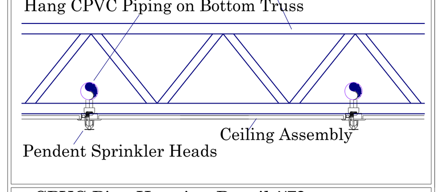
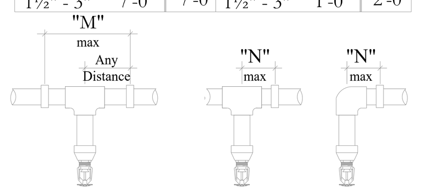


--CPVC Pipe Hanging Detail -NTS

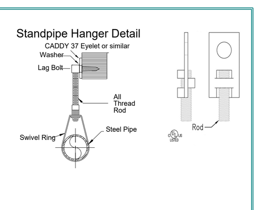
Two Point of Restraint -- "M"			One Point of Restraint -- "N"		
Nominal Pipe Size	> 100 psi	< 100 psi	Nominal Pipe Size	> 100 psi	< 100 psi
¾"	3'-0	4'-0	¾"	0'-6	0'-9
1"	4'-0	5'-0	1"	0'-9	1'-0
1¼"	5'-0	6'-0	1¼"	1'-0	1'-4
1½" - 3"	7'-0	7'-0	1½" - 3"	1'-0	2'-0



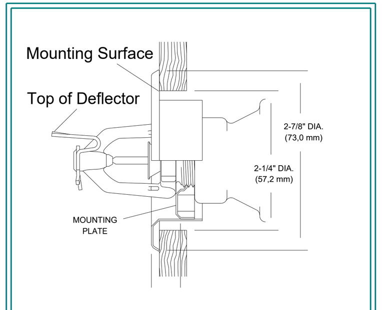
CPVC Pipe Hanger Details

- All sprinkler material to comply with NFPA Standards. -

Hanger Schedule for Steel Pipe	
Pipe Size	Max Hanger Spacing
1"	12'-0
1¼"	12'-0
1½"	12'-0
2"	12'-0
2½"	15'-0
3"	15'-0
4"	15'-0
6"	15'-0

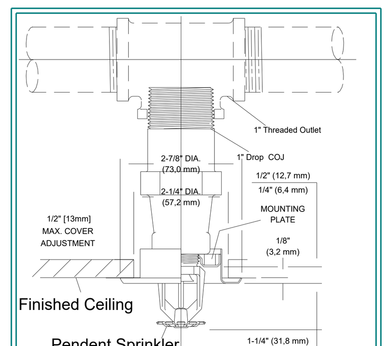


- All sprinkler material to comply with NFPA Standards. -



Horizontal Sidewall Detail

Note: All Sidewall Sprinkler to be 12" max from finished ceiling



Recessed Sprinkler Detail

6.4.6.3.3.1* Shadow Areas. Shadow areas shall be permitted in the protection area of a sprinkler as long as the cumulative dry areas do not exceed 15 ft² (1.4 m²) per sprinkler.

-NFPA 13R - Shadow Area Code Section

8.15.3 Stairways.

8.15.3.1 Combustible Construction. Sprinklers shall be installed beneath all stairways of combustible construction.

8.15.3.1.1 Sprinklers shall be installed at the top of combustible stair shafts.

8.15.3.1.2* Sprinklers shall be installed under the landings at each floor level.

A.8.15.3.1.2 Sprinklers at each floor level landing should be positioned to protect both the floor level landing and any intermediate landing.

8.15.3.1.3 Sprinklers shall be installed beneath the lowest intermediate landing.

-NFPA 13 - Combustible Stairs Code Section

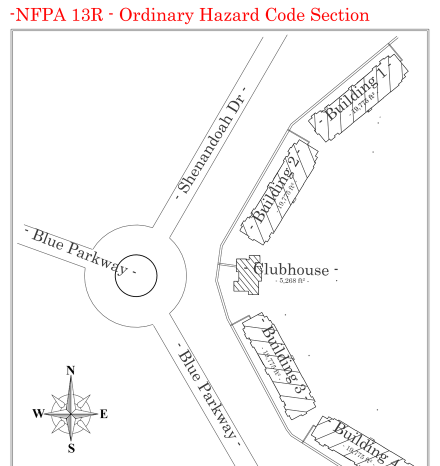
7.3.2.1 Garage doors shall not be considered obstructions and shall be permitted to be ignored for placement and calculation of sprinklers.

-NFPA 13R - Garage Door Code Section

7.2.4.1 Residential sprinklers shall be permitted to be used in ordinary hazard areas that meet the following conditions:

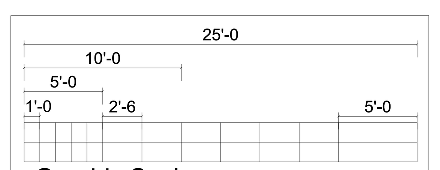
(1) The area is compartmented into 500 ft² (46 m²) or less by 30-minute fire-rated construction.
(2) The sprinklers are spaced at 130 ft² (12 m²) per sprinkler.
(3) Openings have a lintel at least 8 in. (203 mm) in depth.
(4) The total area of openings, excluding any overhead garage doors that open to the exterior, does not exceed 50 ft² (4.6 m²) for each compartment.
(5) Discharge densities are in accordance with NFPA 13 for ordinary hazard.

-NFPA 13R - Ordinary Hazard Code Section

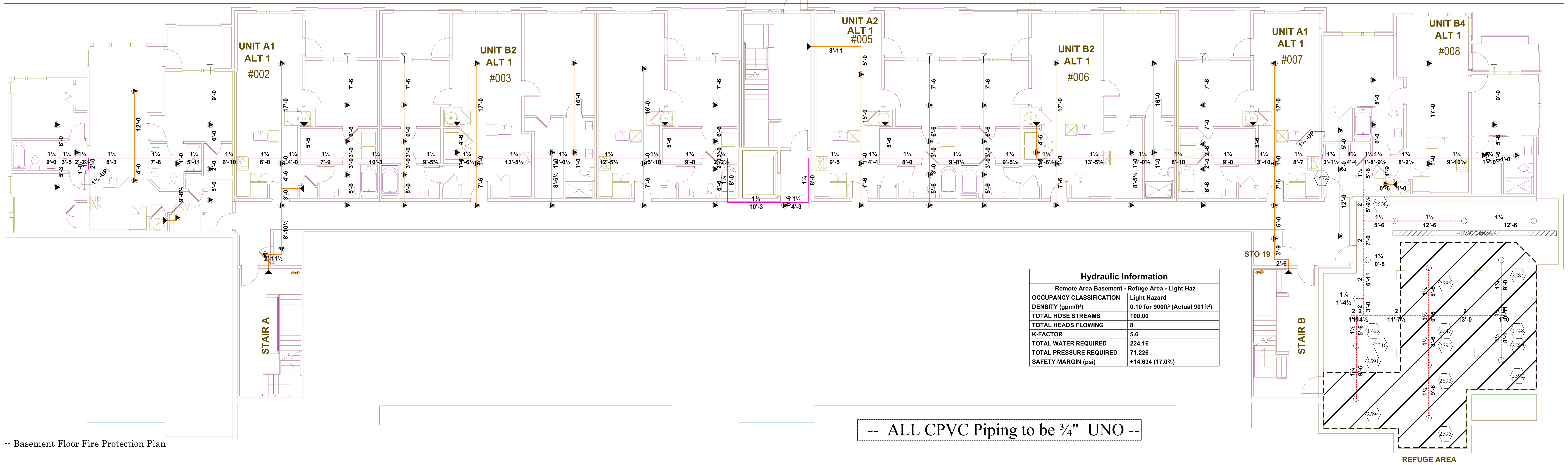


- Site Map -

VICINITY MAP



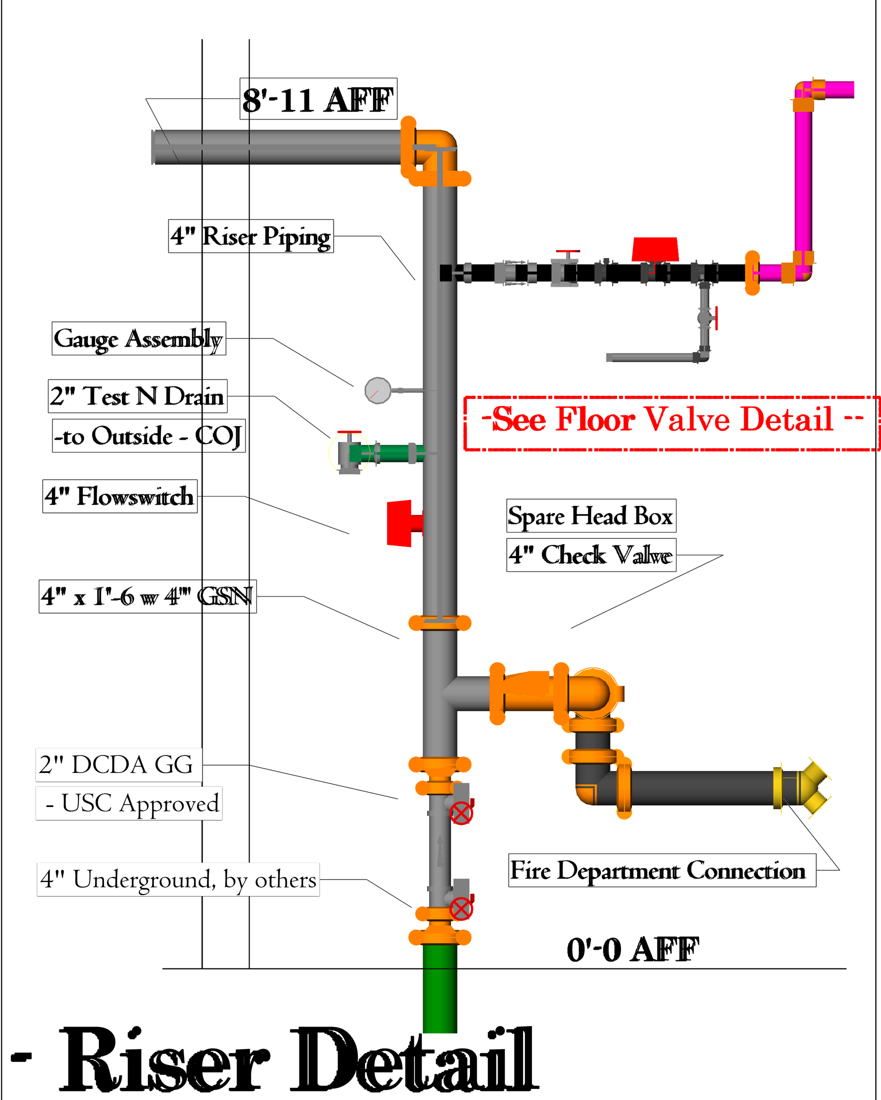
Graphic Scale:



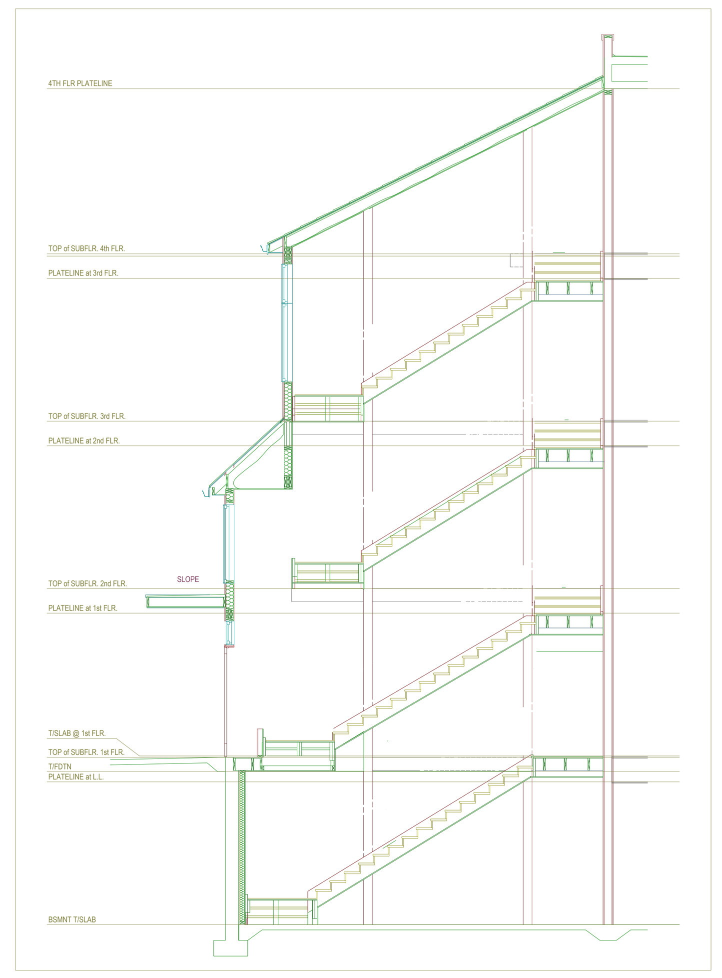
Hydraulic Information	
Remote Area Basement - Refuge Area - Light Haz	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft²)	0.10 for 900ft² (Actual 901ft²)
TOTAL HOSE STREAMS	100.00
TOTAL HEADS FLOWING	8
K-FACTOR	5.6
TOTAL WATER REQUIRED	224.16
TOTAL PRESSURE REQUIRED	71.226
SAFETY MARGIN (psi)	+14.634 (17.0%)

-- ALL CPVC Piping to be ¾" UNO --

-- Basement Floor Fire Protection Plan

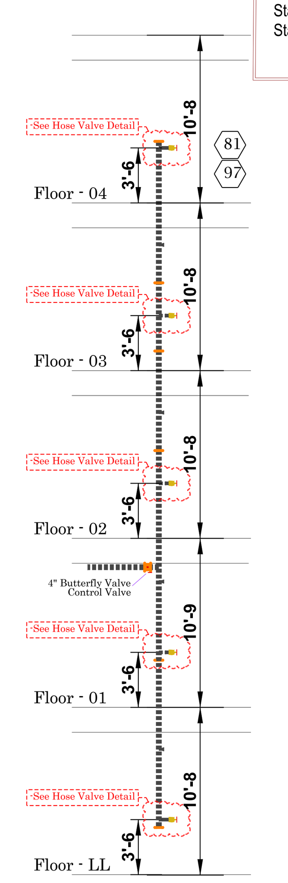


- Riser Detail

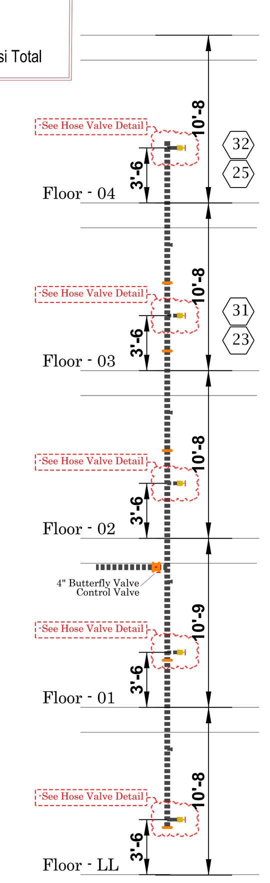


-Stair Sectional View -

NFPA 14 - 2016 Hydraulic Design Criteria:
Class I Standpipe - Wet - Manual
Stair - B - 250 gpm @ 103 psi
Stair - B - 250 gpm @ 103 psi
Stair - A - 250 gpm @ 103 psi
750 gpm @ 154.2 psi Total



-Stair A



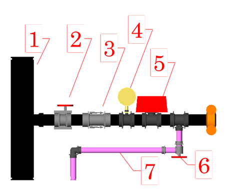
-Stair B

Sprinkler Legend											
Symbol	Make	SIN	Quantity	-K-	Type	Size	Response	Finish	Temp	Note
⊙	Viking	VK3001	14	5.6	Upright	½	Quick	Brass	175°F	
▷	Tyco	TY2335	8	4.4	Horizontal Sidewall	1	Fast	White RAL 9003	155°F	
▶	Viking	VK486	12	4	Horizontal Sidewall	½	Fast	White Polyester	175°F	16' x 18'
▲	Viking	VK468	77	4.9	Pendent	½	Fast	White Polyester	175°F	18' x 18'
			Total = 111							

-- ALL CPVC Piping to be < Solid >

-- ALL Steel Piping to be < Dashed >

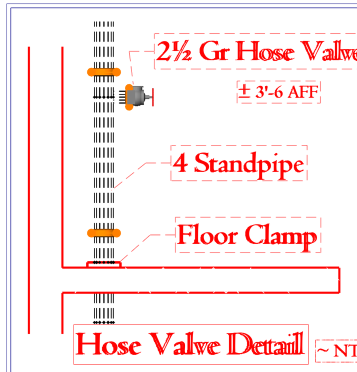
** All Exposed Piping to be Steel - UNO **



1 - Vertical Feed Piping
2 - 2" Butterfly Valve - w tampers
3 - 2" Check Valve
4 - Gauge & Pressure Relief
5 - 2" Flowswitch
6 - 1" Test N Drain
7 - 1" Common Drain

2" Floor Valve Detail

- All Control Valves to supervised --



Hose Valve Detail ~NTS

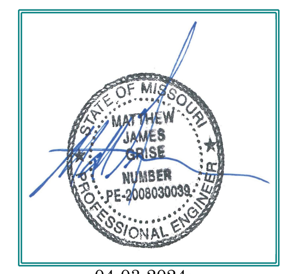
Supply Flow Test Data	
Test Conducted By	Lee's Summit H20
Date of Test	1/24/2024
Location	5801 W 115th St
Hydrant Numbers	110010216
Static Pressure	86.000
Residual Pressure:	78.000
Flow	2000.00

GENERAL NOTES

1. This design is based upon the owner's acceptance of
 -NFPA 13R 2016 & NFPA 14 2016
 - NFPA 25 for maintenance

2. All Grooved piping to be SCH 10.
 All Threaded piping to be SCH 40.
 All Residential Piping to be CPVC.
3. All sprinkler material to comply with all local requirements and applicable NFPA Standards.
4. Continuous central monitoring of sprinkler systems per NFPA 72 to be by others.
6. All electrical wiring to be by others.
7. All underground work to be by others
8. All painting of sprinkler pipe to be by others.
9. All patching and/or painting of penetrated drywall and masonry walls to be by others.
10. Building to be provided with adequate heat to prevent piping from freezing.
11. All marking or labeling of sprinkler piping to be by others.
12. All piping at exterior wall penetrations to be Galv w Galv plate.
13. - All Control Valves to supervised --

REVISIONS	
DATE	DESCRIPTION



-04-03-2024-

REVIEWING AUTHORITY
LS Codes

TOTAL HEADS FOR JOB
795

SCALE
1/8" = 1'-0

DRAWN BY
JJR

DATE DRAWN
-04-03-2024-

CONTRACT NUMBER
NC-1429

DRAWING NUMBER
FP 1 of 3

Building 1.2.3.4

Fire Protection Plan < Submittal >

-Residences @ Blackwell -

2840 SE Blue Pkwy
Lee's Summit, MO 64063

Contract with:
- Streamline Construction -

Fire Protection Plan

Alliance Fire Protection
130 W 9th Ave
Suite 101
NORTH KANSAS CITY, MO 64116
PHONE (913) 888-0647
FAX (913) 888-0618