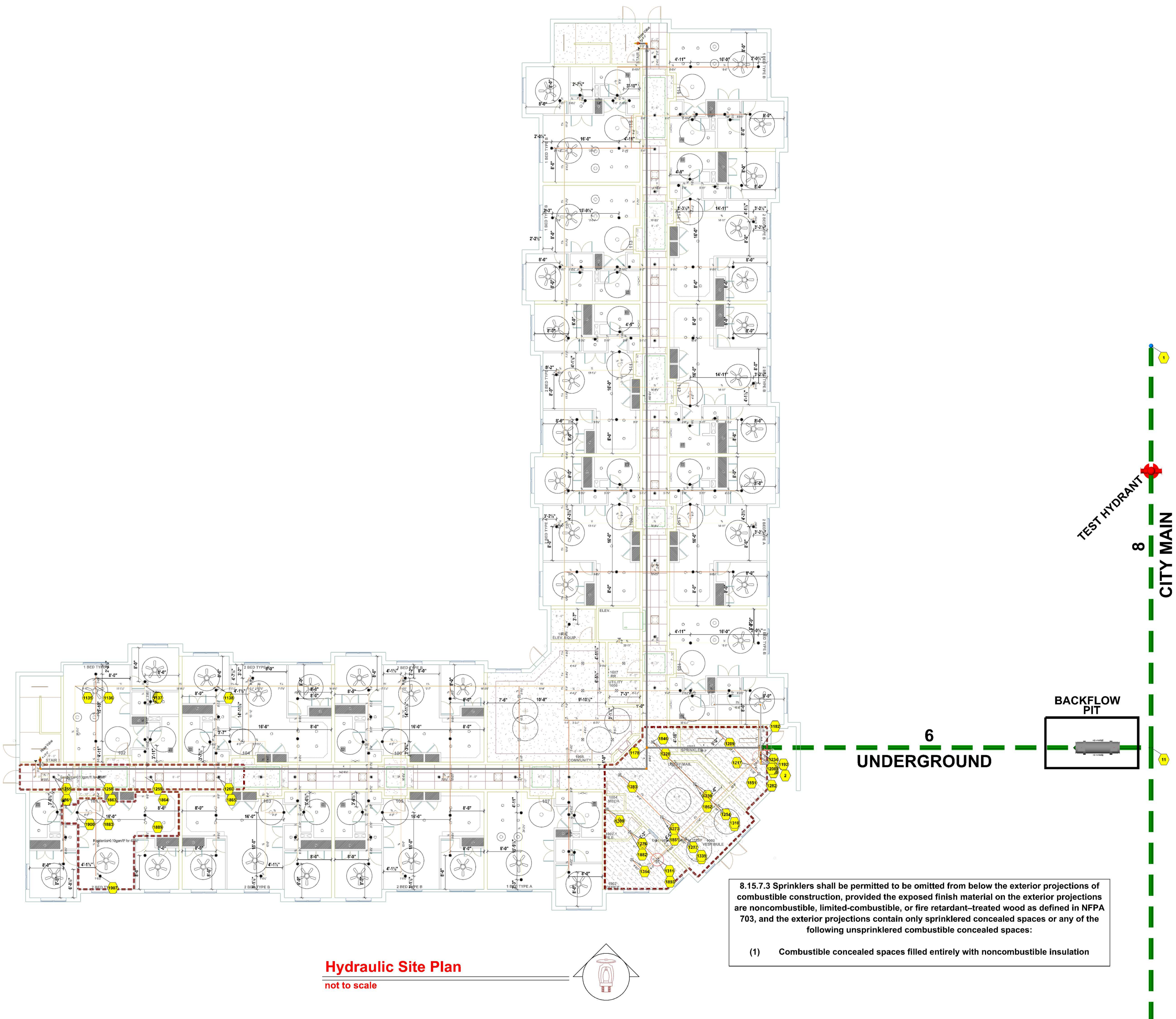
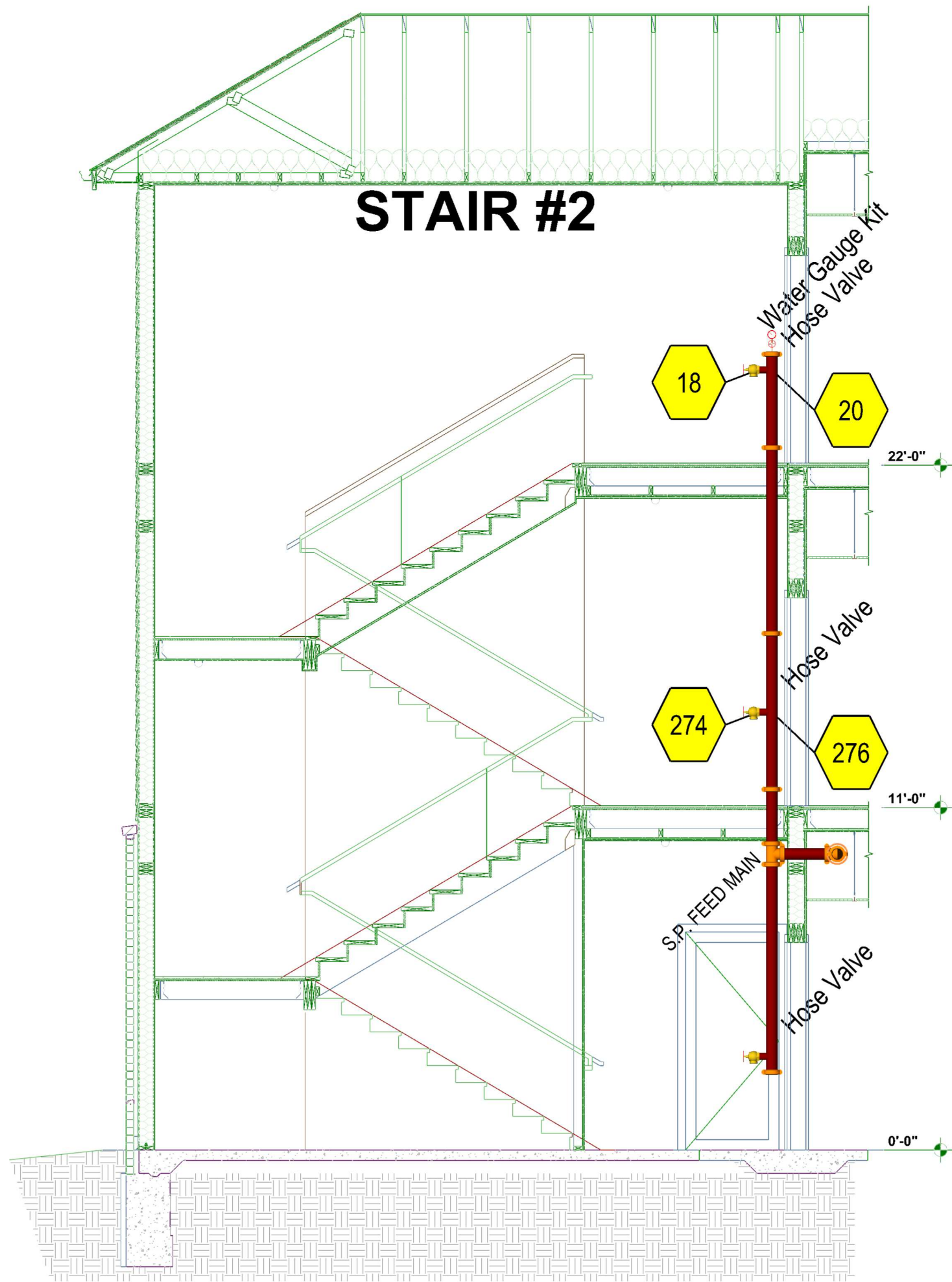
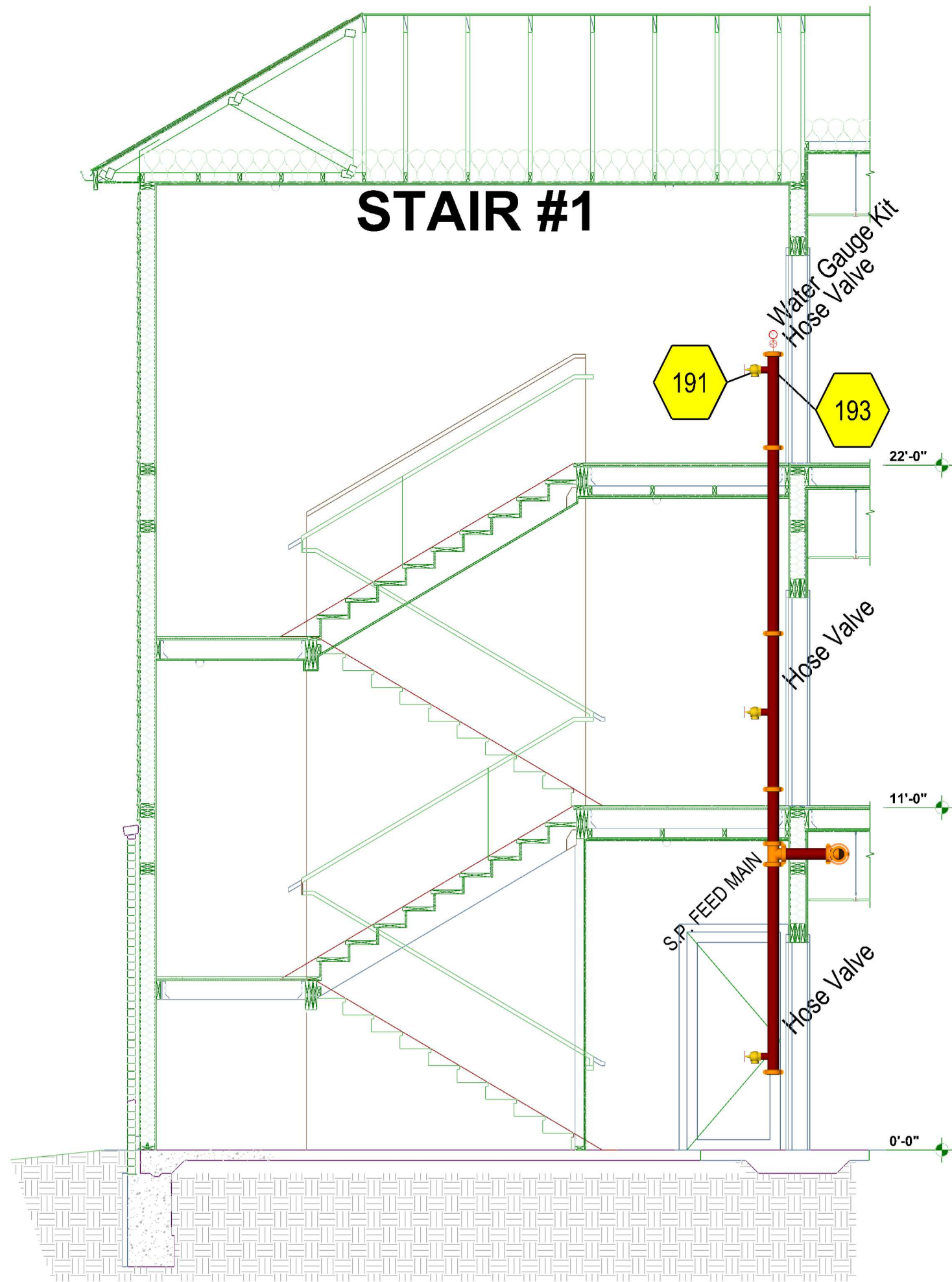




Hydraulic Information	
Remote Area STANDPIPE	
OCCUPANCY CLASSIFICATION	Residential
TOTAL HOSE STREAMS	750.00
TOTAL WATER REQUIRED	750.00
TOTAL PRESSURE REQUIRED	148.530
SAFETY MARGIN (psi)	+25.051 (14.4%)

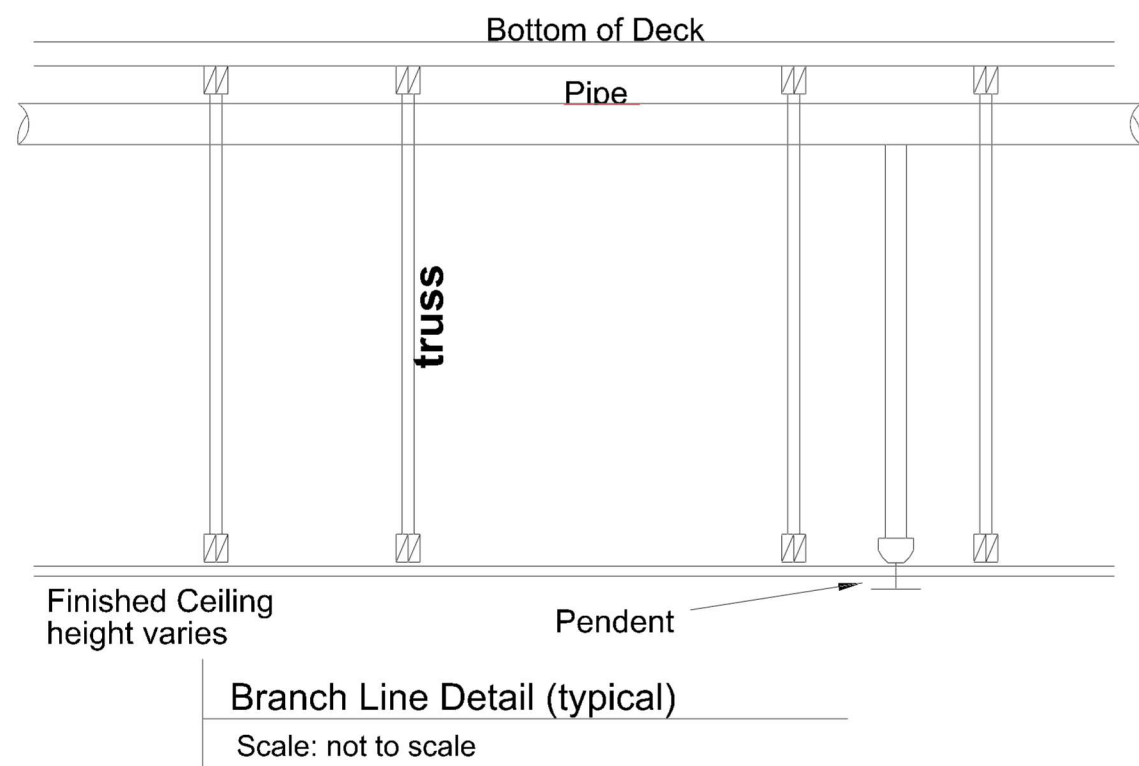
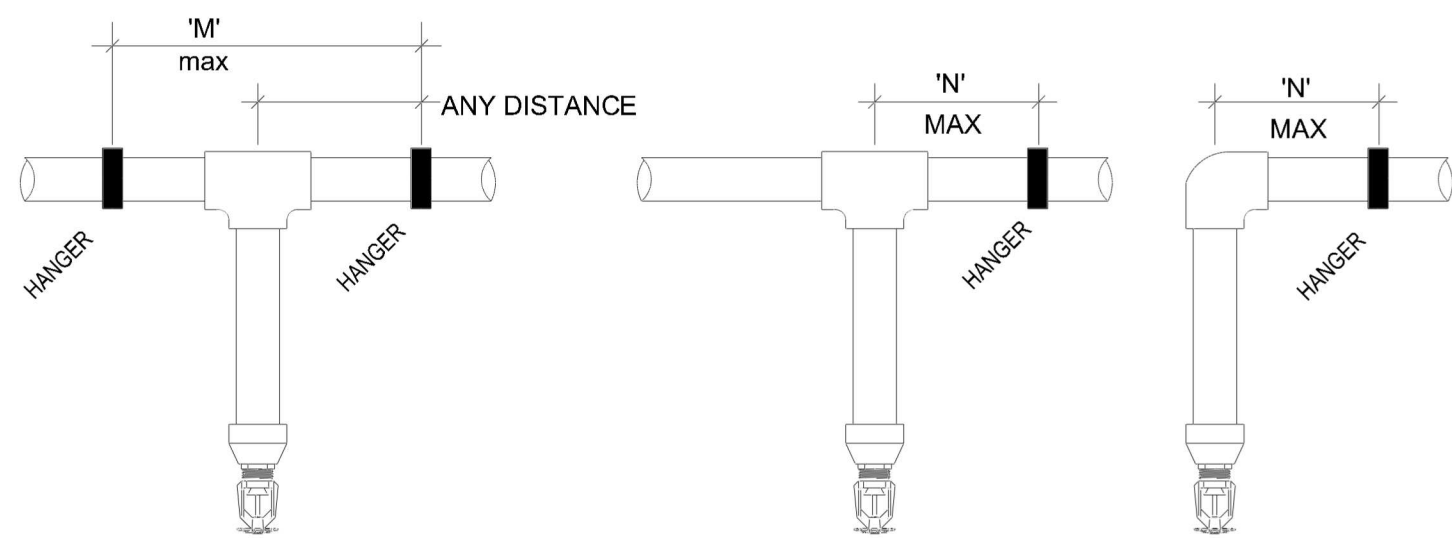


MANUAL STANDPIPE ELEVATION
not to scale

TABLE 'M' TWO POINTS OF RESTRAINT		TABLE 'N' ONE POINT OF RESTRAINT	
Nominal Pipe Size	(Less Than 100psi)	Nominal Pipe Size	(Less Than 100psi)
3/4"	4'-0"	3/4"	0'-9"
1"	5'-0"	1"	1'-0"
1 1/4"	6'-0"	1 1/4"	1'-4"
1 1/2"-3"	7'-0"	1 1/2"-3"	2'-0"

FIRE SPRINKLER NOTES

- FINAL MOUNTING HEIGHT OF SIDEWALL SPRINKLERS INSTALLED AT 4"-6" DOWN FROM FINISHED CEILING.
- COVERAGE EXCLUDED IN BATHROOMS UNDER 55 SQFT.
- COVERAGE EXCLUDED IN CLOSETS UNDER 24 SQFT.
- PENDENT SPRINKLER HEADS SHALL BE A MINIMUM OF 3'-0" FROM CENTER OF CEILING FAN JUNCTION BOX.
- 4" GROOVED BUTTERFLY VALVE WITH SUPERVISORY SWITCH. STANDPIPE ISOLATION VALVE. ALARM WORK BY OTHERS.



Flow Test Data	
STATIC PRESSURE	84 psi
RESIDUAL PRESSURE:	80 psi
FLOW	1289 gpm
TEST CONDUCTED BY	Alliance Fire Protection
TEST WITNESSED BY	Brad Boler
DATE OF TEST	2/9/2024

CODE INFORMATION

CODE INFORMATION:
**NFPA 13K, 2016 EDITION: INSTALLATION OF SPRINKLER SYSTEMS
**NFPA 14, 2016 EDITION: INSTALLATION OF Standpipe and Hose Systems.
**INTERNATIONAL BUILDING & FIRE CODE, 2018 EDITION
BUILDING INFO:
IBC OCCUPANCY CLASSIFICATION: R-2
IBC CONSTRUCTION TYPE: V.A. SPRINKLERED, COMBUSTIBLE NON-OBSTRUCTED
NUMBER OF STORIES ABOVE GRADE: 3
BUILDING TOTAL GROSS SF: 60,883 S.F.

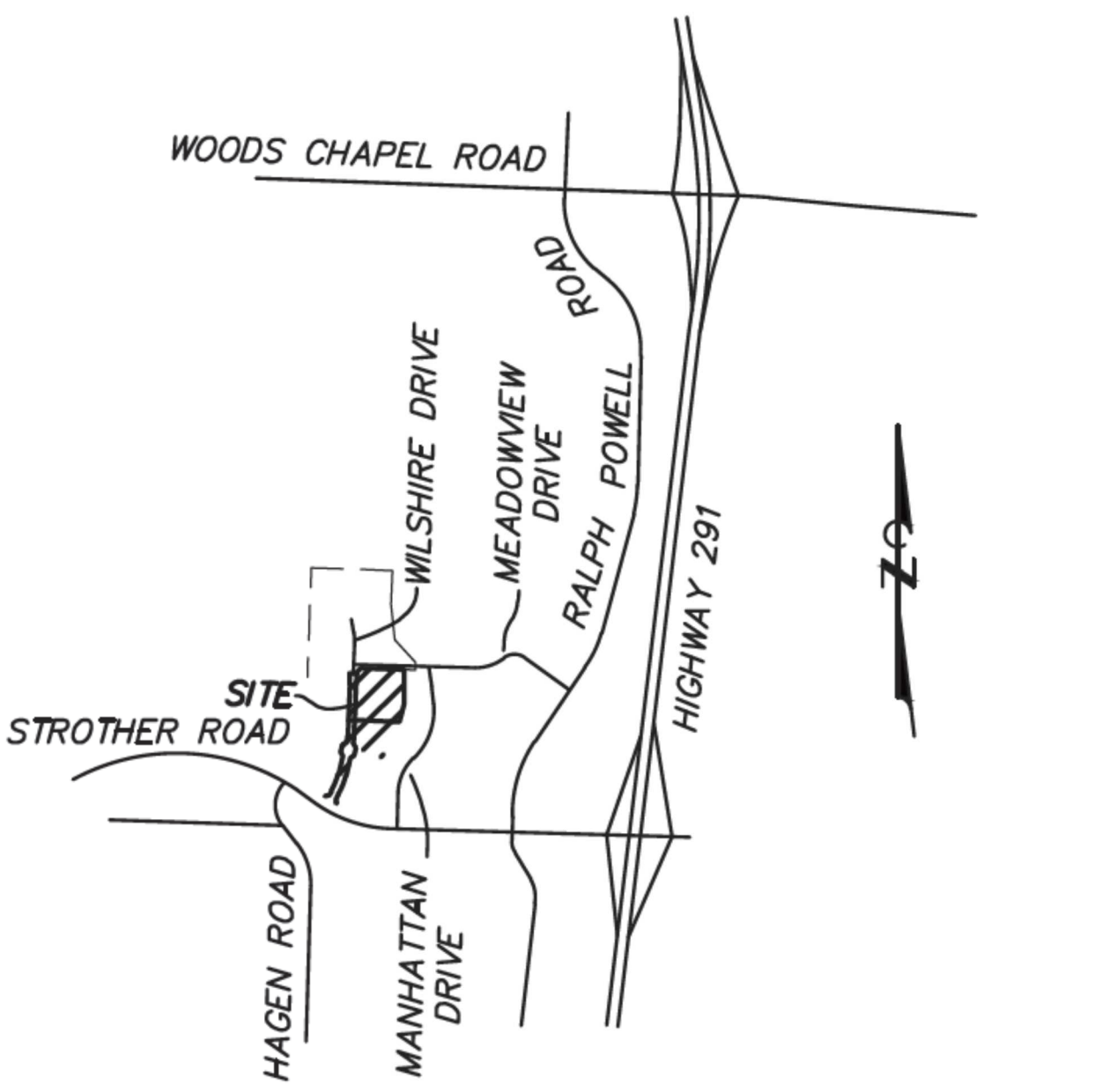
SCOPE OF WORK

SCOPE OF WORK:
** FURNISH & INSTALL 3 NEW WET PIPE SPRINKLER SYSTEM FOR THE NEW APARTMENT BUILDING.
** FURNISH & INSTALL A NEW MANUAL STANDPIPE SYSTEM IN BOTH STAIRWAYS.
** POINT OF CONNECTION (START OF CONTRACT) IS AT AN 8" FLANGE, 12" ABOVE THE FINISHED FLOOR IN THE FIRE SPRINKLER RISER ROOM.

NOT INCLUDED:
** WIRING OF ELECTRICAL DEVICES** FIRE EXTINGUISHERS
** UNDERGROUND PIPING AND TESTING
** SEISMIC BRACING
** PAINTED PIPING
** COMPONENT IDENTIFICATION BEYOND NFPA 13 REQUIREMENTS
** CUTTING AND PATCHING
** PIPE SLEEVES

GENERAL REQUIREMENTS

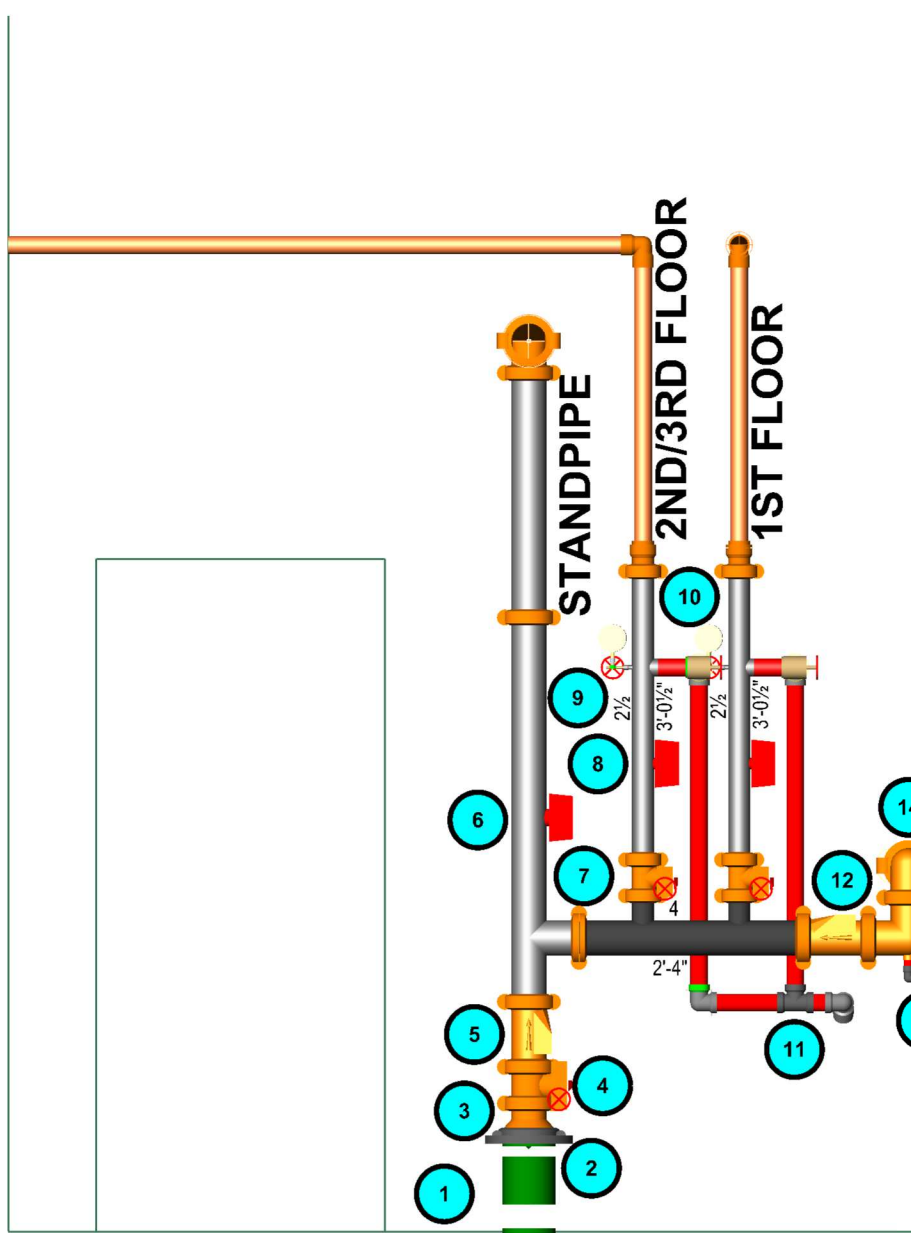
** SUPPLY A SPARE SPRINKLER CABINET WITH WRENCH FOR EACH SPRINKLER TYPE AS REQUIRED BY NFPA 13K.
** ALL NEW PIPING OR PIPING MODIFICATIONS WHICH AFFECT MORE THAN 20 SPRINKLERS SHALL BE HYDRO-STATICALLY TESTED AT 200 PSI OR 50 PSI OVER THE SYSTEM WORKING PRESSURE. THE SYSTEM SHALL MAINTAIN THIS PRESSURE WITHOUT LOSS FOR 2 HOURS.
** ALL PIPING MODIFICATIONS WHICH CANNOT BE ISOLATED FROM THE EXISTING SYSTEM, SHALL BE TESTED AT THE SYSTEM WORKING PRESSURE.
** THE LOCAL FIREBUILDING INSPECTOR IS TO BE NOTIFIED 48 HOURS IN ADVANCE OF ALL TESTING.
UNDERGROUND TESTING AND FLUSHING:
** UNDERGROUND PIPE SHALL BE TESTED AND FLUSHED BY THE INSTALLING CONTRACTOR AS REQUIRED BY NFPA 24 BEFORE ANY OVERHEAD SPRINKLER PIPING IS CONNECTED.



LOCATION MAP
not to scale

KEY NOTE		SIZE	DESCRIPTION
1	6		UNDERGROUND PIPE (BY OTHERS)
2	6		GRV-FLANGE ADAPTER (LP), BLK
3	6 X 4		CONCENTRIC REDUCER GRV-GRV
4	4		Butterfly Valve, GRV-GRV
5	4		Check Valve, GRV-GRV (backflow in pit)
6	4 x 2		Waterflow Detector FLOW SWITCH
7	2 1/2		Butterfly Valve, GRV-GRV
8	2 1/2 x 1 1/2		Waterflow Detector FLOW SWITCH
9	1/4		GUAGE Inspectors Test
10	1 1/2		Inspectors Test & Drain GRV-GRV
11	1 1/2		Main Drain
12	4		Check Valve, GRV-GRV (FDC)
13	4 X 1 X 4		Drain Elbow GRV-GRV w/ Ball Drip
14	4 x 4		FDC 4 inch 30 degree Storz Connection

Symbol		Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature
●		Viking	VK468	RES	266	4.9	Pendent	1/2"	Quick	White	175°F
○		Viking	VK484	CONCEALER	45	4.9	Concealed Pendent	1/2"	Quick	White	175°F
○		Viking	VK486	RES	175	4	Horizontal Sidewall	1/2"	Quick	White	175°F
○		Viking	VK4621	QR CONC	28	5.6	Concealed Pendent	1/2"	Quick	White	175°F
○		Viking	VK305	QR/SC	9	5.6	Horizontal Sidewall	1/2"	Quick	Brass	175°F
		Total = 523									



DRAWING INDEX

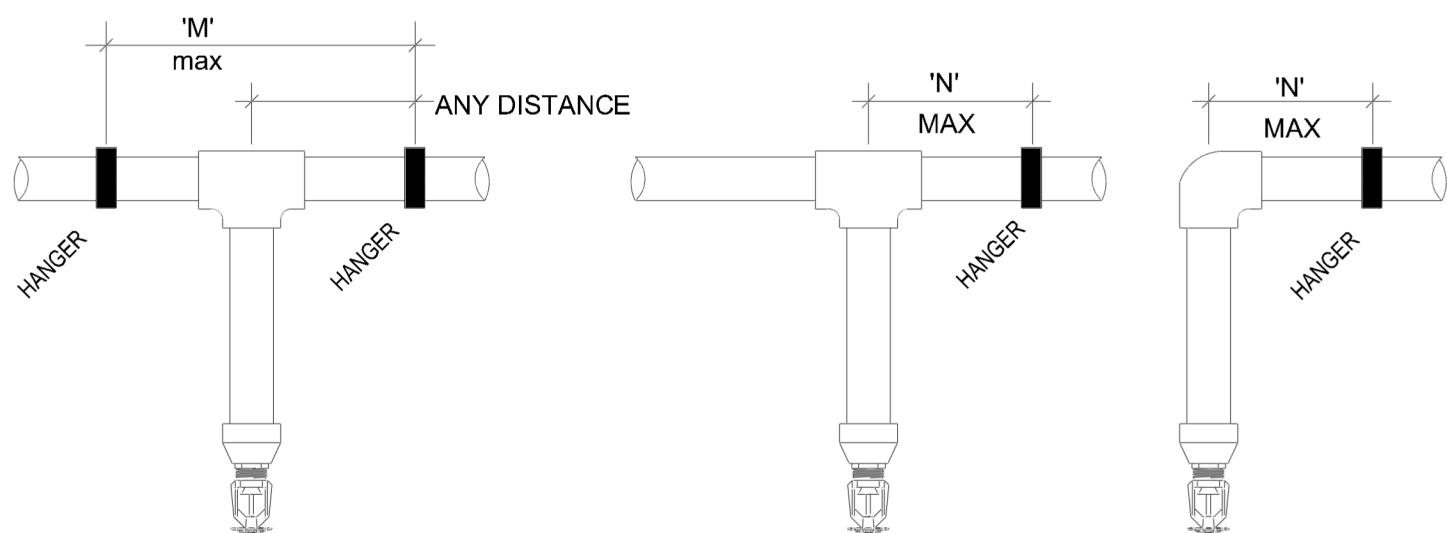
FP1.0 - GENERAL FP INFORMATION
FP2.1 - 1ST FLOOR
FP2.2 - 2ND FLOOR
FP2.3 - 3RD FLOOR



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PROJECT REVISIONS		DRAWING SYMBOLS	PROJECT INFORMATION	GENERAL INFORMATION	SHEET
NO.	DATE	DESCRIPTION	PIPING CENTERLINES ★ 0" TS ⬅ TO TOP OF STEEL OR ROOF DECK ★ 0" FF ⬅ TO FLOOR HAZARD HYDRAULIC NODE	JOB NO. NC 1471 DATE 05/23/25 SCALE AS NOTED HAZARD Residential DESIGNED BY AKC AUTHORITY HAVING JURISDICTION LEES SUMMIT, MO BLDG CODE	WILSHIRE HILLS III NE WILSHIRE DR. LEES SUMMIT, MO FP 1.0 Wilshire FP.gad

TABLE 'M'		TABLE 'N'	
TWO POINTS OF RESTRAINT		ONE POINT OF RESTRAINT	
Nominal Pipe Size	(Less Than 100psi)	Nominal Pipe Size	(Less Than 100psi)
3/4"	4'-0"	3/4"	0'-9"
1"	5'-0"	1"	1'-0"
1 1/4"	6'-0"	1 1/4"	1'-4"
1 1/2"-3"	7'-0"	1 1/2"-3"	2'-0"

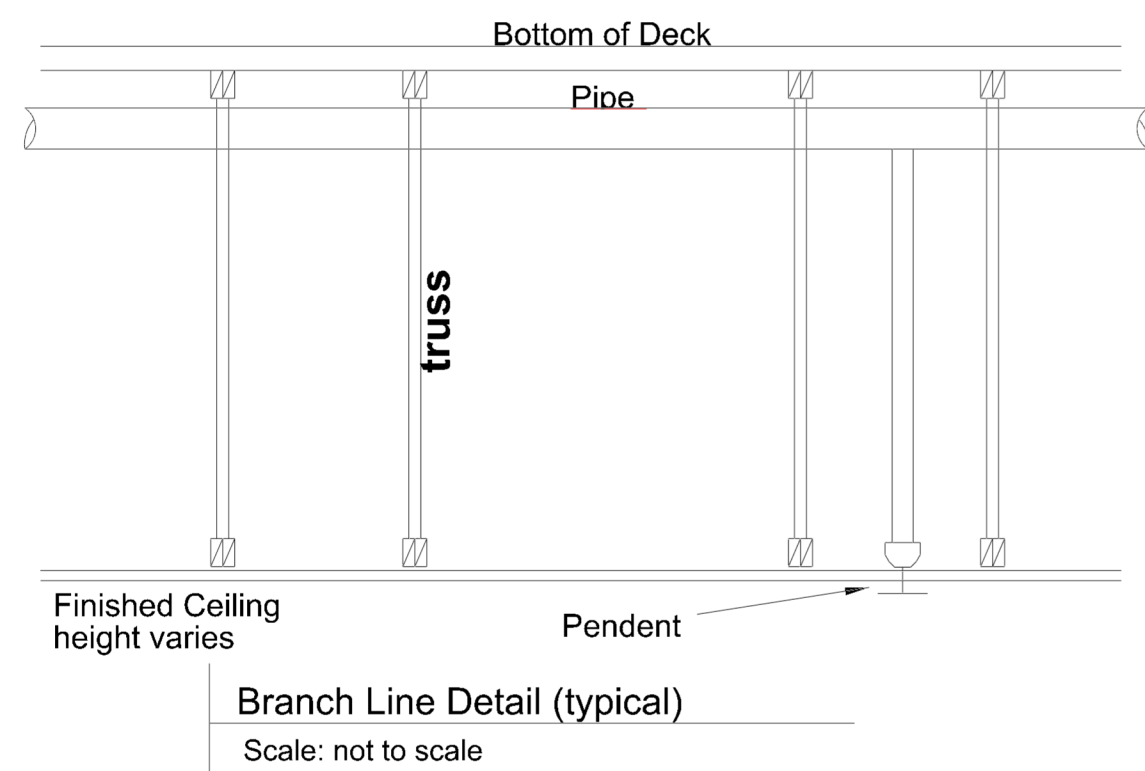


CPVC HANGER DETAILS

Scale: not to scale

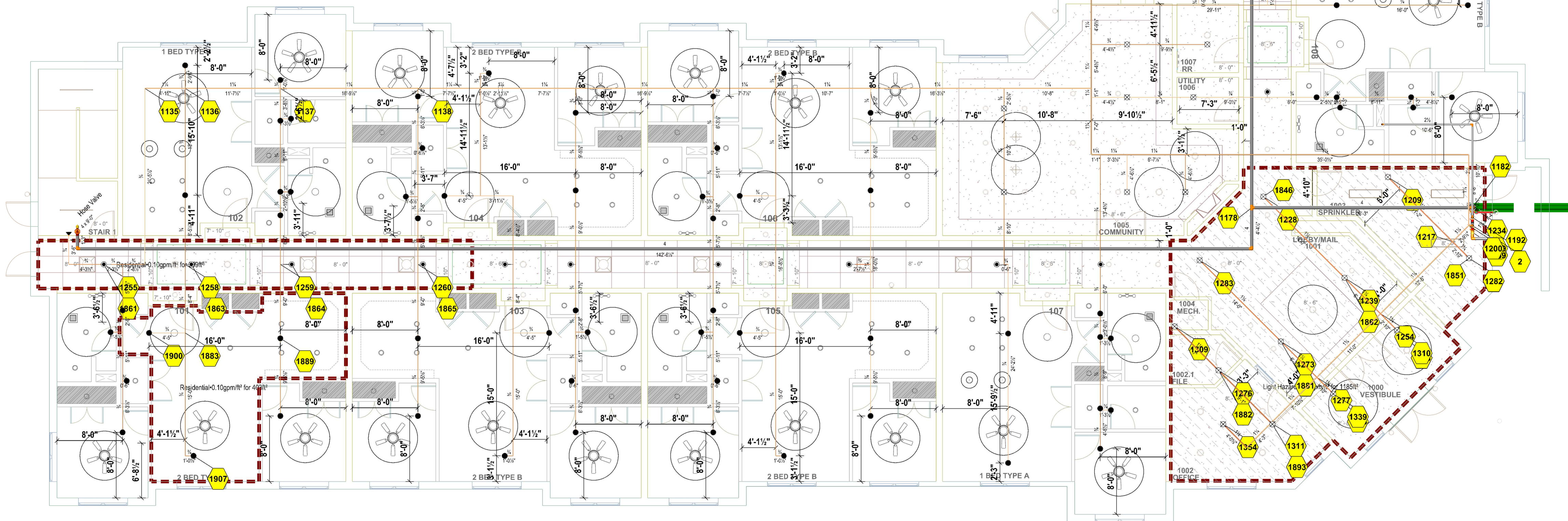
FIRE SPRINKLER NOTES

- 1 FINAL MOUNTING HEIGHT OF SIDEWALL SPRINKLERS INSTALLED AT 4"-6" DOWN FROM FINISHED CEILING.
- 2 COVERAGE EXCLUDED IN BATHROOMS UNDER 55 SQFT.
- 3 COVERAGE EXCLUDED IN CLOSETS UNDER 24 SQFT.
- 4 PENDENT SPRINKLER HEADS SHALL BE A MINIMUM OF 3'-0" FROM CENTER OF CEILING FAN JUNCTION BOX.
- 5 4" GROOVED BUTTERFLY VALVE WITH SUPERVISORY SWITCH. STANDPIPE ISOLATION VALVE. ALARM WORK BY OTHERS.



PENDENT SPRINKLER HEADS SHALL BE A MINIMUM OF 3'-0" FROM CENTER OF CEILING FAN JUNCTION BOX OR BIG LIGHT WHERE SHOWN BY CIRCLE. RESIDENTIAL SPRINKLER HEADS SHALL BE A MAXIMUM OF 8'-0" FROM FACE OF WALL. RESIDENTIAL SPRINKLER HEADS SHALL BE A MAXIMUM OF 8'-0" FROM FACE OF WALL. HALLWAY CONCEALED PENDENT SPRINKLER HEADS SHALL USE A FLEXDROP

Hydraulic Information		Hydraulic Information		Hydraulic Information	
Remote Area APT 101		Remote Area 1ST FLOOR HALLWAY		Remote Area LOBBY	
OCCUPANCY CLASSIFICATION	Residential	OCCUPANCY CLASSIFICATION	Residential	OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft ²)	0.10 for 900R ¹ (Actual 403R ¹)	DENSITY (gpm/ft ²)	0.10 for 900R ¹ (Actual 309R ¹)	DENSITY (gpm/ft ²)	0.10 for 1500R ¹ (Actual 1185R ¹)
TOTAL HOSE STREAMS	100.00	TOTAL HOSE STREAMS	100.00	TOTAL HOSE STREAMS	100.00
TOTAL HEADS FLOWING	3	TOTAL HEADS FLOWING	4	TOTAL HEADS FLOWING	12
K-FACTOR	4.9	K-FACTOR	4.9	K-FACTOR	5.6
TOTAL WATER REQUIRED	146.30	TOTAL WATER REQUIRED	155.43	TOTAL WATER REQUIRED	332.27
TOTAL PRESSURE REQUIRED	55.552	TOTAL PRESSURE REQUIRED	53.670	TOTAL PRESSURE REQUIRED	68.154
SAFETY MARGIN (psi)	+28.377 (33.8%)	SAFETY MARGIN (psi)	+30.251 (36.0%)	SAFETY MARGIN (psi)	+15.521 (18.5%)



FINISHED CEILING IS AT 8'-10 1/4" AFF u.n.o.

Sprinkler Legend									
Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish
●	Viking	VK468	RES	129	4.9	Pendent	1/2"	Quick	White
○	Viking	VK494	CONCEALER	21	4.9	Concealed Pendent	1/2"	Quick	White
○	Viking	VK498	RES	2	4	Horizontal Sidewall	1/2"	Quick	White
○	Viking	VK4621	QR CONC	20	5.6	Concealed Pendent	1/2"	Quick	White
○	Viking	VK305	QR/SC	1	5.6	Horizontal Sidewall	1/2"	Quick	Brass
				Total = 173					
				Temperature					
				175°F					

1ST FLOOR

SCALE: 1/8" = 1'-0"



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PROJECT REVISIONS	
NO.	DATE

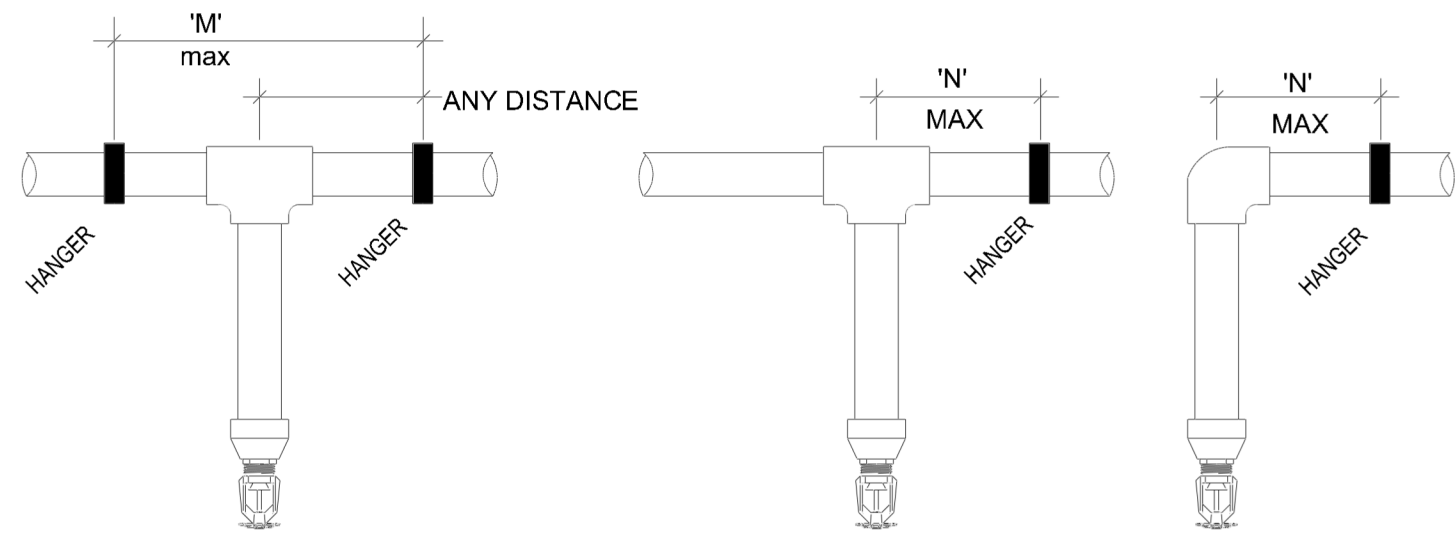
DRAWING SYMBOLS	
★ 0" TS	TO TOP OF STEEL OR ROOF DECK
★ 0" FF	TO FLOOR
○	HANGER LOCATION
●	HYDRAULIC NODE

PROJECT INFORMATION	
JOB NO.	NC 1471
DATE	05/23/25
SCALE	AS NOTED
HAZARD	Residential
DESIGNED BY	AKC

1ST FLOOR	
WILSHIRE HILLS III	
NE WILSHIRE DR.	
LEES SUMMIT, MO	
AUTHORITY HAVING JURISDICTION: LEES SUMMIT, MO BLDG CODE	

SHEET	
FP 2.1	
Wilshire FP.cad	

TABLE 'M'		TABLE 'N'	
TWO POINTS OF RESTRAINT		ONE POINT OF RESTRAINT	
Nominal Pipe Size	(Less Than 100psi)	Nominal Pipe Size	(Less Than 100psi)
3/4"	4'-0"	3/4"	0'-9"
1"	5'-0"	1"	1'-0"
1 1/4"	6'-0"	1 1/4"	1'-4"
1 1/2"-3"	7'-0"	1 1/2"-3"	2'-0"

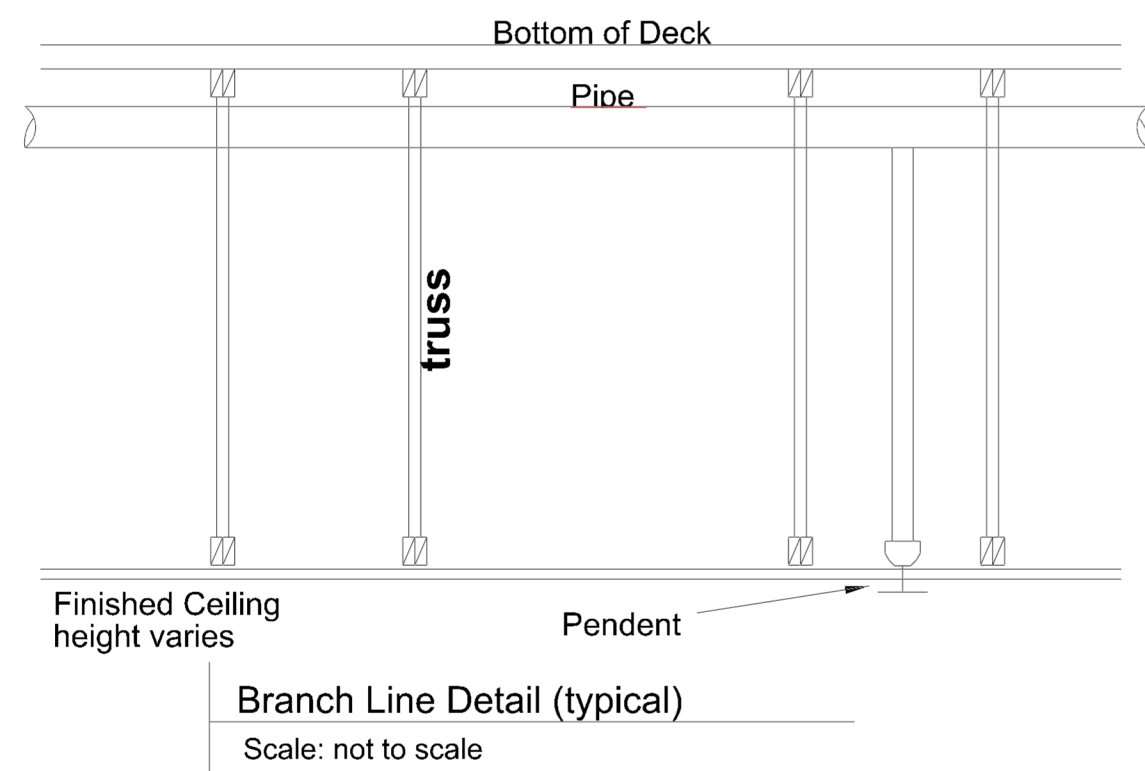


CPVC HANGER DETAILS

Scale: not to scale

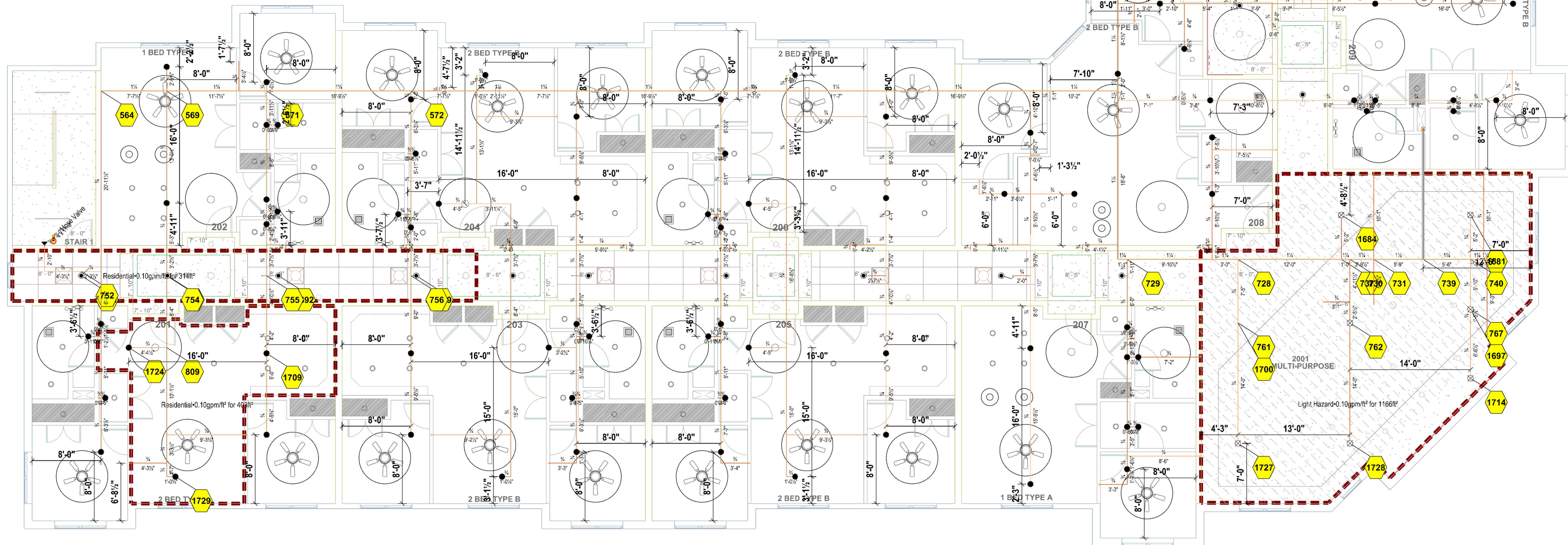
FIRE SPRINKLER NOTES

- 1 FINAL MOUNTING HEIGHT OF SIDEWALL SPRINKLERS INSTALLED AT 4'-6" DOWN FROM FINISHED CEILING.
- 2 COVERAGE EXCLUDED IN BATHROOMS UNDER 55 SQFT.
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Hydraulic Information		Hydraulic Information		Hydraulic Information	
Remote Area APT 201		Remote Area 2ND FLOOR HALLWAY		Remote Area 2ND FLOOR MULTI-PURPOSE	
OCCUPANCY CLASSIFICATION	Residential	OCCUPANCY CLASSIFICATION	Residential	OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft ²)	0.10 for 900ft ² (Actual 403ft ²)	DENSITY (gpm/ft ²)	0.10 for 900ft ² (Actual 314ft ²)	DENSITY (gpm/ft ²)	0.10 for 1500ft ² (Actual 1166ft ²)
TOTAL HOSE STREAMS	100.00	TOTAL HOSE STREAMS	100.00	TOTAL HOSE STREAMS	100.00
TOTAL HEADS FLOWING	5	TOTAL HEADS FLOWING	4	TOTAL HEADS FLOWING	5
K-FACTOR	4.9	K-FACTOR	4.9	K-FACTOR	5.6
TOTAL WATER REQUIRED	146.39	TOTAL WATER REQUIRED	154.03	TOTAL WATER REQUIRED	287.31
TOTAL PRESSURE REQUIRED	59.794	TOTAL PRESSURE REQUIRED	54.579	TOTAL PRESSURE REQUIRED	61.195
SAFETY MARGIN (psi)	+24.135 (28.8%)	SAFETY MARGIN (psi)	+29.342 (35.0%)	SAFETY MARGIN (psi)	+22.556 (26.9%)



FINISHED CEILING IS AT 8'-10 1/4" AFF u.n.o.

Sprinkler Legend										
Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature
●	Viking	VK468	RES	137	4.9	Pendent	1/2"	Quick	White	175°F
●	Viking	VK494	CONCEALER	24	4.9	Concealed Pendent	1/2"	Quick	White	175°F
●	Viking	VK486	RES	2	4	Horizontal Sidewall	1/2"	Quick	White	175°F
⊗	Viking	VK4621	QR CONC	7	5.6	Concealed Pendent	1/2"	Quick	White	175°F
				Total = 170						

2ND FLOOR
SCALE: 1/8" = 1'-0"



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PROJECT REVISIONS			DRAWING SYMBOLS	PROJECT INFORMATION		2ND FLOOR		SHEET
NO.	DATE	DESCRIPTION		JOB NO.	NC 1471	WILSHIRE HILLS III		
			★ 0" TS ↙	DATE	05/23/25	NE WILSHIRE DR.		
			★ 0" FF ↘	SCALE	AS NOTED	LEES SUMMIT, MO		
			→	HAZARD	Residential			
			✓	DESIGNED BY	AKC	Wilshire FP.cad		
			●	AUTHORITY HAVING JURISDICTION		LEES SUMMIT, MO BLDG CODE		

