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ENVIRONMENTAL HEALTH DIVISION
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UST Installation and Modification Check-List

This list is not intended to be all-inclusive; it is meant to act as a guide.
Installation must be per approved methods as describe in (CCR, Title 23, Division 3, Chapter 16 Underground Storage Tank Regulations and California H&S Code Chapter 6.7)

	1.	**Application** – Complete and submit UST permit application and UST installation application and pay the appropriate fees. Any additional time required by staff will be billed per Madera County Environmental Health Division (MCEHD) hourly rate.
	2.	**UST Plan** – Submit two (2) set of plans. The plans should be scaled drawings of the completed tank system layout including the location of tanks, product piping, monitoring system, property lines, distance from buildings, distance from the street, vapor return piping, vent piping, all sumps including transition and vent, location of all monitoring sensors and equipment.
	3.	**VPH System** – Provide a detailed diagram that identifies all vacuum, pressure or hydrostatically monitored zones. Include vacuum volume for each vacuum monitored zone.
	4.	**Site Map** – For Modification/Repair ONLY. Provide a site map with the location of the tanks, dispensers and equipment upgrade/repair
	5.	**Site Safety Plan** - Provide a copy to MCEHD CUPA and a copy available on-site prior to the start of any work.
	6.	**Contractor's License -** Provide copy of contractor's license with proper certification.
	7.	**Contractor's Permit Application** – Complete and submit licensed contractor(s) application.
	8.	**Compatibility for New UST Installations:** UST components shall be compatible with substance to be stored. Complete and submit the Compatibility for New UST Installations Form and provide documents demostrating compatibility as part of the UST application. ❑ **Alternative Fuel** (B20, B100, E85): Complete and submit the UST System Affirmative Statement of Compatibility Form.
	9.	**Manufacturers Installation Certifications -** Provide copies of certifications from manufacturers that install contractors are trained and certified to install their equipment (USTs, piping, sumps, under dispenser containment, and monitoring systems). Install contractors must be re-certified as required by the equipment manufacturers or every 3 years.
	10.	**Certified CA UST System INSTALLER -** Effective January 1, 2005, all UST installers must be certified by the International Code Council (ICC) by passing the "UST Installation/Retrofitting" exam. The certification is required to be re-certified every 24 months.
	11.	**Certified CA UST System SERVICE TECHNICIANS -** Effective July 1, 2005, all UST service technicians must be certified by the International Code Council (ICC) by passing the "California UST Service Technician" exam. The certification is required to be re-certified every 24 months.
	12.	**Equipment Specifications -**Provide documentation that the equipment is approved by an independent testing organization (e.g., UL Listing, etc.) for its particular use including tanks, piping, pumps, overfill prevention system, over spill containment system, foot valves, swiveling fill pipe adapters, swiveling vapor return pipe adapter, monitoring systems, leak sensors, tank gauges, and other devices. UST tanks and piping must bear appropriate markings. Monitoring equipment must be listed in the CA State Water Resources Control Board LG-113.

	13.	**Fiberglass Pipe Adhesive** - Smith fiberglass piping 8,000-Series adhesive and Ameron fiberglass piping B-90 adhesive is alcohol compatible.
	14.	**Sump and Under Dispenser Containment (UDC) Penetration Sealants** ❑ Use sealants provided by the manufacturer for the equipment. ❑ All sump and UDC penetration pipe boots and sealants must be compatible with the hazardous substances being conveyed in the piping in case of a leak. ❑ Bostick is no longer approved as a sump penetration sealant sump containing piping conveying flammable or combustible liquids.
	15.	**Corrosion Protection -** USTs and underground piping shall be properly designed, installed and maintained, and protected from corrosion by cathodic protection and/or corrosion-resistant materials.
	16.	**UST Slope -** All USTs shall be sloped in accordance with manufacturer requirements.
	17.	**UST (Tank) Monitoring** ❑ Double-walled tank with continuous monitoring using continuous vacuum, pressure, or hydrostatic brine monitoring of the double-wall annular space; AND ❑ Any leak shall initiate an audible and visual alarm that can immediately be detected by the UST operator; AND ❑ Secondary containment testing is required upon installation
	18.	**UST Piping Monitoring -** If a new UST tank is installed, then all including product, vent, and vapor recovery UST piping shall be double-walled with continuous monitoring of the secondary containment using continuous vacuum, pressure, or hydrostatic brine monitoring of the double-wall annular space as follows: ❑ Any leak shall initiate an audible and visual alarm that can immediately be detected by the UST operator.
	19.	**UST Sump Monitoring for Piping, Riser, and Manways** If a new UST tank is installed, then the UST sumps shall be continuously monitored by one of the following methods: ❑ Single-walled sump with single walled piping inside sumps (e.g., flex piping, fill piping, all riser piping, etc.). The interior sump space shall be continuously monitored for pipe joint leaks by using continuous vacuum or pressure; OR ❑ Single-walled sump with continuously monitored double-walled piping inside sumps using continuous vacuum, pressure, or hydrostatic brine monitoring of the double-walled piping (e.g., NO single-walled flex connections, fill piping, or riser piping); OR ❑ Double-walled sump continuously monitored by using continuous vacuum, pressure, or hydrostatic brine monitoring of the double-wall. Inside sump piping can be single walled (e.g., flex piping, fill piping, all riser piping, etc.). The internal sump space must have continuous liquid leak sensors for any piping joint leaks. ALSO: ❑ Continuously monitored sumps must be installed on all UST riser piping and manways (e.g., fill pipes, tank openings, automatic tank gauging, etc.); with water-tight lids.
	20.	**UST Under Dispenser Containment (UDC) Monitoring -** If a new UST tank is installed, then the UDC shall be continuously monitored by one of the following methods: ❑ Single-walled UDC with continuously monitored double-walled piping inside UDC using continuous vacuum, pressure, or hydrostatic brine monitoring of the double-walled piping (no single-walled flex connections). The double-walled piping must extend all the way to the emergency shutoff impact valve (shear valve). ❑ Double-walled UDC continuously monitored by using continuous vacuum, pressure, or hydrostatic brine monitoring of the double-wall. Inside UDC piping can be single walled (e.g., flex piping, etc.). The internal UDC space must have a continuous liquid leak sensor for any piping joint leaks, fuel filter, or other leaks within the UDC as follows: ➢ Liquid float sensor with audible and visual alarm display and positive shut down; OR ➢ Mechanical float connected to emergency shutoff impact valve (shear valve). ➢ Any leak shall initiate an audible and visual alarm that can immediately be detected by the UST operator, except mechanical float shut off.
	21.	**Automatic Line Leak Detectors (LLDs) for Pressurized Piping**

		ALL pressurized piping must have automatic LLDs. Must, at a minimum, detect release within 1 hour equivalent to 3.0 gph at 10 psi, with ≥95% probability of detection and ≤5% probability of false alarm. ❑ Must be able to respond to simulated 3.0 gph leak; AND ❑ Must be able to restrict liquid flow, or shut down pump, if it detects a leak.
	22.	**Piping** – All piping shall be installed in accordance with manufacturer's requirements.
	23.	**Piping Slopes** - Product, fill, vent, and vapor piping shall be sloped toward the UST with minimum 1/8-inch slope per 1 foot of run.
	24.	**Fill Pipe and Vapor Return Pipes** – Must be CARB approved equipment.
	25.	**Spill Prevention Containers -** Each UST fill pipe opening must be equipped with spill prevention container for hose disconnect leakage with minimum 5 gallon capacity.
	26.	**Overfill Prevention Equipment -** Approved overfill prevention device provided at each tank fill location. Choose One of the following methods: ❑ Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible visual alarm. ❑ Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent capacity; and activate an audible alarm at least five minutes before the tank overfills ❑ Provide positive shut-off flow to the tank when the tank is filled to no more than 95 percent of capacity. ❑ Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. ➢ All new UST systems must comply with the new federal UST and California UST overfill requirements. • The flow restrictors in vent lines may not be used to comply with overfill prevention requirements when overfill prevention is installed or replaced. • By October 13, 2018 overfill prevention equipment must be tested or inspected at least every 3 years to ensure that overfill prevention equipment is set to activate at the correct level and activate when the substance stored reaches that level. (40 CFR 280.0(c)(4) & 280.35(a)(2). (flapper and ball float).
	27.	**UST Inspections -** At least **48 hours (**working days) prior notice of an inspection is required.
	28.	**UST Pre-Installation Testing -** Prior to being placed in the excavation, all steel clad or fiberglass wrapped steel USTs will be holiday tested with 35,000 volts.
	29.	**UST Enhanced Leak Detection (ELD) Testing -** Effective July 1, 2003, if a new UST tank is installed, then after it is backfilled and the concrete is poured and prior to being put into service, the new UST system must be tested with Enhanced Leak Detection (ELD). ❑ Submit ELD company information and workplan with installation application. ❑ UST secondary containment system must be tested separately using hydrostatic, pressure, or vacuum methods.
	30.	**UST Leak Testing -** After installation, but prior to back filling, pneumatically test primary and secondary tanks according to manufacturer's specification. ❑ If not specified, test at 3- 5 psig for 30 minutes or perform a vacuum test for 30 minutes by soap testing all tank connections at the beginning and ending of the test time period. ❑ For fiberglass USTs, do not pressure test secondary containment tank directly. The primary tank should be pressurized first and then gradually vent/bleed the air into the secondary containment tank.
	31.	**Pipe Leak Testing** ❑ After installation, but prior to backfilling, shall be hydrostatically tested to 150 percent of the maximum anticipated of the system, or pneumatically tested to 110 percent of the maximum anticipated pressure of the system, but not less than 5 psig, for a minimum of 30 minutes.

	32.	**Sump Leak Testing**
	33.	**Spill Bucket Leak Testing**
	34.	**UST Monitoring System Testing** ❑ After installation, but prior to being put in service, demonstrate the operation of the UST Monitoring System and high-level alarm system. ❑ The system must be within sight and hearing distance of on-site personnel 24-hours each day or remotely monitored. ❑ The system must be hard-wired to a dedicated circuit.
	35.	**UST Dispenser Emergency Shut-Off Testing -** After installation, demonstrate the operation of the emergency shut-off of the dispenser.
	36.	**Leak Sensor Location** – Must be positioned at the bottom of the lowest secondary containment point and accessible for inspection and testing.
	37.	**Concrete Cover -** Concrete around man ways and openings must slope at least 1 inch/foot of run for proper storm water drainage.
	38.	**Bedding and Backfill –** Sand or Peagravel according to manufacturer's specification.
	39.	**As-Builts** ❑ Submit copy of "AS BUILT" plans and drawings that accurately show final locations of all USTs, piping, dispensers, and any changes of materials and equipment used in the final construction; AND ❑ Submit manufacturer tank and piping checklists; AND ❑ Submit field tank and piping integrity testing results.
	40.	**Owner/Operator shall submit the following electronically to the California Environmental Reporting System (CERS) prior to operation:** **Hazardous Materials Business Plan**: ❑ Facility Information (Business Activities and Business Owner/operator identification) ❑ Hazardous Materials Inventory (Inventory and Site Map) ❑ Emergency Response and Training Plans **UST Monitoring and Response Plan:** ❑ UST Facility Operating Permit Application ❑ UST Tank Information/Monitoring Plan for each tank ❑ UST Monitoring Site Plan ❑ UST Certification of Financial Responsibility ❑ UST Response Plan ❑ UST Owner/Operator: Written Agreement ❑ UST Letter from Chief Financial Officer ❑ Owner Statement of Designated UST Operator Compliance
	41.	**Certification of Installation/modification (formerly UST Forms C)** –Submit one form upon completion of installation or upgrade of tanks and/or piping associated with a UST system on CERS
	42.	**Other permit/approval** - Obtain all required permits and approvals from other jurisdictions that include, but not limited to the local Fire/Building/Planning divisions and San Joaquin Valley Air Pollution Control District, if applicable.
	43.	**All CUPA fees paid** – Annual operating permit fees.