

## 2016 Plan Review Reminder List - Fire Sprinkler

### Applicable Codes and Standards

CAC 2016, CBC 2016, CFC 2016

NFPA 13 - 2016

**Instructions:** The following items are to be verified for completeness prior to submitting to OSHPD for plan review

<u>CHK.</u>	<u>N/A</u>	<b>Submittal Requirements</b>	
<input type="checkbox"/>	<input type="checkbox"/>	1. Two (2) sets of plans and calculations	CAC, Sec. 7-113 (a) 2. C
<input type="checkbox"/>	<input type="checkbox"/>	2. Two (2) sets of equipment submittals (cut sheets and product information)	CAC, Sec. 7-113 (a) 2. C
<input type="checkbox"/>	<input type="checkbox"/>	3. Water supply and pressure data from city, district or water purveyor. (test data must be no more than one year old)	NFPA 13, Sec. 23.2.1.1
<input type="checkbox"/>	<input type="checkbox"/>	4. Transmittal letter with name, address, phone, fax, email and license number of sprinkler contractor	CAC, Sec. 7-115 (c) 5.
<input type="checkbox"/>	<input type="checkbox"/>	5. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of the California Fire Code and relevant laws, ordinances, rules and regulations as determined by the fire code official.	CFC, Sec. 105.4.2
<input type="checkbox"/>	<input type="checkbox"/>	6. Shop drawings shall contain all information as required by the referenced installation standards in the California Fire Code, Chapter 9.	CFC, Sec. 105.4.2.1
<u>CHK.</u>	<u>N/A</u>	<b>I. General Information - Working Plans</b>	
<input type="checkbox"/>	<input type="checkbox"/>	1. Name of owner and occupant	NFPA 13, Sec. 23.1.3 (1)
<input type="checkbox"/>	<input type="checkbox"/>	2. Location, including street address	NFPA 13, Sec. 23.1.3 (2)
<input type="checkbox"/>	<input type="checkbox"/>	3. Symbol legend, sheet numbers	CFC, Sec. 105.4.2
<input type="checkbox"/>	<input type="checkbox"/>	4. Point of compass, graphic scale	NFPA 13, Sec. 23.1.3 (3) (32)
<input type="checkbox"/>	<input type="checkbox"/>	5. Scope of work. Indicate if part of a remodel or new building project or a separate fire sprinkler project.	CFC, Sec. 105.4.2
<input type="checkbox"/>	<input type="checkbox"/>	6. Stamp and signature of the designer in responsible charge, if applicable	CAC, Sec. 7-115 (a) & (b)
<input type="checkbox"/>	<input type="checkbox"/>	7. Location of partitions and fire-resistance rated walls and partitions	NFPA 13, Sec. 23.1.3 (5) (6)
<input type="checkbox"/>	<input type="checkbox"/>	8. Design numbers and details of through penetration fire stop systems	CFC, Sec. 105.4.2
<input type="checkbox"/>	<input type="checkbox"/>	9. Full height cross section of building showing location of fire sprinklers, piping, structural members and ceiling construction	NFPA 13, Sec. 23.1.3 (4)
<input type="checkbox"/>	<input type="checkbox"/>	10. Reflected ceiling plans indicating fire sprinkler locations and structural members	CFC, Sec. 105.4.2
<input type="checkbox"/>	<input type="checkbox"/>	11. Use and function of each area or room	NFPA 13, Sec. 23.1.3 (7)
<input type="checkbox"/>	<input type="checkbox"/>	12. Location and size of concealed spaces, closets, attics, and bathrooms	NFPA 13, Sec. 23.1.3 (8)
<input type="checkbox"/>	<input type="checkbox"/>	13. Any small enclosures in which no sprinklers are to be installed	NFPA 13, Sec. 23.1.3 (9)
<input type="checkbox"/>	<input type="checkbox"/>	14. Make, type, model, sprinkler identification number and nominal K-factor of sprinklers. Indicate existing sprinkler type where applicable	NFPA 13, Sec. 23.1.3 (12)
<input type="checkbox"/>	<input type="checkbox"/>	15. Temperature rating and location of high temperature sprinklers	NFPA 13, Sec. 23.1.3 (13)
<input type="checkbox"/>	<input type="checkbox"/>	16. Number of sprinklers on each riser per floor and total area of protected space	NFPA 13, Sec. 23.1.3 (15)
<input type="checkbox"/>	<input type="checkbox"/>	17. Total number of sprinklers on each dry pipe, preaction, or deluge system	NFPA 13, Sec. 23.1.3 (16)
<input type="checkbox"/>	<input type="checkbox"/>	18. Approximate capacity in gallons of each dry pipe system	NFPA 13, Sec. 23.1.3 (17)
<input type="checkbox"/>	<input type="checkbox"/>	19. Pipe type and schedule of wall thickness	NFPA 13, Sec. 23.1.3 (18)
<input type="checkbox"/>	<input type="checkbox"/>	20. Nominal pipe size and cutting lengths of pipe	NFPA 13, Sec. 23.1.3 (19)
<input type="checkbox"/>	<input type="checkbox"/>	21. Location and size of riser nipples	NFPA 13, Sec. 23.1.3 (20)
<input type="checkbox"/>	<input type="checkbox"/>	22. Location and complete detail of sprinkler and standpipe risers	CFC, Sec. 105.4.2
<input type="checkbox"/>	<input type="checkbox"/>	23. Types of fittings and joints and location of all welds ( Welding inspection to be included on TIO)	NFPA 13, Sec. 23.1.3 (21)

- 24. Type and location of hangers, trapezes, methods of restraint, sleeves and braces (Provide calculations for sway bracing) NFPA 13, Sec. 23.1.3 (22) (39)
- 25. All control valves, check valves, drain pipes, and test connections NFPA 13, Sec. 23.1.3 (23)
- 26. Make, type, model and size of alarm, dry pipe, preaction or deluge valve NFPA 13, Sec. 23.1.3 (24) (25)
- 27. Size and location of standpipe risers, hose connections, small hand hose and related equipment NFPA 13, Sec. 23.1.3 (27)
- 28. Type and location of outside alarm CFC, Sec. 903.4.2
- 29. Reference plans of the private fire service main to the city connection including size, type and location of pipe control valves and check valves NFPA 13, Sec. 23.1.3 (10) (23)
- 30. Type and location of backflow prevention devices NFPA 13, Sec. 23.1.3 (41)
- 31. Size, location, and piping arrangements for fire department connections NFPA 13, Sec. 23.1.3 (44)
- 32. Complete installation details for fire pumps where provided CFC, Sec. 105.4.2
- 33. Where the installation is an addition to an existing system, enough of the existing system indicated on the plans to make all conditions clear NFPA 13, Sec. 23.1.3 (30)
- 34. The information on the hydraulic data nameplate NFPA 13, Sec. 23.1.3 (31)
- 35. Hydraulic reference points shown on the plan that correspond to the hydraulic calculations NFPA 13, Sec. 23.1.3 (34)
- 36. The minimum rate of water application (density or flow or discharge pressure), the design area of water application and the water required for hose streams both inside and outside NFPA 13, Sec. 23.1.3 (35)
- 37. When room design method is used, show unprotected wall openings on floor NFPA 13, Sec. 23.1.3 (38)
- 38. The pressure setting for pressure reducing/regulating valves NFPA 13, Sec. 23.1.3 (40)
- 39. Relative elevations of sprinklers and hydraulic reference points NFPA 13, Sec. 23.1.3 (37)
- 40. Location of fire hydrants NFPA 13, Sec. 23.1.3 (43)
- 41. Ceiling heights and slopes not included in full height cross section NFPA 13, Sec. 23.1.3 (45)
- 42. When scope includes installation of private fire mains, provide main sizes, lengths, locations, weights, materials, point of connection to city main; the sizes, types and locations of valves, valve indicators, regulators, meters, and valve pits; and the depth that the top of the pipe is laid below grade (See NFPA 24) NFPA 13, Sec. 23.1.3 (28)

**CHK. N/A II. Hydraulic Calculation Worksheets**

- 1. Hydraulic calculations on sheets that include a summary sheet, graph sheet, water supply analysis, node analysis and detailed worksheets NFPA 13, Sec. 23.3.5.1.1
- 2. Sheet number NFPA 13, Sec. 23.3.5.6 (1)
- 3. Sprinkler discharge, discharge constant (K ), and flow in GPM NFPA 13, Sec. 23.3.5.6 (4) (5)
- 4. Hydraulic reference points NFPA 13, Sec. 23.3.5.6 (2)
- 5. Provide hazard classification for all areas to be sprinklered NFPA 13, Sec. 23.3.5.2 (10)
- 6. Indicate if system is hydraulic, pipe schedule or a combination NFPA 13, Sec. 23.3.5.2 (15)
- 7. System design requirements including design area, minimum rate of application, area per sprinkler and number of sprinklers calculated. NFPA 13, Sec. 23.3.5.2 (15)
- 8. Pipe Size, internal diameter, pipe lengths center to center of fittings NFPA 13, Sec. 23.3.5.6 (7) (8) (10)
- 9. Equivalent pipe lengths for fittings and devices NFPA 13, Sec. 23.3.5.6 (11)
- 10. Friction loss in psi/ft of pipe and appropriate "C" factor of pipe NFPA 13, Sec. 23.3.5.6 (14)
- 11. Total friction loss between reference points NFPA 13, Sec. 23.3.5.6 (17)
- 12. Elevation head in psi between each reference point NFPA 13, Sec. 23.3.5.6 (16)
- 13. Required pressure in psi at each reference point NFPA 13, Sec. 23.3.5.6 (18)
- 14. Velocity pressure and normal pressure if included in calculations NFPA 13, Sec. 23.3.5.6 (19) (a)
- 15. Diagram of gridded system indicating flows and directions for remote area NFPA 13, Sec. 23.3.5.6 (19)(d)
- 16. Pressure loss assigned the backflow device NFPA 13, Sec. 23.3.5.6 (19)(f)
- 17. Graph sheet showing supply curve, demand and hose allowance NFPA 13, Sec. 23.3.5.3

- |                          |                          |  |  |
|--------------------------|--------------------------|--|--|
| <b><u>CHK.</u></b>       | <b><u>N/A</u></b>        | <b>III. Additional Information</b>   |  |
| <input type="checkbox"/> | <input type="checkbox"/> | 1. General notes   | CFC, Sec. 105.4.2                                      |
| <input type="checkbox"/> | <input type="checkbox"/> | 2. Basic building information including occupancy group, type of construction, number of stories, floor area and presence of sprinkler protection in adjacent buildings or areas | CFC, Sec. 105.4.2                                      |
| <input type="checkbox"/> | <input type="checkbox"/> | 3. Indication of applicable editions of NFPA 13, CBC & CFC   | CFC, Sec. 105.4.2                                      |
| <input type="checkbox"/> | <input type="checkbox"/> | 4. Reference CBC amendments to NFPA 13 in CBC Chapter 35   | CFC, Sec. 105.4.2                                      |
| <input type="checkbox"/> | <input type="checkbox"/> | 5. Reference OSHPD Policy Intent and Code Application Notices  | CFC, Sec. 105.4.2                                      |
| <input type="checkbox"/> | <input type="checkbox"/> | 6. Record of local authority approval for appliance locations, water supply requirements and cross-connection protection - OSHPD form available                                  | CFC, Sec. 507, Sec. 912 & T-17, CCR, Sec. 7583 et seq. |

- |                          |                          |  |                      |
|--------------------------|--------------------------|--|----------------------|
| <b><u>CHK.</u></b>       | <b><u>N/A</u></b>        | <b>IV. Equipment Submittals</b>  |                      |
| <input type="checkbox"/> | <input type="checkbox"/> | 1. Manufacturer's installation instructions for any specially listed equipment, including descriptions, applications, and limitations for any sprinklers, devices, piping, or fittings | NFPA 13, Sec. 23.1.4 |
| <input type="checkbox"/> | <input type="checkbox"/> | 2. California State Fire Marshal listing sheets indicating expiration date for all listed components   | CFC, Sec. 907.1.3    |

**NOTE**

**Compliance with all items on this list does not necessarily assure compliance with all provisions of the applicable codes and standards. This check list should be used only by persons with a comprehensive knowledge of the applicable codes and standards.**

OSHPD Policy Intent Notices and Code Application Notices.  
<http://www.oshpd.ca.gov/FDD/Regulations/CANs/index.html>  
 OSHPD Project Review Status  
[http://www.oshpd.ca.gov/FDD/project\\_status/index.asp](http://www.oshpd.ca.gov/FDD/project_status/index.asp)  
 OSHPD Public Use Forms  
<http://www.oshpd.ca.gov/FDD/Forms/index.html>