

2022 Plan Review Reminder List - Fire Sprinkler

Applicable Codes and Standards

CAC 2022, CBC 2022, CFC 2022

NFPA 13 - 2022

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>	Submittal Requirements	
<input type="checkbox"/>	<input type="checkbox"/>	1. Two (2) sets of plans and calculations or in an acceptable electronic format	CAC, Sec. 7-113 (a) 2
<input type="checkbox"/>	<input type="checkbox"/>	2. Two (2) sets of equipment submittals or in an acceptable electronic format (cut sheets and product information)	CAC, Sec. 7-113 (a) 2
<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 six months old)	NFPA 13, Sec. 23.2.1.1, CFC 507.4
<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. 106.2.1
<input type="checkbox"/>	<input type="checkbox"/>	6. Shop drawings (working plans) shall contain all information as required by NFPA 13, Standard for the Installation of Sprinkler Systems.	NFPA 13, Sec. 28.1.1.1
<u>CHK.</u>	<u>N/A</u>	I. General Information - Working Plans	
<input type="checkbox"/>	<input type="checkbox"/>	1. Name and address of building being protected.	NFPA 13, Sec. 28.1.3 (1)
<input type="checkbox"/>	<input type="checkbox"/>	2. Name, telephone number, and address of installing contractor.	NFPA 13, Sec. 28.1.3 (2)
<input type="checkbox"/>	<input type="checkbox"/>	3. Point of compass and graphic scale indications on drawings and details as applicable.	NFPA 13, Sec. 28.1.3 (3)
<input type="checkbox"/>	<input type="checkbox"/>	4. Location of all partitions that extend to or are within a minimum 18 inches to the finished ceiling or exposed deck above.	NFPA 13, Sec. 28.1.3 (4)
<input type="checkbox"/>	<input type="checkbox"/>	5. Location of all fire-rated partitions, fire barriers, draft stops, and draft curtains.	NFPA 13, Sec. 28.1.3 (5)
<input type="checkbox"/>	<input type="checkbox"/>	6. Identification of all rooms and spaces, regardless of occupancy or use.	NFPA 13, Sec. 28.1.3 (6)
<input type="checkbox"/>	<input type="checkbox"/>	7. Identification and labeling of all spaces above and below ceilings where sprinklers will be omitted, including appropriate citation of the section(s) of this standard for such omissions(s).	NFPA 13, Sec. 28.1.3 (7)
<input type="checkbox"/>	<input type="checkbox"/>	8. Location of all fixtures, diffusers, lights, and devices installed in or mounted to the ceiling structure, regardless of the ceiling type (i.e., finished or exposed to structure).	NFPA 13, Sec. 28.1.3 (8)
<input type="checkbox"/>	<input type="checkbox"/>	9. Label finished or exposed ceiling heights for each square including those that are sloped greater than 2 in 12 (16.7 percent).	NFPA 13, Sec. 28.1.3 (9)
<input type="checkbox"/>	<input type="checkbox"/>	10. Location and identification of major mechanical, plumbing and electrical equipment installed above or below ceiling spaces if sprinkler protection is being provided for those areas.	NFPA 13, Sec. 28.1.3 (10)
<input type="checkbox"/>	<input type="checkbox"/>	11. Location and identification of all structural members and identification and labeling of construction types (i.e., obstructed or unobstructed) for each space or portion thereof in the building, as applicable.	NFPA 13, Sec. 28.1.3 (11)
<input type="checkbox"/>	<input type="checkbox"/>	12. Location and identification of concealed spaces regardless of combustibility, and of architectural and or structural features not shown or easily identifiable in the floor plan or reflected ceiling plan views.	NFPA 13, Sec. 28.1.3 (12)
<input type="checkbox"/>	<input type="checkbox"/>	13. Water source(s) supply information, including the following:	NFPA 13, Sec. 28.1.3 (13)
<input type="checkbox"/>	<input type="checkbox"/>	Location	(a)
<input type="checkbox"/>	<input type="checkbox"/>	Type	(b)
<input type="checkbox"/>	<input type="checkbox"/>	Size	(c)
<input type="checkbox"/>	<input type="checkbox"/>	Dimensions	(d)
<input type="checkbox"/>	<input type="checkbox"/>	Capacity	(e)
<input type="checkbox"/>	<input type="checkbox"/>	Configuration	(f)
<input type="checkbox"/>	<input type="checkbox"/>	Elevation	(g)
<input type="checkbox"/>	<input type="checkbox"/>	Static pressure	(h)
<input type="checkbox"/>	<input type="checkbox"/>	Flow rate	(i)
<input type="checkbox"/>	<input type="checkbox"/>	Residual pressure	(j)
<input type="checkbox"/>	<input type="checkbox"/>	Flow test locations, dates, and sources (i.e., city or private).	(k)
<input type="checkbox"/>	<input type="checkbox"/>	Any adjustments from raw data required by the engineer of record (i.e., owner's certificate) or the water authority, if applicable.	(l)

CHK.	N/A	I. General Information - Working Plans (Continued)	
<input type="checkbox"/>	<input type="checkbox"/>	14. Information from the owner's certificate required by NFPA 13, Section 4.2, including the edition of the standard being used.	NFPA 13, Sec. 28.1.3 (14)
<input type="checkbox"/>	<input type="checkbox"/>	15. Identification and labeling of design criteria for each room and or space as shown on building plan, including the following:	NFPA 13, Sec. 28.1.3 (15)
<input type="checkbox"/>	<input type="checkbox"/>	Hazard classification associated with each room or space.	NFPA 13, Sec. 28.1.3 (15)(a)
<input type="checkbox"/>	<input type="checkbox"/>	Identification of all rooms and spaces intended for storage, including the following:	NFPA 13, Sec. 28.1.3 (15)(b)
<input type="checkbox"/>	<input type="checkbox"/>	Commodity classification	i
<input type="checkbox"/>	<input type="checkbox"/>	Storage type and configuration	ii
<input type="checkbox"/>	<input type="checkbox"/>	Height of storage for each dedicated room or space	iii
<input type="checkbox"/>	<input type="checkbox"/>	Type of packaging to be used	iv
<input type="checkbox"/>	<input type="checkbox"/>	16. Identification and labeling of all sprinkler systems, including type and overall area protected by each system.	NFPA 13, Sec. 28.1.3 (16)
<input type="checkbox"/>	<input type="checkbox"/>	17. Location and labeling for the size, dimension, elevation, and type of all major sprinkler components, including the following:	NFPA 13, Sec. 28.1.3 (17)
<input type="checkbox"/>	<input type="checkbox"/>	Pipe, fittings, valves, and test and drain locations.	NFPA 13, Sec. 28.1.3 (17)(a)
<input type="checkbox"/>	<input type="checkbox"/>	Sprinkler legend, per system, including the following:	NFPA 13, Sec. 28.1.3 (17)(b)
<input type="checkbox"/>	<input type="checkbox"/>	Orientation	i
<input type="checkbox"/>	<input type="checkbox"/>	Finish	ii
<input type="checkbox"/>	<input type="checkbox"/>	Manufacturer	iii
<input type="checkbox"/>	<input type="checkbox"/>	Model	iv
<input type="checkbox"/>	<input type="checkbox"/>	SIN number	v
<input type="checkbox"/>	<input type="checkbox"/>	K-factor	vi
<input type="checkbox"/>	<input type="checkbox"/>	Temperature rating	vii
<input type="checkbox"/>	<input type="checkbox"/>	Response type	viii
<input type="checkbox"/>	<input type="checkbox"/>	Quantity of each	ix
<input type="checkbox"/>	<input type="checkbox"/>	If extended coverage or residential type, spacing utilized for this application	x
<input type="checkbox"/>	<input type="checkbox"/>	Manufacturer, model, length, maximum number of bends, and minimum bend radius and corresponding K-factor applied to flexible sprinkler hose.	NFPA 13, Sec. 28.1.3 (17)(c)
<input type="checkbox"/>	<input type="checkbox"/>	18. Location and labeling of all system flushing, forward flow, water flow alarm, and test and drain locations.	NFPA 13, Sec. 28.1.3 (18)
<input type="checkbox"/>	<input type="checkbox"/>	19. Location and labeling of sprinkler system riser(s) and, if applicable, standpipe location(s).	NFPA 13, Sec. 28.1.3 (19)
<input type="checkbox"/>	<input type="checkbox"/>	20. Location and labeling of fire department connections.	NFPA 13, Sec. 28.1.3 (20)
<input type="checkbox"/>	<input type="checkbox"/>	21. Location and labeling of hydraulic calculation, including the following:	NFPA 13, Sec. 28.1.3 (21)
<input type="checkbox"/>	<input type="checkbox"/>	Graphic indication of each area of operation, including a description of any allowed density or area modifications applied.	NFPA 13, Sec. 28.1.3 (21)(a)
<input type="checkbox"/>	<input type="checkbox"/>	Labeling of all node locations that correspond to each hydraulic calculation.	NFPA 13, Sec. 28.1.3 (21)(b)
<input type="checkbox"/>	<input type="checkbox"/>	22. Location and labeling of seismic components including the following:	NFPA 13, Sec. 28.1.3(22)
<input type="checkbox"/>	<input type="checkbox"/>	Zones of influence	(a)
<input type="checkbox"/>	<input type="checkbox"/>	Bracing and restraint assemblies	(b)
<input type="checkbox"/>	<input type="checkbox"/>	Flexible couplings and penetration clearances	(c)
<input type="checkbox"/>	<input type="checkbox"/>	Maximum spacing components	(d)
<input type="checkbox"/>	<input type="checkbox"/>	Design angle category(ies)	(e)
<input type="checkbox"/>	<input type="checkbox"/>	23. Sprinkler system details and information for other system components necessary for the complete installation, including the following:	NFPA 13, Sec. 28.1.3 (23)
<input type="checkbox"/>	<input type="checkbox"/>	Hanger and or hanger assemblies intended to be used throughout.	NFPA 13, Sec. 28.1.3 (23)(a)
<input type="checkbox"/>	<input type="checkbox"/>	Total system volume for dry and double interlock preaction systems.	NFPA 13, Sec. 28.1.3 (23)(b)
<input type="checkbox"/>	<input type="checkbox"/>	24. Hydraulic calculation summary information, including the following:	NFPA 13, Sec. 28.1.3 (23)(c)
<input type="checkbox"/>	<input type="checkbox"/>	Method of calculation	i
<input type="checkbox"/>	<input type="checkbox"/>	Total water and pressure required	ii
<input type="checkbox"/>	<input type="checkbox"/>	Hose demand	iii
<input type="checkbox"/>	<input type="checkbox"/>	25. Special information, settings, or values required for ongoing inspection, testing, and maintenance and system use, including the following:	NFPA 13, Sec. 28.1.3 (23)(d)
<input type="checkbox"/>	<input type="checkbox"/>	Pressure regulating device features and means for conducting a flow test	i
<input type="checkbox"/>	<input type="checkbox"/>	Dry pipe, preaction, and or deluge systems	ii
<input type="checkbox"/>	<input type="checkbox"/>	Information regarding antifreeze solution used	iii

CHK.	N/A	I. General Information - Working Plans (Continued)	
<input type="checkbox"/>	<input type="checkbox"/>	26. Type and location of hangers, trapezes, methods of restraint, sleeves and braces (Provide calculations for sway bracing).	NFPA 13, Sec. 28.1.3 (22) & (23)(a)
<input type="checkbox"/>	<input type="checkbox"/>	27. All control valves, check valves, drain pipes, and test connections.	NFPA 13, Sec. 28.1.3 (17)
<input type="checkbox"/>	<input type="checkbox"/>	28. Make, type, model and size of alarm, dry pipe, preaction or deluge valve.	NFPA 13, Sec. 28.1.3 (23)
<input type="checkbox"/>	<input type="checkbox"/>	29. Size and location of standpipe risers, hose connections, small hand hose and related equipment.	NFPA 13, Sec. 28.1.3 (19)
<input type="checkbox"/>	<input type="checkbox"/>	30. Type and location of outside alarm.	CFC, Sec. 903.4.2
<input type="checkbox"/>	<input type="checkbox"/>	31. 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. 28.1.3 (13)(k) & (20)
<input type="checkbox"/>	<input type="checkbox"/>	32. Type and location of backflow prevention devices.	NFPA 13, Sec. 28.1.3 (18)
<input type="checkbox"/>	<input type="checkbox"/>	33. Size, location, and piping arrangements for fire department connections.	NFPA 13, Sec. 28.1.3 (20)
<input type="checkbox"/>	<input type="checkbox"/>	34. Complete installation details for fire pumps where provided.	CBC, 107.2.1
<input type="checkbox"/>	<input type="checkbox"/>	35. 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. 28.1.3 (23)
<input type="checkbox"/>	<input type="checkbox"/>	36. The information on the hydraulic data nameplate.	NFPA 13, Sec. 28.1.3 (23)
<input type="checkbox"/>	<input type="checkbox"/>	37. Hydraulic reference points shown on the plan that correspond to the hydraulic calculations.	NFPA 13, Sec. 28.1.3 (23)
<input type="checkbox"/>	<input type="checkbox"/>	38. 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. 28.1.3 (13) & (17)
<input type="checkbox"/>	<input type="checkbox"/>	39. When room design method is used, show unprotected wall openings on floor.	NFPA 13, Sec. 28.1.3 (4) & (5)
<input type="checkbox"/>	<input type="checkbox"/>	40. The pressure setting for pressure reducing/regulating valves.	NFPA 13, Sec. 28.1.3 (23)(d) i
<input type="checkbox"/>	<input type="checkbox"/>	41. Relative elevations of sprinklers and hydraulic reference points (nodes).	NFPA 13, Sec. 28.1.3 (21)
<input type="checkbox"/>	<input type="checkbox"/>	42. Location of fire hydrants.	NFPA 13, Sec. 28.1.3 (13)(a)
<input type="checkbox"/>	<input type="checkbox"/>	43. Ceiling heights and slopes not included in full height cross section.	NFPA 13, Sec. 28.1.3 (8) & (9)
<input type="checkbox"/>	<input type="checkbox"/>	44. 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. 28.1.3 (13)(k)
CHK.	N/A	II. Hydraulic Calculation Worksheets	
<input type="checkbox"/>	<input type="checkbox"/>	1. Hydraulic calculations on sheets that include a summary sheet, graph sheet, water supply analysis, node analysis and detailed worksheets.	NFPA 13, Sec. 28.4.1
<input type="checkbox"/>	<input type="checkbox"/>	2. Sheet number.	NFPA 13, Sec. 28.4.5.6 (1)
<input type="checkbox"/>	<input type="checkbox"/>	3. Sprinkler discharge, discharge constant (K), and flow in GPM.	NFPA 13, Sec. 28.4.5.6 (4) (5)
<input type="checkbox"/>	<input type="checkbox"/>	4. Hydraulic reference points.	NFPA 13, Sec. 28.4.5.6 (2)
<input type="checkbox"/>	<input type="checkbox"/>	5. Provide hazard classification for all areas to be sprinklered.	NFPA 13, Sec. 28.4.5.2 (10)
<input type="checkbox"/>	<input type="checkbox"/>	6. Indicate if system is hydraulic, pipe schedule or a combination.	NFPA 13, Sec. 28.4.5.2 (15)
<input type="checkbox"/>	<input type="checkbox"/>	7. System design requirements including design area, minimum rate of application area per sprinkler and number of sprinklers calculated.	NFPA 13, Sec. 28.4.5.2 (15)
<input type="checkbox"/>	<input type="checkbox"/>	8. Pipe Size, internal diameter, pipe lengths center to center of fittings.	NFPA 13, Sec. 28.4.5.6 (7) (8) (10)
<input type="checkbox"/>	<input type="checkbox"/>	9. Equivalent pipe lengths for fittings and devices.	NFPA 13, Sec. 28.4.5.6 (11)
<input type="checkbox"/>	<input type="checkbox"/>	10. Friction loss in psi/ft of pipe and appropriate "C" factor of pipe.	NFPA 13, Sec. 28.4.5.6 (13) (14)
<input type="checkbox"/>	<input type="checkbox"/>	11. Total friction loss between reference points.	NFPA 13, Sec. 28.4.5.6 (17)
<input type="checkbox"/>	<input type="checkbox"/>	12. Elevation head in psi between each reference point.	NFPA 13, Sec. 28.4.5.6 (16)
<input type="checkbox"/>	<input type="checkbox"/>	13. Required pressure in psi at each reference point.	NFPA 13, Sec. 28.4.5.6 (18)
<input type="checkbox"/>	<input type="checkbox"/>	14. Velocity pressure and normal pressure if included in calculations.	NFPA 13, Sec. 28.4.5.6 (19) (a)
<input type="checkbox"/>	<input type="checkbox"/>	15. Diagram of gridded system indicating flows and directions for remote area.	NFPA 13, Sec. 28.4.5.6 (19) (d)
<input type="checkbox"/>	<input type="checkbox"/>	16. Pressure loss assigned the backflow device.	NFPA 13, Sec. 28.4.5.6 (19) (f)
<input type="checkbox"/>	<input type="checkbox"/>	17. Graph sheet showing supply curve, demand and hose allowance.	NFPA 13, Sec. 28.4.5.3
CHK.	N/A	III. Additional Information	
<input type="checkbox"/>	<input type="checkbox"/>	1. General notes.	CBC, 107.2.1
<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.	CBC, 107.2.1
<input type="checkbox"/>	<input type="checkbox"/>	3. Indication of applicable editions of NFPA 13, CBC & CFC.	CBC, 107.2.1
<input type="checkbox"/>	<input type="checkbox"/>	4. Reference CBC amendments to NFPA 13 in CBC Chapter 35.	CBC, 107.2.1

CHK. N/A III. Additional Information (Continued)

- 5. Reference OSHPD Policy Intent and Code Application Notices.
- 6. Record of local authority approval for appliance locations, water supply requirements and cross-connection protection - OSHPD form available.

**CBC, 107.2.1
CFC, Sec. 507, Sec. 912.6 &
Title 17, CCR, Div. 1, Ch. 5,
Subchp. 1, Grp. 4, Art. 2, Sec.
7603**

CHK. N/A IV. Equipment Submittals

- 1. Manufacturer's installation instructions for any specially listed equipment, including descriptions, applications, and limitations for any sprinklers, devices, piping, or fittings.
- 2. California State Fire Marshal listing sheets indicating expiration date for all listed components.

NFPA 13, Sec. 28.1.4

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 reminder list should be used only by persons with a comprehensive knowledge of the applicable codes and

OSHPD Policy Intent Notices and Code Application Notices.

<https://hcai.ca.gov/construction-finance/codes-and-regulations/#PINs>

<https://hcai.ca.gov/construction-finance/codes-and-regulations/#CANs>

OSHPD Project Review Status

<https://hcai.ca.gov/construction-finance/resources/project-status-reports/>

OSHPD Public Use Forms

<https://hcai.ca.gov/construction-finance/resources/forms-applications-reminder-lists/#ProjectForms>