



FIRE DISTRICT CONSTRUCTION PERMIT

Carbon Dioxide (CO₂) System Application Information

APPLICATION TYPE:

Construction – Carbon Dioxide (CO₂) System

FEE:

A fee of \$140 at time of application. The fee will cover the review, permit and one inspection. Additional inspection fees may apply. Fee payment link will be sent via the portal after initial application review.

A fee of \$150.00 will be added to all applications that have started work without a permit. In addition, a stop work order may apply until the permit is issued.

ADDITIONAL PERMITS:

It shall be the responsibility of the applicant to obtain required permits for the Carbon Dioxide (CO₂) System. Check with the City or County for additional information.

APPLICATION ACCEPTANCE:

The following is a list of basic requirements for plans submitted for permit approval. It is not intended to be considered a complete list of all applicable code requirements or to relieve the applicant from compliance with any code requirements.

- Incomplete submittals will not be accepted. Applicants with incomplete submittals must upload additional documents (electronic submission) or work with staff to provide the correct documentation.
- Plans must be accepted as complete before review can begin.
- A permit application shall be provided as the cover document for all plan submittals and resubmittals.
- All sections of the application shall be completely filled out, and the applicant must sign the form.
- The applicant shall be responsible to ensure that design specifications and plans are complete and in compliance with the requirements of the International Fire Code and applicable standards.

INSTRUCTIONS:

- Complete Project Information section, check the appropriate boxes. The staff member conducting the plan review will verify that all required information is included.
- The checklist is not complete unless all information is filled out and all appropriate boxes are checked.
- Do not use red ink on plans.
- Incomplete applications will be returned for completion, which may delay the review process.

Submittal Checklist

Project Name: _____ Project Location: _____

Occupancy Group (Define the occupancy group of the building) _____

REQUIRED DOCUMENTS (Upload via portal)

- Permit Application
- Scaled floor plan showing tank location, piping, sensors, alarms
- Equipment specification sheets
- Mechanical ventilation details (if applicable)
- Hazard signage details
- Engineering documentation (if required)
- Commissioning documentation (for final approval)
- Copy of valid ID State License



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Carbon Dioxide (CO₂) System with more than 100 pounds of carbon dioxide used in beverage dispensing applications shall comply with 2018 IFC 5307 & 916, 2016 NFPA 55, 2018 IMC and the following:

PLAN SUBMITTAL: Provide a floor plan showing the location of the Carbon Dioxide (CO₂) tank, piping, exterior fill location, CO₂ sensors, notification devices, system control unit and required signage. Spec sheets for the tank and system components shall be included with the submittal. See attached plan sheet example. The permit application and plan review documents must be approved prior to final inspection and building occupancy.

LEAK DETECTION / NOTIFICATION: Rooms or areas containing Carbon Dioxide (CO₂) storage tanks, cylinders, piping and fittings and other areas where a leak of carbon dioxide can collect must have an emergency alarm system installed.

EMERGENCY ALARM SYSTEM: An emergency alarm system shall comply with all of the following:

- Continuous gas detection shall be provided to monitor areas where carbon dioxide can accumulate.
- Activates an audible & visual “supervisory” alarm upon detection of a CO₂ concentration of 5,000 ppm in a normally attended location.
- Activates an audible & visual emergency alarm within the room or immediate area in which the system is installed upon detection of CO₂ concentration of 30,000ppm.

ACCEPTANCE TESTING & ANNUAL CERTIFICATION. Inspection and testing of gas detection systems shall be conducted following the initial installation and then on an annual basis. Sensor calibration shall be confirmed at the time of installation. Future system calibration shall be performed at the frequency specified by the sensor manufacturer. CO₂ emergency alarm systems are required to be certified and tagged annually.

SYSTEM INSTALLATION & CERTIFICATION. The following companies have been approved by Unified Fire for system installation, maintenance, annual inspection and certification.

IMPORTANT NOTICE

- Installation shall not begin until permit is issued.
- Final approval requires inspection and successful testing of detection system.
- Annual operational permit and inspection may be required.
- This permit does not authorize occupancy.



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Sections 1-6 of your application are fully completed. Incomplete applications will be returned for completion, which may delay the review process.

SECTION 1 – APPLICANT INFORMATION

Contractor:	Contact:	
Idaho License No.	NICET#:	
Address:	City:	Zip:
Phone/Mobile:	Email Address:	
Designer:	Contact:	
Phone/Mobile:	Email Address:	
License No.	NICET#:	

SECTION 2 – PROJECT INFORMATION

Project Name:	Occupancy Classification (IFC):	
Project Location:		
Building Permit Number:	Fire District Building Permit #:	
Builder:	Contact:	
Phone/Mobile:	Email Address:	

SECTION 3 – SYSTEM DETAILS

New construction with new system	Beverage Dispensing	Bulk Tank	Cylinder Bank
Existing construction – Modification	Total Aggregate CO ₂ Quantity (lbs.):		
Existing construction - System Replacement	Manufacturer:		
Operational Permit Reviewal	Model Number:		
Other	Individual Tank Size (lbs.)		
	# of Tanks/Cylinders		
	Storage Location:		

SECTION 4 – DETECTION & SAFETY SYSTEMS

Manufacturer:	Model:
Alarm Setpoints: <input type="checkbox"/> 5,000 ppm Supervisory <input type="checkbox"/> 30,000 ppm Evacuation	
Mechanical Ventilation Activated: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	
Alarm Monitored by Supervising Station: <input type="checkbox"/> Yes <input type="checkbox"/> No	

SECTION 5 – ADDITIONAL INFORMATION

SECTION 6 – APPLICANT ACKNOWLEDGMENT

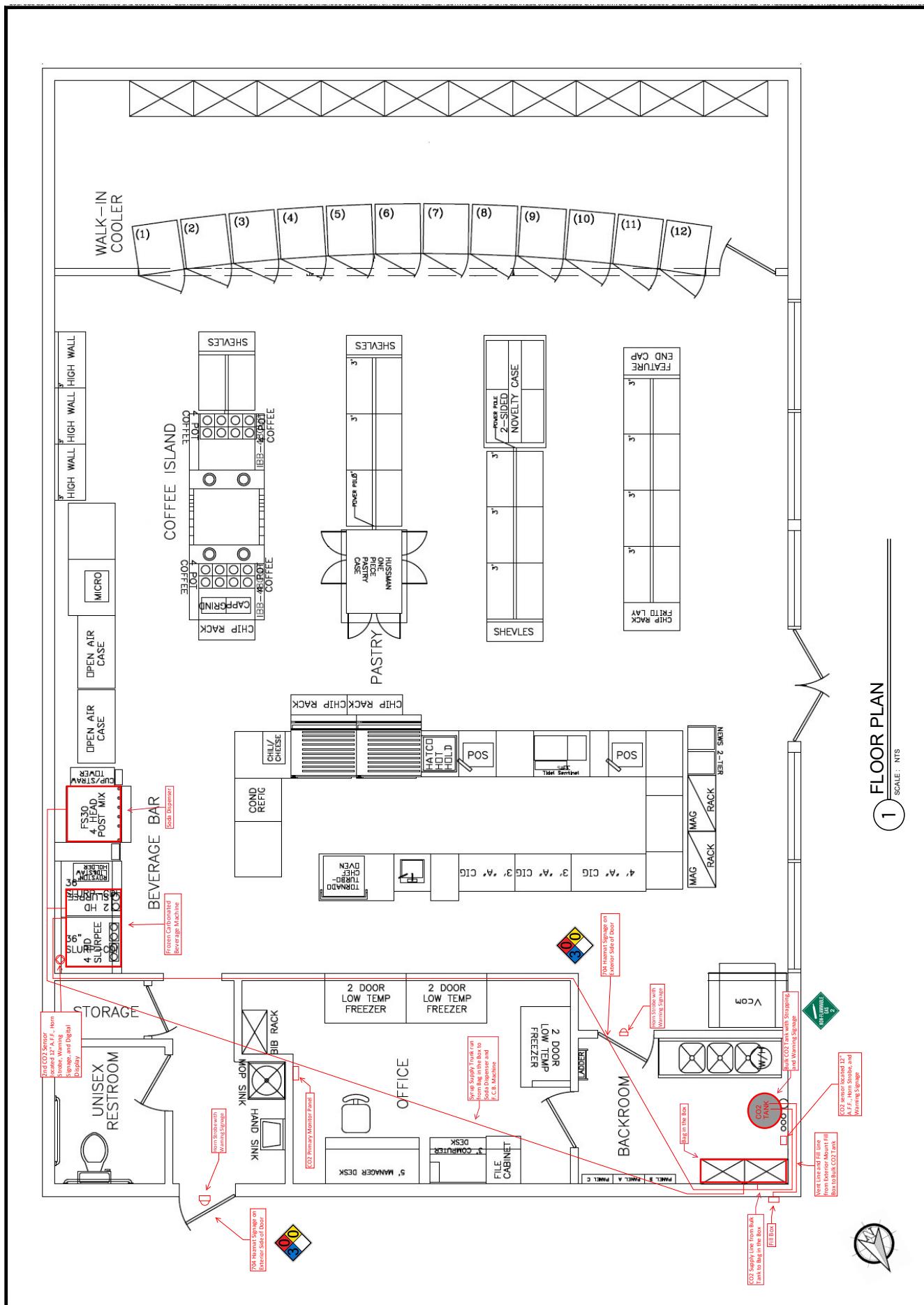
I further certify that the proposed CO₂ system shall be designed and installed in strict compliance with the 2018 International Fire Code (IFC), 2018 International Mechanical Code (IMC), NFPA 55 – Compressed Gases and Cryogenic Fluids Code (2019 Edition, as adopted), all applicable state and local amendments, and the manufacturer's published installation specifications.

I understand that any deviation from the approved plans, applicable codes, or manufacturer requirements may require resubmittal, additional plan review, re-inspection, corrective action, or removal of non-compliant work at the applicant's expense.

Applicant Signature

Applicant Name (Print)

Date



<p>AEROSPHERE™</p> <p>Carbon Dioxide Monitoring System characterized in vessels</p> <p></p> <p></p> <p>AEROSPHERE™ is an all-in-one, self-contained, remote monitoring system for process monitoring. The system is designed to be installed in a vessel or on a floor. The configuration allows you to be monitoring the roof or floor as well as the interior located at the top of the vessel. The system can be used to monitor the atmosphere in a vessel, tank, or vessel. Multiple height adjustable sensors ensure that no alarm is overlooked.</p>	<p>Product Information:</p> <ul style="list-style-type: none"> • Material: Steel, 304 gage • CRS: galvanized • California Division State Architects (DSA) approval ref.0108 • UPC / IAPMO listed <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p><img alt="ASME Approved logo" data-bbox="20965</p>
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4 CO₂ SUPPLY LINE SCALE : NTS

5 FILL LINE SCALE : NTS

6 CAPRO-MIZER, 550 SCALE : NTS

7 TANK SCALE : NTS

8 VENT LINE SCALE : NTS

1 TANK STRAPPING
SCALE : NTS

2 CO₂ MONITOR
SCALE : NTS

3 **WARNING**
DO NOT ENTER
WHEN LIGHT IS FLASHING
(CARBON DIOXIDE LEAK DETECTED)

4 **WARNING**
FLASHING LIGHT MEANS
(CARBON DIOXIDE LEAK DETECTED)
EXECUTE ROOM

5 **WARNING SIGNAGE**
SCALE : NTS

6 **FILL BOX**
SCALE : NTS

CHART INDUSTRIES FILL BOX VENT LINE COMBINATION (9722279)
STAINLESS STEEL / SURFACE MOUNT

Exterior vent line from bulk tank