



# Lafayette Fire Department

## Sprinkler Plan Work Sheet

This **Sprinkler Plan Review Checklist** must be completed as part of your Sprinkler Plan Review Submittal Requirements. **A separate and individual work sheet must be sent in for each individual "Remote Area Design"**. Please send a completed form (with appropriate signatures) to [LFD-FirePrevention@lafayette.in.gov](mailto:LFD-FirePrevention@lafayette.in.gov) (*Preferred*) or faxed to (765) 807-1601.

### PROPERTY INFORMATION

Building Name:

Building Address:

Owner's Name:

Owner's Address:

Owner's Phone Contact:

Owner's Email :

Owner's Fax:

### SYSTEM DESIGNER/CONTRACTOR

Company Name:

Company Address:

Contact Person (Designer):

Phone #:

Fax #:

Email:

System Designed by NICET Level 3 or 4?  Yes  No

NICET Level 3 or 4 Registration # & Name:

System Designed by Registered Engineer?  Yes  No

Name of System Designed by Registered Engineer (*stamp included*) :

### GENERAL

This proposal represents :

A new system being installed in the building

Modifications to an existing system

Extension of an existing system

Other \_\_\_\_\_?

NFPA Standard used in the system design and proposed installation:

NFPA 13 (2010 Edition- 675 IAC 28-1-5)

NFPA 13R (2010 Edition- 675 IAC 28-1-6)

NFPA 13D ( \_\_\_\_\_ Edition)?

Factory Mutual (675 IAC 12-6-11)

Type of Sprinkler System(s): (*Check all that apply*)

Wet

Dry

Anti-Freeze

Pre-Action

Deluge

Pre-Engineered or 13D System

All sprinkler head "specification sheets and UL Listings" provided in application?  Yes  No

Sprinklers omitted in any area?  Yes  No

**If yes, allowed per:**

Yes  No  N/A **NFPA 13** Omitted Area(s)? (*Specifically identify omitted areas in narrative space below*)

Yes  No  N/A **NFPA 13R** Omitted Area(s)? (*Specifically identify omitted areas in narrative space below*)

**Narrative of specific omitted area(s) along with specific NFPA 13/13R code requirement:**

Number of Floors (*including Basement*)?

Standpipe/Hose Connection Required?  Yes  No

Fire Pump Required or Provided?  Yes  No

(If yes, complete detailed "FIRE PUMP INFORMATION" Section below)

Fire Department Connections (FDC) located "remote from building" and within 50 feet of hydrant (*New Buildings Only*)?  
 Yes  No

FDC located directly on Exterior Wall, provided with (2) 2 1/2 inlet connections? (*Buildings with existing sprinklers, undergoing Renovation Only*)  
 Yes  No  NA

Post Indicator Valve (PIV) located directly on Exterior Wall? (*Buildings with existing sprinklers, undergoing Renovation Only*)  
 Yes  No  NA

Sprinkler System valves controlling the water supply, pumps ... critical air pressures, and water-flow switches are electronically supervised per IBC 903.4?  
 Yes  No

Means through a test header or other connections downstream of the backflow prevention device available for full flow test per NFPA 25: 12.6.2.1 & NFPA 13:5-15.6.1 (2002 Edition)?  
 Yes  No

**OCCUPANCY CLASSIFICATION**

Fire sprinkler occupancy hazard classification:  
 Light Hazard  Ordinary Hazard Group 1  Ordinary Hazard Group 2  Storage  
 Extra Hazard Group 1  Extra Hazard Group 2  Special Occupancy (*see note below*)  
*(Note- Special Occupancy Requirements for the system (Flammable/combustible liquids, oxidizers, etc.)*

**FLOW TEST INFORMATION**

Date of Flow Test?	Company who performed?
<b>Static Pressure:</b>	<b>Residual Pressure:</b>
<b>Flow in gallons:</b>	Coefficient Factor Used:

**STORAGE INFORMATION (if applicable)**

**If Storage Information "Not Applicable", skip this section and go to FLOW TEST INFORMATION Section Below**

If a storage occupancy, commodity classification:  
 Class I  Class II  Class III  Class IV  
 Group A  Group B  Group C

**PRESENCE OF HIGH-PILED and/or RACK STORAGE  
Packaging & Storage Configuration**

Encapsulation of Pallet Loads?  Yes  No      Rack or Pallet Storage?  Rack  Pallet

Aisle Width Dimension?      Flue Space Dimension?

In-Rack Sprinklers?  Yes  No      ESFR Sprinklers?  Yes  No

"High Piled" Combustible Storage over 12 feet high?  Yes  No

"High Hazard Commodity" Storage over 6 feet high? (*i.e., Group A Plastics, Idle Pallets, etc.*)  Yes  No

Maximum HEIGHT of Storage Planned? \_\_\_ Feet \_\_\_ Inches      LENGTH of Aisle Width Planned? \_\_\_ Feet \_\_\_ Inches

Where are Auxiliary Drains and Low Point Drains located? \_\_\_\_\_

Presence of "Solid Shelving"?  Yes  No      Presence of "Hazardous Materials"?  Yes  No

Presence of other "Special Storage"?  Yes  No      Presence of "Antifreeze/ Auxiliary Systems"?  Yes  No

**DESIGN SPECIFICATIONS**

Type of System:  
 Hydraulically Calculated  Pipe Schedule (*for areas 5,000 square feet or less and existing systems only*)

Water Supply for system determined by:  
 Area/Density Curves  Room Design Method

**Requirements for All Hydraulically Calculated Systems (*Area/Density Method*):**

What is the "Design Area" of Water Application specified?

What is the minimum rate of Water Application "Density" specified?

Please specify what type (if any) sprinkler "density adjustments" have been calculated?

**Check "All" that Apply:**

- Quick Response Sprinklers     Sloped Ceilings greater than 2 in 12     Dry Pipe & Double-lock Pre-Action Systems  
 High Temperature Sprinklers     Multiple Adjustments     "Actual Ceiling Height" (\_\_\_\_ Ft. and inches)

What is the maximum "area" per individual sprinkler specified (*per NFPA 13 or specific listing*)?

How many sprinklers are required in the "Design Area"? (*per specific listing or NFPA*)

**Formula: (Number of Sprinklers Required) = (Design Area of Sprinkler Application) ÷ (Coverage per Sprinkler Head)**

Provide mathematical equation here: \_\_\_\_\_

What is the actual formula numbers used to verify Remote Area "Size and Shape"?

**Formula:  $1.2\sqrt{\text{Design Area}}$  = Minimum Length of Rectangle**

Provide mathematical equation here: \_\_\_\_\_

What is the Maximum Number of Sprinkler Heads per Branch Line?

**Formula:  $1.2\sqrt{\text{Design Area}}$  = # of Heads on Branch Line  
"S" ( Ft measured along Branch Line)**

Provide mathematical equation here: \_\_\_\_\_

What is "In Rack" Demand, Storage Applications (*if applicable*)? **GPM**

What is the Hose Stream demand (*Inside & Outside*)? **GPM**

What is the total required water required for the sprinkler system (*including hose demand*)?

Are there any "*combined sprinkler & standpipe*" systems in the building, and if so, what are the minimum "pressure" requirements as outlined in NFPA 14?

What limitations (*dimension, flow and pressure*) on extended coverage or other listed special sprinklers?*(if applicable)*

**Additional Requirements (*Room Design Method*)**

Design Density of Sprinkler meets 11-3.1.3 (NFPA 13 2010 Edition) (minimum of .10 gpm/s.f.)?  Yes  No

Based upon the room that creates the greatest water demand (*including corridors/hallways*)?  Yes  No

Room enclosure walls must have a fire rating equivalent to required water supply duration based upon the hazard?

- Yes  No

Protection of Openings Provided per design criteria below?

- Yes  No **Light Hazard:** Automatic or Self-Closing Doors **or** include room sprinklers plus (2) sprinklers in communicating space.

Yes  No **Ordinary & Extra Hazard:** Automatic or Self-Closing Doors (*Required*) & Wall Rating (*Not ceiling*) equivalent to appropriate enclosure rating.

Yes  No **If using Corridor for the Room Design Method (*must meet all of the following*):**

- Only applicable if one row of sprinklers are installed in Corridor.
- Calculate 5 sprinklers if openings are protected.
- Calculate 7 sprinklers if openings are not protected.

Yes  No Room Design Compartment sprinklers under a flat, smooth, horizontal ceiling?

**Additional Requirements (NFPA 13 R Systems- Residential Sprinklers)**

Yes  No Building is not more than 4 stories in height?

Yes  No Listed Residential Sprinklers shall be used in all residential portions (*dwellings*) of building (per UL 1626)?

**Exception:** *Listed Quick Response sprinklers may be used provided no more than 4 sprinkler heads are located within compartment or dwelling*

Yes  No Standard or Quick Response Sprinklers shall be used in areas outside the dwelling unit

**Exception:** Residential Sprinklers shall be permitted in adjoining corridors or lobbies, provided with flat, smooth ceilings, and ceiling heights not exceeding 10 feet.

**Design Discharge Criteria** (based upon these two criteria: **Inside & Outside Dwelling**):

Yes  No **Inside Dwelling Unit**

- Residential Sprinkler Heads Only (*very small units may use QR Heads*)
- GPM not less than 18 gpm per single operating sprinkler and 13 gpm for multiple sprinklers within a compartment (per NFPA), or per specific listing.
- Density Required at 4 most hydraulically demanding at a density of (.10 gpm/sq.ft.)
- Water Supply Duration 30 minutes

Yes  No **Outside Dwelling Unit**

- Per NFPA 13 Criteria (*QR & QR Extended Coverage Sprinklers Allowed*)

- Exceptions

Compartmented areas less than 500 sq.ft. (*with all of the following*)

30 minute fire rated construction

Protected with Standard or QR sprinklers not exceeding 130 s.f./sprinkler, and

Openings from the compartment protected **or** (less than 50 s.f. with "intel" at least 8 in.)

Discharge Density for hazard per NFPA 13

**SPRINKLER COMPONENTS: *Is the following information provided on plans/specifications?***

Yes  No Provide complete catalog cut sheets for all equipment and materials used?

Yes  No Hydraulic data nameplate (for hydraulically designed systems)?

Yes  No Hydraulic reference points shown on the plan that corresponds with comparable reference points on the hydraulic calculation sheets?

Yes  No Most demanding area is **highlighted on plans** and provided in hydraulic calculations?

Yes  No Pipe sizes and lengths shown on the plan correspond with the sizes and lengths shown on the hydraulic calculation sheets?

Yes  No Relative elevations of sprinklers, junction points, and supply or reference points?

Yes  No Proved details and section view outlining all ceiling information on plans.

*(Including Ceiling Height, Soffits, Obstructions, etc.)?*

Yes  No Pressure loss for backflow preventer and/or meter included in hydraulic calculations?

Yes  No Hanger types and locations show on plans?

Yes  No  N/A Provide a 2 ½ standpipe hose outlet at the highest landing of the stairways with access to the roof, and on the roof where stairways do not access the roof with an additional 2 ½ hose connection? (if applicable)

Yes  No  N/A Provide floor control valves at each floor in multi-story buildings? (if applicable)

Yes  No  N/A Approximate capacity (in gallons) of each dry pipe system? (if applicable)

Yes  No A General Information Sign to be provided on System Riser per *Section NFPA 13(2010):24.6?*

**FIRE PUMP INFORMATION (if applicable)**

**If Fire Pump "Not Applicable", skip this section and go to DESIGN SPECIFICATION Section Below**

Manufacturer: \_\_\_\_\_ Type:  Diesel  Electric

Rated PSI: \_\_\_\_\_ Rated GPM: \_\_\_\_\_

Rated HP: \_\_\_\_\_ Controller Type: \_\_\_\_\_

**Dedicated Electrical Service Provided?**  Yes  No  Unknown

Provide a standby or emergency power supply to the fire pump with an automatic power transfer switch controller?  Yes  No

**Provide details and catalog cut sheets on the fire pump controller?**  Yes  No

**Fire Pump Booster pump** connection provided with pressure device or switch to control operation when pressure to pump suction drops per IAC 327 IAC 8-10-3?  Yes  No  Unknown

**Fire Pump Booster pump** provided with audible or visual alarm to provide warning when flow occurs per IAC 327 IAC 8-10-3?  Yes  No  Unknown

**Fire Pump Booster pump** provided with a control valve on the booster pump discharge to automatically throttle the flow as necessary to maintain a minimum of ten (10) pounds per square inch per IAC 327 IAC 8-10-3?  Yes  No  Unknown

**Fire Pump Room fire-resistive-rated to 2 hour? (or 1 hour with sprinklers) per NFPA 20**  Yes  No  Unknown

**Designer or Owner:**

I certify that the information provided in this document is true and accurate.

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Company Name)

\_\_\_\_\_  
(Email and Phone Contact)