



## FIRE SAFETY ENGINEERING Checklist

### Fire Sprinkler Plan Review

City of Henderson  
Development Services Center  
Fire Safety Engineering  
240 Water Street, PO Box 95050  
Henderson, Nevada 89009-5050  
(702) 267-3630 phone  
(702) 267-3603 fax

This checklist is provided for the convenience of our customers. Complete and accurate plan submittals help speed the plan review process. Attention to the completeness and accuracy of information at the beginning of the process generally leads to fewer delays and requests for revisions by City staff. Please use the following information to assure that your application includes all of the information that is necessary for a complete review of your plans.

#### Part. 1 Applicant's Responsibility

Applicants are responsible for ensuring applications submitted are complete. Incomplete applications will result in plans being rejected for acceptance, or returned to the applicant during the review process. City service commitments will not apply to incomplete submissions.

#### Part. 2 Prerequisites

**Plan Readability.** Easily Read; legible; a readable typeface. Vivid contrast or difference in brightness between the light and dark areas of the drawing.

#### Part. 3 Applicable Codes

Plans shall meet the requirements of the adopted codes, ordinances and regulations.

- 2006 International Building Code with local amendments
- 2006 International Fire Code with local amendments
- Applicable NFA Standards as Adopted
- Nevada State Fire Marshal Regulations
- Life Safety Report, if Applicable

#### Part. 4 Submittal Package

Provide the following information at the time you submit your application for a fire alarm annunciator permit.

- A completed application form
- 1. Plan Reviewer's Name: \_\_\_\_\_  
Date: \_\_\_\_\_
- 2. Project: \_\_\_\_\_
- 3. Address: \_\_\_\_\_
- 4. Fire Protection Contractor: \_\_\_\_\_
- 5. Contractor's Address: \_\_\_\_\_
- 6. Contractor's Phone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_
- 7. Contact Name: \_\_\_\_\_

**Checklist**  
**Fire Sprinkler Plan Review**

- 8. Date of Plan: \_\_\_\_\_  
Last Revision: \_\_\_\_\_  
Date of Revision \_\_\_\_\_
- 9. Sprinkler Head Legend Filled out, with total sprinkler head count:
- 10. NICET Level:            I   II   III   IV   or P.E.  
Name: \_\_\_\_\_
- 11. Henderson General Notes for Sprinkler Systems.
- 12. General Comments: \_\_\_\_\_
- 13. Readability – Piping Plan – Pipe Size    \_\_\_\_\_  
Dimensions: \_\_\_\_\_

**Part. 5**  
**Plan Contents**  
**Site Plans**

Plans must contain the following minimum content requirements. This list is not intended to be all inclusive of every detail required on a set of civil improvement plans. Rather, it is provided to give an overview of the basic plan contents needed for the review of plans.

**(Section 11)**

Instructions to Plans Reviewers: **Circle Answer or Fill In Blank or Draw Line through blank space if it is "Not Applicable":**

- Y- N- 11.1 Underground Fire Main Size: \_\_\_\_\_  
Located & Dimensioned
- Y- N- 11.2 Flow Test Paper Work Included
- Y- N- 11.3 North Direction Indicated *(NFPA-13, 22.1.3)*
- Y- N- 11.4 Scale of all Drawings Graphically Indicated *(NFPA-13, 22.1.3)*
- Y- N- 11.5 Fire Department Connection (FDC) Location is Accessible *(NFPA-13, 22.1.3)*
- Y- N- 11.6 FDC Located on the Building Wall *(NFPA-13, 22.1.3)*
- Y- N- 11.8 FDC Located toward the Fire Lane *(NFPA-13, 22.1.3)*
- Y- N- 11.9 Horn/Strobe Located above FDC *(NFPA-13, 22.1.3)*
- Y- N- 11.10 Post Indicator Valve Shown (No Closer to The Building Than 5 Feet)  
*(NFPA-24, 6.3)*
  - Other \_\_\_\_\_
- Comments for Section 11: \_\_\_\_\_

**Hazard Classification**            **(Section 12)**

- 12.1 Light Hazard: \_\_\_\_\_ *(NFPA-13, 5.1)*  
Description: \_\_\_\_\_



**Checklist**  
**Fire Sprinkler Plan Review**

Remote Area Size: \_\_\_\_\_ sq. ft.

12.14 Remote Area Length Determined By:  
(NFPA 13) (1.2 Remote Area Size) \_\_\_\_\_  
Other: \_\_\_\_\_

12.15 Dry System Remote Area Increased by 30%:  
Minimum 1960 sq. ft (NFPA-13, 11.2.3.2.5) \_\_\_\_\_ sq. ft.

12.16 Sloped Ceiling Exceeding 2" in 12", increased by 30%  
(NFPA-13, 11.2.3.2.4) \_\_\_\_\_ sq. ft.

Y- N- 12.17 Quick Response Area Reduction Calculation Shown on Drawing  
(if used) (NFPA-13, 11.2.3.2.3.1)

Y- N- 12.18 Extra Hazard High Temperature Area Reduction: (25%)  
(NFPA-13, 11.2.3.2.6)

Other \_\_\_\_\_  
\_\_\_\_\_

Comments for Section 12: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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**Type of Construction**      **(Section 13)**

13.1 Type and Description of Obstructed Construction  
(NFPA-13, A.3.7.1):  
Beam & Girder: (Spacing 3' to 7'-6" on center)  
Size: \_\_\_\_\_ Spacing: \_\_\_\_\_  
Composite Wood Joist: (Spacing Less Than 3')  
Size: \_\_\_\_\_ Spacing: \_\_\_\_\_  
Panel Construction: (Beams Spaced More Than 7'-6" On Center, not over  
300 sq. ft.)  
Beam Sizes: Sizes: \_\_\_\_\_ Spacing: \_\_\_\_\_  
Wood Joist Construction  
Size: \_\_\_\_\_ Spacing: \_\_\_\_\_  
Concrete Twin "TT":  
Size: \_\_\_\_\_ Spacing: \_\_\_\_\_  
Other: \_\_\_\_\_  
\_\_\_\_\_

13.2 Type and Description of Unobstructed Construction  
(NFPA-13, A.3.7.2):  
Bar Joist: Size: \_\_\_\_\_ Spacing: \_\_\_\_\_

**Checklist**  
**Fire Sprinkler Plan Review**

Open Grid Ceilings: \_\_\_\_\_

Smooth Ceiling: \_\_\_\_\_

Standard Mill Construction: \_\_\_\_\_

Wood Truss Construction Size: \_\_\_\_\_ Spacing: \_\_\_\_\_

Other: \_\_\_\_\_

13.3 Roof Construction:  
Combustible: \_\_\_\_\_ Non-Combustible: \_\_\_\_\_

13.4 Ceiling Construction:  
Combustible: \_\_\_\_\_ Non-Combustible: \_\_\_\_\_

13.5 Attic Space Used As an Air Plenum: \_\_\_\_\_  
Steel Fire Proofed: \_\_\_\_\_

Y- N- 13.6 All Combustible Concealed Spaces Protected

Y- N- 13.7 Remote Area Increased for Combustible Concealed Spaces Not Protected  
(NFPA-13, 11.2.3.1.4)

Y- N- 13.8 Draft Curtains

Y- N- Smoke/Heat Vents

Y- N- 13.9 Skylights/Glass Roofs

Y- N- Ceiling Elevation Defined

Y- N- 13.10 Ceiling Pockets  
Total Volume \_\_\_\_\_

Y- N- 13.11 Hanger Details Provided  
(NFPA-13, 22.1.3)

Y- N- Trapeze Hangers

Y- N- 13.12 Method of Attachment for Hangers Acceptable  
(NFPA-13, Chapter 9)

Y- N- 13.13 Earthquake Bracing Details Provided  
(NFPA-13, 22.1.3)

Y- N- Calculations Provided  
(NFPA-13, 22.1.3)

Y- N- 13.14 Method of Attachment for Earthquake Bracing Acceptable  
(NFPA-13, Figure 9.3.5.9.1)

Other \_\_\_\_\_

Comments for Section 13: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Sprinkler Head Spacing (Section 14)  
And Information**

Y- N- 14.1 Material Submittals Included with The Plans

Y- N- Complete:

Actual Head Spacing On Drawing:

Light Hazard: \_\_\_\_\_ sq. ft. per head

Ordinary Hazard: \_\_\_\_\_ sq. ft. per head

Extra Hazard Pipe Schedule: \_\_\_\_\_ sq. ft. per head

Extra Hazard Calculated: \_\_\_\_\_ sq. ft. per head

High Piled Storage with Density

Below .25: (Max. 130 sq. ft.): \_\_\_\_\_ sq. ft. per head  
*(NFPA-13, Table 8.6.2.2.1(c))*

High Piled Storage with Density Over .25:

(Max. 100 sq. ft.) \_\_\_\_\_ sq. ft. per head  
*(NFPA-13, Table 8.6.2.2.1(c))*

ESFR Sprinkler Heads: (Max. 100 sq. ft.): \_\_\_\_\_ sq. ft. per head  
*(NFPA-13, Table 8.12.2.2.1)*

Large Drop Sprinkler Head: \_\_\_\_\_ sq. ft. per head

Extended Coverage Upright  
or Pendent Head: \_\_\_\_\_ sq. ft. per head

Sidewall Sprinkler Head: \_\_\_\_\_ sq. ft. per head

Extended Sidewall Sprinkler Head: \_\_\_\_\_ sq. ft. per head

Extended Sidewall Sprinkler Head  
Distance Calculated to Throw \_\_\_\_\_ ft.

Y- N- Small Room Rule Properly Applied  
*(NFPA-13, A.8.6.3.2.4(a,b,c,& d)):*

**Checklist**  
**Fire Sprinkler Plan Review**

- 14.3 Deflector Distance Below Roof or Ceiling: (Refer to listing or Manufacturer's Data Sheets Extended Coverage and Special Sprinklers, i.e. Large Drop, ESFR.)

Unobstructed Construction:

Spray Heads 1" to 12" (An Exception May Apply) *(NFPA-13, 8.6.4.1.1)* \_\_\_\_\_

Sidewall Heads 4" to 6" (An Exception May Apply) \_\_\_\_\_

Obstructed Construction:

Spray Heads 1" to 6" Under Structural Member: *(NFPA-13, 8.6.4.1.2)* \_\_\_\_\_

(Max. Of 22" Below Ceiling / Roof Deck.)

- 14.4 SPECIAL CONSIDERATIONS:
- Y- N- Min. 18" Clearance from Deflector to Top of Storage (Standard Head)
- Y- N- Min. Clearance from Deflector to Top of Storage (Special Head Listing)
- Y- N- Temperature Ratings Identified (NFPA-13, 22.1.3)
- Y- N- Heater Zones
- Y- N- Attic Area's (212° F) *(NFPA-13, Table 6.2.5.1)*
- Y- N- Skylights (Plastic/Glass - 212° F) *(NFPA-13, Table 6.2.5.1)*
- Y- N- Single Level of Sprinklers in Rack (½" 165° F)
- Y- N- Multiple Level of Sprinklers in Rack (½" 165° F) w/ Deflector Shield)

Other \_\_\_\_\_

Comments for Section 14: \_\_\_\_\_

**Riser and Valve Arrangements (Section 15)**

- Y- N- 15.1 Single Wet Riser *(NFPA-13, Figure A8.15.1.1)*
- Y- N- 15.2 Single Dry Riser *(NFPA-13, Figure 8.15.1.1)*
- Y- N- 15.3 Single Pre-Action Riser *(NFPA-13, Figure 8.15.1.1)*
- Y- N- 15.4 Single Deluge Riser *(NFPA-13, Figure 8.15.1.1)*
- Y- N- 15.5 Dry/Pre-Action/Deluge Valve Trim Shown On the Drawings *(NFPA-13, 22.1.3)*
- Y- N- 15.6 Auxiliary System Off the Main System *(NFPA-13, 7.1.3)*
- Y- N- 15.7 Floor Control Stations (Multiple Story Building)

**Checklist**  
**Fire Sprinkler Plan Review**

- Y- N- 15.8 Multiple System Riser Valve Arrangement (*NFPA-13, Figure A8.16.1.1*)
- Y- N- 15.9 Required Relief Valve on a Grid System (*NFPA-13, 7.1.2*)
- Y- N- 15.10 Water Pressure Gauges are Provided Above & Below the Main Check Valve (*NFPA-13, 7.1.1*)
- Y- N- 15.11 Is the Inspectors Test Located In/Around the Remote Area
- Y- N- 15.12 Auxiliary Drains Are Indicated on Secondary Mains of Gridded System (*NFPA-13, 8.16.2.5*)
- Y- N- 15.13 Are Auxiliary Drains and Discharge for Trapped Sections of Piping Shown (*NFPA-13, 8.16.2.5*)
- Y- N- 15.14 Are Drum-Drip's Drains Shown for Dry System Auxiliary Drains
- Y- N- 15.15 Are All Control Valves Supervised (*NFPA-13, 8.16.1.1.2*)
- Other \_\_\_\_\_
- Comments for Section 15: \_\_\_\_\_

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**Hydraulic Calculations (Section 16)**

- Y- N- 16.1 Area/Density Method
- Y- N- Room Design Method
- Y- N- 16.2 Cover Sheet Completely Filled Out (*NFPA-13, 22.1.3*)
- Y- N- 16.3 Water Flow Used Matches Accepted Paperwork
- Y- N- 16.4 Water Flow Test is Current (Year Old Maximum)
- Y- N- 16.5 10 PSI Safety Factor (*COH ORD., 14.4.1.6.1*)
- Y- N- 16.6 Occupancy Classification Match Drawings
- Y- N- 16.7 Hose Allowance Added
- Y- N- Proper Location
- Y- N- 16.8 Sprinkler Head Matches Sprinkler Head Legend on Drawings
- Y- N- 16.9 Equivalent "K" Factors Calculations (*NFPA-13, 22.1.3*)
- Y- N- 16.10 Required Designed Minimum Flow from Remote Sprinkler
- Y- N- 16.11 Required Designed Minimum Pressure from Remote Sprinkler
- Y- N- 16.12 Node Points Flowing Match Remote Area (*NFPA-13, 22.1.3*)
- Y- N- 16.13 Correct "C" Factor Used (*NFPA-13, 22.1.3*)
- Y- N- 16.14 Elevation Changes Match Drawings (*NFPA-13, 22.1.3*)
- Y- N- 16.15 Pipe ID'S Match Plans/Manufactures Cut Sheets

**Checklist**  
**Fire Sprinkler Plan Review**

- Y- N- 16.16 Fitting Count Match Drawing *(NFPA-13, 22.1.3)*
- Y- N- 16.17 Pipe Lengths Match Drawings *(NFPA-13, 22.1.3)*
- Y- N- 16.18 Fixed Pressure Loss Device *(NFPA-13, 22.1.3)*
- Y- N- 16.19 Maximum Velocity Shall Not Exceed 32 fps *(COH, ORD., 14.4.1.5.1)*
- Y- N- 16.20 Grid System "Peaked" *(NFPA-13, 22.1.3)*
- Y- N- 16.21 Grid Flow Chart Provided *(NFPA-13, 22.3.5.6)*
- Y- N- 16.22 Fixed Flows Added at the Proper Location *(NFPA-13, 11.1.5)*

Other \_\_\_\_\_  
\_\_\_\_\_

COMMENTS FOR SECTION 16: \_\_\_\_\_  
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Part. 6

Other Information

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