

2.18 Submittal Guidelines for Cannabis and Plant Extraction Facilities (2019)

Reference: 2019 San Francisco Fire Code (SFFC) §§ 916, 5001, 5003, 5307, Chapters 30, 39, 50, 55, 57, 58

Purpose: The purpose of developing comprehensive guidelines is to provide consistent methods to assist designers and engineers in the submittal requirements for review by the San Francisco Fire Department (SFFD) for all cannabis and plant processing/extraction facilities and operations. This information is not intended to be a complete list of all required information. The items below are highlighted for use as a guideline when submitting plans for review by SFFD, as they are not typical review items with Tenant Improvement, Change of Use, and MEP plans. Additional information may be required if regulated elsewhere in the applicable provisions of the SFFC, San Francisco Building Code (SFBC), or as sanctioned by the California State Fire Marshal.

Scope: The guidelines in this administrative bulletin shall apply to all cannabis and plant processing/extraction facilities and operations in the City and County of San Francisco that use any amount of hazardous materials, including but not limited to: flammable/combustible liquids, liquefied petroleum gases (propane/butane), cryogenics, and compressed gases. This may include pre-and post-extraction activities that fall under regulation and enforcement by SFFD. All plans relating to these uses and occupancies shall be reviewed on intake basis only.

Requirements for Review:

For any of the following items, a building permit is required to be filed through San Francisco Department of Building Inspection (SFDBI) for review by SFFD. Two sets of overall site plans drawn to a minimum scale of 1 inch equals 8 feet shall be submitted for review. Plans shall be submitted on a minimum sheet size of 11" X 17". Callouts and labels shall be legible and clear, with minimum 1/8" text size. The scope of work shall be indicated on the plans per each relevant item outlined below. No additional information that would make the plan difficult to review shall be included on the plans. This review is not part of the over the counter plan review service provided by the SFFD. Plans will be reviewed in the order they are received. Designers and Engineers are encouraged to submit plans as far in advance as possible to avoid any costly changes in the later stages of a project.

All plans shall include a Hazardous Materials Management Plan and a Hazardous Materials Inventory Statement per SFFC 5001.5. If no hazardous materials will be used or stored, this declaration shall be clearly made on the cover of the plans submittals. A letter containing a statement of competency and experience shall be signed/stamped by a Certified Industrial Hygienist or a Professional Engineer with relevant knowledge of hazardous materials safety.

Hazardous Materials Management Plan (HMMP) shall include information per SFFC 5001.5.1, and the following:

- Each storage and use area shall include the names of chemicals to be used, and quantities
- Name of the trained Fire Department Liaison and contact information
- Container Unit size, type, and material when in use or being handled
- Label locations/areas where heat applications take place
- Label locations/areas where closed-loop processing occurs
- Label locations/areas where off-gassing and de-gassing occurs
- Label locations/areas where heat applications take place (ovens, cooking, etc.)

Hazardous Materials Inventory Statement (HMIS) shall include information per SFFC 5001.5.2, and the following:

- Provide locations where the material is stored/used, and which control area
- For each control area, provide an aggregate tabulation showing whether each control area exceed Maximum Allowable Quantities (MAQs) or not.
- Identify whether or not a physical hazard exists per SFFC 5001.2.2.1

Summary of Activities/Use

Copy and paste the following and complete this table on the cover page of the plans submittals, regarding use, storage, or activity involving each item. Provide a narrative summary detailing uses for any items checked or marked “YES”.

Process/Material	YES	NO
Propane		
Butane		
CO2		
Flammable Liquid Distillation/Evaporative Process Equipment		
Vacuum Ovens		
Refrigerators/Freezers		
Extraction Room		
Extraction Booth		
Extraction Hood		
Heaters/Cooking Appliances		
Furnace/Incinerator/Ovens		
Off-gassing/De-gassing Areas		
Hazardous Exhaust System – Custom		
Hazardous Exhaust System – Pre-fab by Vendor		
Post Oil Processing/Oil Refining/Winterization		
- Distillation		
- Heated Boil-off/Evaporative		
- Other (please describe)		
Filling of LPG tank from bulk supply tank on site		

PROCESSING AND EXTRACTION

Processing shall be located in a building complying with the California Building Code (CBC) and the California Fire Code (CFC). Extraction processes utilizing flammable gasses or flammable cryogenic fluids shall not be located in any building containing a Group A, E, I, or R occupancy. Extraction processing shall be classified as F-1 occupancy, unless the maximum allowable quantities (MAQs) of hazardous material located within a control area exceed the thresholds established in SFFC Section 5003, which requires a high hazard H occupancy.

The extraction equipment and extraction process utilizing hydrocarbon solvents shall be located in a room dedicated to extraction.

When using LPG or butane as part of the processing, a hazardous exhaust system is required within the extraction room. The system must continuously operate when LPG is used or stored in the extraction room. The exhaust system shall be installed in accordance with California Mechanical Code (CMC).

Any use of heat or pressure to purify materials shall be approved and performed in an appliance listed for use with flammable gases and/or flammable vapors. Submit equipment listing and cut sheets showing the approved use and include in plans. Domestic or commercial cooking appliances shall not be used.

The use of industrial ovens shall comply with SFFC Chapter 30. Vacuum ovens used to process volatile gases (i.e. alcohol/oil mixtures, oil containing off-gassing LPG, other flammable liquids) shall be listed and rated to process these vapors.

The use of flammable and combustible liquids for liquid extraction processes in either closed or open environments shall be located within a hazardous exhaust fume hood, rated for exhausting flammable vapors. Electrical equipment used within the hazardous exhaust fume hood shall be rated for use in flammable atmospheres. Heating of flammable or combustible liquids with the use of a heating element is allowed where documentation from the manufacture or approved testing laboratory indicates it is rated for heating of flammable liquids. Open flames are not allowed.

Appropriate signage, placards, labeling shall be provided and identified in plans. Location of Safety Data Sheets shall also be included in plans.

ELECTRICAL REQUIREMENTS

Where LPG extraction processes are used, the location of the LPG extraction process is to be considered Class I Division I. The application of this rating shall be for either: 1) the entire room, or 2) the area inside the hood or booth. The adjacent locations/areas shall be considered Class I Division II. Based on total extraction equipment failure, the Class I Division II shall extend to physical boundaries/walls.

All equipment in an extraction room or extraction booth must be rated for use in Class I Division I locations.

All metal objects including ductwork, hand sinks, and water piping, shall be grounded/bonded in accordance with NFPA 70 and California Electrical Code.

Room lighting and room power receptacles shall be interlocked with the exhaust system such that the room power and lighting will not operate without the exhaust system running. Power serving room flammable gas detectors is not required to be part of this interlock requirement.

SYSTEMS AND EQUIPMENT

Systems and equipment used with the processing and extraction of oils and products from plants shall comply with the following, including SFFC Chapter 50 (5003.2), other applicable provisions of the CFC, the CBC, and the CMC.

Systems or equipment used for the extraction of oils from plant material shall be listed or approved for

the specific use. If the system used for extraction of oils and products from plant material is not listed, then the system shall be reviewed by a Registered Design Professional, such as a Professional Engineer licensed with the State of CA.

The Registered Design Professional shall review and consider any information provided by the system's designer or manufacturer. For systems and equipment not listed for the specific use, a Technical Report shall be prepared and submitted to SFFD for review and approval. The firm or individual preparing the technical report shall be approved by SFFD prior to performing the analysis (Statement of Qualifications/Experience).

CONSTRUCTION / BUILDING PERMIT REQUIREMENTS

In addition to the items featured in the SFFD AB **2.17 Submittal Guidelines for Cannabis and Plant Cultivation Facilities**, the following may apply to your project:

Industrial Ovens

- A construction/building permit is required for installation of industrial ovens covered by CFC Chapter 30.
- Scope of work on the cover page of plans submittals shall clearly state this information. The SFDBI permit application form shall also include the term "Industrial Oven" for SFFD review. If on addenda schedule, this must be included in one of the addendum titles.
- Please identify the size, make and model to be used/stored in the permit application scope of work.
- Plans Submittals shall include specific information and details per CFC Chapter 30.

LP-Gas Systems

- A construction/building permit is required for installation of or modification to an LP-gas system.
- Scope of work on the cover page of plans submittals shall clearly state this information. The SFDBI permit application form shall also include the term "LPG System" for SFFD review. If on addenda schedule, this must be included in one of the addendum titles.
- Please identify the size, quantities, and pressure ranges to be used/stored in the permit application scope of work.
- Plans Submittals shall include specific information and details per SFFC Chapters 50 & 58.

Plant Extraction System

- A construction/building permit is required for installation of or modification to a plant extraction system.
- Scope of work on the cover page of plans submittals shall clearly state this information. The SFDBI permit application form shall also include the term "Plant Extraction System" for SFFD review. If on addenda schedule, this must be included in one of the addendum titles.
- Please identify the materials used in the extraction process (e.g. CO₂, ethanol, LPG/Butane) and pressure ranges to be used/stored in the permit application scope of work.
- Plans Submittals shall include specific information and details per SFFC Chapter 39.
 - o Technical Report submission requires a separate SFDBI permit application.

- The Registered Design Professional or other professional shall be approved by SFFD per SFFC Section 3904.2
- Site Inspection Report submission requires a separate SFDBI permit application.
 - The site inspection shall be performed by an SFFD approved professional per SFFC Section 3904.2
- Additional documentation such as Initial Requirements Report, Final Certification Report, and Field Verification Letters may require submission and documentation under a separate SFDBI permit application.

Safety Systems

- For extraction processes utilizing flammable gases as solvents, a continuous gas detection system utilizing local, permanently mounted LP-gas detectors and alarms rated Class I Division 1, shall be provided.
- A construction/building permit is required for installation of or modification to gas detection systems.
- Scope of work on the cover page of plans submittals shall clearly state this information. The SFDBI permit application form shall also include the term “Gas Detection System” for SFFD review. If on addenda schedule, this must be included in one of the addendum titles.
- Plans Submittals shall include specific information and details per SFFC Section 3905 and SFFC Section 916.
- Interlocks to shut off light switches and electrical outlets may be exempted if such components are rated Class 1 Division 1.

SFFD OPERATIONAL PERMIT REQUIREMENTS

Operational permits may be required including **Compressed Gases, Cryogenic Fluids, Flammable and Combustible Liquids, Hazardous Materials, High-Piled Storage, Industrial Ovens, LP-Gas System, Miscellaneous Combustible Storage, and Plant Extraction System**. Please review CFC 105.6 for detailed requirements. A copy of the approved plans reviewed by SFFD Plan Check and issued by SFDBI may be required for reference in order to apply for issuance of SFFD Operational Permits. Please contact SFFD Permits at (415) 558-3300 for more information.