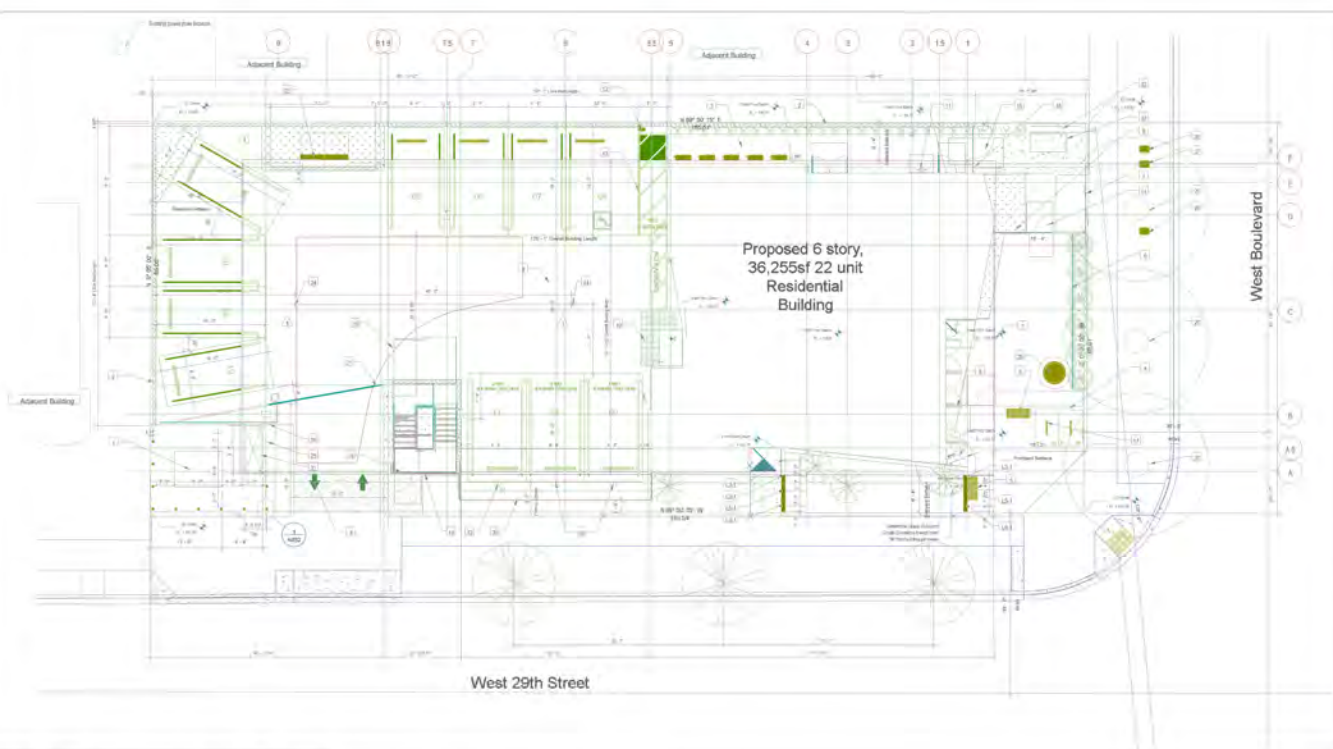


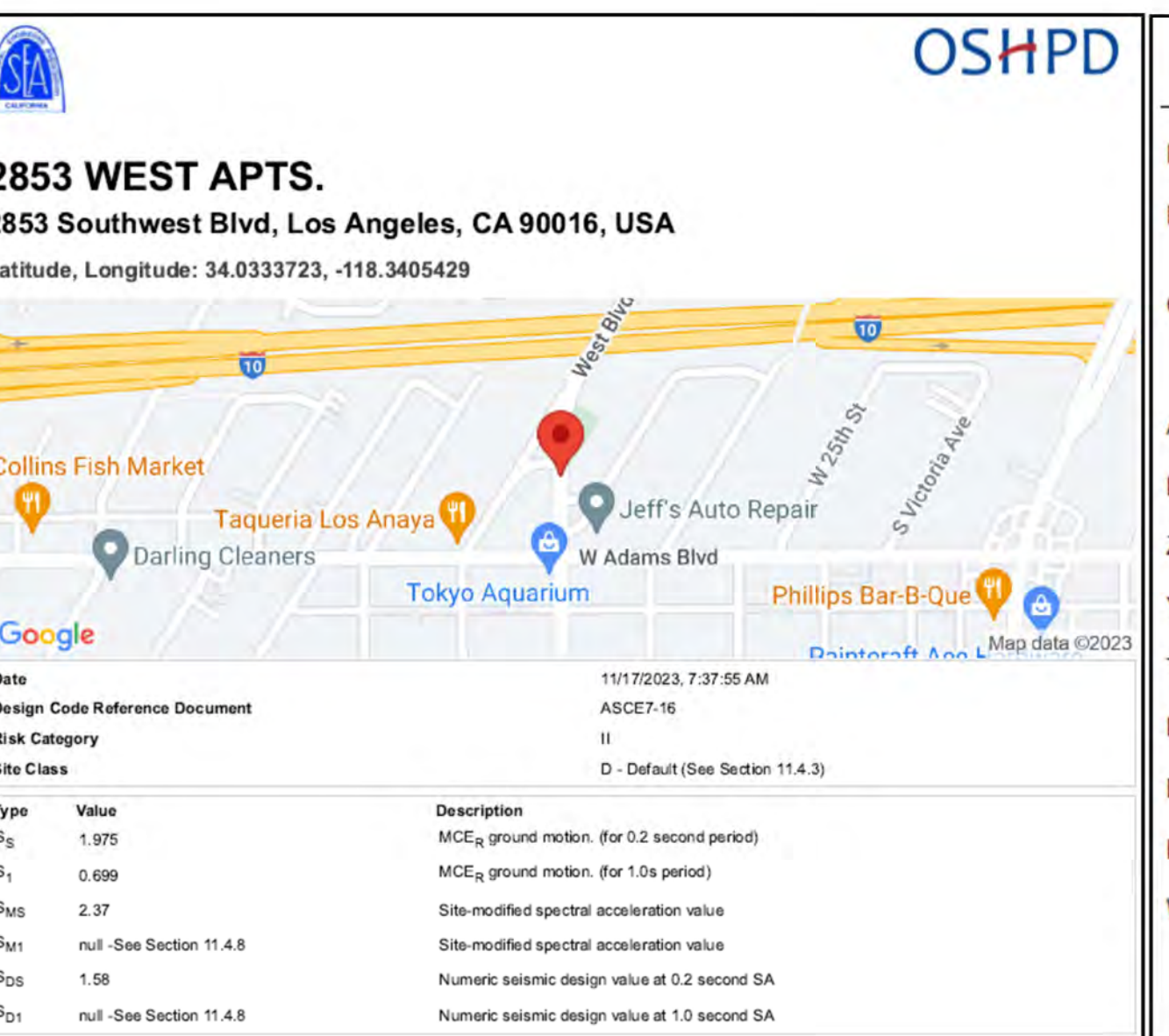
# 2853 WEST - MODULAR HOUSING

## 2853 S. WEST BLVD. - LOS ANGELES, CA 90016



SITE MAP SCALE 1/32" = 1'

VICINITY MAP



**2853 WEST APTS.**  
2853 Southwest Blvd, Los Angeles, CA 90016, USA  
Latitude, Longitude: 34.033723, -118.3405429

Date	11/17/2023, 7:37:55 AM	
Design Code Reference Document	ASCE 7-16	
Risk Category	II	
Site Class	D - Default (See Section 11.4.3)	
Type	Value	Description
S <sub>1</sub>	1.975	MCE <sub>g</sub> ground motion (for 0.2 second period)
S <sub>1</sub>	0.699	MCE <sub>g</sub> ground motion (for 1.0 second)
S <sub>1</sub>	2.37	Site modified spectral acceleration value
S <sub>1</sub>	11.4.8	Site modified spectral acceleration value
S <sub>0.5</sub>	1.58	Numeric seismic design value at 0.2 second SA
S <sub>0.5</sub>	11.4.8	Numeric seismic design value at 1.0 second SA
Type	Value	Description
SDC	11.4.8	Seismic design category
F <sub>a</sub>	1.2	Site amplification factor at 0.2 second
F <sub>v</sub>	11.4.8	Site amplification factor at 1.0 second
PGA	0.845	MCE <sub>g</sub> peak ground acceleration
F <sub>PGA</sub>	1.2	Site amplification factor at PGA
PGA <sub>0.1</sub>	1.014	Site modified peak ground acceleration
T <sub>l</sub>	9	Long period transition period in seconds
W <sub>1</sub>	1.975	Probabilistic risk targeted ground motion (R=2 second)
W <sub>10</sub>	2.369	Probabilistic risk target (2% probability of exceedance in 50 years) spectral acceleration
SAD	1.268	Factored deterministic acceleration value (0.2 second)
S1RT	0.699	Probabilistic risk targeted ground motion (1.0 second)
S1UH	0.777	Factored uniform hazard (2% probability of exceedance in 50 years) spectral acceleration
S1D	0.769	Factored deterministic acceleration value (1.0 second)
PGA <sub>0.1</sub>	0.856	Factored deterministic acceleration value (Peak Ground Acceleration)
PGA <sub>0.5</sub>	0.845	Uniform-hazard (2% probability of exceedance in 50 years) Peak Ground Acceleration
C <sub>0.5</sub>	0.902	Mapped value of the risk coefficient at short periods
C <sub>1.0</sub>	0.9	Mapped value of the risk coefficient at a period of 1 s
C <sub>v</sub>	1.485	Vertical coefficient

### PROJECT INFORMATION

**PROJECT NAME:** 2853 WEST - MODULAR HOUSING  
**PROJECT ADDRESS:** 2856 S. WEST BLVD, LOS ANGELES, CA 90016  
**OWNER:** J. OSTRANGER, 414 BEACH 139<sup>TH</sup> ST, ROCKAWAY PARK, NY 11694  
**ASSESSOR'S PARCEL #:** 5050-011-022  
**LEGAL DESCRIPTION:** LOT 483 - TRACT 5780  
**ZONING:** R3-1  
**YEAR BUILT:** NEW  
**TYPE OF CONSTRUCTION:** II-B & I-A  
**NUMBER OF STORIES:** 6  
**BUILDING USE:** RESIDENTIAL  
**BUILDING OCCUPANCY:** S2, A3 AND R2  
**WORK DESCRIPTION:** INSTALL FIRE SPRINKLERS THROUGHOUT GROUND LEVEL & 5 RESIDENTIAL LEVELS WITH FACTORY BUILT MODULAR UNITS. CLASS 1 1/4" STANDPIPES, 6" FIRE METER, 6" DCDA, AND FLOOR CONTROL COMBINED RISERS.

#### FIRE SPRINKLER CPVC PIPING NOTES

- USE CPVC PIPING IN FACTORY INSTALLED UNITS.
- CPVC PIPING SHALL BE CONCEALED AT ALL TIMES.
- FEED AND CROSS MAINS SHALL BE INSTALLED IN THE DROP CEILING IN THE CORRIDORS AND WHERE AVAILABLE, U.N.O.
- RESIDENTIAL SPRINKLER HEADS SHALL BE POSITIONED AWAY FROM OBSTRUCTIONS THAT MAY IMPAIR ITS DISCHARGE PATTERN DEVELOPMENT. MIN. DISTANCE FROM OBSTRUCTION SHALL BE IN ACCORDANCE TO 2016 NFPA13 SECTION 8.10.6.2 AND ITS SUB-SECTIONS (TABLE 8.10.6.1.2 AND FIGURES 8.10.6.1.2(a), (b) AND (c)).
- DASHED PIPING DENOTES FACTORY INSTALLED PIPING.
- LATERAL SWAY BRACING IS NOT REQUIRED FOR CPVC PIPING STRAPPED DOWN TO THE FLOOR FRAMING, WITHOUT ANY ROD HANGER. IF ROD IS TO BE USED, IT SHALL BE LESS THAN 6", MEASURED FROM THE POINT OF ATTACHMENT TO THE STRUCTURE TO THE TOP OF THE PIPE.
- LONGITUDINAL SWAY BRACING SHALL BE PROVIDED TO ANY SECTION OF CPVC PIPE THAT IS HANGED, REGARDLESS OF THE LENGTH OF THE ROD.
- THE HANGER CLOSEST TO THE END OF LINE SPRINKLER HEAD SHALL BE OF A TYPE THAT PREVENTS UPWARD MOVEMENT OF THE PIPE (2016 NFPA 13: 9.3.6.2.2) AS SHOWN IN CPVC HANGERS DETAIL ON FP-10.00
- HORIZONTAL BRANCH LINE RESTRAINT IS NOT REQUIRED IF PIPE IS INDIVIDUALLY SUPPORTED WITH RODS LESS THAN 6" (2016 NFPA 13: 9.3.6.5) (U.N.O.)

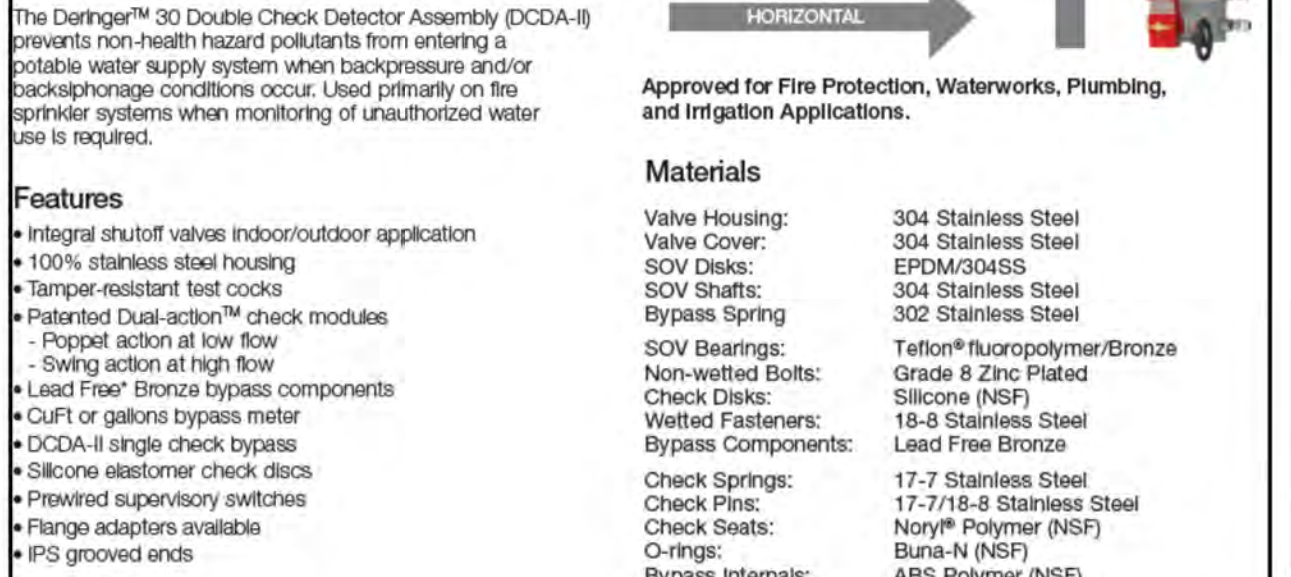
### GENERAL NOTES

- THIS SUBMITTAL IS FOR APPROVAL OF A CLASS 1 STANDPIPE (NFPA 14) AND FIRE SPRINKLER (NFPA 13) SYSTEMS AND THE 2019 CFC OF THE CITY OF LOS ANGELES AND UNDER THE AUTHORITY OF LOS ANGELES BUILDING & SAFETY DEPT. (A.H.J.) REQUIREMENTS.
- CONSTRUCTION TYPE IA - GROUND FLOOR & IIB - FLOORS 2 TO 6, TOTAL BUILDING AREA IS 36,255 SQ. FT. WITH A FLAT ROOF.
- OWNERS TO PROVIDE FIRE WATER LINE FROM STREET TO WATER METER AND TO PROPERTY LINE.
- CAL TECH FIRE PROTECTION AREA OF WORK SHALL BE FROM PROPERTY LINE.
- BUILDING OCCUPANCY RESIDENTIAL, AS FOLLOWS:  
 S-2 ORDINARY HAZARD (GROUP I) - PARKING, STORAGE, UTILITY  
 R-2 LIGHT HAZARD - MODULAR APARTMENTS UNDER HOUSING COMMUNITY DEVELOPMENT JURISDICTION  
 A-3 ASSEMBLY - LIGHT HAZARD - COMMON AREA LEVEL 1
- INSTALLATION SHALL BE DONE PER NFPA-13 & 14, 2016 EDITION, THE 2019 CFC, AND THE A.H.J. REQUIREMENTS.
- DESIGN CRITERIA: (R-2) RESIDENTIAL - FLOORS 1 TO 6: 0.10 GPM/SQ. FT. OVER 900 SFT. (S-2) GROUND LEVEL PARKING & STORAGE: 0.15 GPM/SQ. FT. OVER 1500 SFT. (A) GROUND FLOOR: 0.10 GPM/SQ. FT. OVER 900 SQ. FT.
- ALL MATERIAL SHALL BE NEW, U.L. AND/OR FL LISTED FOR FIRE SPRINKLER INSTALLATION.
- OVERHEAD PIPING SHALL BE AS FOLLOWS:  
 PARKING & GROUND FLOOR: 1" BLACK STEEL PIPE MEGATHREAD W/ THREADED FITTINGS. 1 1/4" TO 4" - BLACK STEEL PIPE MEGATHREAD W/ GROOVED FITTINGS.  
 HALLWAYS CROSS MAINS: FLOORS 2 TO 6 - CPVC, CPVC FITTINGS - WHEN CONCEALED. RESIDENTIAL MODULES TO 6 - CPVC W/CPVC FITTINGS.  
 FLOORS 1 TO 6: UTILITY/TRASH ROOMS - 1" MEGATHREAD W/ THREADED FITTINGS, TRASH CHUTE 1 1/4" MEGATHREAD.  
 STANDPIPES, RISERS & STAIRWAYS: BLACK STEEL MEGA-FLOW W/ GROOVED FITTINGS.  
 UNDERGROUND PIPING SHALL BE: PVC AWWA C900-200 (DR14)
- HANGERS AND SEISMIC SWAY BRACE REQUIREMENTS PER NFPA-13, 2016 EDITION AND THE 2019 CFC.
- SPRINKLER PLANS SHALL BE APPROVED PRIOR TO THE INSTALLATION OF THE SPRINKLER SYSTEM.
- ALL SYSTEM PIPING SHALL BE HYDROSTATICALLY TESTED AT 200 PSI FOR TWO HOURS OR 50 PSI ABOVE THE SYSTEM OPERATING PRESSURE, WHICHEVER IS GREATER.
- AUTOMATIC SPRINKLER SYSTEMS SHALL BE SUPERVISED BY AN APPROVED CENTRAL, PROPRIETARY OR REMOTE STATION SERVICE OR A LOCAL ALARM WHICH WILL GIVE AN AUDIBLE SIGNAL AT A CONSTANTLY ATTENDED LOCATION.
- IT IS THE RESPONSIBILITY OF THE OWNER TO MAINTAIN THE INTEGRITY OF THE SYSTEM.
- ALL THREADED PIPE AND FITTINGS SHALL HAVE THREADS CUT TO ANSI/ASME B1.20.1
- SPRINKLER SYSTEM SHALL USE UPRIGHT SPRINKLER HEADS, 200" WHERE ROOF STRUCTURE IS EXPOSED OR ABOVE THE CEILING, AND PENDENT HEADS W/ SEISMIC 2-PCS. ESCUTCHEONS WHERE CEILING IS PRESENT.
- LATERAL BRACE SHALL BE PROVIDED WITHIN 24 IN. OF EVERY OTHER COUPLING, PER SECTION 9.3.5.3.9 LATERAL BRACINGS ARE NOT REQUIRED ON BRANCH LINE PIPES INDIVIDUALLY SUPPORTED BY RODS LESS THAN 6 IN. LONG.
- A 2" CLEARANCE AROUND THE PIPE SHALL BE PROVIDED WHEN IT PASSES THROUGH FLOOR, WALL, OR FOUNDATION.
- EACH METALLIC PIPING SYSTEM TO HAVE A SINGLE AIR VENT CONNECTED PER SECTION 8.16.6
- FIRE DEPARTMENT CONNECTION SHALL HAVE A SIGN INDICATING WHICH PART OF THE BUILDING IT SERVES.
- AN APPROVED INDOOR AUDIBLE ALARM, TO ALERT OCCUPANTS WHEN SPRINKLERS FLOW, SHALL BE PROVIDED AND INSTALLED BY OTHERS. CAL TECH FIRE SHALL SUPPLY AN ALARM BELL AND/OR STROBE TO BE INSTALLED BY OTHERS ON THE BUILDING EXTERIOR.

### LEAD FREE

#### Deringer™ 30 Double Check Detector Assembly

Sizes: 2" - 8"



The Deringer™ 30 Double Check Detector Assembly (DCDA-3) prevents non-health hazard pollutants from entering a potable water supply system when backpressure or other backflow conditions occur. Used primarily on the consumer systems when monitoring of unauthorized water use is required.

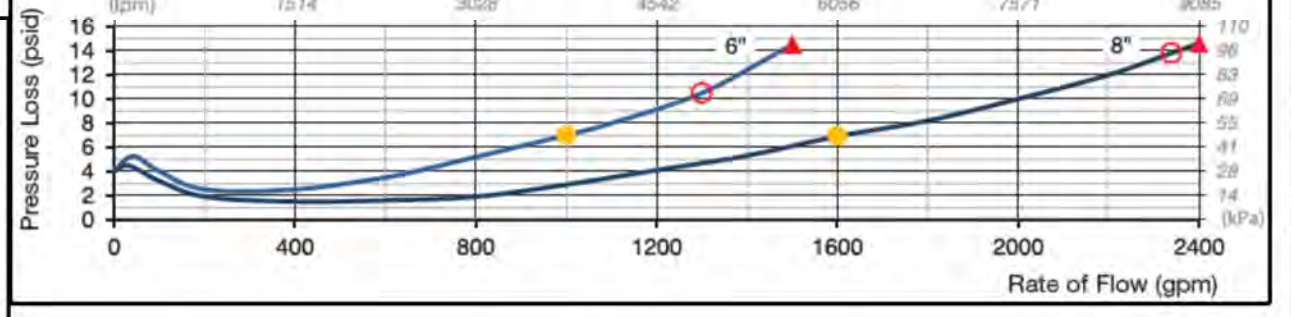
**Features:**

- Integral shut-off valves indoor/outdoor application
- 100% stainless steel housing
- Temperature resistant test cocks
- Patented Dual-Action™ check modules
- Pop-out action at low flow
- Swing action at high flow
- Lead Free™ Bronze bypass components
- CUFT or galvanized bypass meter
- DCDA-3 single check bypass
- Silicone elastomer check discs
- Pre-wired supervisory switches
- Flange adapters available
- EPG grooved ends

**Materials:**

Valve Housing: 304 Stainless Steel  
 Valve Cover: 304 Stainless Steel  
 SOV Discs: EPDM/MSAS  
 SOV Shafts: 304 Stainless Steel  
 Bypass Spring: 302 Stainless Steel  
 SOV Bearings: Teflon®/Acrylonitrile/Bronze  
 Non-wetted Bells: Grade 2 Zinc Plated  
 Check Discs: Silicone (NSF)  
 Wetted Fasteners: 18-8 Stainless Steel  
 Bypass Components: Lead Free Bronze  
 Check Springs: 17-7 Stainless Steel  
 Check Seats: 17-7/18-8 Stainless Steel  
 Check O-rings: Noryl® Polymer (NSF)  
 Bypass Internals: ABS Polymer (NSF)

**Pressure - Temperature:**  
 Working Pressure: 10 - 175 PSI  
 Temperature Range: 33°F - 140°F



#### PLAN CHECK NOTES:

- HANGER INFORMATION AND DETAILS SHOWN ON PLAN(S) ARE FOR REFERENCE ONLY. THEY ARE NOT PART OF MECHANICAL PLAN CHECK.
- PIPES AND FITTINGS SHALL BE LISTED.
- "HOT TAPS", IF ANY, ARE NOT ALLOWED PER CODE.
- PIPE JOINT SHALL NOT BE LOCATED UNDER FOUNDATION FOOTINGS. THE PIPE UNDER THE BUILDING OR BUILDING FOUNDATION, SHALL NOT CONTAIN MECHANICAL JOINTS.

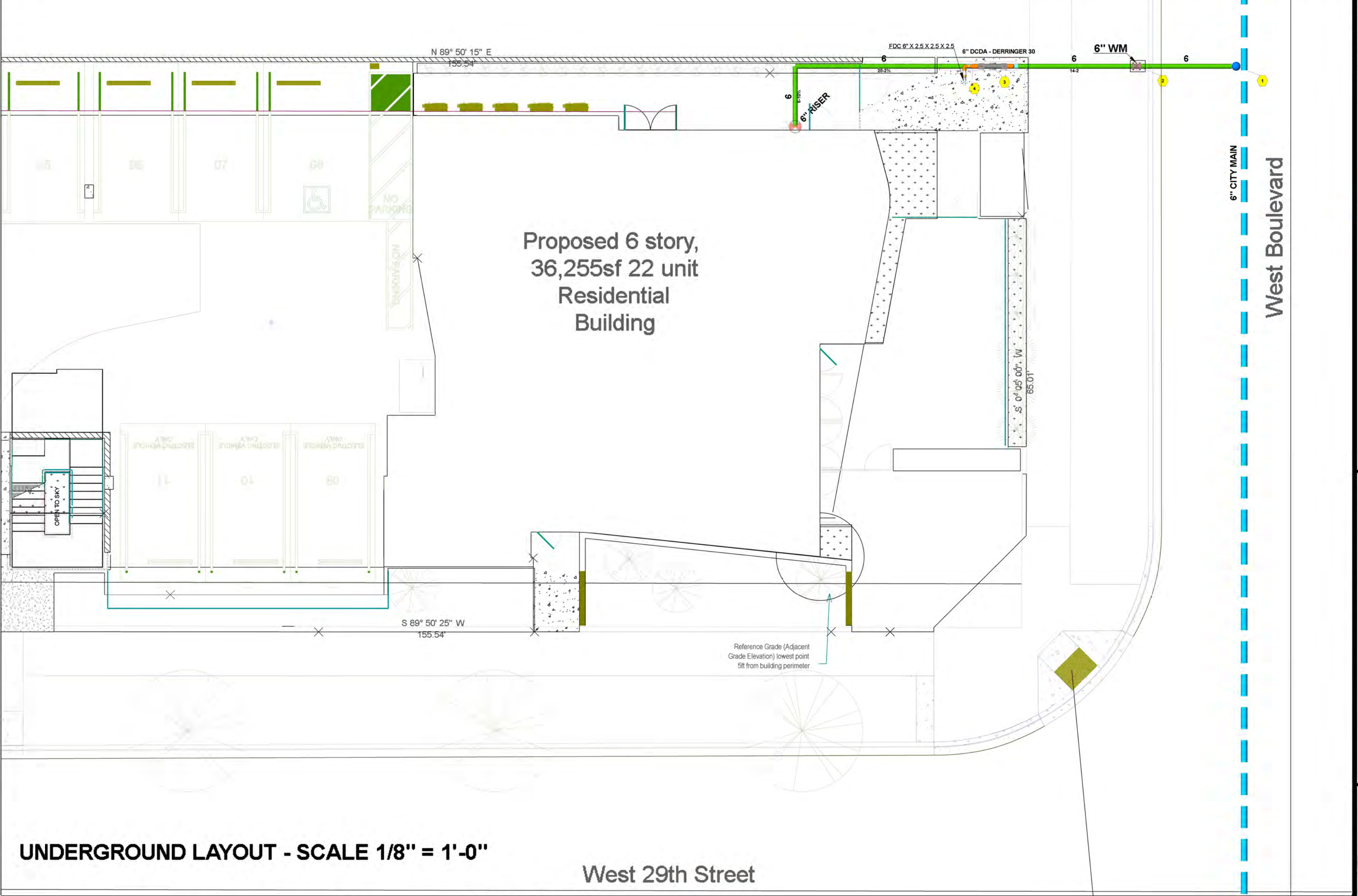
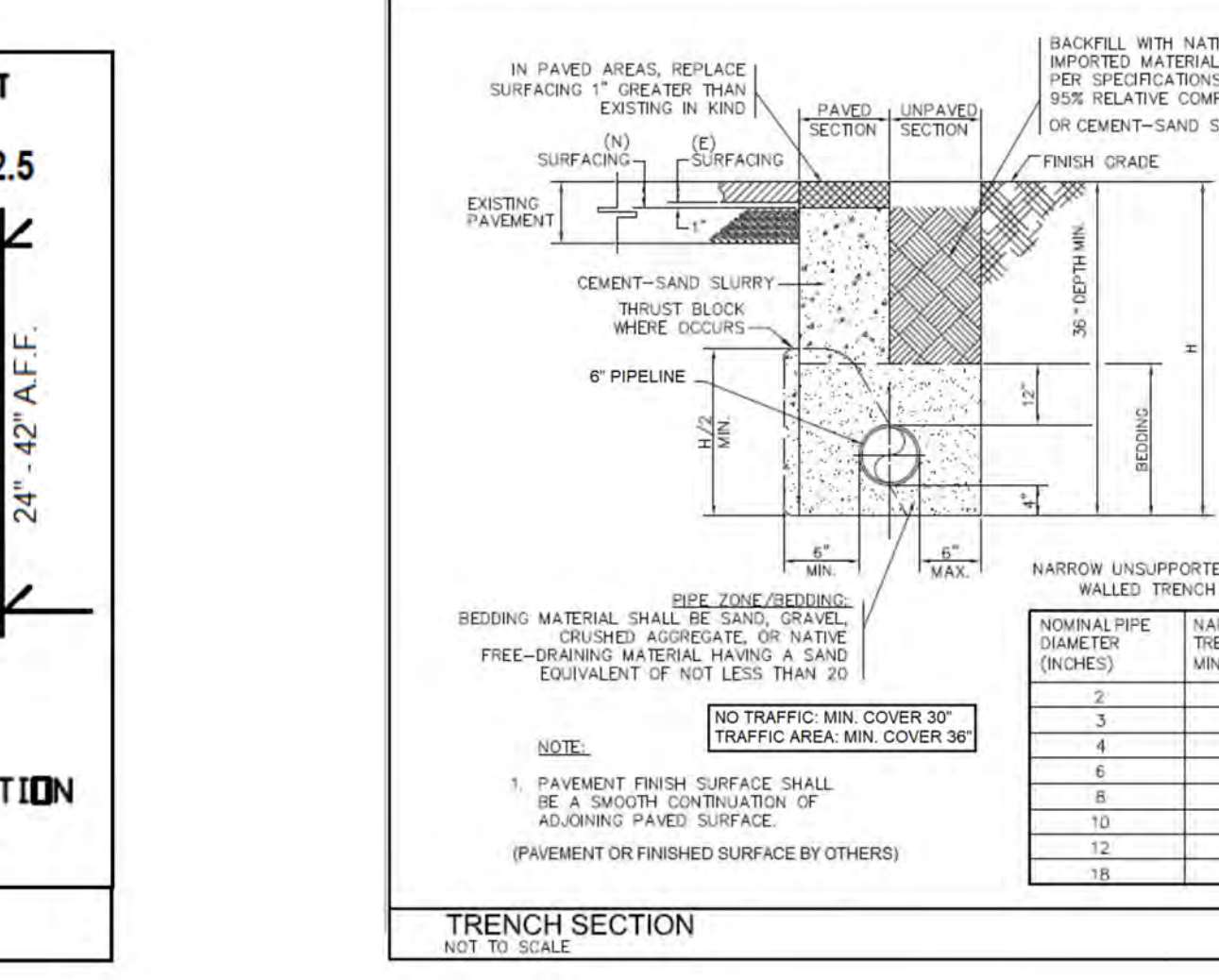
### DELINEATION OF PLAN REVIEW AND INSPECTION RESPONSIBILITIES

DESCRIPTION	PLAN REVIEW		INSPECTION	
	HCD	LAHJ	HCD	LAHJ
FIRE UNDERGROUND			X	X
DCDA AND FDC			X	X
FIRE PROTECTION MODIFICATION			X	X
LEVEL 1 FIRE PROTECTION			X	X
LEVEL 2 TO 6 UNITS MODULES			X	X
LEVEL 2 TO 6 COMMON AREAS	X	X	X	X
TRASH CHUTE			X	X
STAND PIPES AND FLOOR CONTROLS			X	X
FIRE PROTECTION SIGNAGE			X	X
ALARM BELL			X	X
HYDRAULIC INTEGRITY OF ALL FIRE PIPING			X	X
FLUSH OF FIRE SYSTEM			X	X
REMEDY OBSTRUCTIONS TO FIRE SYSTEM FOR ON-SITE INSTALLATION			X	X
CONNECTIONS TO PUBLIC UTILITIES			X	X
STRUCTURAL INTER-MODULE CONNECTIONS			X	X
FABRICATION & INSTALLATION OF FACTORY-BUILT MODULES	X	X	X	X

HCD = DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
 LAHJ = LOCAL AUTHORITY HAVING JURISDICTION

**NOTE:** WHEN DRAWINGS AND CONSTRUCTION INCLUDE BOTH FACTORY-BUILT AND SITE-BUILT CONSTRUCTION, PLAN REVIEW AND INSPECTION WILL BE ACCORDING TO THE FOLLOWING RULES:

- FACTORY-BUILT ELEMENTS WILL BE REVISED AND INSPECTED BY HCD.
- CONNECTIONS FROM FACTORY-BUILT COMPONENTS OR BETWEEN FACTORY-BUILT AND SITE-BUILT COMPONENTS WILL BE REVISED BY HCD AND INSPECTED BY LAHJ.
- SITE-BUILT ELEMENTS WILL BE INSPECTED BY LAHJ.



UNDERGROUND LAYOUT - SCALE 1/8" = 1'-0"

### City of Los Angeles Fire Service Pressure Flow Report

For: 2853 WEST BLVD, Los Angeles Department of Water and Power - Water System

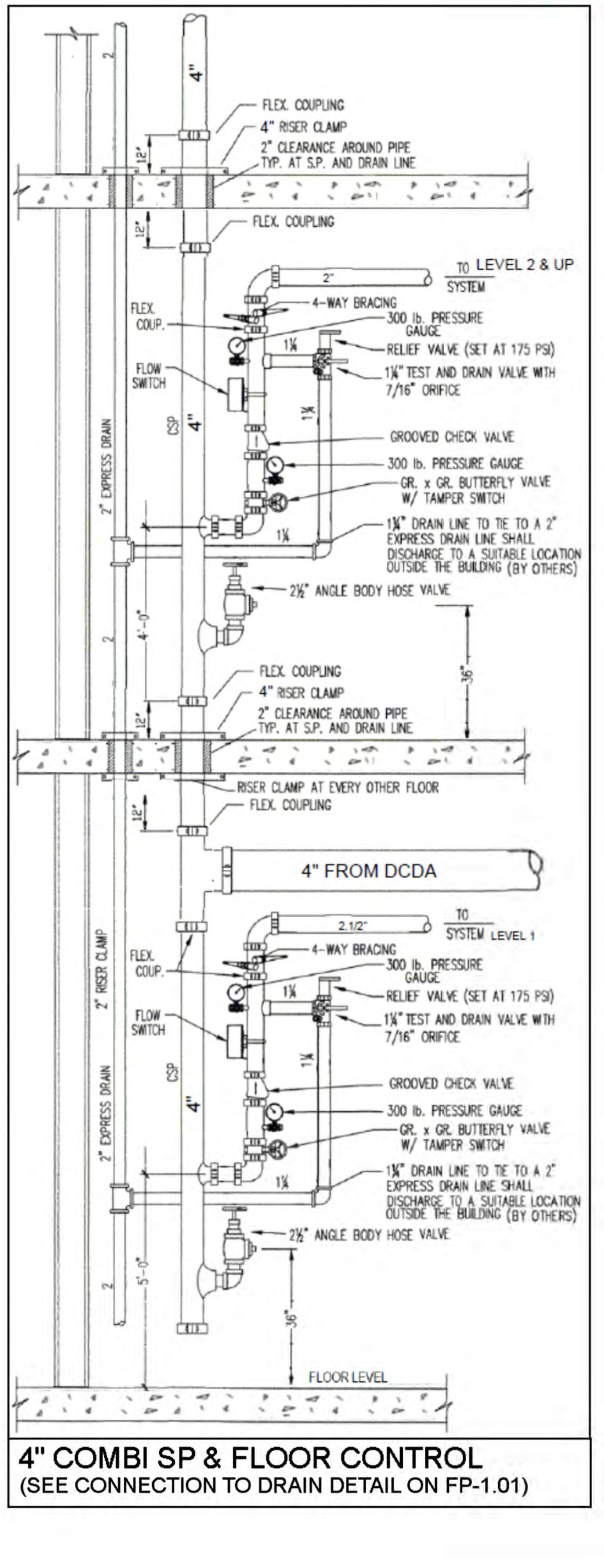
Service Number: 637326

Approved Date: 7-6-2021

System maximum pressure should be used only for determining class of piping and fittings.

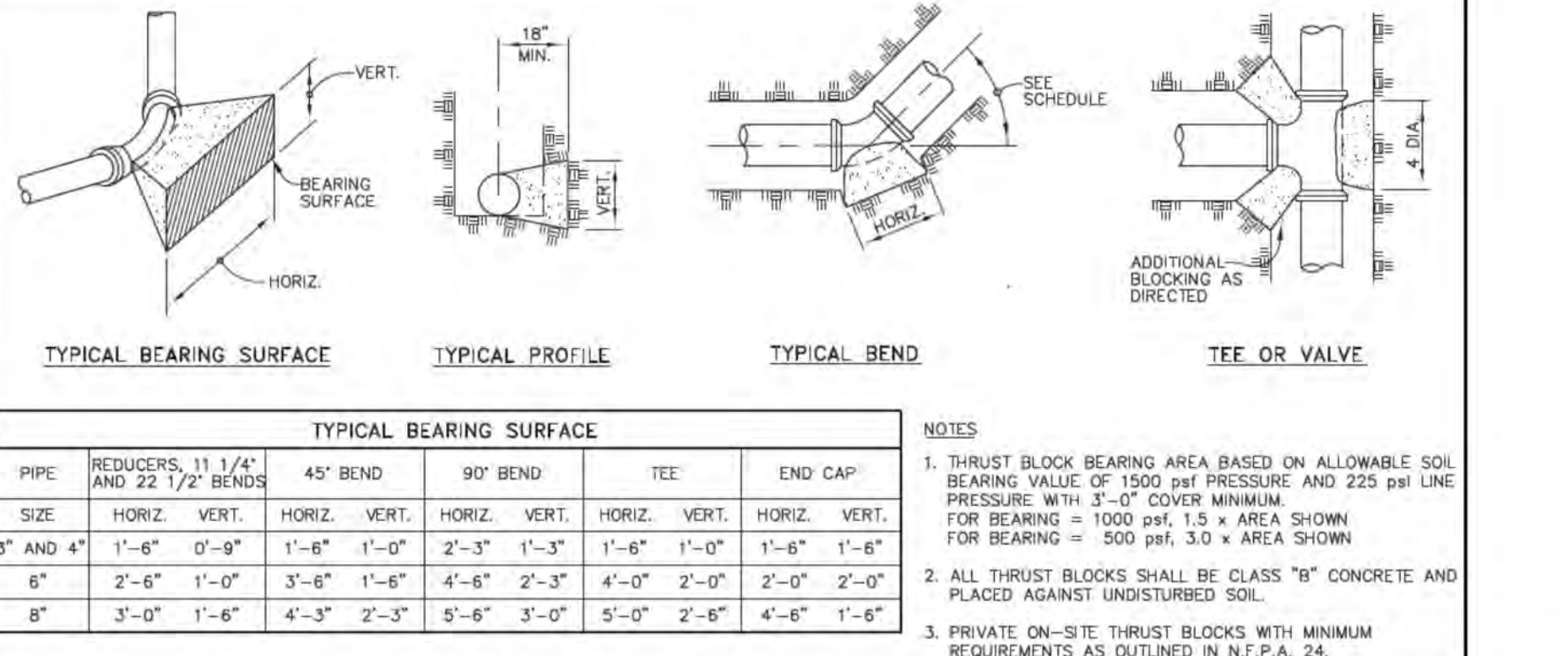
Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)
0	100	1170	101
555	105	1455	100
805	104	1580	99
1000	103	1700	98

These values are subject to change due to changes in system facilities or demands.



### SHEETS INDEX

FP-1.00	COVER, SITE, & UNDERGROUND PLAN
FP-1.01	SITE INSTALLATION - RESIDENTIAL DELINEATION
FP-2.00	1ST FLOOR LAYOUT - WATER CURTAIN
FP-3.00	2ND FLOOR LAYOUT - BRACING CALCS
FP-4.00	3RD FLOOR LAYOUT - OCCUPANCY MAP
FP-5.00	4TH FLOOR LAYOUT - CPVC HANGERS
FP-6.00	5TH FLOOR LAYOUT
FP-7.00	6TH FLOOR - TRASH CHUTE DETAILS
FP-8.00	STAIRS SECTIONS - WATER CURTAIN NOTES - DETAILS
FP-9.00	BUILDING SECTION
FP-10.00	STANDPIPES - ISOMETRIC



UC: #1049420

**CAL-TECH**  
FIRE PROTECTION  
COMMERCIAL • RESIDENTIAL • INDUSTRIAL

**CALTECH FIRE PROTECTION**  
 11450 RUGGIERO AVE  
 SYLMAR, CA 91342  
 T. (310) 345-4117



REVISIONS:

NO.	DATE	DESCRIPTION
1		XXXXXXXXXXXXXXXXXXXX
2		XXXXXXXXXXXXXXXXXXXX
3		XXXXXXXXXXXXXXXXXXXX

**2853 WEST - MODULAR HOUSING**  
 2853 S. WEST BLVD.  
 LOS ANGELES, CA 90016

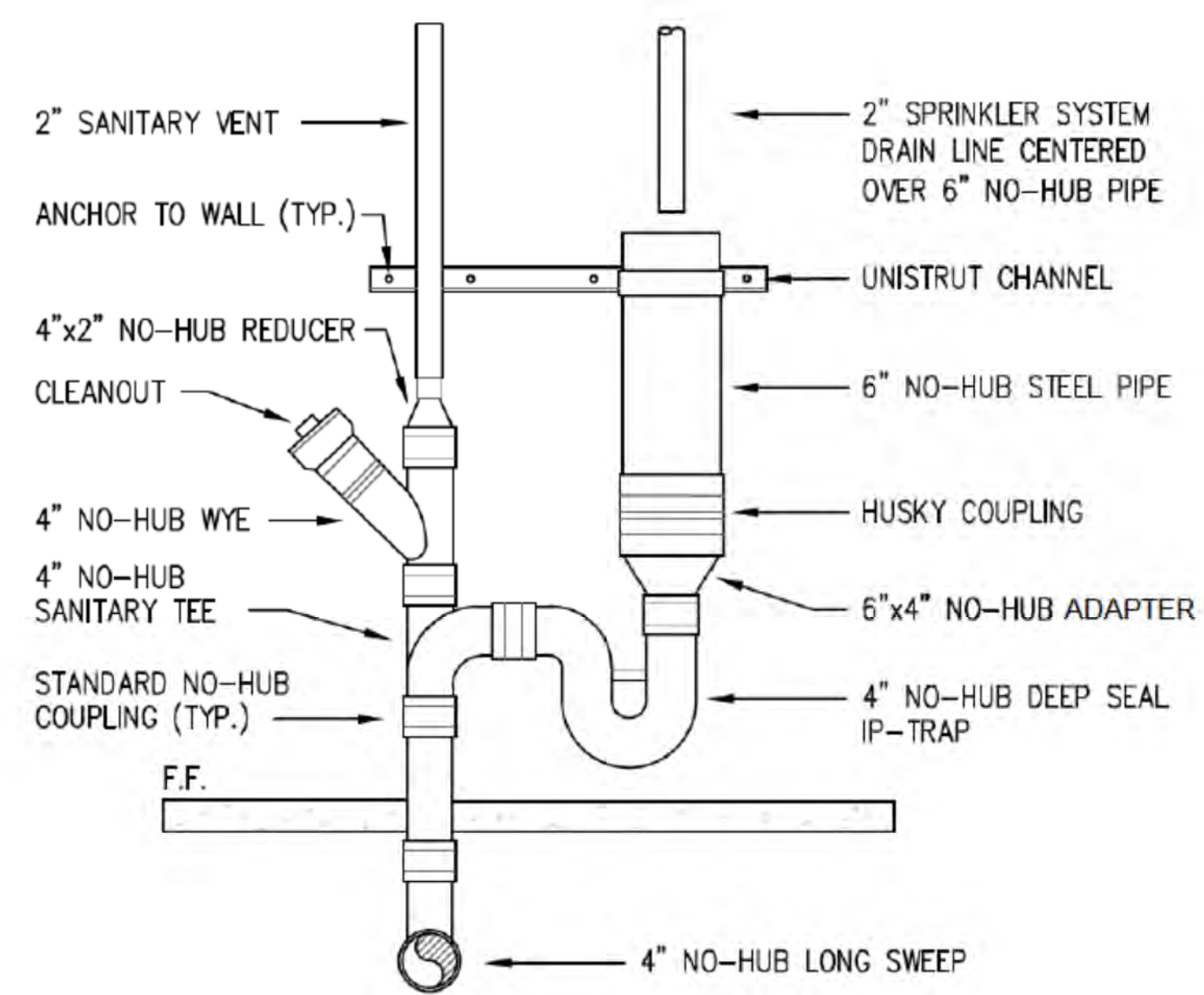
**FIRE SPRINKLERS - COVER, SITE & UNDERGROUND**

DATE: 10/23/2023  
 JOB #: XXXXX  
 SHEET NO: 01 OF 11

**FP - 1.00**



DENOTES AREAS OF SITE INSTALLED SPRINKLERS (TYP. L2 TO L6)

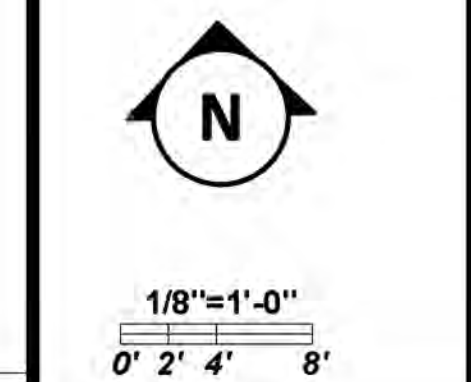


SPRINKLER SYSTEM DRAIN LINE CONNECTION TO DRAIN SYSTEM BY OTHERS. N.T.S.

LC #1049420



**CALTECH FIRE PROTECTION**  
 3745 ALTURA AVE  
 LA CRESCENTA, CA 91214  
 T. (310) 345-4117



NO.	REVISIONS
1	XXXXXXXXXX XXXXXXXXXXXXXXXXXXXX
2	
3	

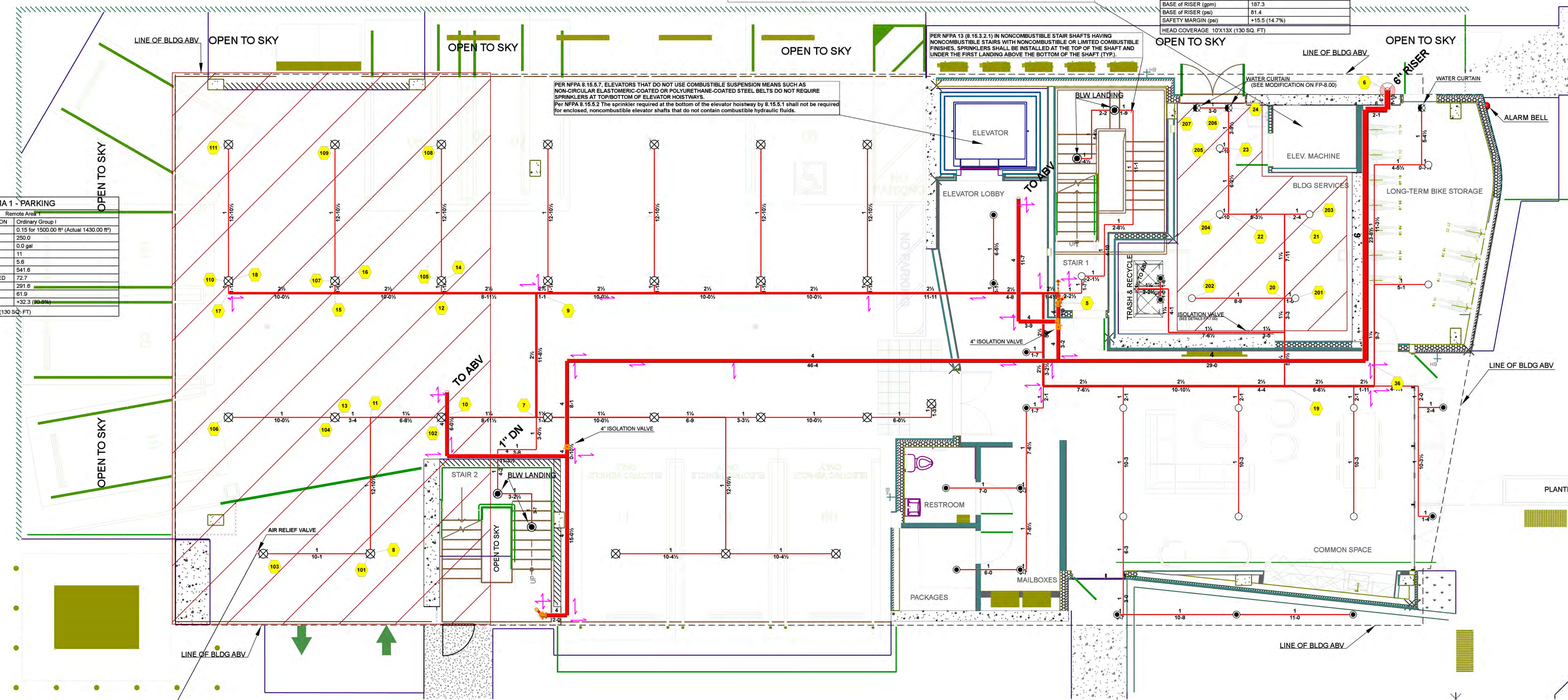
**JOB NAME** 2853 WEST - MODULAR HOUSING  
 2853 S. WEST BLVD.  
 LOS ANGELES, CA 90016

**SHEET NAME** RESIDENTIAL L2 TO L6 - DELINEATION OF SITE INSTALLATION

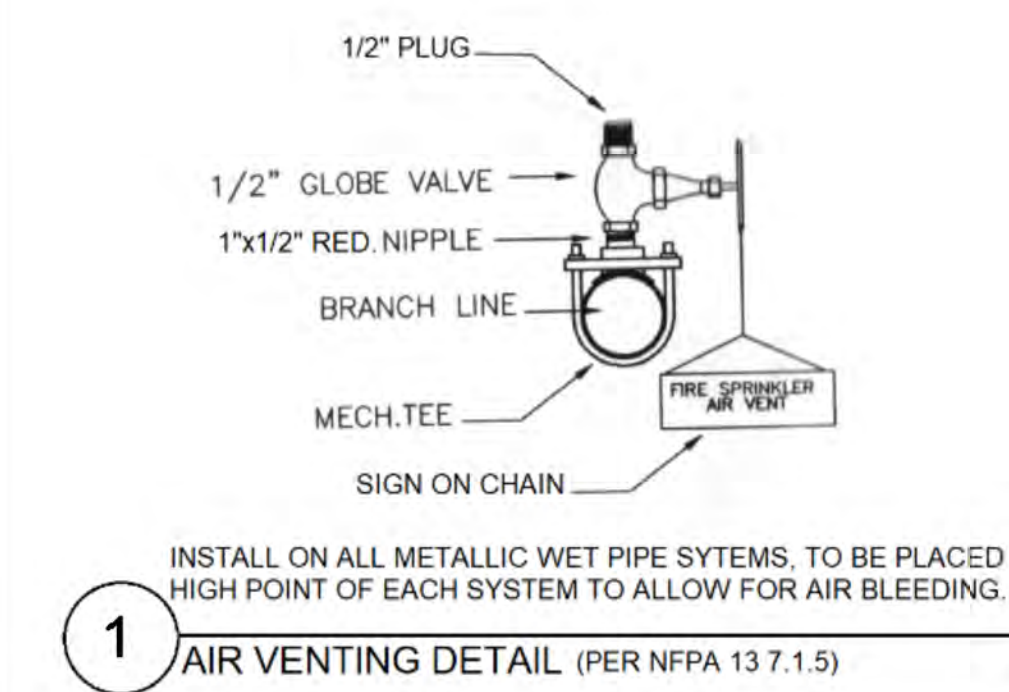
**DRAWN BY:** RM  
**DATE:** 10/23/2023  
**JOB #:** XXXXX  
**SHEET NO.:** 02 OF 11

**FP - 1.01**

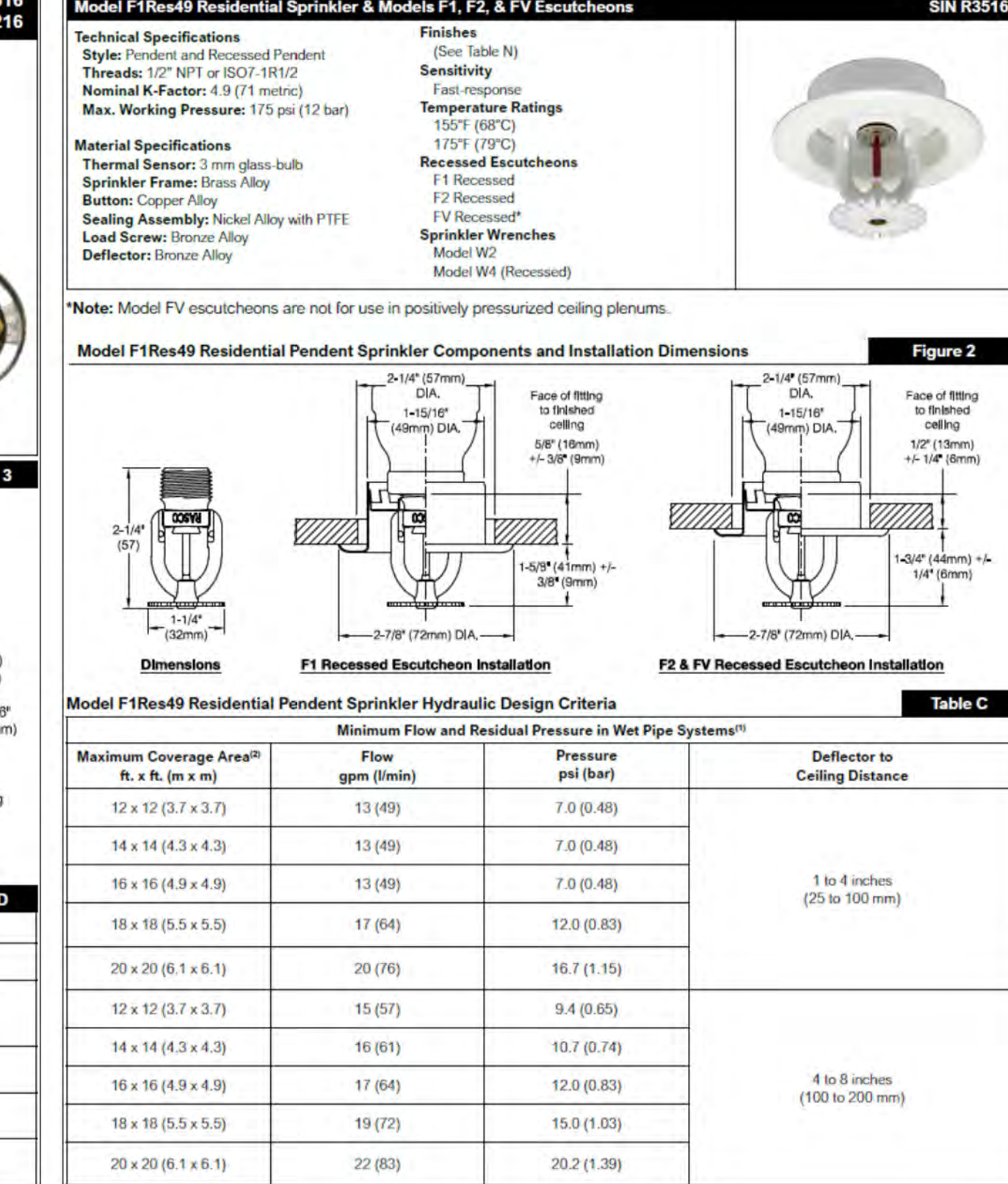
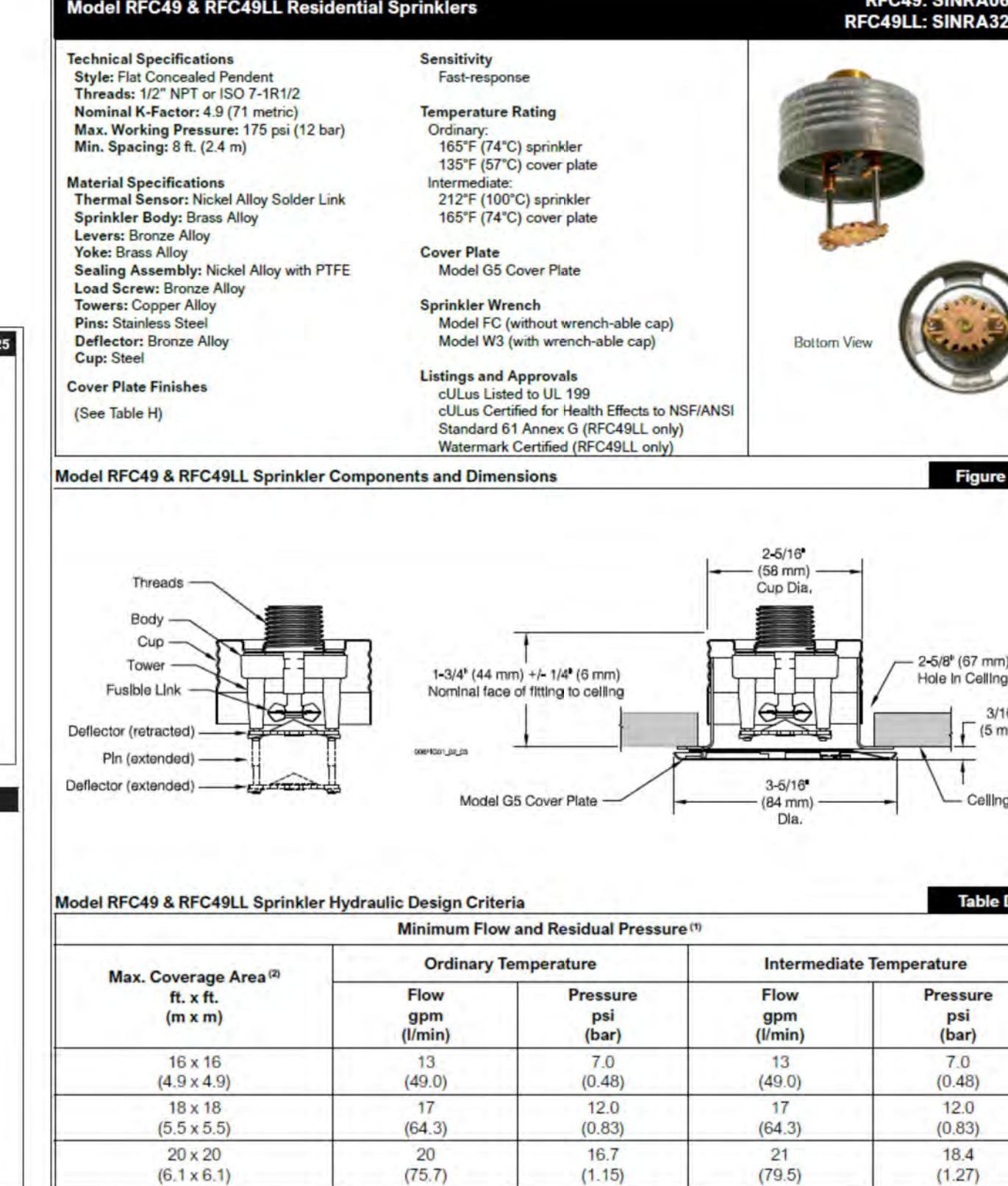
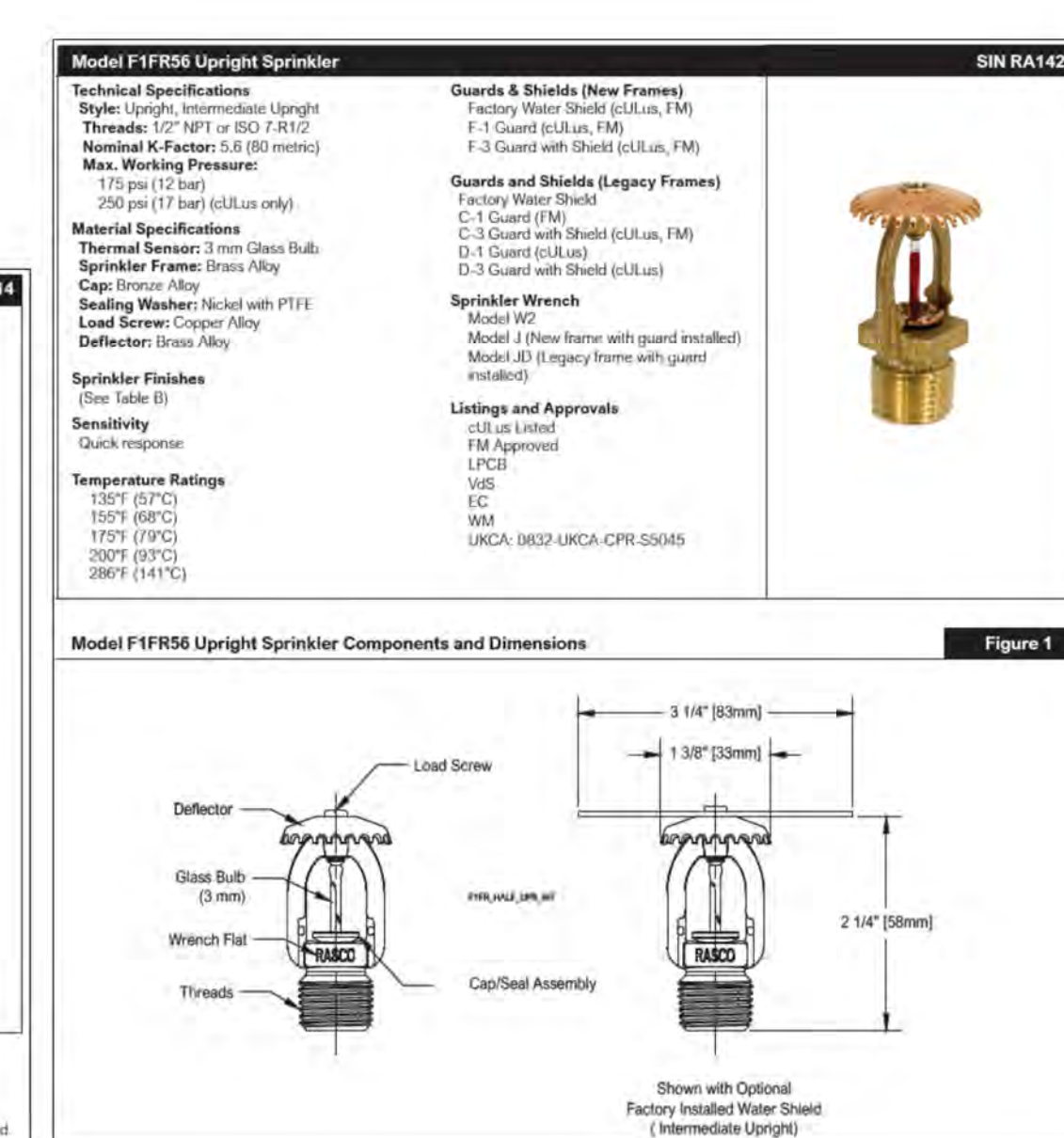
WATER CURTAIN	
Remote Area 3	Ordinary Group I
OCCUPANCY CLASSIFICATION	Ordinary Group I
DENSITY (gpm/ft <sup>2</sup> )	0.15 for 1500.00 ft <sup>2</sup> (Actual 298.45 ft <sup>2</sup> )
TOTAL HOSE STREAMS	250.0
DRY CAPACITY	0.0 gal
TOTAL HEADS FLOWING	7
K-FACTOR	5.6
TOTAL WATER REQUIRED	1437.3
TOTAL PRESSURE REQUIRED	89.9
BASE OF RISER (psi)	187.3
SAFETY MARGIN (psi)	+15.5 (14.7%)
HEAD COVERAGE	10'x13' (130 SQ. FT)



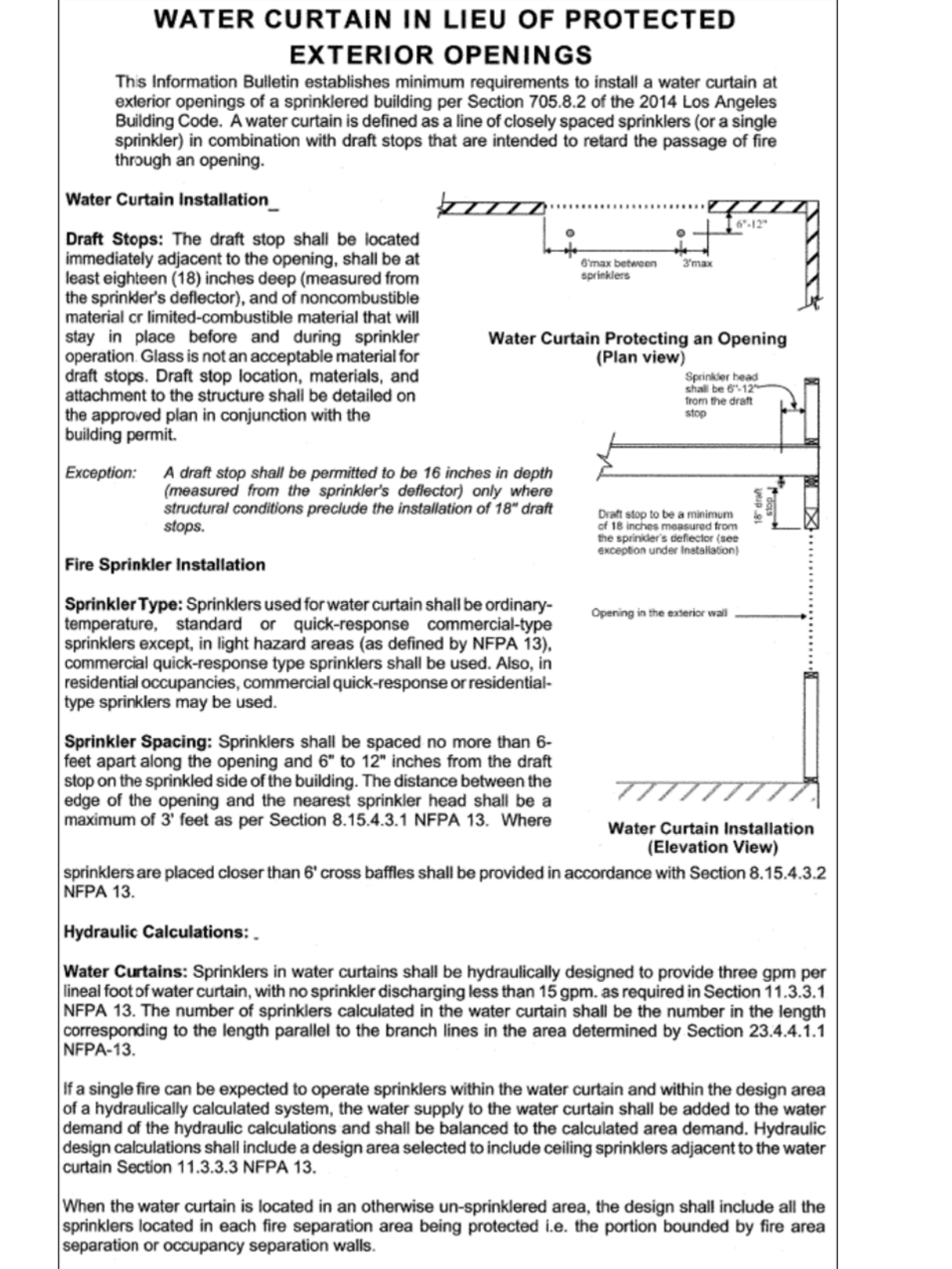
RMA 1 - PARKING	
Remote Area 1	Ordinary Group I
OCCUPANCY CLASSIFICATION	Ordinary Group I
DENSITY (gpm/ft <sup>2</sup> )	0.15 for 1500.00 ft <sup>2</sup> (Actual 1430.00 ft <sup>2</sup> )
TOTAL HOSE STREAMS	250.0
DRY CAPACITY	0.0 gal
TOTAL HEADS FLOWING	11
K-FACTOR	5.6
TOTAL WATER REQUIRED	541.6
TOTAL PRESSURE REQUIRED	72.7
BASE OF RISER (psi)	211.6
SAFETY MARGIN (psi)	+32.3 (15.3%)
HEAD COVERAGE	10'x13' (130 SQ. FT)



FIRST LEVEL SITE INSTALLED SPRINKLERS											
Symbol	SIN	Model	Type	Response	K-Factor	Size	Temperature	Finish	Note	Note2	Quantity
○	RA1425	RELIABLE	Upright	Quick	5.6	1/2"	200 °F	Brass	SSU	SITE INSTALLED	14
○	RA1414	RELIABLE	Pendent	Quick	5.6	1/2"	200 °F	Brass	SSP - TRASH CHUTE	SITE INSTALLED	2
○	RA1414	F1FR56	Pendent	Quick	5.6	1/2"	200 °F	White Polyester	SSP SEM RCSD	SITE INSTALLED	13
○	RA1425	RELIABLE	Upright	Quick	5.6	1/2"	200 °F	Brass	SSU PARKING	SITE INSTALLED	27
○	RA1414	RELIABLE	Pendent	Quick	5.6	1/2"	155 °F	White	RAIN CURTAIN SSP SEM RCSD	SITE INSTALLED	3
○	RA1414	F1FR56 INT	Pendent	Quick	5.6	1/2"	200 °F	Brass	SSP STAIR	SITE INSTALLED	4
											Total = 63

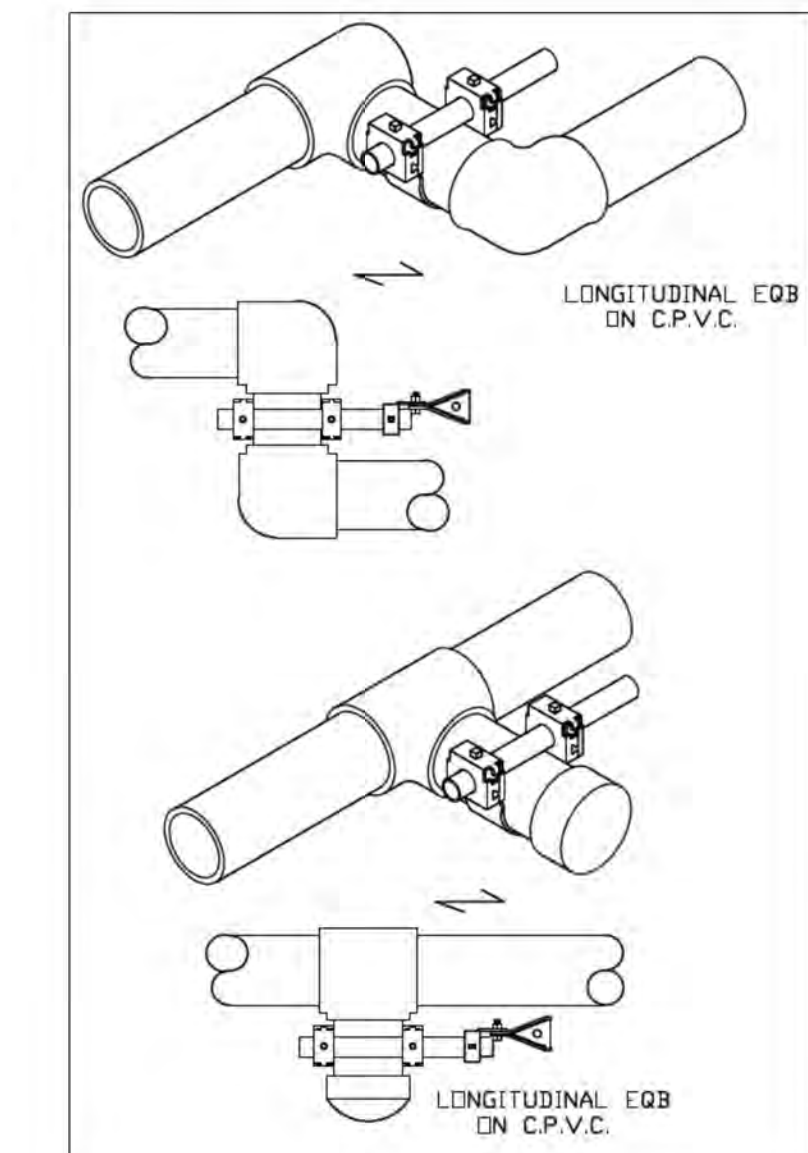
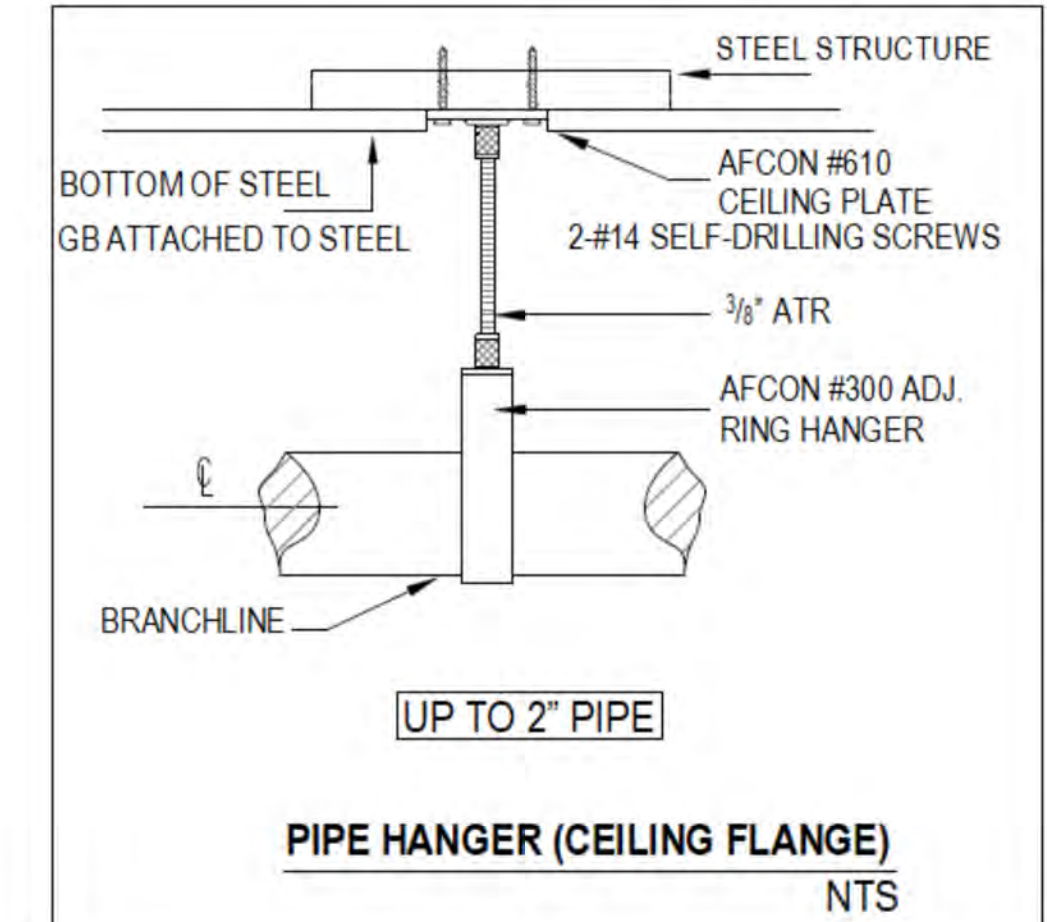
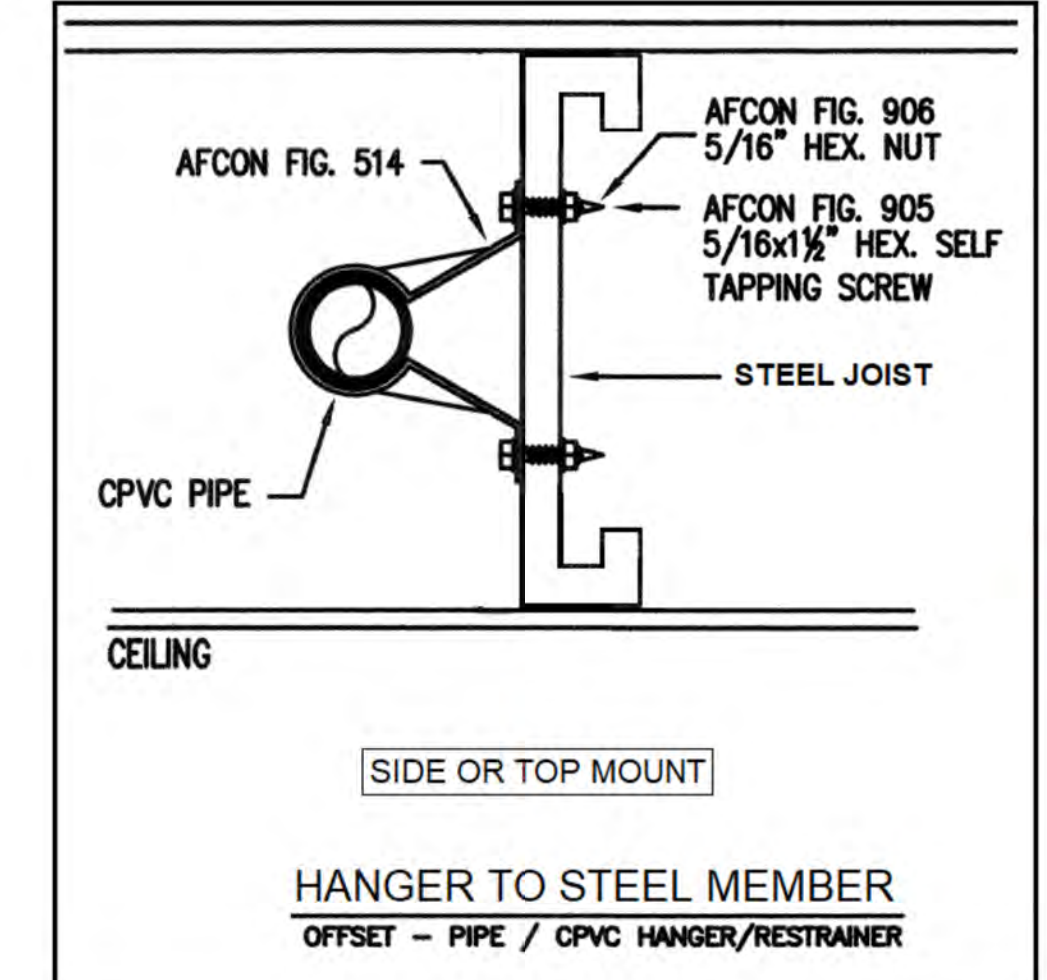
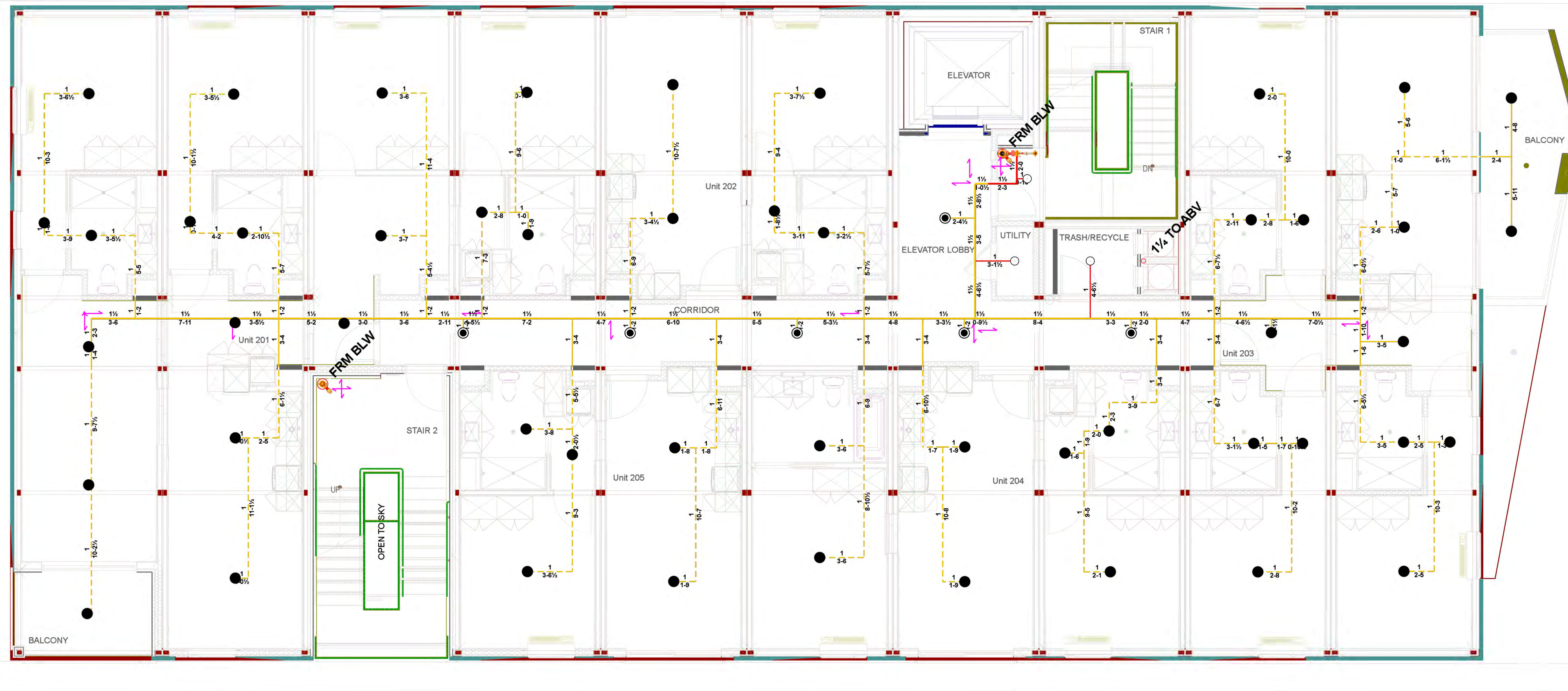


Maximum Coverage Area <sup>a</sup> ft. x ft. (m x m)	Minimum Flow and Residual Pressure in Wet Pipe Systems <sup>b</sup>		Deflector to Ceiling Distance
	Flow (gpm) (l/min)	Pressure (psi) (bar)	
12 x 12 (3.7 x 3.7)	13 (49)	7.0 (0.48)	1 to 4 inches (25 to 100 mm)
14 x 14 (4.3 x 4.3)	13 (49)	7.0 (0.48)	
16 x 16 (4.9 x 4.9)	13 (49)	7.0 (0.48)	4 to 8 inches (100 to 200 mm)
18 x 18 (5.5 x 5.5)	17 (64)	12.0 (0.83)	
20 x 20 (6.1 x 6.1)	20 (76)	16.7 (1.15)	
12 x 12 (3.7 x 3.7)	15 (57)	9.4 (0.65)	
14 x 14 (4.3 x 4.3)	16 (61)	10.7 (0.74)	
16 x 16 (4.9 x 4.9)	17 (64)	12.0 (0.83)	
18 x 18 (5.5 x 5.5)	19 (72)	15.0 (1.03)	
20 x 20 (6.1 x 6.1)	22 (83)	20.2 (1.39)	



1. 200°F (141°C) temperature rated sprinkler not listed for residential or commercial use.  
 2. VES and CE approval for COPF consideration use for 150°C (302°F) sprinkler ONLY.  
 3. Not suitable for residential or commercial pendant installation.  
 4. When used in wet pipe systems, use the appropriate cover plate and cover plate gasket for specific applications when installed in residential or commercial applications.

— DENOTES SITE INSTALLED CPVC PIPING  
— DENOTES SITE INSTALLED STEEL PIPING  
- - - DENOTES FACTORY INSTALLED CPVC PIPING



SWAY BRACE DETAILS FOR CPVC PIPE  
 PER NFPA 13 9.3.5.6.1 - LONGITUDINAL SUPPORT ALLOWED TO BE FROM LATERAL BRACE THAT IS WITHIN 24\"/>

LEVEL 2 LAYOUT

SCALE 1/4" = 1'-0"

SECOND FLOOR - SPRINKLERS										
Symbol	SIN	Model	Type	Response	K-Factor	Size	Temperature	Note	Note2	Quantity
○	RA1425	RELIABLE	Upright	Quick	5.6	1/2	200 °F	Brass	SSU	3
○	RA316	RELIABLE	Pendent	Fast	4.9	1/2	175 °F	White Polyester	SSP SEM RCSD	6
●	RA3216	RELIABLE	Concealed Pendent	Fast	4.9	1/2	165 °F	Brass	SSP CNCLD	50
Total = 59										

**TOLBrace™ Seismic Bracing Calculations** V8.8.124

Project Address: WEST BLVD. MODULAR  
 2538 WEST BLVD  
 LOS ANGELES, CA 90016  
 Job # 2023-202

Contractor: FIRE PROTECTION  
 Address: LOS ANGELES  
 Phone: (310) 441-1111  
 License: 965818

Calculations based on 2016 NFPA Pamphlet #13

Brace Information		TOLCO™ Brace Components		Adjusted Load
Maximum Brace Length	7' 0" (2.134 m)	TOLCO™ Component	Listed Load	1414 lbs (641 kg)
Diameter of Brace	1"	Fig. 1001 Clamp	2000 lbs (907 kg)	1414 lbs (641 kg)
Type of Brace	Sch.40	Fig. 909 - 3/8" No-Thread Bolt	1370 lbs (621 kg)	959 lbs (435 kg)
Angle of Brace	45° Min.	See Fastener Information		
Least Rad. of Gyration	0.42" (11 mm)	*Calculation Based on CONCENTRIC Loading		
L/R Value	200	*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.		
Max Horizontal Load	1310 lbs (594 kg)	Seismic Brace Assembly Detail		

Fastener Information  
 Type: DeWalt Power-Stub - SD2 3/8in. x  
 Diameter: 3/8in.  
 Length: 2.38in.  
 Maximum Load: 359 lbs (163 kg)

Brace Identification on Plans  
 Brace Type: Lateral [X] Longitudinal [ ] 4-Way [ ]

Sprinkler System Load Calculation (F <sub>pw</sub> = CpW)				
Diameter	Type	Length	Weight Per Unit Length	Total Weight
4" (102 mm)	Mega-Flow	10.0 R (3.0 m)	15.67 LBS (7.09 kg/m)	156.7 lbs (70.7 kg)
Subtotal Weight: 156.7 lbs (70.7 kg)				
Wp (incl. 15%) 172.36 lbs (78.18 kg)				
Total (F <sub>pw</sub> ) 172.36 lbs (78.18 kg)				
Maximum F <sub>pw</sub> per 9.3.5.5.2 (if applicable) 140.0 (63.5 kg)				

**TOLBrace™ Seismic Bracing Calculations** V8.8.124

Project Address: WEST BLVD. MODULAR  
 2538 WEST BLVD  
 LOS ANGELES, CA 90016  
 Job # 2023-202

Contractor: FIRE PROTECTION  
 Address: LOS ANGELES  
 Phone: (310) 441-1111  
 License: 965818

Calculations based on 2016 NFPA Pamphlet #13

Brace Information		TOLCO™ Brace Components		Adjusted Load
Maximum Brace Length	7' 0" (2.134 m)	TOLCO™ Component	Listed Load	1414 lbs (641 kg)
Diameter of Brace	1"	Fig. 1001 Clamp	2000 lbs (907 kg)	1000 lbs (454 kg)
Type of Brace	Sch.40	Fig. 909 - 3/8" No-Thread Bolt	1370 lbs (621 kg)	685 lbs (311 kg)
Angle of Brace	30° Min.	See Fastener Information		
Least Rad. of Gyration	0.42" (11 mm)	*Calculation Based on CONCENTRIC Loading		
L/R Value	200	*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.		
Max Horizontal Load	925 lbs (420 kg)	Seismic Brace Assembly Detail		

Fastener Information  
 Type: DeWalt Power-Stub - SD2 3/8in. x  
 Diameter: 3/8in.  
 Length: 2.38in.  
 Maximum Load: 400 lbs (181 kg)

Brace Identification on Plans  
 Brace Type: Lateral [ ] Longitudinal [X] 4-Way [ ]

Sprinkler System Load Calculation (F <sub>pw</sub> = CpW)				
Diameter	Type	Length	Weight Per Unit Length	Total Weight
4" (102 mm)	Mega-Flow	35.0 R (10.7 m)	15.67 LBS (7.09 kg/m)	548.4 lbs (248.3 kg)
Subtotal Weight: 548.4 lbs (248.3 kg)				
Wp (incl. 15%) 630.66 lbs (286.0 kg)				
Total (F <sub>pw</sub> ) 630.66 lbs (286.0 kg)				
Maximum F <sub>pw</sub> per 9.3.5.5.2 (if applicable) 525 (238 kg)				

**TOLBrace™ Seismic Bracing Calculations** V8.8.124

Project Address: WEST BLVD. MODULAR  
 2538 WEST BLVD  
 LOS ANGELES, CA 90016  
 Job # 2023-202

Contractor: FIRE PROTECTION  
 Address: LOS ANGELES  
 Phone: (310) 441-1111  
 License: 965818

Calculations based on 2016 NFPA Pamphlet #13

Brace Information		TOLCO™ Brace Components		Adjusted Load
Maximum Brace Length	7' 0" (2.134 m)	TOLCO™ Component	Listed Load	1000 lbs (454 kg)
Diameter of Brace	1"	Fig. 1001 Clamp	2000 lbs (907 kg)	1000 lbs (454 kg)
Type of Brace	Sch.40	Fig. 909 - 3/8" No-Thread Bolt	1370 lbs (621 kg)	685 lbs (311 kg)
Angle of Brace	30° Min.	See Fastener Information		
Least Rad. of Gyration	0.42" (11 mm)	*Calculation Based on CONCENTRIC Loading		
L/R Value	200	*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.		
Max Horizontal Load	925 lbs (420 kg)	Seismic Brace Assembly Detail		

Fastener Information  
 Type: DeWalt Power-Stub - SD2 3/8in. x  
 Diameter: 3/8in.  
 Length: 2.38in.  
 Maximum Load: 240 lbs (109 kg)

Brace Identification on Plans  
 Brace Type: Lateral [ ] Longitudinal [X] 4-Way [ ]

Sprinkler System Load Calculation (F <sub>pw</sub> = CpW)				
Diameter	Type	Length	Weight Per Unit Length	Total Weight
2.5" (63 mm)	Mega-Flow	50.0 R (15.2 m)	5.9 R (1.7 kg/m)	295.0 lbs (133.8 kg)
Subtotal Weight: 295.0 lbs (133.8 kg)				
Wp (incl. 15%) 339.25 lbs (153.8 kg)				
Total (F <sub>pw</sub> ) 339.25 lbs (153.8 kg)				
Maximum F <sub>pw</sub> per 9.3.5.5.2 (if applicable) 325 (147 kg)				

**TOLBrace™ Seismic Bracing Calculations** V8.8.124

Project Address: WEST BLVD. MODULAR  
 2538 WEST BLVD  
 LOS ANGELES, CA 90016  
 Job # 2023-202

Contractor: FIRE PROTECTION  
 Address: LOS ANGELES  
 Phone: (310) 441-1111  
 License: 965818

Calculations based on 2016 NFPA Pamphlet #13

Brace Information		TOLCO™ Brace Components		Adjusted Load
Maximum Brace Length	7' 0" (2.134 m)	TOLCO™ Component	Listed Load	1000 lbs (454 kg)
Diameter of Brace	1"	Fig. 1001 Clamp	2000 lbs (907 kg)	1000 lbs (454 kg)
Type of Brace	Sch.40	Fig. 909 - 3/8" No-Thread Bolt	1370 lbs (621 kg)	685 lbs (311 kg)
Angle of Brace	30° Min.	See Fastener Information		
Least Rad. of Gyration	0.42" (11 mm)	*Calculation Based on CONCENTRIC Loading		
L/R Value	200	*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.		
Max Horizontal Load	207 lbs (94 kg)	Seismic Brace Assembly Detail		

Fastener Information  
 Type: DeWalt Power-Stub - SD2 3/8in. x  
 Diameter: 3/8in.  
 Length: 2.38in.  
 Maximum Load: 207 lbs (94 kg)

Brace Identification on Plans  
 Brace Type: Lateral [ ] Longitudinal [X] 4-Way [ ]

Sprinkler System Load Calculation (F <sub>pw</sub> = CpW)				
Diameter	Type	Length	Weight Per Unit Length	Total Weight
2.5" (63 mm)	Mega-Flow	35.0 R (10.7 m)	5.9 R (1.7 kg/m)	206.5 lbs (93.7 kg)
Subtotal Weight: 206.5 lbs (93.7 kg)				
Wp (incl. 15%) 237.48 lbs (107.7 kg)				
Total (F <sub>pw</sub> ) 237.48 lbs (107.7 kg)				
Maximum F <sub>pw</sub> per 9.3.5.5.2 (if applicable) 225 (102 kg)				

**TOLBrace™ Seismic Bracing Calculations** V8.8.124

Project Address: WEST BLVD. MODULAR  
 2538 WEST BLVD  
 LOS ANGELES, CA 90016  
 Job # 2023-202

Contractor: FIRE PROTECTION  
 Address: LOS ANGELES  
 Phone: (310) 441-1111  
 License: 965818

Calculations based on 2016 NFPA Pamphlet #13

Brace Information		TOLCO™ Brace Components		Adjusted Load
Maximum Brace Length	7' 0" (2.134 m)	TOLCO™ Component	Listed Load	350 lbs (159 kg)
Diameter of Brace	1"	Fig. 3000 Clamp	700 lbs (318 kg)	350 lbs (159 kg)
Type of Brace	Sch.40	Fig. 909 - 3/8" No-Thread Bolt	1370 lbs (621 kg)	685 lbs (311 kg)
Angle of Brace	30° Min.	See Fastener Information		
Least Rad. of Gyration	0.42" (11 mm)	*Calculation Based on CONCENTRIC Loading		
L/R Value	100	*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.		
Max Horizontal Load	3150 lbs (1425 kg)	Seismic Brace Assembly Detail		

Fastener Information  
 Type: 3/8in. Unfinished Steel Bolt  
 Diameter: 3/8in.  
 Length: N/A  
 Maximum Load: 735 lbs (333 kg)

Brace Identification on Plans  
 Brace Type: Lateral [ ] Longitudinal [X] 4-Way [ ]

Sprinkler System Load Calculation (F <sub>pw</sub> = CpW)				
Diameter	Type	Length	Weight Per Unit Length	Total Weight
1.5" (40 mm)	CPVC	30.0 R (9.1 m)	1.41665 LBS (0.642 kg/m)	42.5 lbs (19.3 kg)
Subtotal Weight: 42.5 lbs (19.3 kg)				
Wp (incl. 15%) 48.88 lbs (22.1 kg)				
Total (F <sub>pw</sub> ) 48.88 lbs (22.1 kg)				
Maximum F <sub>pw</sub> per 9.3.5.5.2 (if applicable) 48.88 (22.1 kg)				

**TOLBrace™ Seismic Bracing Calculations** V8.8.124

Project Address: WEST BLVD. MODULAR  
 2538 WEST BLVD  
 LOS ANGELES, CA 90016  
 Job # 2023-202

Contractor: FIRE PROTECTION  
 Address: LOS ANGELES  
 Phone: (310) 441-1111  
 License: 965818

Calculations based on 2016 NFPA Pamphlet #13

Brace Information		TOLCO™ Brace Components		Adjusted Load
Maximum Brace Length	7' 0" (2.134 m)	TOLCO™ Component	Listed Load	350 lbs (159 kg)
Diameter of Brace	1"	Fig. 3000 Clamp	700 lbs (318 kg)	350 lbs (159 kg)
Type of Brace	Sch.40	Fig. 909 - 3/8" No-Thread Bolt	1370 lbs (621 kg)	685 lbs (311 kg)
Angle of Brace	30° Min.	See Fastener Information		
Least Rad. of Gyration	0.42" (11 mm)	*Calculation Based on CONCENTRIC Loading		
L/R Value	200	*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.		
Max Horizontal Load	925 lbs (420 kg)	Seismic Brace Assembly Detail		

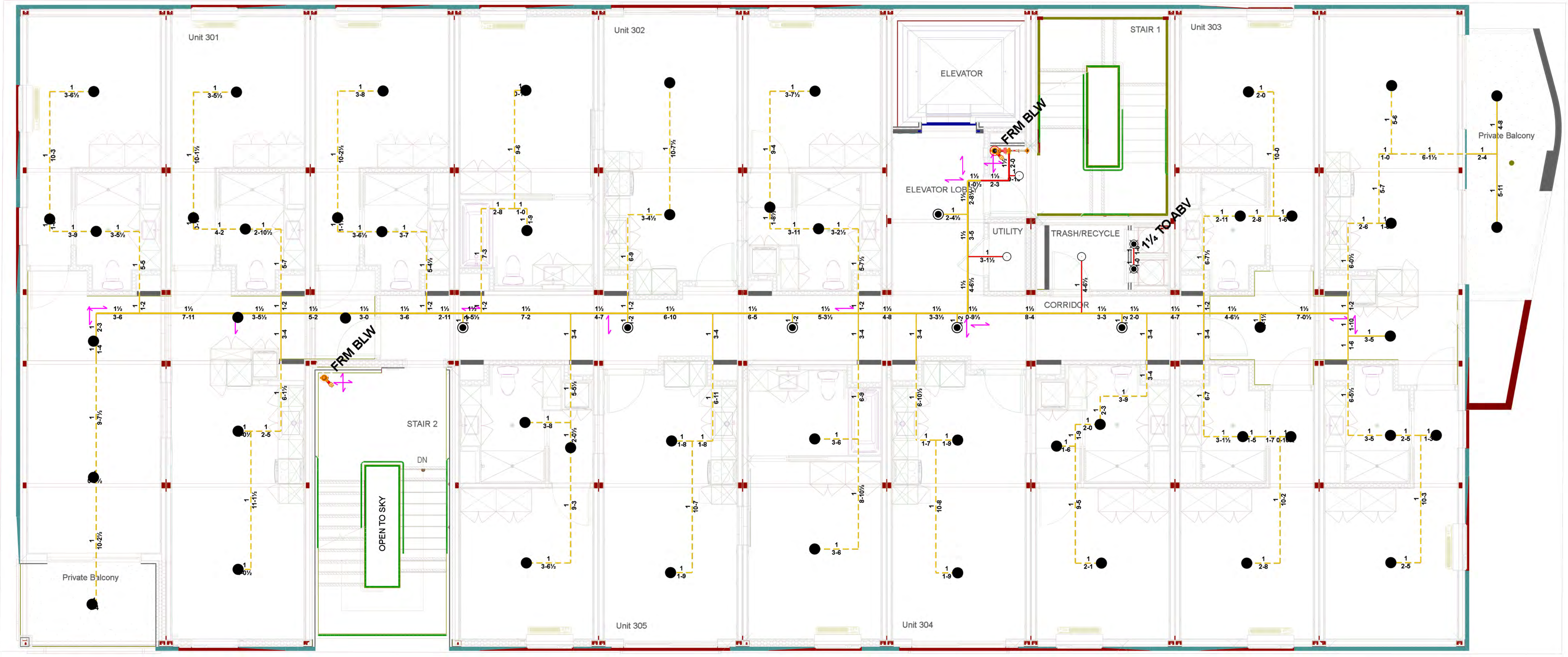
Fastener Information  
 Type: 3/8in. Unfinished Steel Bolt  
 Diameter: 3/8in.  
 Length: N/A  
 Maximum Load: 900 lbs (409 kg)

Brace Identification on Plans  
 Brace Type: Lateral [ ] Longitudinal [X] 4-Way [ ]

Sprinkler System Load Calculation (F <sub>pw</sub> = CpW)				
Diameter	Type	Length	Weight Per Unit Length	Total Weight
1.5" (40 mm)	CPVC	2.0 R (0.6 m)	2.0 R (0.6 m)	1.41665 LBS (0.642 kg)
Subtotal Weight: 1.41665 lbs (0.642 kg)				
Wp (incl. 15%) 1.62915 lbs (0.743 kg)				
Total (F <sub>pw</sub> ) 1.62915 lbs (0.743 kg)				
Maximum F <sub>pw</sub> per 9.3.5.5.2 (if applicable) 1.62915 (0.743 kg)				

LIC. #104920  
**CAL-TECH**  
 FIRE PROTECTION  
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 CALTECH FIRE PROTECTION  
 3745 ALTURA AVE  
 LA CRESCENTA, CA 91214  
 T. (310) 345-4117  
 FIRE PROTECTION CONTRACTOR  
 CLASSIFICATION  
 C-16  
 LICENSE # 104920  
 STATE OF CALIFORNIA  
 REVISIONS:  
 1. XXXXXXXX  
 2. XXXXXXXXXXXXXXXXXXXX  
 3. XXXXXXXXXXXXXXXXXXXX  
 2853 WEST - MODULAR HOUSING  
 2853 S. WEST BLVD.  
 LOS ANGELES, CA 90016  
 2ND LEVEL FIRE SPRINKLERS LAYOUT  
 DRAWN BY: RM  
 DATE: 10/23/2023  
 JOB #: XXXXX  
 SHEET NO: 04 OF 11  
 FP - 3.00

— DENOTES SITE INSTALLED CPVC PIPING  
— DENOTES SITE INSTALLED STEEL PIPING  
- - - DENOTES FACTORY INSTALLED CPVC PIPING

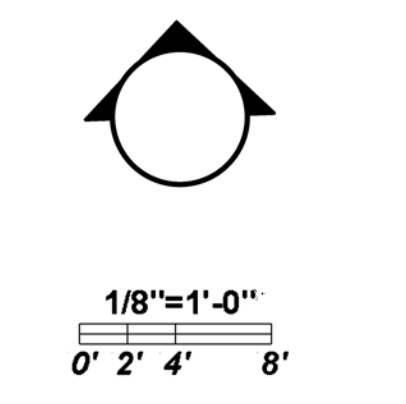


3RD LEVEL FLOOR LAYOUT - SCALE 1/4" = 1'-0"

THIRD LEVEL SPRINKLERS											
Symbol	SIN	Model	Type	Response	K-Factor	Size	Temperature	Finish	Note	Note2	Quantity
○	RA1425	RELIABLE	Upright	Quick	5.6	1/2	200 °F	Brass	SSU	SITE INSTALLED	3
○	RA1414	RELIABLE	Pendent	Quick	5.6	1/2	200 °F	Brass	SSP - TRASH CHUTE	SITE INSTALLED	2
●	RA3216	RELIABLE	Concealed Pendent	Fast	4.9	1/2	165 °F	Brass	SSP CNCLD	FACTORY INSTALL	49
●	R3516	RELIABLE	Pendent	Fast	4.9	1/2	175 °F	White Polyester	SSP SEM RCSD	SITE INSTALLED	6
Total = 60											



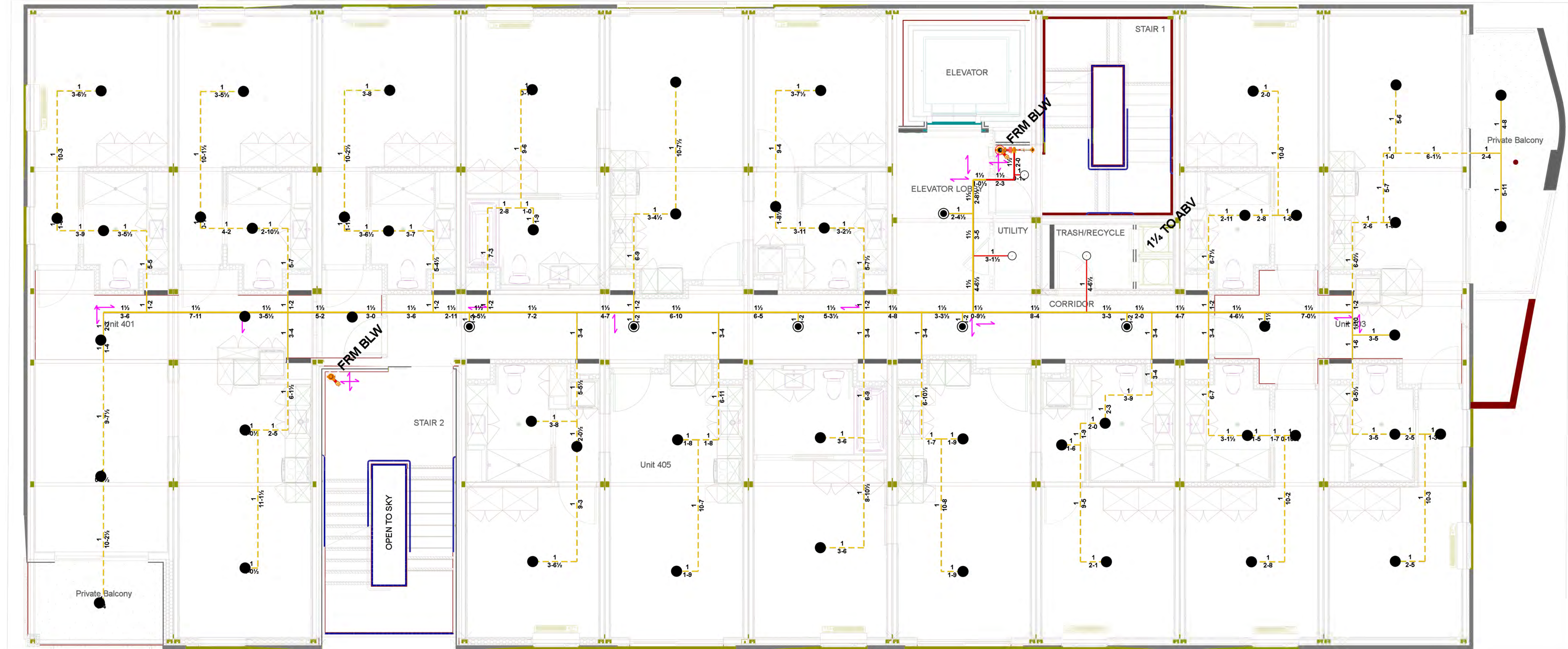
LEVEL 1 BUILDING OCCUPANCIES - LEVEL 2 AND ABOVE: R2 (RESIDENTIAL)



REVISIONS:

1	XXXXXXXXXX
2	XXXXXXXXXXXXXXXXXXXX
3	

- DENOTES SITE INSTALLED CPVC PIPING
- DENOTES SITE INSTALLED STEEL PIPING
- DENOTES FACTORY INSTALLED CPVC PIPING



4TH FLOOR LAYOUT - SCALE 1/4" = 1'-0"

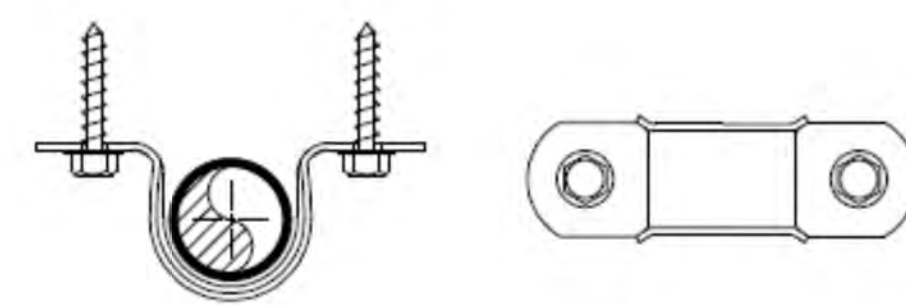
FOURTH LEVEL SPRINKLERS												
Symbol	SIN	Manufacturer	Model	Type	Response	K-Factor	Size	Temperature	Finish	Note	Note2	Quantity
○	RA1425	Reliable	RELIABLE	Upright	Quick	5.6	1/2	200 °F	Brass	SSU	SITE INSTALLED	3
●	RA3216	Reliable	RELIABLE	Concealed Pendant	Fast	4.9	1/2	165 °F	Brass	SPP CNCLD	FACTORY INSTALL	49
●	R3516	Reliable	RELIABLE	Pendent	Fast	4.9	1/2	175 °F	White Polyester	SPP SEM RCSD	SITE INSTALLED	6
											Total = 58	

AFCON FIG. 185 (OR EQUAL)  
 CPVC SINGLE FASTENER STRAP TYPE HANGER  
 TO BE INSTALLED ON TOP OR BOTTOM FLOOR OR CEILING JOIST.  
 FASTENER TO BE #14 x 1" HEX WASHER HEAD SELF-THREADING SCREW.



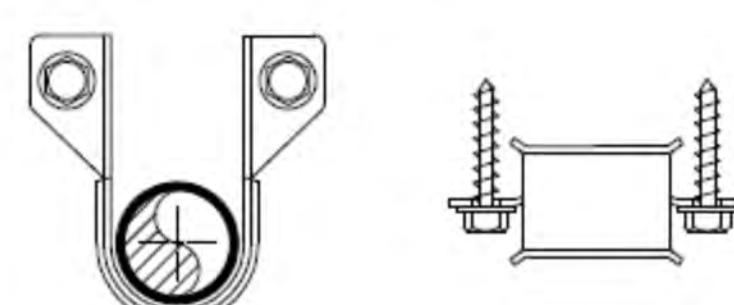
HANGER DETAIL FOR CPVC PIPE  
 ATTACHMENT TO STEEL NTS

AFCON FIG. 186 (OR EQUAL)  
 TO BE INSTALLED ON TOP OR BOTTOM OF TRUSS AND ALL SURFACES OF  
 A FLOOR OR CEILING JOIST. FASTENER TO BE #14 x 1" HEX HEAD  
 SELF-THREADING SCREWS.



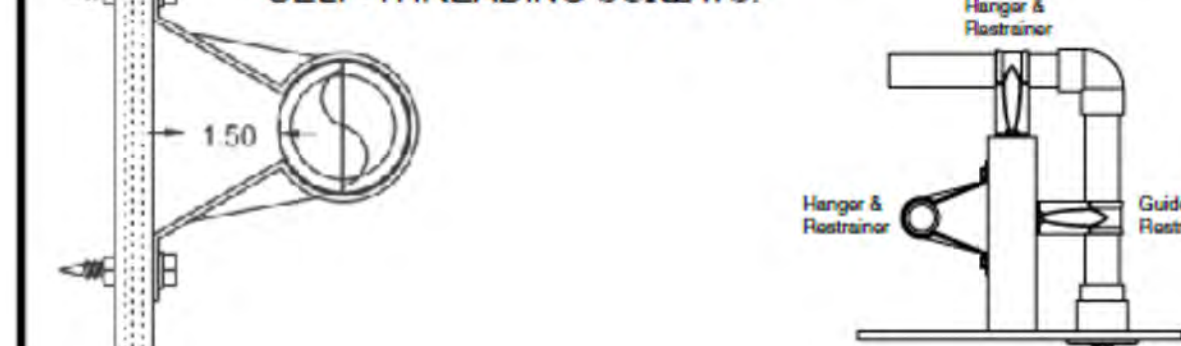
HANGER DETAIL FOR CPVC PIPE  
 ATTACHMENT TO STEEL NTS

AFCON FIG. 187 (OR EQUAL)  
 CPVC DOUBLE FASTENER STRAP TYPE HANGER  
 TO BE INSTALLED ON TOP OR BOTTOM OF JOIST.  
 FASTENER TO BE #14 x 1" HEX HEAD  
 SELF-THREADING SCREWS.



HANGER DETAIL FOR CPVC PIPE  
 ATTACHMENT TO STEEL NTS

AFCON FIG. 188/189R (OR EQUAL)  
 CPVC DOUBLE FASTENER STRAP TYPE HANGER  
 TO BE INSTALLED ON TOP, BOTTOM OR SIDE OF JOIST.  
 CAN BE USED AS HORIZONTAL AND VERTICAL SEISMIC  
 RETRAINT. FASTENER TO BE #14 x 1" HEX HEAD  
 SELF-THREADING SCREWS.



HANGER DETAIL FOR CPVC PIPE  
 ATTACHMENT TO STEEL NTS



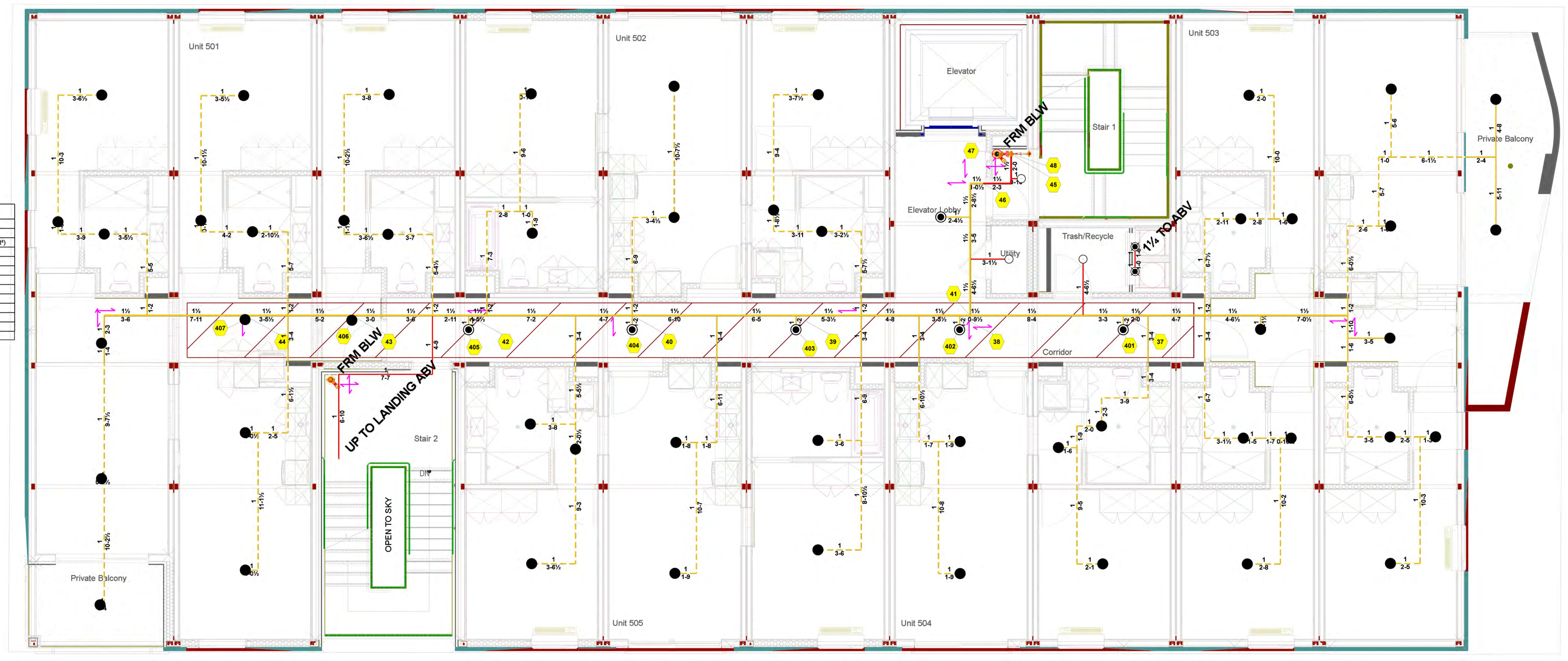
REVISIONS:

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3		

DATE:	10/23/2023
JOB #:	XXXXXX
SHEET NO.:	06 OF 11

— DENOTES SITE INSTALLED CPVC PIPING  
— DENOTES SITE INSTALLED STEEL PIPING  
- - - DENOTES FACTORY INSTALLED CPVC PIPING

Hydraulic Information	
Remote Area 4	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft <sup>2</sup> )	0.10 for 1500.00 ft <sup>2</sup> (Actual 359.64 ft <sup>2</sup> )
TOTAL HOSE STREAMS	100.0
DRY CAPACITY	0.0 gal
TOTAL HEADS FLOWING	7
K-FACTOR	4.9
TOTAL WATER REQUIRED	272.2
TOTAL PRESSURE REQUIRED	100.3
BASE of RISER (gpm)	172.2
BASE of RISER (psi)	70.0
SAFETY MARGIN (psi)	+5.4 (5.1%)
HEADS COVERAGE (225 SQ. FT.)	15'X15'



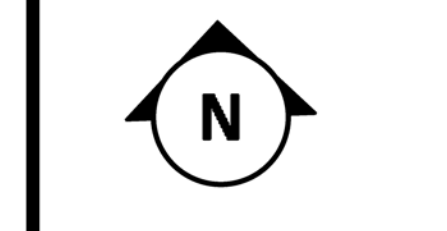
5TH FLOOR RESIDENTIAL LAYOUT - SCALE 1/4" = 1'-0"

FIFTH FLOOR SPRINKLERS												
Symbol	SIN	Manufacturer	Model	Type	Response	K-Factor	Size	Temperature	Finish	Note	Note2	Quantity
○	RA1425	Reliable	RELIABLE	Upright	Quick	5.6	1/2"	200 °F	Brass	SSU	SITE INSTALLED	3
●	RA1414	Generic	RELIABLE	Pendent	Quick	5.6	1/2"	200 °F	Brass	SSP - TRASH CHUTE	SITE INSTALLED	2
●	RA3216	Reliable	RELIABLE	Concealed Pendent	Fast	4.9	1/2"	165 °F	Brass	SSP CNCLD	FACTORY INSTALL	49
●	R3516	Reliable	RELIABLE	Pendent	Fast	4.9	1/2"	175 °F	White Polyester	SSP SEM RCSD	SITE INSTALLED	6
											Total = 60	

LIC. #1069420



**CALTECH FIRE PROTECTION**  
 3745 ALTURA AVE  
 LA CRESCENTA, CA 91214  
 T. (310) 345-4117



1/8" = 1'-0"  
0' 2' 4' 8'

REVISIONS:  
 1. XXXXXXXXXXXXXXXXXXXXXXX  
 2. XXXXXXXXXXXXXXXXXXXXXXX  
 3. XXXXXXXXXXXXXXXXXXXXXXX

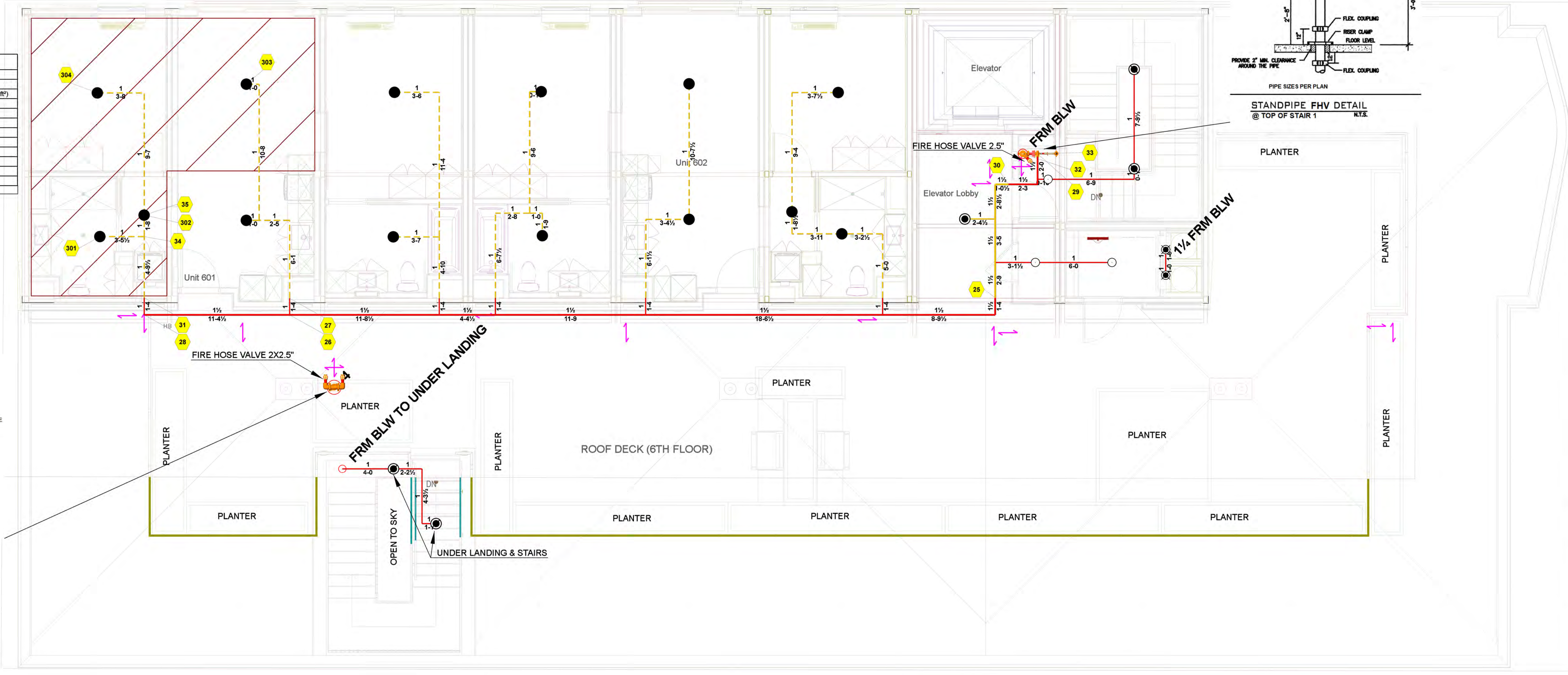
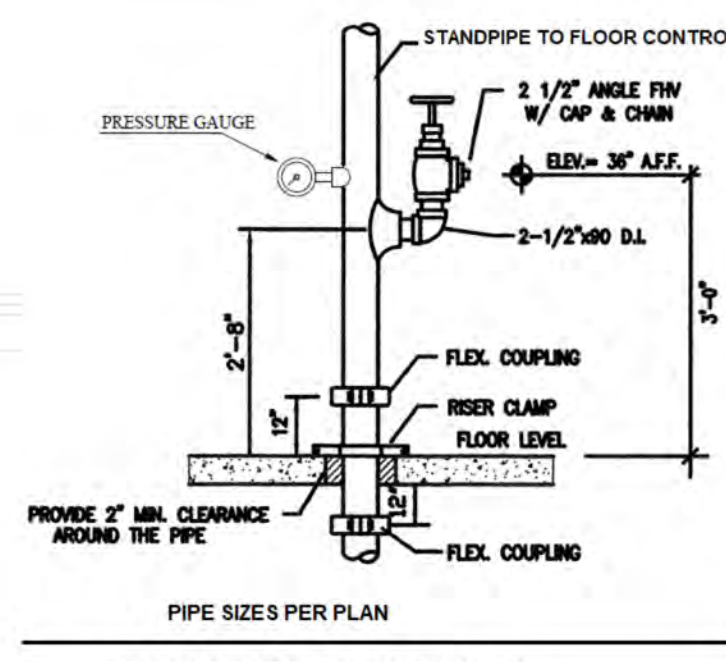
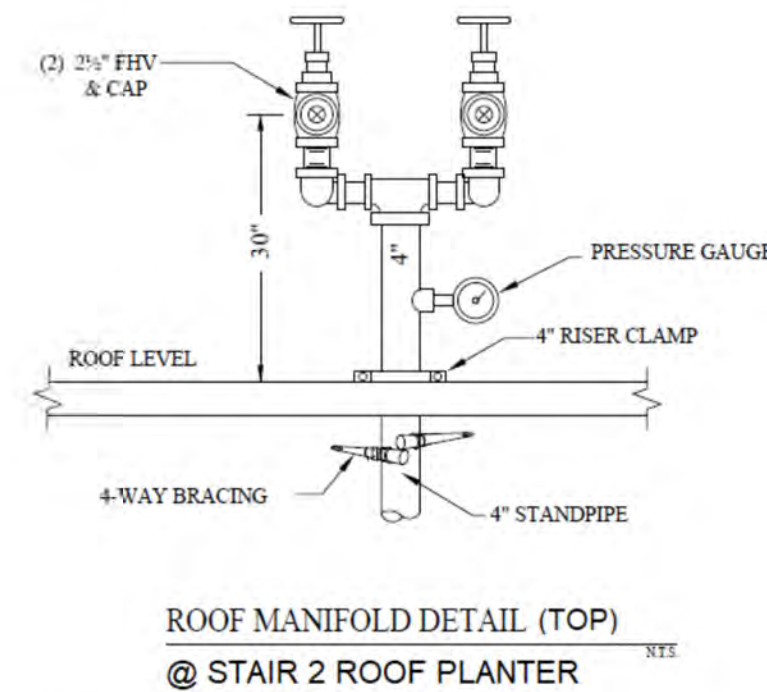
**2853 WEST - MODULAR HOUSING**  
 2853 S. WEST BLVD.  
 LOS ANGELES, CA 90016

**5TH FLOOR RESIDENTIAL FIRE SPRINKLERS LAYOUT**

JOB NAME: 2853 WEST - MODULAR HOUSING  
 DRAWN BY: RM  
 DATE: 10/23/2023  
 JOB #: XXXXX  
 SHEET NO: 07 OF 11  
**FP - 6.00**

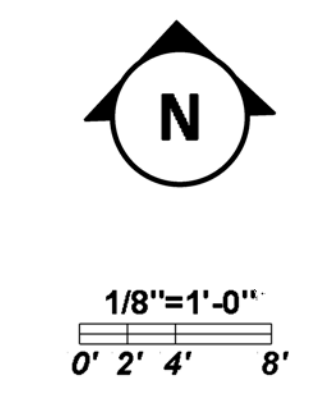
——— DENOTES SITE INSTALLED CPVC PIPING  
 ——— DENOTES SITE INSTALLED STEEL PIPING  
 - - - - - DENOTES FACTORY INSTALLED CPVC PIPING

Hydraulic Information	
Remote Area 3	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft)	0.10 for 900.00 ft <sup>2</sup> (Actual 368.79 ft <sup>2</sup> )
TOTAL HOSE STREAMS	100.0
DRY CAPACITY	0.0 gal
TOTAL HEADS FLOWING	4
K-FACTOR	4.9
TOTAL WATER REQUIRED	195.1
TOTAL PRESSURE REQUIRED	89.4
BASE OF RISER (gpm)	95.1
BASE OF RISER (psi)	57.7
SAFETY MARGIN (psi)	+16.4 (15.5%)
HEADS COVERAGE (225 SQ. FT.)	15X15'

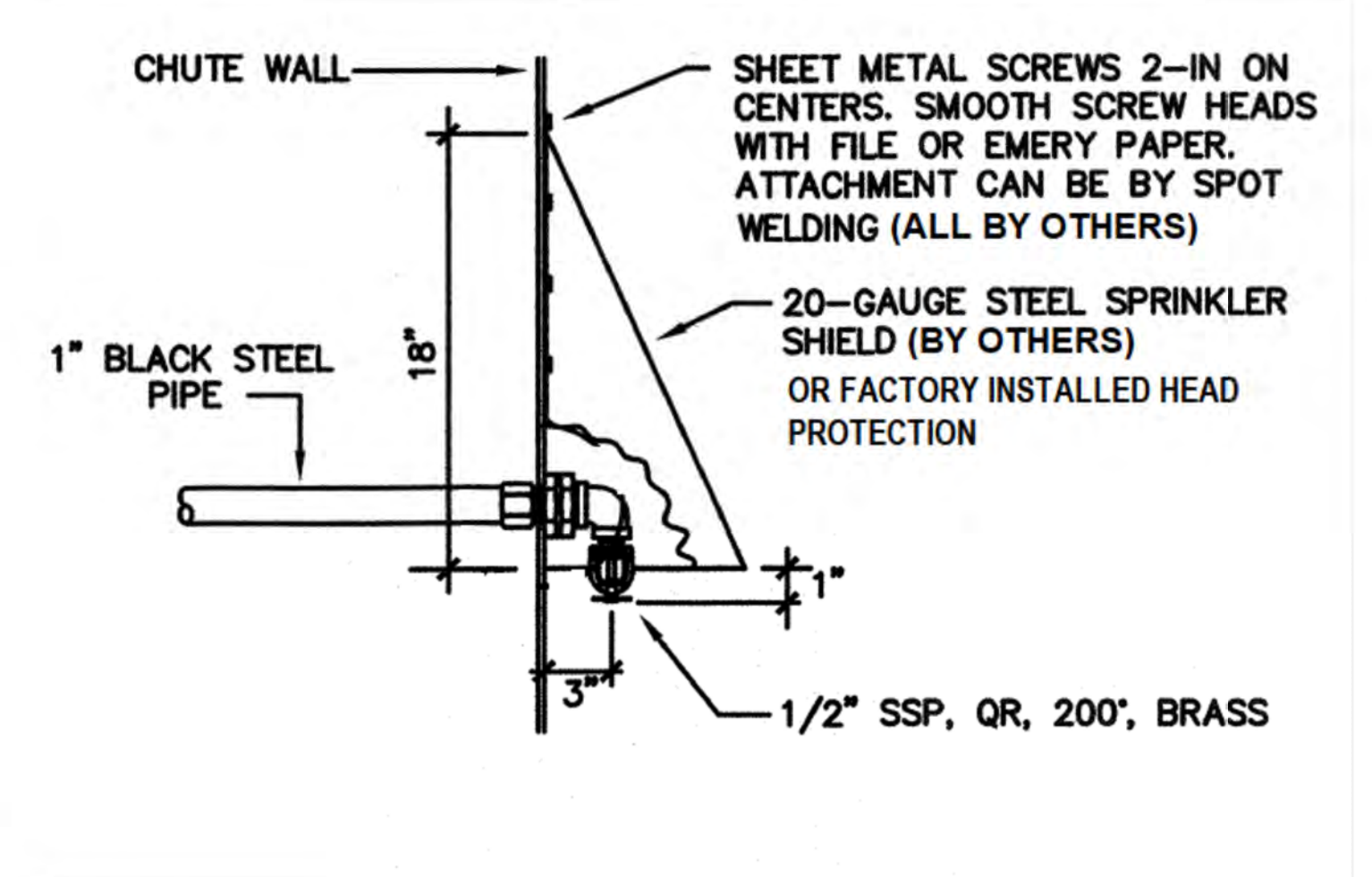
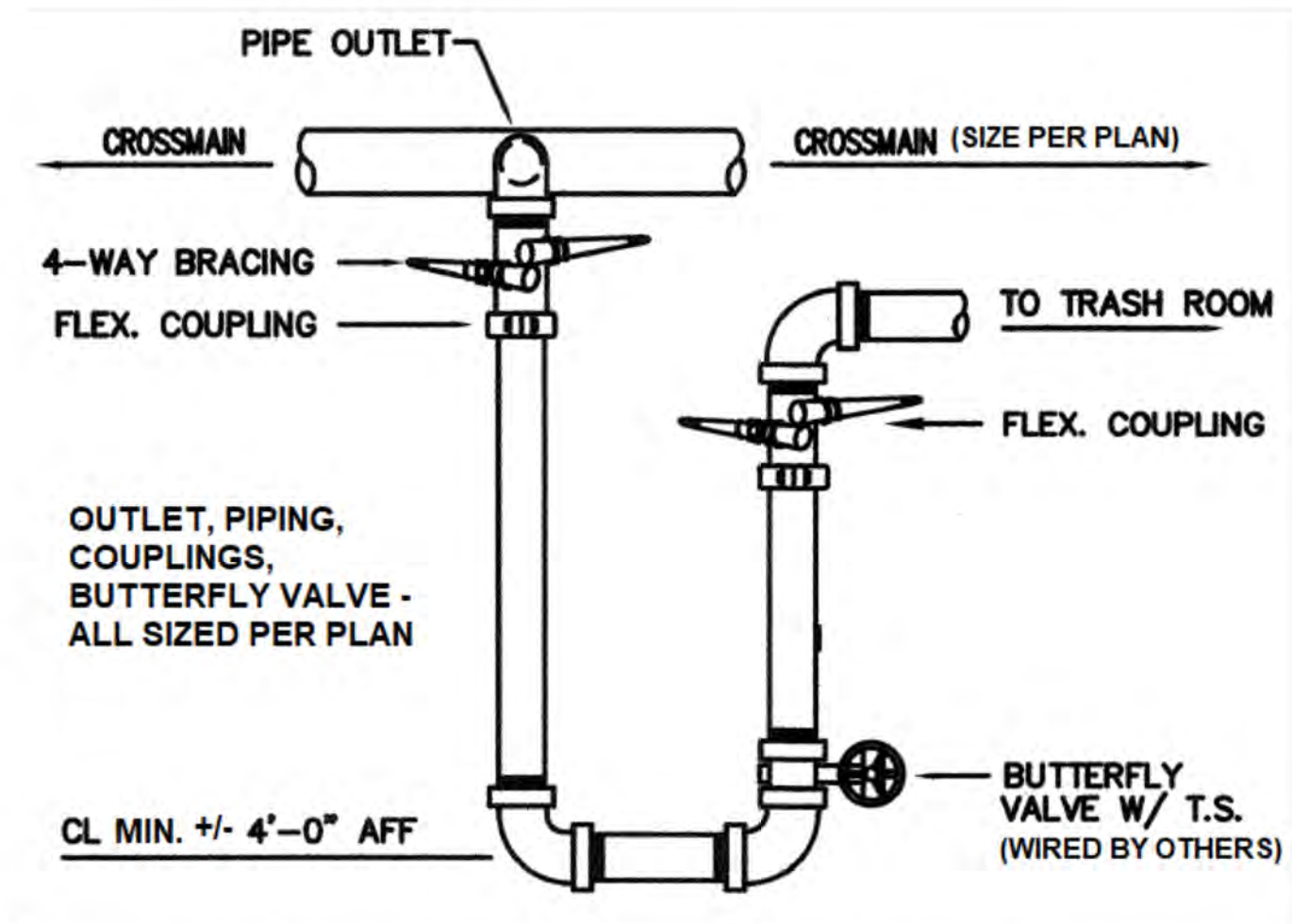


6TH FLOOR LAYOUT - SCALE 1/4" = 1'-0"

SIXTH FLOOR SPRINKLERS											
Symbol	SIN	Model	Type	Response	K-Factor	Size	Temperature	Finish	Note	Note2	Quantity
○	RA1425	RELIABLE	Upright	Quick	5.6	1/2	200 °F	Brass	SSU	SITE INSTALLED	3
○	RA1414	RELIABLE	Pendent	Quick	5.6	1/2	200 °F	Brass	SSP - TRASH CHUTE	SITE INSTALLED	2
○	RA1414	F1FR56 INT	Pendent	Quick	5.6	1/2	200 °F	Brass	SSP STAIR	SITE INSTALLED	4
●	RA3216	RELIABLE	Concealed Pendent	Fast	4.9	1/2	165 °F	Brass	SSP CNCLD	FACTORY INSTALL	14
●	R3516	RELIABLE	Pendent	Fast	4.9	1/2	175 °F	White Polyester	SSP SEM RCSD	SITE INSTALLED	1
Total = 24											



REVISIONS:	
1	XXXXXXXXXX
2	XXXXXXXXXXXXXXXXXXXX
3	



2853 WEST - MODULAR HOUSING  
 2853 S. WEST BLVD.  
 LOS ANGELES, CA 90016  
 6TH FLOOR FIRE SPRINKLERS LAYOUT & ROOF

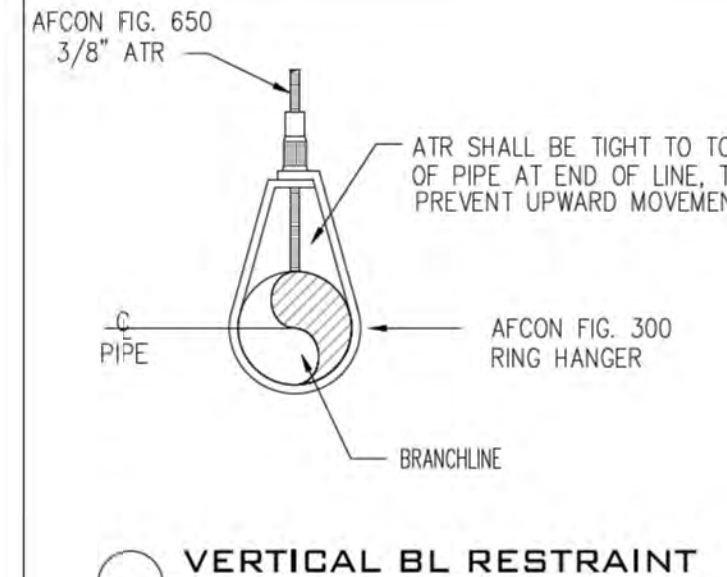
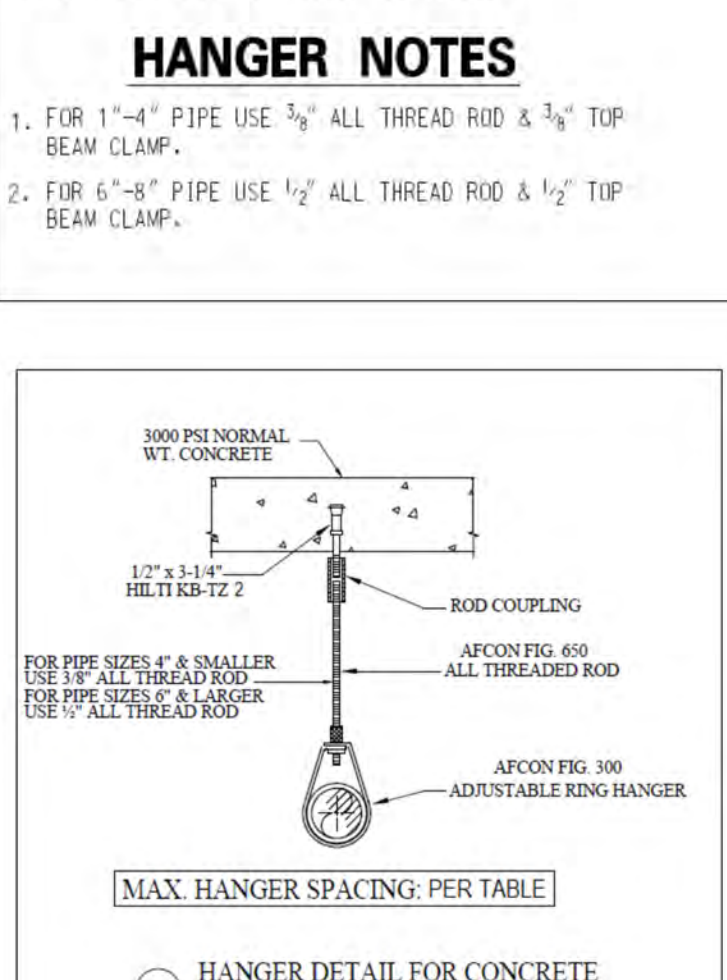
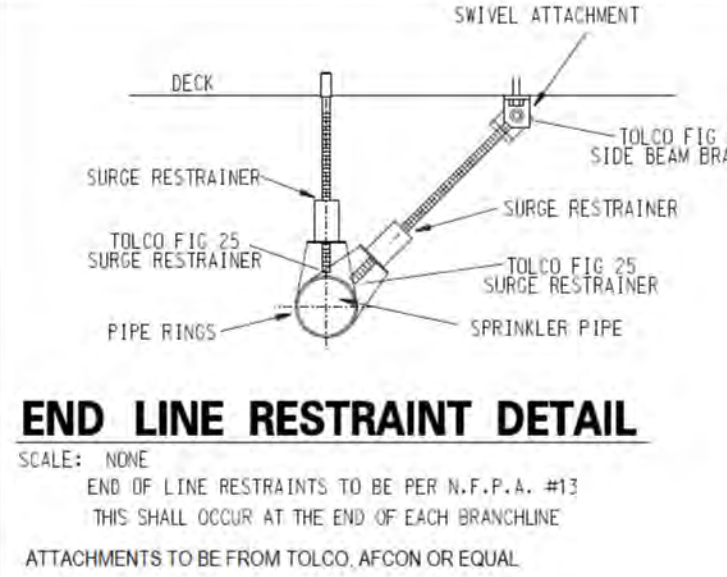
LIC. #1049420  
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 FIRE PROTECTION  
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CALTECH FIRE PROTECTION  
 3745 ALTURA AVE  
 LA CRESCENTA, CA 91214  
 T. (310) 345-4117



JOB NAME: 2853 WEST - MODULAR HOUSING  
 DRAWN BY: RM  
 DATE: 10/23/2023  
 JOB #: XXXXX  
 SHEET NO: 08 OF 11  
 FP - 7.00



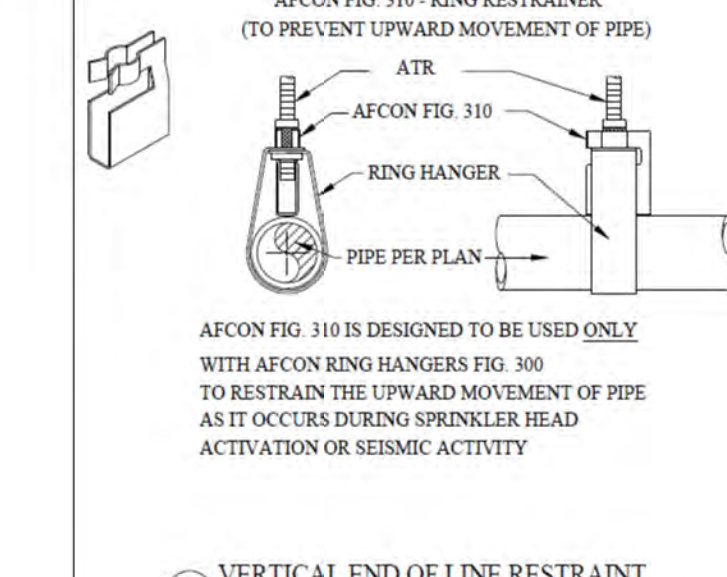


**HANGERS SPACING TABLE**

Table 9.3.2.1(a) Maximum Distance Between Hangers (ft-in.)

Nominal Pipe Size (in.)	System Pressure (psi)									
	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8
Steel pipe except threaded lightweight	NA	12-0	12-0	12-0	12-0	12-0	15-0	15-0	15-0	15-0
Threaded lightweight steel pipe	NA	12-0	12-0	12-0	12-0	12-0	NA	NA	NA	NA
Copper tube	8-0	8-0	10-0	10-0	12-0	12-0	15-0	15-0	15-0	15-0
CPVC	5-6	6-0	6-0	7-0	8-0	9-0	10-0	10-0	10-0	10-0
Ductile-iron pipe	NA	NA	NA	NA	NA	NA	15-0	15-0	15-0	15-0

NA Not applicable.



**TABLE 'A'**

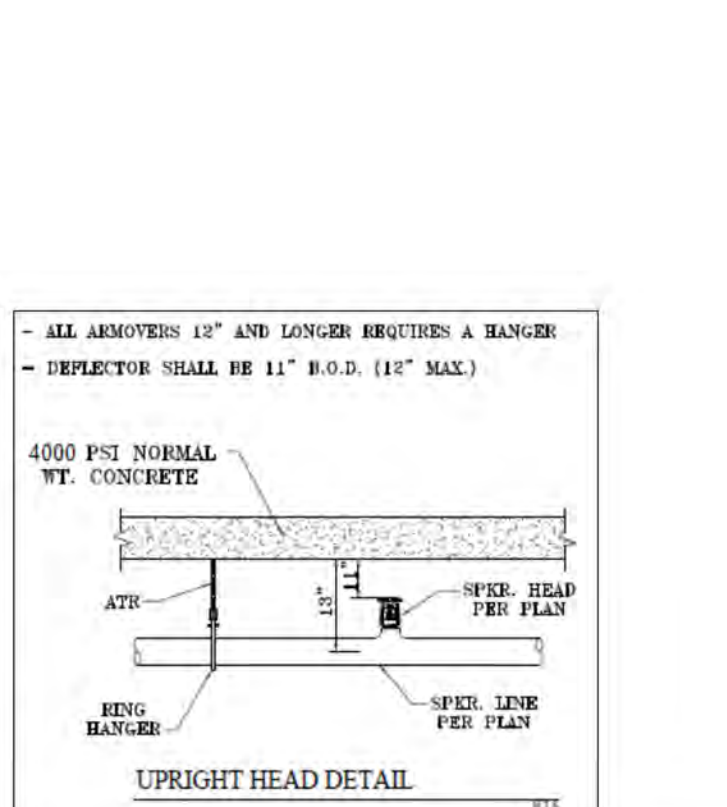
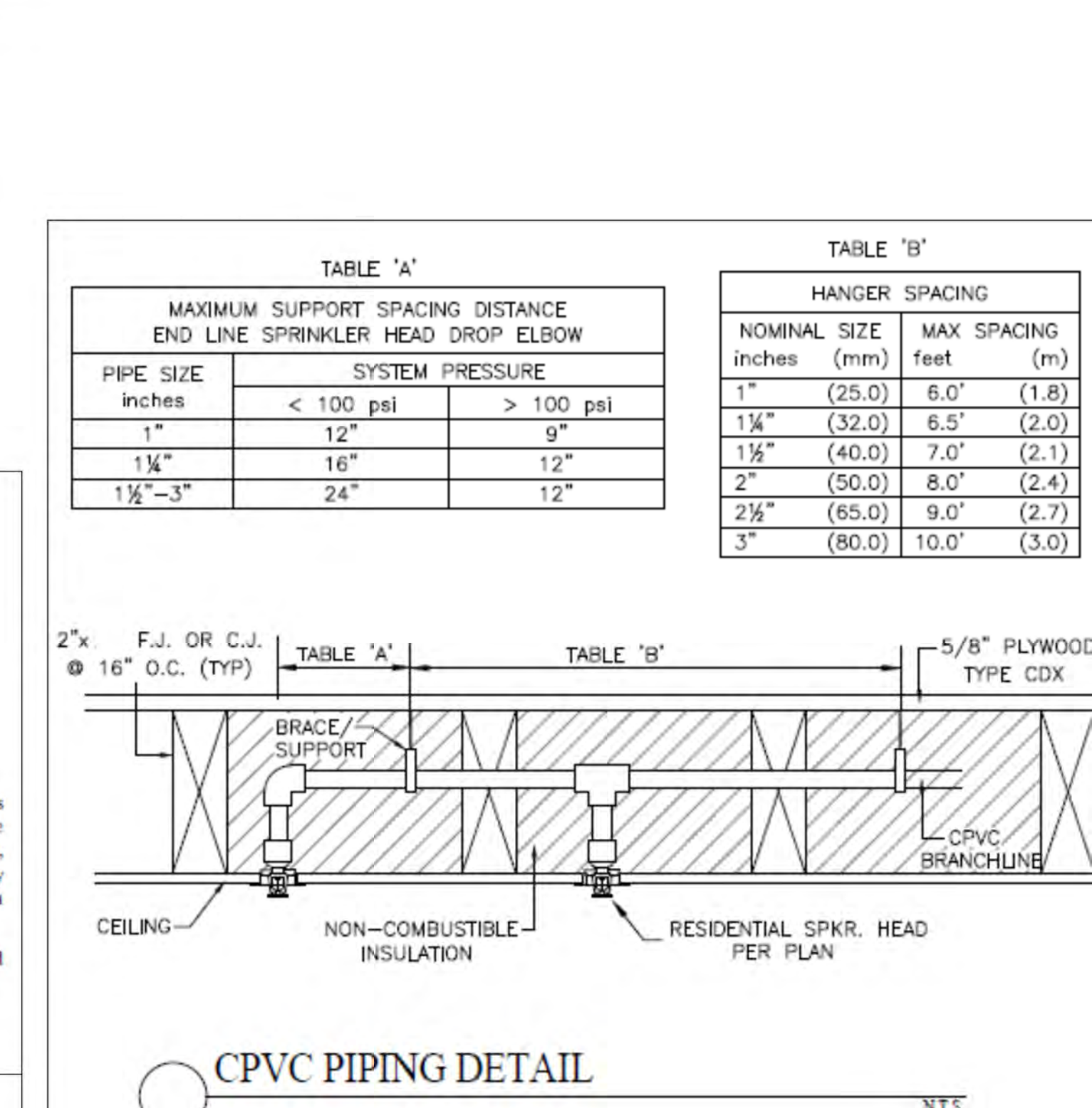
MAXIMUM SUPPORT SPACING DISTANCE  
 END LINE SPRINKLER HEAD DROP ELBOW

PIPE SIZE inches	SYSTEM PRESSURE	
	< 100 psi	> 100 psi
1"	12"	9"
1 1/4"	16"	12"
1 1/2"-3"	24"	12"

**TABLE 'B'**

HANGER SPACING

NOMINAL SIZE inches (mm)	MAX SPACING feet (m)
1" (25.0)	6.0' (1.8)
1 1/4" (32.0)	6.5' (2.0)
1 1/2" (40.0)	7.0' (2.1)
2" (50.0)	8.0' (2.4)
2 1/2" (65.0)	9.0' (2.7)
3" (80.0)	10.0' (3.0)

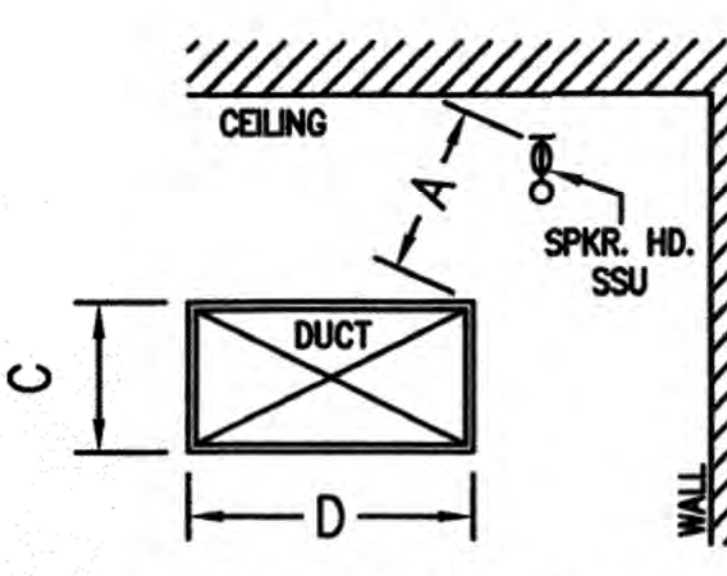
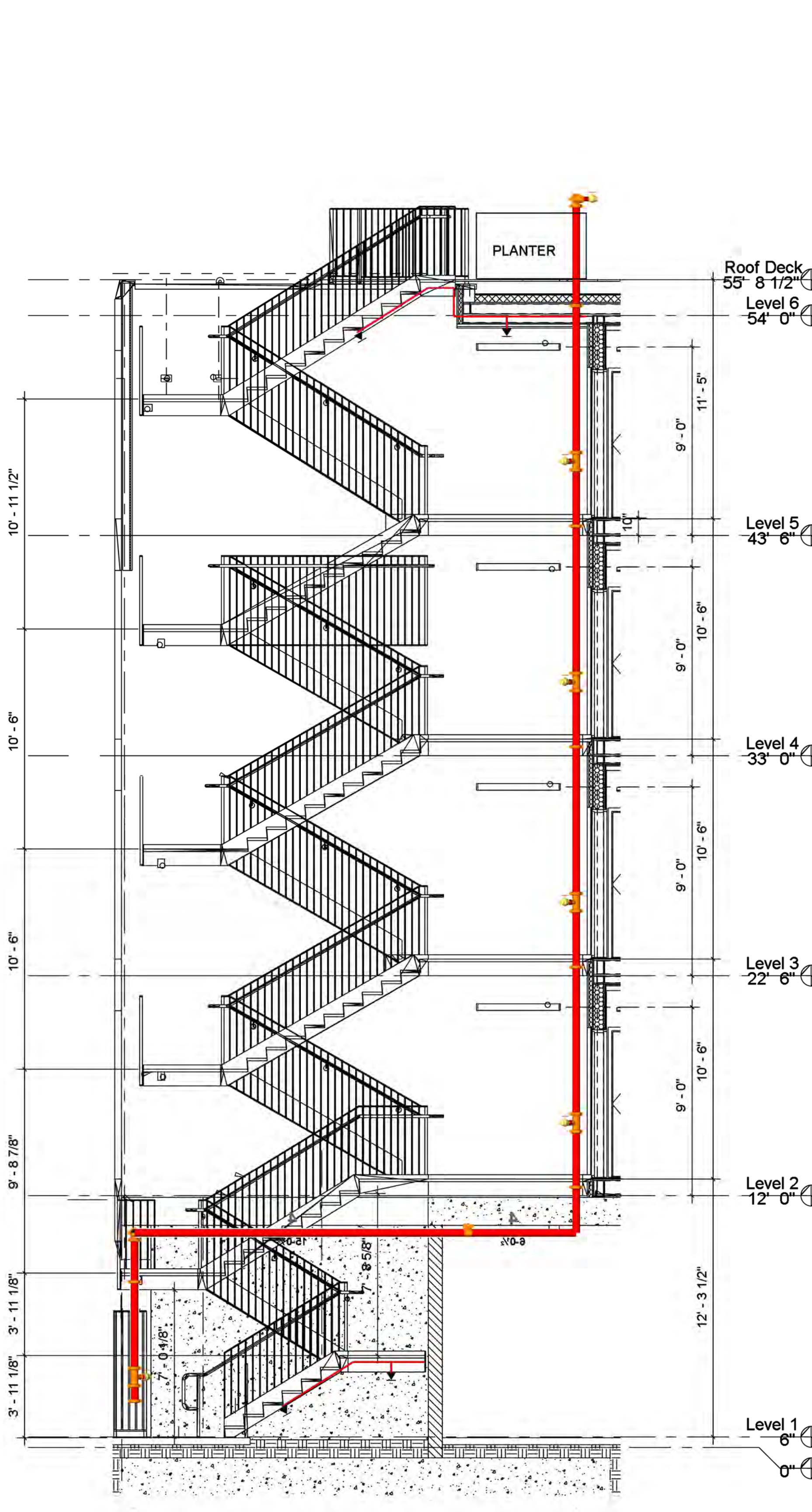
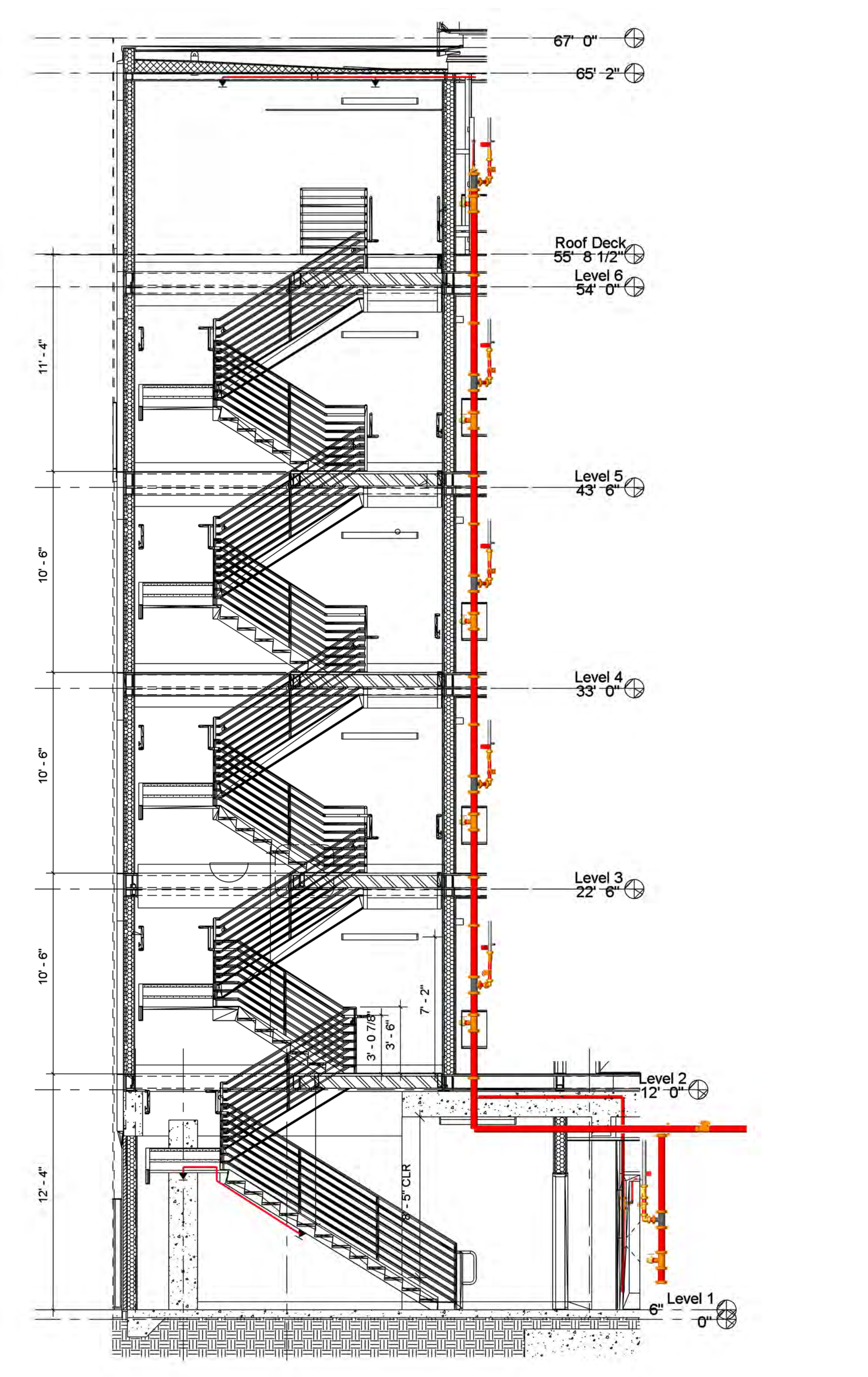
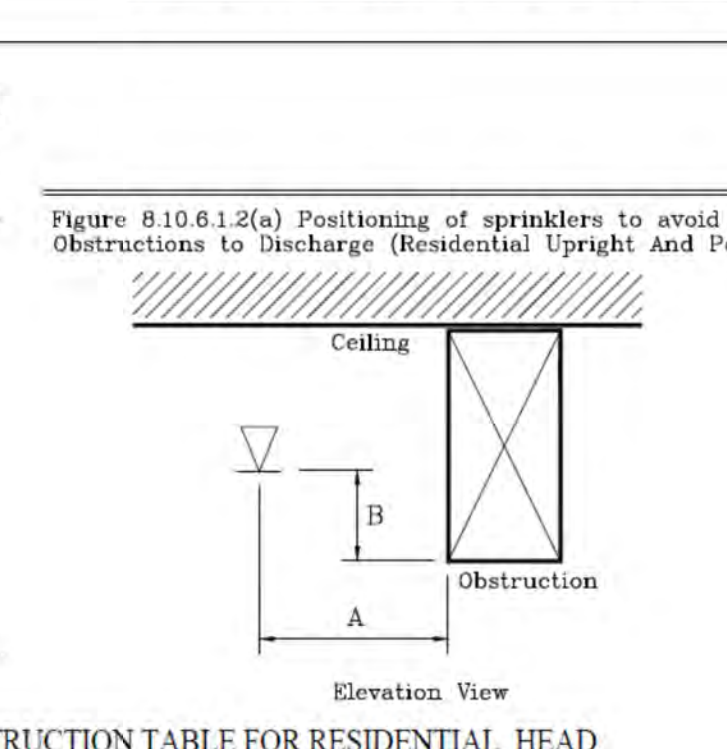
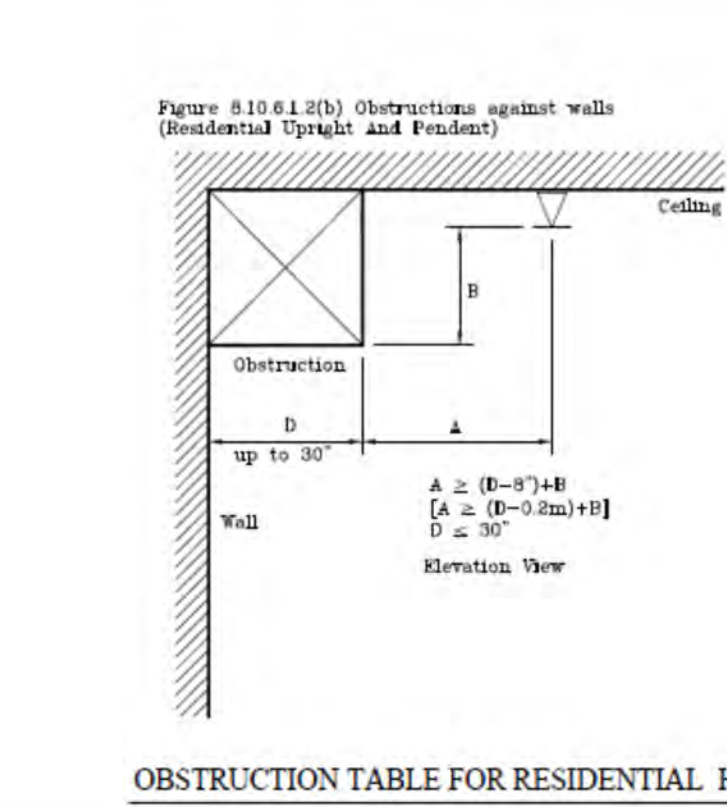


**OBSTRUCTION TABLE FOR RESIDENTIAL HEAD**

Table 9.10.6.1.2 Positioning of Sprinklers to Avoid Obstructions to Discharge (Residential Upright And Pendant)

Distance from Sprinklers to Side of Obstruction (A)	Maximum allowable Distance of Deflector above Bottom of Obstruction (in.) (B)
Less than 1 ft	0
1 ft to less than 1 ft 6 in.	0
1 ft 6 in. to less than 2 ft	1
2 ft to less than 2 ft 6 in.	1
2 ft 6 in. to less than 3 ft	1
3 ft to less than 3 ft 6 in.	3
3 ft 6 in. to less than 4 ft	3
4 ft to less than 4 ft 6 in.	5
4 ft 6 in. to less than 5 ft	7
5 ft to less than 5 ft 6 in.	7
5 ft 6 in. to less than 6 ft	7
6 ft to less than 6 ft 6 in.	9
6 ft 6 in. to less than 7 ft	11
7 ft and greater	14

For SI units, 1 in. = 25.4 mm; 1 ft. = 0.3048 m.  
 Note: For (A) and (B), refer to Figure 9.10.6.1.2(a).



**OBSTRUCTION TABLE**

OBSTRUCTIONS UNDER THE SPRINKLER NTS

**LA DBS REQUEST FOR MODIFICATION OF BUILDING ORDINANCES**  
 UNDER AUTHORITY OF L.A.M.C. SECTION 88.0403

PERMIT APP. # 21010-10000-02714 DATE: 8/29/2022 For City Dept. Use Only

JOB ADDRESS: 2853 West Blvd Block: Lot: 5780

Owner: Joaquin Ostrander Petchner: Justin Broshel

Address: Address: 6740 Hillpark Dr. #102

City: State: Zip: Phone: City: State: Zip: Phone: Los Angeles CA 90068 310 908 2910

REQUEST (SUBMIT PLANS OR ADDITIONAL SHEETS AS NECESSARY) CODE SECTIONS: 705.8

To allow water curtain at the level 1 protected openings in lieu of 25% maximum unprotected openings per LABC section 705.8

JUSTIFICATION (SUBMIT PLANS OR ADDITIONAL SHEETS AS NECESSARY)  
 In addition to providing water curtain per P/BC 2014-106 at the protected openings along the north wall of level 1, we are also providing a 6ft CMU block wall that extends the full length of both unprotected and protected openings on level 1

FOR CITY DEPARTMENT'S USE ONLY BELOW THIS LINE

CONCURRENCES REQUIRED FROM THE FOLLOWING DEPARTMENTS:

<input checked="" type="checkbox"/> Los Angeles Fire Department	Print Name: Payman Noori	Sign: Payman Noori	Approved: [ ]	Denied: [ ]
<input type="checkbox"/> Public Works Bureau of Engineering	Print Name:	Sign:	Approved: [ ]	Denied: [ ]
<input type="checkbox"/> Department of City Planning	Print Name:	Sign:	Approved: [ ]	Denied: [ ]
<input type="checkbox"/> Department of County Health	Print Name:	Sign:	Approved: [ ]	Denied: [ ]
<input type="checkbox"/> Other	Print Name:	Sign:	Approved: [ ]	Denied: [ ]

**DEPARTMENT ACTION** Rodolfo Arias  
 Approved by: (SSE) (Print) Sign: Rodolfo Arias Date: 09/12/2022

GRANTED  DENIED

**NOTE: IN CASE OF DENIAL, SEE PAGE #2 OF THIS FORM FOR APPEAL PROCEDURES**

**CONDITIONS OF APPROVAL (Continued on Page 2):**

**For Cashiers Use Only**  
 (PROCESS ONLY WHEN FEES ARE VERIFIED)

**FEES (DEPARTMENT USE ONLY)**

Appraisal Processing Fee (No. of Items) =	1X \$130 + \$26/addl =	130.00
Inspection Fee (No. of Insp.) =	X \$ 84.00 =	0.00
Research Fee (Total Hours Worked) =	X \$104.00 =	104.00
Subtotal		234.00
Development Services Center Surcharge	X 3% =	7.02
Systems Development Surcharge	X 6% =	14.04
Total Fees		255.06

Fees verified by: [Signature]

Print and Sign: Rodolfo Arias

Fee Paid: \$255.06  
 Date Paid: 09/12/2022  
 Receipt Number: 1417606  
 Modification Number: 7086

PC-Build Mod 00 (Rev. 04/15/2021) Page 1 of 2 www.ladbos.org

**INFORMATION BULLETIN / PUBLIC - BUILDING CODE**

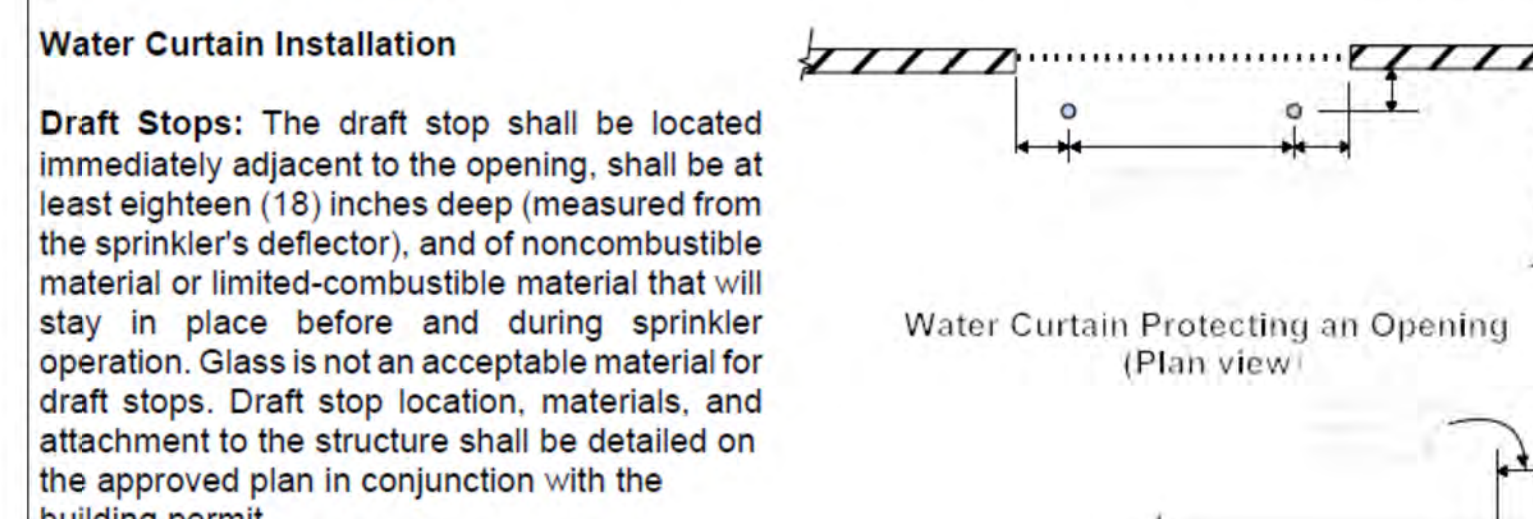
REFERENCE NO.: LABC 705.8.2 Effective: 05-22-2014

DOCUMENT NO. P/BC 2014-106 Revised: 08-11-2014

Previously Issued As: P/BC 2011-106

**WATER CURTAIN IN LIEU OF PROTECTED EXTERIOR OPENINGS**

This Information Bulletin establishes minimum requirements to install a water curtain at exterior openings of a sprinklered building per Section 705.8.2 of the 2014 Los Angeles Building Code. A water curtain is defined as a line of closely spaced sprinklers (or a single sprinkler) in combination with draft stops that are intended to retard the passage of fire through an opening.



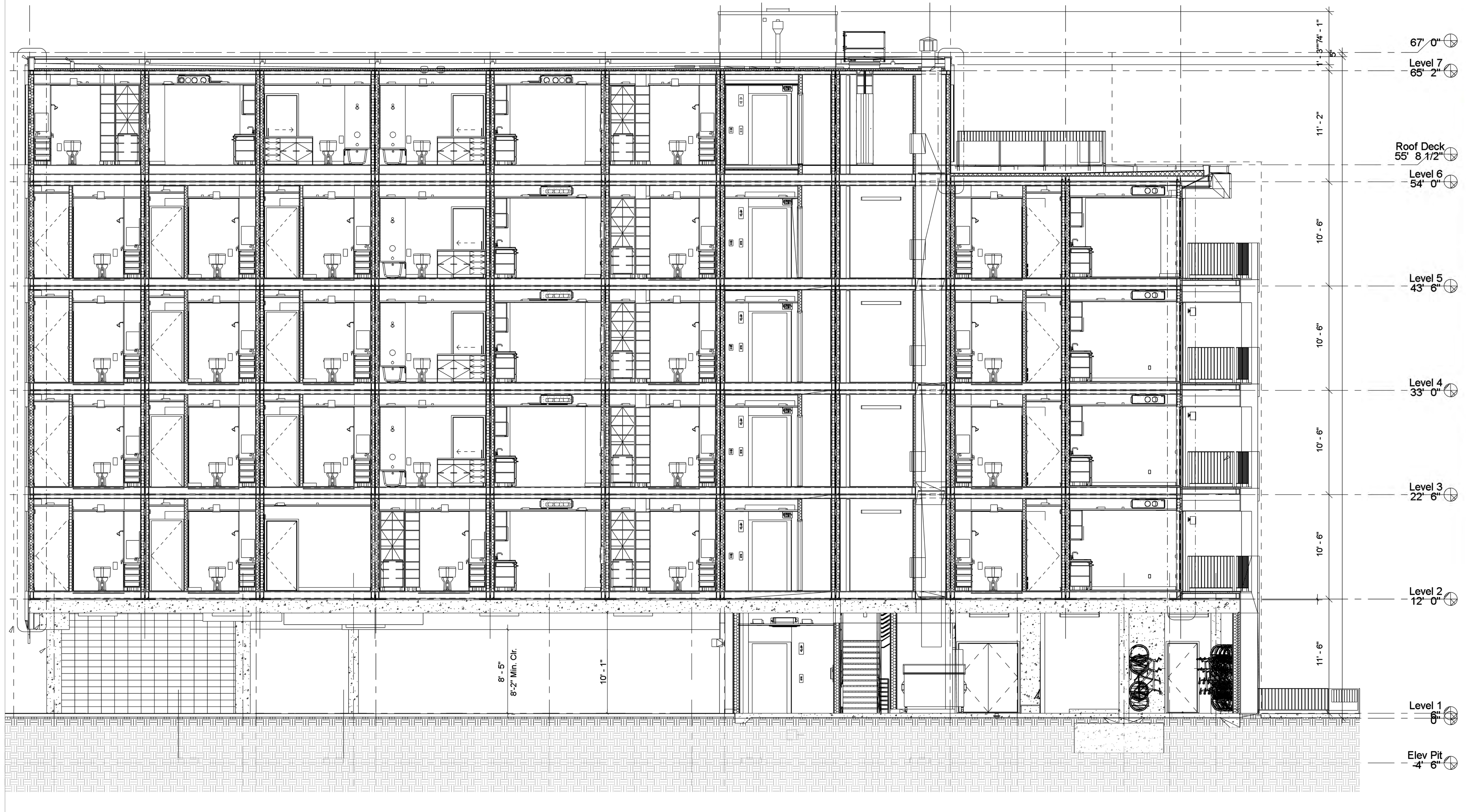
LA DBS  
 CALTECH FIRE PROTECTION  
 3745 ALTURA AVE  
 LA CRESCENTA, CA 91214  
 T. (310) 345-4117

COMMERCIAL • RESIDENTIAL • INDUSTRIAL

STAIRS SECTION, SEISMIC BRACES & DETAILS

2853 WEST - MODULAR HOUSING  
 2853 S. WEST BLVD.  
 LOS ANGELES, CA 90016

DATE: 10/23/2023  
 JOB #: XXXXX  
 SHEET NO: 09 OF 11  
 FP - 8.00



AA - BUILDING SECTION

LIC. #1069420



**CALTECH FIRE PROTECTION**  
 3745 ALTURA AVE  
 LA CRESCENTA, CA 91214  
 T. (310) 345-4117



REVISIONS:

1	XXXXXXXXXX
2	XXXXXXXXXXXXXXXXXXXX
3	

**2853 WEST - MODULAR HOUSING**  
 2853 S. WEST BLVD.  
 LOS ANGELES, CA 90016

**BUILDING SECTION**

JOB NAME: 2853 WEST - MODULAR HOUSING  
 SHEET NAME: BUILDING SECTION  
 DRAWN BY: RM  
 DATE: 10/23/2023  
 JOB #: XXXXX  
 SHEET NO: 10 OF 11  
 FP - 9.00

