UCI Environmental Health & Safety

Spill Prevention, Control, and Countermeasures Plan

Responsible Administrator: Environmental Compliance Manager

Revised: December 2023

Summary: This Spill Prevention, Control, and Countermeasures (SPCC) Plan has been prepared for the University of California, Irvine Central Campus (UCI) located in the City of Irvine, California. This Plan has been developed in accordance with the regulatory requirements of Title 40 of the Code of Federal Regulations, Part 112 (40 CFR Part 112). This Plan has specifically been created to address potential spills from oil storage containers at UCI that are specified in this Plan. This Plan does not include operations conducted at off-site locations, such as the UCI Medical Center in Orange, California.

SPILL PREVENTION, CONTROL & COUNTERMEASURES (SPCC) PLAN

University of California, Irvine
Campus-wide

Prepared for:

Environmental Health and Safety
University of California, Irvine
Irvine, California 92697

Prepared by:

Ramboll Americas Engineering Solutions, Inc
5 Park Plaza, Suite 500
Irvine, California 92614

December 1, 2023

EMERGENCY CONTACTS AND PROCEDURES

In the event of a spill emergency the following should be contacted:

1. **Fire Department - 911**
2. **U.C. Irvine Police Department (949) 824-5223**
3. **U.C. Irvine Environmental, Health & Safety (EHS) Personnel**

Primary Contact
Eric Hoang Environmental Programs Specialist Environmental Health & Safety Business Phone: (949) 824-2811

Secondary Contact:
Kirk Matin Assistant Director, Env/Rad/HW Environmental Health & Safety Business Phone: (949) 824-4578

4. **Oil Spill Clean-up Contractor**

Clean Harbors (800) 645- 8265 http://www.cleanharbors.com/ Estimated Response Time is 2 Hour

In the event of a spill, the following procedures should be followed:

1. **If there is a fire or injury immediately call 911.**
2. **If there is a spill to the storm drain, immediately call EHS personnel.**
3. **If possible, stop the flow of fuel/oil by shutting a valve or turning off a pump.**
4. **Isolate and contain the spilled material by creating an earthen berm with a shovel or other available equipment (beware of fire danger).**
5. **Estimate the amount of spilled material.**
6. **Make the above notifications.**
7. **Use available cleanup equipment and/or spill contractors to clean up the spilled material and contaminated soil.**
8. **Document all spill response and cleanup efforts, including notification calls following UCI – EHS Response Plan and procedures list in Section 5.7 of this SPCC Plan.**

CERTIFICATION PAGE

I hereby certify that I and an engineer working under my direction have examined the University of California, Irvine Campus Facilities. Being familiar with the provisions of 40 CFR, Part 112, I attest that this SPCC Plan has been prepared in accordance with good engineering practices and the requirements of 40 CFR 112; that this SPCC Plan establishes procedures for required inspections and testing, and is adequate for the facility. As the UCI Campus is large and complex, Ramboll's inspection of the facility was limited only to oil storage areas identified and brought to its attention by the UCI EH&S Department, as provided in this plan. In performing its assignment, Ramboll relied upon publicly available information, information provided by UCI and information provided by third parties. Accordingly, the information in this plan is valid only to the extent that the information provided to Ramboll was accurate and complete.

_____
Signature

Beth Pekala
Name

12/01/2023
Date

Registration No.: 61967 State: California

MANAGEMENT APPROVAL

This SPCC Plan will be implemented as herein described.

_____
Eric Hoang
SPCC Designated Person

Spill Prevention, Control, and Countermeasures Plan

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F I G U R E S

A P P E N D I C E S

UC Irvine
SPCC Plan Revision/Annual Review

Revision No.	Date	Revised By	Reason for Revision / Annual Review	Sections Revised	Reason For Review
0	09/00	GC Environmental, Inc.	Initial Preparation for North Campus only.	All New	---
1	3/05	Ramboll (formerly ENVIRON International Corporation)	Reformat and update pursuant to July 17, 2002 amendments of 40 CFR Part 112; include entire UCI campus.	All Sections	Update
2	8/07	Ramboll (formerly ENVIRON International Corporation)	Prepare updates to changes in storage equipment, procedures, and regulations.	All Sections	Update
3	10/08	Kirk Matin	Changes in storage equipment.	All Sections	Update
4	1/09	Kirk Matin	Changes in storage equipment.	All Sections	Update
5	9/09	Kirk Matin	Changes in storage equipment and contact information.	All Sections	Update
6	5/10	Kirk Matin	Changes in storage equipment and contact information.	All Sections	Update
7	5/11	Kirk Matin	Changes in storage equipment.	All Sections	Update
8	10/11	Kirk Matin / Ricardo Cruz	Update contact information.	All Sections	Update
9	5/12	Kirk Matin / Ricardo Cruz	Revised SPCC Plan.	All Sections	Update
10	7/12	Ramboll (formerly ENVIRON International Corporation)	5-yr update, revised and re-certified SPCC Plan.	All Sections	Update
11	1/13	Ramboll formerly (ENVIRON International Corporation)	Clarify tank integrity requirements, added annual test for liquid level sensors; corrected conformance table	3.7, 3.8, 7.2, 8.0	Clarify requirements
12	4/13	Ramboll (formerly ENVIRON International Corporation)	Clarify engineer's certification statement; add spill notification and reporting procedures; add additional release predictions; add new 120-gallon portable refueling tank; include state regulatory citations; include secondary containment calculations for Social Science Lab and Rowland Hall (Appendix C); describe piping conformance	Certification page, 1.4 3.11, 5.7, 8.4, Appendices B and D	Response to agency inspection report
13	7/13	Kirk Matin	Central Plant fuel tank changed to 200 gallon double walled.	Secondary Containment	Update
14	1/14	Kirk Matin	Annual Review	All Sections	Annual Review

UC Irvine
SPCC Plan Revision/Annual Review

Revision No.	Date	Revised By	Reason for Revision / Annual Review	Sections Revised	Reason For Review
14	1/15	Kirk Matin	Annual Review Added Business Unit 2 Generator	All Sections Appendix B	Annual Review Update
15	1/16	Kirk Matin	Added Mesa Court Generator	Appendix B	Update
16	5/16	Kirk Matin	Added: UNEX Generator Oil Spill Clean-up Contractor, Clean Harbors. Removed: Social Sci Plaza A Fire Pump Emergency Contacts, Ricardo Cruz and Haz Mat Services.	Appendix B Emergency Contacts	Update
17	1/17	Kirk Matin	Annual Review	All Sections	Annual Review
18	11/17	Kirk Matin	Updated Central Plant portable diesel fuel trailer to single walled. Updated elevator and transformer list.	Section 2.4 Appendix B	Update
19	1/18	Kirk Matin	Annual Review	All Sections	Annual Review
20	5/18	Kirk Matin/ Ramboll	Updated the generator portable diesel fuel trailer secondary containment storage area.	Section 2.4 Appendix B and C	Update, 5-year Certification
21	1/19	Kirk Matin	Added Engineering Lab Facility storage building. Annual Review.	All Sections Appendix B	Annual Review
22	1/20	Kirk Matin / Eric Hoang	Updated Contacts Removed Grounds Oil Drums	All Sections Appendix B	Annual Review
23	1/21	Kirk Matin / Eric Hoang	Annual Review	All Sections	Annual Review
24	9/21	Kirk Matin / Eric Hoang	Added Anteatery & Brandywine Food Oil Tanks, Hydrogen Station Compressor, ISEB	Appendix B	Update
25	1/22	Kirk Matin / Eric Hoang	Annual Review	All Sections	Annual Review
26	3/22	Eric Hoang	Added five Verano 8 & Hewitt Hall #2 diesel fuel storage tanks, updated elevators	Appendix B	Update
27	1/23	Eric Hoang	Annual Review	All Sections	Annual Review
28	8/23	Kirk Matin / Eric Hoang	Added Plumwood House, College of Health Sciences, Health Sciences Parking	Appendix B	Update
29	10/23	Ramboll	5-yr update, revised and re-certified SPCC Plan	All Sections	Update

1.0 Introduction and Plan Content

1.1 Introduction

This Spill Prevention, Control, and Countermeasures (SPCC) Plan has been prepared for the University of California, Irvine Central Campus (UCI) located in the City of Irvine, California. This Plan has been developed in accordance with the regulatory requirements of Title 40 of the Code of Federal Regulations, Part 112 (40 CFR Part 112). This Plan has specifically been created to address potential spills from oil storage containers at UCI that are specified in this Plan. This Plan does not include operations conducted at off-site locations, such as the UCI Medical Center in Orange, California.

1.2 Plan Purpose and Objectives

The objectives of this Plan are to define the spill prevention, control, and countermeasures implemented by UCI Environmental Health & Safety (EHS) Department for the UCI facility. The Plan is an integral part in establishing an efficient and effective spill prevention program. The SPCC Plan addresses the following topics:

- Bulk Storage Containers;
- Personnel Training and Spill Prevention Procedures;
- Bulk Liquid Transfer Operations;
- Facility Drainage;
- Inspections and Records; and
- Security.

1.3 Plan Review and Update Requirements

This Plan shall be reviewed and updated on an annual basis to ensure all the requirements within this Plan are achieved. The SPCC "**Designated Person**" shall be responsible for all reviews and updates made to this Plan. (The Designated Person is identified on the front emergency contact page.) The Plan will be reviewed and updated when necessary under the following circumstances:

- Annual review;
- Subsequent to the commission or decommission of any aboveground storage tanks (ASTs);
- Subsequent to the replacement, reconstruction, or movement of ASTs;
- Subsequent to any construction or demolition that could alter secondary containment systems of the ASTs; and
- Subsequent to any revisions of standard operation or maintenance procedures at the facility.

The SPCC Plan must be reviewed and certified by a professional engineer every five years and whenever a Plan amendment is performed.

1.4 Applicable Regulations

Federal regulations regarding SPCC Plan development and implementation are attached in **Appendix A**, which is 40 CFR Part 112. Additionally, the California Aboveground Petroleum Storage Act (APSA) "tank facility" requirements apply to the UCI Campus as it stores more than 1,320 gallons of petroleum-based oils on-site. The APSA tank facility requirements are found in California Health and Safety Code, Chapter 6.67, Section 25270.3, and mirror requirements for an SPCC facility under 40 CFR Part 112, except for administrative requirements of notification and fees to the local Unified Program Agency (UPA).

2.0 Facility Information

2.1 Facility Description

The UC Irvine Central Campus is located on 1,470 acres in the City of Irvine, County of Orange, California. The campus is situated south of Interstate 405 freeway and north of State Route 73. (Refer to Figure 1 for a topographic vicinity map.) The facility is bound by Jamboree Road to the north, Campus Drive to the northeast, Culver Drive to the east, Bonita Canyon Road to the south and State Route 73 to the west.

2.2 Vicinity Map

Figure 1 provides a vicinity map that shows the campus location with reference to local area streets.

2.3 Campus Map

Figure 2 shows the general layout and buildings located on the UC Irvine Campus. This figure is updated several times a year by UCI Student Affairs.

2.4 Standby Generators

In many areas around UCI, diesel-fired internal combustion engines are used as standby generators of electricity in case of a power failure. These standby generators are primarily located adjacent to the buildings to which they provide power. All of the standby generators have either a nearby external fuel storage tank or a fuel tank that is installed directly beneath and attached to its standby generator. For standby generators with an external fuel storage tank, these tanks are defined as "bulk storage containers" and are described in Section 3.0 of this Plan. For the standby generators with an integrated fuel tank, the reservoir at the bottom of tank is also considered bulk storage container; however the engine above that tank is defined as "oil-filled operating equipment," which is not a "bulk storage container" pursuant to the SPCC regulation. All fuel tanks are required to have some means of secondary containment; however, oil-filled operating equipment (i.e., the engines) are not subject to the requirements of 40 CFR 112.8(c). All standby generators with attached storage tanks meet the secondary containment control requirements by having double wall or reservoir basins in the fuel holding tanks. All standby generators with fuel-holding tanks are included in **Appendix B**.

UCI Facilities Management periodically operates all emergency generators for testing and replenishes storage tanks with diesel fuel. UCI Facilities Management personnel perform filling of the generator fuel tanks by using a truck trailer-mounted single-walled tank. When not in use, the portable refueling tank is stored in a concrete berm secondary containment area at the UCI Electrical Substation.

2.5 Hazardous Waste Storage

Hazardous waste generated at the main campus is most commonly collected in 30-gallon poly drums and transported to the Environmental Health & Safety Building (Campus Building 41) where containers are stored inside a locked storage room until the waste is picked up by an offsite hazardous waste management contractor. The storage room has grated trenches that are designed to capture spills and drain liquid to an underground containment tank.

3.0 Bulk Storage Containers

Detailed information regarding the campus' storage tanks and containers including tank specifications and secondary containment is provided in **Appendix B** and **Appendix C**.

3.1 Stationary Storage Tanks

Appendix B lists the stationary storage tanks at UCI including campus map building number, locations, tank capacity, contents, tank type, equipment type, and details regarding secondary containment.

3.2 Portable Storage Containers

Portable containers of oil-based materials are kept throughout the UCI campus. Although the containers are portable, they typically remain located in their respective areas and generally are not transported around the facility. **Appendix B** lists the portable storage tanks at UCI including campus map building number, locations, tank capacity, contents, tank type, equipment type, and details regarding secondary containment.

3.3 Integrated Fuel Reservoirs on Standby Generators

A list of all standby generators with integrated fuel-holding tanks is included in **Appendix B**. All standby generators store diesel fuel and the listing includes the capacity of each reservoir.

3.4 Underground Storage Tanks (USTs)

Under §112.1(d)(4), the SPCC Rule exempts completely buried storage tanks, as well as connected underground piping, underground ancillary equipment, and containment systems, when such tanks are subject to all of the technical requirements of 40 CFR Part 280 or a state program approved under 40 CFR Part 281 (the Underground Storage Tank regulations). UCI operates four 20,000-gallon diesel USTs at the Central Plant, but these USTs are subject to applicable California state UST programs, and are not discussed further in this SPCC Plan. However, for completeness, the tanks are included in the container inventory in Appendix B and locations can be viewed in Figure 2.

3.5 Material Compatibility

The steel used for storing diesel fuel, used cooking oil and motor oil are constructed using acceptable compatible materials. Plastic or resin tanks used to store used cooling oil are constructed using compatible materials.

3.6 Secondary Containment

The secondary containment method for the tanks is listed under "Comments" in **Appendix B**. Tanks indicated as double-walled are constructed with an integrated containment system. Tanks indicated as single wall have secondary containment (e.g. in most cases, a concrete

containment berm) as described in the comments. 55-gallon drums are placed on secondary containment pallets.

3.7 Rainwater Drainage

Many containment areas are located outside and will collect rainwater within the containment area in the event of a storm. Containment areas are designed with a plug or valve that may be manually opened to remove accumulated rainwater, or manually pumped out. Before any rainwater is removed from the containment areas, the operator must follow best management practice (BMP) procedures that are described in UCI's storm water management plan (SWMP). After the accumulated rainwater is drained off from the containment area, the plug must be inserted and secured back in position or the valve must be closed to prevent discharge.

3.8 Integrity Testing

In accordance with the Steel Tank Institute SP-001 standard, integrity testing for all tanks and containers no larger than 5,000 gallons is achieved by performing visual inspections. Each aboveground bulk storage container, including tanks and drums, must be inspected for integrity on a monthly basis and whenever material repairs are performed on a tank or container. Section 7.2 provides details for monthly inspections. In addition, liquid level sensors should be tested annually, as described in Section 3.8. For tanks larger than 5,000 gallons, a formal external inspection by a certified inspector must be performed every 20 years. For the UCI campus, this includes only the 10,000-gallon tank, with 7,000-gallon gasoline fuel compartment at the UCI Facilities Fueling area (Building #91). The certified inspector must follow the SP-001 standard, including review of previous formal inspection reports, determination of original shell thickness, measurement of current shell thickness, and ultrasonic thickness testing. The ultrasonic thickness testing may lead to ultrasonic testing scan, if determined by the certified inspector. Records of the integrity testing should be kept in **Appendix F** of the SPCC Plan copy held by the SPCC Designated Person.

3.9 Liquid Level Sensors

The two outdoor aboveground storage containers storing fuels at North Campus are each equipped with a liquid level sensor that automatically cuts off the pump at a predetermined container content level to prevent overfilling the container. Additionally, some standby generators are equipped with liquid level sensors that sound an audible alarm or activate a visual alarm (such as flashing lights). A number of other containers are not equipped with high liquid level sensors, which is an exception to the requirements of 40 CFR §112.8(c)(8) (Please see Section 8 for additional information on deviations). However, all other tanks are filled manually with a nozzle inserted directly into the tank and the tank operator visually

observes when the liquid level reaches capacity, at which point the operator disengages fuel flow to the tank. The liquid level sensors on the two outdoor aboveground storage containers should be tested annually for proper operation. Testing of the liquid level sensors may be performed by intentionally exposing the liquid level sensor to liquid diesel fuel or other methods that personnel deem effective and appropriate (see **Appendix E**).

3.10 Visible Discharges

In the event that operators observe discharges that result in a loss of oil from any storage container, the operator must promptly remove any accumulation of oil within the containment area.

3.11 Oil-filled Equipment

UCI operates a variety of oil-filled electrical and operating equipment such as electrical transformers, research equipment, and elevators. In accordance with the SPCC regulation, these types of oil-filled operating equipment are not subject to the requirements for bulk storage containers set forth in Section 3.0 of this Plan. All elevators are routinely maintained by contracted elevator service companies that are required to inspect hydraulic reservoirs for signs of leaks or deterioration. Elevator service contractors must have a procedure in place to adequately contain and clean up any discovered spills from hydraulic reservoirs and follow UCI's hazardous waste management procedures for proper disposal. Elevator hydraulic reservoirs are located inside buildings, which provide discharge prevention in the event of a leak or spill.[1] UCI-owned transformers are maintained by UCI Facilities and utility-owned transformers are maintained by Southern California Edison. Please see Section 8.1 for additional information pertaining to listed facility elevator reservoirs for units containing 55 gallons or more.

3.12 Piping

Piping from storage tanks to operating equipment must also be contained to prevent discharge. All piping from diesel storage tanks to external equipment (generators, fire pump, and fuel dispensers) is either buried or inside containment berms to prevent discharge.

Campus Kitchens at two locations contain a 1,000-gallon virgin cooking oil AST and a 1,000-gallon used cooking oil AST; these tanks are routed via aboveground piping to a port in the loading docks, where virgin cooking oil can be delivered and used cooking oil can be collected for off-site use. . Per SPCC regulation requirements for process transfer [40 CFR 112.8(d)(3)], piping must have supports that minimize abrasion and corrosion and allow for expansion and contraction. All aboveground piping has been constructed with adequate supports aboveground that do not accumulate moisture,

[1] Elevators and transformers throughout the facility were not inspected by Ramboll; rather, this plan provides general SPCC approaches for such areas.

thereby minimizing corrosion. Aboveground piping is situated in places that are generally free from sources of abrasion (e.g., no moving parts or significant vibration). Further, all piping is comparatively small in diameter and not prone to significant effects from expansion and contraction. Piping is either constructed of galvanized materials, located indoors, and/or painted to further reduce the potential for corrosion. Lastly, monthly inspections will identify any signs of corrosions where repainting or piping replace is needed, all piping is routinely inspected for signs of corrosion and abrasion. Inspections include the aboveground piping and port where virgin cooking oil is delivered and used cooking oil is collected.

One steel single-walled 240-gallon external diesel fuel tank is located within a locked metal covered brick enclosure to the west of the building at the loading dock. The enclosure serves as secondary containment, coated with a watertight sealant, and the tank is positioned on a concrete floor. The tank is piped underground to a standby generator inside the building, which is at grade, and the pipeline spans a fourteen-foot distance buried within the concrete foundation. The pipeline does not continuously hold diesel, and diesel inside the pipeline would be expected to drain back into the external tank when the generator is not operating. The emergency generator, day tank, and pipeline were installed prior to 2002, the time when protective wrapping/coating and cathodic protection requirements for buried pipelines were required. The tank and associated piping are inspected monthly during regular SPCC inspections.

Procedures for Operations and Discharge Prevention

3.13 Tank Filling Procedures

3.13.1 North Campus Fueling Area

An outside service provider performs tank filling of the fuel tanks storing gasoline, diesel, diesel B20, and biodiesel B99 at North Campus, and on-site personnel who are trained in SPCC procedures provide oversight. The filling procedures consist of the following:

- The delivery person initially gauges the AST to determine amount of fuel or oil to be delivered. The order is compared with the available tank capacity.
- The delivery person makes a connection to electrically ground the delivery truck and system before off-loading begins.
- The delivery person constantly monitors the off-loading activity.

Additional guidelines include:

- The fuel tanks are equipped with a ground-level loading system and a "dry-break" adapter check valve which prevents spills or riser pipe drainback when the loading hose is disconnected.
- The loading point also has a spill containment pan with 16-gallon capacity and a hand pump to collect and manage any accidental spills or leaks.
- The system has automatic shutoff valves as well as an emergency shutoff valve.

3.13.2 Standby Generator and Diesel Off Road Equipment Fuel Tank Loading

UCI Anteater Recreation Center personnel perform filling of diesel off road equipment by using a truck trailer-mounted double-walled tank. When not in use, the portable refueling tank is stored at Anteater Recreation Center.

UCI personnel perform tank loading. The filling procedures consist of the following:

- The portable double-walled tank is transported by trailer and parked on a level and flat surface in the vicinity of the equipment.
- The trailer remains attached to the parked vehicle with the emergency brake engaged.
- All tanks are filled through a fill port located on or near the top of the tank.
- A hose and nozzle is connected to the portable tank.
- After removing the fill cap, the operator inserts the filling nozzle into the fill port.
- The operator activates the fill pump and begins to fill the tank.

- The operator watches the filling operations to ensure the tank is not over-filled.
- Once the operator recognizes that the liquid level reaches near full, the operator disengages the filling nozzle to stop fuel flow.
- The cap is replaced on the tank and secured shut.
- The operator returns the hose and nozzle to the trailer and secures the equipment for transport.

3.14 Product Dispensing Procedures

Equipment and vehicles are refueled in the following manner:

- A dispenser key is provided for fueling.
- The person fueling follows the instructions posted at dispenser.
- The person fueling continuously monitors the entire fueling process.
- The person transferring new cooking oil to the direct pump system will continuously monitor the filling process and piping.

3.15 Loading Dock Operations

When receiving or shipping an oil product or waste. The following procedures are followed:

- Oil products are only accepted and/or shipped in approved Department of Transportation (DOT) containers.
- Oil containers are stored away from the edge of the loading dock.
- To the extent possible, oil containers are kept sheltered from rain.
- Oil drums are moved by using drum dollies or by forklift using a drum tote or other method of securing the drum during transport.
- When not in use, containers (and kitchen oil piping connections) are kept securely closed.

3.16 Used Cooking Oil Disposal

At the majority of Campus Kitchen facilities, used cooking oil is collected in small containers[2] and poured into storage containers that are approximately 40 gallons.

At the Student Center, used cooking oil is pumped into a port that is plumbed to a 353-gallon used oil storage tank. The tank has a level gauge that prevents the pump from operating (under suction) when the tank is full. A red light alerts the operator that the tank is full and needs to be emptied.

Two Campus Kitchen facilities (Brandywise and The Anteatery) utilize a direct connection system which stores used kitchen oil in 1,000-gallon tanks with approved secondary containment. The storage containers are equipped with alarms that alert the kitchen staff if the containers are full and need to

[2] Generally 5 gallons or less.

be emptied. The used oil tank are piped via aboveground piping to a port located on an exterior wall in the respective loading dock areas.

3.17 Used Cooking Oil Disposal Pickup

At Campus Kitchen facilities, a contractor (e.g., Baker Commodities) provides removal of used cooking oil for disposal at an off-site facility. The contractor uses an approximately 3,000-gallon tank truck to unload and empty the 40-gallon drums and used cooking oil storage tanks (Student Center, Brandywine, and Anteatery) via vacuum pump. The used cooking oil storage tanks are piped via aboveground piping from their locations in the kitchens into a port in the loading dock, where the vacuum truck can unload oil from the tank. The Kitchen Area supervisor is responsible for scheduling and oversight of the contractor's activities. Alternatively, the 40-gallon drums may be hauled off-site on a flatbed truck.

4.0 Spill Response

4.1 Designated Person

Eric Hoang is the Designated Person responsible for SPCC management. The Alternate Designated Person is Kirk Matin. Emergency contact information for the Designated Persons is included on page 2 and in the following section.

4.2 Emergency Contacts

Primary Contact
Eric Hoang Environmental Programs Specialist Environmental Health & Safety Business Phone: (949) 824-2811

Secondary Contact:
Kirk Matin Assistant Director, Env/Rad/HW Environmental Health & Safety Business Phone: (949) 824-4578

U. C. Irvine Police Department
Phone: (949) 824-5223

4.3 Spill Response Procedures

Steps to respond to spilled material are stated on page 2 of the Plan:

In the event of a spill, the following procedures should be followed:

1. If there is a fire or injury immediately call 911.
2. If there is a spill to the storm drain, immediately call EHS personnel.
3. If possible, stop the flow of fuel/oil by shutting a valve or turning off a pump.
4. Isolate and contain the spilled material by creating an earthen berm with a shovel or other available equipment (beware of fire danger).
5. Estimate the amount of spilled material.
6. Make the above notifications.
7. Use available cleanup equipment and/or spill contractors to clean up the spilled material and contaminated soil.

8. Document all spill response and cleanup efforts, including notification calls following UCI – EHS Response Plan and steps identified in Section 5.7 below.

4.4 Available Spill Cleanup Equipment

EHS has developed a Response Plan, on file in the EHS Department, that addresses countermeasures for response and cleanup of spilled hazardous materials. The EHS building maintains an emergency hazardous material response truck. This vehicle is equipped with hazardous material storage receptacles, absorbent booms, pads, and an absorbent powder. The truck also contains appropriate personal protective equipment (PPE). Larger quantities of the above listed supplies are stored in the EHS Building. UCI's EHS vehicle fleet and fire department vehicles also contain limited amounts of emergency hazardous material cleanup supplies.

4.5 Spilled Material Disposition

All spilled material included in a cleanup shall be managed as hazardous waste, except for any portion of material that is recovered and deemed usable by the area manager. UCI EHS is responsible for managing the disposition of the materials cleaned up.

4.6 Spill History

January 24, 2022

A construction truck was exiting the construction site when the workers observed a truck was leaking diesel from the vehicle's fuel tank onto the street. The truck returned to the construction site. Diesel spilled onto construction site soil before it was stopped. The workers used absorbent to collect diesel fuel on the street. Approximately 2 gallons of diesel entered the storm drain. Clean-up was performed by HAZWOPER certified personnel and regulatory notifications were submitted by UCI EHS.

April 13, 2023

A contractor punctured a fuel tank while refueling an excavator at a construction site. Approximately 20-gallons of diesel spilled on asphalt, with an estimated maximum of 5-gallons entering a storm drain. Clean-up was performed by HAZWOPER certified personnel and regulatory notifications were submitted by UCI EHS.

4.7 Spill Notification and Reporting

The UCI – EHS Response Plan includes an emergency notification regulatory call list. In any emergency event, UCI EHS will primarily follow those procedures. Below are the notifications that are applicable to oil discharges.

Notification to the Orange County Health Care Agency (OCHCA) and California Emergency Management Agency (CalEMA) are required for any

spill or event that results in a significant or threatened release of oil. UCI EHS is responsible to provide the initial notification immediately upon discovery via telephone to OCHCA at (714) 433-6000 and CalEMA at (800) 852-7550 and subsequently prepare follow-up written reports. Information regarding initial notification information and reporting information are provided later in this section.

Notification to the National Response Center is required for any spill event that discharged more than 1,000 U.S. gallons of oil in a single discharge, or discharged more than 42 gallons of oil in each of two discharges, occurring within any twelve month period. UCI EHS is responsible to provide the initial notification via telephone (800) 424-8802 and prepare a follow-up report either written or online[3].

The initial notification telephone calls should include the following information, at a minimum, to the extent known:

- Identity of caller, including telephone number and facility address.
- Location, date and time of spill, release, or threatened release.
- Location of threatened or involved waterway or storm drains.
- Material/Chemical name (e.g., motor oil, diesel fuel, etc.).
- Estimated quantity involved.
- Description of what happened, including source and cause of spill, all potentially affected media.
- Damages or injuries caused by spill.
- Actions being used to stop, remove, and mitigate the effects of the spill.
- Whether an evacuation may be needed.

The follow-up written reports must include at least the following information and should be provided as soon as possible, not to exceed 60 days from the date of the spill event or 7 days, if the spill is Reportable Quantity[4]:

- Name and location of the facility.
- Owner/operator name.
- Name of person preparing the report.
- Maximum storage/handling capacity of the facility and normal daily throughput.
- Corrective actions and countermeasures taken, including descriptions of equipment repairs and replacements.
- Adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary.
- Cause of the discharge to navigable waters, including a failure analysis

[3] http://www.nrc.uscg.mil/
[4] Section 304 of the Emergency Planning and Community Right-to-Know Act

- Failure analysis of the system where the discharge occurred.
- Additional preventive measures taken or planned to take to minimize discharge reoccurrence.

5.0 Security

5.1 Locked Storage Locations

The security measures for the storage locations are as follows:

- The majority of diesel fuel tanks for standby generators are located within locked gates or inside locked buildings. Diesel fuel tanks associated with newer standby generators are installed within locked secondary containment containers.
- The gasoline/diesel AST at North Campus is accessible during business hours and non-accessible (locked gate) during non-operational hours (i.e., when the facility is unattended).
- The hazardous waste storage area in the EHS Building is inside the building that remains locked during non-operational hours (i.e., when the facility is unattended).
- The trailer-mounted diesel-refueling tank is stored outside within a locked gated area during non-operational hours (i.e., when the facility is unattended).

5.2 Lighting

Lighting at the University is provided with several different styles of fixtures mounted on buildings adjacent to the AST's or on lighting posts. All outdoor AST's and drum containment shelters have lighting above or directed towards the storage location. All ASTs and drums stored indoors are provided with indoor lighting. Any person in the area must maintain the lighting in storage areas in a manner that would allow visual discovery of liquid discharges occurring during hours of darkness.

5.3 Interlocked Warning System

During loading and unloading operations of the North Campus Fueling AST, tanker truck drivers are required to be out of the trucks monitoring the operations. Drivers are also responsible for making and breaking connections of transfer lines. As such, an interlocked warning system is not necessary to prevent vehicular departure before complete disconnection of transfer lines.

5.4 Protection from Vehicles

Crash posts and cinder blocks are installed around all the large tanks that are near vehicle access ways, with the exception of the 854 and 856 generators; however, the generators are accessed via a dead-end alleyway receiving no through traffic, where access would consist only of maintenance vehicles arriving to service the generators and nearby equipment.

5.5 Campus Security

The UCI Police Department provides general campus security 24 hours a day, 7 days a week by patrolling the North and Central Campuses. Storage tanks have signs that instruct persons observing any spill or problem to call campus security at (949) 824-5223. UCI Police will then inform the EHS emergency contact.

6.0 Training, Inspections, and Records

6.1 Personnel Training

6.1.1 Proper Tank Filling and Product Dispensing

All new personnel are trained on proper fuel dispensing protocol by a trained supervisor. Training records regarding operating procedures are kept in personnel files.

6.1.2 Training for the SPCC Plan

Personnel who are involved with handling of oil materials must be trained on the SPCC Plan. Training will focus on personnel becoming familiar with the Plan to assure adequate understanding of the provisions stated in the Plan. Training will be provided at least once per year. Training for spill response and cleanup will be provided under the EHS Department training program for Emergency Response. UCI will manage and maintain training records through its internal training records database.

6.2 Inspections

The inspection frequency of all aboveground storage containers and associated piping are described in **Appendix B.** These inspections are intended to identify any visible signs of discharge, material corrosion, unusual activity, or other potential problems, including integrity. Any visible signs of discharge should be immediately reported to the EHS Department who will coordinate a prompt cleanup of oil. Any and all other recognized abnormalities should be corrected immediately; otherwise the problem must be reported to area manager and the SPCC Designated Person. The area manager and SPCC Designated Person or designee will coordinate a corrective action schedule that will focus on correcting the problem as soon as practicable.

Inspection records shall be obtained for each inspection and kept in logs that are maintained by the SPCC Designated Person. There will be a separate log including each of the following areas: standby generator tanks, North Campus operations, and EHS Services. An example copy of a log form is included in **Appendix D**.

6.2.1 Tank Inspections

UCI Facilities Management performs the mechanical and electrical inspections of all standby generators and storage tanks. These inspections are conducted during the routine operational testing of the standby generators and the firewater pump on a set schedule, which occurs at least monthly. Additionally, Facilities Management performs inspections on the diesel/gasoline tank at North Campus. Visual observations of the storage tanks and the associated

containment area are conducted during the inspections. For double-wall tanks, when possible the interstitial space must be checked for signs of liquid leaks.

6.2.2 Drum Storage Inspections

The inspection frequency of all drum storage areas are described in **Appendix B.** A designee of the SPCC Coordinator conducts inspections of drum storage areas.

6.3 Annual SPCC Plan Compliance Inspection

The Designated Person for each tank location is responsible for an annual SPCC Plan compliance inspection to ensure that the all requirements identified with this Plan are being fulfilled.

6.4 Plan Review

Review of the SPCC Plan will be performed by EHS every 5 years (as required in 40 CFR 112.5(b)), see **Appendix A**. A Professional Engineer will certify any technical amendments to the Plan as required in 40 CFR 112.5(c).

6.5 Record Retention

Tank information, facility diagrams[5], SPCC Plan updates, and any other information that is a part of this Plan are regularly updated and maintained in the UCI EHS Department by the SPCC Coordinator.

The department in charge of the tank maintains tank inspections records in their main office. Additionally, electronic records of inspections for standby generators are maintained in preventative maintenance software program accessible to various UCI departments via its online intranet.

All records must be maintained for a period of at least three years.

[5] Campus Map, as updated regularly by UCI Student Affairs

7.0 Conformance with Applicable Requirements

Regulatory Section (40 CFR)	Description	SPCC Plan Section
112.7(a)(1)	Provide conformance with applicable requirements	(all sections)
112.7(a)(2)	Deviations from Standard, except secondary containment	§8.1
112.7(a)(3)	Physical layout and diagram	§2.1 and Figures 1 & 2
112.7(a)(3)(i)	Type and quantity of oil storage	§3.1, §3.2, §3.3, App. B
112.7(a)(3)(ii)	Discharge prevention measures	§4.0 - §4.5
112.7(a)(3)(iii)	Drainage Controls and Secondary Containment	§3.1, §3.2 App. B & App. C
112.7(a)(3)(iv)	Countermeasures for discharge discovery, response, and cleanup	§5.0 - §5.6
112.7(a)(3)(v)	Methods of disposal of recovered material	§5.5
112.7(a)(3)(vi)	Contact list and phone numbers	§5.2
112.7(a)(4)	Procedures for reporting discharge	§5.3
112.7(a)(5)	Making procedures readily available	§5.3
112.7(b)	Prediction of Major Equipment Failure	§8.4
112.7(c)	Provide secondary containment	§3.1, §3.2 App. B & App. C
112.7(d)	Deviations from secondary containment requirement	§8.2
112.7(e)	Inspections, tests, and records	§7.0 - §7.5
112.7(f)	Personnel, training, and discharge prevention procedures	§4.0 - §4.5, §7.1
112.7(g)	Security	§6.0 - §6.5
112.7(h)	Tank truck loading/unloading	§4.1.1
112.7(i)	Field-constructed AST repair, alteration, reconstruction, or change in service.	Not applicable
112.7(j)	Additional prevention standards	§1.4
112.8(b)	Facility drainage	Not applicable; no diked storage areas
112.8(c)(1)	Material compatibility	§3.5
112.8(c)(2)	Secondary containment	§3.6
112.8(c)(3)	Discharge of rainwater	§3.7
112.8(c)(4)	Complete buried metallic storage tanks	§3.4
112.8(c)(5)	Partially buried or bunkered metallic tanks	Not applicable
112.8(c)(6)	Integrity testing	§3.8
112.8(c)(7)	Internal heating coils	Not applicable
112.8(c)(8)	Liquid level sensors	§3.9
112.8(c)(9)	Effluent treatment facilities	Not applicable
112.8(c)(10)	Correct visible discharges	Not applicable
112.8(c)(11)	Portable and mobile oil storage containers	§3.2
112.8(d)	Piping	§3.12

7.1 Deviations from General Requirements

With the exception of the aboveground storage containers storing vehicle fuels at North Campus and several other tanks with liquid level gauges, no other bulk storage containers are equipped with high liquid level sensors, which is an exception to the requirements of 40 CFR §112.8(c)(8). However, all other tanks are filled manually with a nozzle inserted directly into the tank and the tank operator visually observes when the liquid level reaches capacity, at which point the operator disengages fuel flow to the tank.

Per §112.7 (a)(3), a diagram "must mark the location and contents of each fixed oil storage container and the storage area where mobile or portable containers are located." Given the campus's size, numerous oil storage locations in and among buildings of complex configurations, a single or series of marked up diagrams would not provide the user an effective tool for locating oil storage throughout the campus. Rather, the diagram used for SPCC purposes is the "Campus Map" used in conjunction with the storage tank listing in Appendix B that specifies each storage location building number. Since the "Campus Map" is updated by UCI Student Affairs several times a year, it is impractical to modify the SPCC storage diagram every time the main campus map is updated. Using this approach provides for consistency in UCI's management systems.

A complete listing of oil-filled operating equipment (elevators and electrical transformers) for units containing 55 gallons or more is included in this Plan in Appendix B. Numerous elevators and transformers are located throughout the campus. Elevator service contractors are required to provide oil spill prevention and cleanup services according to their company policies. Many electrical transformers of various sizes are scattered throughout the campus. UCI Facilities is responsible for maintenance of electrical transformers. Further, this plan was developed without the certifying engineer's inspection of oil-filled operating equipment; except where specifically provided herein, conformance to the SPCC Rule per oil associated with elevators and electrical transformers is not provided under the engineer's certification.

Other than the requirements listed above, no other deviations from the general SPCC requirements are present at the facility.

7.2 Deviations from Secondary Containment Requirement

No deviations from secondary containment requirements are present at the facility.

7.3 Drainage Requirements for Potential Discharge Areas

There are no areas of potential discharge of oil from storage locations since containment (i.e., berms, walls, or double-wall construction) is provided for all storage tanks and portable containers.

To mitigate potential discharge from the onsite loading rack at North Campus during fueling operations, a berm is constructed around the area. The containment capacity of the area is designed to store up to 4,200 gallons, which is the largest storage compartment of a fueling truck.

All piping is constructed within secondary containment areas, buried, or constructed to flow into secondary containment areas in order to prevent potential discharges.

7.4 Major Equipment Failure Scenarios

Several types of oil-containing equipment are present at the UCI campus, each with a relatively low degree of potential for major equipment failure. The table below provides the types of major equipment failure for each type of equipment.

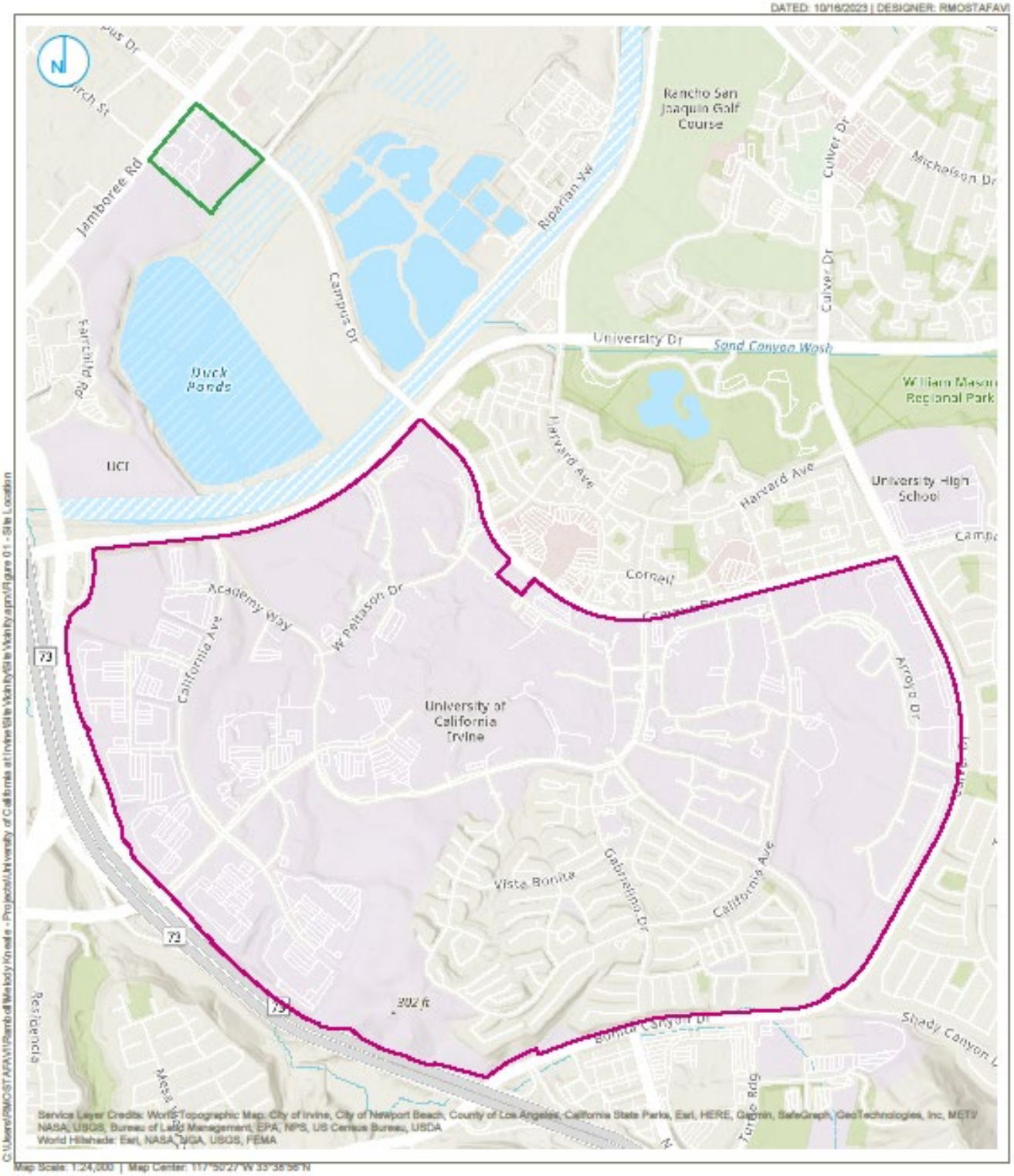
Area	Type of failure (discharge scenario)	Potential discharge volume (gallons)	Direction of flow for uncontained off-site discharge	Secondary containment method	Secondary containment capacity (gallons)
Bulk Storage Containers and Mobile Portable Containers					
Stationary tanks outdoors	Leaking tank or fitting	0	None	Double wall or containment berm	Sufficient to hold 100% plus storm freeboard
Stationary tanks indoors or in buried bunkers	Leaking tank or fitting	0	None	Double wall, containment berm, or building walls	Sufficient to hold 100%
Drum storage areas	Leaking drum; tip over	≤55	North to San Diego Creek (via storm drain outfall)	Pallets, shelters, drains to underground tank (EHS Dept.)	>55
Portable, trailer-mounted tanks	Leaking tank or fitting; tip over	≤120	North to San Diego Creek (via storm drain outfall)	Containment plate	>120
Oil-filled Operational Equipment					
Elevators inside buildings	Reservoir leak; hose break	0	None	Building floors; elevator rooms; pits	(not verified)

Area	Type of failure (discharge scenario)	Potential discharge volume (gallons)	Direction of flow for uncontained off-site discharge	Secondary containment method	Secondary containment capacity (gallons)
Electrical transformers	Leak, corrosion, fire	<597	North to San Diego Creek (via storm drain outfall)	Active containment (response)	(not required)
Piping, Valves, etc.					
Bulk storage containers piped to equipment, dispensers, etc.	Leak, faulty pump, automatic shut-off failure	<7,000 (North Campus)	South to San Diego Creek (via duck ponds)	Active containment (response)	Varies; some have no permanent fixtures
Product Transfer Areas (location where oil is loaded to or from a container or dispenser)					
Filling diesel fuel reservoirs for emergency generators	Operator error, dispenser failure	≤120	North to San Diego Creek (via storm drain outfall)	Active containment (response)	Worst-case none; varies by location of incident
Facilities Management Fueling	Tank truck failure, operator error	≤4,200	North to San Diego Creek (via storm drain outfall)	Two underground interceptors	2,400 (interceptors); 4,400 temporary berm
Used Cooking Oil bulk truck pick-up from tanks or portable containers	Tank truck leak	≤3,000 (Brandywine, and Anteatery)	North to San Diego Creek (via storm drain outfall)	Active containment (response)	Worst-case none; varies by location of incident

The worst-case scenario would be a spill that could happen at the Facilities Management Fueling Area during tank loading. An approximately 4,200-gallon tank truck is used to fill either the diesel fuel or gasoline fuel tank compartment. A spill of the tank truck vessel could possibly discharge 100 or more gallons per minute. This area is sloped to collect liquids in nearby drain that leads to a series of two interceptors. The combined capacity of the interceptors is about 1,200 gallons. The area is bermed with a storage capacity of approximately 4,400 gallons. Loading of the tanks in this area is not conducted during storm events.

FIGURES

DATED: 10/18/2023 | DESIGNER: RMOSTAFAVI



C:\Users\RMOSTAFAVI\Ramboll\Melody Knoede - Projects\University of California at Irvine\Site Visit\Site Visit.aprx\Figure 01 - Site Location

Map Scale: 1:24,000 | Map Center: 117°50'27"W 33°38'56"N

KEY MAP (not to scale)

Main Campus
North Campus

0 1,000 2,000 Feet

SITE LOCATION

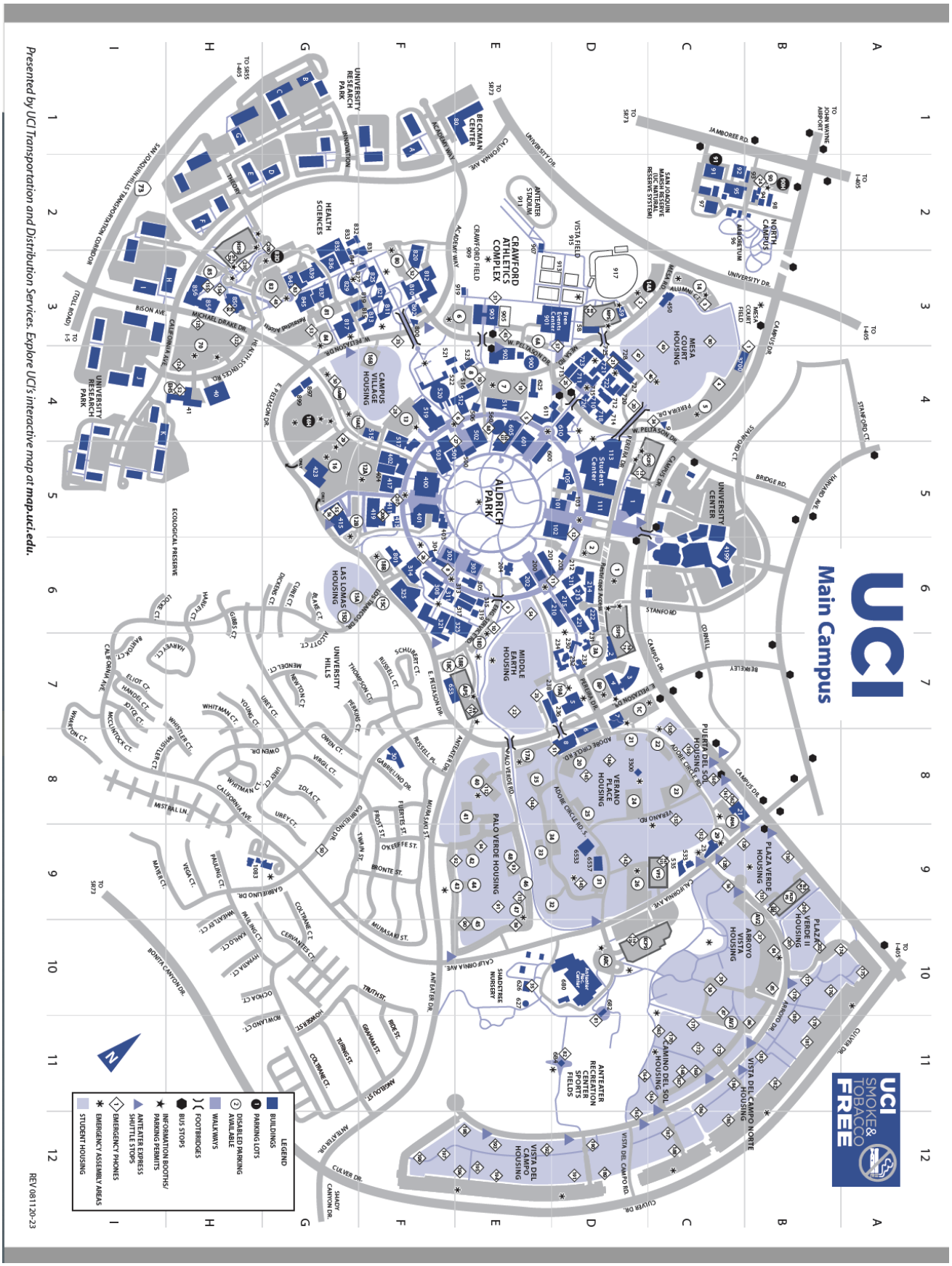
University of California at Irvine
401 East Peltason Drive
Irvine, California

FIGURE 01

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

https://uci.edu/visit/maps.php



Building/ABBREVIATION/Map Coordinates/Building Number

Academic Planning & Institutional Research OIR (D5) **111**
Administrative Modular (G5) **423**
Admissions:
- Graduate (D5) **111**
- School of Medicine (G3) **836**
- Undergraduate (D5) **111**

Air Pollution Health Effects Laboratory APHEL (B2) **94**
Aldrich Hall ALH (D5) **111**
Anteater Instruction & Research Building AIRB (F7) **653**
Anteater Learning Pavilion ALP (E4) **605**
Anteater Recreation Center ARC (D10) **680**
ANTrepreneur Center (D7) **233**
Applied Innovation (I4) **K**
Arboretum ARBO (B2) **96**
Art Culture & Technology ACT (D4) **727**
Art Studio ART (D4) **722**
Arts Annex ARAN (F4) **522**
Arts Instruction & Technology Resource Center AITR (D4) **714**
Arts Student Affairs (D3) **58**
Arts Village (D4) **710-728**
Athletics Complex:
- Anteater Ballpark (D3) **917**
- Anteater Stadium (E2) **911**
- Bren Events Center (D3) **901**
- Crawford Clubhouse (E3) **919**
- Crawford Field (E2) **909**
- Crawford Hall (E3) **903**
- Crawford Pool (E3) **905**
- Newkirk Pavilion (D3) **917**
- Tennis Courts (D3) **913**
- Track & Field House (E2) **907**
- Vista Field (D2) **915**

Basic Needs Center (F3) **800**
Beall Center for Art & Technology (D4) **712**
Beckman Center of the National Academies of Sciences & Engineering (E1) **80**
Beckman Laser Institute BLI (G3) **817**
Berk Hall BH (F3) **802**
Biological Sciences III BS3 (F4) **519**
Bison Modular BIMO (F4) **515**
Bookstore (D5) **113**
Bren Events Center (D3) **901**
Building Services Building (G4) **899**
California Institute for Telecommunications & Information Technology CALIT2 (F6) **325**
Cancer Research Institute (G3) **839**
Career Center (D5) **105**
Center for the Neurobiology of Learning & Memory CNLM (Herklotz Research Facility):
- Annex CNLMA (E4) **516**
- Bonney Research Laboratory BRL (E4) **512**
- Qureshey Research Laboratory QRL (E4) **506**

Central Plant CP (E4) **902**
Chancellor's Office (D5) **111**
Cheney Hall (F3) **825**
Child Care Centers:
- Children's Center (D9) **6533**
- Early Childhood Education Center (C9) **23**
- Extended Day Center (D9) **6537**
- Infant/Toddler Center I (C9) **533**
- Infant/Toddler Center II (C9) **535**
- University Montessori School (F8) **30**
- Verano Preschool (D8) **3300**

Choral Studio (D4) **718**
Claire Trevor Theatre CTT (D4) **711**
Contemporary Arts Center CAC (D4) **721**
Costume Shop (D4) **713**
Counseling Center (D5) **105**
Court Building (D10) **682**
Crawford Hall CH (E3) **903**
Cross-Cultural Center CRCC (D5) **103**
Croul Hall CRH (F5) **417**
Dance Studios DS (D4) **713**
Disability Services Center (D7) **234**
Division of Continuing Education Complex:
- Continuing Education 1 (D8) **8**
- Continuing Education 3 (D7) **234**
- Continuing Education 4 (D7) **232**
- Continuing Education 5 (E7) **238**
- Continuing Education 6 (D7) **236**

Donald Bren Hall DBH (F6) **314**
Drama Building DRA (D4) **715**
Education Building EDUC (D7) **3**
Electrical Substation (H4) **40**
Engineering & Computing Trailer ECT (E6) **317**
Engineering Gateway EG (F6) **321**
Engineering Hall EH (F6) **308**
Engineering Laboratory Facility ELF (E6) **323**
Engineering Lecture Hall ELH (E6) **305**
Engineering Tower ET (E6) **303**
Environmental Health & Safety Services Facility (H4) **41**
Equal Opportunity & Diversity (G5) **415**
Facilities Management Building (C2) **92**
Facilities Management Shops (C2) **97**
Faculty Research Facility FRF (B2) **95**
Faculty/Staff Housing Office (H9) **1083**
Farm School/Red Barn (E10) **626**
Field Building (D11) **684**
Food Facilities:
- B.C.'s Cavern Food Court (E5) **500**
- The Green Room (D4) **712**
- Phoenix Food Court (E6) **204**
- Student Center (D5) **113**

Founders Court (E4) **560**
Frederick Reines Hall FRH (F5) **401**
Gateway Study Center GC (D5) **101**
Gavin Herbert Eye Institute (H3) **850**
Gillespie Neuroscience Research Facility GNRF (G3) **837**
Gottschalk Medical Plaza (F3) **820**
Graduate Division (D5) **111**
Greenhouse (E4) **514**
Grounds Maintenance Facility (G4) **897**
Health Education (D5) **113**
Health Policy Research Institute (G2) **D**
Herklotz Research Facility (E4) **506, 512**
Hewitt Research Hall HRH (G3) **843**
Horiba Institute for Mobility and Connectivity² HIMaC² (F6) **321**
Howard Schneiderman Lecture Hall HSLH (E5) **501**
Human Resources, Benefits (H2) **E**
Humanities Gateway HG (E4) **611**
Humanities Hall HH (E4) **601**
Humanities Instructional Building HIB (D4) **610**
Humanities Interim Classroom Facility HICF (E4) **523**
Humanities Research Institute (D4) **611**
Infant/Toddler Center I (C9) **533**
Infant/Toddler Center II (C9) **535**
Information, Campus (D5) **113**
Information & Computer Science ICS (E6) **302**
Information & Computer Science II ICS2 (F6) **304**
Information Technology (F6) **321**, (G1) **B**, (G5) **415, 423**, (E4) **605**
Institute for Surface & Interface Science (F5) **400**
Institute of Transportation Studies (E7) **653**
Intercollegiate Athletics Building IAB (E4) **625**
Interdisciplinary Science and Engineering Building ISEB (F5) **419**
Interim Classroom Facility ICF (E6) **315**
Internal Audit (H1) **G**
International Center (D5) **113**
Irvine Barclay Theatre (D5) **1**
Irvine Hall IH (G2) **835**
Krieger Hall KH (D5) **600**
KUCI Radio Station (F4) **521**
Law Building LAW (D7) **4**
Learning & Academic Resource Center LARC (E4) **605**
Libraries:
- Langson Library (Main Library) LLIB (D5) **102**
- Science Library SLIB (F4) **520**

Little Theatre (E4) **601**
Mailroom (B2) **93**
McDonnell Douglas Eng. Auditorium MDE (F6) **311**
McGaugh Hall MH (F5) **503**
Medical Education Building (G3) **836**
Medical Sciences A Administration (F3) **815**
Medical Sciences A Annex (G3) **819**
Medical Sciences A MS-A (F3) **813**
Medical Sciences B MS-B (F3) **811**
Medical Sciences C MS-C (F3) **821**
Medical Sciences D MS-D (F3) **825**
Medical Sciences E MS-E (F3) **827**
Medical Sciences Classroom Facility (G2) **833**
Medical Surge I MS1 (F3) **810**
Medical Surge II MS2 (F3) **812**
Merage School of Business SB1 (D6) **222**
Merage School of Business II SB2 (D6) **221**
Mesa Arts Building MAB (D3) **58**
Mesa Office Building MOB (D3) **59**
MRI 3T Trailer (G2) **841**
MRI 4T Trailer (G2) **832**
Multipurpose Academic & Administrative Bldg. MPAA (D7) **2**
Multipurpose Science & Technology Bldg. MSTB (G5) **415**
Music & Media Building MM (D4) **726**
National Fuel Cell Research Center (E6) **323**
Natural Sciences I NS1 (F4) **517**
Natural Sciences II NS2 (F5) **402**
Nelson Auditorium (G2) **835**
Newkirk Alumni Center (C3) **450**
Nixon Theatre (D4) **720**
Painting Studios (D4) **722**
Parkview Classroom Building PCB (F5) **403**
Passport (F1) **A**
Physical Sciences Classroom Building PSCB (F5) **413**
Physical Sciences High Bay (F5) **404**
Physical Sciences Lecture Hall PSLH (F5) **411**
Plumwood House (Showa Denko) PH (G3) **829**
Police (D7) **7**
Procurement (H1) **G**
Production Studio (D4) **723**
Public Health (E7) **653**
Public Services Building PSB (D7) **7**
Receiving (C2) **91**
Recycling Center (B2) **98**
Registrar:
- Continuing Education (D8) **8**
- Main Campus (D5) **111**
- School of Medicine (G3) **836**

Research Translation Group (I4) **K**
Robert Cohen Theatre (D4) **713**
Rockwell Engineering Center REC (F6) **311**
Rowland Hall RH (F5) **400**
Sculpture & Ceramic Studios SCS (D4) **720**
Social & Behavioral Sciences Gateway SBSG (D6) **214**
Social Ecology I SE (D6) **210**
Social Ecology II SE2 (D6) **215**
Social Science Hall SSH (E6) **200**
Social Science Laboratory SSL (E6) **202**
Social Science Lecture Hall SSLH (D6) **212**
Social Science Plaza A SSPA (D6) **211**
Social Science Plaza B SSPB (D6) **213**
Social Science Tower SST (D6) **201**
Social Science Trailer SSTR (D6) **203**
Sprague Hall SPH (G3) **839**
Steinhaus Hall SH (E4) **502**
Student Center SC (D5) **113**
Student Health Center SHC (D7) **5**
Student Health Center II (D7) **6**
Student Services I, II SS1, SS2 (D5) **105**
Studio Art Trailer (E4) **523**
Studio Four STU4 (D3) **725**
Sue & Bill Gross Hall: A CIRM Institute (G3) **845**
Sue & Bill Gross Nursing & Health Sciences Hall (H3) **854**
Sue Gross Auditorium (H3) **854**
Summer Session A (D7) **231**
Summer Session B (D7) **230**
Susan & Henry Samueli College of Health Sciences Bldg. (H3) **856**
Susan Samueli Integrative Health Institute (H3) **856**
Tamkin Student Lecture Building (F2) **831**
Teacher Education (D7) **3**
Thermal Energy Storage Tank (E4) **900**
Thesaurus Linguae Graecae (C6) **4199**
Ticket Offices:
- Arts (D4) **715**
- Bren Events Center (D3) **901**
- Irvine Barclay Theatre (D5) **1**

Tours (D5) **113**
Transportation & Distribution Services (D7) **7**
University Art Gallery (D4) **712**
University Club UN CLB (F6) **801**
University Hills Community Center (H9) **1083**
University Tower UT (C6) **4199**
Visitor Center (D5) **113**
William J. Gillespie Performance Studios PSTU (D3) **728**
Winifred Smith Hall WSH (D4) **710**
Yurt Dance Studio (E10) **627**

Buildings

1 Irvine Barclay Theatre (D5)
2 Multipurpose Academic & Administrative Bldg. MPAA (D7)
3 Education Building EDUC (D7)
4 Law Building LAW (D7)
5 Student Health Center SHC (D7)
6 Student Health Center II (D7)
7 Public Services Building PSB (D7)
8 Continuing Education 1 (D8)
23 Early Childhood Education Center (C9)
30 University Montessori School (F8)
40 Electrical Substation (H4)
41 Environmental Health & Safety Services Facility (H4)
58 Mesa Arts Building MAB (D3)
59 Mesa Office Building MOB (D3)
80 Beckman Center of the National Academies of Sciences & Engineering (E1)
91 Receiving (C2)
92 Facilities Management Building (C2)
93 Mailroom (B2)
94 Air Pollution Labs APL (B2)
95 Faculty Research Facility FRF (C2)
96 Arboretum ARBO (C2)
97 Facilities Management Shops (C2)
98 Recycling Center (B2)
101 Gateway Study Center GC (D5)
102 Langson Library (Main Library) LLIB (D5)
103 Cross-Cultural Center CRCC (D5)
105 Student Services I, II SS1, SS2 (D5)
111 Aldrich Hall ALH (D5)
113 Student Center SC (D5)
200 Social Science Hall SSH (E6)
201 Social Science Tower SST (D6)
202 Social Science Laboratory SSL (E6)
203 Social Science Trailer SSTR (D6)
204 Phoenix Food Court (E6)
210 Social Ecology I SE (D6)
211 Social Science Plaza A SSPA (D6)
212 Social Science Lecture Hall SSLH (D6)
213 Social Science Plaza B SSPB (D6)
214 Social & Behavioral Sciences Gateway SBSG (D6)
215 Social Ecology II SE2 (D6)
221 Merage School of Business II SB2 (D6)
222 Merage School of Business SB1 (D6)
230 Summer Session B (D7)
231 Summer Session A (D7)
232 Continuing Education 4 (D7)
233 ANTrepreneur Center (D7)
234 Continuing Education 3 (D7)
236 Continuing Education 6 (D7)
238 Continuing Education 5 (E7)
302 Information & Computer Science ICS (E6)
303 Engineering Tower ET (E6)
304 Information & Computer Science II ICS2 (F6)
305 Engineering Lecture Hall ELH (E6)
308 Engineering Hall EH (F6)
311 Rockwell Engineering Center REC • McDonnell Douglas Eng. Auditorium MDE (F6)
314 Donald Bren Hall DBH (F6)
315 Interim Classroom Facility ICF (E6)
317 Engineering & Computing Trailer ECT (E6)
321 Engineering Gateway EG (F6)
323 Engineering Laboratory Facility ELF (E6)
325 California Institute for Telecommunications & Information Technology CALIT2 (F6)
400 Rowland Hall RH (F5)
401 Frederick Reines Hall FRH (F5)
402 Natural Sciences II NS2 (F5)
403 Parkview Classroom Building PCB (F5)
404 Physical Sciences High Bay (F5)
411 Physical Sciences Lecture Hall PSLH (F5)
413 Physical Sciences Classroom Building PSCB (F5)
415 Multipurpose Science & Technology Bldg. MSTB (G5)
417 Croul Hall CRH (F5)
419 Interdisciplinary Science and Engineering Building ISEB (F5)
423 Administrative Modular (G5)
450 Newkirk Alumni Center (C3)
500 B.C.'s Cavern Food Court (E5)
501 Howard Schneiderman Lecture Hall HSLH (E5)
502 Steinhaus Hall SH (E4)
503 McGaugh Hall MH (F5)
506 Qureshey Research Laboratory QRL (E4)
512 Bonney Research Laboratory BRL (E4)
514 Greenhouse (E4)
515 Bison Modular BIMO (F4)
516 Center for the Neurobiology of Learning & Memory Annex CNLMA (E4)
517 Natural Sciences I NS1 (F4)
519 Biological Sciences III BS3 (F4)
520 Science Library SLIB (F4)
521 KUCI Radio Station (F4)
522 Arts Annex ARAN (F4)
523 Humanities Interim Classroom Facility HICF • Studio Art Trailer (E4)
533 Infant/Toddler Center I (C9)
535 Infant/Toddler Center II (C9)
560 Founders Court (E4)
600 Krieger Hall KH (D5)
601 Humanities Hall HH (E4)
605 Anteater Learning Pavilion ALP (E4)
610 Humanities Instructional Building HIB (D4)
611 Humanities Gateway HG (E4)
625 Intercollegiate Athletics Building IAB (E4)
626 Farm School/Red Barn (E10)
627 Yurt Dance Studio (E10)
653 Anteater Instruction & Research Building AIRB (F7)
680 Anteater Recreation Center ARC (D10)
682 Court Building (D10)
684 Field Building (D11)
710 Winifred Smith Hall WSH (D4)
711 Claire Trevor Theatre CTT (D4)
712 Beall Center for Art & Technology • University Art Gallery (D4)
713 Dance Studios DS • Robert Cohen Theatre (D4)
714 Arts Instruction & Technology Resource Center AITR (D4)
715 Drama Building DRA (D4)
718 Choral Studio (D4)
720 Nixon Theatre • Sculpture & Ceramic Studios SCS (D4)
721 Contemporary Arts Center CAC (D4)
722 Art Studio ART (D4)
723 Production Studio (D4)
725 Studio Four STU4 (D3)
726 Music & Media Building MM (D4)
727 Art Culture & Technology ACT (D4)
728 William J. Gillespie Performance Studios PSTU (D3)
800 Basic Needs Center (F3)
801 University Club UN CLB (F6)
802 Berk Hall BH (F3)
810 Medical Surge I MS1 (F3)
811 Medical Sciences B MS-B (F3)
812 Medical Surge II MS2 (F3)
813 Medical Sciences A MS-A (F3)
815 Medical Sciences A Administration (F3)
817 Beckman Laser Institute BLI (G3)
819 Medical Sciences A Annex (G3)
820 Gottschalk Medical Plaza (F3)
821 Medical Sciences C MS-C (F3)
825 Cheney Hall • Medical Sciences D MS-D (F3)
827 Medical Sciences E MS-E (F3)
829 Plumwood House (Showa Denko) PH (G3)
831 Tamkin Student Lecture Building (F2)
832 MRI 4T Trailer (G2)
833 Medical Sciences Classroom Facility (G2)
835 Irvine Hall IH (G2)
836 Medical Education Building (G3)
837 Gillespie Neuroscience Research Facility GNRF (G3)
839 Sprague Hall SPH (G3)
841 MRI 3T Trailer (G3)
843 Hewitt Research Hall HRH (G3)
845 Sue & Bill Gross Hall: A CIRM Institute (G3)
850 Gavin Herbert Eye Institute (H3)
854 Sue & Bill Gross Nursing & Health Sciences Hall • Sue Gross Auditorium (H3)
856 Susan & Henry Samueli College of Health Sciences Bldg. (H3)
897 Grounds Maintenance Facility (G4)
899 Building Services Building (G4)
900 Thermal Energy Storage Tank (E4)
901 Bren Events Center (D3)
902 Central Plant CP (E4)
903 Crawford Hall CH (E3)
905 Crawford Pool (E3)
907 Track & Field House (E2)
909 Crawford Field (E2)
911 Anteater Stadium (E2)
913 Tennis Courts (D3)
915 Vista Field (D2)
917 Anteater Ballpark • Newkirk Pavilion (D3)
919 Crawford Clubhouse (E3)
1083 University Hills Community Center (H9)
3300 Verano Preschool (D8)
4199 University Tower UT (C6)
6533 Children's Center (D9)
6537 Extended Day Center (D9)

Housing Complexes

Arroyo Vista AV (C10)
Camino del Sol (C11)
Campus Village CV (F4)
Las Lomas LL (G6)
Mesa Court MESA (C3)
Middle Earth ME (E7)
Palo Verde (E8)
Plaza Verde PLZV (B9)
Plaza Verde II PLZV2 (B10)
Puerta del Sol (C8)
University Hills (G7)
Verano Place (D8)
Vista del Campo VDC (E12)
Vista del Campo Norte VDCN (B11)

University Research Park

A 101 Academy (F1)
B 131 Innovation (G1)
C 141 Innovation (G1)
D 100 Theory (G2)
E 110 Theory (H2)
F 111 Theory (H2)
G 120 Theory (H1)
H 5141 California (H3)
I 5171 California (H3)
J 5251 California (I4)
K 5270 California (I4)

APPENDIX A

SPCC Regulation 40 CFR Part 112

APPENDIX B

Table of Storage Tanks

APPENDIX C

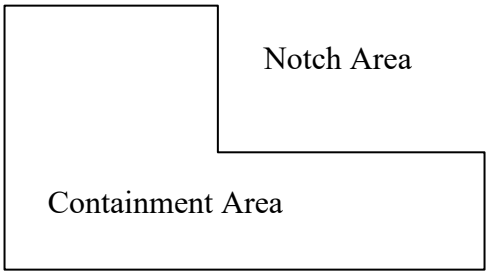
Tank and Secondary Containment Specifications

Secondary Containment Calculations for ASTs

McGaugh Hall:

Description: One 500-gallon horizontal cylindrical tank in bermed area; sits on legs; tank bottom several inches above ground. Tank located indoors.

Secondary Containment Specifications:



L-shaped
Overall Length: 155 inches
Overall Width: 127 inches
Overall Area: 19,685 in^2
Notch Short Length: 78 inches
Notch Width: 54 inches
Notch Area: 4,212 in^2
Containment Area: Overall Area – Notch Area = 15,473 in^2
Height of wall: 12 inches

Required Containment Volume = Maximum Tank Volume: 500 gallons

Freeboard for Storm Water: (not applicable)

Available Containment Height: Height of wall = 12 inches

Available Capacity: (Containment Area 15,473 in^2) x 12 in = 185,676 in^3 = 800 gallons

Displaced Capacity: (not applicable)

Available Containment Volume: **800 gallons**

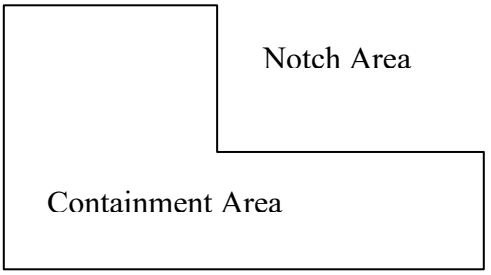
The available containment volume (800 gallons) is greater than the required containment volume (550 gallons).

Secondary Containment Calculations for ASTs

Main Library (Langson Library):

Description: One 120-gallon rectangular tank in bermed area resting on floor. Tank located indoors and piping is not buried.

Secondary Containment Specifications:
L-shaped
Overall Length: 265 inches
Overall Width: 164 inches
Overall Area: 43,460 in^2
Notch Short Length: 190 inches
Notch Width: 48 inches
Notch Area: 9,120 in^2
Containment Area: Overall Area – Notch Area = 34,340 in^2
Height of wall: 6 inches



Required Containment Volume = Maximum Tank Volume: 120 gallons

Freeboard for Storm Water: (not applicable)

Available Containment Height: Height of wall = 6 inches

Available Capacity: (Containment Area 34,340 in^2) x 6 in = 206,040 in^3 = 890 gallons

Displaced Capacity: (not applicable)

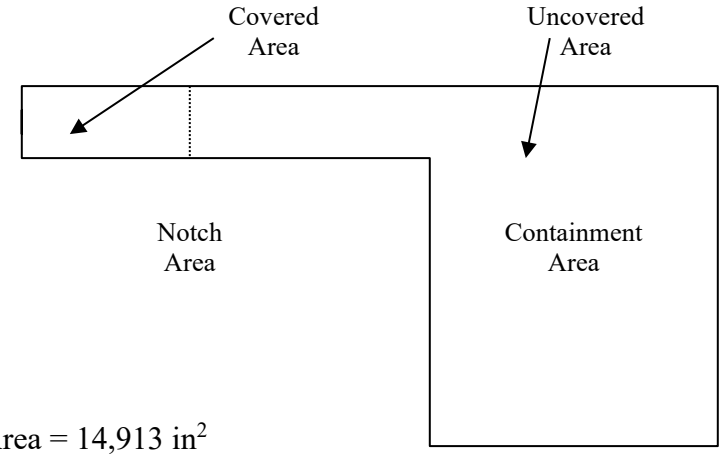
Available Containment Volume: 890 gallons

The available containment volume (890 gallons) is greater than the required containment volume (120 gallons).

Secondary Containment Calculations for ASTs

Computer Science:

Description: Single 300-gallon horizontal cylindrical tank in bermed area; sits on legs; tank bottom several inches above ground. Tank located outdoors. A portion of the containment area is situated underneath a roof, and therefore, freeboard for storm water is not required for covered portion.



Secondary Containment Specifications:
L-shaped
Overall Length: 357 inches
Overall Width: 120 inches
Overall Area: 42,840 in^2
Notch Short Length: 261 inches
Notch Width: 107 inches
Notch Area: 27,927 in^2
Containment Area: Overall Area – Notch Area = 14,913 in^2
Covered Length: 144 inches
Covered Width: 13 inches
Covered Area: 1,872 in^2
Uncovered Area: Containment Area – Covered Area = 13,041 in^2
Height of wall: 10 inches
Required Containment Volume = Maximum Tank Volume: 300 gallons
Freeboard for Storm Water: 25-year, 24-hour storm event: 4 inches
Available Containment Height:
(covered area): Height of wall = 10 inches
(uncovered area): Height of wall – Freeboard for storm water = 6 inches
Available Capacity (Covered Area): (Covered Area 1,872 in^2) x 10 in = 18,720 in^3 = 81 gallons
Available Capacity (Uncovered Area): (Uncovered Area 13,041 in^2) x 6 in = 78,246 in^3 = 338 gallons
Total Available Capacity: 419 gallons
Displaced Capacity: (negligible)
Available Containment Volume: 419 gallons
The available containment volume (419 gallons) is greater than the required containment volume (300 gallons).

Secondary Containment Calculations for ASTs

Central Plant:

Description: 200 gallon double walled tank in bermed area; tank bottom resting on concrete pad. Tank located outdoors.

Secondary Containment Specifications:
Length: 281 inches
Width: 135 inches
Area: 37,935 in^2
Height of wall: 11 inches

Required Containment Volume = Maximum Tank Volume: 200 gallons

Freeboard for Storm Water: 25-year, 24-hour storm event: 4 inches

Available Containment Height: Height of wall – Freeboard for storm water = 7 inches

Available Capacity: (Total Area 37,935 in^2) x 7 in = 265,545 in^3 = 1,149 gallons

Displaced Capacity: (negligible)

Available Containment Volume: 1,149 gallons

The available containment volume (1,149 gallons) is greater than the required containment volume (425 gallons).

Secondary Containment Calculations for ASTs

Engineering Laboratory Facility:

Description: Two 250-gallon double walled rectangular tanks, 10 55-gallons drums inside a bermed area resting on the floor. The tanks and drums are located indoors.

Secondary Containment Specifications:
Length: 106 inches
Width: 153 inches
Area: 16,218 in2
Height of wall: 6 inches

Required Containment Volume = Maximum Tank Volume: 55 gallons

Freeboard for Storm Water: N/A

Available Containment Height: Height of wall – 6 inches

Available Capacity: (Total Area 16,218 in2) x 6 in = 97,308 in3 = 421 gallons

Displaced Capacity: negligible

Available Containment Volume: 421 gallons
The available containment volume (421 gallons) exceeds the required containment volume (55 gallons).

Secondary Containment Calculations for ASTs

Rowland Hall:

Description: One steel single-walled 240-gallon external diesel fuel tank is located within a locked metal covered brick enclosure to the west of the building at the loading dock. The enclosure serves as secondary containment, coated with a watertight sealant, and the tank is positioned on a concrete floor. The tank is piped underground to a standby generator inside the building, which is at grade, and the pipeline spans a fourteen-foot distance buried within the concrete foundation. The pipeline does not continuously hold diesel, and diesel inside the pipeline would be expected to drain back into the external tank when the generator is not operating. The emergency generator, day tank, and pipeline were installed prior to 2002, the time when protective wrapping/coating and cathodic protection requirements for buried pipelines were required. The tank and associated piping are inspected monthly during regular SPCC inspections.

Secondary Containment Specifications:
Length: 57 inches
Width: 57 inches
Area: 3,249 in2
Height of wall: 47 inches

Required Containment Volume = Maximum Tank Volume: 240 gallons

Freeboard for Storm Water: N/A

Available Containment Height: Height of wall – 47 inches

Available Capacity: (Total Area 3,249 in2) x 47 in = 152,703 in3 = 661 gallons

Displaced Capacity: negligible

Available Containment Volume: 661 gallons
The available containment volume (661 gallons) is exceeds the required containment volume (240 gallons).

Secondary Containment Calculations for ASTs

Social Science Lab:

Description: One steel single-walled 240-gallon external diesel fuel tank is located within a locked covered brick enclosure to the south of the building at the loading dock. The tank is piped to an adjacent standby generator. A bunker constructed of brick surrounds the tank with a locked metal cover. The interior of the brick walls are coated with a watertight sealant and the tank sits upon a concrete floor. Since the bunker completely surrounds the tank, the bunker itself provides secondary containment.

Secondary Containment Specifications:
Length: 57 inches
Width: 57 inches
Area: 3,249 in2
Height of wall: 55 inches

Required Containment Volume = Maximum Tank Volume: 240 gallons

Freeboard for Storm Water: N/A

Available Containment Height: Height of wall – 55 inches

Available Capacity: (Total Area 3,249 in2) x 55 in = 178,695 in3 = 773 gallons

Displaced Capacity: negligible

Available Containment Volume: 773 gallons
The available containment volume (773 gallons) is exceeds the required containment volume (240 gallons).

Secondary Containment Calculations for ASTs

Portable Fuel Dispensing Tank on Trailer:

Description: 110 gallon single-walled tank on a trailer used to fill standby generator fuel tanks. When not in use, the portable refueling tank is stored in a concrete berm secondary containment area at the UCI Electrical Substation. The tank and containment area are located outdoors.

Secondary Containment Specifications:
Length: 125 inches
Width: 117 inches
Area: 14,625 in^2
Height of wall: 6 inches

Required Containment Volume = Maximum Tank Volume: 110 gallons

Freeboard for Storm Water: 25-year, 24-hour storm event: 4 inches

Available Containment Height: Height of wall – Freeboard for storm water = 2 inches

Available Capacity: (Total Area 14,625 in^2) x 2 in = 29,250 in^3 = 126 gallons

Displaced Capacity: negligible

Available Containment Volume: 126 gallons
The available containment volume (126 gallons) is greater than the required containment volume (110 gallons).

APPENDIX D

SPCC Monthly Inspection Form

**** Inspections are documented using an intranet form, which includes, but is not limited to, the required information in this example form.***

UCI Monthly SPCC Inspection Form (Example*)

GENERAL FACILITY INSPECTIONS:

1. Security devices in place and operable?
2. Safety and emergency equipment in adequate supply, accessible locations, and good working condition?
3. Surface water free of oil sheen and waste presence?
4. Surface water free of odors?
5. Notifications or liquid level alarms since last inspection?

TANKS, PIPING, AND CONTAINMENT STRUCTURES:

6. Locks on tanks and pumps?
7. Adequate supply of absorbent?
8. Containment of structures of adequate capacity and in good condition?
9. Tank auxiliary equipment (valves, piping, and pumps) free of deterioration and in good working condition?
10. Site free from evidence of leaks or spills?
11. Tank and piping free of corrosion and deterioration?
12. Tank foundation free of deterioration?
13. Visual and audible overfill gages and alarms?

Monthly SPCC Inspection Log

Inspector's Name: Date:

Inspector's Signature:

Location	Deficiencies	Corrective Actions
Anteatery (Food Oil Tank)		
ARC (Portable Fuel Tank)		
Brandywine (Food Oil Tank)		
Central Plant (Oil Drums)		
Central Plant (Portable Fuel Tank)		
EHS (Oil Drums)		
Engineering Lab Facility (Tanks And Drums)		
North Campus Fleet Services Garage (Oil Tank And Drums)		
North Campus Facilities Fueling (Tanks)		
Student Center (Food Oil Tank)		

**** Inspections are documented using an intranet form, which includes, but is not limited to, the required information in this example form.***

APPENDIX E

Annual Tank Alarm Testing

**** Inspections are documented using an intranet form, which includes, but is not limited to, the required information in this example form.***

UCI Monthly SPCC Inspection Form (Example*)

UCI Annual Tank Alarm Testing (Example*)

Overfill alarms will be tested annually for proper operation. Testing may include immersion or exposure to sensors in diesel fuel or pressing of specific test buttons on the unit.

The alarm is considered to pass when the visual alarm is visible in the form of lights or other notification or audible alarm sounds. If testing of the alarm does not cause any of these events to happen, the alarm is considered to fail and additional actions should be taken (investigation, repair, replacement, etc.) as needed.

Location	Testing Performed	Test Results (Pass/Fail)*

*If an alarm failed testing, follow-up actions taken:

_____
_____
_____
_____

Inspector's Name: Date:

Inspector's Signature:

**** Inspections are documented using an intranet form, which includes, but is not limited to, the required information in this example form.***

APPENDIX F

Tank Integrity Testing Records

**** Inspections are documented using an intranet form, which includes, but is not limited to, the required information in this example form.***