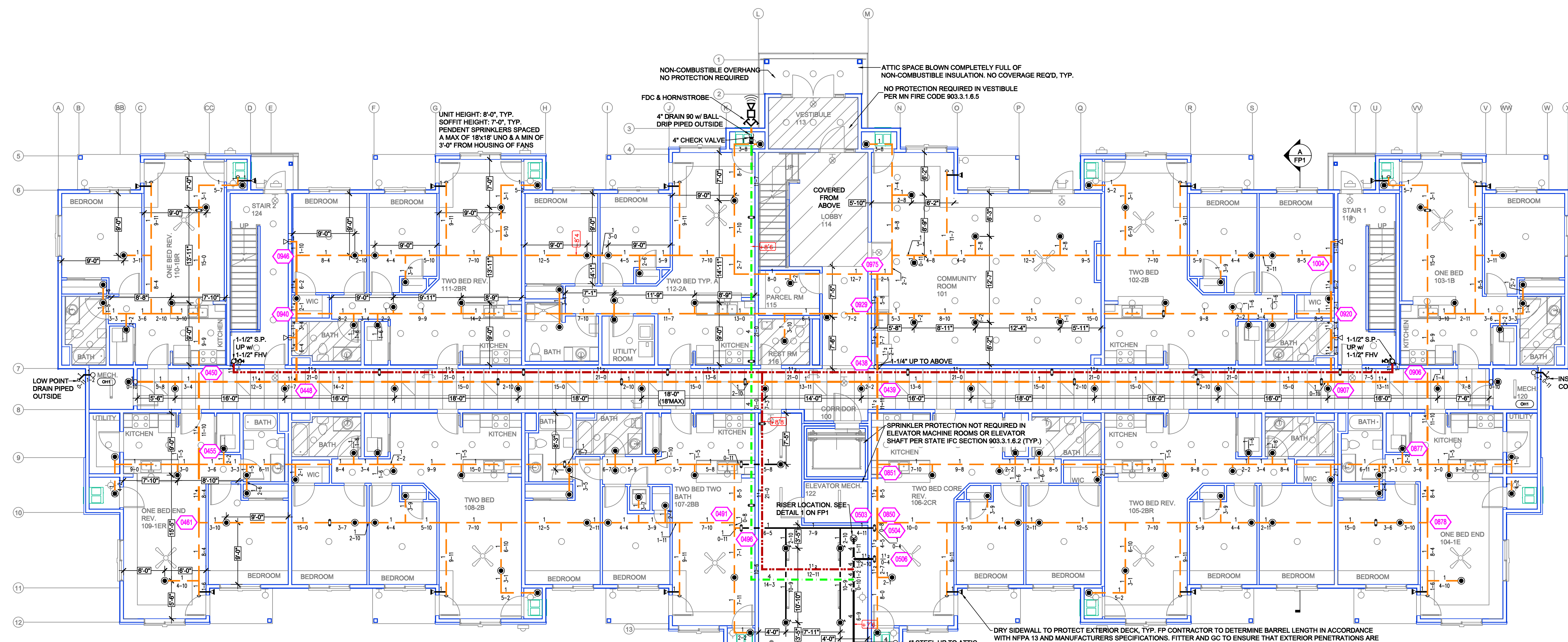




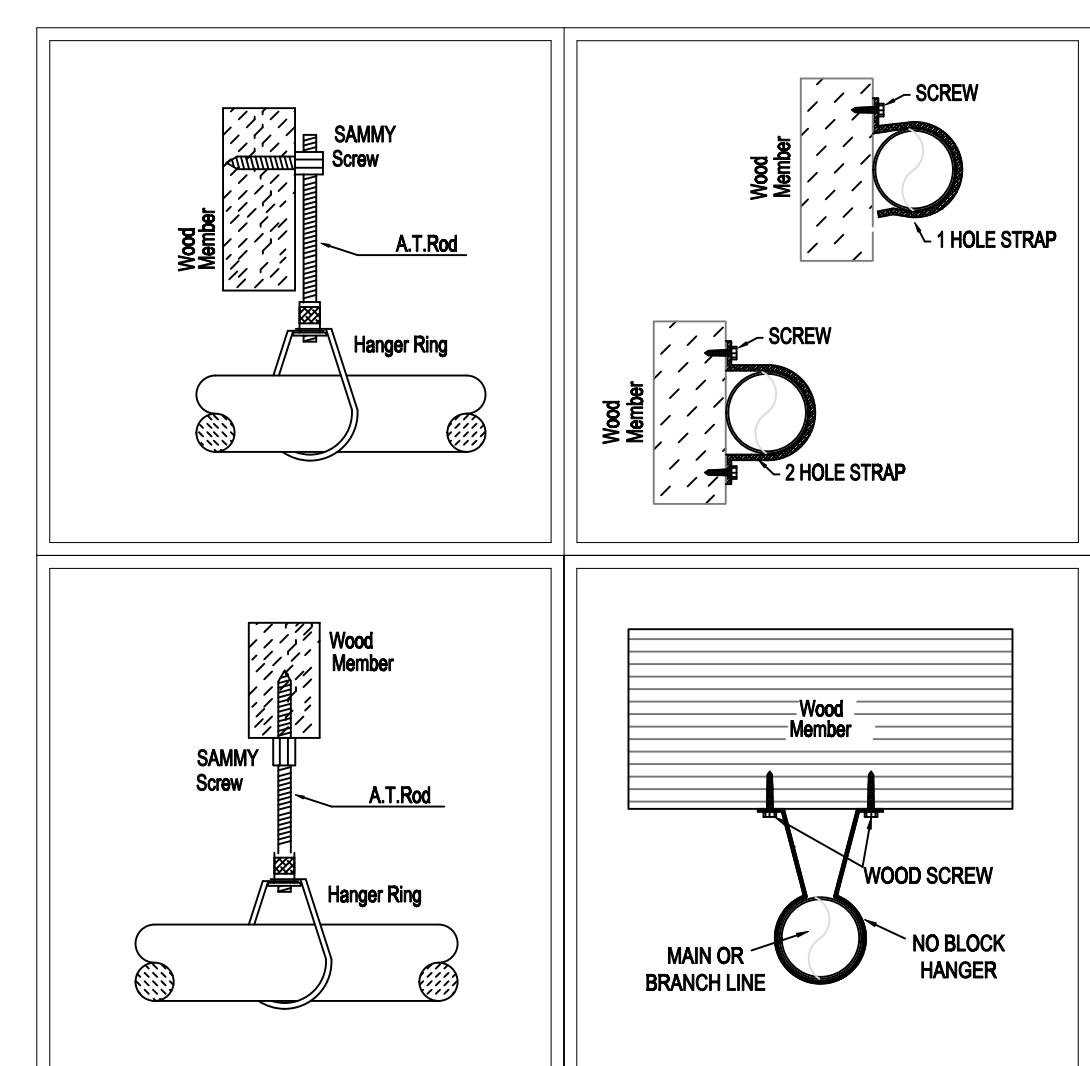
LEVEL 1 FIRE SPRINKLER PLAN
SCALE= 1/8" : 1'-0"

SYM	QTY	POSITION	FINISH	TEMP	K	NPT	SIN	MFG.	MODEL#	ESCUTCHEON
204	PENDENT	WHITE	200	4.90	1/2"	V2740	VICTAULIC	FL-RES	SEMI-RECESS	
77	PENDENT	WHITE	200	5.60	1/2"	V2708	VICTAULIC	FL-GR	SEMI-RECESS	
38	DRY SIDEWALL	CHROME	200	5.60	1/2"	R5734	RELIABLE	FL-GR	SEMI-RECESS	
143	SIDEWALL	WHITE	200	5.60	1/2"	V2710	VICTAULIC	FL-GR	SEMI-RECESS	
119	SIDEWALL	WHITE	155	4.20	1/2"	V2728	VICTAULIC	FL-RES	SEMI-RECESS	
36	UPRIGHT	BRASS	212	5.60	1/2"	RA5026	RELIABLE	AH56	N/A	
1	UPRIGHT	BRASS	200	5.60	1/2"	RA5024	RELIABLE	DD56-6	N/A	
8	UPRIGHT	BRASS	200	5.60	1/2"	V2704	VICTAULIC	FL-GR	N/A	
15	UPRIGHT	BRASS	212	5.60	1/2"	RA5026	RELIABLE	AH56	N/A	
25	UPRIGHT	BRASS	212	8.00	3/4"	RA5022	RELIABLE	DD56-6	N/A	
26	UPRIGHT	BRASS	200	5.60	1/2"	RA5024	RELIABLE	DD56-6	N/A	
592 TOTAL HEADS										

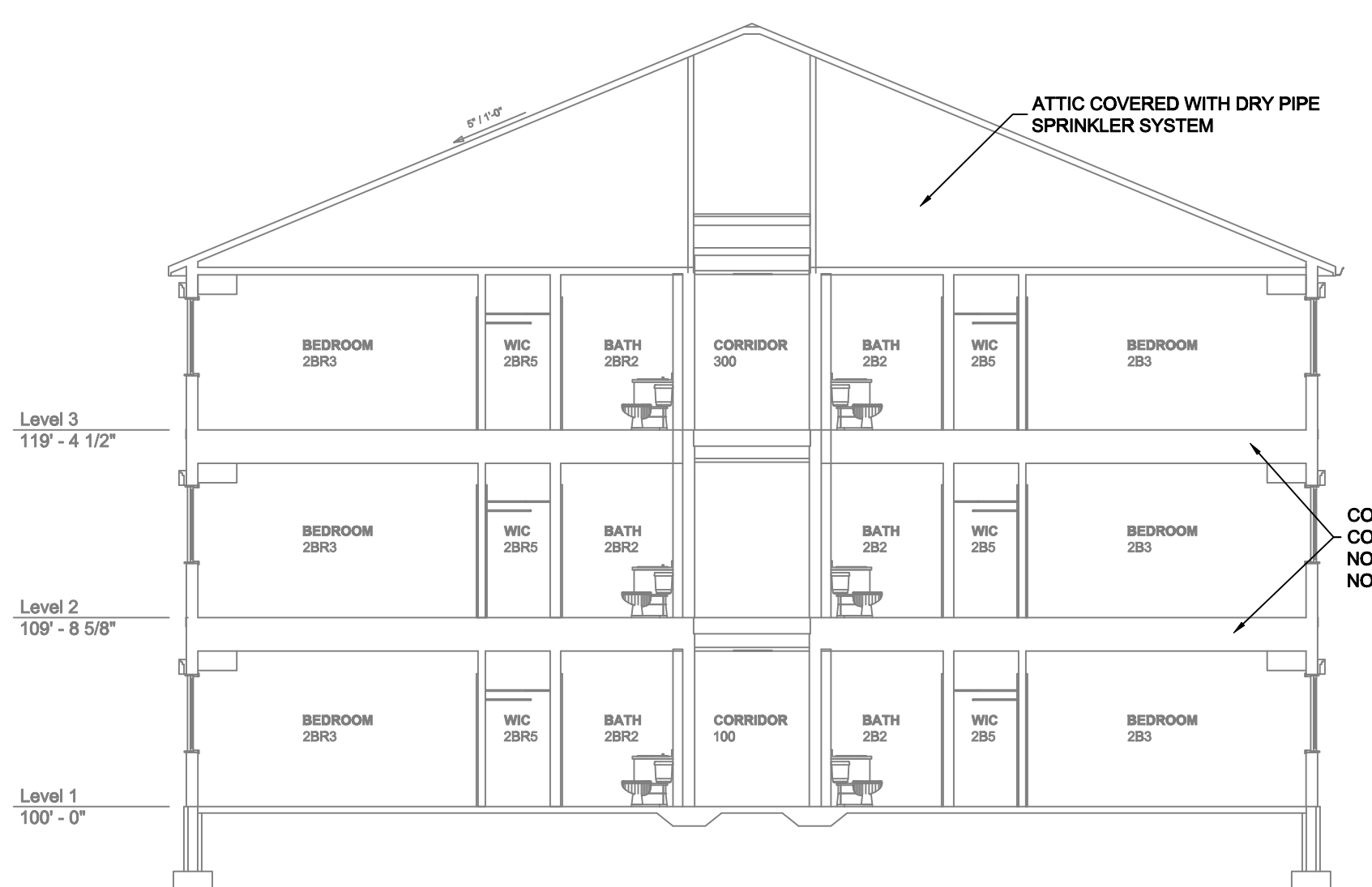
SPRINKLER HEAD LEGEND

PIPE LEGEND	
—	BLACK STEEL FIRE SPRINKLER PIPING
—	CPVC FIRE SPRINKLER PIPING
—	FIRE SPRINKLER STANDPIPE PIPING
—	FIRE SPRINKLER FDC PIPING

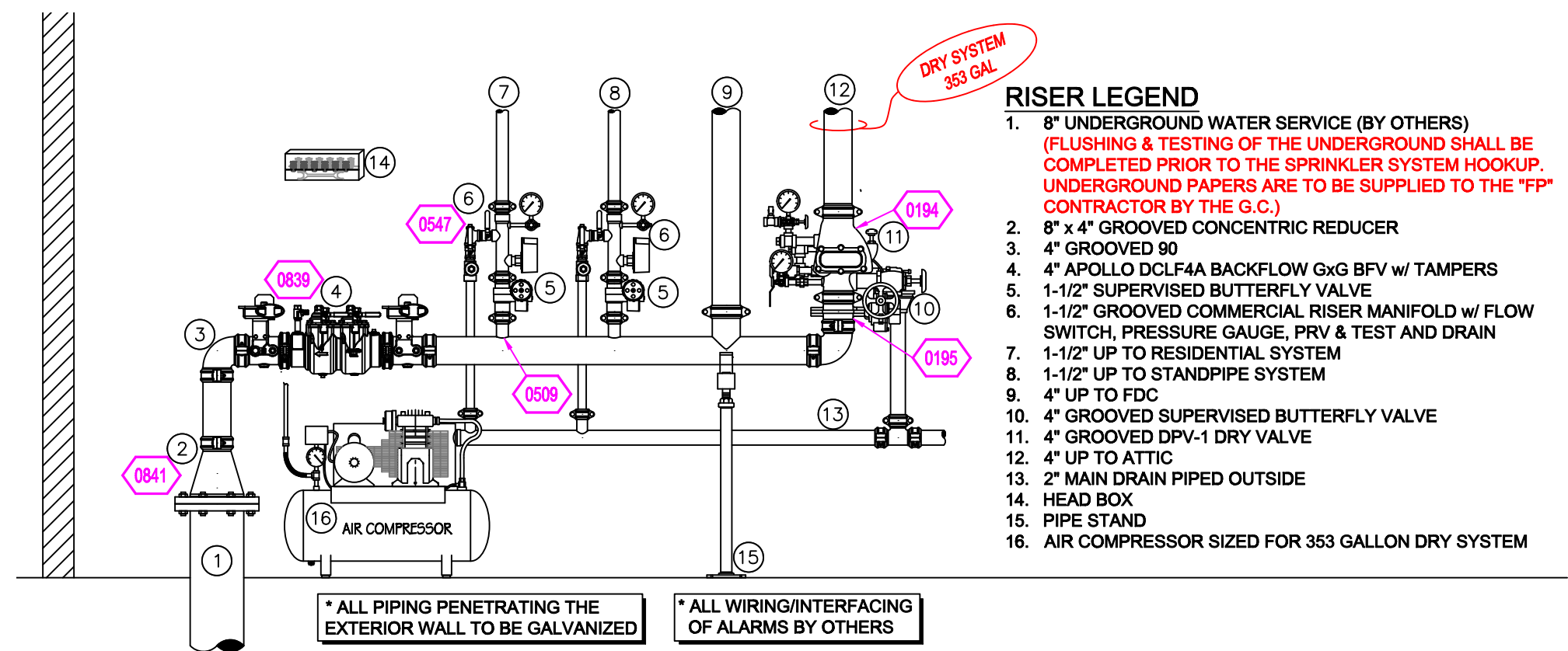
NFPA 13 STEEL PIPE HANGER SPACING		NFPA 13 CPVC PIPE HANGER SPACING	
(EXCEPT LIGHT WALL THRD PIPING)			
NOMINAL SIZE	MAX SPACING	NOMINAL SIZE	MAX SPACING
1"	12'-0"	1"	6'-0"
1-1/4"	12'-0"	1-1/4"	6'-6"
1-1/2"	15'-0"	1-1/2"	7'-0"
2"	15'-0"	2"	8'-0"
2-1/2"	15'-0"		
3"	15'-0"		
4" & LARGER	15'-0"		



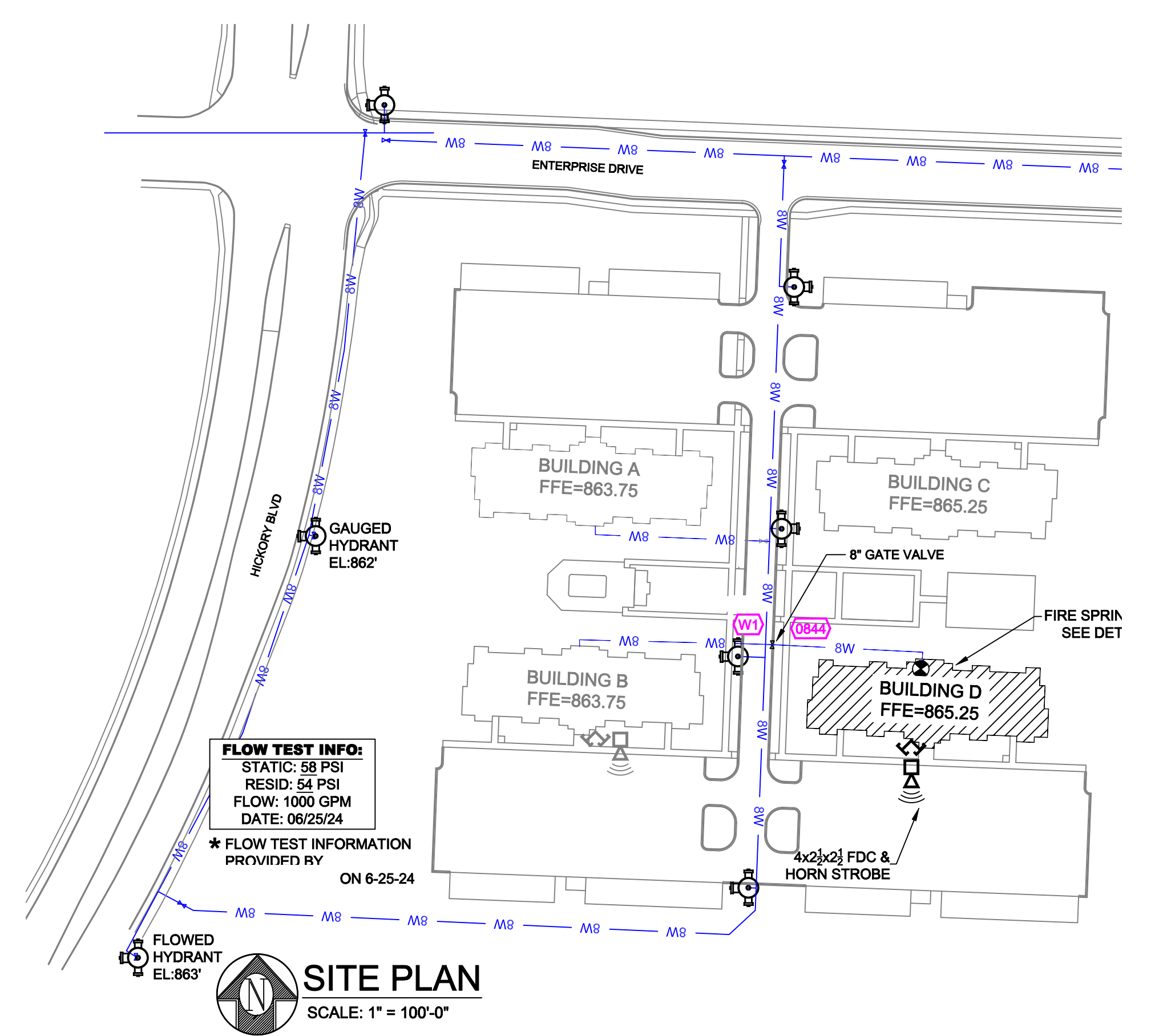
HANGER DETAILS



A BUILDING SECTION
SCALE= 1/8" : 1'-0"

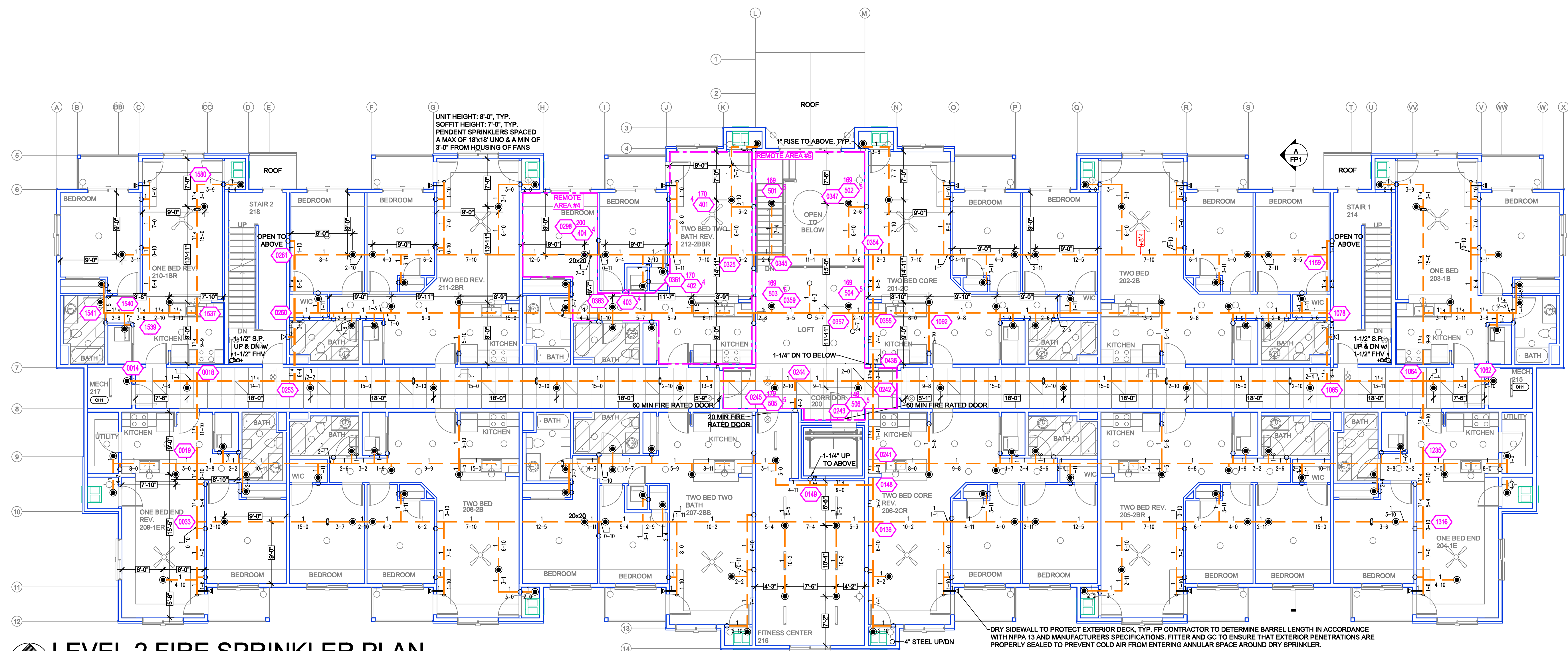


1 RISER DETAIL
SCALE= 1/2" : 1'-0"



SITE PLAN
SCALE= 1" = 100'-0"

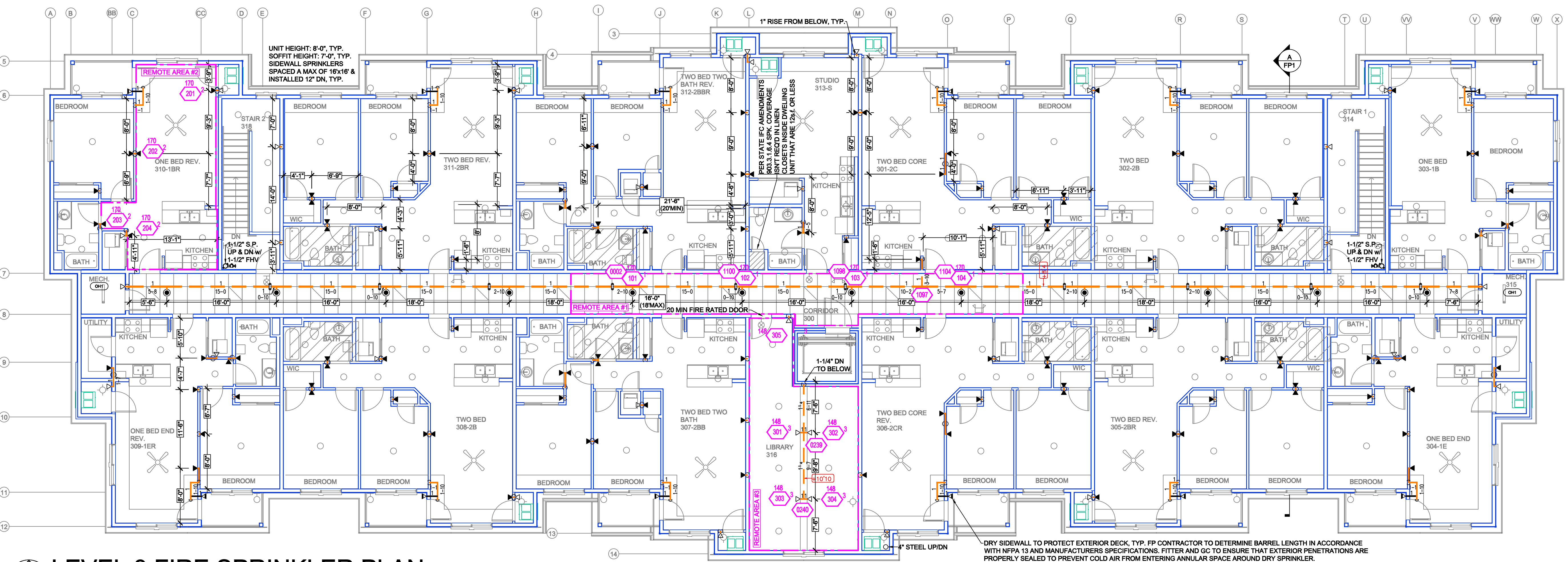
- GENERAL NOTES**
- MINNESOTA STATE BUILDING CODE (2020)
 - OCCUPANCY: R-2 (RESIDENTIAL)
 - TYPE OF CONSTRUCTION: VA (PROTECTED WOOD FRAME)
 - SPRINKLERED AREAS (APPROXIMATE - SEE ARCHITECTURAL PLANS FOR ACTUAL)
 - LEVEL 1 ZONE 1 = 14,000 S.F.
 - LEVEL 2 ZONE 1 = 13,925 S.F.
 - LEVEL 3 ZONE 1 = 13,925 S.F.
 - ATTIC ZONE 2 = 13,981 S.F.
 - TOTAL = 55,441 S.F.
 - INSTALLATION STANDARDS: SPRINKLER SYSTEM DESIGNED AND INSTALLED PER NFPA-13 (2016)
 - SPRINKLER PIPE TYPES:
 - WET:
 - 1" BRANCH LINES TO BE BLAZEMASTER CPVC PIPING WITH CEMENTED FITTINGS
 - 1-1/4" - 1-1/2" MAIN & BRANCH LINES TO BE BLAZEMASTER CPVC PIPING WITH CEMENTED FITTINGS
 - 1" BRANCH LINES TO BE BLK SCHEDULE 40 PIPING WITH THREADED FITTINGS
 - 1-1/4" THROUGH 4" MAIN & BRANCH LINES TO BE BLK SCHEDULE 40 PIPING WITH SHORT RADIUS GROOVED FITTINGS
 - DRY:
 - 1" THROUGH 1-1/4" BRANCH LINES TO BE THREADED SCHEDULE 40 WITH THREADED FITTINGS
 - 2" THROUGH 4" MAIN & BRANCH LINES TO BE GROOVED SCHEDULE 40 WITH SHORT RADIUS GROOVED FITTINGS
 - ALL SPRINGS TO BE 1" THREADED FITTINGS
 - DESIGN CRITERIA:
 - RESIDENTIAL ROOMS, CORRIDORS, LOBBYS, ATTIC, AND SIMILAR AREAS DESIGNED TO LIGHT HAZARD
 - MECH ROOMS, STORAGE ROOMS, AND SIMILAR AREAS DESIGNED TO ORDINARY HAZARD GROUP 1
 - REMOTE AREA REDUCTIONS HAVE BEEN TAKEN WHERE APPLICABLE PER NFPA 13 SEC. 11.2.3.2.3
 - NOTES:
 - ALL MATERIAL TO BE NEW AND MEET U.L. STANDARDS
 - HANGERS TO BE INSTALLED IN ACCORDANCE WITH NFPA 13 (2016) - SEE PLAN FOR HANGING REQUIREMENTS
 - DRY SYSTEM PIPE SLOPE INSTALLATION: SPRINKLER MAINS TO BE 1" PER 10 FEET
 - SPRINKLER BRANCH LINES TO BE 1/2" PER 10 FEET
 - DRY SYSTEM CAPACITY: 353 GAL
 - SYMBOLS USED ON DRAWINGS:
 - 0495 PIPE ELEVATION A.F.F
 - 0492 PIPE ELEVATION BELOW B.O.D
 - 0491 ROOM HAZARD CLASSIFICATION (ALL ROOMS ARE CONSIDERED LIGHT HAZARD UNLESS NOTED)
 - 0490 HYDRAULIC CALCULATION JUNCTION POINT
 - 0490 CEILING HEIGHT
 - SCOPE OF WORK:
 - TO INSTALL A NEW SPRINKLER SYSTEM IN HICKORY GROVE APARTMENT BUILDING D, THE SYSTEM SHALL HAVE 2 ZONES, ZONE 1 (WET) FEEDING ALL THREE RESIDENTIAL LEVELS AND ZONE 2 (DRY) FEEDING THE ATTIC
 - ALL AREAS OF THE BUILDING TO BE INSTALLED AND COVERED IN ACCORDANCE WITH THE LOCAL AUTHORITY HAVING JURISDICTION AND PER NFPA 13 (2016)
 - 1-1/2" CLEANUP STANDPIPES WILL BE PROVIDED IN EACH STAIR WITH HOSE VALVES LOCATED AT THE MAIN FLOOR LANDING



LEVEL 2 FIRE SPRINKLER PLAN
SCALE= 1/8" : 1'-0"

Design Area # 5 HAZARD: LIGHT
Zone: 1 System Type: WET
Location: LEVEL 2 UPPER LOBBY
Flowing Outlets: 6
Density: 0.10 Remote Area: 666
Flow: 206.6 gpm @ 44.2 psi
Calculation Safety: 13.6 psi
Includes 100 gpm Hose allowance
NOTE:
CALCULATED PER ROOM DESIGN METHOD
NFPA 13 SEC. 11.2.3.3.

Design Area # 4 HAZARD: LIGHT
Zone: 1 System Type: WET
Location: UNIT 2 BED 2 BATH REV
Flowing Outlets: 4
Density: 0.10 Remote Area: 582
Flow: 179 gpm @ 43.9 psi
Calculation Safety: 13.9 psi
Includes 100 gpm Hose allowance
NOTE:
FOUR MOST DEMANDING RESIDENTIAL
SPRINKLERS CALCULATED PER NFPA 13 SEC.
11.3.1.1.



LEVEL 3 FIRE SPRINKLER PLAN
SCALE= 1/8" : 1'-0"

Design Area # 1 HAZARD: LIGHT
Zone: 1 System Type: WET
Location: LEVEL 3 HALLWAY
Flowing Outlets: 4
Density: 0.10 Remote Area: 405
Flow: 166.5 gpm @ 48.7 psi
Calculation Safety: 9.1 psi
Includes 100 gpm Hose allowance
NOTE:
FOUR MOST DEMANDING RESIDENTIAL
SPRINKLERS CALCULATED PER NFPA 13 SEC.
11.3.1.1.

Design Area # 2 HAZARD: LIGHT
Zone: 1 System Type: WET
Location: UNIT ONE BED REV
Flowing Outlets: 4
Density: 0.10 Remote Area: 424
Flow: 169.1 gpm @ 50.4 psi
Calculation Safety: 7.1 psi
Includes 100 gpm Hose allowance
NOTE:
FOUR MOST DEMANDING RESIDENTIAL
SPRINKLERS CALCULATED PER NFPA 13 SEC.
11.3.1.1.

Design Area # 3 HAZARD: LIGHT
Zone: 1 System Type: WET
Location: LEVEL 3 LIBRARY
Flowing Outlets: 5
Density: 0.10 Remote Area: 452
Flow: 182.1 gpm @ 46.9 psi
Calculation Safety: 11 psi
Includes 100 gpm Hose allowance
NOTE:
CALCULATED PER ROOM DESIGN METHOD
NFPA 13 SEC. 11.2.3.3.

PIPE LEGEND

- BLACK STEEL FIRE SPRINKLER PIPING
- CPCV FIRE SPRINKLER PIPING
- FIRE SPRINKLER STANDPIPE PIPING
- FIRE SPRINKLER FDC PIPING

SYM	CNT	POSITION	FINISH	TEMP	K	NPT	SIN	MFG.	MODEL#	ESCUTCHEON
204	PENDENT	WHITE	200	4.90	12"	V2740	VICTAULIC	FL-RES	SEMI-RECESS	
77	PENDENT	WHITE	200	5.60	12"	V2708	VICTAULIC	FL-RES	SEMI-RECESS	
38	DRY SIDEWALL	CHROME	200	5.60	1"	R5734	RELIABLE	FSQR	HB	
43	SIDEWALL	WHITE	200	5.60	12"	V2710	VICTAULIC	FL-ORW	SEMI-RECESS	
119	SIDEWALL	WHITE	165	4.20	12"	V2738	VICTAULIC	FL-RES	SEMI-RECESS	
38	UPRIGHT	BRASS	212	5.60	12"	RA5628	RELIABLE	AH56	N/A	
1	UPRIGHT	BRASS	200	5.60	12"	RA5624	RELIABLE	DD56-6	N/A	
8	UPRIGHT	BRASS	200	5.60	12"	V2704	VICTAULIC	FL-OR	N/A	
15	UPRIGHT	BRASS	212	5.60	12"	RA5628	RELIABLE	AH56	N/A	
25	UPRIGHT	BRASS	212	8.00	3/4"	RA5622	RELIABLE	DD56-6	N/A	
26	UPRIGHT	BRASS	200	5.60	12"	RA5624	RELIABLE	DD56-6	N/A	
592 TOTAL HEADS										

SPRINKLER HEAD LEGEND

- GENERAL NOTES
- SYSTEM INSTALLED PER NFPA-13 (2016 EDITION) AND STATE FIRE MARSHAL
 - ALL EQUIPMENT FOR THIS SYSTEM SHALL BE U.L. LISTED
 - MINIMUM PIPE SIZE SHALL BE 1" NOMINAL PIPE
 - ALL SCH-40 & LIGHTWALL PIPING HAS GROOVED SHORT RADIUS FITTINGS
 - ALL WELDING PER NFPA-514 (2015)
 - NO INSTALLATION OR FABRICATION TO BEGIN WITHOUT APPROVED SHOP DRAWINGS
 - ALL PIPE LOCATIONS ARE TO BE FIELD MEASURED PRIOR TO FABRICATION AND INSTALLATION BY SPRINKLER CONTRACTOR
 - ALL DIMENSIONS SHOWN ARE CENTER TO CENTER
 - HIGH TEMPERATURE HEADS ARE TO BE FIELD LOCATED WHERE REQUIRED
 - PROVIDE ON SPARE HEAD CABINET W/8 HEADS & 1 HEAD WRENCH
 - HANGERS ARE TO BE U.L. LISTED AND I.M. APPROVED
 - ELECTRICAL WIRING, ALARM, DETECTION AND SUPERVISORY BY OWNER
 - OWNERS RESPONSIBILITY TO PROVIDE ADEQUATE HEATING TO PREVENT WET SYSTEM PIPING FROM FREEZING.

NO	REVISIONS	DATE	APPROVAL STAMPS
1	REVISED BACKFLOW AND CORRIDOR LAYOUT	10/23/2024	

Drawing Title: FIRE PROTECTION PLAN

HICKORY GROVE BUILDING D

1231 ENTERPRISE DRIVE
BELLE PLAINE, MN. 56011

Contract No. C24-71

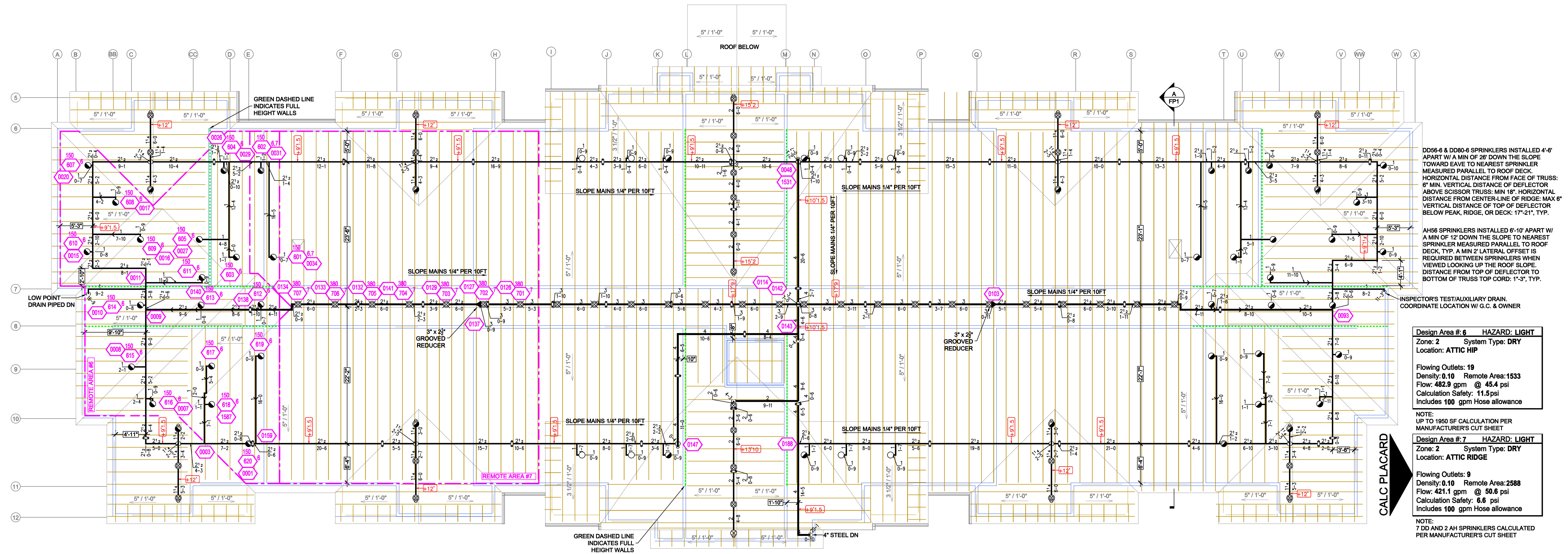
Drawing Date: 07/28/2025

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

Drawn By: BCJ

Approved By: STATE FIRE MARSHAL DIV.

SHEET NO. FP 2 of 3



ATTIC FIRE SPRINKLER PLAN SCALE= 1/8" = 1'-0"

Design Area #6 HAZARD: LIGHT
Zone: 2 System Type: DRY
Location: ATTIC HIP
Flowing Outlets: 19
Density: 0.10 Remote Area: 1533
Flow: 482.9 gpm @ 45.4 psi
Calculation Safety: 11.5 psi
Includes 100 gpm hose allowance

Design Area #7 HAZARD: LIGHT
Zone: 2 System Type: DRY
Location: ATTIC RIDGE
Flowing Outlets: 9
Density: 0.10 Remote Area: 2588
Flow: 421.1 gpm @ 50.6 psi
Calculation Safety: 6.6 psi
Includes 100 gpm hose allowance

NOTE:
UP TO 1950 SF CALCULATION PER
MANUFACTURER'S CUT SHEET
7 DD AND 2 AH SPRINKLERS CALCULATED
PER MANUFACTURER'S CUT SHEET

PIPE LEGEND

- BLACK STEEL FIRE SPRINKLER PIPING
- CPVC FIRE SPRINKLER PIPING
- FIRE SPRINKLER STANDPIPE PIPING
- FIRE SPRINKLER FDC PIPING

SYM	CNT	POSITION	FINISH	TEMP	K	NPT	SIN	MFG.	MODEL#	ESCUTCHEON
●	204	PENDENT	WHITE	200	4.90	1/2"	V2740	VICTAULIC	FL-RES	SEM-RECESS
●	77	PENDENT	WHITE	200	5.80	1/2"	V2708	VICTAULIC	FL-QR	SEM-RECESS
◄	38	DRY SIDEWALL	CHROME	200	5.80	1"	R5734	RELIABLE	F3QR	HB
◄	43	SIDEWALL	WHITE	200	5.80	1/2"	V2710	VICTAULIC	FL-QRSW	SEM-RECESS
◄	119	SIDEWALL	WHITE	155	4.20	1/2"	V2708	VICTAULIC	FL-RES	SEM-RECESS
●	36	UPRIGHT	BRASS	212	5.80	1/2"	RA5628	RELIABLE	AH56	N/A
●	1	UPRIGHT	BRASS	200	5.80	1/2"	RA5624	RELIABLE	DD56-6	N/A
●	8	UPRIGHT	BRASS	200	5.80	1/2"	V2704	VICTAULIC	FL-QR	N/A
●	15	UPRIGHT	BRASS	212	5.80	1/2"	RA5628	RELIABLE	AH56	N/A
●	25	UPRIGHT	BRASS	212	5.80	3/4"	RA5622	RELIABLE	DD56-6	N/A
●	28	UPRIGHT	BRASS	200	5.80	1/2"	RA5624	RELIABLE	DD56-6	N/A

992 TOTAL HEADS

SPRINKLER HEAD LEGEND

GENERAL NOTES

- SYSTEM INSTALLED PER NFPA-13 (2016 EDITION) AND STATE FIRE MARSHAL
- ALL EQUIPMENT FOR THIS SYSTEM SHALL BE U.L. LISTED
- MINIMUM PIPE SIZE SHALL BE 1" NOMINAL PIPE
- ALL SCH-40 & LIGHTWALL PIPING HAS WELDED OUTLETS & GROOVED SHORT RADIUS FITTINGS
- ALL WELDING PER NFPA-554(2)
- NO INSTALLATION OR FABRICATION TO BEGIN WITHOUT APPROVED SHOP DRAWINGS
- ALL PIPE LOCATIONS ARE TO BE FIELD MEASURED PRIOR TO FABRICATION AND INSTALLATION BY SPRINKLER CONTRACTOR
- ALL DIMENSIONS SHOWN ARE CENTER TO CENTER
- HIGH TEMPERATURE HEADS ARE TO BE FIELD LOCATED WHERE REQUIRED
- PROVIDE ON SPARE HEAD CABINET W/8 HEADS & 1 HEAD WRENCH
- MANIFOLD ARE TO BE U.L. LISTED AND I.M. APPROVED
- ELECTRICAL WIRING, ALARM, DETECTION AND SUPERVISORY BY OWNER
- OWNER'S RESPONSIBILITY TO PROVIDE ADEQUATE HEATING TO PREVENT WET SYSTEM PIPING FROM FREEZING.

NO	REVISIONS	DATE	APPROVAL STAMPS
1	REVISED BACKFLOW AND CORRIDOR LAYOUT	10/23/2024	

Drawing Title:	FIRE PROTECTION PLAN	Contract No.	C24-71
	HICKORY GROVE BUILDING D	Drawing Date:	07/28/2025
	1231 ENTERPRISE DRIVE	Scale:	1/8" = 1'-0"
	BELLE PLAINE, MN. 56011	Drawn By:	BCJ
		Approval By:	STATE FIRE MARSHAL DIV.
		SHEET NO.	FP 3 of 3