



DEPARTMENT OF ENVIRONMENTAL RESOURCES
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GUIDELINES FOR INSTALLATION OF UNDERGROUND STORAGE TANKS

A. GENERAL INFORMATION

These guidelines are applicable to the installation of hazardous materials Underground Storage Tank systems in Stanislaus County. The guidelines serve as a supplement to other requirements and/or guidelines (e.g., California Fire Code, California Underground Storage Tank Regulations, manufacturer's guidelines, etc.). These guidelines are for the Department of Environmental Resources; please contact the building and fire departments in the area of installation for their requirements.

1. Two sets of plans, State tank and facility forms, along with completed tank monitoring and designated operator forms and the UST application and permit form will need to be submitted (see "Underground Storage Tank Application and Permit"). The permit will need to be signed by both the building and fire departments for the area of installation before submitting to the Department of Environmental Resources. the building and fire departments for the area of installation before submitting to the Department of Environmental Resources.
2. Contractors shall submit, or have on file with the Department of Environmental Resources, information verifying they possess a current State Contractor's License (A, B, C-36, C-61D-40), Workmen's Compensation Insurance, and Certification by ICC.
3. Underground Service Alert should be contacted at 800-642-2444 prior to the start of excavation.
4. The contractor shall be responsible for ensuring that conditions at the site provide for workplace safety, protection of the environment, and maintenance and integrity of nearby structures.
5. Under no circumstances shall any regulated material be placed into underground storage tank systems without approval of this department.

6. All tanks, piping and equipment shall be installed and tested in accordance with the manufacturer's recommendations/guidelines and the California Underground Storage Tank Regulations.
7. New or revised Hazardous Materials Business Plan if appropriate.
8. The Underground Storage Tank Permit is good for 6 months from the plan submittal.

B. INSPECTIONS

Appointments for construction inspections must be made a minimum of 48 hours in advance. Call the Hazardous Materials inspector for your area at 209-525-6700 to schedule an inspection.

1. **FIRST INSPECTION – TANK TEST**
 - a. Record and verify the U.L. number of the tanks, annular vacuum on each tank, tank sizes, view holiday test (if required), fiber liner and backfill material.
 - b. Bedding and backfill material for all tanks and pipelines is limited to clean, washed sand or pea gravel with a minimum bed depth of 12".
 - c. Witness tanks being set into the excavation.
 - d. Tanks properly sloped toward the annular space.
2. **SECOND INSPECTION – PRIMARY SYSTEM TEST (Pressure gauges must be in good working order and calibrated to the appropriate scale.)**
 - a. Check the pressure of all primary piping for 30 minutes or as indicated by the manufacturer. A passing test is achieved with zero pressure loss. Gauges confirmed to zero by depressurizing lines after test.
 1. 5 PSI for vent/vapor recovery systems
 2. 150 percent of operating pressure (or 50 PSI) for pressure
 3. Check the slope of the piping
 - b. Witness the soaping of all piping, joints, and fittings.
 - c. Verify the water test at all sumps. A passing test is recorded as zero liquid loss for one hour, with all seams and penetrations exposed for viewing.
3. **THIRD INSPECTION – SECONDARY SYSTEM TEST**
 - a. Check all secondary piping. A passing test is achieved with zero pressure loss.
 1. 5 PSI for a minimum of 30 minutes
 - b. Witness the fiberglass coating of any tank top bung/bung cap openings, if not contained in a sump.
 - c. Lake test sumps and overfill containment.

- d. Witness the fiberglass coating of any tank top bung/bung cap openings, if not contained in a sump.
4. FOURTH INSPECTION – FINAL
- a. Witness the operation of all equipment for the leak monitoring system as installed.
 - b. Witness ball float/flapper valve proper installation or overflow prevention alarm operation.
 - c. Witness the emergency shut-off switch operation.
 - d. Witness the line leak detector and dispenser sump operation and positive shut down.
 - e. Witness proper operation of overflow buckets.
 - f. Verify the precision test is complete.

OPERATION OF ANY UNDERGROUND STORAGE TANK WITHOUT HAVING COMPLETED ALL CONSTRUCTION INSPECTIONS AND WITHOUT HAVING AN OPERATING PERMIT IS A VIOLATION OF CALIFORNIA HEALTH AND SAFETY CODE, DIVISION 20, CHAPTER 6.7, SECTION 25299.

STANISLAUS COUNTY
 DEPARTMENT OF ENVIRONMENTAL RESOURCES
 HAZARDOUS MATERIALS DIVISION
 NEW UNDERGROUND STORAGE TANKS
 PLAN CHECK SHEET

DEFICIENCIES WILL REQUIRE AMENDMENT OR ADDENDUMS TO THE ORIGINAL PLANS.

General construction standards and information required for new underground storage tank installations:

Inspector: _____ Date: _____

<u>NA</u>	<u>OK</u>	<u>DEFICIENT</u>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1. Name and address of the facility
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2. Name and address of the contractor(s). Include the telephone number for each.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3. Two (2) complete sets of plans; one set to be retained by this office. Specification sheets, equipment brochures, monitoring and response plan
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4. Plans to scale in non-erasable blueprint
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5. Location, size, and number of tanks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6. Secondary containment provided throughout
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7. Primary and secondary containment are product tight
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8. Tank construction <ul style="list-style-type: none"> <input type="checkbox"/> Striker plates under <u>all</u> accessible openings <ul style="list-style-type: none"> <input type="checkbox"/> Double-wall fiberglass <input type="checkbox"/> Double-wall steel w/fiberglass clad (Holiday test required) <input type="checkbox"/> Double-wall steel primary, fiberglass secondary
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9. Detail of monitoring equipment as installed
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10. Pipeline system <ul style="list-style-type: none"> <input type="checkbox"/> Pressure <input type="checkbox"/> Suction <input type="checkbox"/> Gravity
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11. Continuous monitoring system <ul style="list-style-type: none"> <input type="checkbox"/> Vapor <input type="checkbox"/> Pressure <input type="checkbox"/> Liquid

NA OK DEFICIENT

12. Leak monitoring system
- Console manufacturer _____
 - Model # _____
 - Sensors installed in:
 - Tank annular
 - Manufacturer _____
 - Model # _____
 - Tank turbine sump
 - Manufacturer _____
 - Model # _____
 - Tank fill sumps
 - Manufacturer _____
 - Model # _____
 - Dispenser sumps
 - Manufacturer _____
 - Model # _____

 13. Volume and contents to be stored in each tank listed on blue prints

 14. Detail of tank – cross sectional, excavation and cover

 15. Double-walled tank and system allow for monitoring of the annular space

 A. Releases from primary containers designed to drain to a specific location within the annular space to be detected by a monitoring device or method

- Type of detectors:
 - Brand name _____
 - Model number _____
 - Sensor type
 - Vapor
 - Liquid
 - Manufacturer's written installation instructions

 16. Precision testing company _____

NOTE: PASSING ENHANCED LEAK DETECTION TEST (OR EQUIVALENT TEST) IS REQUIRED PRIOR TO THE SYSTEM BEING PLACED IN USE.

NA OK DEFICIENT

- | | | | |
|--------------------------|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 17. Tanks subject to flotation |
| | | <input type="checkbox"/> | A. Buoyancy calculations provided |
| | | <input type="checkbox"/> | B. Anchored by Deadman or slab |
| | | <input type="checkbox"/> | C. Anchors to be installed as specified by manufacturer |
| | | <input type="checkbox"/> | D. Installation detail provided on plans |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 18. Fiber liners between tank (s) and excavation to prevent infiltration of native soil into backfill material |
| | <input type="checkbox"/> | <input type="checkbox"/> | 19. Manufacturer's written installation instructions. Include all piping, monitors, tanks, etc. (NOTE: NFPA 30 TEST or equivalent is required on BOTH the primary and secondary containment systems.) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 20. Detail of fill sumps, dispenser, piping and tank sumps |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 21. Overfill Protection System |
| | | <input type="checkbox"/> | A. Fill sump |
| | | <input type="checkbox"/> | <input type="checkbox"/> Minimum 19 liters with diverter |
| | | <input type="checkbox"/> | B. Other (code section _____) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 22. Overfill Prevention |
| | | <input type="checkbox"/> | Ball float |
| | | <input type="checkbox"/> | <input type="checkbox"/> Manufacturer _____ |
| | | <input type="checkbox"/> | <input type="checkbox"/> Model # _____ |
| | | <input type="checkbox"/> | Flapper valve |
| | | <input type="checkbox"/> | <input type="checkbox"/> Manufacturer _____ |
| | | <input type="checkbox"/> | <input type="checkbox"/> Model # _____ |
| | | <input type="checkbox"/> | Electronic |
| | | <input type="checkbox"/> | <input type="checkbox"/> Manufacturer _____ |
| | | <input type="checkbox"/> | <input type="checkbox"/> Model # _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 23. Detail of piping – cross section of termination (s) at dispenser and piping sump (s), excavation and cover |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 24. Pipeline leak detector |
| | | <input type="checkbox"/> | <input type="checkbox"/> Manufacturer _____ |
| | | <input type="checkbox"/> | <input type="checkbox"/> Model # _____ |
| | | <input type="checkbox"/> | A. Mechanical |
| | | <input type="checkbox"/> | B. Electronic |

<u>NA</u>	<u>OK</u>	<u>DEFICIENT</u>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25. Piping construction: Product lines (Manufacturer _____) <input type="checkbox"/> A. Double-wall fiberglass <input type="checkbox"/> B. Double-wall flex pipe
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	26. Piping construction: Vent & vapor lines: (Manufacturer _____) <input type="checkbox"/> A. Double-wall fiberglass <input type="checkbox"/> B. Double-wall flex pipe
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	27. Secondary container floor <input type="checkbox"/> A. Constructed on firm base <input type="checkbox"/> B. Sloped to collection sump
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	28. Penetration sealant (manufacturer _____)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	29. All manways and access points designed to prevent entry of surface waters
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30. Remote emergency shut-off device installed within 100 feet of furthest dispensing unit
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	31. Secondary container other than double-walled tanks (includes sumps and detection systems) <input type="checkbox"/> A. Secondary container capable of precluding high groundwater. <input type="checkbox"/> B. Secondary container sloped to a monitoring sump from which leakage or precipitation can be detected and removed <input type="checkbox"/> C. Water tight cover that extends at least one foot beyond each boundary of the original excavation for primary tanks installed completely below grade
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	32. Any special accessories, fittings, coatings, or linings not inherent within the initial design of the primary container or double-walled underground storage tank <input type="checkbox"/> A. Approved by a nationally recognized independent testing organization, or <input type="checkbox"/> B. Demonstration of integrity with the primary container or double-walled underground storage tank

Fee schedule

PROPOSED WORK

New Tank Installations

(includes 7 hour plan review & 10 hour on-site inspections)

FEE

WLR (17 hours min)

Tank Upgrades

(includes 5 hours of staff time)

WLR (5 hours min)

Tank Closure

(includes 6 hours of staff time)

WLR (6 hours min)

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