# DEPARTMENT OF TOXIC SUBSTANCES CONTROL

# STANDARDIZED PERMIT APPLICATION INSTRUCTIONS

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# PART 1 – SIGNATORIES TO PERMIT APPLICATION/DISCLOSURE STATEMENT SECTION 1 PREPARER OF STANDARDIZED PERMIT APPLICATION

Provide the following information regarding the person(s) **preparing** the facility's standardized permit application:

- 1. Name of the firm, if applicable
- 2. Name(s) and title(s) of the person(s) responsible for preparation of the operation plan
- 3. Work telephone number(s) and email address of the person(s) responsible
- 4. Date and original signatures of the person(s) responsible

**Preparer Signature** 

Date

Title

# SECTION 2 OWNER / OPERATOR SIGNATURES AND CERTIFICATION

#### Provide **original signatures and date** of the facility owner and facility operator.

All permit applications must be signed as follows: (1) for a corporation: by a responsible corporate officer. A responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who is authorized to perform similar policy or decision making functions, which govern the operation of the regulated facility, or the corporation; (2) for a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or (3) for a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.

The following facility operator certification is required under California Code of Regulations, title 22 (22 CCR), Section 66270.11(d):

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

I further certify that the property owner has been informed that a hazardous waste facility will be operated on the premises.

Facility Owner Signature	Date
Print Name	Title
Facility Operator Signature	Date
Print Name	 Title

# SECTION 3 DISCLOSURE STATEMENT

Pursuant to Health and Safety Code Section 25200.4, the permit applicant must include the completed disclosure statement with the permit application unless otherwise indicated by law. Health and Safety Code Section 25112.5 specifies what must be included in the disclosure statement; it also includes the necessary information for DTSC to conduct background checks. The disclosure statement must be submitted with the application in a sealed envelope addressed to DTSC's disclosure statement coordinator. Please direct any questions regarding the disclosure statement, any exemptions, or the fingerprint process to DTSC's disclosure statement coordinator by email at Disclosure.Statements@dtsc.ca.gov. If fingerprints are required, please contact the disclosure statement coordinator as soon as possible.

Please submit a disclosure statement using Form DTSC 1365 which may be found at the link below.

#### DTSC 1365 Disclosure Statement Form and Instructions

The completed disclosure statement should be submitted with the application in a sealed envelope addressed to:

Disclosure Statement Coordinator Permitting Division Department of Toxic Substances Control 8800 Cal Center Drive Sacramento, California 95826-3200

# SECTION 4 CONFIDENTIALITY REQUESTS AND JUSTIFICATIONS

In accordance with 22 CCR Section 66260.2, any information submitted to DTSC may be claimed as confidential by the submitter. Any such claim shall be asserted at the time of submission. If no claim is made at the time of submission, DTSC may make the information available to the public without further notice.

If any of the information provided in the permit application is to be construed to be a "trade secret" within the meaning of California Health and Safety Code Section 25173, the trade secret item(s) must be clearly identified "Confidential: Trade Secret" in the Plan. All unmarked items will be available for public review without notice to the facility owner and/or operator. If only parts of the application or of a given supporting document are confidential, the following should be provided: <u>two complete copies of the document with the confidential items marked and one copy with the confidential items redacted.</u>

For each specific trade secret item, the following questions must be answered in a written attachment to the Application:

- 1. How long is the item to be considered a trade secret?
- 2. What measures have been employed by the company to maintain that item as a trade secret?
- **3.** Who else has received a copy of the item and what measures were taken with respect to distribution of that copy to maintain the item as a trade secret?
- **4.** What decision (if any) has been made by any other government agency regarding the confidentiality of the item?
- 5. What will be the substantial harm to the company's competitive position from disclosure of the trade secret item? Include specific information about what the harm would be and why it should be considered substantial, as well as information about the relationship between disclosure and harm.

# PART 2 – STANDARDIZED PERMIT SERIES DETERMINATION (DTSC FORM 1093A)

For a standardized permit application, DTSC Form 1093A is the equivalent to the U.S. EPA Part A Permit Application. Form DTSC 1093A and instructions for completing Form 1093A may be found at the following link:

#### DTSC Form 1093A or Part A

Alternatively, visit <u>DTSC's webpage</u> and search for "1093A" in the search box in the upper right corner of the website.

Please complete Form DTSC 1093A and its attachments and include it with the standardized permit application.

# PART 3 – GENERAL INFORMATION SECTION 1 FACILITY IDENTIFICATION

List the following information for this facility:

- 1. Facility Name (same name as associated with the EPA ID Number)
- 2. EPA ID Number
- 3. Address (Street, City, State, County, Zip Code)
- 4. Telephone Number
- 5. Point of Contact for Communications from DTSC (Name, Address, Telephone Number)
- 6. Standardized Permit Description

Provide a general description of the facility and overview of its operations. Briefly describe the hazardous waste management activities that would be authorized under the standardized permit (e.g., "consolidating used oil", "removing gold from wastewater", etc.). If this is a permit application for a renewal, describe any proposed changes from the existing permit, the facility and/or its operations.

# SECTION 2 FACILITY DESCRIPTION

Describe the facility business type, including, as applicable:

- 1. What manufacturing processes are employed, and products manufactured
- 2. Where and what hazardous wastes are generated or received
- 3. How hazardous wastes are typically managed, e.g. storage in less than 90-days, stored in drums or tanks, or treated in containers or tanks
- 4. Provide simplified process flow diagrams showing how and where the hazardous wastes are stored, treated and shipped.

If facility accepts offsite waste, provide a process flow diagram showing the path of each waste stream from the point of entrance into the facility to its exit from the facility. The process flow diagram should include each point (e.g., unit) where the waste stream physically and/or chemically changes and show points where samples are collected (sampling points will be indicated in the waste analysis plan). Also show any equipment used to move the waste stream such as pumps, blowers, belts, front loaders etc.

# SECTION 3 WASTE ANALYSIS PLAN

The waste analysis plan (WAP) must describe the procedures the owner or operator will carryout to obtain a detailed chemical and physical analysis of a representative sample of the waste before transferring, treating, or storing of any hazardous waste. The analysis must contain all the information which must be known to transfer, treat, or store of the waste.

DTSC encourages the applicant to read and ensure compliance with 22 CCR Section 66264.13 General Waste Analysis, and for guidance in preparing a WAP, see U.S. EPA "A Guidance Manual: Waste Analysis at Facilities that Generate, Treat, Store, and Dispose of Hazardous Wastes" April 2015, [EPA 530-R-12-001].

The following instructions and tasks are a recommended format to facilitate communications among the owner/operator, permit writer, and inspector.

#### 3.1 Waste Identification

- 1. Identify each hazardous wastestream type your facility transfers, treats, or stores. List all wastestreams and waste codes your facility accepts.
- 2. Identify each process or industry generating these wastes.
- 3. Provide the rationale for identifying these wastes as hazardous
- 4. Provide the appropriate hazard characteristic.
- 5. If your facility accepts RCRA waste, provide the justification for why your facility can accept this wastestream.

If your facility handles multiple wastestreams, a tabulated form can be used as following example:

	Wastestream	USEPA Waste	California	Hazard	Rationale for	Process or
	Name	Codes	Waste	Characteristic	Hazardous	industry that
			Codes		Waste	generates the
					Designation	waste
A	Used Oil	None N/A	221, 612	Toxic	Possible lead, chromium, cadmium	Automotive service stations
В	Spent Cyanide Solution	D002, D003, D006, D007, D008, D011, F007, F008, F009 RCRA exempt (precious metal	121, 131, 132, 181, 711, 792	Corrosive, reactive, toxic	pH 1.5, cadmium, chromium, lead, silver	Gold cyanide solution from printed board manufacturing operations

Table 3.1 Example Description of Wastestreams

		recovery)			
С	Spent Fluorescent Lamp	D008	Toxic	Mercury	

#### 3.2 Pre-acceptance and Acceptance Procedures

- 1. Describe the rationale, information needs, and criteria for pre-acceptance of off-site wastestreams.
- 2. Describe the processes, policies, and procedures for evaluating incoming hazardous waste shipments for acceptance and appropriate on-site management.
- 3. Describe the procedures to be used to inspect and analyze each hazardous waste shipment.

For off-site facilities, the owner or operator may arrange for the generator of the hazardous waste to supply part of the information required for the waste analysis, also known as a waste profile. The generator can use laboratory test results, his/her knowledge of the waste, existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes. The generator-supplied information (waste profile) form must be included as an attachment in the permit application.

If the generator does not supply the detailed chemical and physical analysis of the waste, and the owner or operator chooses to accept a hazardous waste, the owner or operator must obtain the required information. The owner or operating may use laboratory test results of a representative sample by a laboratory accredited via California's environmental laboratory accreditation program (ELAP), existing published or documented data on the hazardous waste or on hazardous waste generated from similar process, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility. **The detailed chemical and physical analysis for each waste stream must be attached to the permit application**.

The owner or operator of an off-site facility must inspect and, if necessary, analyze each hazardous waste shipment received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

The WAP must specific the frequency at which the analysis will be repeated. The analysis of each waste stream must be repeated:

- 1. As necessary to ensure that it is accurate and up to date; and
- 2. When the owner or operator is notified by the generator, or has reason to believe that the process or operation generating the hazardous waste has changed; and

3. For off-site facilities, when the results of an inspection indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

The following is a sample listing of possible pre-acceptance criteria.

Pre-acceptance criteria	Test Method	Acceptable Results
Color	observation	Dark brown
Total Organic Halides	EPA Method 9076, 9077, or 8010	Less than 1,000 ppm
рН	pH meter or paper, EPA Method 9040, 9041	2.0 – 12.5
Flash Point Testing	ASTM D-93-79 or ASTM D-93-80	Greater than 100 °F (If below 140 °F, additional requirements are triggered)
PCBs	EPA Method 8082	Less than 5 ppm

#### 3.3 Rejection Policy

Describe the policies and procedures that your facility will use for the rejection of waste received by your facility. A factsheet regarding rejected loads can be found at <a href="https://www.dtsc.ca.gov/HazardousWaste/upload/HWMP">https://www.dtsc.ca.gov/HazardousWaste/upload/HWMP</a> FS RejectedLoads.pdf.

#### 3.4 Discrepancy Policy

Describe the policies and procedures that your facility will use when there is a discrepancy between the waste designated on the manifest or profile and the waste received at your facility, including how the discrepancies will be resolved.

#### 3.5 Sample Strategies and Frequency

Describe how your facility selects the appropriate sampling procedure for effective waste characterization and describe the process for determining both initial sampling frequency and subsequent waste re-evaluation.

Describe the sampling and sampling management methods that will be used to obtain a representative sample of the waste to be analyzed. The sampling, planning, methodology, equipment, sample processing, documentation and custody procedures must be in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, or equivalent sampling method approved by the Department.

Describe the sampling methods for liquid and solid waste and for different shipment modes.

#### 3.6 Analytical Parameters and Test Methods

Describe how your facility selects the appropriate parameters and test methods and identify the analytical parameters and test methods that will be used for each waste stream.

The following is a sample listing of parameters and test methods for used oil.

Analysis	Description	Test Method	References	Acceptable Parameters
Total halogens	Chlorinated solvents	EPA Method 9076, 9077, or 8010, EPA Method 8021B, Clor-D-Tect or other DTSC or EPA approved test method/kit	(1), (2), (4)	Less than 1,000 ppm
рН (3)	рН	pH meter or paper, EPA Method 9040, 9041	(1)	Greater than 2.0 and less than 12.5
Flash point testing (5)	Pensky Martin Closed Cup Seta Flash, or approved test method	ASTM D-93-79 or ASTM D-93-80 or approved test method	(2), (5)	Greater than 100° F
Color		Observation		Golden to dark brown
PCBs		EPA Method 8082		Less than 5 ppm

Table 3.3. Example Analytical Parameters and Test Methods

Notes:

- (1) U.S Environmental Protection Agency, "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods", SW-846, third edition, 1986.
- (2) Total halides must be less than 1,000 ppm unless rebutted. Oils containing total halides >1,000 ppm and not rebutted will not be received by the facility.
- (3) pH is only measured when there is a separated water layer.
- (4) If using a halogen test kit (EPA Method 9077) and the sample turns clear or light gray, there may be too much water in the sample for this kit. The Dexsil Hydroclor-Q (or equivalent) kit will then be used.
- (5) Used oils having a flash point lower than 100°F is not considered used oil. Used oil having a flash point lower than 140° must be managed in accordance with the storage requirements for ignitable waste.

The WAP must specify waste analysis to meet the specific testing requirements for:

- 1. Ignitable, reactive, or incompatible wastes pursuant to 22 CCR Section 66264.17,
- 2. Bulk and containerized liquids pursuant to 22 CCR Section 66264.314,
- 3. Land disposal restrictions pursuant to 22 CCR Section 66261.22.

#### 3.7 Quality Assurance/Quality Control Procedures

Describe your facility's quality assurance program and quality control procedures that ensure laboratory data are scientifically valid, defensible, and of known precision and accuracy.

#### 3.8 Record Keeping

Describe the records your facility maintains and how long, where, and in what format each record type will be maintained.

The following documents/records must be maintained as part of the facility operating record:

- 1. Hazardous waste manifest;
- Bill of lading and invoice (for waste received via the modified manifesting procedure);
- 3. Land disposal restriction notification/certification (where appropriate);
- 4. Analytical results;
- 5. Daily receipts log;
- 6. Generators waste evaluation and acceptance documentation.

Each of these documents must be maintained either at the facility or at another secure location for a minimum of three years. Evaluations of the on-site generated waste at the facility will be maintained for a minimum of three years. A retention period of three years will be utilized if a land disposal restriction form was provided with the outbound waste shipment.

# SECTION 4 SECURITY

The owner and operator shall prevent unauthorized entry onto the facility. This is to ensure adequate protection against potential hazards to human health, domestic livestock or wildlife. Signs are used to alert employees and visitors of possible dangers within a designated area. Fences or other barriers are used to control access of wildlife, livestock, and unauthorized persons.

#### 4.1 Fencing and other Security Measures

The following security measures must be taken:

- 1. The facility must be surrounded by a fence kept in good repair. Describe the fence around your facility. Include height, materials used, and other features (e.g. barbed wire).
- 2. If the perimeter of the facility is not fenced, the security measures must consist of (choose one):
  - a. A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) that continuously monitors and controls entry onto the active portion of the facility
  - b. Controlled entry, always, using locked gates and entrances to the active portion of the facility

#### 4.2 Signs

"Hazardous Waste Area" signs must be posted in a conspicuous manner at each entrance to the facility. Additionally, "Hazardous Waste Area" signs shall be placed around the perimeter of the facility such that at least one sign shall be visible from any point of approach to the facility. The signs shall be written in English, Spanish and in any other language predominant around the facility. The exact wording is as follows: "Danger Hazardous Waste Area-Unauthorized Personnel Keep Out". These signs must be legible from 25 feet.

#### 4.3 Lighting

During hours of darkness, sufficient artificial lighting must be provided at the facility to ensure safe and effective operation. Describe the type of lighting, location of the lighting, and wattage, for indoor and outdoor, as applicable.

Please include whether the artificial lighting at the facility will be used for the following purposes:

- 1. To handle hazardous waste during indoor and/or night operations.
- 2. For emergency response after daylight hours.
- 3. For security measures

# SECTION 5 INSPECTION PLAN

Include your written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

Include an equipment list and inspection schedule, including the frequency of inspection, with your application. The inspection plan must address, at a minimum, the requirements outlined below where applicable.

#### 5.1 General Inspection Requirements

#### 5.1.1 Monitoring Equipment

Include the monitoring equipment used at your facility and the frequency of inspection.

#### 5.1.2 Safety/Emergency equipment

Include your schedule for testing and/or inspecting the safety/emergency equipment listed below, at a minimum.

- Internal communications or alarm system
- Communication device (telephone, radio, other)
- Portable fire extinguishers or fire control equipment
- Spill control equipment
- Decontamination equipment
- Water supply
- All other emergency/safety equipment or devices

#### 5.1.3 Security Devices

Include inspection schedule for security devices described in Section 4.

#### 5.1.4 Operating and Structural Equipment

Include the operating and structural equipment used at the facility (e.g., dikes, sump pumps) and the frequency of inspection.

#### 5.2 Regular Inspection Schedules and Logs

Describe how your facility will keep an inspection log and maintain logs for at least three years from the date of inspection. Describe the information that will be included in the inspection log (e.g., date, time, inspector's name, observations, required repairs, and date of repairs performed).

#### 5.3 Actions for Deficiencies

Describe actions your facility will take to correct deficiencies that are identified during inspections, including deficiencies that can be corrected immediately, those that cannot be corrected immediately, and actions that will be taken in the event a deficiency represents a significant threat to human health and/or the environments. Describe inspection, schedule of response actions and documentation of completed repairs.

#### 5.4 Inspection of Container Units 22 CCR Section 66264.174

Describe your facility's inspection of container units and frequency of inspection. At a minimum, container units must be inspected weekly for:

- Leaking containers,
- Deterioration of containers, and
- Deterioration of containment system.

Inspection logs shall be maintained in the operating records for at least three years from the date on inspection. Records shall include date, time, inspector's name, observations, repairs required, and date of repairs performed.

Include examples of your facility's inspection log forms as an attachment.

# 5.5 Tank Storage Areas and Secondary Containment 22 CCR Section 66264.195.

Describe your facility's inspection of tank systems and secondary containment. Your inspection plan must address the following specific requirements for inspection at least each operating day:

#### 5.5.1 Overfill controls

Describe your facility's overfill control inspection procedures. Include your schedule and procedure for inspecting overfill controls.

#### 5.5.2 Aboveground portions of the tank system

Describe your facility's schedule and procedure for inspecting above ground portions of the tank system (e.g., tank shell, ancillary equipment, hoses, pipes, fittings and valves) to detect corrosion or release.

#### 5.5.3 Data gathered from monitoring and leak detection equipment

Describe your facility's schedule and procedure for inspecting data gathered from monitoring and leak detection equipment (e.g., pressure or temperature gauges monitoring ports) to ensure that the tank system is operating according to its design.

#### 5.5.4 Externally accessible portion of the tank system

Describe your facility's schedule and procedure for inspecting the construction materials and area surrounding the externally accessible portion of the tank system, including the secondary containment system, to detect corrosion, erosion or sign of releases to the environment.

#### 5.5.5 Level of waste in the tank

For uncovered tanks, describe your facility's schedule and procedure for inspecting the level of waste in the tank, to ensure maintenance of freeboard.

#### 5.5.6 Condition of tank

Describe your facility's schedule and procedure for assessing the condition of the tank within six months after initial installation and annually thereafter. The schedule and procedure must be adequate to detect:

- 1. cracks,
- 2. leaks,
- 3. wall thinning to less than the thickness required.

The inspection plan must include procedures for emptying a tank to allow entry and inspection of the interior, when necessary, to detect corrosion or erosion of the tank's sides and bottom. The frequency of these assessments shall be based on the material of construction of the tank, type of corrosion or erosion observed during previous inspections and the characteristic of the waste being transferred or stored.

Include schedule for assessing the condition of tanks in the inspection schedule.

#### 5.6 Loading/Unloading Areas

Describe your facility's schedule and procedures for inspecting loading/unloading areas at least weekly for deterioration of the containment system.

### SECTION 6 CONTINGENCY PLAN

Pursuant to 22 CCR, Chapter 14, Article 4, your facility's contingency plan must describe the actions facility personnel will take in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility. If you have already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan or some other emergency or contingency plan, you need only amend that plan to incorporated hazardous waste management responses before submitting as part of the Application.

The contingency plan should provide a structured list of procedures that allow the facility to respond immediately and appropriately to incidents such as fires, explosions and unplanned releases, or spills, of hazardous wastes or hazardous waste constituents to the air, soil or surface water. This process minimizes the hazards to human health and the environment that may occur because of emergencies involving hazardous wastes. The regulations that specify the contingency plan requirements and the plan contents are found in the 22 CCR, Chapter 14, Article 4. The facility keeps one copy of the plan, and any revisions made to the plan, and submits a copy of the plan and its revisions to each of the agencies that may provide emergency response, including local police departments, fire departments, hospitals, and local and State emergency response teams.

The plan must be revised whenever the facility permit is revised; the plan fails during an emergency; the facility changes in its design, construction, operation, maintenance, or other circumstance in a way that materially increases to potential for fires, explosions, or releases of hazardous waste or changes the response necessary in an emergency; the list of emergency coordinators changes; or the list of emergency equipment changes.

#### 6.1 Arrangements with Local Authorities 22 CCR Section 66264.37

Describe arrangement that have been agreed to by local police departments, fire department, hospitals, contractors, and State and local emergency response teams to coordinate emergency services and to familiarize police, fire departments, emergency response teams and the local Office of Emergency Services with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evaluation routes;

Where more than one police and fire department might respond to an emergency, describe the agreement designating primary emergency authority and agreement with any others to provide support to the primary emergency authority.

If State or local authorities decline to enter into such arrangements, you must document the refusal in the operating record.

Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the type of injuries or illnesses which could result from fires, explosions, or releases at the facility.

#### 6.2 Emergency Coordinator

The plan must list, and keep up-to-date, the names, addresses, and phone numbers of all persons qualified to act as an emergency coordinator. This list must identify the person who is the primary emergency coordinator and list the alternate emergency coordinators in the order in which they will assume responsibility as alternates.

The emergency coordinator is responsible for coordinating the facility's emergency response procedures. The emergency coordinator must be familiar with the Contingency Plan, the facility's operation, hazardous waste location and characteristics and facility records. The emergency coordinator must also have the authority to implement the contingency plan, including the authority to commit the necessary resources to accomplish the provisions of the plan. In designating the emergency coordinators, thought should be given to the availability and response time of those individuals when they are not present at the facility.

#### 6.3 Emergency Response Equipment

Include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. The list shall be kept up to date. The list must include the location and physical description of each item on the list, and a brief outline of its capabilities.

#### 6.4 Evacuation Plan

If there is a possibility that an emergency could result in the need for evacuation of facility personnel, describe the evacuation procedures. The description should include the alarm that signals evacuation is to begin, the evacuation route, and the alternate evacuation routes.

Include an evacuation map with the Contingency Plan.

#### 6.5 State Office of Emergency Services

Include the current telephone number of the State Office of Emergency Services

#### 6.6 Wastes Stored

Describe the properties of the hazardous waste handled at your facility and associated hazards.

#### 6.7 Emergency Procedures

Describe the specific procedures that your facility will follow if an emergency occurs. At a minimum, the plan must include the following pursuant to 22 CCR Section 66264.56 Emergency Procedures:

 If there is an imminent or actual emergency, the emergency coordinator shall notify facility personnel, if applicable, by activating internal alarms or communication systems, and notify the appropriate local and State agencies with emergency response roles.

- 2. If there is a release, fire, or explosion, the emergency coordinator shall immediately determine the character, source, amount and areal extent of any released materials, using observation, facility records and manifests, or if necessary, chemical analysis.
- 3. Concurrently, the emergency coordinator must also evaluate the possible hazards to human health and the environment from the release, fire or explosion. The assessment must consider both direct effects (such as the effect of any toxic or irritating gases that may be generated) and indirect effects (such as the effect of any surface water run-off from water or chemical agents to control fires).
- 4. If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health or the environment outside of the facility, the coordinator must immediately notify the appropriate local authorities if surrounding areas require evacuation. In all cases, the emergency coordinator must also notify the State Office of Emergency Services (OES). The report to OES must include the name and phone number of the person making the report, the facility name and address, the time and type of incident, the names and quantities of materials involved the extent of any injuries and the possible hazards to human health and the environment outside of the facility.
- 5. During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions and releases do not occur, recur or spread to other hazardous waste at the facility. These measures shall include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.
- 6. If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator shall, monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes or other equipment, wherever appropriate.
- 7. Immediately after any emergency, the emergency coordinator shall provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material resulting from a release, fire, or explosion at the facility. Unless the owner or operator can demonstrate that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable generator requirements.
- 8. The emergency coordinator must ensure that, in the affected areas of the facility: no waste that may be incompatible with the released material is transferred, treated, stored or disposed of until cleanup procedures are completed; and all emergency equipment listed in the contingency plan is clean and fit for its intended use before operations are resumed.
- 9. The owner or operator must notify DTSC and appropriate State and local authorities that the facility is in compliance with the requirements described in item 8 before operations are resumed in the affected areas.

10. The owner or operator must note in the operating record the time, date and details of any incident that requires implementing the contingency plan. The owner/operator must also submit a report to DTSC within 15 days after the incident including the name, address and telephone number of the owner or operator, the name address and telephone number of the facility; the date, time, and type of incident; the name and quantity of materials involved; the extent of any injuries, if any; an assessment of any actual or potential hazards to human health or the environment; and the estimated quantity and disposition of recovered material that resulted from the incident.

# SECTION 7 PROCEDURES TO PREVENT HAZARDS

#### 7.1 Loading and Unloading Hazards

Describe the procedures, structures or equipment used at your facility to prevent hazards in unloading operations (for example, ramps, special forklifts) (22 CCR Section 66270.14(b)(8)(A)).

#### 7.2 Prevention of Runoff and Flooding

Describe procedures, structures or equipment used at your facility to prevent runoff from hazardous waste handling areas to other areas of the facility or environment, or to prevent flooding (for example, berms, dikes. Trenches) (22 CCR Section 66270.14(b)(8)(B)).

#### 7.3 Prevention of Contamination of Water Supplies

Describe procedures, structures or equipment used at your facility to prevent contamination of water supplies (22 CCR Section 66270.14(b)(8)(C)).

7.4 Mitigate Effects of Equipment Failures and Power Outages

Describe procedures, structures or equipment used at your facility to mitigate effects of equipment failure and power outages (22 CCR Section 66270.14(b)(8)(D)).

#### 7.5 Prevent Exposure of Personnel to Hazardous Waste

Describe procedures, structures or equipment used at your facility to prevent undue exposure of personnel to hazardous waste (for example, protective clothing) (22 CCR Section 66270.14(b)(8)(E)).

#### 7.6 Prevent Releases to the Atmosphere

Describe procedures, structures or equipment used at your facility to prevent releases to the atmosphere (22 CCR Section 66270.14(b)(8)(F)).

#### SECTION 8 IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTES

Describe precautions used by your facility to prevent accidental ignition or reaction of ignitable, reactive or incompatible wastes pursuant to 22 CCR Section 66264.17, including:

# 8.1 Precautions to prevent accidental ignition or reaction of ignitable or reactive waste

Describe how waste will be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks, spontaneous ignition, and radiant heat.

#### 8.2 Precautions to prevent reactions

Describe precautions that will be taken, if your facility transfers, treats, stores or disposes ignitable or reactive waste, or mixes incompatible waste or incompatible wastes and other materials, to prevent reactions which: (1) generated extreme heat or pressure, fire or explosions, or violent reactions; (2) produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment, (3) produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions, (4) damage the structural integrity of the device or facility, (5) through other like means threaten human health or the environment.

#### 8.3 Documentation

Include documentation of compliance with this section, if applicable. The documentation may be based on references to published scientific or engineering literature, data from trial tests, waste analyses, or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

## SECTION 9 FACILITY LOCATION INFORMATION

#### 9.1 Seismic Standard

For a new facility or a facility undergoing substantial modification, describe compliance with the seismic standard pursuant to 22 CCR., Section 66270.14(b)(11)(A).

You must submit documentation that demonstrates no faults which have had displacement in Holocene time are present within 3,000 feet of your facility based on data from: published geologic studies, aerial reconnaissance of the area within a fivemile radius; an analysis or aerial photographs covering ad 3,000 foot radius of the facility, and, if needed to clarify the above data, a reconnaissance based on walking portions of the area within 3,000 feet of the facility.

If faults which had had displacement in Holocene time are present within 3,000 feet of the facility, you must submit documentation that demonstrates no faults pass within 200 feet of the portions of the facility where treatment, storage or disposal of hazardous waste will be conducted, based on data from a comprehensive geologic analysis of the site.

Unless the data is conclusive concerning the absence of faults within 200 feet of portions of the facility used for hazardous waste management, a subsurface exploration of the area must be conducted.

The information required in this section must be prepared by a geologist experienced in identifying and evaluating seismic activity.

#### 9.2 Flood Plain

Provide an identification of whether the facility in located within a 100-year floodplain and indicate the source of date for the determination. Include a copy of the relevant Federal Emergency Management Agency food insurance rate map (FIRM), if used, or the calculations and maps used where an FIRM map is not available (22 CCR Section 66270.14(b)(11)(B-D)).

If the facility is within a 100-year floodplain, you must do one of the following:

- 1. If the facility will be expected to withstand flooding: demonstrate that the facility has been or will be designed, constructed operated and maintained to prevent washout of any hazardous waste by providing the following information:
  - a. An engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected at the facility during a 100-year flood.
  - b. Structural or other engineering studies showing the design of operational units (e.g., tanks) and flood protection devices (e.g., floodwalls, dikes) at the facility and how these will prevent washout.
- Prepare a plan that would allow all hazardous wastes at the facility to be moved out of the flood area. The plan must address issues such as equipment availability, the DTSC 1176 (2/2022) REV

time needed to completely remove all the waste from the facility, the route over which the waste would be moved, spill prevention, the temporary storage location for the waste, security measures during storage and how the facility would be prepared for the return of the waste.

### SECTION 10 TRAINING PLAN

Include an outline of both the introductory and continuing training programs your facility will implement to prepare persons to operate or maintain the hazardous waste management facility in a safe manner, meeting the requirements of 22 CCR Section 66264.16 Personnel Training. The outline must include a brief description of how training will be designed to meet actual job tasks in accordance with 22 CCR Section 66264.16(a)(3). Training may be through classroom, computer-based, or on-the-job training.

Note that facility personnel engaged in shipping hazardous waste must be triennially trained commensurate with their responsibilities to meet the requirements in 49 CFR Section 172.704.

The owner or operator must ensure that facility personnel successfully complete the training program within 180 days after the date of their employment or assignment to a new position at a facility. The owner or operator shall ensure that facility personnel take part in an annual review of the initial training. General awareness training and function-specific job training must be reviewed every 24 months.

The training program must include the following elements:

#### 10.1 Hazardous Waste Management

- 1. Directed by a person trained in hazardous waste management procedures
- 2. Include instruction that teaches facility personnel hazardous waste management procedures including
  - a. contingency plan implementation
  - b. Identification and segregation of incompatible hazardous waste or product relevant to their position.
- 3. Cal-OSHA also requires that all employees of hazardous waste facilities regulated under Chapter 6.5, Health and Safety Code obtain an initial health and safety training of 24 hours and refresher training for eight (8) hours annually. The initial training requirement may be satisfied by experience for current employees. The training must include safety and health hazards at the facility, personal protective equipment, other safety practices, and names of on-site safety coordinators and alternates. These requirements are found in 8 CCR Section 5192. For further information on Cal-OSHA requirements, you may contact that agency at (510) 286-7000.

#### 10.2 Emergency Response Training

At a minimum, the emergency response training must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with prevention, mitigation, abatement, and notification procedures, emergency equipment, and emergency system, including all of the following where applicable:

- 1. procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment.
- 2. key parameters for automatic waste feed cut-off systems.
- 3. communications or alarm systems.
- 4. response to fires ore explosions.
- 5. response to groundwater contamination incidents.
- 6. shutdown of operations.
- 7. self-protection measures; and
- 8. accident prevention methods.

#### 10.3 General Awareness Training

The owner or operator must ensure all facility personnel successfully complete training <u>every 24 months</u> that provides a description of the facility and an overview of the facility and facility operations, including, but not limited to, security and safety considerations.

#### 10.4 Function-Specific Job Training

The owner or operator must ensure all facility personnel who are involved with hazardous waste management activities successfully complete training every 24 months concerning any relevant hazardous waste procedures applicable to job tasks and functions performed by the employee.

#### 10.5 Training Records

Describe training records that will be kept at the facility. The training records for current personnel must be kept on file at the facility until the facility closes. The training records of former employees must be kept for at least 3 years from their last date of employment at the facility.

Training records must include:

- 1. the job title for each position at the facility that is related to hazardous waste management,
- 2. the names of the employees filling those positions,
- a written job description for each of those positions including the skill, education, and other qualifications needed by employees to fill each position and the duties of employees assigned to each position,
- 4. a written description, including a syllabus and/or outline, of the type and amount of both introductory and continuing training that will be given to each person filling these positions,
- 5. employee-signed or -certified records that document that the required training has been given to, and completed by, each employee.

#### 10.6 Annual Certification

An annual certification that attests to the training of facility personnel ant that meets the requirements of 22 CCR Section 66264.16(f) must be submitted to the Department by March 1 each year.

### SECTION 11 CLOSURE PLAN

Include a copy of the closure plan required by 22 CCR Section 66264.112 (closure plan), Section 66264.197 (tanks), Section 66264.178 (containers) and Section 66264.601. The closure plan must identify steps necessary to perform partial or final closure of the facility at any point during its active life and to perform final closure of the facility at the end of its active life. The post-closure plan must identify the activities that will be carried on after closure of each disposal unit and the frequency of these activities.

Note that based on the type of closure activities performed at the facility, work may be required to be supervised, approved and signed by either an independent, qualified, licensed professional engineer or geologist registered in California in accordance with the Business and Professions Code.

#### 11.1 Introduction

Provide a brief description of the facility and its operations and the procedures to be used to close the facility.

#### 11.2 Facility History

Provide a brief history of the facility including prior land use and any relevant information based on any site assessments.

#### 11.3 Closure Performance Standard

The facility must be closed in a manner that minimizes the need for further maintenance and controls, minimizes or eliminates, to the extent necessary to protect human health and the environments, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated rainfall or run-off, or waste decomposition products to the ground or surface water or the atmosphere, and complies with the requirements of 22 CCR Section 66264.178, 66264.197, and 66264.601 as applicable.

At closure, all hazardous waste and hazardous waste residues must be removed from containment systems and tank systems. Remaining containers, liners, bases, structures, equipment, and soil containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated or removed.

#### 11.4 Closure of each Hazardous Waste Management Unit

For each hazardous waste management unit at the facility, describe how and when each unit will be closed to meet the performance standard. Including, but not limited to, methods for removing, transporting, treating, storing, or disposing of all hazardous wastes, and identification of the type(s) of the off-site hazardous waste management units to be used, if applicable.

1. Containers

Describe how all hazardous waste and hazardous waste residues will be removed from the containment system. Describe how remaining containers, liners, bases,

and soil containing or contaminated with hazardous waste or hazardous waste residues will be decontaminated or removed.

2. Tank Systems

Describe how all waste residues, contaminated containment system components (liners, etc.) contaminated soils, and structures and equipment contaminated with waste, will be removed, or decontaminated.

If you have a tank system that does not have secondary containment, the closure plan must include a contingent closure plan that describes closing the tank system and performing post-closure care in accordance with the closure and post-closure care requirements that apply to landfills.

#### 11.5 Final Closure of the facility

Describe how and when final closure of the facility will be conducted. Include the maximum extent of operations during the life of the facility. When the facility will be closing and will no longer be used to manage hazardous wastes, describe how the final batch of waste will be removed from the facility or treated at the facility. The wastes may be removed/treated by any or a combination of the following methods: processing the waste through the facility's process; taking the waste off-site to a treatment facility; taking the waste off-site to a disposal facility; and/or other methods. Describe as much detail as possible the waste removal method(s) that will be used when your facility closes.

#### 11.6 Maximum Inventory Estimates

Include an estimate of the maximum inventory of hazardous waste inventory ever onsite at any one time over the active life of the facility. The maximum inventory should be a sum of all hazardous waste storage capacity and estimated waste generated from closure activities.

- 1. Maximum amount of hazardous waste that will have been stored.
- 2. Maximum amount of hazardous waste that will have been treated.
- 3. Provide an estimate of the amount of waste that will be generated from closure activities (i.e. wash water generated, sand from sand blasting, etc.)
  - a. Calculate the amount of waste generated from the decontamination of storage areas.
  - b. Calculate the amount of waste generated from the decontamination of treatment processes.
  - c. Calculate the waste generated from the decontamination of other areas.
  - d. Equipment and supplies which will be used to close the facility and require disposal. (i.e., rags, personal protective equipment, sampling equipment, etc.).

#### 11.7 Removal and Decontamination

Include a detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure, including, but not limited to, procedures for cleaning equipment and removing contaminated soils, and methods for sampling and testing surrounding soils.

- 1. List all equipment, structures, and buildings the facility plans to decontaminate. Identify each of these items on a plot plan. If an item cannot be identified on the plot plan, identify it on the plot plan by a unique number, and provide a brief description including the size and material of construction. Be sure that you address any of the following that are applicable: tanks, containers, treatment process units, secondary containment systems, floors & walls of buildings, pipes, pumps, valves, hoses, loading and unloading pads/areas, and equipment; and
- Describe the procedures used to decontaminate each of the items identified in the previous item. The decontamination methods should be selected based on criteria such as waste contaminants, level of contamination, the surface materials being cleaned, and the ultimate disposition of the item (e.g., reuse, recycling, or disposal).

#### 11.8 Closure Criteria

Include the criteria for determining the extent of decontamination required to satisfy the closure performance standard. Provide the numerical closure criteria you will be using to demonstrate achievement of the closure performance standard at your facility. Closure criteria are the numbers you will be comparing your closure sampling data with to show that closure has been achieved (i.e., the soil is not contaminated, the equipment has been properly decontaminated, etc.). Closure criteria can either be non-detect, background concentrations, or health-risk based for unrestricted use of the property (see below), and are applicable to soil, groundwater, and any equipment and structures that will remain onsite following closure.

For buildings, equipment, and structures (including tanks), that will not remain onsite following closure, the testing and criteria selected will depend on the disposition of the items. For example, equipment/tanks to be disposed of offsite must meet the requirements of the disposal facility for hazardous or non-hazardous waste, as applicable.

- Non-Detect Non-Detect is the detection limit for a specific analytical method. (e.g., the detection limit for Aldrin using method 8080 is 0.004 ug/L). This would be most applicable to structures, equipment, and buildings but can also be used for soils and groundwater.
- 2. Background Background level is mostly applicable to soil samples; however, background samples can be used for structures if you have samples of the original composition of the structure. For example, if you were constructing a new storage area with concrete and retain a sample of the original concrete, that original sample

can be considered representative of background. Background levels are most applicable for inorganic hazardous waste constituents that are naturally occurring in soils, such as certain metals.

 Risk-based – Risk-based levels include environmental screening levels established by the California Regional Water Quality Board (for TPH), US EPA (Regional Screening Levels [RSLs]), or DTSC Human and Ecological Risk Office (HHRA Note Number 3 – DTSC-Modified Screening Levels); or levels that do not pose a substantial present or potential threat to human health and the environment based on a site-specific risk assessment.

#### 11.9 Closure Sampling for Buildings, Equipment, and Structures

Include a sampling plan that describes the testing that will be done to demonstrate that the closure performance standards have been met and the criteria that will be used for comparison of testing results to demonstrate that closure performance standards have been met.

The sampling plan must describe the procedures to be used for collecting and analyzing samples from the surfaces of buildings, equipment and structures for contamination. The sampling plan must include the number of samples to be taken, sampling methods, location of sampling points and rationale used for selecting sampling point locations. All structures, equipment and buildings identified in your application must be included in the sampling plan.

There are four surface sampling methods that are used for the closure of treatment and storage facilities. They are as follows:

- Wipe Sampling This method is used for sampling smooth, impervious and solid surfaces such as metal tanks, epoxy coated concrete, vinyl liner, etc. A typical wipe sample area is 1 square foot. The samples should be taken using filter paper or gauze pad moistened with a solvent that will remove the contaminant from the surface.
- Chip Sampling This method is used for sampling porous surfaces such as asphalt, concrete and wood. In this method, the surface of the material is chipped out using tools such as a chisel or an electric hammer. The chip sample should have a size approximately 10 cm x 10 cm in area and 3 millimeters in depth.
- **Cleaning Solution Sampling** This method is used for sampling items such as pumps, pipes, filters and equipment. This method is used for sampling parts that are physically difficult to get to or too small to sample individually.

There is no specific guidance on the number of samples required for sampling structures, equipment, and buildings. However, the sampling number should be large enough to demonstrate that all structures, equipment, and buildings have been properly decontaminated. For each sample and each sample set that is taken at the site, a quality control measure is required to establish the data's quality for each analytical result. Therefore, additional quality control samples are required.

Additional information about sampling methods described above can be obtained from the following U. S. EPA guidance document, "Compendium of ERT Waste Sampling Procedures", EPA/540/P-91/008.

All sampling should follow the procedure specified in the document, EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846.

#### 11.10 Closure Sampling for Soils

Soil sampling is also required as part of the facility's closure plan. Describe the soil sampling procedure to be used for each storage and treatment area. Also discuss the number of samples to be taken, sampling methods, location of sampling points and rationale used for selecting sampling point locations.

Soil samples must be taken at or near the surface and at a certain depth, typically at 3 feet below ground surface and at 6 feet below ground surface. Deeper samples may be required especially when liquid wastes have been managed at the facility, or evidence of cracks or stains are on the surface of the containment areas.

The number of sample locations required depends on conditions such as the size of the area to be sampled, hazardous waste managed at the facility, and the degree of contamination. A minimum of 4 soil sample locations is recommended for a containment area, either for storage or treatment, less than 1,600 square feet. For containment areas larger than 1,600 square feet, there should be one sampling location for each 400 square feet of surface area.

If the facility manages wastestreams that contain volatile organic compounds (VOCs), soil gas sampling must be included in the closure plan. Soil gas samples should be coincident with soil sampling locations. Soil gas samples collected at depths less than 5 feet may be subject to barometric pressure effects and breakthrough of ambient air through the soil column, therefore, soil gas samples shall be collected from depths greater than 5 feet.

Additionally, if closure performance standards will be based on background, the closure plan must include collection and analysis of background samples, unless background data already exists. Background soil samples are used to establish the closure performance standards for naturally occurring constituents. The background sample locations must be from areas that are known not to be impacted by the facility's operations. The closure plan must describe the background soil sampling procedure, number of background samples to be taken to have a statistically valid data set, sampling methods, location of sampling points, the rationale used for selecting sampling point locations, and the statistical method proposed to be used to evaluate background concentrations.

All sampling shall follow the procedures specified in the document, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, 3rd edition.

At the time of closure or partial closure, a detailed soil/soil gas sampling plan must be submitted to DTSC for review and approval. The sampling plan will:

- Describe the procedures and equipment for field sampling, sample preservation, and handling;
- Identify the laboratory detection limits and laboratory reporting limits for all compounds;
- Update laboratory methods as necessary
- Describe the quality assurance and quality control procedures for field activities and laboratory analyses; and
- Provide a map showing the locations of planned soil sampling locations and background soil sample locations.
- Describe the methods to be used to compare soil sample results with background concentrations.

DTSC has developed various Proven Technologies and Remedies Documents<sup>1</sup> that contain generic field sampling plans that the environmental professional may reference and use as appropriate when preparing a Sampling Plan.

Soil sampling shall be conducted in accordance with the guidance documents, their updates/revisions, or other applicable guidance that is acceptable to DTSC.

## 11.11 Analytical Test Methods

All laboratory analyses must be performed by a California Certified Analytical Laboratory. This section must describe the analyses that will be performed on samples. The analysis description must include waste constituents being analyzed, preparation method, analysis method and detection limit.

All analytical methods used for closure must conform with <u>Test Methods for Evaluating</u> <u>Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition</u> and <u>Title 22, California</u> <u>Code of Regulation, Section 66261.126, Appendix III</u>.

For many waste constituents, there are generally at least two analytical methods available (general and specific). To meet closure performance standards, the method with the lowest detection limit should be used.

## 11.12 Other Closure Activities

Include a detailed description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, groundwater monitoring, and run-on and run-off control.

<sup>&</sup>lt;sup>1</sup> http://www.dtsc.ca.gov/SiteCleanup/PTandR.cfm DTSC 1176 (2/2022) REV

## 11.13 Closure Schedule

The owner or operator must notify DTSC their intent to close at least 45 days prior to the beginning of the closure plan implementation. DTSC may require the owner or operator to amend the closure plan that time.

The closure plan implementation must comply with the following closure schedule:

- 1. Wastes must be removed, and structures/equipment decontaminated within 90 days of the date that the facility stopped receiving hazardous waste or the closure plan was approved, whichever is later.
- 2. All closure activities must be completed within 180 days of the date that the facility stopped receiving hazardous waste or the closure plan was approved whichever is later.

## 11.14 Expected Year of Final Closure

Include the expected year of final closure.

## 11.15 Closure Certification Report

Within 60 days of completion of closure or partial closure, you must submit to DTSC a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specification in the approved closure plan. The closure certification must be signed by the owner or operator and an independent qualified professional engineer, registered in California.

The Closure Certification Report must include documentation supporting the independent engineer's certification including, as applicable:

- 1. The name(s) of the person or company who was responsible for implementation and oversight of closure activities at the site, including transportation of waste and sample collection.
- 2. A brief description of the activities performed for each closure activity.
- 3. Field engineer observation report(s).
- 4. Maps and photographs of excavation areas.
- 5. All sampling information such as sample locations, soil boring log, chain of custody, analytical results.
- 6. Discussion of analytical results
- 7. Manifests Copies of manifests showing the disposition of the waste inventory

## SECTION 12 CLOSURE COST ESTIMATE

Provide an estimate of the cost to close the facility. The cost estimate must be sufficiently detailed to allow DTSC to evaluate its validity, including unit rates and the basis for the unit rates, assumptions, and basis for any historical data or contractor costs used. The closure cost estimate must be consistent with the work proposed in the closure plan with one exception. In the closure plan, the facility may treat its own waste as part of inventory removal. However, for closure cost estimate purposes, cost for waste removal must be based on shipping and disposing of the waste inventory offsite by a third-party contract. The closure cost estimate must consider the following points:

- The closure cost estimate must be high enough to ensure that, when at any time, the facility begins closure, the cost would not exceed the cost estimate. Most cost estimates have an expected accuracy range based on methodology and assumptions used (for example -15% to +25% for a budgetary estimate). Therefore, cost estimates should include an appropriate contingency to account for the lower end of the accuracy range.
- 2. The closure cost estimate must be based on the cost of hiring a third party to close the facility. A third party is an independent party who cannot be employed by a parent company or by a subsidiary of the facility's company.
- 3. The closure cost estimate may not incorporate any salvage value that may be recouped with sale of wastes, structures, equipment, and other assets
- 4. Although the final batch of waste may be removed/treated using the facility's normal operating process, for closure cost estimate purposes, the cost shall reflect the cost of sending waste off- site for treatment or disposal
- 5. An appropriate contingency cost (10% or more) must be added to the final estimate to account for any unknowns or errors (see #1)
- 6. The remediation cost for treating/removing contaminated soil may be required as a necessary part of the closure cost estimate.
- 7. The closure cost estimate must provide sufficient detail for DTSC to fully evaluate its validity.
- 8. Include cost for sampling (soil samples, soil vapor samples, etc.)

The closure cost estimate must be updated when any of the following occur:

- Annually for inflation. (To account for annual inflation, the facility may either recalculate estimates every year using that year's current prices <u>or</u> update the cost estimate annually by multiplying the current estimates by an inflation factor).
- 2. Changes in the facility's operation.
- 3. An increase in the amount of hazardous waste managed.

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## SECTION 13 FINANCIAL RESPONSIBILITY

You must submit all documents needed to comply with California Code of Regulations, title 22, chapter 14, article 8 to DTSC's Financial Responsibility Unit (FRU).

Financial responsibility document should be sent to:

Financial Responsibility Unit Permitting Division Department of Toxic Substances Control 8800 Cal Center Drive, 3<sup>rd</sup> Floor Sacramento, California 95826-3200

For information contact the Financial Responsibility Unit Chief at (916) 255-3545.

## **SECTION 14 INSURANCE**

You must demonstrate to the Department financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. Note that only an insurer licensed to transact the business of insurance in California can provide insurance to satisfy financial assurance requirements. The owner or operator must have and maintain liability coverage for sudden accidental occurrences in the amount of at least \$1 million per occurrence with an annual aggregate of at least \$2 million, except the following:

Series B facilities – at least \$500,000 per occurrence with an annual aggregate of at least \$1 million

Series C facilities – at least \$300,000 per occurrence with an annual aggregate of at least \$600,000

Series C small quantity – at least \$100,000 per occurrence with an annual aggregate of at least \$200,000.

Include a copy of the insurance policy or other documentation of insurance with the application.

## SECTION 15 FACILITY LOCATION MAP AND SITE LAYOUT DIAGRAM

Provide a map showing where the facility is located and a scaled diagram, showing the general layout of the facility. This diagram must show the following, if applicable:

- 1. Map scale and date,
- 2. Orientation of the map(s) (north arrow),
- 3. Legal property boundaries of the facility,
- 4. All buildings; transfer, treatment, storage areas; and other structures such as secondary containment,
- 5. Location of operational units where hazardous waste will be transferred, treated, or stored,
- 6. The approximate dimensions of the property boundaries and of each storage and treatment area,
- 7. Access control (e.g., fences, gates, etc.),
- 8. 100-year floodplain area (may be included as a separate map),
- 9. Surrounding land use (may be included as a separate map).

The requirement can be met by submittal of a single map that contains all the required information, or separate maps. Each map must include the map scale and date and north arrow, and a title indicating the information presented.

## 15.1 Land Use

Describe the facility land use designation and surrounding land use, including schools, residences hospitals, parks, or other sensitive receptors. The surrounding land use must include the United States census tract in which the facility is located. If the facility is in a census tract that has a population of less than 2,000 people, any other census tracts located within one (1) mile of the facility must also be included. Include the surrounding land uses on the Facility Location Map described above, or a separate map.

## 15.2 Legal Description of Property

Furnish a written legal description of the property occupied by the facility and a copy of the grant deed. A legal description may be obtained from the local county recorder or from a title company.

## SECTION 16 COMMUNITY INVOLVEMENT PROFILE

Submit a community involvement profile with your application meeting the requirements of 22 CCR Section 66270.14 (b)(23). Complete and attach DTSC Form 1195 (9/18) Community Involvement Profile. DTSC Form 1195 can be found on DTSC's website.

## SECTION 17 HAZARDOUS WASTE FACILITY PERMIT RISK ASSESSMENT

Pursuant to 22 CCR Section 66270.14(e) a hazardous waste facility permit health risk assessment must be submitted with the application for Department approval. Prepare and attach the Hazardous Waste Facility Permit Risk Assessment Questionnaire. The risk assessment questionnaire can be found on DTSC's website.

# SECTION 18 COMPLIANCE WITH CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

In accordance with 22 CCR Section 66270.14(f), complete the Environmental Information Form (DTSC 1176) and include the completed form with your application. The Environmental Information Form can be found on DTSC's website.

## SECTION 19 PHASE I ENVIRONMENTAL ASSESSMENT

California Health and Safety Code Section 25201.6(i) requires that a copy of the Phase I Environmental Assessment be submitted with the Standardized Permit Application. Please attach the Phase I Environmental Assessment to your application.

The Phase I Environmental Assessment must include a Preliminary Site Assessment, as described in Health and Safety Code Section 25200.14(a), except that the Phase I Environmental Assessment must also include a certification, signed by the owner and the operator of the facility and an independent professional engineer or geologist registered in the State, or environmental assessor.

The certification included in the Phase I Environmental Assessment shall state whether evidence of a release of hazardous waste or hazardous constituents has been found.

If evidence of a release has been found, the owner or operator shall complete a detailed site assessment to determine the nature and extent of any contamination resulting from the release and shall submit a corrective action plan, corrective action cost estimate, and financial assurance, to DTSC within one year of the submittal of the standardized permit application.

## SECTION 20 DOCUMENTATION OF COMPLIANCE WITH HEALTH AND SAFETY CODE ARTICLE 8.7

A new hazardous waste facility, or an existing facility proposing a significant (i.e., class 3 or equivalent) modification may require a land use decision from a local agency. A facility that applies for a land use decision must submit, with the application, documentation that the requirements of Health and Safety Code Article 8.7, commencing with Section 25199 have been met. Specific requirements include but are not limited to:

- 1. Filing a notice of intent to make the application for a land use decision with the Department and the applicable city or county (facility)
- 2. Publishing a notice in the newspaper (local agency)
- 3. Posting notices in the location of the proposed project (local agency)
- 4. Notifying the owners of contiguous property by mail (local agency)
- 5. Convening a public meeting in the affected city or county (Department)
- 6. Appointing a seven-member local assessment committee to advise the local agency in considering an application for a land use decision (local agency)

If applicable, include documentation of compliance with Health and Safety Code Article 8.7.

## PART 4 – FACILITY DESIGN SECTION 1 FACILITY HAZARDOUS WASTE OPERATIONS

Describe the facility business type, including:

- 1. What manufacturing processes are employed, and products manufactured
- 2. Where and what hazardous wastes are generated or received
- 3. How hazardous wastes are typically managed, e.g. storage in less than 90-days, stored in drums or tanks, or treated in containers or tanks
- 4. Provide simplified process flow diagrams showing how and where the hazardous wastes are treated and stored

Provide a process flow diagram showing the path of each waste stream from the point of entrance into the facility to its exit from the facility. The process flow diagram should include each point where the waste stream physically and/or chemically changes and show points where samples are collected (sampling points will be indicated in the waste analysis plan). Also show any equipment used to move the waste stream such as pumps, blowers, belts, etc.

Describe the hazardous waste management units that are proposed to be permitted. A hazardous waste management "unit" (HWMU) is defined as a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of applicable hazardous waste management units include, a waste transfer area, a tank and its associated piping and underlying containment system and a container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed (22 CCR Section 66260.10).

#### Method for Defining Hazardous Waste Management Units

Start with the largest secondary containment system. The secondary containment system is the walls or berms that surround the tanks or containers or both. Give a name to this containment area (i.e., Containment Area #1).

Most standardized permit facilities will only have tanks and containers within the containment area. Group the tanks together. This will be HWMU #1. Give this unit a name (e.g., Tank Storage Area #1).

Note: If the containment area only has tanks, then the HWMU will be the same as the Containment Area. The name of the HWMU would still be Tank Storage Area #1.

If there are containers/drums being stored in the same containment area, determine the dimension of the container storage area. That will be HWMU #2 and give it a name

(e.g., Container Storage Area #1). One or more HWMU may share the same containment unit.

Repeat the above process with the next largest containment area.

Submit a Facility Plot Plan. Clearly show all the HWMUs on the Facility Plot Plan and all tanks within each HWMU (if applicable).

Provide a table(s) of your facility's hazardous waste management units such as shown in the example Table 4.1 below. Include a narrative of the physical description and activity description for each unit. For example: state that the Tank Storage Area #X will be within Secondary Containment Area #Y.

	TABLE 1.	HAZARDOUS	WASTE MANAGEMENT	UNIT#
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Tank Number	Permitted Storage Capacity (Gallons)	Length	Diameter	Allowable Waste Stream (Common Name)	Allowable Waste Codes
Example Tank #1	20,000	34 feet 8 inches	9 feet 10 inches	Used Oil	221, 612

## SECTION 2 INFORMATION REQUIREMENTS FOR CONTAINERS<sup>2</sup>

2.1 Number, Types and Sizes of Storage Devices in Each Area

State the types, number, and sizes of containers that are used. State the maximum permitted capacity for the unit. State whether containers are to be stacked and how they will be stacked. Containers may not be stacked more than 2 high. Smaller containers (i.e., 5-gallon pails) may be stacked up to 6.5 feet. A minimum aisle space of 30 inches between rows of containers must be maintained always.

<sup>&</sup>lt;sup>2</sup> "Container" means any device that is open or closed, and portable in which a material can be stored, handled, treated, transported, recycled or disposed of. DTSC 1176 (2/2022) REV

## 2.2 Materials of Construction

All waste must be stored in DOT (Department of Transportation) compliant containers and must be compatible with the containers. DOT compliant is based on United Nations (UN) standards. State the material of construction of the containers used and the UN standards for containers used.

## 2.3 Protection of Storage Devices Stored Outside

If the containers are stored outside, describe the measures taken to protect the containers that are subject to corrosion or deterioration from the weather (e.g. roofs, tarps, awnings, and elevation of containers above ground surface.

## 2.4 Management of Empty Storage Devices or Liners

State whether liners will be used in any containers holding hazardous waste. Explain how the empty containers or liners are or will be managed or disposed.

## 2.5 Secondary Containment for Container and Transfer Units

Owners or operators of facilities that transfer or store containers of hazardous waste must provide the information specified in 22 CCR Section 66270.15 as part of the application.

Include a description of the containment system including at least the following:

1. Basic design parameters, dimensions, and materials of construction

Describe each secondary containment area including materials of construction, dimensions, and berm height, impervious coatings, sloping and sumps.

2. How the design promotes drainage or how containers are kept from contact with standing liquids in the containment system.

Describe how the base is sloped or the containment system is otherwise designed to drain and remove liquids. State whether the containers are placed on the ground or on pallets. Include a diagram of the typical pallet configuration for the unit.

3. Capacity of the containment system relative to the number and volume of containers to be transferred or stored.

For each secondary containment system, describe the containment volume, total operating capacity of all tanks and containers, rainfall volume, and state whether the secondary containment system has sufficient capacity for the area's permitted and non-permitted operations.

4. Provisions for preventing and managing run-on.

For each secondary containment system, describe how the system is designed to prevent run-on or how it has sufficient capacity to contain any run-on.

5. How accumulated liquids can be analyzed and removed to prevent overflow. DTSC 1176 (2/2022) REV

Spilled or leaked waste and accumulated precipitation must be removed from the secondary containment system in a timely manner to prevent overflow of the containment system. If the collected material is a hazardous waste it must be managed as a hazardous waste in accordance with all applicable regulations.

## 2.6 Ignitable, Reactive, and Incompatible Wastes

Provide sketches, drawings, or data demonstrating that containers holding ignitable or reactive waste are located at least 15 meters (50 feet) from the facility's property line, and that containers holding a hazardous waste that is incompatible with any waste or other material transferred or stored nearby in other containers or open tanks are separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

Describe procedures used to ensure that incompatible wastes, or incompatible wastes and materials are not placed in the same container, or if placed in the same container, describe procedures used to comply with 22 CCR Section 66264.17 (b) and (c) "General Requirements for Ignitable, Reactive, or Incompatible Wastes".

## 2.8 Engineer Certification

Attach the assessment, prepared by an independent professional engineer, for each secondary containment system where liquid wastes are stored. The assessment must include a written statement in accordance with 22 CCR Section 66270.11(d), signed by an independent, qualified professional engineer, registered in California, that indicates that the containment system is suitably designed to achieve the requirements of 22 CCR Section 66264.175 attesting, specifically, that the containment system includes the following:

- A base underlying the containers which is fee of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed. Note that the Department does not consider concrete to be impervious unless coated or otherwise treated to be impervious.
- 2. The base is sloped, or the containment system otherwise designed and operated to drain and remove liquid resulting from leaks, spills, or precipitation, unless the containers are elevated or re otherwise protected from contact with accumulated liquids
- 3. Sufficient capacity to contain precipitation from at least a 24-hour, 25-year storm plus 10% of the aggregate volume of all containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination
- Prevention of run-on into the containments system unless the collection system has sufficient excess capacity in addition to that required above to contain any run—on which might enter the system
- Method of removal of any spilled or leaked waste and accumulated precipitation from the sump or collection area in as timely a manner as is necessary to prevent DTSC 1176 (2/2022) REV

overflow of the collection system.

## SECTION 3 INFORMATION REQUIREMENTS FOR TANK SYSTEMS<sup>3</sup>

Provide a description of design and operation procedures which demonstrate compliance with the requirements of 22 CCR Section 66264.191 "Assessment of Existing Tank System's Integrity" or Section 66264.192 "Design and Installation of New Tank Systems or Components", as applicable, and Section 66264.194 "General Operating Requirements", Section 66264.198 "Special Requirements for Ignitable or Reactive Wastes", Section 66264.199 "Special Requirements for Incompatible Wastes", and Section 66270.16 "Specific Part B Information Requirements for Tank Systems".

## 3.1 Tank Assessment

If your facility has an existing<sup>4</sup> tank system(s), you must submit, with the application a tank assessment that meets the requirements of 22 CCR Section 66264.191.

If your facility has a new<sup>5</sup> tank systems or component(s), you must obtain and submit, with the application, a tank assessment that meets the requirements of 22 CCR Section 66264.192.

Both existing and new tank assessment must include a written statement, signed by an independent, qualified professional engineer, registered in California, in accordance with 22 CCR Section 66270.11(d), attesting that the tanks and containment system are suitably designed to achieve the requirements of 22 CCR Division 4.5 Article 10. [Note that, in addition to the specific language required in 22 CCR Section 66270.11(d), the tank assessment must also include a statement attesting that "the tank system has sufficient structural integrity and is acceptable for the transferring, storing and treating of hazardous waste and that the tanks and containment system are suitably design to achieve the requirement of 22 CCR Division 4.5 Article 10".] If the tank and containment system assessment is done by more than one engineer, each must certify the portion for which they are responsible.

<sup>&</sup>lt;sup>3</sup> "Tank" means a stationary device, designed to contain an accumulation of hazardous waste which is constructed primarily of nonearthen materials (e.g., wood, concrete, steel, plastic) which provide structural support. "Tank system" means a hazardous waste transfer, storage or treatment tank and its associated ancillary equipment and containment system.

<sup>&</sup>lt;sup>4</sup> Existing tank system means a tank system that is used for the transfer, storage or treatment of hazardous waste and that is in operation, or for which installation has commenced on or before July 1, 1991 for tanks containing non-RCRA hazardous waste.

<sup>&</sup>lt;sup>5</sup> New tank system means a tank system that will be used for the transfer, storage or treatment of hazardous waste and for which installation has commenced after July 1, 1991. DTSC 1176 (2/2022) REV

The assessment must be done in accordance with the current building code, ASCE-7, and applicable standards for the particular tank material and configuration and include and assessment of applicable loading conditions (wind, seismic, rain, snow).

Design considerations listed above must be included in all tank assessments, including permit renewals, even if design information was submitted for earlier permits. Any circumstances that have changed must be addressed, including changes in saturated zone, faults zones, and earthquake forces.

The calculations required to demonstrate that the tank and foundation will withstand seismic and other loading conditions must be submitted with the assessment and must be repeated for each permit renewal application.

For the engineer's assessment to be deemed complete for evaluation by DTSC, it must include the engineer's calculations, assumptions, referenced sources for values used in calculations, and referenced standards for the particular tank system.

## 3.2 Dimensions, Capacity, and Shell Thickness of Each Tank

Describe the dimensions, capacity, and shell thickness of each tank here or in a table (22 CCR Section 66270.16(b)).

## 3.3 Description of Feed Systems, Safety Cutoff, Bypass Systems, and

## Pressure Controls

Describe feed systems, safety cutoff, bypass systems, and pressure controls (e.g., vents) as applicable (22 CCR Section 66270.16(c)).

## 3.4 Diagram of Piping, Instrumentation, and Process Flow for Each Tank System

Include piping diagrams, instrumentation (P & ID), and process flow diagrams for each tank system (22 CCR Section 66270.16(d)).

## 3.5 Description of Materials and Equipment Used to Provide External Corrosion Protection

Describe the materials and equipment used to provide external corrosion protection for tank systems or components in which the external shell of a metal tank or any external metal component of the tank system will be in contact with the soil or with water, if applicable, as required in 22 CCR Section 66264.192(b)(3) (22 CCR Section 66270.16(e)).

## 3.6 Detailed Description of How the Tank System(s) will be Installed

For new tank systems, if applicable, describe how the tank system(s) will be installed in compliance with 22 CCR Section 66264.192(c), (d), (e), and (f) (22 CCR Section 66270.16(f)).

## 3.7 Secondary Containment for Tanks

Provide detailed plans and description of how the secondary containment system for each tank system is or will be designed, constructed, and operated to meet the

requirements of 22CCR Section 66264.193(a), (b), (c), (d), (e), (f), and (j) (22 CCR Section 66270.16(g)).

- 1. Describe the secondary containment material of construction and coating materials.
- 2. Describe the conclusions of the secondary containment assessment and refer to results of the assessment.
- 3. Describe the secondary containment leak detection system (Note that flat bottom tanks on a slab foundation must be designed with a leak detection system that allows detection of leaks from the bottom of the tank such as provided in API 650.)
- 4. For each secondary containment system, describe how the containment system is sloped, describe how liquids are collected and removed.
- 5. For each secondary containment system, describe whether it is a liner, a vault, a double-walled tank, or other.
- 6. For each secondary containment area, describe the basis for the capacity required (e.g., "The secondary containment volume for the Tank Farm A was based on 10% of the total tank volume, plus the volume of rainfall from a 24-hour, 50-year rainstorm.") Describe the dimensions, area, total capacity, and materials of construction of the secondary containment. State whether the secondary containment has adequate capacity (e.g., "The largest tank is 39,380 gallons, the largest operating capacity is 47,488 gallons (10% of the total tank capacity), and the required rainfall event is 6-inches (44,150 gallons); therefore, the secondary containment system has sufficient capacity for Tank Farm A's storage and transfer operations."). If the tanks are located indoors, rainfall is not a consideration; however, any fire sprinkler volume required by the local fire department shall be included in the secondary containment calculations.
- 7. For each secondary containment system, describe how the containments system is designed to prevent run-on.
- 8. For each secondary containment system, describe how the external liner system is designed and installed to be free of cracks or gaps, surround the tank completely and cover all surrounding earth.
- 9. For each vault system, verify that chemical-resistant water stops are in place at all joints.
- 10. For each vault system, describe the impermeable interior coating.
- 11. For each vault system, describe the exterior moisture barrier.
- 12. For each double-walled tank, describe the materials and method of construction, the method of corrosion protections, and describe the leak detection system.
- 13. Submit the secondary containment assessment prepared by an independent, qualified professional engineer registered in the State of California and certified in

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accordance with California Code of Regulations, title 22, Section 66270.11(d) with the application. To be deemed complete for evaluation by DTSC, the engineer's assessment must include 24-hour, 50-year precipitation calculations and assumptions and secondary containment volume calculations with supporting scaled drawings.

## SECTION 5 TRUCK TO TRUCK TRANSFER<sup>6</sup>

A transfer unit in which "handling" occurs, except the transfer of packaged or containerized hazardous waste from one vehicle to another, is defined as a storage unit (Health and Safety Code Section 25123.3) and must be a permitted storage unit. For hazardous waste management unit in which transfers of hazardous waste from one container to another container will be conducted (e.g., truck-to-truck or container to transfer), provide the following information:

- Provide a narrative of the physical description of the unit and the activity (e.g., loading/unloading area). Describe the dimensions of the loading/unloading area including the drive-over berm height.
- 2. State the sizes of the containers involved in the transfer operation. Note that DTSC assumes all containers are full in calculating the maximum permitted capacity of the unit (e.g., transfer unit involves transfer waste from one 7,000-gallon tanker trailer to another 7,000-gallon tanker trailer, the maximum permitted capacity will be 14,000 gallons).
- 3. Describe any devices used to capture spill or drips when the hoses are decoupled from the tanker truck or tanker trailer.
- 4. Provide the secondary containment description and engineering certification for the truckto-truck transfer unit or include this unit in the information provided in Sections 4.3 and 4.4.

<sup>&</sup>lt;sup>6</sup> Transfer that involves handling (transporting or transferring from one place to another, or pumping, processing, storing or packaging) other than packaged or containerized waste from one vehicle to another, must be conducted into or within a permitted storage unit. DTSC 1176 (2/2022) REV

## SECTION 6 LOADING/UNLOADING AREA<sup>7</sup>

A hazardous waste facility that has a hazardous waste facility permit may conduct bulk, packaged, or containerized hazardous waste loading and unloading operations in accordance with Health and Safety Code Section 25200.19. Loading and unloading operations operating in accordance with this section must meet all the following requirements:

- 1. The hazardous waste must not be held longer than 10 days outside of an authorized unit at the facility
- 2. The hazardous waste must be moved directly between the authorized unit and the transport vehicle and must not be held for any time off the transport vehicle outside of the authorized unit except for the incidental period necessary to move the waste from the transport vehicle to the authorized unit or from the authorized unit to the transport vehicle.
- 3. All loading and unloading operations must be conducted within the boundary of the facility.
- 4. There must be adequate capacity within an authorized unit at the hazardous waste facility for all hazardous waste being loaded or unloaded.
- 5. Hazardous waste may not be held on any transport vehicle which, if unloaded, would exceed the permitted capacity of the originating or receiving unit at the facility, unless the waste is held on the transport vehicle as part of an authorized transfer operation (transporters storing manifested shipments of hazardous waste in containers at a transfer facility, and transfer facilities storing manifested shipments of hazardous waste in containers, for six days or less, or 10 days or lets for transfer facilities in areas zoned industrial 22 CCR Section 66270.1(c)(2)(C).
- 6. The loading or unloading of bulk hazardous waste shall be conducted within the facility with a containment device or other system capable of collecting and containing leaks and spills that may be reasonably anticipated to occur during loading and unloading operation until the leaked or spilled material is removed.

For loading/unloading area operating in accordance with Health and Safety Code Section 25200.19, describe the size of the loading/unloading area and any secondary containment system needed to contain any spills and leaks.

<sup>&</sup>lt;sup>7</sup> A loading/unloading area operating in accordance with Health and Safety Code Section 25200.19, which is not proposed to be a permitted unit. DTSC 1176 (2/2022) REV

## PART 5 REFERENCES

ASTM. 2018. Standard E1093-11: Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process. March 2018.

CalEPA. 2015. Advisory - Active Soil Gas Investigations. July 2015.

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DTSC. 2012. Guidelines for Planning and Implementing Groundwater Characterization of Contaminated Sites. June 2012.

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. Revised October 2015.

DTSC. 2018. *Human Health Risk Assessment Note 3 – DTSC-Modified Screening Levels*. Updated January 2018.

State Water Resources Control Board (SWRCB). 2015. *Leaking Underground Fuel Tank Guidance Manual.* Revised December 2015.

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United States Environmental Protection Agency (US EPA). 1991. *Compendium of ERT Waste Sampling Procedures*. OSWER Directive 9360.4-07. EPA/540/P-91/008. January 1991.

US EPA. 2011. Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs). May 2011.

US EPA. 2015. A Guidance Manual: Waste Analysis at Facilities that Generate, Treat, Store, and Dispose of Hazardous Wastes. EPA 530-R-12-001. April 2015,

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US EPA. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846,

U. S. EPA guidance document, "Compendium of Waste Sampling Procedures", EPA/540/P-91/008.