

COLORADO SPRINGS FIRE DEPARTMENT

# Plant-Based Extraction Operations

Requirements for the installation and use of extraction operations



TECHNICAL SERVICES  
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# Table of Contents

PURPOSE.....	1
SCOPE .....	1
DEFINITIONS .....	1
Permitting, Plans, Fees, and Inspections .....	1
I. Permitting .....	1
II. Fees .....	2
III. Inspections.....	3
PLAN SUBMITTAL REQUIREMENTS.....	3

## PURPOSE

This document outlines the Colorado Springs Fire Department’s policies, procedures, requirements and local fire code interpretations pertaining to the permitting of plant-based extraction processes. It is not the intent of this document to reiterate fire code requirements. Fire code requirements can be viewed by visiting [www.iccsafe.org](http://www.iccsafe.org). Local amendments to the fire code can be found at [www.coloradosprings.gov](http://www.coloradosprings.gov) and searching for “Fire Code Amendments” in the search field.

## SCOPE

This document applies to any new plant-based extraction and other associated processes that are located in the City of Colorado Springs.

## DEFINITIONS

**Extraction** The process of removing essential oils or other botanic material from a given plant material. These processes fall into two categories:

- **Hazardous Extraction Processes** A site that presents fire and life safety risks by utilizing extraction processes through the use of:
  - Flammable and Combustible gases
  - Flammable and Combustible liquids – ethanol, acetone, etc
  - Liquefied Petroleum Gases (LPG) – propane, butane, etc
  - Other materials as determined by the fire code official
- **Non-Hazardous extraction processes** A site that does not meet the definition of a hazardous extraction location, such as:
  - Super/sub critical Carbon Dioxide (CO2) extraction
  - Heat/pressure based extraction without the use of hazardous materials

**Post Oil Processing** The process of refining essential oils after extraction from the plant material, including, but not limited to dewaxing, and winterization processes.

## Permitting, Plans, Fees, and Inspections

### *I. Permitting*

A construction permit is required to be issued prior to installation and use of any extraction processes in the City of Colorado Springs. Generally, this is issued as part of the plan package that is submitted to the Pikes Peak Regional Building Department.

### *How to Complete the Permit Application*

Once it is determined that a permit is required, a permit application must be completed and attached to the plans submitted through the Pikes Peak Regional Building Department. Visit <https://coloradosprings.gov/fire-department> and search for “Permit Application” to find the permit application. Complete the permit application accurately as follows:

1. Under Part 1, fill in Sections 1, 2, and 3 with required information. If the information is the same across sections, fill in Section 1 and state “Same as Above” under Company Name in Sections 2 and 3
2. Fill in Section 6 with the corresponding relevant information for each tank to be installed.

3. Sign as indicated under Section 8.
4. Under Part 2 (page 2), in the "Construction Permits" section, check the box that is most relevant to the hazard that is used, such as "LP Gas", "Flammable and Combustible Liquids", etc.

### ***Plans and Required Documentation***

The following, as applicable, is required to be submitted for review:

1. Completed permit application
2. Detailed and dimensioned or to scale site plan showing the following, as applicable:
  - a. Extraction Room location
  - b. Occupancy Classification of extraction room
  - c. Wall and door fire ratings
  - d. Post-Processing Room location
  - e. Electrical classification areas per National Electric Code (NEC) - Class 1, Division1 (C1D1) and Division 2 (C1D2) areas
  - f. Door swing
  - g. Ventilation Details
  - h. Gas detector locations
3. Documentation as follows:
  - a. Inventory of all hazardous materials stored and used, indicating amounts, container sizes, and locations
  - b. Extraction equipment letter of intent that outlines the following (hazardous operations only):
    - i. Extractor model name/number
    - ii. Manufacturer name
    - iii. Serial #
    - iv. Extractor master report number on file with CSFD
  - c. Cutsheet information on the following, as applicable:
    - i. Gas detection equipment
    - ii. LPG tanks used
    - iii. Lab hood/containment equipment
    - iv. Post processing equipment
4. Extractor solvent refilling procedure
5. Post processing description and procedure

### ***II. Fees***

Plan review and inspection fees are required for flammable and combustible liquid tank permits. Fee amounts are based on the currently approved Division of the Fire Marshal fee schedule.

- The initial plan review fee covers the first two plan reviews and first inspection
- Third and subsequent plan review fees will be imposed in addition to the initial permit fee
- Second and subsequent inspection fees and/or trip fees will be imposed in addition to the initial permit fee should the installation not be ready for or fail inspection the first time
- Overtime fees will be imposed in addition to the initial fee should the inspection be requested after normal business hours
- Trip or inspection fees will be imposed in addition to the initial fee for inspection of additional arrangements

If desired, an expedited plan review fee may be paid to expedite review of the plans and permit application. This fee is in addition to the initial plan review fee.

Plan review fees must be paid before the inspection can be scheduled. Any fees resulting from multiple inspections will be billed to the applicant. If fees are not paid, future permit applications and/or inspections may be denied.

Once the plans have been reviewed and accepted, and the plan review fees have been paid, the contractor/installer may begin installation of the tanks and system in compliance with the accepted plans. Should the tank or system be installed or in the process of being installed prior to the review and approval of the application, a "Work without Permit" fee will be imposed in addition to the initial plan review fee.

If the plan is part of a Pikes Peak Regional Building Department submission, then the fee will be paid at the time the plan is released to the submitter.

The plan must be approved prior to commencement of work. Permit applications submitted without the required information listed above may be returned and/or not accepted.

### **III. Inspections**

A fire inspection of the installation is required. To schedule an inspection, call 719-385-5978 and follow the prompts for inspection scheduling. Due to the fluctuation of inspectors schedules, it is strongly recommend that inspections be scheduled a minimum of three business days prior to the date of the scheduled installation.

The following is required for the fire inspection:

1. Representative from the user be present
2. Representative from the contractor/installer be present
3. Installation to be fully constructed

Once the installation passes inspection, a permit will be issued and the extraction room may be utilized.

### **PLAN SUBMITTAL REQUIREMENTS**

It is the installer's responsibility to construct the room and systems per all applicable requirements of the locally adopted fire code. The requirements offered here are either new to the code or have generated issues and/or questions in the past. Installations must comply with Chapter 39 of the 2015 IFC.

**Extractor Design** The design, fabrication and construction of the extractor vessel must be either listed or approved by a nationally recognized laboratory or an approved 3<sup>rd</sup> party. Please check the CSFD website and search "CSFD Approved Extraction Equipment" and click on "Medical Marijuana/Extraction Operations" for the current list of approved extractors. If your extractor is not listed, please contact the Division of the Fire Marshal for extraction equipment approval procedures.

**Extraction Rooms** Extraction rooms shall meet the requirements of an F-1 occupancy per the Pikes Peak Regional Building Code, and shall have walls constructed with a 1-hour fire rating.

**Fire Protection** The extraction room shall be provided with an approved automatic fire suppression system if the process utilizes flammable/combustible materials, or if vapors are released exceeding 25% of the lower flammable limit. If the extractor is located in a hood or booth within the room, the fire suppression is only required in the hood or booth; otherwise the systems is required to be installed to protect the entire room.

**Electrical Equipment** Both the extraction room and post oil processing may be required to be classified as Class 1, Division 1 or Class 1, Division 2 areas based on the presence of hazardous vapors. Please verify these locations as defined in the National Electric Code; the architect or the engineer of record must indicate these areas on the plans as applicable.

**Post Oil Processing** Post oil processes are also required to be reviewed and shall comply with all applicable chapters and sections of the fire code. As processes vary, it is difficult to list all of the applicable requirements, but generally, the processing equipment must be listed or approved for its use; any system utilizing flammable liquids must be electrically classified as appropriate per the National Electric Code, and all equipment that will be exposed to flammable atmospheres shall be approved for use in the flammable atmosphere. This includes ovens, freezers, refrigerators, and other equipment that will process materials that is off-gassing concentrations of flammable gas above the Lower Flammability Limit.