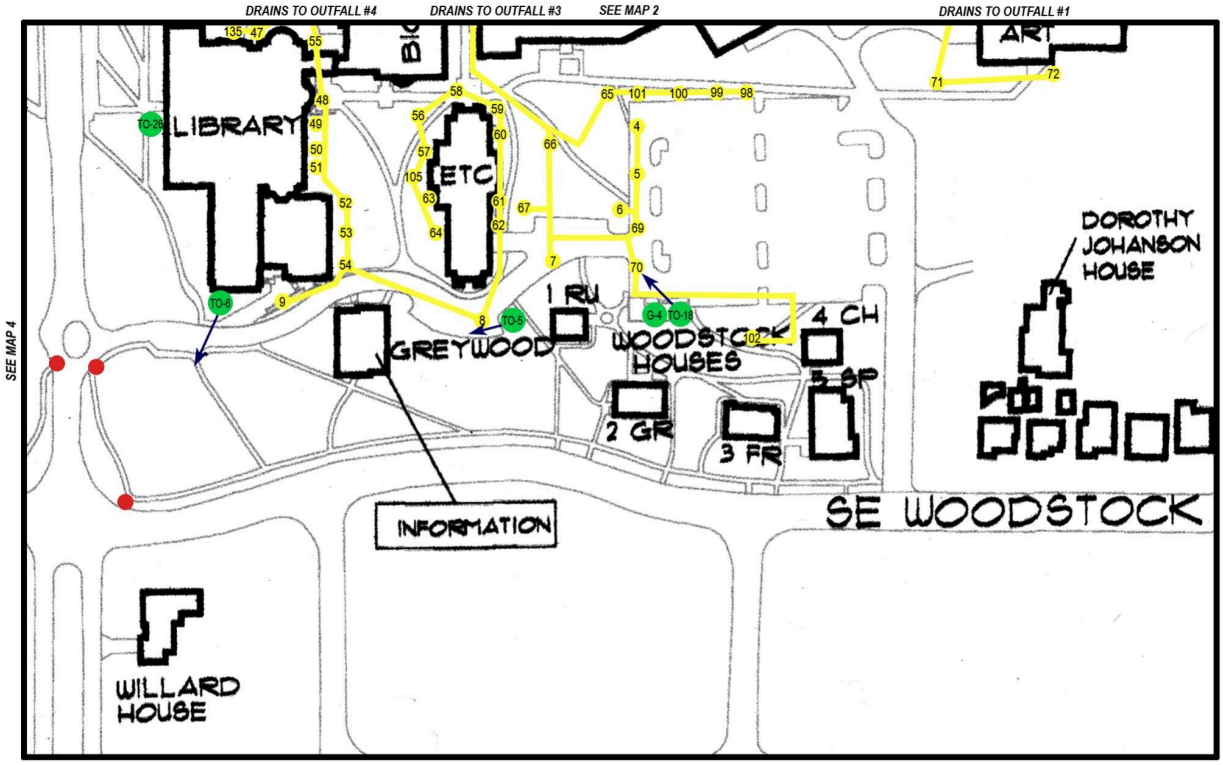
B.2 Full Crystal Springs Watershed



B.3 Campus Satellite Map



B.4 SPCC Map 1 – Southeast Campus Drains



Legend for Drains and Oil Storage Location Maps (B.4 - B.10)

- = Oil Containing Equipment & Storage Areas
- = Direction of Flow
- = Drains:
  - With #S Indicates Drain To Lake
  - With #S Indicates Drain to Pond
  - With #S Indicates Drain Outfall Locations
- = City Combined Sewer & Storm
  - Indicates Sewer & Storm Drain Location
- = Drains to West Parking Lot Bioswale

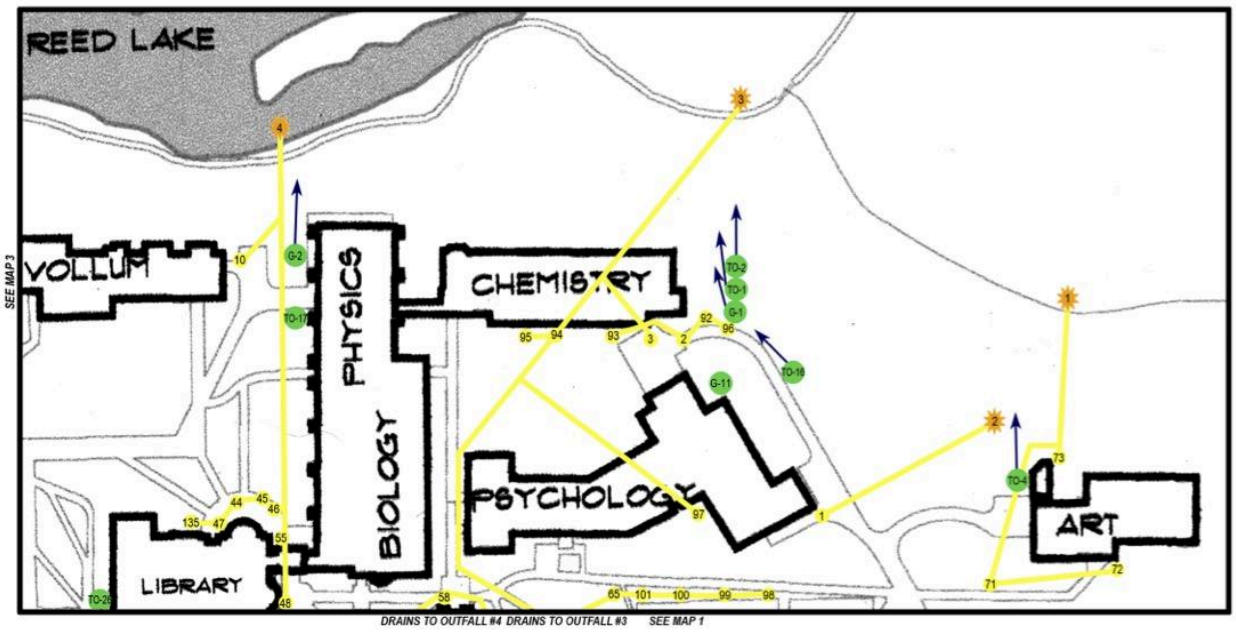
SPILL RESPONSE CODE KEY:

1 = PLUG LEAK
2 = CONTAIN WITH TRENCH
3 = USE ABSORBENT PADS, PILLOWS, "PIGS," &/OR BERMS
4 = COVER DRAIN WITH MAT
5 = MONITOR OUTFALL
6 = NOTIFY PGE AT 503-464-7777

Equipment Identified in SPCC Map 1

Equip #	Location	Product	Volume (Gal)	Flow Direction	Containment	Spill Response
G-4	Educational Technology Center (ETC)	Diesel Oil	392	Northwest	Double Walled	3,4,5
TO-5	Educational Technology Center (ETC)	Transformer Oil	139	South/South west to Drain	PGE Owned	3,4,5,6
TO-6	Library	Transformer Oil	139	South/South west to Drain	PGE Owned	3,4,5,6
TO-18	Educational Technology Center (ETC)	Transformer Oil	94	Northwest	PGE Owned	3,6,5,6
TO-26	Library	Transformer Oil	270	In Ground Vault	PGE Owned	3,6

B.5 SPCC Map 2 – East Campus Drains

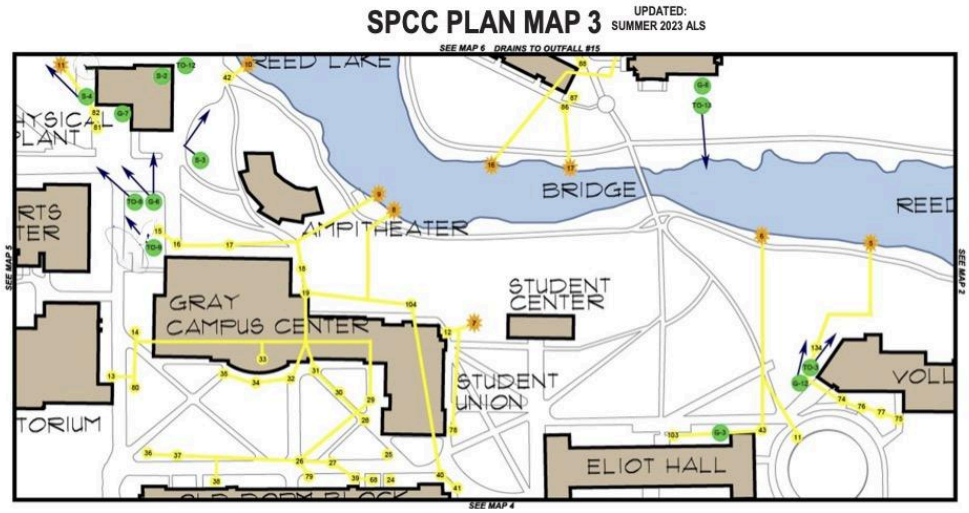


Equipment Identified in SPCC Map 2

Equip #	Location	Product	Volume (Gal)	Flow Direction	Containment	Spill Response
G-1	Chemistry	Diesel Oil	75	South to Drains, North to Lake	None	3,4,5
G-2	Physics	Diesel Oil	475	North	Double Walled	3,4,5
G-11	Psychology	Diesel Oil	226	North to Drains	Double Walled	3,4,5
TO-1	Chemistry	Transformer Oil	375	South to Drains, North to Lake	PGE Owned	3,4,5,6
TO-2	Chemistry	Transformer Oil	195	South to Drains, North to Lake	PGE Owned	3,4,5,6

TO-4	Studio Arts	Transformer Oil	109	North to Lake	PGE Owned	3,5,6
TO-16	Psychology	Transformer Oil	135	North to Drains	PGE Owned	3,4,5,6
TO-17	Physics	Transformer Oil	280	North to Lake	PGE Owned	3,4,5,6
TO-26	Library	Transformer Oil	270	In Ground Vault	PGE Owned	3,6

B.6 SPCC Map 3 – Central Campus Drains & Oil Storage

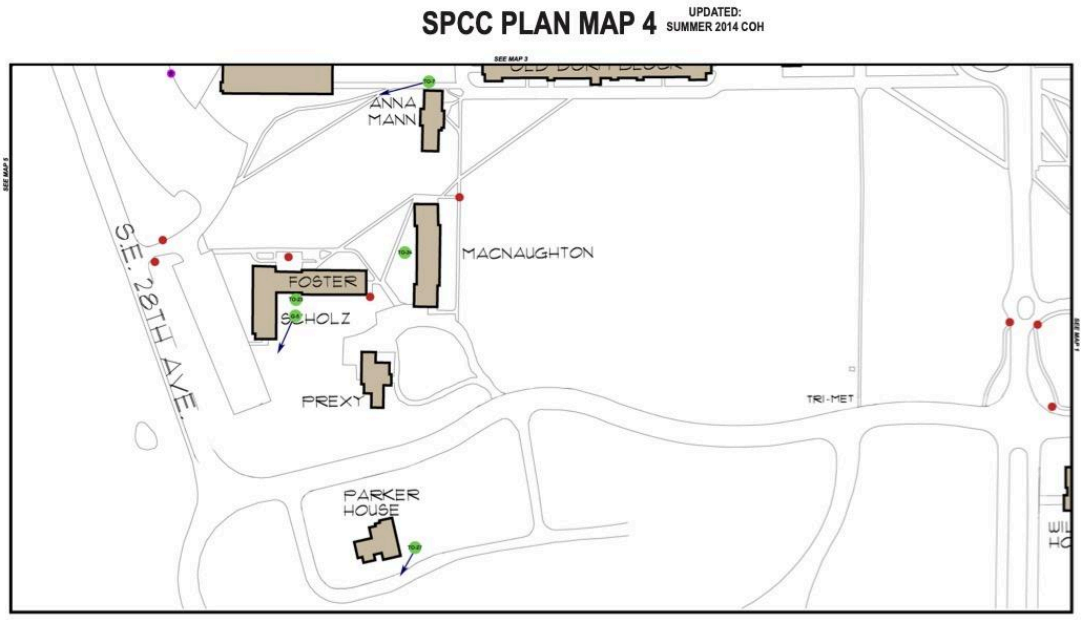


Equipment Identified in SPCC Map 3

Equip #	Location	Product	Volume (Gal)	Flow Direction	Containment	Spill Response
G-3	Eliot Hall	Diesel Oil	40	Level	Double Walled	3,4,5
G-6	Gray Campus Center	Diesel Oil	100	North	Double Walled	3
G-7	Physical Plant	Diesel Oil	100	West	Double Walled	3,4,5
G-8	Bragdon Hall	Diesel Oil	85	South/South west	Double Walled	3
G-12	Vollum	Diesel Oil	145	Northeast	Secondary Containment	3,4,5
S-2	Physical Plant	Biodiesel Oil	55, 55, 55	Northeast	Secondary Containment	3,4,5
S-3	Gas Shack	Fuel Oil	Gas Cans	North	Spill Pallets	3,4,5
S-4	Physical Plant Storage Tank	Diesel Oil	5000	North	Double Walled	3,4,5
TO-3	Vollum	Transformer Oil	201	North	PGE Owned	3,6

TO-8	Gray Campus Center	Transformer Oil	136	Northwest	PGE Owned	3,4,5,6
TO-9	Gray Campus Center	Transformer Oil	139	Northwest	PGE Owned	3,4,5,6
TO-12	Physical Plant	Transformer Oil	95	Northwest	PGE Owned	3,4,5,6
TO-13	Bragdon Hall	Transformer Oil	136	South	PGE Owned	3,6

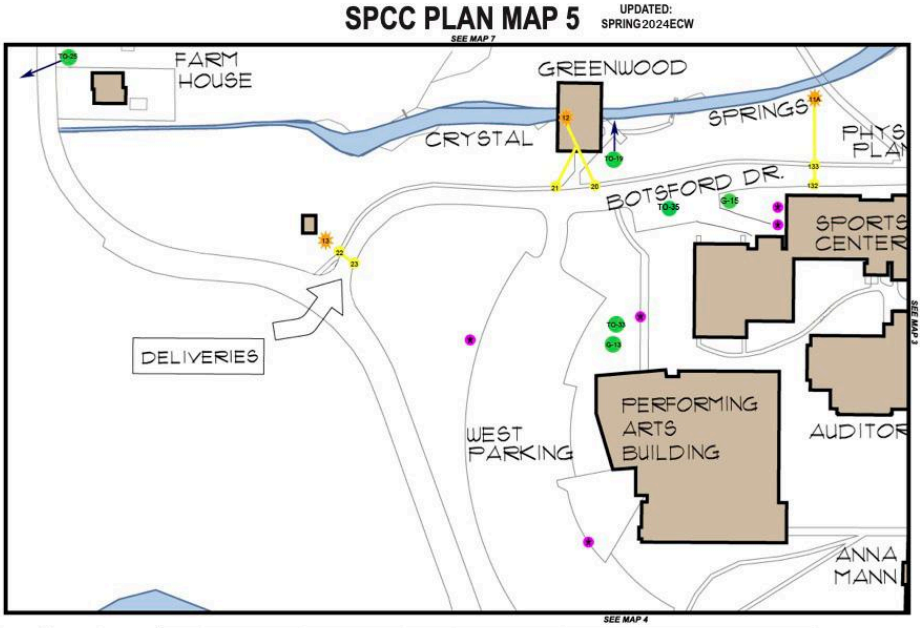
B.7 SPCC Map 4 – Southwest Campus Drains & Oil Storage



Equipment Identified in SPCC Map 4

Equip #	Location	Product	Volume (Gal)	Flow Direction	Containment	Spill Response
G-5	Foster/ Scholz	Diesel Oil	146	West/ Southwest	None	3
TO-7	Anna Mann	Transformer Oil	128	West/ Southwest	PGE Owned	3.6
TO-23	Foster/ Scholz	Transformer Oil	90	West/ Southwest	PGE Owned	3,6
TO-24	MacNaughton	Transformer Oil	90	West	PGE Owned	3,6
TO-27	Parker House	Transformer Oil	45	South/ Southwest	PGE OWned	3,6

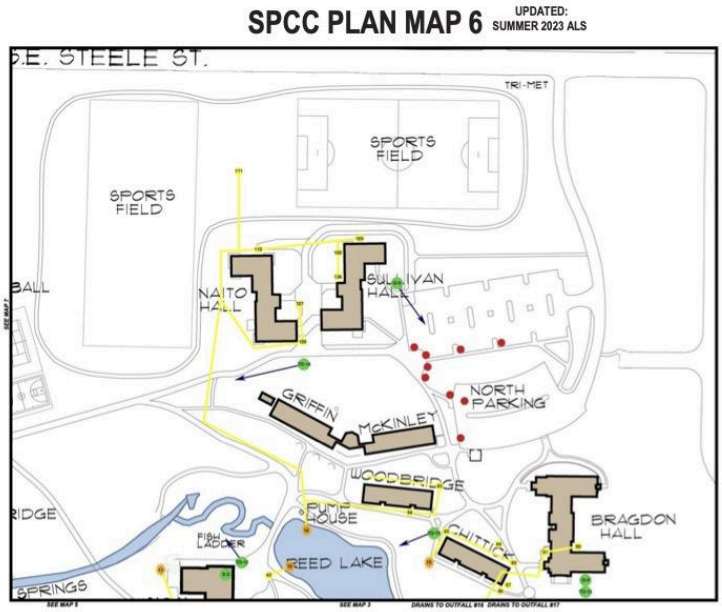
B.8 SPCC Map 5 – Northwest Campus Drains & Oil Storage



Equipment Identified in SPCC Map 5

Equip #	Location	Product	Volume (Gal)	Flow Direction	Containment	Spill Response
G-13	Performing Arts Building	Diesel Oil	416	North/ Northwest	Secondary Containment	3,4,5
G-15	Sports Center	Diesel Oil	135	South	Secondary Containment	3,4,5
TO-19	Greenwood Theater	Transformer Oil	45	North	PGE Owned	3,6
TO-25	Farm House	Transformer Oil	15	Southwest	PGE Owned	3,6
TO-33	Performing Arts Building	Transformer Oil	375	West/ Southwest	PGE Owned	3,6
TO-35	Sports Center/ Botsford Dr	Transformer Oil	50	West	PGE Owned	3,6

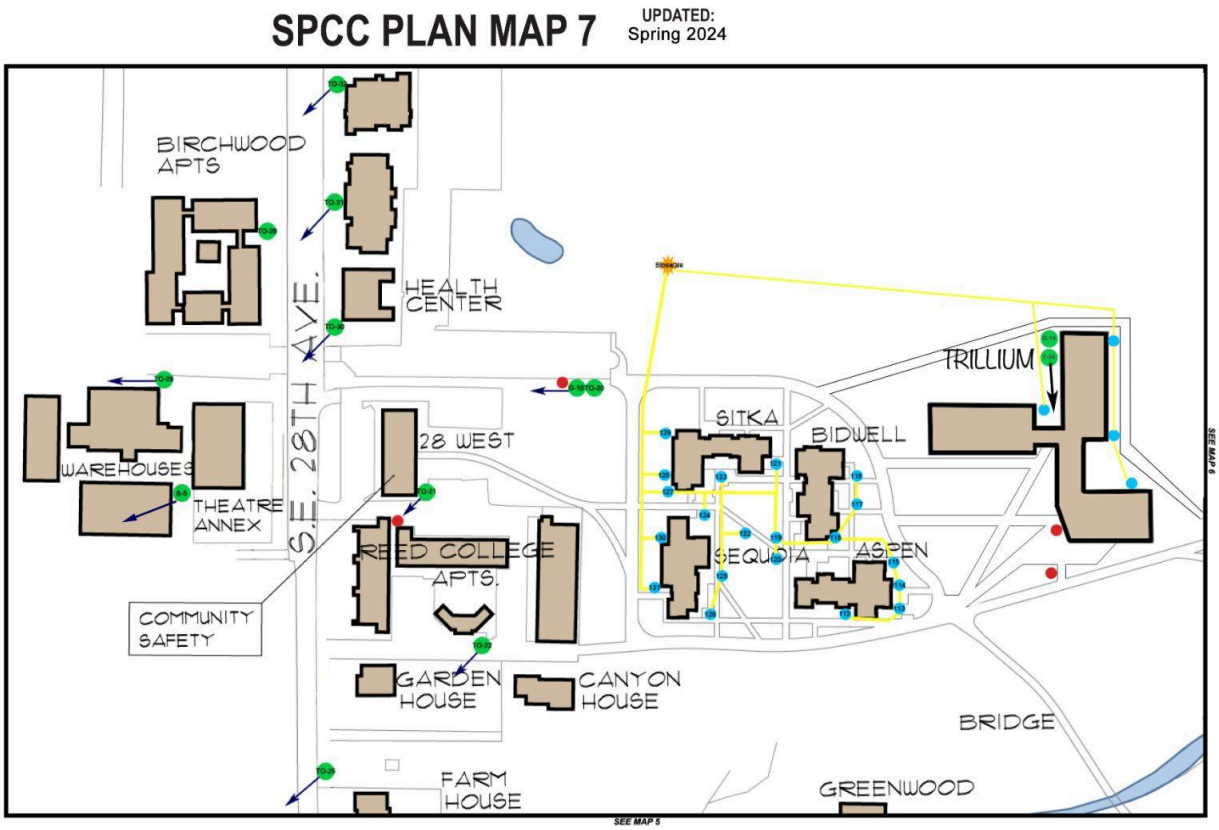
B.9 SPCC Map 6 – Northeast Campus Drains & Oil Storage



Equipment Identified in SPCC Map 6

Equip #	Location	Product	Volume (Gal)	Flow Direction	Containment	Spill Response
G-8	Bragdon Hall	Diesel Oil	85	South/ Southwest	Double Walled	3
G-9	Sullivan Hall	Diesel Oil	40	South/ Southwest	Double Walled	3,4
S-2	Physical Plant	Biodiesel Oil	55, 55, 55	Northeast	Spill Decks	3,4,5
S-4	Physical Plant	Diesel Oil	5000	North	Double Walled	3,4,5
TO-12	Physical Plant	Transformer Oil	95	Northwest	PGE Owned	3,4,5,6
TO-13	Bragdon Hall	Transformer Oil	136	South	PGE Owned	3,6
TO-14	Naito Hall	Transformer Oil	136	West/ Southwest	PGE Owned	3.6
TO-15	Chittick Hall	Transformer Oil	128	West/ Southwest	PGE Owned	3.6

B.10 SPCC Map 7 Northwest Campus Drains & Oil Storage



Equipment Identified in SPCC Map 7

Equip #	Location	Product	Volume (Gal)	Flow Direction	Containment	Spill Response
G-10	Grove Dorms	Diesel Oil	185	West/ Southwest	Double Walled	3
G-14	Trillium Dorm	Diesel	256	South	Double Walled	3
S-5	Warehouse	Ethanol-free Gasoline	243	Southwest to Swale	Double Walled	3
TO-20	Grove Dorms	Transformer Oil	135	West/ Southwest	PGE Owned	3,6
TO-21	28 West	Transformer Oil	95	Southwest	PGE Owned	3,6
TO-22	RCAs	Transformer Oil	90	Southwest	PGE Owned	3,6

TO-25	Farm House	Transformer Oil	15	Southwest (On Pole)	PGE Owned	3,6
TO-28	Theatre Warehouse	Transformer Oil	15,15,15	West (On Pole)	PGE Owned	3,6
TO-29	Birchwoods	Transformer Oil	90, 90	In Ground	PGE Owned	3,6
TO-30	28th Ave/ HCC	Transformer Oil	15, 10	Southwest (On Pole)	PGE Owned	6
TO-31	28th Ave/ Medical Offices	Transformer Oil	45, 45, 45	Southwest (On Pole)	PGE Owned	6
TO-32	28th Ave/ Steele St	Transformer Oil	45, 45, 45	Southwest (On Pole)	PGE Owned	6
TO-34	Trillium Dorm	Transformer Oil	180	South	PGE Owned	3,6

Appendix C: Generators

C.1 UNIT #G-1: Chemistry Building

C.1.1 Generator Specifications

MAKE/MODEL NUMBER: Genset Onan/60DGCB

SERIAL#: H910414703

TANK FUEL CAPACITY: 75 GAL.

TANK DIMENSIONS: 48” x 13” x 28”

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?		X	
Rupture container?		X	
Inner tank leak alarm?			N/A
Basin drain?	X		
Heavy-gauge construction?	X		
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)		X	
Outer tank: emergency pressure relief vent?			N/A VENTED TANK
Inner tank: emergency pressure relief vent?			N/A
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?		X	
Low fuel level alarm?	X		
Explosion vent?		X	
Fuel leak detector?		X	
Rupture tank alarm?		X	

C.1.2 Spill Scenarios

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	To Drain #2, #3, #92, & #96 /Outfall #3 in Reed Lake; Or downhill N/NE into Reed Canyon	75 Gal.
Partial failure of a full tank		<75 Gal.
Tank overfill		1-2 Gal.
Pipe failure		1 cup
Leaking pipe or valve		1 cup
Tank truck leak or failure	To Drain #2, #3, #92, & #96 /Outfall #3 in Reed Lake; Or downhill into Reed Canyon	Up to total quantity in the tank truck
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in the tank truck.

Notes on countermeasure plans:

Seal affected drains with drain mat(s) stored in yellow tubes inside the southeast/loading dock entrance to the Chemistry Building. Use absorbent materials from the oil spill emergency kit, stored inside the hazardous waste storage shed by the Chemistry loading dock, to contain any spilled oil. If oil enters drain, monitor Outfall #3 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

_____

_____

_____

C.2 UNIT #G-2: Physics Building

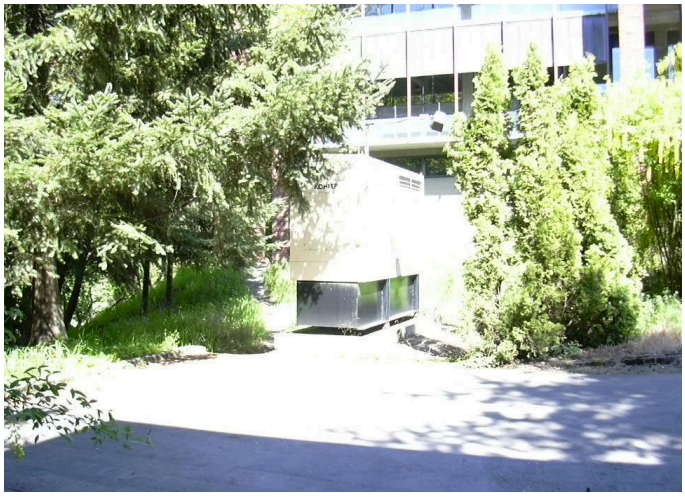
C.2.1 Generator Specifications

MAKE/MODEL NUMBER: KOHLER/150REOZJ

SERIAL#: 0667817

TANK FUEL CAPACITY: 475 GAL.

TANK DIMENSIONS: 138” x 26” x 38”.



Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		UL2200
Rupture container?	X		
Inner tank leak alarm?		X	
Basin drain?	X		
Heavy-gauge construction?	X		
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)		X	
Outer tank: emergency pressure relief vent?	X		
Inner tank: emergency pressure relief vent?	X		
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?		X	
High fuel-level light?		X	
Low fuel level alarm?	X		
Explosion vent?		X	
Fuel leak detector?		X	
Rupture tank alarm?		X	

C.2.2 Spill Scenarios

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	North: down slope to Reed Canyon or to Drain #10 /Outfall # 4 in Reed Lake	475 Gallons
Partial failure of a full tank		<475 Gallons
Tank overfill		1 – 2 Gal.
Pipe failure		(no pipe)
Leaking pipe or valve		(no pipe or valves)
Tank truck leak or failure	North: down slope to Reed Canyon or to Drain #10 /Outfall # 4 in Reed Lake	Up to total quantity in truck.
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck.

Notes on countermeasure plans:

Seal Drain #10 with the drain mat, which is stored in a yellow tube inside the west (loading dock) entrance to the physics building. Use absorbent materials from an oil spill emergency kit, available from Community Safety or Facilities Services, to contain any spilled oil. If oil enters the drain, monitor Outfall #4 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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C.3 UNIT #G-3: Eliot Hall

C.3.1 Generator Specifications

MAKE/MODEL NUMBER: Kohler/20ROZJ (double wall)

SERIAL#: 0646630

SPEC. #: PA-189036

TANK FUEL CAPACITY: 40 GAL.

TANK DIMENSIONS: 60” x 23” x 12”.

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		A643807
Rupture container?	X		110 %
Inner tank leak alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)	X		
Outer tank: emergency pressure relief vent?	X		
Inner tank: emergency pressure relief vent?	X		
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?		X	
Low fuel level alarm?	X		
Explosion vent?	X		
Fuel leak detector?	X		
Rupture tank alarm?		X	

C.3.2 Spill Scenarios

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	Fairly level; toward Drain #103, / Outfall #6 in Reed Lake	40 Gal.
Partial failure of a full tank		<40 Gal.
Tank overfill		1 – 2 Gal.
Pipe failure		(no pipe)
Leaking pipe or valve		(no pipe or valves)
Tank truck leak or failure	#103 / Outfall #6 in Reed Lake	Up to total quantity in truck.
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck.

Notes on countermeasure plans*:*

Seal any affected drain (#103 and possibly #43) with the drain mat, which is available from Community Safety or Facilities Services. Use absorbent materials from an oil spill emergency kit, available from Community Safety or Facilities Services, to contain any spilled oil. If oil enters Drain #103 or #43, monitor Outfall #6 and use equipment to prevent oil from entering Reed Lake.

A drain west of Unit #G-3 hooks up to the sanitary sewer.

Additional Notes:

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C.4 UNIT #G-4: Educational Technology Building (ETC)

C.4.1 Generator Specifications

MAKE/MODEL NUMBER: Olympian/D200P4

SERIAL#: OLY 00000HNN500297

TANK FUEL CAPACITY: 392 GAL.

TANK DIMENSIONS: 24” x 26” x 120”.

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		#508574
Rupture container?	X		
Inner tank leak alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)	X		
Outer tank: emergency pressure relief vent?	X		
Inner tank: emergency pressure relief vent?	X		
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?	X		
Low fuel level alarm?	X		
Explosion vent?		X	
Fuel leak detector?		X	
Rupture tank alarm?	X		

C.4.2 Spill Scenarios

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	NW toward Drain #70/ Outfall #3 in Reed Lake	392 Gal.
Partial failure of a full tank		<392 Gal.
Tank overfill		1 – 2 Gal.
Pipe failure		1 cup
Leaking pipe or valve		1 Gal.
Tank truck leak or failure	NW toward Drain #70/ Outfall #3 in Reed Lake	Up to total quantity in truck.
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck.

Notes on countermeasure plans*:*

Seal any affected drain (#70 in the east parking lot is closest) with a drain mat, which is stored inside the gate of the garbage recycling area next to Generator #4 or is available from Community Safety. Use absorbent materials from an oil spill emergency kit, available from Community Safety or Facilities Services, to contain any spilled oil. If oil enters Drain #70, monitor Outfall #3 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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C.5 UNIT #G-5: Foster/Scholz Dorms (FSM)

C.5.1 Generator Specifications

MAKE/MODEL NUMBER:
Caterpillar / D60-6

SERIAL#: D-321,326

TANK FUEL CAPACITY: 146 GAL.

TANK DIMENSIONS: 19.6” X 39.4” X 107.3”

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		UL#142
Rupture container?	X		5 gal. spill containment
Inner tank leak alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		14 gauge steel
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)	X		
Outer tank: emergency pressure relief vent?		X	Emergency vent for main tank
Inner tank: emergency pressure relief vent?	X		
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?	X		
Low fuel level alarm?	X		
Explosion vent?	X		Vent main tank
Fuel leak detector?	X		
Rupture tank alarm?	X		

C.5.2 Spill Scenarios

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	W/SW: Into the soil or down-gradient towards West Parking Lot	146 Gal.
Partial failure of a full tank		<146 Gal.
Tank overfill		1 – 2 Gal (8 gal drip pan in place) and overfill prevention valve
Pipe failure		1 cup
Leaking pipe or valve		1 gal (5 gal spill containment in place and leak detection switch)
Tank truck leak or failure		Up to total quantity in truck.
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck.

Notes on countermeasure plans*:*

Contain oil with trench or berm or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows.

Additional Notes:

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C.6 UNIT #G-6: Gray Campus Center (GCC)

C.6.1 Generator Specifications

MAKE/MODEL NUMBER: Katolight/D60FFP4

SERIAL#: LM220761

SPEC. #: E-44036

TANK FUEL CAPACITY: 110 GAL.

TANK DIMENSIONS: 18” x 28” x 78”.

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		Label not legible
Rupture container?	X		110 %
Inner tank leak alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)	X		
Outer tank: emergency pressure relief vent?		X	Holes there but capped off.
Inner tank: emergency pressure relief vent?		X	
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?		X	
Fuel supply and return openings?			Not marked
High fuel-level light?		X	
Low fuel level alarm?	X		
Explosion vent?		X	
Fuel leak detector?		X	
Rupture tank alarm?		X	

C.6.2 Spill Scenarios

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	Down gradient to Drains #15 and #16 / Outfall #9 in Reed Lake; or down the road to Drain #42 / Outfall #10 in Reed Lake	110 Gallons
Partial failure of a full tank		<110 Gallons
Tank overfill		1 – 2 Gal.
Pipe failure		1 cup
Leaking pipe or valve		(no pipe)
Tank truck leak or failure	Down gradient to Drains #15 and #16 / Outfall #9 in Reed Lake; or down the road to Drain #42 / Outfall #10 in Reed Lake	Up to total quantity in truck.
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck.

Notes on countermeasure plans*:*

This unit has a double-walled tank with an auditory rupture alarm inside Gray Campus Center. Cover drains with drain mats from tubes stored inside the west kitchen entry of the Commons. Contain oil with oil-absorbent materials such as “Ultrasorb,” pads, or pillows, available in the oil spill emergency kit in commons’ kitchen. If oil enters drain, monitor Outfall #9 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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C.7 UNIT #G-7: Physical Plant Building/Facilities

C.7.1 Generator Specifications

MAKE/MODEL NUMBER: Kohler/50ROZ81

SERIAL#: 277993

SPEC. # 189301-81

TANK FUEL CAPACITY: 100 GAL.

TANK DIMENSIONS: 82” x 18” x 23”.

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		UL#2200
Rupture container?	X		
Inner tank leak alarm?		X	
Basin drain?	X		
Heavy-gauge construction?	X		
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)	X		
Outer tank: emergency pressure relief vent?	X		
Inner tank: emergency pressure relief vent?	X		
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?		X	
Low fuel level alarm?	X		
Explosion vent?		X	
Fuel leak detector?		X	
Rupture tank alarm?	X		

C.7.2 Spill Scenarios

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	Down slope to Drain #82 /Outfall #11 above Crystal Springs Creek; check Drain # 81	100 Gallons
Partial failure of a full tank		<100 Gallons
Tank overfill		1 – 2 Gal.
Pipe failure		(no pipe)
Leaking pipe or valve		(no pipe or valves)
Tank truck leak or failure	To Drain 81 and down slope to Drain #82 / Outfall #11 above Crystal Springs Creek	Up to total quantity in truck.
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck.

Notes on countermeasure plans*:*

Seal any affected drains (#81 & #82 west of the physical plant are closest) with drain mat(s), stored in a yellow tube inside the Grounds Shop. Use absorbent materials from an oil spill emergency kit, available from Community Safety or Facilities Services, to contain any spilled oil. If oil enters either drain, monitor Outfall #11 and use equipment to prevent oil from entering Crystal Springs Creek.

Additional Notes:

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C.8 UNIT #G-8: Bragdon Hall Dorms

C.8.1 Generator Specifications

MAKE/MODEL NUMBER: Kohler/30R0ZP81

SERIAL#: 391933

SPEC.#: PA-192110-81

TANK FUEL CAPACITY: 85 GAL.

TANK DIMENSIONS: 60” x 23” x 23”.

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		UL# A529139
Rupture container?	X		
Inner tank leak alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)	X		
Outer tank: emergency pressure relief vent?	X		
Inner tank: emergency pressure relief vent?	X		
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?	X		
Low fuel level alarm?	X		
Explosion vent?		X	
Fuel leak detector?		X	
Rupture tank alarm?		X	

C.8.2 Spill Scenarios

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	S/SW down Northern Shoreline of Reed Canyon.	85 Gal.
Partial failure of a full tank		<85 Gal.
Tank overfill		1-2 Gal.
Pipe or Valve Failure or Leak		1 cup
Tank truck leak or failure		Up to total quantity in truck.
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck.
Complete failure of a full tank	S/SW down Northern Shoreline of Reed Lake Canyon.	85 Gal.

Notes on countermeasure plans*:*

Contain oil with trench or berm or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows.

Additional Notes:

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C.9 UNIT #G-9: Sullivan Dorm

C.9.1 Generator Specifications

MAKE/MODEL NUMBER:
KOHLER/20ROZ81

SERIAL#: 385472

TANK FUEL CAPACITY: 40 GAL.

TANK DIMENSIONS: 63” x 23” x 18”.

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		UL#1944291
Rupture container?	X		
Inner tank leak alarm?		X	
Basin drain?	X		
Heavy-gauge construction?	X		
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)	X		(explosion-proof cap)
Outer tank: emergency pressure relief vent?	X		
Inner tank: emergency pressure relief vent?	X		
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?	X		
Low fuel level alarm?	X		
Explosion vent?		X	
Fuel leak detector?		X	
Rupture tank alarm?	X		(rupture basin leak alarm)

C.9.2 Spill Scenarios

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	S/SE Toward city combined storm sewer.	40 Gal.
Partial failure of a full tank		<40 gal.
Tank overfill		1 – 2 Gal.
Pipe or Valve Failure or Leak		(no pipe)
Tank truck leak or failure		(no pipe or valves)
Hose / Pipe leaking during loading		Up to total quantity in truck.
Pump rupture or failure		1 Gal.
Complete failure of a full tank		Up to total quantity in truck.

Notes on countermeasure plans*:*

Use absorbent materials from an oil spill emergency kit, available from Community Safety or Facilities Services, to contain any spilled oil. Seal any affected drain (combined sanitary sewer in upper north parking lot are closest) with a drain mat, which is available from Community Safety or Facilities Services

Additional Notes:

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C.10 UNIT #G-10: Grove Dorm Complex/Quad

Generator Specifications

MAKE/MODEL Number: CATERPILLAR/D100-4

SERIAL#: CAT 00C44KN4E 00920

TANK CAPACITY: FUEL 185 GAL.

TANK DIMENSIONS: 102.5” x 44.4” x 88.8”.

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		UL#2200
Rupture container?	X		
Inner tank leak alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		8 gauge steel.
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)		X	Behind a locked panel
Outer tank: emergency pressure relief vent?		X	
Inner tank: emergency pressure relief vent?	X		Emergency vent for main tank
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?		X	
Low fuel level alarm?	X		
Explosion vent?	X		
Fuel leak detector?	X		
Rupture tank alarm?		X	

C.10.2 Spill Scenarios

Complete failure of a full tank	W/SW towards 28 West and 28th Ave.	185 Gal.
Partial failure of a full tank		<185 gal.
Tank overfill		1 – 2 Gal.
Pipe failure		(no pipe)
Leaking pipe or valve		(no pipe or valves)
Tank truck leak or failure		Up to total quantity in truck
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck

Notes on countermeasure plans*:*

Use absorbent materials from an oil spill emergency kit, available from Community Safety or Facilities Services, to contain any spilled oil. Seal any affected drain (combined sanitary sewer in recycle/garbage area, west side of adjoining wall) with a drain mat, which is available from Community Safety or Facilities Services.

Additional Notes:

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C.11 UNIT #G-11: Psychology Building

Generator Specifications

MAKE/MODEL Number:
CATERPILLAR/D80-4

SERIAL#: CAT 00C44CN4E 01173

TANK CAPACITY: FUEL 226 GAL.

TANK DIMENSIONS: 110.4” x 43.3” x 85.8”

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		UL#142
Rupture container?	X		
Inner tank leak alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		8 gauge steel.
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)		X	Behind a locked panel
Outer tank: emergency pressure relief vent?		X	
Inner tank: emergency pressure relief vent?	X		Emergency vent for main tank
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?		X	Alarm
Low fuel level alarm?	X		
Explosion vent?	X		Vent main tank
Fuel leak detector?	X		
Rupture tank alarm?		X	

C.11.2 Spill Scenarios

Complete failure of a full tank	North down slope to Drains #2, #3, #92 & #96/Outfall 3	226 Gal.
Partial failure of a full tank		< 226 gal.
Tank overfill		1 – 2 Gal.
Pipe failure		(no pipe)
Leaking pipe or valve		(no pipe or valves)
Tank truck leak or failure	To Drains #2, #3, #92 & #96/Outfall 3	Up to total quantity in truck
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck

Notes on countermeasure plans*:*

Contain oil with trench or berm or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows. Seal affected drains with drain mat(s) stored in yellow tubes inside the southeast/loading dock entrance to the Chemistry Building. Use absorbent materials from the oil spill emergency kit, stored inside the hazardous waste storage shed by the Chemistry loading dock, to contain any spilled oil. Block and or cover drains #2, #3, #92 & #96 If oil enters drain, monitor Outfall #3 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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C.12 Unit #G-12: Vollum Hall Building

Generator Specifications

MAKE/MODEL Number: CATERPILLAR/D50-6

SERIAL#: CAT 00C44TGLD 01164

TANK CAPACITY: FUEL 145 GAL.

TANK DIMENSIONS: 90” x 44” x 80”

Containment & Diversionary Structures:	YES	NO	NOTES:
UL-Listed?	X		UL#2200
Rupture Container?	X		
Inner Tank Leak Alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		14 Gauge steel
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)		X	Behind a locked panel
Outer tank: emergency pressure relief vent?		X	
Inner tank: emergency pressure relief vent?	X		Emergency vent for main tank
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level alarm?		X	
Low fuel-level alarm?	X		
Explosion vent?	X		Vent main tank
Fuel leak detector?	X		
Rupture tank alarm?	X		

C.12.2 Spill Scenarios

Complete failure of a full tank	To Drain #134/Outfall #5 in Reed Lake; Or downhill N/NE into Reed Canyon	145 Gal.
Partial failure of a full tank		<145 Gal.
Tank Overfill		1-2 Gal.
Pipe failure		(no pipe)
Leaking pipe or valve		(no pipe or valves)
Tank truck leak or failure	To Drain #134/Outfall #5 in Reed Lake; Or downhill N/NE into Reed Canyon	Up to total quantity in the tank truck
Hose/Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in the tank truck

Notes on countermeasures plan:

Seal affected drains with drain mat(s) stored in yellow tubes inside Vollum Hall in the E Mechanical Room. Use absorbent materials from the oil spill emergency kit, stored in E Mechanical Room in Vollum Hall, to contain any spilled oil. If oil enters drain, monitor Outfall #4 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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C.13 Unit #G-13: Performing Arts Building (PAB)

Generator Specifications

MAKE/MODEL Number: CUMMINS 175/DSGAD

SERIAL#: J120410063

TANK CAPACITY: FUEL 416 GAL.

TANK DIMENSIONS: 151” x 65.5” x 19”

Containment & Diversionary Structures:	YES	NO	NOTES:
UL-Listed?	X		UL#2200
Rupture Container?	X		
Inner Tank Leak Alarm?		X	
Basin drain?	X		
Heavy-gauge construction?	X		14 Gauge steel
Integral sub-up area?		X	
Removable end channel/access to sub-up area?		X	
Lockable fill cap and riser? (2-inch NPT)	X		Behind a locked panel
Outer tank: emergency pressure relief vent?	X		
Inner tank: emergency pressure relief vent?	X		Emergency vent for main tank
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level alarm?	X		Alarm
Low fuel-level alarm?	X		
Explosion vent?		X	Vent main tank
Fuel leak detector?	X		
Rupture tank alarm?		X	

C.13.2 Spill Scenarios

Complete failure of a full tank	To west parking lot bioswale; Or across 28th to Crystal Creek	416 Gal.
Partial failure of a full tank		<416 Gal.
Tank Overfill		1-2 Gal.
Pipe Failure		1 Cup
Leaking pipe or valve		1 Cup
Tank truck leak or failure	To west parking lot bioswale bioswale; Or across 28th to Crystal Creek	Up to total quantity in the tank truck
Hose/Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in the tank truck

Notes on the countermeasure plans:

Seal affected drains with drain mat(s) stored in yellow tubes inside West Door of Food Services in Grey Campus Center. Use absorbent materials from the oil spill emergency, stored inside the oil dumpster in the NW corner of GCC, to contain any spilled oil. If oil enters bioswale, monitor the far west bioswale's large diameter turquoise pipe and use equipment to prevent oil from entering Crystal Creek.

Additional Notes:

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C.14 Unit #G-14: Trillium Dormitory

Generator Specifications

MAKE/MODEL Number: CUMMINS C100 D6C

SERIAL#: G180394198

TANK CAPACITY: FUEL 256 GAL.

TANK DIMENSIONS: 154” x 40” x 18”

Containment & Diversionary Structures:	YES	NO	NOTES:
UL-Listed?	X		UL - 142
Rupture Container?	X		
Inner Tank Leak Alarm?		X	
Basin drain?	X		
Heavy-gauge construction?	X		
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)	X		Behind a locked panel
Outer tank: emergency pressure relief vent?	X		
Inner tank: emergency pressure relief vent?	X		
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level alarm?	X		Alarm at 90%
Low fuel-level alarm?	X		
Explosion vent?	X		Tank and Annular Space
Fuel leak detector?		X	
Rupture tank alarm?		X	

C.14.2 Spill Scenarios

Complete failure of a full tank	S/SW towards Trillium Dorm, into drains leading to Dry Pond	256 gal
Partial failure of a full tank		<256 Gal.
Tank Overfill		1-2 Gal.
Pipe Failure		1 Cup
Leaking pipe or valve		1 Cup
Tank truck leak or failure	S/SW towards Trillium Dorm, into drains leading to Dry Pond	Up to total quantity in the tank truck
Hose/Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in the tank truck

Notes on the countermeasure plans:

Use absorbent materials from an oil spill emergency kit, available from Community Safety or Facilities Services, to contain any spilled oil. Seal any affected drain (combined sanitary sewer in recycle/garbage area, west side of adjoining wall) with a drain mat, which is available from Community Safety or Facilities Services.

Additional Notes:

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C.15 UNIT #G-15: Sports Center

Generator Specifications

MAKE/MODEL Number: CATERPILLAR/C4.4CG

SERIAL#: CAT

TANK CAPACITY: FUEL 138 GAL.

TANK DIMENSIONS: 106.6” x 43.3” x 14.4”.

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		UL142
Rupture container?	X		5 gal spill protection
Inner tank leak alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)		X	Behind a locked panel
Outer tank: emergency pressure relief vent?	X		
Inner tank: emergency pressure relief vent?	X		Emergency vent for main tank
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?	X		
Low fuel level alarm?	X		
Explosion vent?	X		
Fuel leak detector?	X		
Rupture tank alarm?		X	

C.10.2 Spill Scenarios

Complete failure of a full tank	South towards Loading Dock	135 gal.
Partial failure of a full tank		<135 gal.
Tank overfill		1 – 2 Gal. Caught in 5 gal. contain.
Pipe failure		(no pipe)
Leaking pipe or valve		(no pipe or valves)
Tank truck leak or failure		Up to total quantity in truck
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck

Notes on countermeasure plans*:*

Use absorbent materials from an oil spill emergency kit, available from Community Safety or Facilities Services, to contain any spilled oil. Seal any affected drains with a drain mat, which is available from Community Safety or Facilities Services.

Additional Notes:

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Appendix D: Oil Storage

D.1 Gray Campus Center / "The Commons" (S-1)

2 x 233 gallon tanks for cooking oil storage. One for fresh oil, one for waste oil awaiting recycling.

Potential Event	Spill Direction	Potential Volume Released
Pump truck leak or spill	Towards Drains #15 / Outfall #9 in Reed Lake; down road to Drains #42, #81, & #82 /Outfalls #10 & #11	466 gallons, or up to total quantity in truck.

Notes on countermeasure plans*:*

Cover drains with drain mats from yellow tubes stored inside west kitchen entry of the Commons. Contain oil with oil-absorbent materials such as “Ultrasorb,” pads, or pillows, available in oil spill emergency kit in Commons’ kitchen. If oil enters drain, monitor Outfall #9, #10 and #11 and use equipment to prevent the contamination of Reed Lake.

Additional Notes:

D.2 Physical Plant Building: Biodiesel Bay (S-2)

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	Down gradient to Drain #42, Outfall #10, near the dam at west end of Reed Lake.	2 X 55 Gallons
Partial failure of a full tank		Less than 55 Gallons
Tank overfill		<1 Gal.
Hose / Pipe leaking during loading		No pipe. <1 Gal. from hose
Pump rupture or failure		Up to total quantity in fill truck.

Notes on countermeasure plans*:*

Refuel in the containment area. Keep oil spill emergency kit (and generic spill kits) handy in refueling areas and in facilities vehicles. If a spill occurs, use oil-absorbent materials to prevent oil from reaching drains. If oil escapes containment, seal drain #42 with the drain mat available in the grounds shop. Monitor Outfall #10 and prevent oil from contaminating Reed Lake.

Additional Notes:

D.3 "The Gas Shack" (S-3)

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full storage bin	Down gradient towards Reed Lake or to Drain #42/Outfall #10 near the dam at west end of Reed Lake.	Less than 55 Gallons
Partial failure of a full storage bin		Less than 55 gallons
Storage bin overfill		1 – 2 Gal.
Leaking storage bin		1 cup
Pump truck leak or spill		Up to total quantity in fill truck.

Notes on countermeasure plans*:*

Refuel in containment area. Keep oil spill emergency kit (and generic spill kits) handy in refueling areas and in facilities vehicles. If a spill occurs, use oil-absorbent materials to prevent oil from reaching drains. If oil escapes containment, seal drain #42 with the drain mat available in the grounds shop. Monitor Outfall #10 and prevent oil from contaminating Reed Lake.

Additional Notes:

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D.4 Facilities Storage Tank (S-4)

UNIT # S-4: Facilities Storage Tank

MAKE/MODEL NUMBER: Modern Welding Fireguard E-77383

SERIAL#: 34476

TANK FUEL CAPACITY: 5000 Gal.

DIMENSIONS: 102" X 168"

Containment & Diversionary Structures:	YES	NO	NOTES:
UL-Listed?	X		UL#2085, 142
Rupture Container?	X		
Inner Tank Leak Alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		7 Gauge steel
Integral sub-up area?		X	N/A
Removable end channel/access to sub-up area?		X	N/A
Lockable fill cap and riser? (2-inch NPT)	X		4-inch
Outer tank: emergency pressure relief vent?	X		8"
Inner tank: emergency pressure relief vent?	X		8"
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		4"

Fuel supply and return openings?	X		Pump opening
High fuel-level alarm?		X	
Low fuel-level alarm?		X	
Explosion vent?	X		

Oil Storage Location: Facilities Storage Tank (S-4)

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	On concrete or asphalt surface or down the hill towards Crystal Springs Creek.	Less than 5000 Gallons
Partial failure of a full tank		Less than 5000 Gallons
Tank overfill		1 – 2 Gal.
Hose / Pipe leaking during loading		(No hose) 1-2 Gal. from pipe
Pump rupture or failure		Up to total quantity in fill truck.

Notes on countermeasure plans*:*

Refuel and store waste oils in containment areas. Use oil-absorbent materials to prevent spills from reaching the Canyon or Crystal Springs Creek. Keep oil spill emergency kit (and generic spill kits) handy in refueling areas and in facilities vehicles.

Additional Notes:

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D.5 Fuel Cube (S-5)

Oil Storage Location: Facilities Warehouse Complex aka "Fuel Cube" (S-5)

Complete failure of a fuel cube	Toward the swale created at the low point at S.W. corner of warehouse property.	Up to 243 Gallons
Partial failure of fuel cube		Less than 243 Gallons
Fuel Cube overfill		<1 Gal.
Hose / Pipe leaking during loading		No pipe. <1 Gal. from hose
Pump rupture or failure		Up to total quantity in fill truck.

Notes on countermeasure plans*:*

Refuel in containment areas. Keep an oil spill emergency kit (and generic spill kits) handy in refueling areas and in facilities vehicles. Use oil-absorbent materials to prevent spill from reaching the swale or combined sanitary sewer drains.

Additional Notes:

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Appendix E: Electrical Transformer Details and Scenarios

PGE owns all transformers (TO-1 to TO-34) and covers them under their plan. All transformers contain oils with less than 50 ppm PCBs. TO-1 has < 48 ppm PCBs; all others < 1 ppm PCBs.

Location		PGE Numbers	Reed Number	Oil (Gal.)
Anna Mann Dormitory	Above ground	ABC-150-1501	TO-7	128
Birchwood Apartments	Vault in ground	B-100-3095 B-100-6609	TO-29	90 90
Bragdon Dormitory	Above ground	ABC-300-1098	TO-13	136
Chemistry Building – east side; larger	Above ground	ABC-750-210	TO-1	375
Chemistry Building – east side; smaller	Above ground	ABC-500-981	TO-2	195
Chittick Dormitory	Above ground	ABC-150-31566	TO-15	128
Education Technology Center	Above ground	ABC-300-1523	TO-5	139
Education Technology Center	Above ground	ABC-75-12714	TO-18	94
Farm House	On a power pole	A-25-81044	TO-25	15
Foster/Scholz Dormitories	Above ground	A-100-5759	TO-23	90
GCC/ Commons – northwest corner	Above ground	ABC-300-998	TO-8	136
GCC/Commons – northwest corner	Above ground	ABC-300-996	TO-9	139
Greenwood /Botsford Dr.	Above ground	A-50-36599	TO-19	45
Grove Dormitory Complex/Quad	Above ground	ABC-300-32700	TO-20	135
Trillium Dormitory	Vault in ground	D1113-254-2018	TO-34	180
Library – west side	Vault in ground	A-75-11198 B-75-11196 C-75-11011	TO-26	90 90 90

Library – south side	Above ground	ABC-300-1612	TO-6	139
MacNaughton Dormitory	Above ground	A-100-5773	TO-24	90
Naito Dormitory	Above ground	ABC-300-977	TO-14	136
Parker House	Above ground	AB-50-64134	TO-27	45
Physical Plant Building – north side	Above ground	ABC-112.5-838	TO-12	95
Physics Building	Above ground	ABC-1000-414	TO-17	280
Psychology Building – east side	Above ground	ABC-300-365	TO-16	135
Performing Arts Building	Above Ground	ABC-1500-34030	TO-33	375
Reed College Apartments – south side	Above ground	C-100-1063	TO-22	90
Studio Arts Building	Above ground	ABC-75-12364	TO-4	109
Theater Annex, Reed Warehouse	On a power pole	A-25-38427 B-25-38420 C-25-38425	TO-28	15 15 15
Vollum College Center	Above ground	ABC-500-1365	TO-3	201
28 West/Campus Safety	Above ground	ABC-75-12716	TO-21	95
28th Avenue/Health and Counseling Center	On a power pole	A-25-14367 C-10-21253	TO-30	15 10
28th Avenue/Doctors Office Bldg.	On a power pole	A-50-12597 B-50-12602 C-50-12605	TO-31	45 45 45
28th Avenue/Steele Street	On a power pole	A-50-17256 B-50-17258 C-50-17259	TO-32	45 45 45
Sports Center/Botsford Drive	Above ground	107700-500	TO-35	50
Total Oil Capacity of PGE-owned Transformers:				**4706**

Transformer Location: Anna Mann Dormitory (TO-7) – PGE Number ABC–150–1501

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	West/Southwest	128 GAL.
Partial failure/Loss of Insulator Oil		<128 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit.

Additional Notes:

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Transformer Location: Birchwood Apartments – 2 transformers in a vault in the ground (TO-29) – PGE Numbers B-100-3095 and B-100-6609

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	In vault in ground	90 - 180 GAL.
Partial failure/ Loss of Insulator Oil		<180 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench or berm or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit.

Additional Notes:

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Transformer Location: Bragdon Dormitory (TO-13) – PGE Number ABC-300-1098

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Down gradient toward Reed Lake to the south.	136 GAL.
Partial failure/ Loss of Insulator Oil		<136 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit.

Additional Notes:

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Transformer Location: Chemistry Building, larger unit of east side of building (TO-1) – PGE Number ABC-750-210

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	To Drain #2, 3, 92, & 96 and Outfall #3 in Reed Canyon. Downhill N/NE into Reed Canyon	375 GAL.
Partial failure/ Loss of Insulator Oil		<375 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Seal affected drains with drain mat(s) stored in yellow tubes inside the southeast/loading dock entrance to the Chemistry Building. Use absorbent materials from the oil spill emergency kit, stored inside the hazardous waste storage shed by the Chemistry loading dock, to contain any spilled oil. If oil enters drain, monitor Outfall #3 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Transformer Location: Chemistry Building, smaller unit on the east side of the building (TO-2) – PGE Number ABC-500-981

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	To Drain #2, 3, 92, & 96 and Outfall #3 in Reed Canyon. Downhill N/NE into Reed Canyon	195 GAL.
Partial failure/ Loss of Insulator Oil		<195 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Seal affected drains with drain mats stored in yellow tubes inside the southeast (loading dock) entrance to the Chemistry Building. Use absorbent materials from the oil spill emergency kit, stored inside the hazardous waste storage shed by the Chemistry loading dock, to contain any spilled oil. If oil enters drain, monitor Outfall #3 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Transformer Location: Chittick Dormitory (TO-15) – PGE Number ABC-150-31566

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	West/ Southwest toward Reed Lake Canyon. To Drain # 84 & 85 and Outfall # 15	128 GAL.
Partial failure/ Loss of Insulator Oil		<128 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Seal affected drains with drain mats. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit. If oil enters drain, monitor Outfall #15 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Transformer Location: Education Technology Center (TO-5) – PGE Number ABC-300-1523

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	South/southwest. To Drain #8 and Outfalls #3 &/or #4	139 GAL.
Partial failure/ Loss of Insulator Oil		<139 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Seal affected drain with drain mat stored inside the gate of the garbage recycling area next to Generator #4. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit. If oil enters drain, monitor Outfalls #3 and/or 4 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Transformer Location: Education Technology Center (TO-18) – PGE Number ABC-75-12714

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Northwest. To Drain #70 and Outfall # 3	94 GAL.
Partial failure/Loss of Insulator Oil		<94 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Seal affected drain with drain mat stored inside the gate of the garbage recycling area next to Generator #4 or available from Community Safety. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from

Community Safety's oil spill response kit. If oil enters drain, monitor Outfall #3 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Transformer Location: Farm House – northwest corner, on power pole next to 28 Avenue (TO-25) – PGE Number A-25-81044.

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Southwest, down 28th Avenue	15 GAL.
Partial failure/ Loss of Insulator Oil		<15GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Foster/Scholz Dorms (TO-23) – PGE Number A-100-5759

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	West/Southwest	90 GAL.
Partial failure/ Loss of Insulator Oil		<90 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Gray Campus Center/ Commons – northwest side (TO-8) – PGE Number ABC-300-998

Complete Failure/ Explosion of a Transformer	To Drains #15 & #16 and Outfall #9; Down-road to Drain #42 / Outfall #10 in Reed Lake, and to Drain #81 & #82 and Outfall #11	136 GAL.
Partial failure/Loss of Insulator Oil		<136 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Cover drain with mat from yellow tube stored inside west kitchen entry of the Commons. Contain oil with oil-absorbent materials such as “Ultrasorb,” pads, or pillows from the Commons’ oil spill response kit. If oil enters drain, monitor Outfall #9. If it flows down the road, monitor Outfall # 10. Use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Transformer Location: Gray Campus Center /Commons – northwest side (TO-9) – PGE Number ABC-300-996

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	To Drains #15 & 16 and Outfall #9; Down-road to Drain #42, 81, and 82 / Outfall #10 and 11 in Reed Lake	139 GAL.
Partial failure/ Loss of Insulator Oil		<139 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Cover affected drain with drain mat from yellow tube stored inside west kitchen entry of the Commons. Contain oil with oil-absorbent materials such as “Ultrasorb,” pads, or pillows from the Commons’ oil spill response kit. If oil enters drain, monitor Outfall #9. If it flows down the road, monitor Outfall # 10. Use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Transformer Location: Greenwood/Botsford Dr. – south/southeast side (TO-19) – PGE Number A-50-36599

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Northwest. Down gradient toward Crystal Springs Creek.	45 GAL.
Partial failure/Loss of Insulator Oil		<45 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit.

Additional Notes:

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Transformer Location: Grove Dormitory Complex/Quad – west side (TO-20) – PGE Number ABC-300-32700

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	West to Combined Storm Sewer and SE 28th	135 GAL.
Partial failure/ Loss of Insulator Oil		<135 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit.

Additional Notes:

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Transformer Location: Trillium Dormitory – north side (TO-34) – PGE Number D1113B-254-2018

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	South to storm drains leading to dry pond	180 gal
Partial failure/ Loss of Insulator Oil		<180 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit. Use drain mats.

Additional Notes:

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Transformer Location: Library – west side (TO-26) – PGE Numbers A-75-11198, B-75-11196 & C-75-11011 – 3 Transformers in vault in ground

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	In ground	90-270 GAL.
Partial failure/ Loss of Insulator Oil		<270 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with oil-absorbent materials such as "Ultrasorb," pads, or pillows from the Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Library – south side (TO-6) – PGE Number ABC-300-1612

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	South/ Southwest; To Drain #9 and Outfall #4;	139 GAL.
Partial failure/ Loss of Insulator Oil		<139 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Cover affected drain with drain mat. Contain oil with oil-absorbent materials such as “Ultrasorb,” pads, or pillows from the Commons’ oil spill response kit. If oil enters drain, monitor Outfall 4 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Transformer Location: MacNaughton Dorm – west side (TO-24) – PGE Number A-100-5773

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Level into grass; no drain nearby	90 GAL.
Partial failure/ Loss of Insulator Oil		<90 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit.

Additional Notes:

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Transformer Location: Naito Dormitory (TO-14) – PGE Number ABC-300-977

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	West/Southwest	136 GAL.
Partial failure/Loss of Insulator Oil		<136 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit.

Additional Notes:

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Transformer Location: Parker House – southeast side of driveway (TO-27) – PGE Number AB-50-64134

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	To SE Moreland Lane, then to Woodstock Blvd.	45 GAL.
Partial failure/Loss of Insulator Oil		<45GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit.

Additional Notes:

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Transformer Location: Physical Plant (TO-12) – PGE Number ABC-112.5-838

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Northwest. Down gradient toward the Fish Ladder and Crystal Springs Creek; to Drain # 42/Outfall #10	95 GAL.
Partial failure/Loss of Insulator Oil		<95 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Facilities Service’s oil spill Emergency Kit.

Additional Notes:

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Transformer Location: Physics Building (TO-17) – PGE Number ABC–1000-414

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Down gradient toward Reed Lake to the north. To Drain #10 and Outfall #4.	280 GAL.
Partial failure/Loss of Insulator Oil		<280 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench or berm or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows. Seal affected drain #10 with a drain mat, stored in a yellow tube in the loading dock entrance to the physics building. If oil enters drain, monitor Outfall #4 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Transformer Location: Psychology – east side (TO-16) – PGE Number ABC-300-365

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Downhill into Reed Lake. To Drains #2, #92 & #96 and Outfall #3.	135 GAL.
Partial failure/Loss of Insulator Oil		<135 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit. Seal affected drain #10 with a drain mat. If oil enters drain, monitor Outfall #3 with equipment to prevent contamination of Reed Lake.

Additional Notes:

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Transformer Location: Performing Arts Building (TO-33)-PGE Number ABC-1500-34030

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	West/Southwest to west parking lot bioswale	**375 Gal.**
Partial Failure/Loss of Insulator Oil		**<375 Gal.**

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit.

Additional Notes:

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Transformer Location: Reed College Apartments – south side (TO-22) – PGE Number C-100-1063

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	West	90 GAL.
Partial failure/Loss of Insulator Oil		<90 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill emergency kit.

Additional Notes:

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Transformer Location: Studio Arts Building (TO-4) – PGE Number ABC-75-12364

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	North/Northwest, down gradient into Reed Lake Canyon	109 GAL.

Partial failure/Loss of Insulator Oil		<109 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit.

Additional Notes:

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Transformer Location: Theater Annex, Reed Warehouse complex – north side, three transformers on power pole next to fence that separates Birchwood Apts. (TO-28) – PGE Numbers A-25-38427, B-25-38420, and C-25-38425

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Some what level ground / West	15-45 GAL.
Partial failure/Loss of Insulator Oil		<45 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit.

Additional Notes:

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Transformer Location: Vollum College Center – west end (TO-3) – PGE Number ABC-500-1365

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	North; to Drain #134 and Outfall #5.	201 GAL.

Partial failure/Loss of Insulator Oil		<201 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit.

Additional Notes:

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Transformer Location: 28 West Community Safety – east side (TO-21) – PGE Number 75-12716

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Southwest	95 GAL.
Partial failure/Loss of Insulator Oil		<95 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit.

Additional Notes:

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Transformer Location: 28th Avenue/Health and Counseling Center – two transformers on a power pole (TO-30) – PGE Numbers A-25-14367 and C-10-21253

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Southwest along 28th Street.	10 – 25 GAL.
Partial failure/Loss of Insulator Oil		<25 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit.

Additional Notes:

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Transformer Location: 28th Avenue/ Doctors Office Bldg. – three transformers on a power pole (TO-31) – PGE Numbers A-50-12597, B-50-12602, and C-50-12605

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Southwest along 28th Street.	45 – 135 GAL.
Partial failure/Loss of Insulator Oil		<135 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit.

Additional Notes:

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Transformer Location: 28th Avenue/Steele Street– three transformers on a power pole (TO-32) – PGE Numbers A-50-17256, B-50-17258, and C-50-17259

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Southwest along 28th Street.	45 – 135 GAL.
Partial failure/Loss of Insulator Oil		<135 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit.

Additional Notes:

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Transformer Location: Sports Center/Botsford Drive – (TO-35) – PGE Number 107700-500

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	West down Botsford Drive	50 GAL.
Partial failure/Loss of Insulator Oil		<50 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as “Ultrasorb,” pads, or pillows from Community Safety’s oil spill response kit.

Additional Notes:

_____

_____

Appendix F: Spill History and Reporting

F.1 Spill Report Form

TITLE:

SUBJECT:

DATE:

RESPONSE

Detailed account of what happened, when it happened, and who responded.

INVESTIGATION AND EVALUATION

Details of how the spill occurred.

Decisions made that will help prevent another spill.

Costs:

Materials Costs:

Contractor Costs:

Reed Personnel hours:

F.2 Overview of Facility Spill History

DATE: 12/5/2016:
Approximately 5 gallons of biodegradable hydraulic oil was spilled when the Chemistry loading dock lift gate broke. Approximately 1 teaspoon of oil reached the nearby surface drain which outfalls into Reed Lake tributary.

Corrective Actions Taken: Lift gate hydraulic system replaced and PM scheduled.

Plan to Prevent Reoccurrence: PM schedule

DATE: 6/14/2016:
Approximately 5 gallons of biodegradable hydraulic oil was spilled when Rose City's hydraulic system gave out. The spill was spotted by the foreman of the Reimers & Jolivette (R&J) Construction, who prevented it from entering the drains.

Corrective Actions Taken: The Reed Grounds Department and EHS staff used absorbent materials to pick up the spill. (See full report in APPENDIX F.)

Plan to Prevent Reoccurrence: Reed staff has agreed to provide contractors effective ways to communicate emergencies to the relevant staff.

DATE: 1/21-22/2002:
Approximately 20 Gallons was spilled by a food service employee transferring used cooking oil into the oil recycling dumpster at the Commons loading dock behind Grey Campus Center. The oil entered a storm drain with outfall into Reed Lake.

Corrective Actions Taken: Spilled oil was picked up with absorbent materials by Reed Grounds Dept. and EHS staff, assisted by Foss Environmental. (See full report in APPENDIX F.)

Plan to Prevent Reoccurrence: Reed personnel and Food Service contractors agreed to implement administrative controls to avoid and mitigate any future problems. Reed no longer stores used cooking oil in the loading dock. 4/2021.

DATE: 11/25/1997:
An overflow occurred during a refueling of the 20,000 Gallon Underground Storage Tank located west of the Physical Plant building.

Corrective Actions Taken: In-house personnel cleaned-up the spilled fuel oil.

Plan to Prevent Reocurrence: An overflow alarm was installed that activates at 90% capacity. Administrative procedures were established in the Facilities Department involving employees and contract vendors to prevent recurrence. See **APPENDIX G.8**: Notice to Fuel Vendors,

Loading/Unloading Procedures, Facility Fuel Oil Transfer Operations, and Oil Delivery Truck Unloading Procedures. Reed no longer stores biofuel underground. 4/2013.

F.3 Historic Incident Reports

12/5/2016 Incident Report

SUBJECT: Hydraulic Oil Spill In Chemistry Loading Dock

DATE: 12/6/16

RESPONSE

12/5/16 8:35AM Facilities Services of Reed College noticed the hydraulic lift in the Chemistry loading dock had ruptured and oil was accumulating within the lift system but contained. April Sams was informed of the situation and that pumping of the liquid out of the system would be needed. It was determined that NRC Environmental Services would be better to provide this service to limit worker exposure, provide better environmental protection, and proper handling of waste produced. NRC was called to initiate cleanup at 8:33 AM. It was thought at the time that no oil had reached the surface drains and that NRC Environmental would be onsite to pump the water/oil mixture from the contained lift area only.

12/5/16 10:42AM NRC Environmental arrived onsite. A. Sams arrived to location to coordinate efforts. Sheen was noticed around the lift area. Booms and oil absorbent socks were placed around surface drains. Simple Green was used to absorb visible oil on asphalt loading dock area. Outfall location was determined and absorbent socks and booms placed to protect Crystal Springs Creek and Reed Lake.

12/5/16 11:00AM: The process to remove the broken lift began.

12/5/16 11:30AM Lift was removed, which allowed access for pump truck to begin removal of water/oil. Drain inside lift was dammed and absorbent socks put into place.

12/5/16 12:08: A. Sams initiated phone call to Oregon State Emergency Response System (OERS). It was unknown if oil had reached the waterways but prudent to advise DEQ of potential. At this time it was thought that no oil had reached Reed Lake or its tributaries. A.

Sams spoke to Carole with OERS who advised A. Sams that DEQ would call if more information was needed. OERS INCIDENT # 2016-2958.

12/5/16 12:11PM: A. Sams initiated phone call to the National Response Center. It was unknown if oil had reached the waterways but prudent to advise EPA of potential. At this time it was thought that no oil had reached Reed Lake or its tributaries. The National Response Center advised A. Sams that EPA region 10 would contact A. Sams if needed. NRC INCIDENT # 116-5625

12/5/16 12:28PM: A. Sams emailed Lorrainne Arvin, Pat Heneghan, and Towny Angell to inform of the hydraulic spill and DEQ/EPA report.

12/5/16 1:25PM: During the process of removing the fluid from the lift, it was noticed that some oil might have reached the surface drain under the lift system. The outfall was monitored and oil product was seen near the outfall. Remedial efforts began. Oil absorbing pads, socks, and booms were used to absorb all oil material.

12/5/16: 1:54PM: A. Sams received a call from DEQ to clarify the extent of the spill. All oil products were removed. A small amount of sheen was still present on asphalt and NRC Environmental Services continued efforts to remove presence of sheen. A maximum total of 5 gallons of oil was removed from the lift system. It was estimated that a tablespoon, or less, of oil may have traveled down the surface drain under the lift to the outfall into Reed Canyon near the headwaters of Crystal Springs Creek.

12/5/16 3:15PM: NRC Environmental Services left site after oil and sheen were removed to the best of their abilities.

12/5/16 3:45PM: A. Sams spoke to Zachariah Perry, Grounds Specialist: Canyon, to inform him of the procedure if sheen is noticed upstream. Z. Perry would continually monitor the area.

12/6/16 11:30AM: A. Sams and Steve Pagh, Facilities Services, walked site and deemed area clear.

12/6/16 11:54AM: A. Sams touched base with Z. Perry. Z. Perry informed A. Sams that he did not see any indication of further contamination. Z. Perry mentioned that BES called him to discuss the incident. He informed the City of the information he knew.

12/7/16: 12:30PM A. Sams walked impacted site and did not see any indication of sheen on water surface or ground.

INVESTIGATION AND EVALUATION

Reed College staff agreed:

- To better communicate the need to call Reed staff during emergency events.
- To provide effective ways to reach various responsible parties during emergency events.
- Explore options for alternative lift system or oil separator drain/s for loading dock area.
- Explore outfall plugs options for use in emergency response.

Costs:

Reed Personnel hours:

Facilities Services	4+ hours
EHS	4 hours

NRC Environmental Fees	$5928.28
DEQ Fees	$553.20

6/14/2016 Incident Report

SUBJECT: Hydraulic Oil Spill In North Parking Lot

DATE: 6/16/2016

RESPONSE

6/14: 8:50AM River City Environmental was picking up a drop box when their hydraulic system gave out and started leaking. Keith, foremen from Reimers & Jolivette (R&J) Construction, noticed that River City's hydraulic system gave way and acted quickly to start spill response procedures. Keith initially constructed a makeshift dike with soil around the drain in the lot and at the end of the oil path. After realizing that River City was ill prepared and that there was more oil than he felt comfortable handling alone he called Steve Yeadon (Asst. Director of Facilities Reed College). Steve walked the site and contacted April Karr [Sams] (Director of EHS Reed College).

Approximately 5 gallons of biodegradable hydraulic oil spilled.

6/14 9:15AM Bruce Hefner (Grounds Manager Reed College) and April Karr gathered spill containment equipment

6/14 9:30AM-12:45PM April Karr preceded to clean up the spill with Keith's assistance. **NO OIL REACHED THE DRAIN/SOIL OR LEFT THE PARKING AREA**. Once sufficient spill absorbent was down, oil soaked pads were removed, bagged, and replaced with kitty litter to collect the remaining residue. River City Environmental's Hazardous Materials Cleanup crew began work at 11:30AM with a specialized truck and green oil-cleaning product to clean up the remaining oil stain and residue. The drain and lot was boomed off during the process to not allow any cleaning product or residue to reach the drain. All oil was removed except for a slight residue that stained the asphalt. Drain covers and booms will remain in place for 24hours. It was determined that no follow-up notifications are needed to governmental agencies because the spill did not reach the environment and was not of large quantity.

6/14 1:15-1:30PM April Karr walked the site and picked up remainder of spill containment equipment. River City was still onsite with truck cleaning asphalt.

6/14 1:45PM River City finished and left.

6/14 ~3:00PM Keith called River City to inform them that a few oil spots remained. He asked for them to return and continue the cleanup efforts.

6/14: 5:20-5:45PM April Karr walked site on way home. River city was onsite cleaning a second time. April was informed that Keith still located a few oil spots around 3PM so asked the crew to return. River city used their trucks to continue cleanup efforts. When April arrived, River City was informed to stop work and to not continue with additional cleaning efforts. They offered to use dish soap to clean the rest but would need to go back to their warehouse to get supplies. They were told that it was not needed. The site would be visually checked in the morning and determination made if additional cleanup would be necessary. If determined additional cleanup was needed another contracted service that specializes in remediation would be used.

6/15 8:30AM April Karr spoke to Steve and decided to walk the site. Both agreed that the area looked fine and to monitor over the next week to see if additional remediation was needed. Keith was contacted and told to leave the booms in place for at least a week to monitor rain impact. Keith believed River City should continue cleanup but April & Steve informed him not to move forward with River City's cleanup service. The area will be monitored and if additional remedial efforts are needed River City will be billed. Keith agreed and informed Mark Beckius (President Reimers & Jolivette). Keith was commended for his quick response and also informed that he should not hesitate to call Community Safety, Facilities, or EHS for any issue. Keith agreed. Mark has been dealing with the fallout with River City and agrees that they were not prepared and handled the situation horribly.

6/16 9:45AM April Karr walked the site and oil stain is minimal. Booms are still in place.

INVESTIGATION AND EVALUATION

Reimers & Jolivette agreed:

- To promptly contact Reed Facilities, EHS, or Community Safety when issues occur.
- To continue corrective action with River City.

Reed College staff agreed:

- To better communicate the need to call Reed staff during emergency events.
- To provide effective ways to reach various responsible parties during emergency events.

Costs:

Materials Costs

The EHS office supplied:	
2 bales of pads	$ 80.00
Grounds supplied	
4 pillows	$52.00
5 in x 10 ft boom	32.00
4 bales of pads	160.00
3 bags of spill absorbent	60.00

Reed Personnel hours:

Facilities Services	3 hours
EHS	5 hours

1/22/2002 Incident Report

SUBJECT: Used Cooking Oil Spill on January 21 and 22, 2002

DATE: January 28, 2002

RESPONSE

On Monday, January 21, 2002 between 8:30 and 9:00 A.M., Michele McPherson (Reed facilities services) got a call from Andrew Kalona at Bon Appetit that used cooking oil spilled at the loading dock. Townsend Angell (facilities director) asked David Nielson (grounds department) to clean up the oil. David and Kathleen Edeline (grounds department) used Ultrasorb and other materials to soak up the 2 foot by 30-foot spill. Towny understood that all the oil was cleaned up. However, there may have been grease in the drain system at that time that went unnoticed.

On Tuesday, January 22 at about 7:30 A.M., Bruce Hefner and Zac Perry (both in the grounds department) observed oil on the water at the west end of Reed Lake, near the fish ladder. They informed Towny that used cooking oil from Bon Appetit had spilled outside and had gone into the storm drain, leading to Reed Lake. The oil on the lake covered an area of approximately 40 feet by 20 feet. They began work to contain and clean up the used oil, as well as to clean out the drain by the trash rack. Bruce Hefner lowered two five-gallon buckets into the drain and pulled up both filled with oil.

At about 8:00 A.M., Towny reported the spill to the Environmental Health and Safety office.

At 8:30, Towny called George Cardile, a project manager at Foss Environmental, described the spill, and requested support for the oil clean up.

At approximately 8:40 A.M., Karen Gonzalez (EHS staff) arrived with additional absorbent pads and booms. Zac Perry stated that he and Knol Simnit had been working on the cleanup since their arrival. Zac estimated that they had already cleaned up approximately 80% of the oil.

Reed staff proceeded to add a boom and pillows in front of the water outlet to the fish ladder. They put down additional absorbent pads on the visible oily areas close to shore.

Foss Environmental arrived at about 9:00 AM and gave assistance cleaning the trash rack area and provided additional absorbent material. Mr. Cardile stated that Reed employees had done a good job of containing the spill to the lake. After evaluating the work so far, Foss Environmental pumped an additional two gallons of oil out of the drain. They also estimated that by the time they responded that about 2 gallons of oil remained on the surface of the lake. They added a downstream boom near the end of the fish ladder, and called in a request for skirted booms to better trap the oil for cleanup. Jason Baxter (EHS Intern) walked downstream to look for any evidence of oil. Jason placed oil absorbent pads in two slow moving areas, but saw no further evidence of oil.

At 10:40 A.M., Kathleen Fisher (EHS staff) and Karen Gonzalez drove over to Westmoreland Park to look for any signs of oil in the "Casting Pond" which lies downstream from Reed Lake. They walked the entire perimeter of the pond, but saw no evidence of cooking oil. Foss employees placed the skirted boom at the west end of the lake at approximately 11:30 A.M. The Reed Grounds crew replaced pads and booms as needed throughout the week.

As an extra precaution, on Wednesday, January 23, Reed staff built a filter fence and placed absorbent pads and booms on the upstream side.

On Friday, January 25, 2002, a sewer router truck came to clean out the drainpipe and vacuum up any remaining oil on the lake. At about 3:30 P.M. Reed employees pulled up the skirted boom. They left all downstream containment in place over the weekend. Downstream pads, booms, and the filter fence were removed Monday morning, January 28, 2002.

INVESTIGATION AND EVALUATION

Details of how and when the spills occurred remain sketchy.

On Monday morning, January 21, 2002 the Reed College grounds crew cleaned up a used oil spill on the north west end of the Gray Campus Center where recycling materials are stored - trash rack. Bon Appetit had stored their used cooking oil in a variety of open containers, such as five gallon buckets and a 25 gallon metal trash can, after their used oil dumpster had become full in December. Sometime between 7 P.M. Sunday evening, January 20 and 9 A.M. January 21, a metal trash can with used oil, located against the south wall, spilled.

On Tuesday morning, January 22, the grounds crew noticed oil on the lake. They also noticed a second spill had occurred in the same trash collection area outside of Gray Campus Center. This time the spill came from a five-gallon bucket sitting on the top of the loading dock. The oil flowed down the wall and wheel chair ramp, and under the dumpsters.

On Tuesday, January 29 at 9:30 A.M., Townsend Angell, Gloria Torbek, Kathleen Fisher, and Dwayne Davis met with Bon Appetit staff - Mac Lary (general manager) and Andrew Kalona (executive chef). They discussed the cost of the clean up effort, how to prevent future spills, and how to prepare for an accidental release. Mac Lary had already changed their vendor contract from a once a month pick up of the oil to every two weeks. He also stated that they had not replenished spill supplies that had been used previously.

Bon Appetit staff agreed:

- To make sure their oil dumpster never gets over full. They will consider it full when the oil is one foot from the top.
- To get a clean oil dumpster, whenever it is needed.
- To use only closed, tight-sealing containers to store cooking oil.
- To replace spill kit materials whenever they use them.
- To call Community Safety as soon as there is a spill. (Community Safety would then in turn contact both EHS and Facility Services.)
- To provide two staff people whenever they transfer oil into the dumpster. They will also look into providing a spotter during the vendor pick up.
- To research, with the help of Reed staff, adequate spill containment systems, including a completely enclosed oil storage system, using a spill containment pallet and other possibilities.
- To work with EHS staff on training their employees in spill control, containment and clean up.

Reed College staff agreed:

- To research the cost of purchasing two skirted booms.
- To keep on hand a larger supply of spill clean up materials.

Costs:

Materials Costs

The EHS office supplied:	
5 bales of pads	$ 200.00
5 pillows	65.00
12’ 5 in x 10 ft. booms	375.00
Community Safety provided:	
2 bales of pads	$ 80.00
2 booms	63.00

Grounds provided additional pads and hay bales.

Contractor Costs:

Foss Environmental	$ 3,000
Sewer Router Truck	2,300

Reed Personnel hours:

Facilities Services	65 hours
EHS	40 hours

11/25/1997 Incident Report

[missing report]

Appendix G: Reference Documents

G.1 Certification Form A-1 – Original Management Approval

Facility:	Reed College 3203 SE Woodstock Boulevard Portland, Oregon 97202 503-777-6666 (On-site Community Safety Dispatch)
Management Approval:	
Name:	Ed McFarlane
Contact Information:	503-777-7506 (Office)
Title:	Vice President and Treasurer
Signature:	On File
Date:	(Signed 11/02/2004)

I certify that I have authority to commit the necessary resources to implement the programs and procedures in this **Spill Prevention, Control, and Countermeasure (SPCC) Plan**. Management approves the full implementation of this SPCC Plan. In addition, management shall review and evaluate this plan at least once every five years, amending the plan to include more effective, field-proven technology, if it would be expected to reduce the likelihood of a spill event at the facility.

ADDITIONAL PLAN REVIEWS:

As set forth in 40 CFR Part 112.5(a) and (b), Reed College will amend and re-certify this SPCC Plan whenever:

- It is required by the Regional Administrator of the US-EPA;
- Applicable regulations are revised or added; or
- A change in facility design, construction, operation, or maintenance materially affects the facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines.

G.2 Certification Form A-2 — Record of Plan Reviews

Manager's Name & Title	**Manager's Signature**	**Reason for Review** (*See codes, below)	**Plan Updated?** (Yes/ No)	**Engineer's Certification Obtained?** (Yes/ No)	**New Certification Date**
Edwin McFarlane, V.P. / Treasurer	On File	1 and 3	YES	YES	December 21, 2009
Lorraine Arvin, V.P. and Treasurer	On File	1 and 3	YES	NO	July 31, 2014
Lorraine Arvin, VP and Treasurer	On File	3	NO	NO	July 29, 2019
Lynn Valenter, VP and Treasurer	On File	1 and 3	YES	NO	June 27, 2024

***Reason for Review Codes:**

1. Change in facility design, construction, operation, or maintenance affecting potential discharge of oil.
2 Revision of applicable regulations.
3 5-year review / evaluation of plan (minimum required).
4 Other

G.3 Certification Form B-1 - Engineer Approval

Facility:	Reed College 3203 SE Woodstock Boulevard Portland, Oregon 97202 Primary Contact Person: April Sams (Environmental Health and Safety Director) 503-777-7788 (Office)
Owner:	Reed Institute, Inc. 3203 SE Woodstock Boulevard Portland, OR 97202
Implementation Date:	11/02/2004

This plan has been reviewed and approved by William E. Lawson, a registered Professional Engineer, as required by 40 CFR 112.

Certification: I, WILLIAM E. LAWSON, a registered Professional Engineer, hereby certify that I have examined these facilities and, being familiar with the provisions of 40 CFR, Part 112, attest that this **SPCC Plan** has been prepared in accordance with good engineering practices.

Signature:	**ON FILE**
Name:	William E. Lawson
Date:	January 8, 2004
State of Registration:	Oregon
Registration Number:	9682
SEAL:	**ON FILE**

G.4 Certification Form B-2 - Plan Revision Approvals (if applicable)

Engineer	By Date	Description of Change	Checked	Approved

G.5 Facility Fuel Oil Transfer Procedures

See [40 CFR 112.7(a)(3)(ii) and Part 112.8(c)(11)]

G.6 Reed Personnel Procedures for Oil Transfer from Delivery Trucks

Whenever an oil delivery truck unloads its product at any of the locations covered in this plan, SPCC-trained Reed College Facilities Services staff will:

- Obtain a bill of lading from the truck operator to verify that it specifies the correct fuel product (#6 fuel oil, #2 fuel oil, diesel fuel, or gasoline) and the approximate amount of the delivery.

- Direct the truck operator to the unloading location(s). Confirm that the truck operator has a spill kit for incidental spills and instructions to call Community Safety immediately in case of a major spill.

- Ensure that the truck operator turns off the motor unless required for unloading.

- Determine the current amount of product in the tank, through stick measurement and or gauge reading. Verify that the tank has the capacity for the approximate amount of the delivery. Document this information on the bill of lading.

- Require the driver to:

- Stay within 25 feet of and in view of unloading lines at all times.
- Ensure that all product remains in the hose or is contained in the spill protection container (if applicable) when connecting and disconnecting the loading hose
- Clean up any oil spills, including any product contained in the spill container (if applicable) before leaving each area.

- Verify final tank level. Document this information on the bill of lading.

- Verify the condition of fill-pipe area, including spill containment equipment, to ensure that the operator has cleaned up any spills. Document this information on the bill of lading.

- In case of a spill, follow the instructions in EMERGENCY PROCEDURES (**See APPENDIX A**.)

- Keep a copy of the bill of lading (with unloading documentation) in the file with other SPCC records at the Physical Plant office.

G.7 Truck Driver Procedures for Oil Delivery:

To prevent the release of hazardous substances to the environment and in accordance with the Reed College SPCC Plan, all fuel delivery truck drivers loading or unloading materials at the College shall adhere to the following guidelines:

- Remain within 25 feet of and in view of loading lines at all times, and observe the fuel transfer process.
- Drain the loading/unloading lines to the storage tank and close the drain valves before disconnecting the loading/unloading lines.
- Ensure that a drain pan or other appropriate containment device is located under all connections during filling.
- Inspect the vehicle before leaving fill locations to ensure all loading/unloading lines have been disconnected and all drains and vent valves are closed.
- Immediately report any uncontained leakage or spillage to the Community Safety Dispatch Desk at 503-788-6666 (On campus: extension #6666 or "0").
- Clean up any oil spills, including any product contained in the spill container (if applicable) before leaving the area.
- Maintain a spill-kit or equipment and supplies on the fuel delivery truck necessary for the cleanup of incidental spills, drips, or leaks. Suggested equipment includes personal protective equipment, oil-absorbent material, industrial wipers, and cleanup containers.
- Maintain a list of facilities serviced at Reed College, and the name and extension number (or cell-phone number) of your primary on-site contact person.

G.8 Notices to Fuel Delivery Vendors

To prevent the release of hazardous substances to the environment and in accordance with the Reed College Spill Prevention Control and Countermeasures Plan, all tank truck drivers loading or unloading materials at the College shall adhere to the following guidelines:

1. Remain within 25 feet of and in view of loading lines at all times, and observe the fuel transfer process.

2. Drain the loading/unloading lines to the storage tank and close the drain valves before disconnecting the loading/unloading lines.

3. Ensure that a drain pan or other appropriate containment device is located under all connections.

4. Inspect the vehicle before departure to ensure that all loading/unloading lines have been disconnected and all drains and vent valves are closed.

5. Immediately report any uncontained leakage or spillage to the Community Safety Dispatch Desk at 503-788-6666. (On campus: ext. #6666 or 0)

- The fuel delivery vendor is requested to maintain a spill kit or equipment necessary for the cleanup of incidental spills, drips or leaks on the fuel delivery truck at all times. Suggested equipment includes absorbent, industrial wipers, and cleanup containers.

- Clean up any oil spills, including any product contained in the spill container (if applicable) before leaving the area.

- Maintain a list of facilities serviced at Reed College, and the name and extension number (or cell-phone number) of your primary on-site contact person.

Fuel vendor must attach a list of facilities serviced at Reed College, and the name and extension or cell-phone number of their primary on-site contact person.

Additional Employer Instructions:

G.9 Acknowledgement of Receipt of Reed College “Notices to Fuel Delivery Vendors” & Acknowledgment of Responsibility

Date: _____

"REED COLLEGE SPCC Notice to Fuel Delivery Vendors" received and acknowledged by:

Authorized Service Representative: _____

Fuel Vendor's Company Name: _____

Products provided: _____

Personnel involved in the purchase or management of fuel oil at Reed College should provide a copy of this form to their vendors on an annual basis. The vendor is to provide a signed acknowledgment to the Reed College representative. It is suggested that the Reed representative maintain a signed acknowledgment in his/her vendor file until renewed.

G.10 Sample Inspection Forms

G.10.1 Aboveground Oil Storage Tanks (including fuel-oil-containing equipment)

Tank Status: (Mark: **No Repair Required** or **Repair Required**)

Location (Unit #): _____

Inspector: _____ Date: _____

Seams
- ☐ Gaskets
- ☐ Rivets
- ☐ Bolts
- ☐ Interstitial Area Dry

Piping
- ☐ Supports
- ☐ Flanges
- ☐ Valves
- ☐ Spill Manhole

Containment/Foundation
- ☐ Cracks
- ☐ Expansion Joints
- ☐ Berms/Dikes
- ☐ Sorbents/Booms Available?
- ☐ Spill Kit Checked?

Spill/Leak Detection Systems
- ☐ Audible Alarms
- ☐ Level Gauges/Sensors
- ☐ High Level Pump Cutoffs
- ☐ Float Valves
- ☐ Interstitial Monitoring

If Repair is required, specify:

Note Corrective Actions Taken:

Report any conditions requiring corrective action to the Facilities Supervisor. Maintain copies of this inspection form for three full calendar years.

G.10.2 Oil, Fuel oil, Lubricant Storage Areas Status:

Tank Status: (Mark: **No Repair Required** or **Repair Required**)

Location (Unit #): _____

Inspector: _____

Date: _____

Type of Material Stored _____

Storage Area Condition: **(Mark: Satisfactory or Unsatisfactory)**

- ☐ Secured?
- ☐ Rust /Corrosion on containers?
- ☐ Leakage/Spills?
- ☐ Containers Closed?
- ☐ Containers Labeled?
- ☐ Sorbents/Booms Available?
- ☐ Spill Kit Checked?

If "Unsatisfactory" marked, specify problem:

Note corrective Actions taken and Date:

Note: Report any conditions requiring corrective action to the Facilities Supervisor. Maintain copies of this inspection form for three full calendar years.

G.11 Frequently Asked Questions about Spills

What is a "spill event"?

EPA regulations define a spill event as "the discharge of oil into, or upon, the navigable waters of the United States or adjoining shorelines, in harmful quantities."

What is considered a "harmful quantity"?

Harmful quantities apply to "any discharge that violates applicable water quality standards or causes a sheen upon, or discoloration of, the surface of the water or the adjoining shorelines."

What if spilled oil goes into one of the outside drains?

An oil discharge entering most of the exterior campus drains would be expected to flow into Reed Lake, a tributary of the Willamette River, which qualifies as a "navigable water of the United States."

What if oil is spilled on the ground?

Because contaminated groundwater from an unconfined spill on the ground has the potential to seep, leach, or flow into a tributary of qualifying navigable water, the Canyon surrounding Reed Lake is included in the definition of "adjoining shoreline."

What is the difference between an INCIDENTAL vs. a MAJOR spill?

An **INCIDENTAL spill/release** meets the following criteria:
A small quantity of material (with which personnel in the immediate area are familiar and prepared for the hazards of handling) that can be quickly absorbed, or otherwise safely controlled at the time of release.

Spills that do not meet the definition of “incidental” are considered **MAJOR spills/releases**. These include:

- Spilled/released material that reaches the environment (including discharges to a floor drain or storm drain, that enters a body of water or discharges to a soil surface);
- Spilled/released material with which personnel are not familiar or are unprepared to safely handle;
- A spill/ release has resulted in an injury (actual or suspected);
- Any spill/release that cannot be readily absorbed, neutralized, or otherwise controlled at the time of release and for which a prudent person would request backup help.