



RIVERSIDE COUNTY FIRE DEPARTMENT

OFFICE OF THE FIRE MARSHAL
CITY OF MORENO VALLEY



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Carbon Dioxide Detection Systems for Beverage Dispensing

The Fire Prevention Bureau has established the following requirements for the submittal of all carbon dioxide monitoring and emergency warning systems installed within Moreno Valley. These guidelines apply to all new CO2 tank installations and alterations to existing CO2 tank systems 100 lbs. or greater. Submittals shall comply with the Moreno Valley Municipal Code, *2022 California Fire Code* and *NFPA 55 (2020)*.

Submittal Requirements:

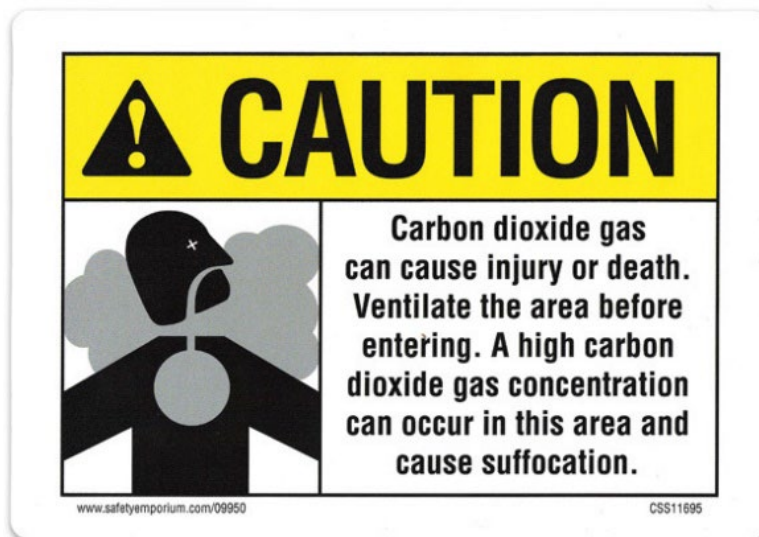
1. **General Requirements** - Submit three sets of legible, scaled plans. Online submittal will also be acceptable. These plans shall contain the following information and items (CFC 106.1):
 - a. **Project Information:** Provide the Project Name and address, Contractor/Owner contact information and Scope of work (CFC 106.2.1)
 - b. **Plans:** Provide a scaled plan of the building indicating where the installation will occur. (CFC 106.2.1)
 - c. **Tank(s):** Include make and model of tank(s) including quantity of CO2 in pounds. Show tank location(s) on floor plan including tank's method(s) of restraint. (CFC 5303.3)
 - d. **Signage:** An NFPA 704 placard/hazard identification sign is required on the exterior door(s). Please see example "A" for details. Warning sign shall be posted at the entrance to the building, room, enclosure, or confined area where the container is located. The warning sign shall be at least 8 in. wide and 6 in. high and state the following: "CAUTION - Carbon Dioxide Gas. A high carbon dioxide gas concentration in the area can cause suffocation." Please see example "B" for details. (NFPA 55: 13.7.3.1, 13.7.3, and CFC 5003.5, and NFPA 704)
 - e. **Piping:** Indicate piping routing used for system to include CO2 supply line(s) for bulk CO2 tank to soft drink dispensing locations and remote fill connection in accordance with NFPA 55. Provide piping details of container venting, vent line size, and termination location. The piping that is to be used shall be suitable for gaseous/liquid carbon dioxide service. (CFC 5003.2, CFC 5003.2.2, NFPA 55: 13.4.3, 13.4.1.2, 13.10.1.1)
 - f. **Gas Detection System:** Indicate locations of proposed CO2 gas detectors and system horn/strobe(s) on floor plan installed per manufacturer's specifications. CO2 gas system detectors shall initiate an audio/visual supervisory alarm at detecting 5,000 parts per million and a complete audio/visual alarm area notification at detecting 30,000 parts per million. The gas detection system's power shall be provided by the building electrical power supply or cord connected to an unstitched receptacle using approved means to secure the plug to the receptacle. The gas detection system shall also be provided with secondary power or the system shall initiate a trouble signal at an approved location when primary power supply is interrupted. (CFC 5307.3.2, CFC 916.4, and CFC 916.5)
2. **Data Specification Sheets** - Provide the following data specification sheets for review:
 - a. Piping and pipe restraints.
 - b. Tank and tank anchoring/restraints.
 - c. Gas detection system detectors and horn strobes.

NOTE: Any CO2 tanks for beverage dispensing systems installed without a permit will be billed additional fees at time of permit application.

Example A: CO2 NFPA 704 Sign



Example B: CO2 Warning Sign



NOTE: Additional signage may be required per gas detection system's manufacturer specifications.