

COLORADO SPRINGS FIRE DEPARTMENT, DIVISION OF THE FIRE MARSHAL

Site Safety During Construction & Demolition

General Requirements per Chapter 33 of the 2023 Colorado Springs Fire Code
and the Applicable NFPA Codes.



Fire Construction Services
June 28, 2023



Division of the Fire Marshal | Fire Construction Services
2880 International Circle Suite 200-7 | TEL 719-385-5982 Ext. 2



Table of Contents

PURPOSE	3
SCOPE	3
DEFINITIONS	3
GUIDELINES	3
I. INTRODUCTION.	3
A. APPLICABLE CODES AND STANDARDS.	3
B. ADMINISTRATIVE REQUIREMENTS.	4
II. SUBMITTAL INFORMATION.	4
A. MINIMUM REQUIREMENTS OF SUBMITTAL	4
B. SITE SAFETY DIRECTOR	5
III. GENERAL INFORMATION AND REQUIREMENTS	5
A. ACCESS & PARKING	6
B. FIRE PROTECTION SYSTEMS	6
C. EXIT REQUIREMENTS	7
D. FLAMABLE & COMBUSTIBLE LIQUIDS	8
E. OTHER COMBUTIBLE MATERIALS	8
F. COMPRESSED GASES	9
G. LIQUID PRETROLIUM GAS	9
H. HOT WORK	10
I. SPECIAL EQUIPMENT	11
IV. INSPECTIONS	11
REFERENCES AND LINKS	12
APPENDIX A SITE SA APPENDIX A SITE SAFETY PLAN SUBMITTAL CHECKIST	13
APPENDIX B HOT WORK PERMIT	16
APPENDIX C FIRE WATCH POLICY	20
APPENDIX D EVACUATION PLANNING	21
APPENDIX E DAILY INSPECTION CHECKLIST	23

PURPOSE

This guidance document has been developed to provide the highest level of service to the customers of the CSFD. The major goal of site safety plans reviews and inspections is to ensure the site safety plan meets the minimum requirements of the adopted codes, standards, and ordinances. To meet this goal, the submitted plans and supporting documentation must contain the information needed to conduct a thorough review.

SCOPE

This guidance document outlines the minimum requirements set forth in the International Fire Code, standards, local amendments, and departmental policies and procedures as they relate to implementing a site safety plan for buildings under construction or demolition. This guidance document is not intended to provide an all-inclusive listing of submittal and inspection requirements, as it would be virtually impossible to cover all situations. Also included is information covering items required to be included in the submittal package.

DEFINITIONS

CSFD	Colorado Springs Fire Department
FDC	Fire Department Connection
IFC	International Fire Code
LPG	Liquid Petroleum Gas
NFPA	National Fire Protection Association
PPRBD	Pikes Peak Regional Building Department
PSI	Pounds per Square Inch
SSP	Site Safety Program
SSD	Site Safety Director
Shall	This is a mandatory requirement
Should	This is a recommendation but not a requirement

GUIDELINES

I. INTRODUCTION.

A. APPLICABLE CODES AND STANDARDS.

1. 2021 International Fire Code w/ amendments (2023 Colorado Springs Fire Code)
2. 2022 edition of NFPA 241, Safeguarding Construction, Alterations, and Demolition Operations
3. Colorado Springs City Ordinances
4. CSFD Administrative Rulings/Interpretations

B. ADMINISTRATIVE REQUIREMENTS.

1. **Code/Standard Editions.** Site safety plans (SSP) shall meet the criteria of the adopted codes as amended and all applicable requirements of the most recent edition of the NFPA standards. NFPA standards are effective on January 1st of the year following the effective date printed in the standard.
2. **CSFD Approval & Inspections.** Approvals must be secured through CSFD prior to the start of any work on site. Site safety plans (SSP) are expected to be submitted to CSFD within 45 days or receiving a construction permit through PPRBD. SSP implementation must be inspected by CSFD.
3. **Special Circumstances.** Depending upon the scope of work, different types of submittals may be required; therefore, you may want to contact Fire Construction Services for additional information at fireconstructionservices@coloradosprings.gov or (719) 385-5982 option 2.
4. **Alternative Methods.** If special site conditions and/or restrictions exist that may prohibit any of the requirements set forth in this guidance document from being met, an alternative means and methods approach may be required be approved before implementation of the SSP plan is implemented.
5. **Revisions.** All revisions shall be clouded and identified with a sequential numbering or lettering system, such as Revision A, B, etc. or Revision 1, 2, etc. Revisions are date sensitive, thus each revised sheet must bear the date of the revision. Revisions to SSP must be reviewed and approved by CSFD within 30 days of these changes being made.

II. SUBMITTAL INFORMATION.

This section of the guidance document provides information on documentation required to assure the plan submittal package contains the necessary information for a complete plan review.

A. MINIMUM REQUIREMENTS OF SUBMITTAL.

1. **Drawings/Plans.** Submittal documents shall be of sufficient clarity to indicate the location, nature, and extent of the project and show it conforms to the provisions of the IFC, NFPA standards, relevant laws, ordinances, rules, and regulations as adopted by the City of Colorado Springs. Site safety plans shall be signed by the Site Safety Director (SSD) of the project acknowledging that they have reviewed the submittal for compliance with all applicable codes and standards. Plans shall contain the information and/or details indicated in the checklist in Appendix A. Site plans shall be no less than 1/50" per foot scale and building plans no less than 1/8" per foot.
2. **Plan Review Number.** Submittals shall be provided with the CSFD Plan Review Number. This number is an eight-digit numeric code located on the plan label of the PPRBD construction plans. For projects with multiple buildings, the CSFD Plan Review Number for all buildings shall be provided.
3. **Projects Requiring SSP.** All newly constructed, altered, or demolished buildings built to the 2023 Colorado Springs Fire Code shall implement a written SSP. The following construction projects shall require a SSP reviewed and approved by CSFD:
 - a. New ground up commercial and multifamily construction projects including townhomes and condominiums.
 - b. Additions to existing buildings exceeding 1,000 sq ft.
 - c. Interior remodels, interior finishes, and changes of occupancy exceeding 12,000 sq ft
 - d. Other projects deemed a high risk by the Fire Code Official
 - e. Demolition of any building meeting criteria above

All required site safety plans shall be submitted to CSFD within 45 days of receiving their construction permit through PPRBD.

B. Site Safety Director

The SSD shall be responsible for ensuring compliance with the SSP. The SSD or his/her designee shall be responsible for completion of a daily fire safety inspection of the project site per IFC Section 3303.3. and NFPA 241 Section 4.1. SSD shall be responsible for maintaining all required paperwork associated with the SSP and keeping it in an organized central location for CSFD review at any time. See Appendix A for sample daily site safety inspection checklist.

The SSD should be familiar with the provisions of the codes and standards related construction fire safety and fire suppression/fire alarm systems. The SSD shall have documentation of one of the following qualifications:

1. Current first aid and CPR certification
2. Completion of 10-hour OSHA construction course.
3. Have a minimum of 5 years progressive construction experience.

SSD's designees for performing daily inspections or other aspects of the SSP shall provide documentation that site safety practices are being followed and site walk throughs are being conducted daily.

III. GENERAL INFORMATION AND REQUIREMENTS.

According to 2017 NFPA Research Report, between 2010 and 2014, each year, fire departments in the US responded to an estimated 3,750 fires in structures under construction with, "5 civilian deaths, 51 civilian injuries, and \$172 million in direct property damage" annually. The report identifies the leading cause of fires in structures under construction between 2010 and 2014 were to be cooking equipment (27%), intentionally set fires and heating equipment each with 13%, followed by hot work at 12%.

During construction, a building is at its most vulnerable state. Buildings under construction or renovation may have any of these conditions that supports fire development and spread:

- Combustible material and waste material are present in significant amounts.
- Buildings under construction are generally unprotected. Fire protection systems, detection systems, and compartmentation is unavailable or incomplete.
- Hot work: such as, welding, cutting, soldering, brazing, and grinding are performed.
- Fire apparatus access and fire protection water supply may be limited or hampered due to conditions present at the construction site.
- Use of temporary heating and cooking devices.

The requirements set forth in this document are intended to prescribe minimum safeguards for new building construction and significant building alteration projects to provide a reasonable degree of safety to life and property from fire. These requirements are based on the provisions for fire safety during building construction and demolition as set forth in Chapter 33 of the IFC, local amendments; and 2022 edition of NFPA 241, *Standard for Safeguarding Construction, Alteration, and Demolition Operations*. These requirements shall not be construed to be in lieu of any other applicable State or Federal law or regulation related to construction site safety. The general contractor or other designee of the building owner shall be responsible for compliance with these standards. Access and Parking.

A. Access and Parking

1. **Fire Department Access Roadways:** All construction sites shall be accessible by fire department apparatus by roads having an all-weather driving surface of not less than 20 feet of unobstructed width extending to within 150 ft of the building. The roads shall have the ability to withstand the live loads of fire apparatus (75,000 lbs.) and have a minimum 13' 6" of vertical clearance. Dead end roads in excess of 200-feet in length shall be provided with approved turnarounds. When approved by the Fire Code Official, temporary access roadways may be utilized until such time as permanent roadways are installed. As a minimum, the roadway shall consist of a compacted sub-base and 6 inches of road base material (Class 2 aggregate base rock) both compacted to a minimum 95%. The perimeter edges of the roadway shall be contained and delineated by curb and gutter or other approved method. The use of geotextile reinforcing fabric underlayment or soils lime-treatment may be required if so determined by the project civil engineer. Provisions for surface drainage shall also be provided where necessary. The integrity of the roadway shall be maintained at all times.
2. **Premises Identification:** The address numbers of the property or project location shall be plainly visible and legible from the street or road fronting the property at the fire apparatus access point or as otherwise approved. Street signs shall be provided for new roads being provided on the site.
3. **Vehicle Parking:** All vehicles shall be parked a minimum of 20 feet from new buildings under construction and are not allowed to be parked in fire department access roads.

Exceptions:

- a. Vehicles that are temporarily parked for loading/unloading or other construction related operations. Such vehicles shall not be left unattended.
 - b. Private vehicles may be parked in parking garages of Type I construction if the automatic fire sprinkler system is in service and vertical openings are protected with prior approval from CSFD.
4. **Site Security:** The site shall be secured by fencing, permitted through the Division of the Fire Marshal, designed to prevent climbing by people and monitored periodically so that the site is secure. A fire watch shall be provided during nonworking hours per IFC Section 3305.5, or when otherwise required as an element of the SSP. A Knox padlock shall be provided on the access gates to the site. See Appendix C for fire watch requirements.

B. Fire Protection Systems

1. **Fire Hydrants:** Where underground water mains and hydrants are proposed for the building(s) under construction, they shall be installed, completed, and in service prior to combustible construction materials accumulating on site. At least one operational hydrant shall be provided before combustibles are brought on site. Any non-operational hydrants shall be properly bagged to indicate that they are out of service.
2. **Standpipes:** Where standpipes are required, the standpipes shall be installed when the progress of construction is not more than 30 feet in height above the lowest level of the fire department access. Standpipes shall be provided with fire department hose connections and outlets at accessible locations adjacent to usable stairs. The standpipe system shall be extended as construction progresses to within one floor of the highest point of construction having secured decking or flooring. Each intermediate floor landing shall be provided with a 2½-inch valve outlet for fire department use. When the building requires three or more stairwells, the two stairwells most remote from each other shall be provided with interconnected standpipes in accordance with

local amendments. Refer to IFC Section 3314 and NFPA 241 Sections 4.7 through 4.8 for full standpipe and FDC requirements.

3. **Fire Walls:** When fire walls are required, the wall construction shall be completed (with all openings protected) as soon as feasibly possible following framing so no more than two upper stories of active construction have incomplete fire walls or unprotected fire wall openings at any point in time per NFPA 241 Section 4.13.
4. **Fire Sprinkler Systems:** Where automatic fire sprinkler systems are required to be installed in new buildings, the system shall be placed in service as soon possible. Immediately upon the completion of sprinkler pipe installation on each floor level, the piping shall be inspected by CSFD. After inspection approval, each floor level of sprinkler piping shall be connected to the system supply riser and placed into service with all sprinkler heads uncovered. Protective caps may be installed on the active sprinklers during the installation of drywall, texturing and painting, but shall be removed immediately after this work is completed. For system activation notification, an exterior alarm bell can be installed and connected to the sprinkler water flow device prior to installation of the monitoring system. For buildings equipped with fire sprinkler systems that are undergoing alterations, the sprinkler system(s) shall remain in service at all times except when system modifications are actively being conducted. Fire sprinkler systems undergoing modifications shall be returned to service at the end of each workday unless otherwise approved by CSFD. The SSD or his/her designee shall check the sprinkler control valve(s) at the end of each workday to confirm that the system has been restored to service. Refer to IFC Section 3315 and NFPA 242 Section 4.3.2 for full fire sprinkler requirements during construction.
5. **Fire Alarm Systems:** Fire alarm systems shall be maintained operational at all times during building alterations. When an alteration requires modification to a portion of the fire alarm system, the portion of the system requiring work shall be isolated and the remainder of the system shall be kept in service whenever practical. When it is necessary to shut down an entire fire alarm system, a fire watch or other mitigation approved by CSFD is to be implemented by the general contractor until the system is returned to full service.
6. **Fire Extinguishers:** Portable fire extinguishers shall be provided and shall be mounted on a wall or post at each usable stairway and such that the travel distance to any extinguisher does not exceed 75 feet. Mounting height to the top of the extinguisher shall not exceed 5 feet. Extinguishers shall not have less than a 2-A:10-BC rating (10-pound extinguisher) or as otherwise directed by CSFD. The general contractor shall ensure that an adequate number of individuals are trained in the proper use of portable fire extinguishers.
7. **Smoking:** Smoking is prohibited anywhere inside or on the roof of new buildings under construction or in the project work area of buildings undergoing alteration. A suitable number of 'No Smoking' signs shall be conspicuously posted to ensure that smoking is controlled. A designated smoking area shall be provided and marked on the SSP.
8. **Telephone Service:** Provisions shall be provided at the construction site for emergency notification of CSFD via telephone. The street address of the construction site shall be posted adjacent to the telephone, along with the number for the public safety assembly point.

C. Exit Requirements

1. **Minimum Number of Exits:** All new buildings under construction shall have a least one unobstructed exit. All exits shall be identified in the SSP.
2. **Multi-Story Buildings:** At least one half of the required exit stairwells shall be available for egress and fire department access at all times. The stairways shall be continuous and discharge to grade level. Stairways serving more than two floor levels

shall be enclosed (with openings adequately protected) after exterior walls/windows are in place. Exit stairs in new and in existing, occupied buildings shall be provided with lighting and maintained clear of debris and construction materials at all times.

Exception: For new multi-story buildings, one of the required exit stairs may be obstructed on not more than two contiguous floor levels for the purposes of stairway construction (i.e., installation of gypsum board, painting, flooring, etc.). Each stairwell shall be provided with stair identification signs per NFPA 241 Section 4.12.4.5

3. **Assembly Points:** Designated exterior assembly points shall be established for all construction personnel to relocate to upon evacuation. The assembly points shall also be identified in the SSP.
4. **See Appendix D for evacuation planning.**

D. Flammable and Combustible Liquids

1. **Storage Areas:** The following requirements shall apply to storage areas for flammable and combustible liquids:
 - a. Storage areas shall be kept free of weeds and extraneous combustible material.
 - b. Open flames and smoking shall be prohibited in storage areas and appropriate signage and NFPA 704 placards posted.
2. **Containers:** Metal containers for Class I or II liquids shall be in accordance with DOT requirements or shall be of an approved design. Discharge devices shall not cause an internal pressure on the container. Individual containers shall not be interconnected and shall be kept closed when not in use.
3. **Secondary Containment:** Secondary containment or a means of spill control, drainage control, and diking shall be required for containers and tanks as approved by the fire department and, if applicable, CSFD hazardous materials program.
4. **Marking:** Tanks and containers shall be marked with the name of the product and when appropriate "FLAMMABLE — KEEP FIRE AND FLAME AWAY." Tanks (i.e., containers in excess of 60 gallons) shall also be labeled "KEEP 50 FEET FROM BUILDINGS."
5. **Fueling of Equipment:** All fueling of equipment must take place outside of the structure under construction and away from any potential ignition sources.
6. **Tank Installation Plans/Permit:** Plans for the installation/use of any aboveground storage tank (i.e., container greater than 60 gallons) shall be submitted to the fire department and, if applicable, CSFD hazardous materials program for review and permit prior to the proposed tank arriving at the site.

E. Other Combustible Materials

1. **Combustible Material Storage:** Combustible construction materials shall be stored a minimum of 20 feet from buildings under construction or undergoing remodel.

Exceptions:

 - a. Materials that are staged for installation on a floor level.
 - b. When approved by CSFD materials may be stored in parking garages of Type I construction if the automatic fire sprinkler system is in service and vertical openings are protected.
2. **Garbage Chutes and Dumpsters:** All combustible garbage chutes must have an automatic sprinkler head recessed into the top of the chute and supplied by a temporary water supply. The supply must be a commercial rubber hose a minimum of

3/4" diameter. Dumpsters must be removed from the site as soon as filled to prevent debris from clogging the chute. Dumpsters, not associated with a garbage chute, must be a minimum of 20' away from the structure under construction where practicable.

3. **Combustible Debris:** Wood, cardboard, packing material, form lumber, and similar combustible debris shall not be allowed to accumulate within buildings. Such debris, rubbish, and waste material shall be removed from buildings on a daily basis.
4. **Oily Rags:** Oily rags and similar material shall be stored in metal or other approved containers equipped with tight-fitting covers.

F. Compressed Gases

1. **Protection of Gas Cylinders:** Gas cylinders shall be protected as follows:
 - a. Combustible materials shall be kept a minimum of 10 feet from gas cylinders.
 - b. Cylinders shall be protected against physical damage.
 - c. Cylinders shall be stored upright, nested and secured to prevent falling.
 - d. Cylinders shall not be placed near elevators, unprotected platform edges or other areas where they would drop more than 2 feet.
 - e. Cylinders shall not be placed in areas where they may be damaged by falling objects.
 - f. When cylinders are not in use, valve-protective caps shall be in place.
 - g. Ropes, chains or slings shall not be used to suspend gas cylinders, unless the cylinder was manufactured with appropriate lifting attachments.
2. **Separation:** When stored, gas cylinders shall be separated from each other based on their hazard classes.
3. **Marking:** Gas cylinders shall be marked with the name of the contents.

G. Liquefied Petroleum Gas (LP-Gas)

1. **Use in Buildings: A Temporary Heating Permit is required from CSFD prior to any propane for heating be delivered to the site.** Propane containers may be used in buildings under construction or undergoing major renovation as a fuel source for temporary heating for curing concrete, drying plaster and similar applications in accordance with the following:
 - a. Heating elements (other than integral heater-container units) shall be located at least 6 feet from any LP- Gas container.
 - b. Integral heater-container units specifically designed for the attachment of the heater to the container, or to a supporting stand attached to the container, may be used provided they are designed and installed so as to prevent direct or radiant heat application to the LP-Gas container.
 - c. Blower and radiant type units shall not be directed toward any LP-Gas container within 20 feet.
 - d. Heat producing equipment shall be installed with clearance to the combustibles in accordance with the manufacturer's installation instructions.
 - e. Cylinders shall comply with DOT cylinder specifications and shall be secured in an upright position.
 - f. Regulators shall be approved for use with LP-Gas. Fittings shall be designed for at least 250 PSI service pressure.

- g. Hose shall be designed for a working pressure of at least 350 PSI. (unless limited to 5 PSI) and shall be a maximum of 6 feet in length.
 - h. Portable heaters shall be equipped with an approved automatic device to shut off the flow of gas to the main burner and to the pilot in the event of flame extinguishment or combustion failure. Portable heaters with an input of more than 50,000 Btu/hr shall be equipped with either a pilot that must be primed before the main burner can be turned on or an approved electronic ignition system.
- 2. Occupied Buildings:** LPG storage/use in buildings undergoing alteration and that are fully or partially occupied, the following shall also apply:
- a. Specific approval must be obtained from CSFD prior to bringing LP-Gas containers on-site.
 - b. The maximum water capacity of individual containers shall be 5-gallon water capacity and the number of containers in the building shall not exceed the number of workers assigned to using the LP-Gas.
 - c. Containers having a water capacity greater than 2½ pounds (1 quart) shall not be left unattended.

H. Hot Work

1. Hot work permits through CSFD are required during active burn restrictions and must be applied and paid for prior to any hot work during those times. Hot work includes any work involving operations capable of initiating fires or explosions, including cutting, welding, brazing, soldering, grinding, thermal spraying, thawing pipe, torch applied roofing, or any other similar activity. The use of hot work equipment shall be in accordance with the following requirements, including a pre-site inspection, fire watch and post inspection procedures. See Appendix B for example of site specific hot work permit.
2. **Pre-Site Inspection:** An inspection of the hot work site shall be conducted by the SSD or his/her designee prior to hot work operations to ensure that:
 - a. The hot work site is clear of combustibles or that combustibles are protected.
 - b. Exposed construction is comprised of noncombustible materials or combustible materials are protected.
 - c. Openings are protected.
 - d. There are no exposed combustibles on the opposite side of partitions, walls, ceilings, floors, etc.
 - e. Fire extinguishers are available, fully charged, and operable.
 - f. Fire watch personnel are assigned, equipped, and trained.
3. **Fire Watch:** The sole duty of fire watch personnel shall be to watch for the occurrence of fire during and after hot work operations. Individuals designated to fire watch duty shall have fire extinguishing equipment readily available and shall be trained in the use of such equipment. Personnel assigned to fire watch shall be responsible for extinguishing spot fires and communicating an alarm. Hot work conducted in areas with vertical and horizontal fire exposures that cannot be observed by a single individual shall have additional personnel assigned to fire watches to ensure that all exposed areas are monitored.
4. **Post-Work Inspection:** The fire watch shall be maintained a minimum of 30 minutes after the conclusion of the work to look out for leftover sparks, slag or smoldering combustibles.

5. **Red Flag Days:** On red flag declared fire days (due to temperature, humidity and/or wind conditions), hot work operations shall be curtailed, and the fire watch shall be extended through the night.

I. Special Equipment

1. **Motorized Equipment:** Motorized equipment, including internal-combustion-powered construction equipment, shall be used in accordance with the following;
 - a. Fuel for equipment shall be stored in an approved area outside of the building.
 - b. Equipment shall not be refueled while in operation.
 - c. Equipment shall be located so that exhausts do not discharge against combustible materials.
 - d. When possible, exhausts should be piped to the outside of the building. *Special care should be taken with diesel powered equipment likely to go into re-gen.
2. **Temporary Heating Equipment:** Temporary heaters, such as those that are LPG fueled, shall be listed and shall be installed, used, and maintained in accordance with the manufacturer's instructions (See LPG storage and use requirements, above). Heating devices shall be secured properly and kept clear from combustible materials. Refueling operations shall be conducted in an approved manner.
3. **Asphalt and Tar Kettles:** Asphalt kettles shall not be located within 20 feet of any combustible material, combustible building surface or building opening. With the exception of thermostatically controlled kettles, an attendant shall be within 100 feet of a kettle when the heat source is operating. Ladders or similar obstacles shall not form a part of the route between the attendance and the kettle. Kettles shall be equipped with tight-fitting covers. A minimum 40-B:C rated portable fire extinguisher shall be located within 25 feet of each asphalt kettle when the heat source is operating. Minimum 40-B:C rated portable fire extinguishers also shall be located on roofs during asphalt coating operations.

IV. INSPECTIONS.

It shall be the duty of the SSD to notify CSFD that the SSP implementation is ready for inspection. It shall also be the responsibility of the SSD to provide access to and means for proper inspection of the SSP.

Be advised that approval as the result of an inspection shall not be construed to be an approval of a violation of the provision of the adopted fire code, standards, or of other ordinances of the City of Colorado Springs. Inspections presuming to give authority to violate or cancel provision of this code or of other ordinances of the jurisdiction shall not be valid (IFC 108.4).

Failure to properly conduct, document, and maintain documentation required by the SSP shall constitute an unlawful act per IFC 112.1. The first violation will result in a written warning being issued by CSFD. The second violation will result in a notice of violation per IFC 112.3 being issued to the Site Safety Director. The third violation will result in CSFD issuing a stop work order per IFC 113 and a summons may be issued, and work shall not resume until satisfactory assurances of future compliance have been presented to the fire code official for approval.

REFERENCES AND LINKS

Administrative Rulings and IFC Amendments can be found on the CSFD web site at <https://coloradosprings.gov/fire-department/page/fire-code-amendments-and-administrative-rulings>

APPENDIX A SITE SAFETY PLAN SUBMITTAL CHECKLIST

The purpose of this site safety plan is to consolidate all the information relevant to CSFD's review into one location limiting the need to cross reference multiple drawings, specialties, and/or trades. The plan must be neat, clear, and legible. Inaccurate, incomplete, or poorly drawn plans may be rejected. The plans must be submitted in large enough format so that all required items are visible and with clear detail. All submittals are to be submitted electronically to CSFD for review.

Sites with multiple lots under the control of separate contractors will require separate submittals for each lot.

All newly constructed, altered, or demolished building built to the 2021 IFC shall implement a written SSP. The following construction projects shall require a SSP reviewed and approved by CSFD:

- i. New ground up commercial and multifamily construction projects including townhomes and condominiums.
- ii. Additions to existing buildings exceeding 1,000 sq ft.
- iii. Interior remodels, interior finishes, and changes of occupancy exceeding 12,000 sq ft
- iv. Other projects deemed a high risk per the fire code official.
- v. Demolition of any building meeting the criteria above

All required site safety plans shall be submitted to CSFD within 45 days of receiving their construction permit through PPRBD.

Changes to site conditions and/or responsible personnel that impact the approved site safety plan shall be re-submitted to CSFD for approval within 30 days of these changes being made.

General Information:

1. Project name
2. Project address
3. Design/firm responsible for the fire safety plan
4. Design/firm contact information
5. Owner's contact information
6. Owner's designated Site Safety Director (SSD) (Site Safety Director must also sign the submittal)
7. SSD designees for performing daily inspections if SSD is not on the construction site full time.
8. SSD designees' documentation of qualifications
9. SSD's contact information
10. SSD qualifications
11. Fire watch contractor (if applicable)
12. Fire watch contractor's contact information
13. Project description
14. Date prepared
15. North Arrow
16. Drawing scale
17. Drawing legend

Site Plan Information:

1. Property boundaries and dimensions
2. Locations of construction trailers and field offices and separations distances per NFPA 241 Section 5.2.
3. Locations of staging and stockpile/laydown areas
4. Locations of dumpsters, trash receptacles, and material recycling
5. Locations of loading/unloading areas
6. Crane use details, including but not limited to – ROW encroachment, swing radius, loading locations.
7. Locations and footprint of all proposed buildings and existing buildings to remain.
8. Indicate on building footprint locations of building entry points, stairwell locations, and construction elevator locations
9. Within footprint of each building provide the building height, building construction type and occupancy classification.
10. Public and private street names adjacent to and within construction site
11. Significant natural features (rock outcroppings, forested areas, water features, etc.)
12. Barriers or obstructions (walls, fences retaining structures, overhead features, etc.) and indicate height and material/construction.
13. Proposed/existing Knox box location (if required)
14. Command post location per NFPA 241 Section 4.12.1.

Fire Apparatus Access:

1. Locations of temporary or permanent street signs, drives, parking areas, and building address numbers throughout the entire building site with dimensions
2. Locations of fire apparatus access roads with dimensions showing that it will have a minimum of 20 ft of clear space or be provided with temporary fire lane signage per IFC Appendix D. (Must be maintained, continuously accessible, and unobstructed at all times.)
3. Indicate if fire access roads are permanent or temporary (If temporary, they must be maintained until the permanent fire apparatus access roads are installed.)
4. Provide dimensions showing that the fire access road extends to within 150 ft of all portions of the facility.
5. Provide dimensions showing that the fire access road extends to within 100 ft of any temporary FDC locations and locations of temporary FDC signs
6. Surface material and grades of all fire department access roads and that material will support a weight of 75,000 lbs. with a single axle weight of 27,000 lbs. Surface of road must be of an all-weather material.
7. Show gates across all drivable surfaces and indicate gate operation, movement, and clear width opening dimensions. Type of Knox equipment to be provided (padlock, override switch, etc.)
8. Ensure all dead ends are provided with approved CSFD turnaround.

Water Supply:

1. Required fire flow and number of hydrants required for the building.

2. Show all existing and proposed fire hydrants with spacing and dimensions to the building were relevant and as needed to demonstrate compliance with IFC Section 507 and Appendix C.
3. Indicate which fire hydrants (either existing or proposed) will be live and operational for firefighting operations. (At least one operational fire hydrant on site is required before combustibles can be brought onto the job site.)
4. Provide note that all non-operational fire hydrants shall be properly bagged to provide a visual indication that they are non-operational.
5. Procedures in place to ensure continuous and unobstructed access to all operable fire hydrants and that a 3 ft radius clear space is being maintained around operational hydrants.

Fire Protection and Suppression:

1. Locations of any temporary fire protection elements such as temporary standpipe hose connections
2. Locations of existing and proposed FDCs and indicate if these are permanent or temporary locations.
3. Location of temporary rated separations and the rating level (1 hr., 2 hr., etc.)
4. Fire extinguisher policy and required fire extinguisher locations.
5. Fire protection and suppression systems implementation and impairment procedures

Fire Prevention Program:

1. Means of communicating an emergency to both on-site workers and 911
2. Description of the permitting process for any hot work operations (Is a hot work permit from CSFD required?)
3. Emergency reporting procedures
4. Evacuation procedures
5. Fire watch procedures
6. Debris, rubbish, and waste removal and housekeeping procedures
7. Maintaining means of egress procedures
8. Daily self-inspection program procedures including maintenance of records.
9. Smoking and cooking policies, locations, and signage
10. Locations and procedures for temporary heating (Is a permit required from CSFD for temporary LP heat?)
11. Site Security procedures
12. For Site specific items not addressed refer to IFC Chapter 33 and NFPA 241

Hazardous Materials:

1. Location and protection measures for flammable and combustible liquids and gases
2. Signage in place around hazmat – No Smoking, NFPA 704 placard
3. Locations and procedures for explosives
4. Location of hazardous material MSDS sheets and records
5. Is a temporary use hazmat or fuel tank permit required from CSFD?

APPENDIX B HOT WORK PERMIT

When the City of Colorado Springs is under burn restrictions, in addition to the site hot work permit, a hot work permit must be obtained from CSFD.

HOT WORK SELF-AUDIT

Address: _____ Room: _____ Date: _____

Supervisor: _____ Audit Performed by: _____

General Welding/ Cutting	Y	N	N/A	COMMENTS
1. Welding/ cutting restricted to authorized employees				
2. Fire permit Obtained				
3. Hot work performed in shop area, if possible				
4. Combustible material at least 35' from worksite				
5. Floor/ wall openings covered min. 35' from worksite				
6. Policy for preventing hot work in explosive or toxic environments in place				
7. Fire resistant blankets/ shields provided				
8. Personal protective equipment in use				
9. Local or general exhaust ventilation adequately used				
10. Appropriate fire extinguisher in vicinity of the hot work				
11. Building sprinkler system is operation (when applicable)				
12. Fire watch procedures in place				
13. Hot work permit system is being used				

General Welding and Cutting Controls

1. Welding and cutting operations should be restricted to workers who have been properly trained.
2. Fire code permits are required for all welding and cutting operations. Permits are obtained from the local fire official.
3. Whenever possible, hot work should be performed in a properly designed shop area equipped with all necessary controls and adequate ventilation.
4. Combustible materials, such as building construction materials or other building contents, must be located at least 35 feet from the hot work area or properly protected to prevent hot sparks from contacting them. Floors within this area must also be swept clean of all combustible materials.

5. All openings in floors and wall within 35 feet of the hot work area must be covered to prevent hot sparks from entering walls or falling beneath floors or to a lower level.
6. Hot work should not be conducted in the presence of explosive mixtures of flammable gases, vapors, liquids, or dusts or where explosive mixtures could develop inside improperly prepared tanks or equipment. Atmospheric testing and monitoring for combustible gases and vapors should be conducted before work begins and at predetermined intervals thereafter.
7. Fire resistant curtains and tinted shields should be used to prevent fire, employee burns, and ultra-violet light exposure.
8. Personal protective equipment specifically designed for hot work should be provided to and used by workers. Potential for material being worked on or surface coatings to emit toxic fumes should be considered.
9. A fire extinguisher rated at not less than 2-A:20-B:C must be available in shop areas where hot work is performed. A fire extinguisher rated at not less than 2-A:10-B:C must be attached to all portable welding carts.
10. The building's sprinkler system, if so equipped, must be operational before hot work can begin.
11. A person other than the operator should perform fire watch duties and should remain at the worksite for at least 30 minutes after hot work operations have ended.
12. A written hot work permit can serve as a checklist for operators and helps minimize the risk of fire from such activities.

Hot Work in Confined Spaces	Y	N	N/A	COMMENTS
1. Confined space rescue procedures in place				
2. Ventilation & respiratory protection provided				
3. Welding equipment stored outside of space				
4. Electrodes removed from holders and/or gas supply shut off while operations are suspended				
5. Hot work permit issued				
Compressed Gas Cylinders	Y	N	N/A	COMMENTS
1. Oxygen and fuel gas cylinders stored separately w/ caps in place				
2. Regulators compatible w/ cylinders				
3. Cylinders carts used for transport				
4. Cylinders secured against tipping				
5. Empty cylinders returned to supplier				
Training	Y	N	N/A	COMMENTS
1. Workers trained in safe hot work procedures				
2. Personal protective gear provided				
3. Confined space entry training provided				

1. When working in poorly ventilated spaces, exposure to air contaminants generated by welding or cutting must be controlled by ventilation, respiratory protection, or a combination of the two.
2. Gas cylinders and welding machines must be left outside the space when work is performed in spaces such as boilers, tanks, or pressure vessels. Heavy portable equipment mounted on wheels must be securely blocked to prevent movement.
3. A substantial period of time can be defined as lunch breaks or longer.
4. written hot work permit should be used for all hot work operations.

Compressed Gas Cylinders

1. Except when in use, oxygen and fuel gas cylinders must be stored separately, at least 20 feet apart or separated by a noncombustible wall at least 5 feet high.
2. Many regulators are similar in design and construction. Ensure that regulators are designed for the cylinder used by checking the manufacturer's model number and comparing that with the gas supplier's requirements.
3. Cylinders should always be secured in an upright position. Information is available through EHS on methods for securing cylinders.

Training

1. Workers should be trained in proper equipment operation, handling and storage of welding materials, compressed gas safety, chemical hazards, and in working procedures including the written hot work permit.
2. Workers must receive training on personal protective equipment selection and use. Documentation of the training must be maintained.
3. Workers must receive training before working in confined spaces.

APPENDIX C FIRE WATCH POLICY

A fire watch is a temporary measure intended to ensure continuous and systematic surveillance of a building or a portion thereof by one or more qualified individuals for the purpose of identifying and controlling fire hazards, detecting early signs of unwanted fire, raising an alarm of fire, and notifying the fire department. **If fire watch is to be used as an alternative to allow stocking of combustibles within the building, Fire Construction Services shall review and approve the proposed fire watch procedure prior to implementation.**

Requirements: The individual assigned as Fire Watch shall conduct hourly patrols of the entire facility. They shall be knowledgeable of the Fire Plan for the site. Patrol of the facility should provide an opportunity to observe all areas within a 15-minute travel time. Fire Watch's shall be responsible for observing the perimeter for any security violations and that fire department access is not being blocked or obstructed.

Duties Fire Watch Personnel Shall:

- Have access to one approved means of communication with emergency responders.
- Know the exact address of the property, how to report a fire or other emergency by calling 911.
- Know the proper procedure for interfacing with responding fire companies and law enforcement.
- Be familiar with the buildings and the property and have an approved written plan for patrolling the property
- Be informed of all Hot Work conducted on-site, special emphasis should be placed on these locations
- **Checking on areas affected by any fire system outage, to include storage areas, hazardous areas, resident rooms, employee work areas, break rooms and exit corridors.**
- Be properly trained in fire behavior and fire causes, and the use of fire extinguishers and shall have access to all facility fire extinguishers and know their locations
- Keep a log of all Fire Watch related activities. The log shall include; address of the facility, time out and time in of each patrol, name of the Fire Watch designee and notes regarding other related activities observed. The fire watch log shall be kept in an accessible location for CSFD review.
- **NOT** be permitted, while on duty, to perform any other duties.
- **NOT** be impaired and shall remain awake and alert always.

Property Address: _____

Designated Fire Watch Name: _____ Signature: _____

Date Issued: _____

Note: If in the opinion of the Fire Code Official, the life safety hazard is too great, the Fire Code Official may require a licensed/bonded security company be utilized in lieu of staff members. Also, the Fire Code Official has the authority to place a Fire Apparatus staffed with Firefighters as standby fire protection at the expense of the owner/ occupant.

APPENDIX D EVACUATION PLANNING

Background: The general contractor, or project manager should develop and implement a fire safety evacuation plan before work starts. The plan should be in writing and distributed to all workers and sub-trades on the project, including site visitors.

Here are some examples:

- Document and post the name and phone numbers of all personnel responsible for managing the fire safety evacuation plan, including after-hours contact information.
- Post emergency evacuation procedures, including warnings not to use elevators when a fire alarm sounds.
- Post floor plans identifying means of egress, exit stairwells, portable fire extinguishers, fire-hose stations, and the outside assembly area.
- Appoint fire warden(s) to ensure that everyone evacuates work areas when a fire alarm is activated or emergency reported.
- Post contact information for Site Safety Director that oversees "hot work" requirements as part of the fire code. Ensure that all construction employees are made aware of "hot work" requirements.
- Where other portions of a building remain occupied during construction or renovation, ensure that those other portions have an evacuation plan and that yours aligns with it.
- Include notice and awareness of the evacuation plan in all meetings with project management, worker, foremen, subcontractors, suppliers, and others who may be on site.
- Hold fire drills using the existing alarm system or an alternative such as compress air horns shouts of "fire", etc. Conduct a post-mortem on response, performance, and awareness of personnel.
- When work is to be done on alarm or sprinkler systems in an occupied building, the sections involved should be isolated and the remainder of the system kept in service if possible. When it is necessary to shut down an entire alarm or sprinkler system, implement and enforce a 24-hour fire watch until the system is returned to full service. Post notices to this effect, including the order to call 911 immediately in the event of fire.

Sample of Instructions to Occupants

As an instruction sheet this form can be used to develop a sign that can be posted on construction sites. It can be printed for any guests that are on the property. They can also be used as part of the training program for subcontractors and employees.

If You Discover a Fire:	Remain calm and leave the fire area is the nearest safe exit.
	Do not use elevators.
	Immediately activate the nearest means of notifying emergency services that a fire is occurring.
	Give them the address of the building.
	At your discretion, you might consider attempting to control the fire will available fire extinguishers if you have received training on their use. Do not remain in the fire area any longer than necessary.
	Go to the designated assembly area.
	Do not go back into the building for any reason
	The fire department will advise all personnel when it is safe to return to the structure
When you hear a Fire Alarm:	Remain calm and leave the fire area is the nearest safe exit.
	Do not use the elevator!
	If there any doors that you enclosed behind you when proceeding along corridors or down stairways close them.
	When you reach the outside to move away from the building.
	Once you have exited the building and are safe report the fire to the emergency number and give them the street address
	Do not go back into the building for any reason
	Go to the designated assembly area
	The fire department will advise when it is safe to return to the building
The designated assembly area for this building is:(to be filled in on site)	

APPENDIX E DAILY INSPECTION CHECKLIST

Address _____

PPRBD permit #/CSFD plan review # _____

Inspector: _____ Date: _____

- Copy of CSFD approved Site Safety Plan on site*

Site Safety Director: _____ Phone: _____

*A site safety plan reviewed and approved by CSFD is required for all new ground up commercial, multi-family residential including townhomes, and for additions of 1,000 sq ft or more

Site Safety Director Responsibilities

- Records of the daily self-inspection program are available for review
- All necessary permits (hot work, blasting, etc.) have been obtained?
- Fire watch service is provided for the site
- Fire protection systems installed are being maintained appropriately, and records are available
- Water supplies for fire protection are installed and in service
- Street signs for new roads posted
- Location address is conspicuously posted
- Site access for fire protection

Temporary Offices and Sheds

- Separation distance between the building under construction and temporary construction-related structures are appropriate? (min. 30'; see NFPA 242, table 4.2.1)
- Only approved heating devices are in use, and are being used appropriately

Equipment

- Exhausts from compressors, pumps, hoists, etc. are located away from combustible materials
- Equipment fuel and service areas are located outside of the structure

Hot Work

- Hot work precautions and fire watches are being performed in accordance with NFPA 51B

- Fire watchers are dedicated to only the hot work for the duration of the work and after as appropriate
- Bulk storage of Thermit welding materials are in a detached shed at least 50' from the buildings

Temporary Heating Equipment

- Equipment is listed and being used, installed, maintained in accordance with the manufacturer's instructions and recognized safe practices
- Equipment is situated so that it is secured? Electrical equipment has tip-over and overheat cutoffs

Smoking

- Smoking is only permitted in designated areas where safe receptacles are provided

Fire Extinguishers

- Approved size fire extinguishers per IFC Section 909 provided at the following locations
- Stairway at each floor level
- Every storage and construction shed
- Special hazard locations such flammable/combustible liquids storage/use

Waste Disposal

- Combustible waste materials are removed from in and around the structure at the end of each work shift (at a minimum)

Flammable and Combustible Liquids and Flammable Gases

- Not more than 60gal of Class I or II liquids within 50' of the structure
- Storage areas have appropriate placards in accordance with NFPA 704

Explosive Materials

- No explosives materials are stored on site
- All explosive operations are done under permit

Electrical

- Extension cords are free from damage?
- Temporary lights are equipped with guards to prevent contact with bulbs?

Access for Fire Fighting

- Approved fire department access road extends to within 150 ft. of all portions of the exterior of the first level of the building and within 100 ft. of FDC
- At least one stair reaching the level of work, in compliance with IFC, and is available at all times

- The stairway is lighted and has signs indicating level, stair designation, and exit direction
- Knox padlock provided on construction gates

Hydrants

- Pedestrian walkways are not blocking access to hydrants
- Access to hydrants from street, FDC's, or other connections is clear at all times

Standpipes

- Where standpipes are required, they are maintained in conformity with the progress of the building and readily available for use? (Not more than 1 floor below highest forms, staging, combustibles, etc.)
- A FDC is readily available at street level and conspicuously marked

Means of Egress

- Construction workers have adequate means of escape available to them at all times

Scaffolding, Shoring, and Forms

- Combustible forms or form lumber are removed from the structure when not in use

Construction Material and Equipment Storage

- Equipment to be installed, combustible packing materials, and combustible construction materials are not being stored in unprotected structures

Building Separation Walls

- Fire doors with closers and hardware once installed are not obstructed from closing

Temporary Separation Walls

- Occupied portions are separated from the area of work with temporary walls with a fire rating of 1hr and opening protective rating of ¾ hour? (not required to be rated if sprinkled)

Safeguarding Roofing Operations

- Asphalt and tar kettles are not located on roofs? They are outside the building at least 10' from exit
- Roofing hot work fire watch is at least 2 hours after torches are extinguished
- At least one 20-B rated fire extinguisher is between 5' and 25' from kettle while in operation
- There is at least 1 multipurpose 2-A:20B:C extinguisher on the roof within 20' of equipment

- Solid fuel or Class I liquids are not being used as fuel for roofing kettles
- Uninsulated fuel containers greater than 1lb are at least 10' from the burner flame
- LP-Gas Cylinders are secured to prevent tip-over

Safeguarding Demolition Operations

- Standpipes are being maintained in conformity with the demolition progress of the building
- Fire doors are closed at the end of each work day
- Sprinkler control valves are checked at the end of each workday to ensure protection is in service

Safeguarding Underground Operations

- The aboveground entrance has security keeping an accurate record of who is underground at all times using a check-in/check-out system
- A written fire prevention, fire suppression, and emergency plan is available for review
- Records of evacuation and disaster drills for each shift, at least once at the start of operations, and every 6 months, are available for review
- Audible and visual alarm and emergency lighting for evacuation is installed
- Two means of communication with the underground are available and are tested weekly
- Class I liquids are not underground or within 100' of a tunnel or shaft opening
- Class II and III liquids are in approved closed containers and are limited to that necessary for one work shift
- Metal containers with self-closing lids are used to store combustible waste and trash and is taken to the surface daily
- Air-sampling logs showing tests before and after each shift are available for review

Notes: