

1. MINNESOTA STATE BUILDING CODE (2020)
- 1.1. OCCUPANCY: R2 (RESIDENTIAL)
  - 1.2. TYPE OF CONSTRUCTION: VA (PROTECTED WOOD FRAME)
  - 1.3. SPRINKLERED AREAS (APPROXIMATE - SEE ARCHITECTURAL PLANS FOR ACTUAL)
- LEVEL 1 ZONE 1 = 17,225 S.F.  
 LEVEL 2 ZONE 1 = 17,118 S.F.  
 LEVEL 3 ZONE 1 = 17,118 S.F.  
 ATTIC ZONE 2 = 17,580 S.F.  
 TOTAL = 68,821 S.F.

GENERAL NOTES

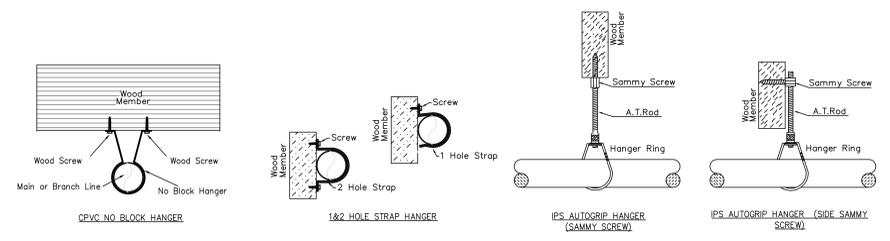
14. INSTALLATION STANDARDS:  
 SPRINKLER SYSTEM DESIGNED AND INSTALLED PER NFPA-13 (2016)
2. SPRINKLER PIPE TYPES:
- WET:
- 2.1. 1" BRANCH LINES TO BE BLAZEMASTER CPVC PIPING WITH CEMENTED FITTINGS
  - 2.2. 1" THROUGH 2" MAIN & BRANCH LINES TO BE BLAZEMASTER CPVC PIPING WITH CEMENTED FITTINGS
  - 2.3. 1" BRANCH LINES TO BE BLK SCHEDULE 40 PIPING WITH THREADED FITTINGS
  - 2.4. 1-1/4" THROUGH 6" MAIN & BRANCH LINES TO BE BLK SCHEDULE 40 PIPING WITH SHORT RADIUS GROOVED FITTINGS
- DRY:
- 2.5. 1" BRANCH LINES TO BE THREADED SCHEDULE 40 WITH THREADED FITTINGS
  - 2.6. ALL SPRIGS TO BE ON 1" THREADED OUTLETS
  - 2.7. 1-1/4" THROUGH 6" MAIN & BRANCH LINES TO BE GROOVED SCHEDULE 10 WITH SHORT RADIUS GROOVED FITTINGS

3. DESIGN CRITERIA
- 3.1. RESIDENTIAL ROOMS, CORRIDORS, LOBBYS, AND SIMILAR AREAS DESIGNED TO LIGHT HAZARD
  - 3.2. MECH ROOMS, STORAGE ROOMS, AND SIMILAR AREAS DESIGNED TO ORDINARY HAZARD GROUP 1
  - 3.3. REMOTE AREA REDUCTIONS HAVE BEEN TAKEN WHERE APPLICABLE PER NFPA 13 SEC. 11.2.3.2.3

4. NOTES:
- 4.1. ALL MATERIAL TO BE NEW AND MEET U.L. STANDARDS
  - 4.2. HANGERS TO BE INSTALLED IN ACCORDANCE WITH NFPA 13 (2016) - SEE PLAN FOR HANGING REQUIREMENTS
  - 4.3. DRY SYSTEM PIPE SLOPE INSTALLATION:  
 SPRINKLER MAINS TO BE 1" PER 10 FEET  
 SPRINKLER BRANCH LINES TO BE 1/2" PER 10 FEET
  - 4.4. DRY SYSTEM CAPACITY: 423.9 GAL.

5. SYMBOLS USED ON DRAWINGS:
- (ELEV) PIPE ELEVATION A.F.F.
  - (B.O.D) PIPE ELEVATION BELOW B.O.D.
  - (RH) ROOM HAZARD CLASSIFICATION (ALL ROOMS ARE CONSIDERED LIGHT HAZARD UNLESS NOTED)
  - (H) HYDRAULIC CALCULATION JUNCTION POINT
  - (8'-0") CEILING HEIGHT

6. SCOPE OF WORK:
- 6.1. TO INSTALL A NEW SPRINKLER SYSTEM IN PARK BROOKS APARTMENT BUILDING D, THE SYSTEM SHALL HAVE 2 ZONES: ZONE 1 FEEDING ALL THREE RESIDENTIAL LEVELS AND ZONE 2 FEEDING THE ATTIC
  - 6.2. ALL AREAS OF THE BUILDING TO BE INSTALLED AND COVERED IN ACCORDANCE WITH THE LOCAL AUTHORITY HAVING JURISDICTION AND PER NFPA 13 (2016)
  - 6.3. 1-1/2" CLEANUP STANDPIPES WILL BE PROVIDED IN EACH STAIR WITH HOSE VALVES LOCATED AT THE MAIN FLOOR LANDING



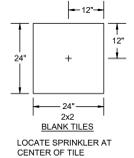
HANGER DETAILS

	MAXIMUM DISTANCE BETWEEN HANGERS (FT.-IN.)								
	NOMINAL PIPE SIZE (IN.)								
	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	
STEEL PIPE EXCEPT THREADED LIGHTWALL	NA	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0
THREADED LIGHTWALL STEEL PIPE	NA	12-0	12-0	12-0	12-0	NA	NA	NA	NA
BLAZEMASTER CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	NA	NA

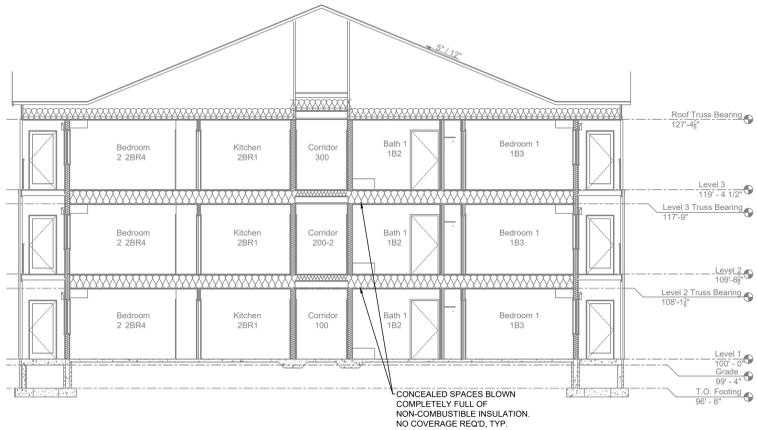


SPRINKLER HEAD LEGEND

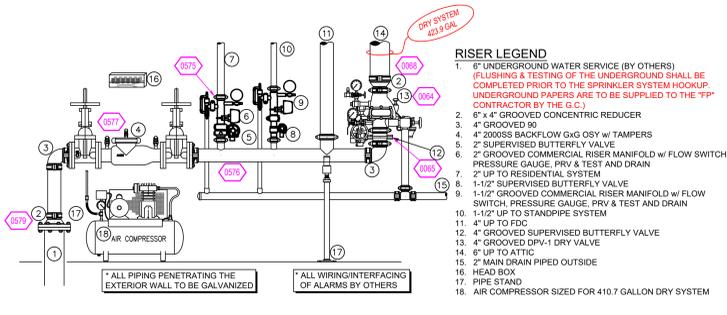
SYM	CNT	POSITION	FINISH	TEMP	K	NPT	SN	MFG.	MODEL#	ESCUTCHEON	MAX SPACING
84	PENDING		BRASS	200°	5.60	1/2"	V2708	VICTUALIC	FL-QRP	SEMI-RECESS	225 SF (LH) - 130 SF (OH)
52	SIDEWALL		CHROME	200°	5.60	1/2"	R5734	RELIABLE	F3GR56	401	14" x 14"
298	PENDING		WHITE	155°	4.30	1/2"	V2740	VICTUALIC	FL-RES	SEMI-RECESS	18" x 18" U.N.O.
13	UPRIGHT		BRASS	200°	5.60	1/2"	V2704	VICTUALIC	FL-QR	NA	225 SF (LH) - 130 SF (OH)
20	SIDEWALL		BRASS	200°	5.60	1/2"	V2710	VICTUALIC	FL-QRSW	SEMI-RECESS	190 SF (LH) - 100 SF (OH)
161	SIDEWALL		WHITE	155°	4.40	1/2"	V4431	VICTUALIC	FL-RES	SEMI-RECESS	18" x 18" U.N.O.
12	SIDEWALL		WHITE	155°	4.20	1/2"	V2738	VICTUALIC	FL-RES	SEMI-RECESS	18" x 18" U.N.O.
70	UPRIGHT SPRIG		BRASS	212°	5.60	1/2"	RA5626	RELIABLE	AH56	N/A	10" x 10"
25	UPRIGHT SPRIG		BRASS	200°	5.60	1/2"	RA5624	RELIABLE	DD56-6	N/A	6" x 4"
37	UPRIGHT		BRASS	200°	8.00	3/4"	RA5622	RELIABLE	DD60-6	N/A	6" x 6" OR 5" x 7"
4	UPRIGHT		BRASS	200°	5.60	1/2"	RA5624	RELIABLE	DD56-6	N/A	6" x 4"
764 TOTAL SPRINKLERS											



INSTALLATION DETAIL

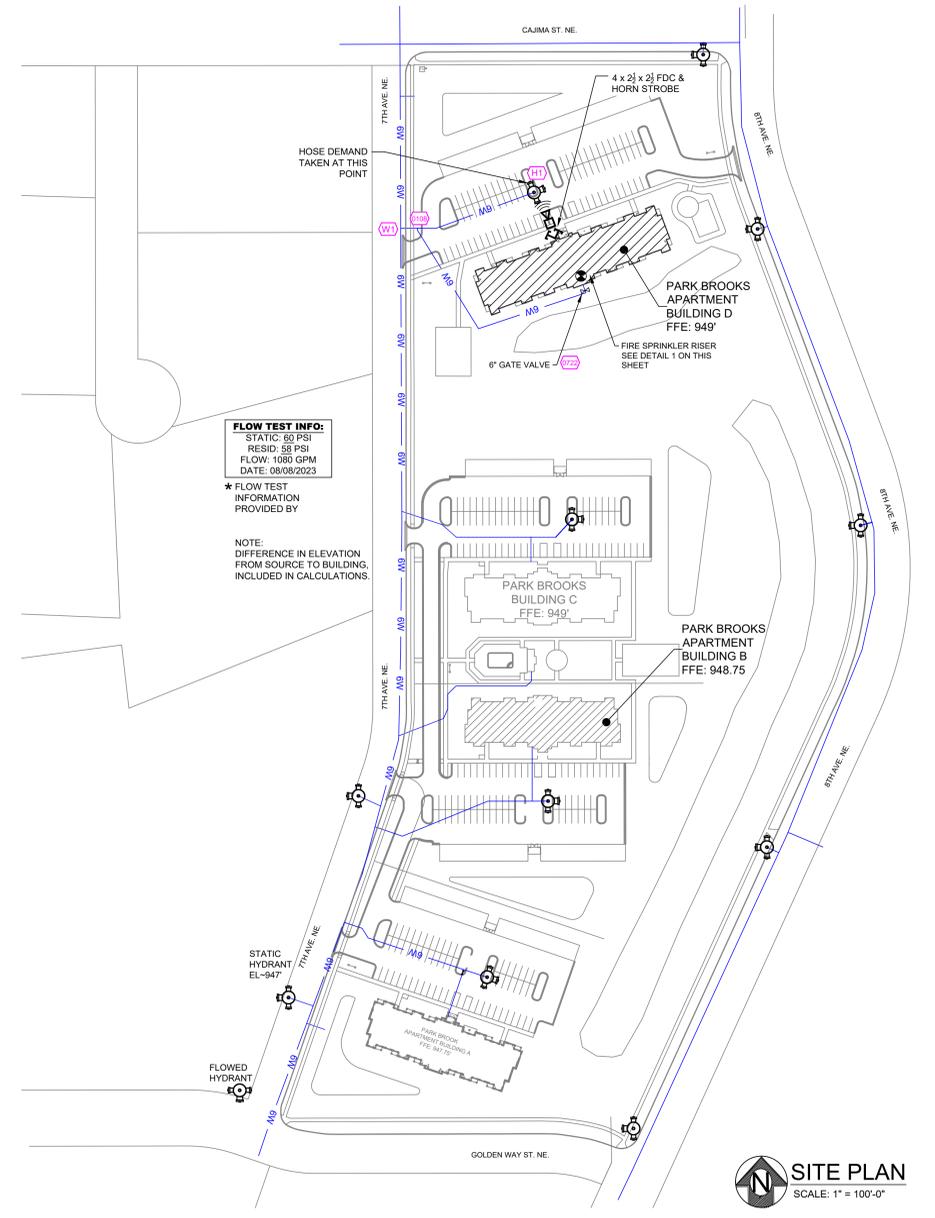


A BUILDING SECTION  
 SCALE= 1/8" : 1'-0"



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

- RISER LEGEND
1. 8" UNDERGROUND WATER SERVICE (BY OTHERS) (FLUSHING & TESTING OF THE UNDERGROUND SHALL BE COMPLETED PRIOR TO THE SPRINKLER SYSTEM HOODUP. UNDERGROUND PAPERS ARE TO BE SUPPLIED TO THE "1P" CONTRACTOR BY THE G.C.)
  2. 6" x 4" GROOVED CONCENTRIC REDUCER
  3. 4" GROOVED 90
  4. 4" 2000SS BACKFLOW GxG OSY w/ TAMPERS
  5. 2" SUPERVISED BUTTERFLY VALVE
  6. 2" GROOVED COMMERCIAL RISER MANIFOLD w/ FLOW SWITCH, PRESSURE GAUGE, PRV & TEST AND DRAIN
  7. 2" UP TO RESIDENTIAL SYSTEM
  8. 1-1/2" SUPERVISED BUTTERFLY VALVE
  9. 1-1/2" GROOVED COMMERCIAL RISER MANIFOLD w/ FLOW SWITCH, PRESSURE GAUGE, PRV & TEST AND DRAIN
  10. 1-1/2" UP TO STANDPIPE SYSTEM
  11. 4" UP TO FDC
  12. 4" GROOVED SUPERVISED BUTTERFLY VALVE
  13. 4" GROOVED DRIP-T DRY VALVE
  14. 6" UP TO ATTIC
  15. 2" MAIN DRAIN PIPED OUTSIDE
  16. HEAD BOX
  17. PIPE STAND
  18. AIR COMPRESSOR SIZED FOR 410.7 GALLON DRY SYSTEM



FLOW TEST INFO:  
 STATIC: 60 PSI  
 RESID: 58 PSI  
 FLOW: 1085 GPM  
 DATE: 08/08/2023

\* FLOW TEST INFORMATION PROVIDED BY

NOTE: DIFFERENCE IN ELEVATION FROM SOURCE TO BUILDING, INCLUDED IN CALCULATIONS.

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

GENERAL NOTES

1. SYSTEM INSTALLED PER NFPA-13 (2016 EDITION) AND STATE FIRE MARSHAL
2. ALL EQUIPMENT FOR THIS SYSTEM SHALL BE U.L. LISTED
3. MINIMUM PIPE SIZE SHALL BE 1" NOMINAL PIPE
4. ALL SCH-40 & LIGHTWALL PIPING HAS WELDED OUTLETS & GROOVED SHORT RADIUS FITTINGS
5. ALL WELDING PER NFPA-514(2)
6. NO INSTALLATION OR FABRICATION TO BEGIN WITHOUT APPROVED SHOP DRAWINGS
7. ALL PIPE LOCATIONS ARE TO BE FIELD MEASURED PRIOR TO FABRICATION AND INSTALLATION BY SPRINKLER CONTRACTOR
8. ALL DIMENSIONS SHOWN ARE CENTER TO CENTER
9. HIGH TEMPERATURE HEADS ARE TO BE FIELD LOCATED WHERE REQUIRED
10. PROVIDE ON SPINE HEAD CABINET w/ HEADS & 1 HEAD WRENCH
11. HANGERS ARE TO BE U.L. LISTED AND I.M. APPROVED
12. ELECTRICAL WIRING, ALARM, DETECTION AND SUPERVISORY BY OWNER
13. OWNERS RESPONSIBILITY TO PROVIDE ADEQUATE HEATING TO PREVENT WET SYSTEM PIPING FROM FREEZING.

NO	REVISIONS	DATE	APPROVAL STAMPS

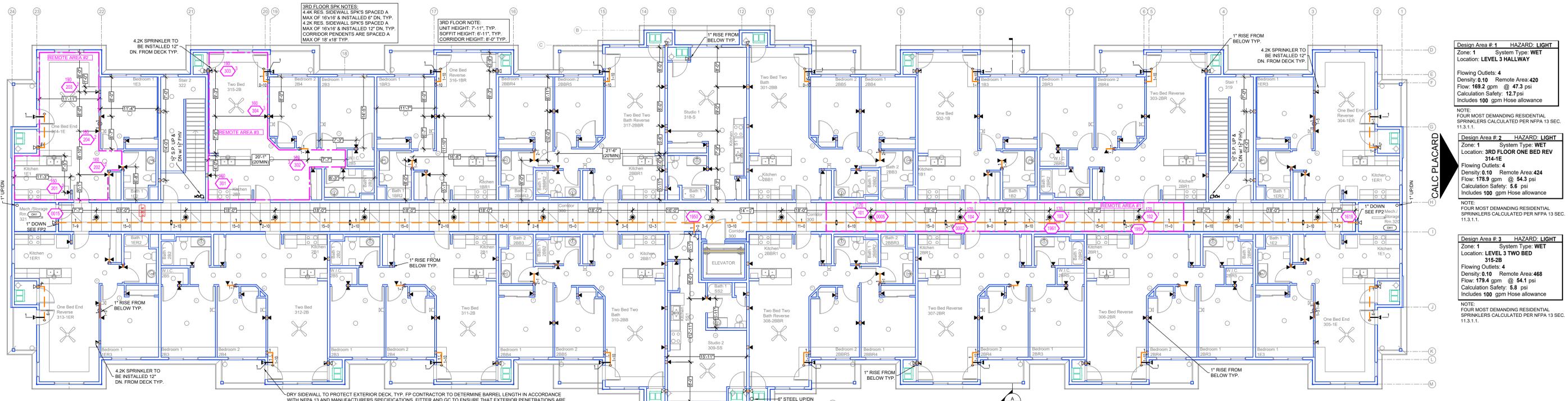
Drawing Title: FIRE PROTECTION PLAN

**PARK BROOK APARTMENT BUILDING 'D'**

840 7TH AVE. NE  
 ISANTI, MN. 55040

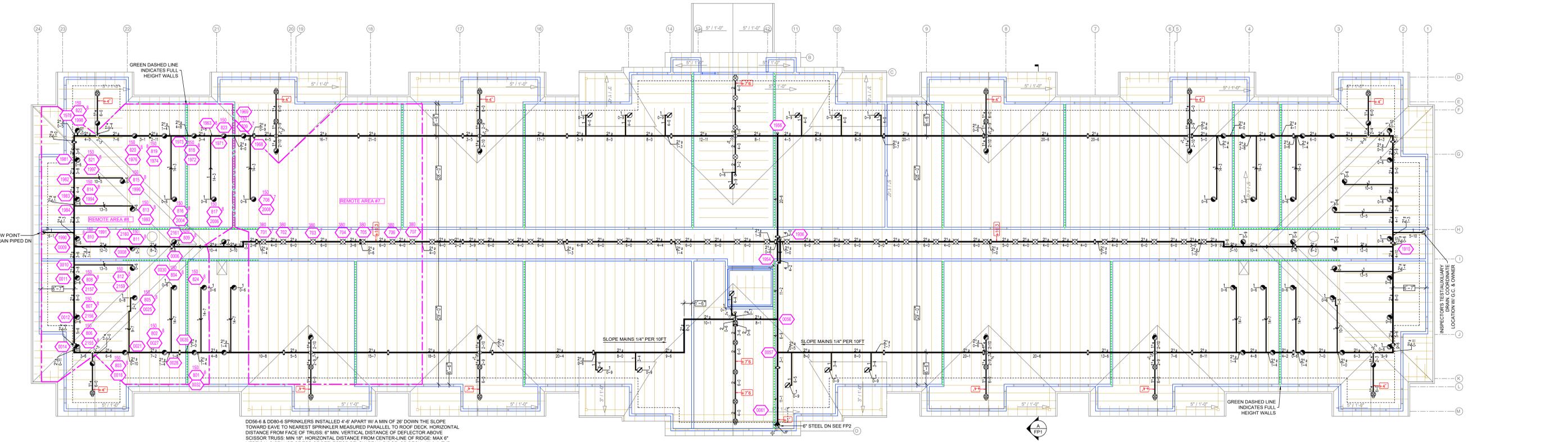
Contract No. C24-74  
 Drawing Date: 11/21/2025  
 Scale: 1/8" = 1'-0"  
 Drawn By: BCJ  
 Approval By: STATE FIRE MARSHAL DIV.  
 SHEET NO. FP 1 of 3





**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: 420  
Flow: 162.2 gpm @ 47.3 psi  
Calculation Safety: 12.7 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: 3RD FLOOR ONE BED REV 314-1E  
Flowing Outlets: 4  
Density: 0.10 Remote Area: 424  
Flow: 178.9 gpm @ 54.3 psi  
Calculation Safety: 5.6 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 TWO BED 315-2B  
Flowing Outlets: 4  
Density: 0.10 Remote Area: 468  
Flow: 179.4 gpm @ 54.1 psi  
Calculation Safety: 5.8 psi  
Includes 100 gpm Hose allowance  
NOTE: FOUR MOST DEMANDING RESIDENTIAL SPRINKLERS CALCULATED PER NFPA 13 SEC. 11.3.1.1.



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

- Design Area # 8 HAZARD LIGHT**  
Zone: 2 System Type: DRY  
Location: ATTIC HIP  
Flowing Outlets: 24  
Density: 0.10 Remote Area: 1950  
Flow: 523.2 gpm @ 47 psi  
Calculation Safety: 12.5 psi  
Includes 100 gpm Hose allowance  
NOTE: UP TO 1950 SF CALCULATION PER MANUFACTURER'S CUT SHEET

- Design Area # 7 HAZARD LIGHT**  
Zone: 2 System Type: DRY  
Location: ATTIC RIDGE  
Flowing Outlets: 9  
Density: 0.10 Remote Area: 9  
Flow: 421.7 gpm @ 58.8 psi  
Calculation Safety: 5.9 psi  
Includes 100 gpm Hose allowance  
NOTE: 7 DD AND 2 AH SPRINKLERS CALCULATED PER MANUFACTURER'S CUT SHEET

**SPRINKLER HEAD LEGEND**

SYNO	CONT	POSITION	FINISH	TEMP	K	NPT	SN	TYPE	MODEL#	ESCUTCHION	MAX SPACING
14	PENDENT	BRASS	200°	5.80	1/2"	V2708	VICTUALIC	FL-QRP	SEMI-RECESS	225 SF (LH) - 130 SF (RH)	
4	SIDEWALL	CHROME	200°	5.80	1/2"	R9734	RELIABLE	FL-QR56	401	14" x 14"	
296	PENDENT	WHITE	155°	4.90	1/2"	V2740	VICTUALIC	FL-RES	SEMI-RECESS	18" x 18" U.O.	
13	UPRIGHT	BRASS	200°	5.80	1/2"	V2704	VICTUALIC	FL-QR	NA	225 SF (LH) - 130 SF (RH)	
20	SIDEWALL	BRASS	200°	5.80	1/2"	V2710	VICTUALIC	FL-QRSW	SEMI-RECESS	196 SF (LH) - 100 SF (RH)	
181	SIDEWALL	WHITE	155°	4.90	1/2"	V4421	VICTUALIC	FL-RES	SEMI-RECESS	18" x 18" U.O.	
12	SIDEWALL	WHITE	155°	4.20	1/2"	V2738	VICTUALIC	FL-RES	SEMI-RECESS	18" x 18" U.O.	
70	UPRIGHT / SPRIG	BRASS	212°	5.80	1/2"	R45628	RELIABLE	AH56	NA	10" x 15"	
25	UPRIGHT / SPRIG	BRASS	200°	5.80	1/2"	R45624	RELIABLE	DD56-6	NA	6" x 40"	
37	UPRIGHT	BRASS	200°	8.00	3/4"	R45622	RELIABLE	DD80-6	NA	6" x 66" OR 9" x 70"	
4	UPRIGHT	BRASS	200°	5.80	1/2"	R45624	RELIABLE	DD56-6	NA	6" x 40"	
794 TOTAL SPRINKLERS											

**PIPE LEGEND**

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

**GENERAL NOTES**

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- 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 WELDINGS PER NFPA-13(4.2)
- 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 SPRINKER HEAD CABINET WITH HEADS & HEAD WRENCH
- MAKERS 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.

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