



# Phase II Enhanced Vapor Recovery (EVR) and In-Station Diagnostics (ISD) Installation Submittal Requirements

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## **BACKGROUND**

In March 2000 the California State Air Resources Board (CARB) created the Enhanced Vapor Recovery (EVR) program to address cumulative air quality impacts related to gasoline dispensing facilities. Phase I of the program was successfully completed by April 2005. Phase II requires the installation of Enhanced Vapor Recovery (EVR) and In Station Diagnostics (ISD) systems. The deadline for installation of the EVR system is **April 1, 2009**. Detailed information on the this program can be found at the Air Resources Board vapor recovery web site at <http://www.arb.ca.gov/vapor/vapor.htm> or by contacting the ARB Engineering and Certification Branch at (916) 327-0900.

## **PERMIT REQUIREMENTS**

The installation of the EVR and ISD systems will require the issuance of a building permit and fire permit. The building permit will require review and approval by the Planning Division, Fire Department and Building Division. Under most cases, the review period will range from 8 to 12 weeks.

Note: All installations shall meet the State approved installations instructions for the Healy Systems Incorporated Clean Air Separator and the State approved In-Station-Diagnostic installation instructions.

## **SUBMITTAL REQUIREMENTS**

***Submit six (6) sets of plans to the Planning Counter with the following:***

### **A. Cover page (may be combined with Site Plan):**

- Vicinity map
- Scope of work
  - Shall be written on the main cover page under the heading "Scope of Work".
  - Shall be complete as to the work being done.
  - Shall include any installation, modification or removal of any component in the UST system.
- Legend
  - Shall contain a description of any symbols or abbreviations being used.
- Product Equipment list.
  - Shall be complete and of a matrix style that includes the Make/Model #/ Size/ and quantity of the components being utilized. Include any auxiliary parts such as clam shells, nipples, etc.
  - In the case of piping additions or replacements, "quantity" shall equal feet of piping uses.
  - Contractors may be required to provide cut-sheets showing listing agency.
- Certifications Required
  - Proof of ICC EVR certification – Vapor Recovery System Installation and Repair.
  - Proof of AQMD EVR application for permit.
  - Proof of Healy and other manufacturer certifications.
  - All required Executive Orders certifications.

## **B. Site Plan:**

- Plans shall be to scale and show the complete site.
- Site plan shall show all tanks, vent risers, dispensers, structures, enclosures, property lines, street names, landscaping, main electrical panels, leak detection enunciators, UST alarm panel locations, emergency shut-offs and fire extinguishers, as well as all existing parking spaces, planter areas and driveways.
- Location and materials of proposed equipment screening intended to shield tank/EVR and equipment from view of the public right of way shall be reflected on plans.
- Complete landscape and irrigation plan for new/proposed landscaped areas shall be provided.
- The site plan must identify the tank/EVR foundation location.

## **C. Elevations:**

- Provide full elevations for all equipment enclosures. When incorporated to an existing building, provide complete elevation depicting the building and the enclosure.
- Note on plans the dimensions, colors and materials of enclosure.

## **D. Structural Details:**

- Foundation plan and detail with call out on reinforcement and concrete strength.
- Tank size and weight.
- Connection detail from tank to foundation.
- Two (2) sets of calculations from licensed engineer/architect for tank foundation.
- Engineer or architect to sign and stamp plan and calculation.

## **E. Photographs:**

- Photographs of all existing structures on site and the proposed location of the EVR system.

## **DEVELOPMENT STANDARDS**

In order to minimize the visual impact of EVR systems the following minimum development standards shall apply. Due to the site specific nature of this equipment, additional standards or requirements may be necessary, please contact the City of Santa Ana Planning Counter for further details.

### For new construction or renovation:

Prior to the approval of any newly constructed or renovated service stations which involve the repair or replacement of underground storage tanks (UST's), the Planning Division shall verify that the underground storage tank vent pipes have been located in the rear of the property, adjacent to either the trash enclosure or other structures on site. The EVR system shall be fully enclosed by a decorative solid block wall and painted to match the existing buildings. Access doors for the maintenance or replacement of the equipment shall not face the public street.

### For existing service stations:

For all existing services stations, EVR systems shall be installed adjacent to the existing underground storage tank vents with the following conditions:

- A. When the UST vents are located adjacent to an existing structure on site, the equipment enclosure shall use appropriate materials and colors to match the existing structure.
- B. When UST vents are NOT located adjacent to an existing structure on site, the EVR equipment shall be fully screened by a decorative solid block wall not less than the height of the equipment or ten (10) feet and appropriately landscaped to reduce the visual impact of the equipment. Examples of appropriate landscaping include: creeping vines, hedges and trees.

In all cases, equipment enclosures shall not be located in such a way that they obstruct on site circulation or block existing parking spaces. Equipment enclosures shall be of the smallest dimension possible to house the equipment and allow for necessary maintenance and replacement.

#### **Procedure for Clean Air Separator Installation:**

- Vapor processing systems shall be located a minimum of 10-feet from adjacent property lines, from any important buildings on the same property, and from a public way.
- Vapor processing systems shall be located a minimum of 20-feet away from fueling dispensers.
- Vapor processing systems shall be located a minimum of 15-feet from combustible materials storage areas.
- Vapor processing systems shall not be located under canopies, overhangs or other areas where vapors may become trapped.
- Any manifolding of vent piping from the risers to the Healy tank shall be a minimum of 8-feet above grade and accurately depicted.
- All vertical vent risers shall be accurately depicted [site specific] including Pressure/Vacuum Vent Valves.
- If any underground vent lines are to be removed or relocated, then a detail of the new vent line runs shall be shown.
- The vent to tank piping shall maintain a 1/8-inch slope per 1-foot toward vent and shall be supported every 10-feet.
- The vent to tank piping shall not exceed 100-feet.
- A “NO SMOKING” /“FLAMMABLE VAPORS” sign shall be provided at Clean Air Separator locations with minimum 3-inch high lettering on a contrasting background; NFPA placarding may also be required.
- One minimum rated 2-A: 20BC fire extinguisher shall be located within 75-feet to 20-feet of the tank.

**Enclosure Requirement** - When the required distances to buildings, property lines or fuel transfer areas cannot be provided, the following alternate method shall be applied:

- When Vapor processing systems are located less than 10-feet from adjacent property lines, important buildings on the same property or public ways, they shall be enclosed within an approved fire resistant or non-combustible enclosure.
- The enclosure is required to be on at least 3 sides with an approved protective metal gate at the opening. When within 10-feet, enclosure opening shall not face property lines that can be built upon, important buildings on the same property, fuel dispensing pumps, or the public way.
- The enclosure shall extend a minimum of 18-inches above the highest part of the tank.
- In no case shall vapor processing equipment (even when enclosed) be located within 5-feet of adjacent property lines, building openings, or a public way.

### **Bollard Protection:**

- Bollards shall be provided for protection around Clean Air Separator tanks when an enclosure is not required.
- Bollards shall be not less than 4-inches in diameter steel, concrete filled, not less than 3-feet above grade and not less than 3-feet below grade into a minimum 15-inch concrete base
- Bollards shall be spaced not more than 4-feet apart and located not less than 3-feet from the tank.
- Bollards shall be provided in front of enclosure openings which exceed 3-feet in width.

### **Dispensers/ In-Station Diagnostics:**

- Whether modifying an existing dispenser or installing a new dispenser for I.S.D. and/ or vapor recovery, the make and model of the dispenser(s) shall be given and a complete detail including, but not limited to, the exterior of the dispenser, whip, breakaway, hose, and nozzle shall be given.
- All work being done behind the dispenser skirt and/or in the UDC shall be complete as to detail and shown for existing and new as designated by (E) existing and (N) new.
- The diagram shall include but not be limited to details of vacuum pumps, flow meters, and sensors. If a flow limiter is being used, it shall also be shown.

### **Monitoring systems/In-Station Diagnostics:**

- Panels shall be located in a normally occupied area; or provided with remote on-site or off-site audible/visual alarm indication in a normally occupied area.
- A revised Facility Monitoring Plan *may be* required for the ISD and software upgrade additions.
- Shall include an alarm matrix that shows "Sequence of Operations" for ISD warning and failure status.
- Matrix shall include current software version and if upgrading, then new software version also Monitoring and equipment details shall be site specific (not generic).
- Diagram shall include all sensors, alarms, printers, and devices on the monitoring system.
- Line diagram shall be in the form of an electrical "block type" diagram.
- A complete monitoring certification test shall be performed and passed prior to final approval  
**NOTE:** All installations shall meet the State approved installation instructions for the Healy Systems Incorporated Clean Air Separator and the State approved In- Station- Diagnostics installation instructions.

Code references: NFPA 30A, chapter 10; 2007 Addition of CFC-chapters 22, 27, 32, 34 [chapter 5202.13.3, 1998 edition]

### **CONTACT INFORMATION**

- Planning Division (714) 647-5804
- Building Division (714) 647-5800
- Fire Department (714) 647-5761