

# 2838 Park Ave

2838 Park Ave  
Soquel, CA 95073

## SCOPE OF WORK

THE WORK OF THIS CONTRACT INCLUDES PROVIDING ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES NECESSARY TO, AND CONSTRUCTION OF A THREE STORY APARTMENT BUILDING WITHIN THE 'SCOPE OF WORK' AREA, AND ASSOCIATED SITE WORK FOR UTILITIES AND ACCESSIBILITY IMPROVEMENTS. THE GENERAL CONTRACTOR SHALL THOROUGHLY REVIEW THE PLANS AND SPECIFICATIONS THEMSELV AND WITH ALL TRADES AND ACCEPTS THE MATERIALS, SYSTEMS, DETAILS, AND ASSEMBLIES AS BEING CONSTRUCTIBLE AND CAN BE WARRANTED FOR A TIME PERIOD CONSISTENT WITH INDUSTRY STANDARDS UNLESS A SPECIFIC TIME PERIOD IS NOTED HEREIN.

## EARTHQUAKE PROTECTION NOTES

- EARTHQUAKE PROTECTION SHALL BE IN ACCORDANCE WITH NFPA 13, AND ALL APPLICABLE STATE AND LOCAL CODES.
- ALL PIPING USED FOR BRACES SHALL BE SCH-40 BLACK PIPE.
- LATERAL SWAY BRACING SHALL BE SPACED AT THE INTERVALS SPECIFIED BY THE SWAY BRACING CALCULATIONS UP TO A MAXIMUM OF 40 FT. ON ALL FEED AND CROSS MAINS REGARDLESS OF SIZE AND ALL BRANCH LINES AND OTHER PIPING 2 1/2" AND LARGER.
- THE DISTANCE BETWEEN THE LAST BRACE AND THE END OF THE PIPE SHALL NOT EXCEED 6 FT.
- A 4-WAY BRACE SHALL BE PROVIDED AT ALL RISERS EXCEEDING 3'-0.
- THE LAST LENGTH OF PIPE AT THE END OF A FEED OR CROSS MAIN SHALL BE PROVIDED WITH A LATERAL BRACE.
- LATERAL BRACES SHALL BE ALLOWED TO ACT AS LONGITUDINAL BRACES IF THE ARE WITHIN 24 IN. OF THE CENTER LINE OF THE PIPING BRACED LONGITUDINALLY FOR LINES 2 1/2" AND GREATER IN DIAMETER.
- WHERE FLEXIBLE COUPLINGS ARE INSTALLED ON MAINS OTHER THAN AS REQUIRED IN 9.3.2, A LATERAL BRACE SHALL BE PROVIDED WITHIN 24 IN. OF EVERY OTHER COUPLING, BUT NOT MORE THAN 40 FT. ON CENTER.
- LONGITUDINAL SWAY BRACING SHALL BE SPACED AT THE INTERVALS SPECIFIED BY THE SWAY BRACING CALCULATIONS UP TO A MAXIMUM OF 80 FT. ON CENTER SHALL BE PROVIDED FOR FEED AND CROSS MAINS.
- LONGITUDINAL BRACES SHALL BE PERMITTED TO SERVE AS LATERAL BRACES WHERE THEY ARE INSTALLED WITHIN 24 IN. OF THE PIPING THAT IS TO BE BRACED Laterally.
- WHERE BRANCHLINES ARE INDIVIDUALLY SUPPORTED BY RODS EXCEEDING 6" MEASURED BETWEEN THE TOP OF THE PIPE AND THE POINT OF ATTACHMENT TO THE BUILDING STRUCTURE, BRANCHLINES SHALL BE RESTRAINED AT INTERVALS AS SPECIFIED ON SHEET FP-D4. BRANCHLINE RESTRAINTS SHALL BE INSTALLED WITHIN 6" OF A VERTICAL HANGER.
- CLEARANCE SHALL BE PROVIDED AROUND ALL PIPING PER NFPA 13.

## GENERAL NOTES

FIRE PROTECTION SYSTEM TO COMPLY WITH NFPA 13, AND ALL APPLICABLE STATE AND LOCAL CODES.  
ALL WIRING AND MONITORING OF ALARMS AND CLEANING AND PAINTING OF PIPE IS BY OTHERS.  
PROVIDE STOCK OF EXTRA SPRINKLERS IN ACCORDANCE WITH NFPA 9.  
ALL WIRING SHALL BE ACCOMPLISHED UNDER THE ELECTRICAL CONTRACT. COORDINATE ALL ELECTRICAL ITEMS WITH THE ELECTRICAL CONTRACTOR AND INSURE PROPER COORDINATION.  
ALL DRILLING AND BORING OF HOLES SHALL BE DONE IN STRICT ACCORDANCE WITH THE STRUCTURAL ENGINEERS REQUIREMENTS. DO NOT UNDER ANY CIRCUMSTANCES CUT, MODIFY OF OTHERWISE MODIFY PRE-MANUFACTURED TRUSSES.  
PIPE ROUTING SHALL BE STRICTLY ADHERED TO AND ANY ADDITIONAL OFFSETS OR FITTINGS REQUIRED FOR PROPER INSTALLATION, COORDINATION WITH OTHER TRADES, AND/OR TO MAINTAIN PROPER CLEARANCES SHALL BE PROVIDED. VERIFY EXISTING STRUCTURAL, MECHANICAL, ELECTRICAL INSTALLATIONS AND AVOID ANY/ALL OBSTRUCTIONS OR INTERFERENCES WITH FIRE PROTECTION PIPE ROUTING.

FIRE STOP ALL PENETRATIONS OF SMOKE/FIRE WALLS, CEILINGS, FLOORS, ROOFS, ETC. FIRE STOPPING MATERIAL SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTION. ALL FIRE STOP MATERIALS SHALL LISTED AS COMPATIBLE WITH CPVC.

ACCESS PANELS TO ALL VALVES ABOVE NON-ACCESSIBLE CEILINGS AND CHASES ARE BY THE GENERAL CONTRACTOR.

SPRINKLER HEADS ARE TO BE COORDINATED WITH ALL EXISTING/NEW DIFFUSERS, SPEAKERS, LIGHTING FIXTURES AND CEILING SYSTEMS WHERE POSSIBLE WITHOUT ADDING ADDITIONAL SPRINKLERS.

VERIFY FINISH CEILING ELEVATION PRIOR TO INSTALLATION OF SPRINKLER HEADS.

VERIFY LOCATION AND SIZE OF ALL OBSTRUCTIONS, LIGHT FIXTURES, CABINETS, HEAT SOURCES, SOFFITS, ETC...

METHODS OF HANGING PIPES, HEADERS AND BRANCHLINES SHALL BE IN ACCORDANCE WITH NFPA 13 AND THE HANGER CHART.

AUTOMATIC SPRINKLER TEMPERATURE RATINGS OF FUSIBLE ELEMENTS TO BE IN ACCORDANCE WITH NFPA 13.

ALL MATERIALS AND DEVICES TO BE U.L. LISTED AND/OR FM APPROVED. ALL DEVICES SHALL BE NEW AND FREE OF DEFECTS.

ALL SYSTEMS SHALL BE HYDROSTATICALLY TESTED AT 200 PSI FOR 2 HOURS.

PROVIDE A PERMANENTLY ATTACHED PLACARD / SIGNAGE STATING THE REQUIRED DESIGN CRITERIA FOR EACH HYDRAULICALLY DESIGNED SYSTEM.

SYSTEM PIPING TO BE OF STEEL PIPE AND IRON FITTINGS MEETING THE CRITERIA OF ASTM AND NFPA 13.  
A: ALL THREADED PIPE TO BE EDDY THREAD 40 OR APPROVED EQUAL.  
B: ALL 4" AND SMALLER GROOVED PIPE TO BE EDDY FLOW OR APPROVED EQUAL.  
C: ALL 6" AND LARGER GROOVED PIPE TO BE SCHEDULE 10.  
D: CPVC PIPE AND FITTINGS MAY BE UTILIZED PURSUANT TO MANUFACTURERS LISTING.

UNDERGROUND FIRE SERVICE SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 24 AND THE LOCAL AUTHORITY HAVING JURISDICTION (BY OTHERS).

HAZARDOUS MATERIAL SHALL BE PLACED IN A SECURE (LOCKED) AREA AT THE COMPLETION OF EACH WORK DAY.

ALL WORK SHALL BE INSTALLED IN A SAFE AND WORKMANLIKE MANNER. REPORT ANY UNSAFE ACTIVITY OR JOB-SITE HAZARD TO YOUR SUPERVISOR IMMEDIATELY.

REPORT ALL INJURIES REQUIRING MEDICAL ATTENTION THE SAME BUSINESS DAY IN WHICH THEY OCCUR.

SPRINKLER PIPE SIZING SHALL BE ESTABLISHED BY HYDRAULIC CALCULATIONS.

CONTRACTOR IS RESPONSIBLE FOR THE PROPER DESIGN AND INSTALLATION OF THE FIRE SPRINKLER SYSTEM, INCLUDING COORDINATION OF THE WORK OF OTHER TRADES.

## BUILDING RENDER



## PLANS NOTE

THESE PLANS CONFORM TO THE CONTRACT DOCUMENTS WHICH INCLUDE THE OWNER/CONTRACTOR AGREEMENT, THE DRAWINGS, AND ALL ADDENDA AND MODIFICATIONS ISSUED BY THE ARCHITECT PRIOR TO [REDACTED]

## SCOPE OF WORK

WORK SHALL BEGIN AT THE FLANGE LOCATED APPROXIMATELY 1'-0 A.F.F. ALL SUPERVISION, LABOR, EQUIPMENT, SUPPLIES, MATERIALS NECESSARY TO PROVIDE A COMPLETE FIRE SPRINKLER SYSTEM FOR THE PROJECT. THIS EXCLUDES THE FIRE PROTECTION BACKFLOW PREVENTER, AND THE REQUIRED FIRE DEPARTMENT CONNECTIONS.

## APPLICABLE CODES

- ALL NEW CONSTRUCTION SHALL COMPLY WITH 2019 CALIFORNIA BUILDING CODE
- ALL NEW MECHANICAL WORK SHALL COMPLY WITH 2019 CALIFORNIA MECHANICAL CODE
- ALL NEW PLUMBING WORK SHALL COMPLY WITH 2019 CALIFORNIA PLUMBING CODE
- ALL NEW ELECTRICAL WORK SHALL COMPLY WITH 2019 CALIFORNIA ELECTRICAL CODE
- ALL NEW CONSTRUCTION SHALL COMPLY WITH 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE
- ALL NEW CONSTRUCTION SHALL COMPLY WITH 2019 CALIFORNIA ENERGY CODE
- ALL NEW CONSTRUCTION SHALL COMPLY WITH 2019 CALIFORNIA TITLE 8 ELEVATOR SAFETY ORDERS
- ALL NEW CONSTRUCTION SHALL COMPLY WITH CALIFORNIA DISABLED ACCESS REQUIREMENTS
- ALL NEW CONSTRUCTION SHALL COMPLY WITH 2019 CALIFORNIA FIRE CODE AND ALL APPLICABLE 2021 NFPA CODES, SUCH AS:
  - 2016 NFPA 13-FIRE SPRINKLERS
  - 2016 NFPA 72-FIRE ALARM SYSTEM
  - 2016 NFPA 14-STANDPIPES
  - 2016 NFPA 24-UNDERGROUND
  - 2016 NFPA 20-FIRE PUMP

## STANDPIPE NOTES

- STANDPIPE SYSTEM TO COMPLY WITH NFPA 14, AND ALL APPLICABLE STATE AND LOCAL CODES.
- ALL HOSE CONNECTIONS SHALL BE 2 1/2".
- ALL HOSE VALVES SHALL BE LISTED AND EQUIPPED WITH CAPS TO PROTECT THE HOSE THREADS.
- PRESSURE GAUGES SHALL BE INSTALLED ABOVE AND BELOW EACH ALARM CHECK VALVE, DRY PIPE VALVE, DELUGE VALVE, BACKFLOW PREVENTER, OR SYSTEM RISER CHECK VALVE WHERE SUCH DEVICES ARE PRESENT.
- PRESSURE GAUGES SHALL BE INSTALLED ON THE UPSTREAM AND THE DOWNSTREAM SIDES OF EVERY PRESSURE-REGULATING DEVICE INSTALLED IN ACCORDANCE WITH 7.2.4(6).
- EACH FIRE DEPARTMENT CONNECTION SHALL BE DESIGNATED BY A SIGN, WITH LETTERS AT LEAST 1 IN. IN HEIGHT, THAT READS "STANDPIPE." FOR MANUAL SYSTEMS, THE SIGN SHALL ALSO INDICATE THAT THE SYSTEM IS MANUAL AND THAT IT IS EITHER WET OR DRY.
- IF AUTOMATIC SPRINKLERS ARE ALSO SUPPLIED BY THE FIRE DEPARTMENT CONNECTION, THE SIGN OR COMBINATION OF SIGNS SHALL INDICATE BOTH DESIGNATED SERVICES.

## FIRE SPRINKLER NOTES

- MAX. SPRINKLER SPACING FOR STANDARD SPRAY UPRIGHT & PENDENT SPRINKLERS IS 15', 225 FT² FOR LIGHT HAZARD.
- MAX. SPRINKLER SPACING FOR STANDARD SPRAY UPRIGHT & PENDENT SPRINKLERS IS 15', 130 FT² FOR ORDINARY HAZARD.
- MAX. SPRINKLER SPACING FOR RESIDENTIAL PENDENT SPRINKLERS IS 20' WITHIN RESIDENTIAL AREAS. (UNO)
- STANDARD SPRAY UPRIGHT & PENDENT SPRINKLER DEFLECTORS SHALL BE LOCATED BETWEEN 1" & 6" BELOW STRUCTURAL MEMBERS FOR OBSTRUCTED CONSTRUCTION.
- STANDARD SPRAY UPRIGHT & PENDENT SPRINKLER DEFLECTORS SHALL BE LOCATED BETWEEN 1" & 12" BELOW FINISH CEILING FOR UNOBSTRUCTED CONSTRUCTION.
- RESIDENTIAL PENDENT SPRINKLER DEFLECTORS SHALL BE LOCATED BETWEEN 1.25" & 4" BELOW FINISH CEILING FOR UNOBSTRUCTED CONSTRUCTION.
- STANDARD SPRAY UPRIGHT, PENDENT, AND SIDEWALL SPRINKLERS SHALL BE INSTALLED IN ACCORDANCE WITH THE OBSTRUCTIONS RULES OF NFPA 13, 8.6.5 & 8.7.5.
- RESIDENTIAL PENDENT SPRINKLERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS GUIDELINES, AND THE OBSTRUCTIONS RULES OF NFPA 13, 8.10.6.
- SPRINKLERS SHALL BE PERMITTED TO BE OMITTED FROM CEILING POCKETS WHERE THE REQUIREMENTS OF NFPA 13, 8.6.7.2 ARE MET.

## PROJECT TEAM

DEVELOPER: NOVIN DEVELOPMENT  
1990 N. CALIFORNIA BLVD, STE 800  
WALNUT CREEK, CA 94596  
T: [REDACTED]  
IMAN NOVIN

NOVIN INVESTMENTS  
30 WEST BEACH STREET #105,  
WATSONVILLE, CALIFORNIA 95076  
T: [REDACTED]  
ABE NOVIN

ARCHITECT: MBH ARCHITECTS  
960 ATLANTIC AVE  
ALAMEDA, CA 94501  
T: [REDACTED]  
TIM HALEY

MODULAR MANUFACTURER: FACTORY OS  
BUILDING 680, 1245 NIMITZ AVE  
VALLEJO, CA 94592 T: [REDACTED]  
JEANNA ROHRENBACH

CIVIL ENGINEER: IFLAND ENGINEERS  
5300 SOQUEL AVE, SUITE 101  
SANTA CRUZ, CA 95062  
T: [REDACTED]  
JIM IFLAND

STANDARD SYMBOLS	STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	PLAN REVIEW STAMP	REVISION
(#) - HYDRAULIC NODE POINT	[Globe] - GLOBE UMC RISER	[Red Star] - RESIDENTIAL PENDENT		DESCRIPTION
[Red Line] - FIRE DEPT. CONNECTION	[Butterfly] - BUTTERFLY VALVE	[Red Circle] - EXTENDED COVERAGE PENDENT		BY
[Red Line] - CPVC FP PIPING	[Check] - CHECK VALVE	[Red Circle] - UPRIGHT		
[Red Line] - STEEL FP PIPING	[OS&Y] - OS&Y VALVE	[Red Circle] - SEMI-RECESSED PENDENT		
[Red Line] - UNDERGROUND PIPING	[Backflow] - BACKFLOW PREVENTER	[Red Circle] - CONCEALED PENDENT		
		[Red Circle] - DRY PENDENT		
		[Red Circle] - HORIZONTAL SIDEWALL		
		[Red Circle] - VERTICAL SIDEWALL		

## COVER SHEET

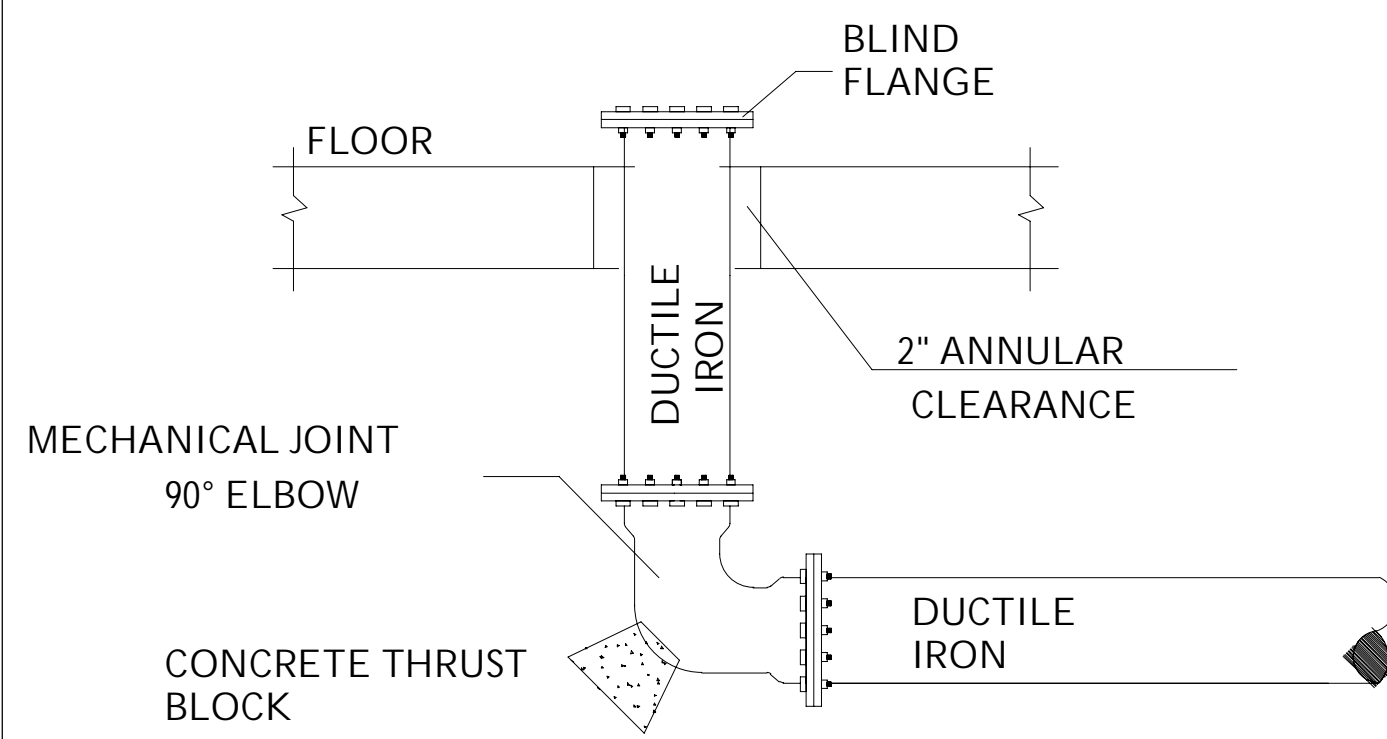


DESIGNED BY: Gerald W. Ebeling	SCALE:
CHECKED BY: CHK	DESIGNED BY: Gerald W. Ebeling
CONTRACT NO: 2226	CHECKED BY: CHK
DATE: 10/16/13 AM	CONTRACT NO: 2226
DRAWING NO: FPO	DATE: 10/16/13 AM

File Path: C:\Users\Admin\Dropbox\3D FIRE PROJECTS\FireCURRENT PROJECTS\0838 Park Avenue\2838 PARK AVE FP PLAN R22.rvt

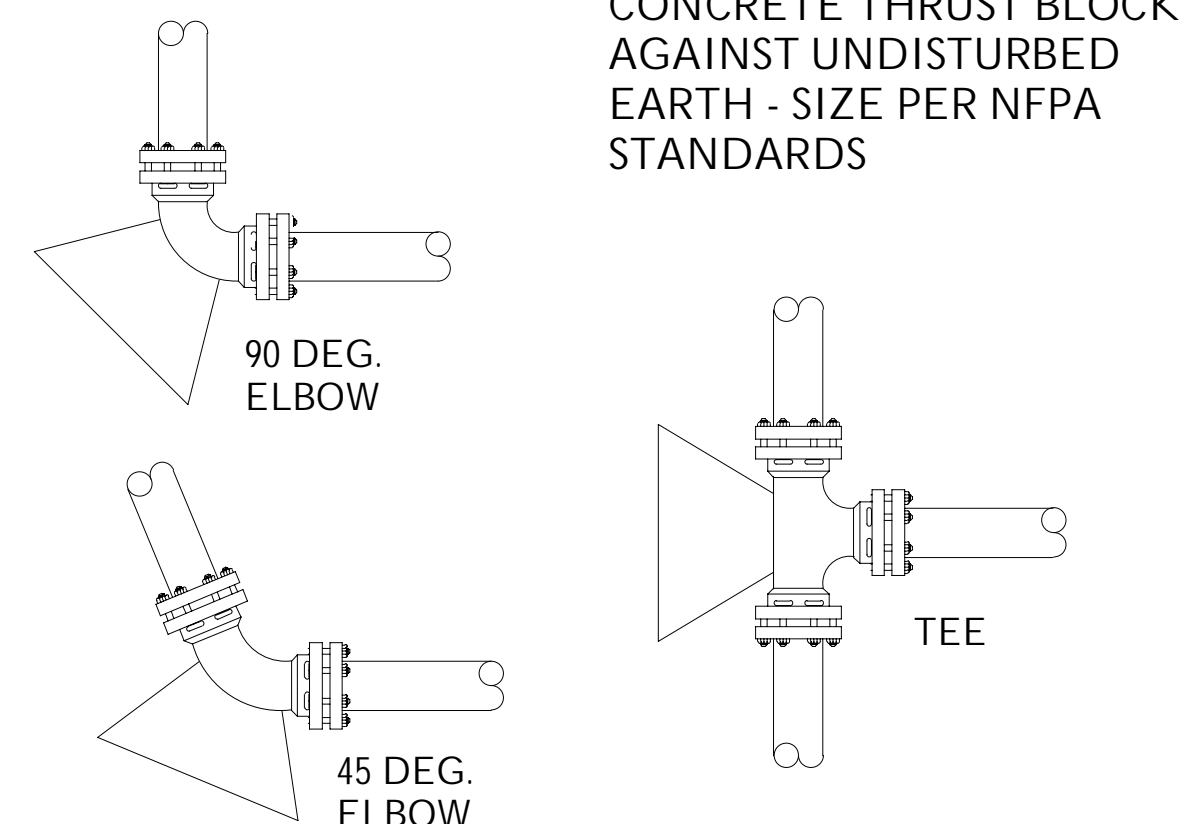


**BASE OF RISER DETAIL**



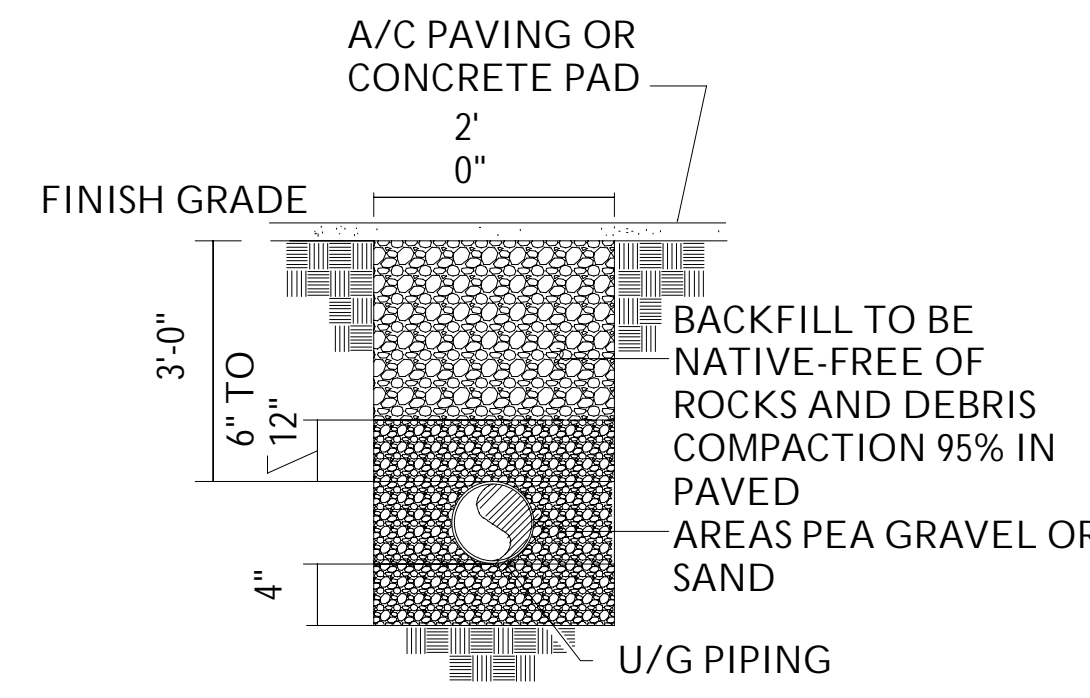
N.T.S.

**THRUST BLOCK DETAIL**



N.T.S.

**TRENCH DETAIL**



N.T.S.

**UNDERGROUND INSTALLATION NOTES**

1. UNDERGROUND TO BE INSTALLED PER NFPA 13, 2016, NFPA 24, 2016 AND THE REQUIREMENTS OF THE LOCAL FIRE DEPARTMENT.
2. ALL PORTIONS OF THE UNDERGROUND MAIN SHALL BE PVC C900.
3. A HYDROSTATIC PRESSURE TEST AT 200 PSI FOR 2 HOURS SHALL BE CONDUCTED BEFORE JOINTS ARE COVERED.
4. THE UNDERGROUND PIPING SHALL BE FLUSHED PRIOR TO SYSTEM TIE IN. FLUSH TO BE WITNESSED BY THE FD.
5. ALL METALLIC PIPE AND FITTINGS SHALL BE EPOXY COATED, POLYETHYLENE ENCASED. ALL BOLTS, NUTS, TIE RODS, ETC. FOR ALL PORTIONS OF THE UNDERGROUND MAINS SHALL BE 316 STAINLESS STEEL.
6. ALL PIPE FITTINGS AND TRANSITIONS TO HAVE APPROVED THRUST BLOCKS MEETING ALL APPLICABLE CODES.
7. PIPE AND FITTINGS TO BE CLASS 200 MINIMUM AND TO BE UL LISTED FOR FIRE SERVICE.
8. MINIMUM PIPE BURY TO BE 36\"/>

**UNDERGROUND NOTES**

1. SYSTEM TO BE INSTALLED, TESTED, AND FLUSHED PER NFPA 13 STANDARDS AND LOCAL REQUIREMENTS.
2. UNDERGROUND PIPING TO BE HYDROSTATICALLY TESTED AT 200 PSI FOR 2 HOURS.
3. NUTS, BOLTS, RODS, WASHERS, CLAMPS, AND OTHER RESTRAINING DEVICES ON ALL UNDERGROUND PIPING ARE TO BE COATED WITH BITUMINOUS OR OTHER APPROVED CORROSION RETARDING MATERIAL.
4. BEFORE BACKFILLING A COVER INSPECTION IS REQUIRED ON ALL UNDERGROUND PIPING AS PER LOCAL AHJ REQUIREMENTS.
5. UNDERGROUND PIPING TO HAVE A MINIMUM OF 4'-6\"/>

**UNDERGROUND INSTALLED BY OTHERS  
THIS PLAN PROVIDED FOR REFERENCE  
AND HYDRAULIC CALCULATIONS ONLY**

**THRUST BLOCK SCHEDULE**

**MINIMUM BEARING AREAS (SQ. FT.)  
FOR HORIZONTAL THRUST BLOCKS**

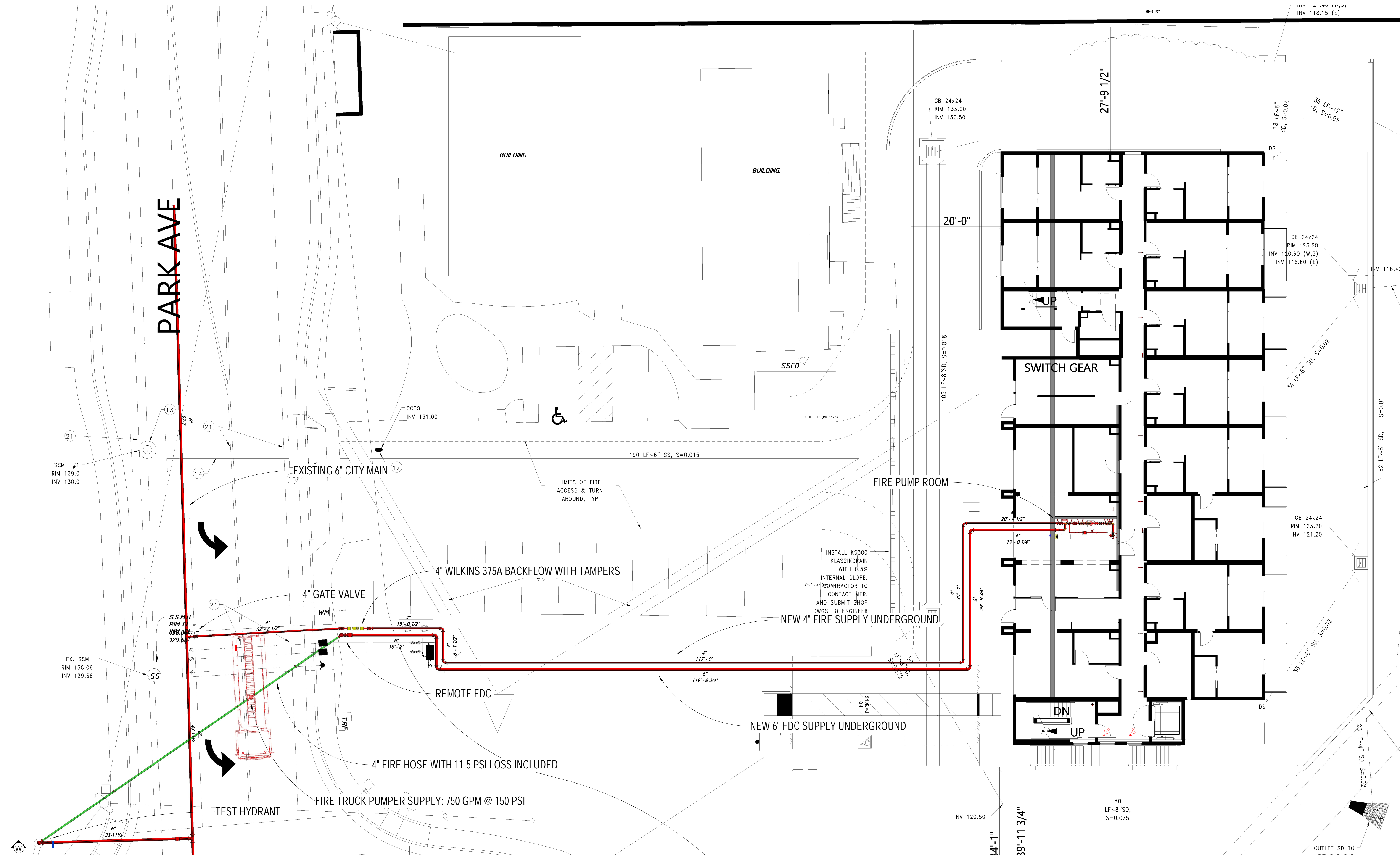
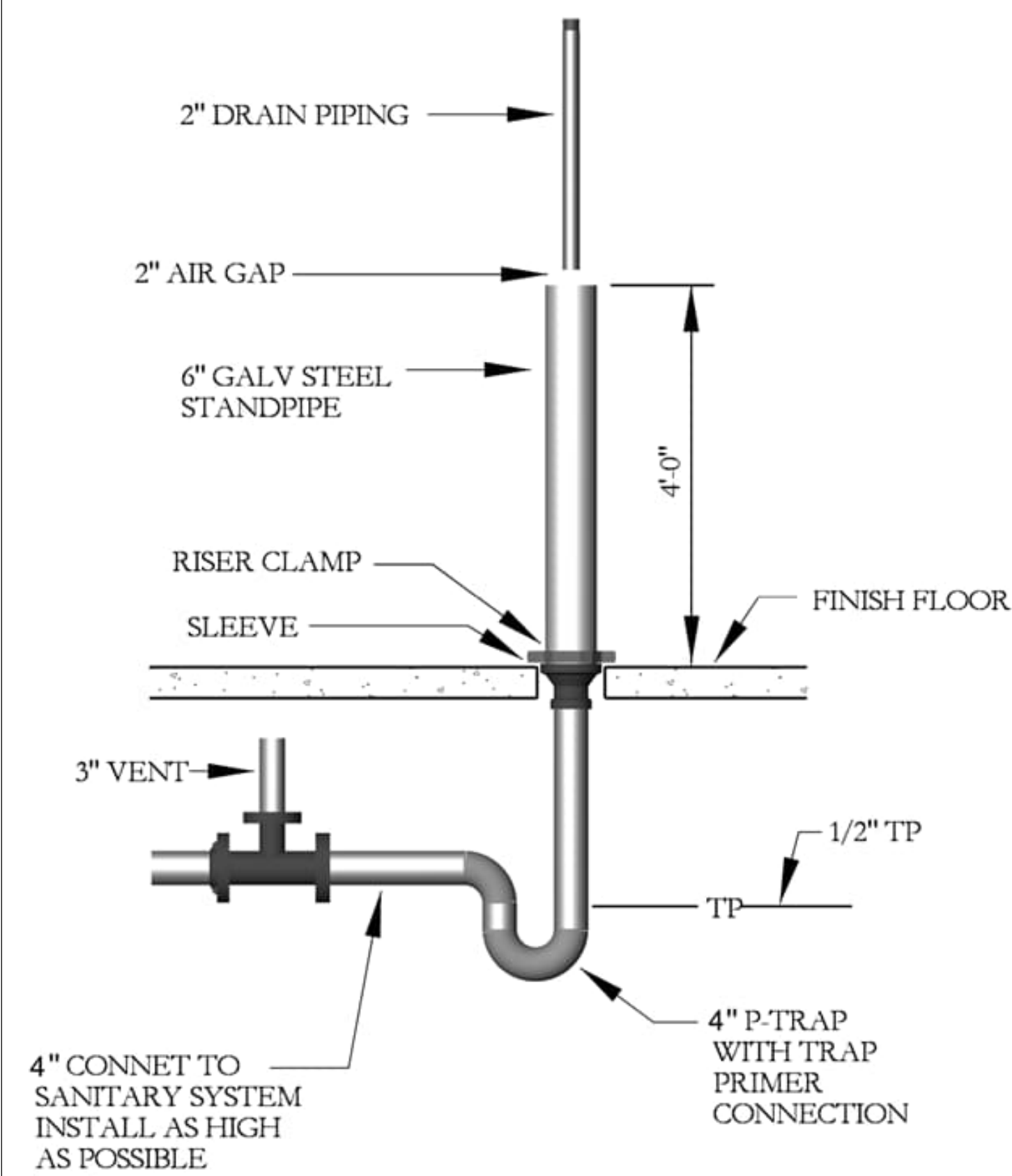
PIPE SIZE	BEND	PRESSURE 200 P.S.I. TYPE OF SOIL CONDITION						
		A	B	C	D	E	F	G
4\"/>								

TYPE OF SOIL CONDITION	LATERAL BEARING PRESSURE
A: SOFT CLAY; FINE LOOSE SAND	500 LBS. PER SQ. FT.
B: SAND & CLAY; MIXED OR IN LAYERS; FINE	1000
C: HARD DRY CLAY	1500
D: COARSE SAND	2000
E: GRAVEL	3000
F: SOFT ROCK	4000
G: HARDPAN	5000

NOTE:  
ACTUAL FIELD CONDITIONS ARE TO BE VERIFIED DURING INSTALLATION.

N.T.S.

**HUB DRAIN DETAIL**



**NOTE: ALL UNDERGROUND BY OTHERS - SHOWN FOR HYDRAULIC CALCULATIONS ONLY**

**SITE PLAN**

STANDARD SYMBOLS	STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	PLAN REVIEW STAMP	REVISION
(#) - HYDRAULIC NODE POINT	(Globe) - GLOBE UMC RISER	(Pendent) - RESIDENTIAL PENDENT	[Stamp]	DESCRIPTION
(Fire Dept. Symbol) - FIRE DEPT. CONNECTION	(Butterfly) - BUTTERFLY VALVE	(Extended) - EXTENDED COVERAGE PENDENT		BY
(C-PVC) - CPVC FP PIPING	(Check) - CHECK VALVE	(Upright) - UPRIGHT		
(Steel) - STEEL FP PIPING	(OS&Y) - OS&Y VALVE	(Semi-Recessed) - SEMI-RECESSED PENDENT		
(Underground) - UNDERGROUND PIPING	(Preventer) - BACKFLOW PREVENTER	(Concealed) - CONCEALED PENDENT		
		(Dry) - DRY PENDENT		
		(Horizontal) - HORIZONTAL SIDEWALL		
		(Vertical) - VERTICAL SIDEWALL		

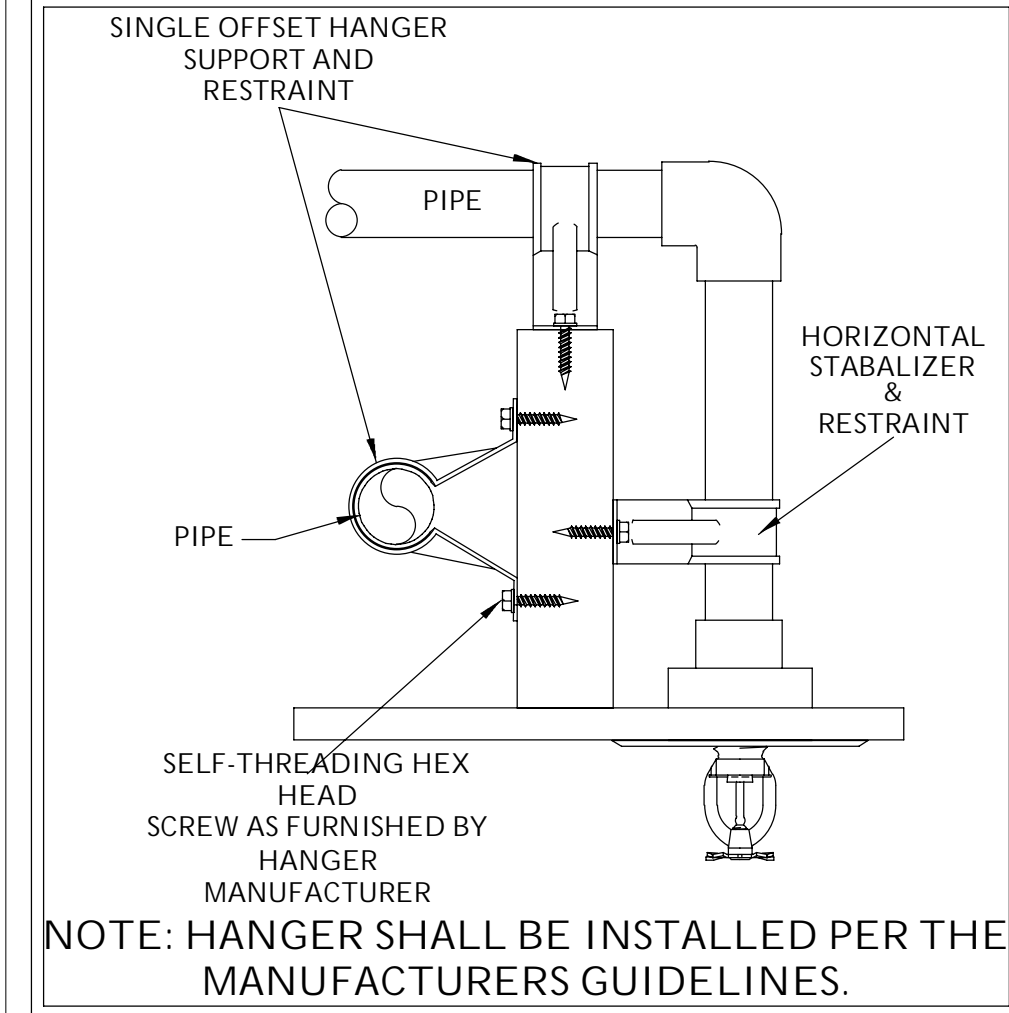
DESIGNED BY:

SCALE:  
1" = 10'-0"  
 DESIGNED BY:  
Gerald W. Ebeling  
 CHECKED BY:  
CHK  
 CONTRACT NO:  
2226  
 DATE:  
10/16/25 AM  
 DRAWING NO.  
FP1

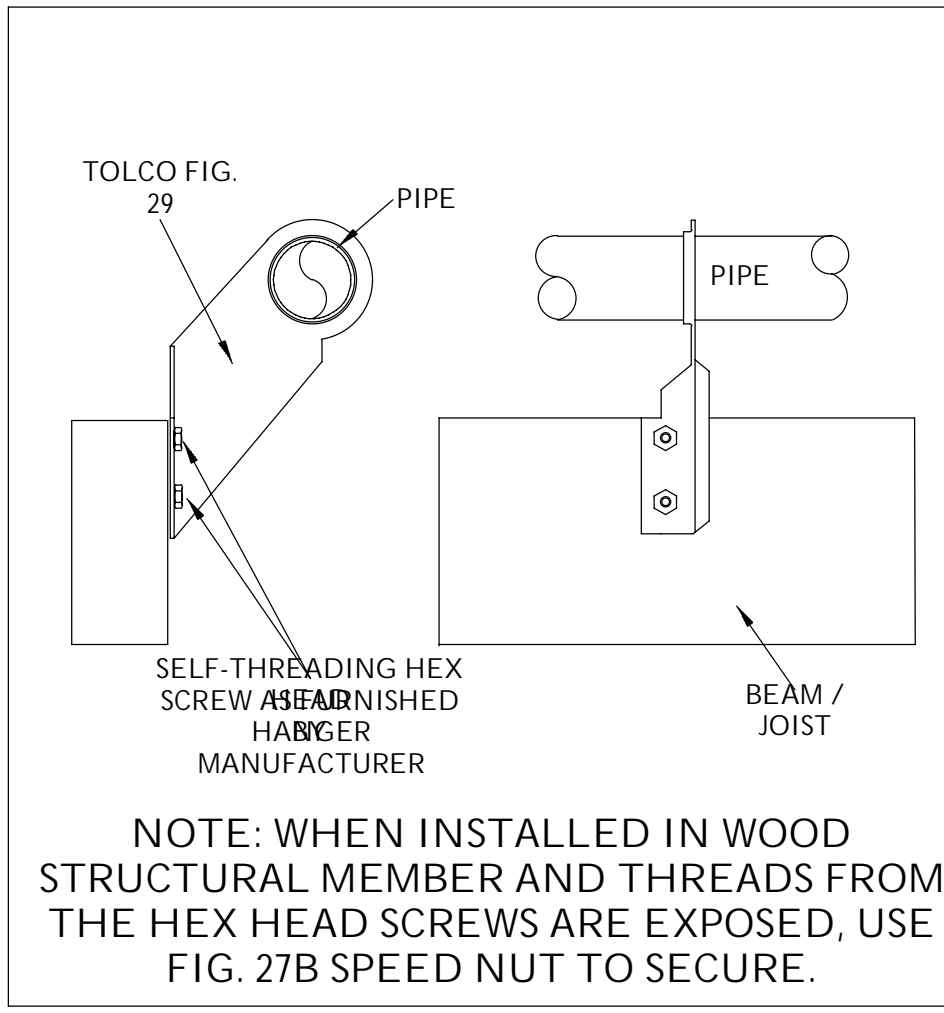
File Path: C:\Users\Admin\Dropbox\3D FIRE PROJECTS\19 CURRENT PROJECTS\0838 Park Avenue\2538 PARK AVE FP PLAN R22.rvt



**SINGLE OFFSET HANGER**



**TOLCO FIG. 29**



**HANGER CHART**

**TABLE 9.1.2.1 HANGER ROD SIZE**

PIPE SIZE UP TO AND INCLUDING 4"	DIAM. OF ROD 3/8"	PIPE SIZE 6" AND 8"	DIAM. OF ROD 1/2"
36" FOR 1"	ANY LENGTH GREATER THAN: 36" FOR 1"	ANY LENGTH GREATER THAN: 48" FOR 1 1/4"	ANY LENGTH GREATER THAN: 60" FOR 1 1/2" OR LARGER 9" FOR CPVC PIPE
48" FOR 1 1/4"	ANY LENGTH GREATER THAN: 48" FOR 1 1/4"	ANY LENGTH GREATER THAN: 60" FOR 1 1/2" OR LARGER 9" FOR CPVC PIPE	ANY LENGTH GREATER THAN: 60" FOR 1 1/2" OR LARGER 9" FOR CPVC PIPE
60" FOR 1 1/2"	ANY LENGTH GREATER THAN: 60" FOR 1 1/2" OR LARGER 9" FOR CPVC PIPE	ANY LENGTH GREATER THAN: 60" FOR 1 1/2" OR LARGER 9" FOR CPVC PIPE	ANY LENGTH GREATER THAN: 60" FOR 1 1/2" OR LARGER 9" FOR CPVC PIPE

**FIG. A9.2.3.4 DISTANCE FROM SPRINKLER TO HANGER**

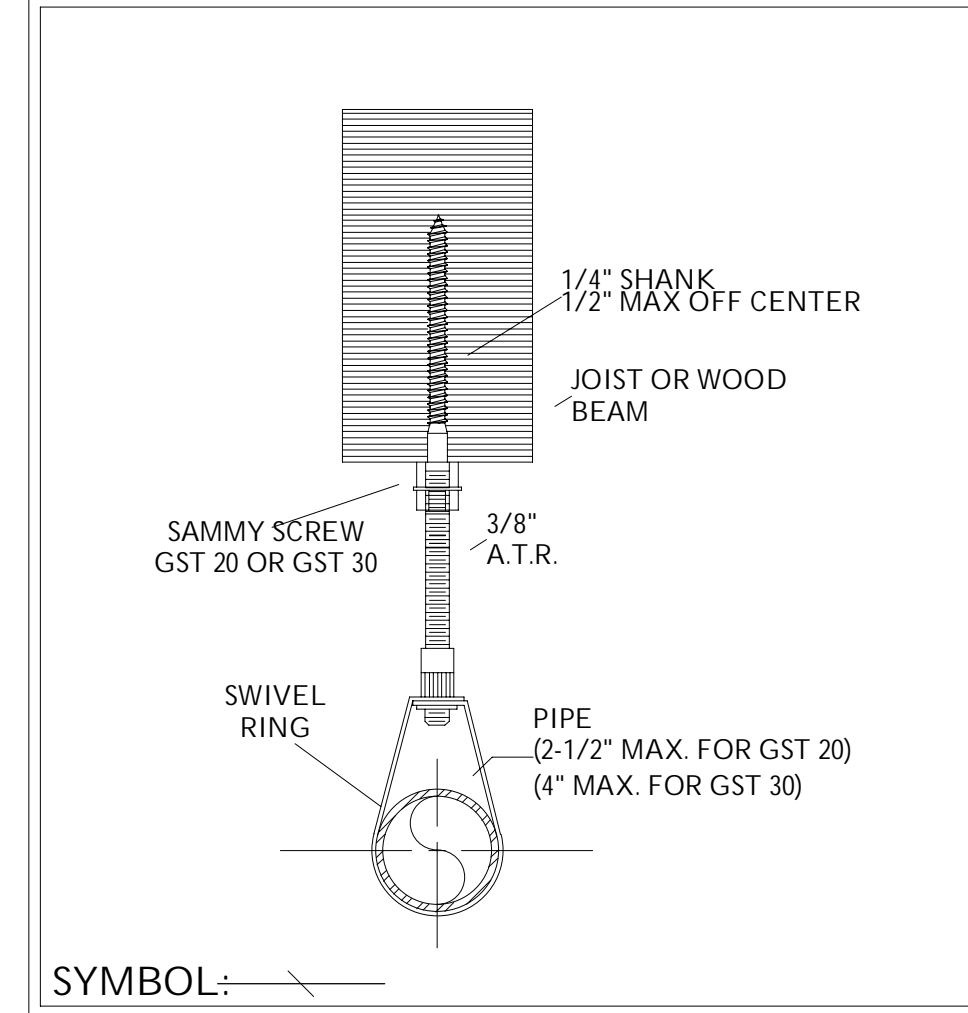
**FIG. A9.2.3.4.4 DIST. FROM SPRINKLER TO HANGER >100 P.S.I.**

**FIG. A9.2.3.5 UNSUPPORTED ARMORER**

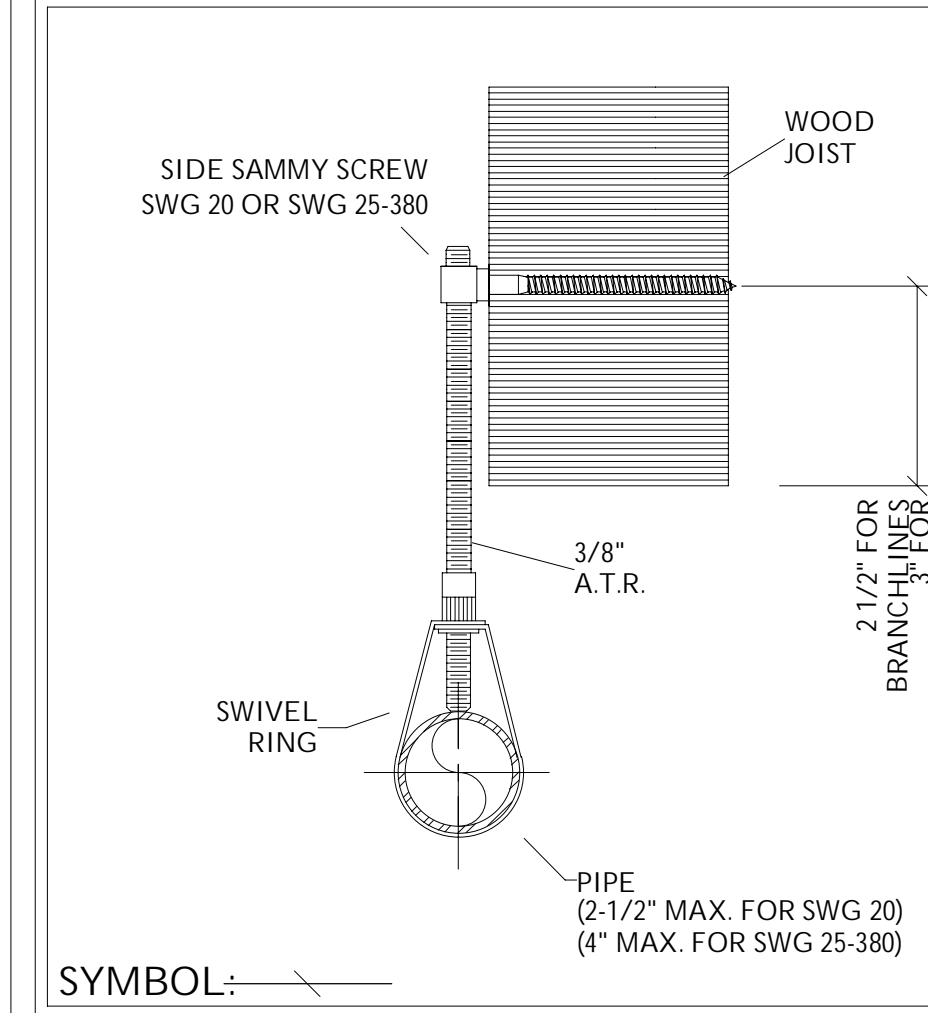
**FIG. A9.2.3.5.2 UNSUPPORTED ARMORER >100 P.S.I.**

SCALE: N.T.S.

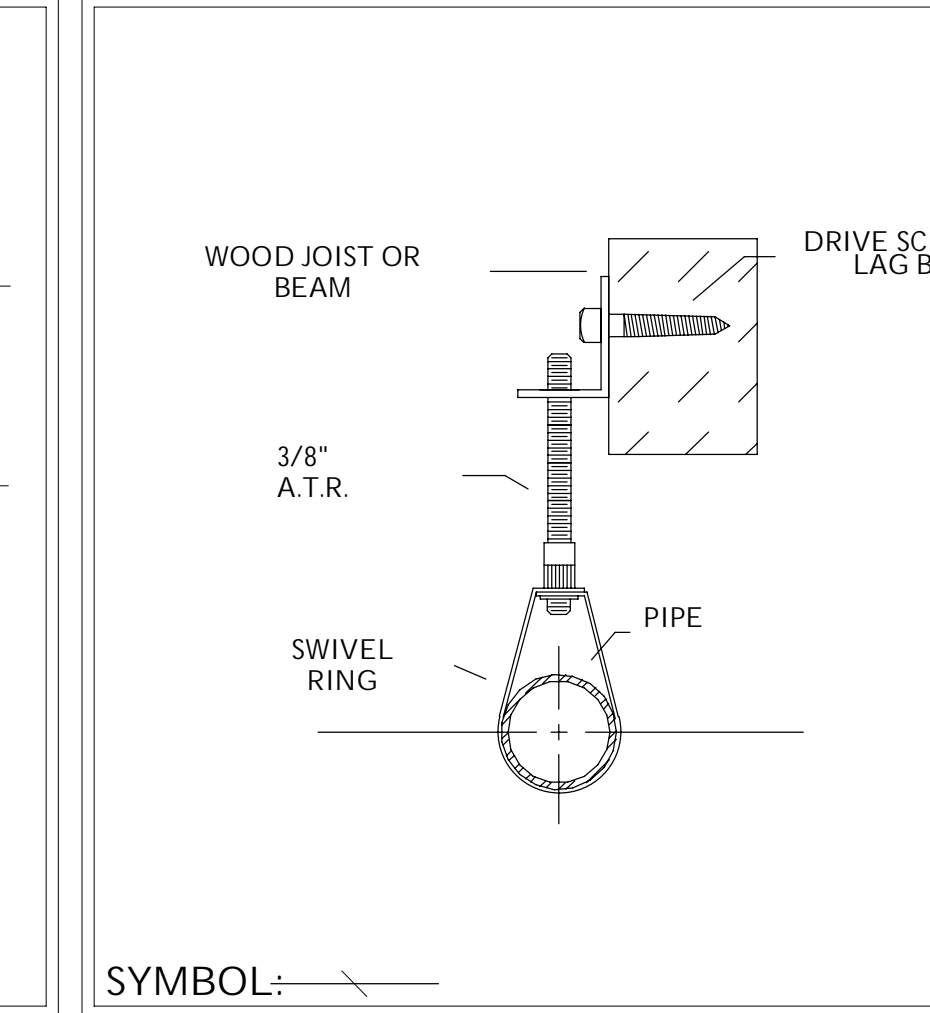
**BOTTOM SAMMY SCREW**



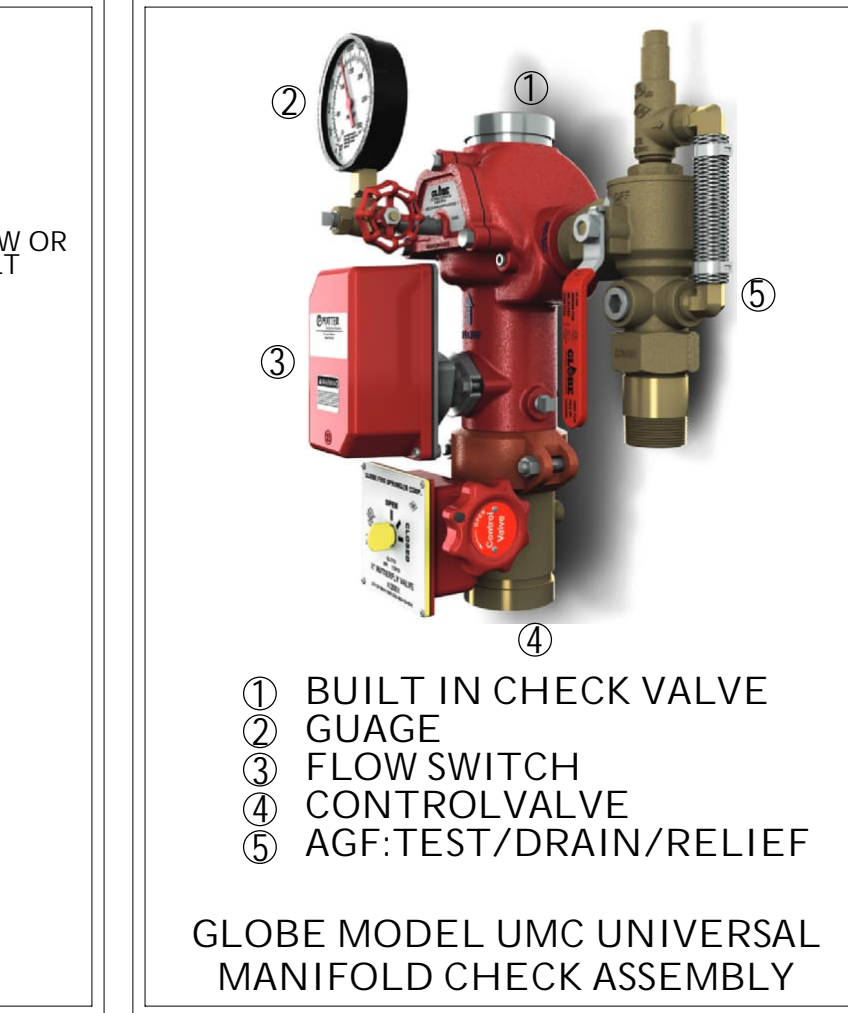
**SIDE SAMMY SCREW**



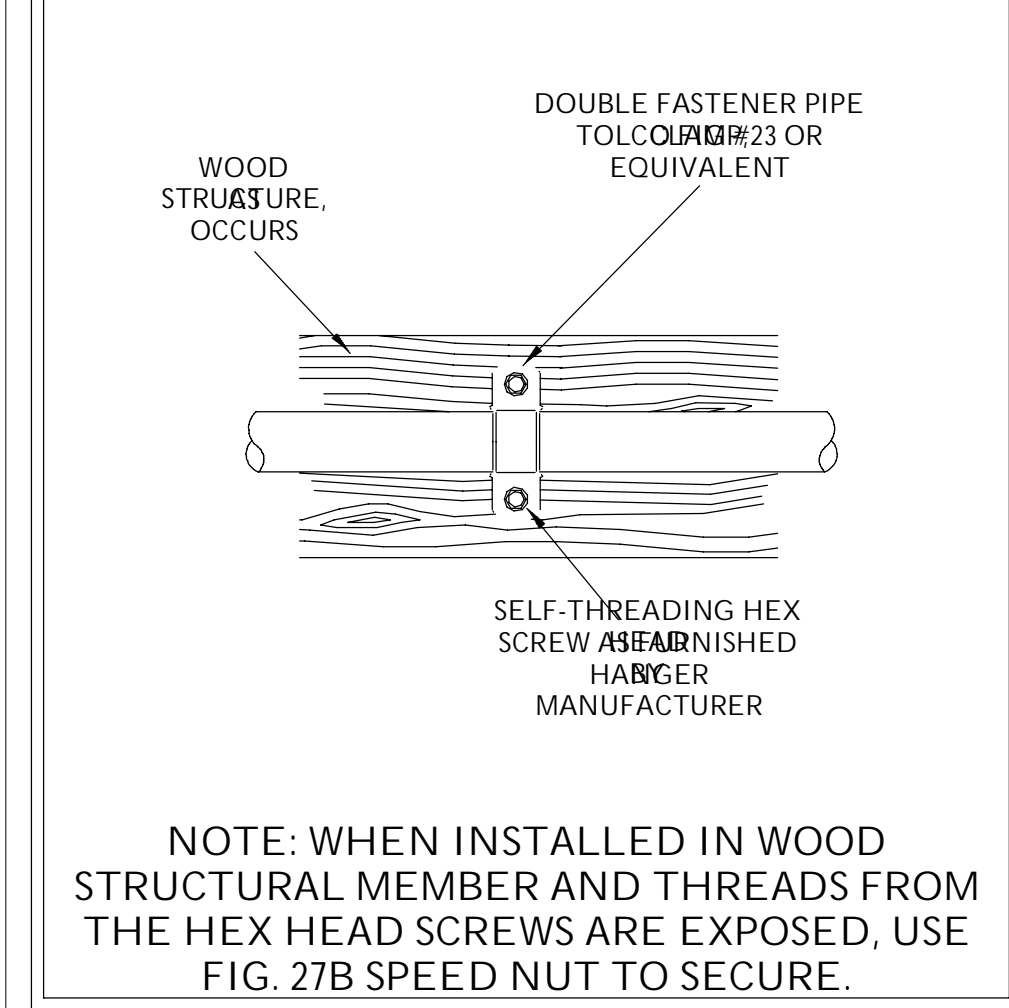
**SIDE BEAMCONNECTOR**



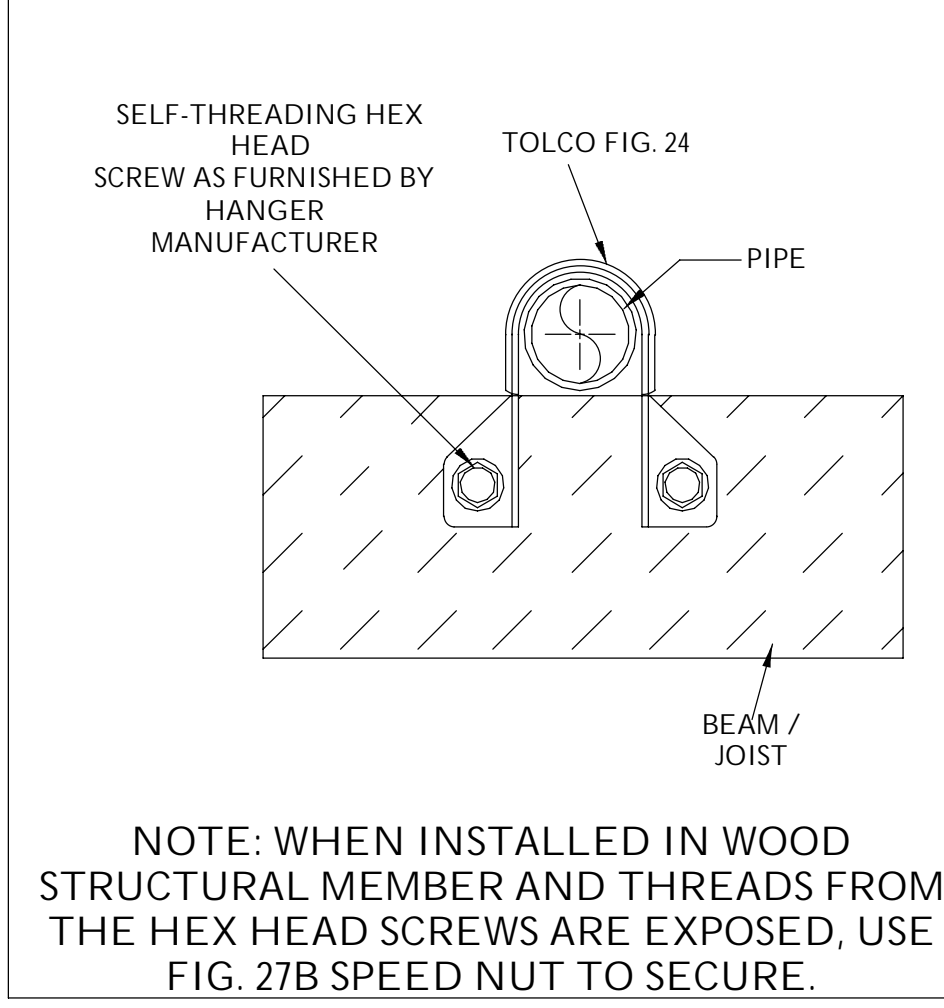
**GLOBE UMC RISER**



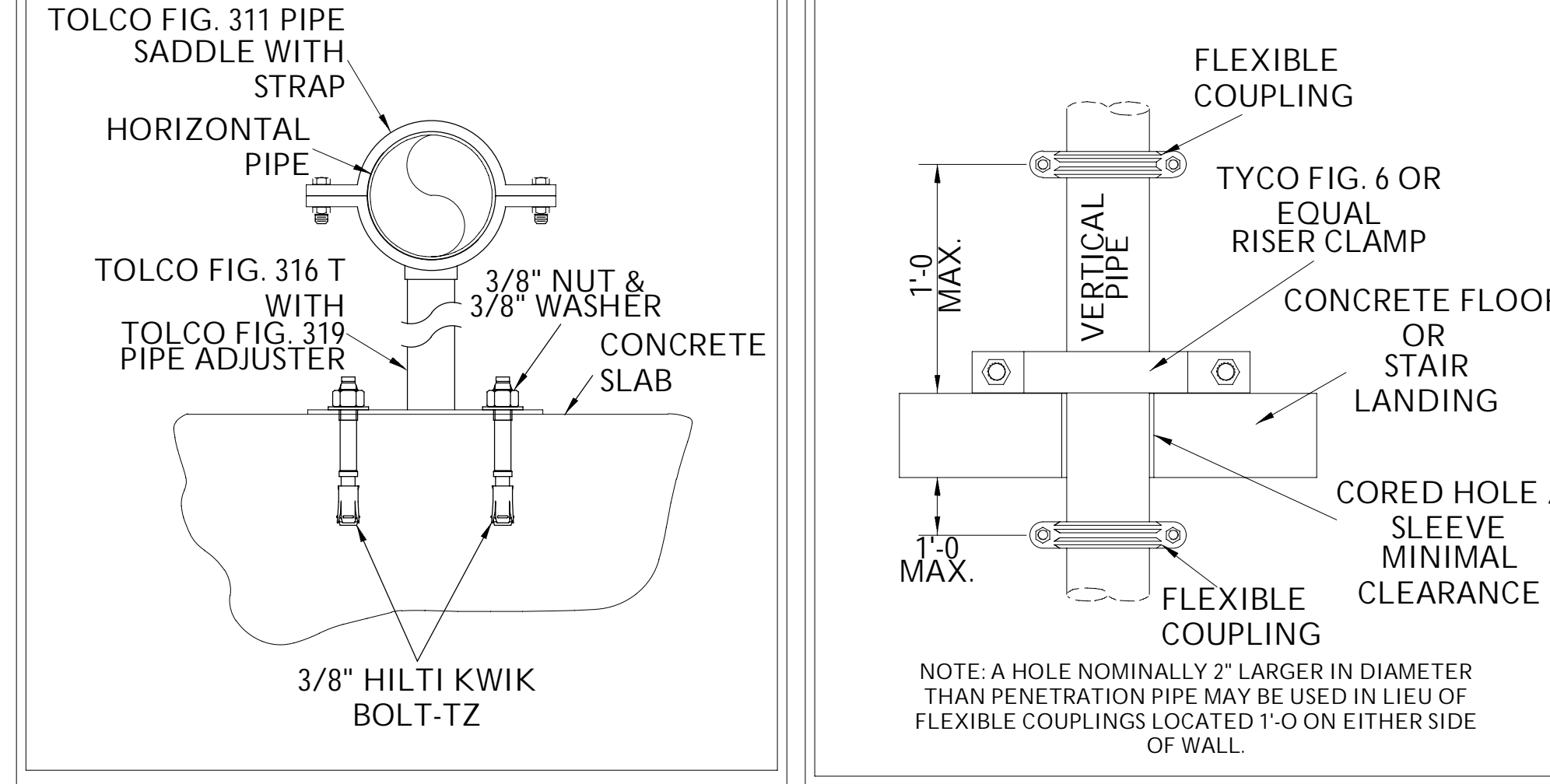
**TOLCO FIG. 23**



**TOLCO FIG. 24**



**ADJUSTABLE PIPE STAND VERTICAL PIPE HANGER**



**COUPLING NOTE**

ALL COUPLINGS TO BE RIGID EXCEPT WHEREWHERE REQUIRED BY NFPA 13: TO BE FLEXIBLE:

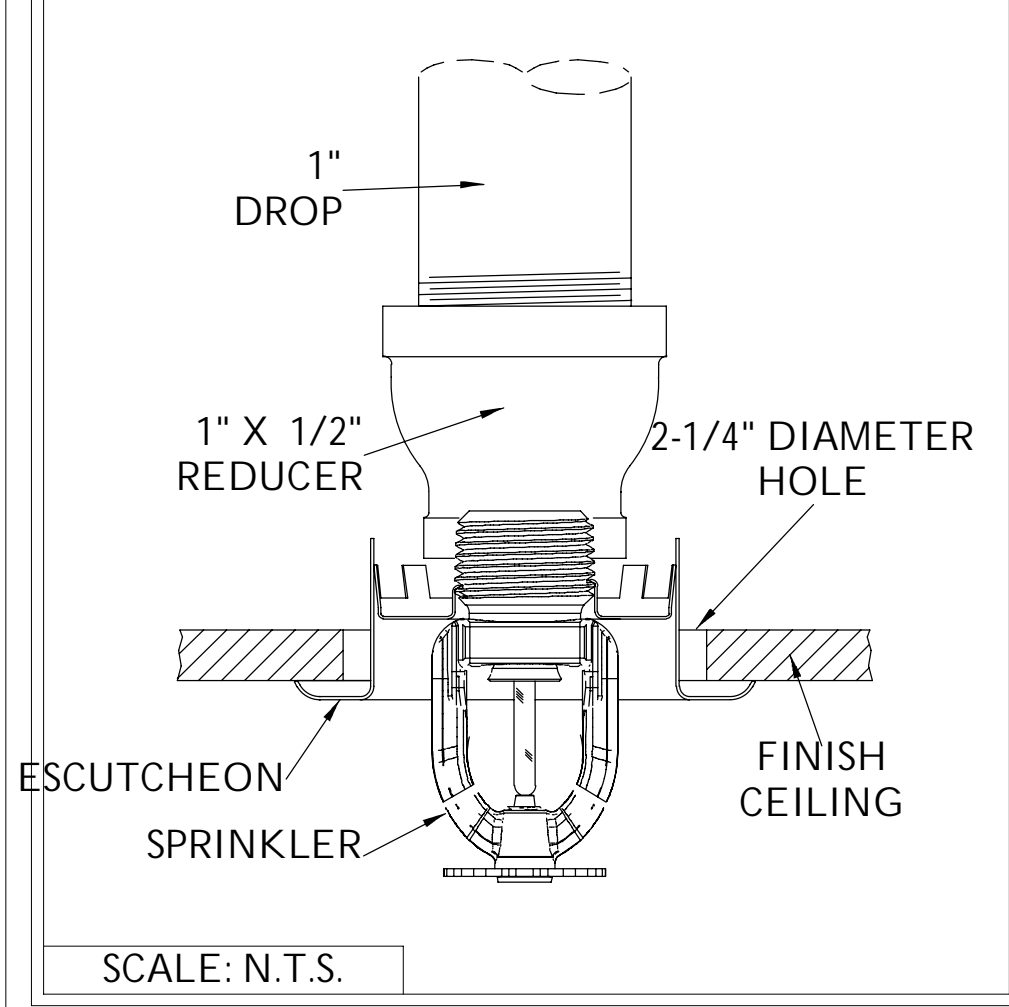
- WITHIN 24" OF TOP AND BOTTOM OF ALL RISERS, EXCEPT RISER LESS THAN 3'
- WITHIN 12" ABOVE AND 24" BELOW THE FLOOR IN MULTISTORY BUILDINGS
- ON BOTH SIDES OF MASONRY WALLS TO WITHIN 1' OF THE WALL
- WITHIN 24" OF BUILDING EXPANSION JOINTS
- WITHIN 24" OF TOP AND BOTTOM OF DROPS FEEDING HOSE LINES, RACK SPRINKLERS, AND MEZZANINES
- WITHIN 24" OF TOP OF DROPS EXCEEDING 15' FEEDING MORE THAN ONE SPRINKLER
- ABOVE AND BELOW ANY INTERMEDIATE POINTS OF SUPPORT FOR A RISER OR OTHER VERTICAL PIPE

**SPRINKLERS LEGEND**

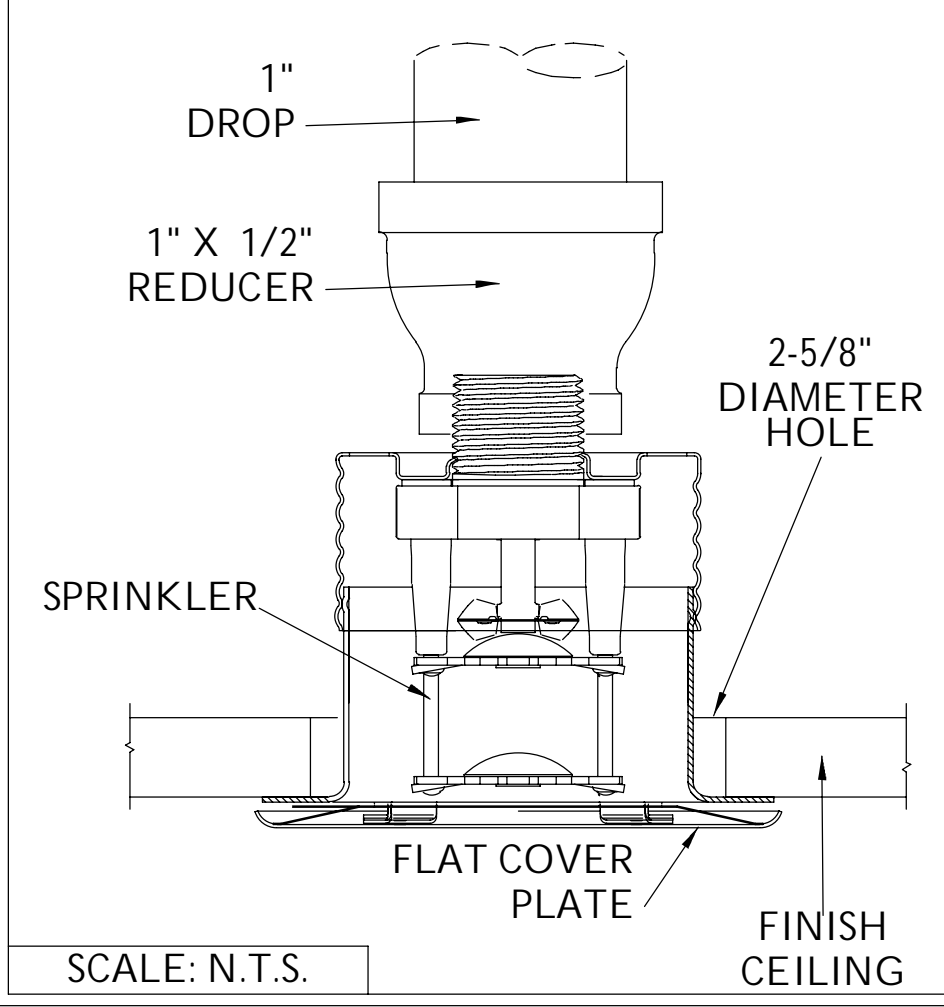
SY	SE	COUNT	THREA D SIZE	FINISH	DESCRIPTION	LEVEL	Manufacturer	Sprinkler SIN	Thread Size
R	164	1/2"	BRASS	RESIDENTIAL PENDANT FLUSH CEILING SPRINKLER		RELIABLE	RA3216	0" - 0 1/2"	
R	25	1/2"	CHROME	PENDANT FLUSH CEILING SPRINKLER		RELIABLE	RA3415	0" - 0 1/2"	
R	56	1/2"	BRASS	EXPOSED UPRIGHT SPRINKLER		RELIABLE	RA1425	0" - 0 1/2"	
R	2	1/2"	BRASS	HORIZONTAL SIDEWALL SPRINKLER		BY CHUTE MFR	NA	0" - 0 1/2"	
R	1	1/2"	BRASS	SIDEWALL SPRINKLER - ELEV PIT		RELIABLE	RA1435	0" - 0 1/2"	

Grand Total: 248

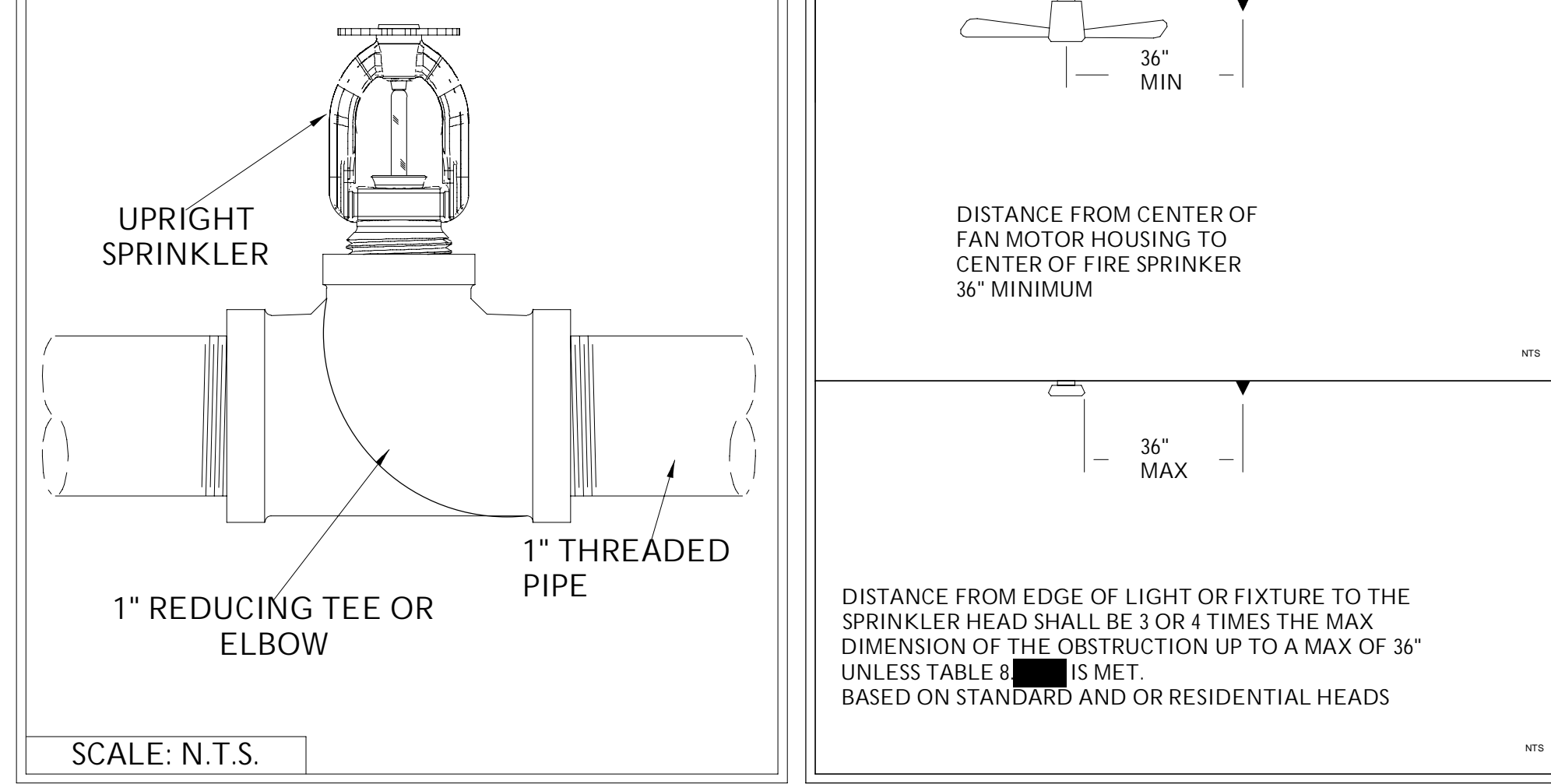
**RECESSED SPRINKLER**



**CONCEALED SPRINKLER**



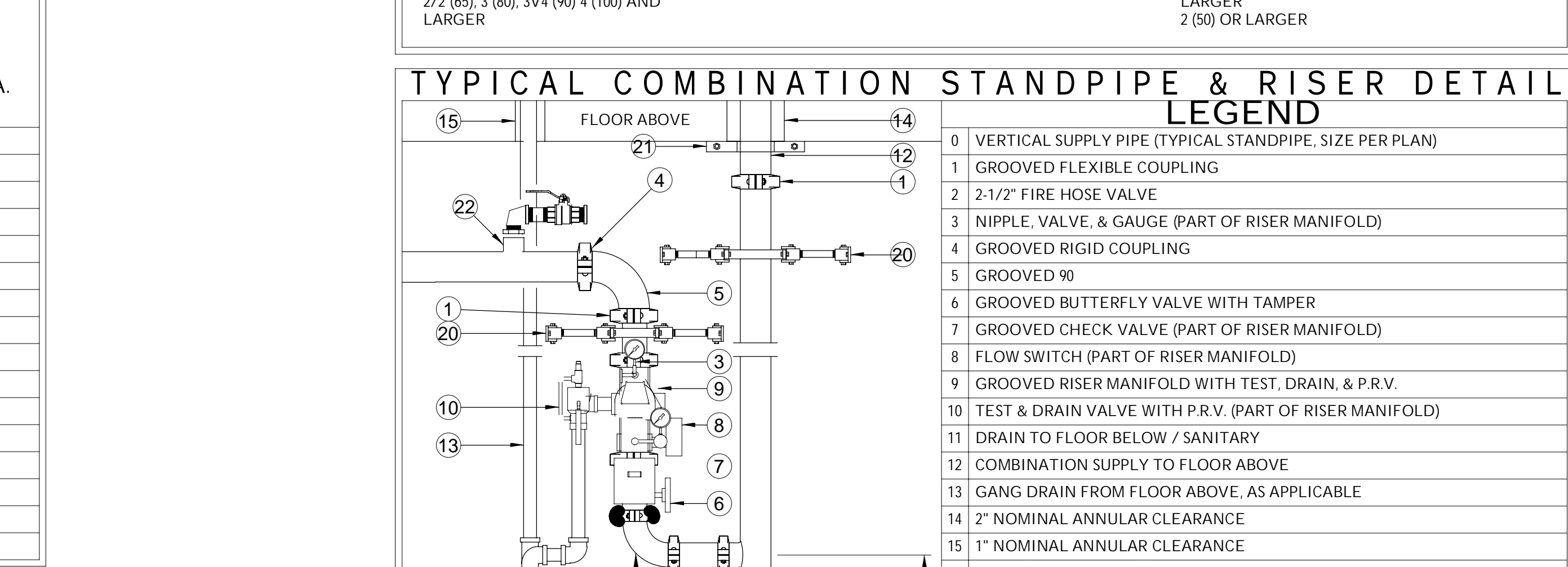
**EXPOSED SPRINKLER OBSTRUCTIONS**



**PIPE TYPES INFORMATION**

PIPETYPE SCHEDULE	NPS	NOMINAL INSIDE DIA. (IN)
10	8"	8.249
	6"	6.357
	4"	4.310
	3"	3.334
EDDYFLOW	2 1/2"	2.705
	2"	2.203
	1 1/2"	1.728
	1 1/4"	1.530
EDDYTHREAD 40	2"	2.123
	1 1/2"	1.654
	1 1/4"	1.418
	1"	1.083
CPVC	2"	2.003
	1 1/2"	1.598
	1 1/4"	1.394
SCALE: N.T.S.	1"	1.101

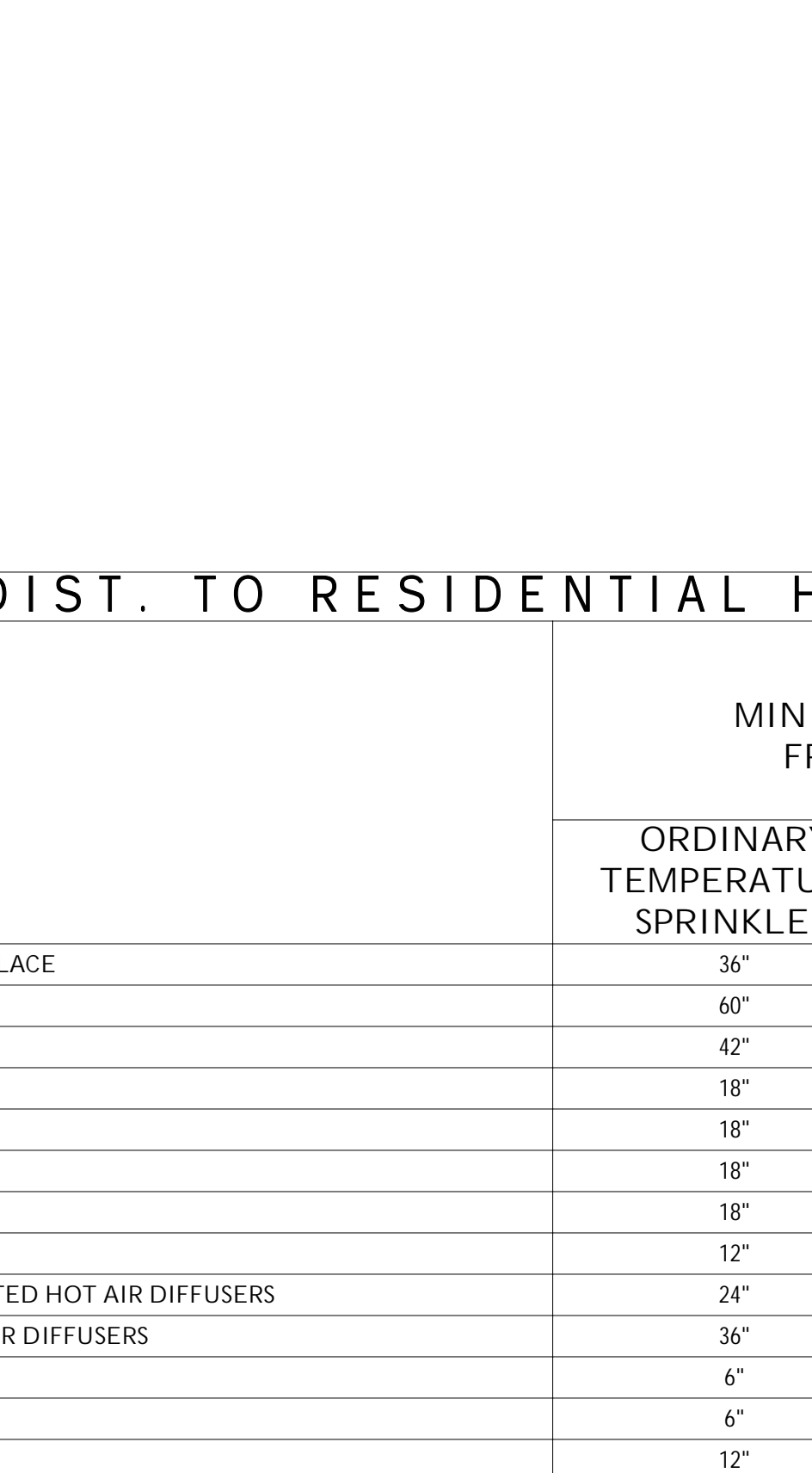
**DRAIN SIZE**



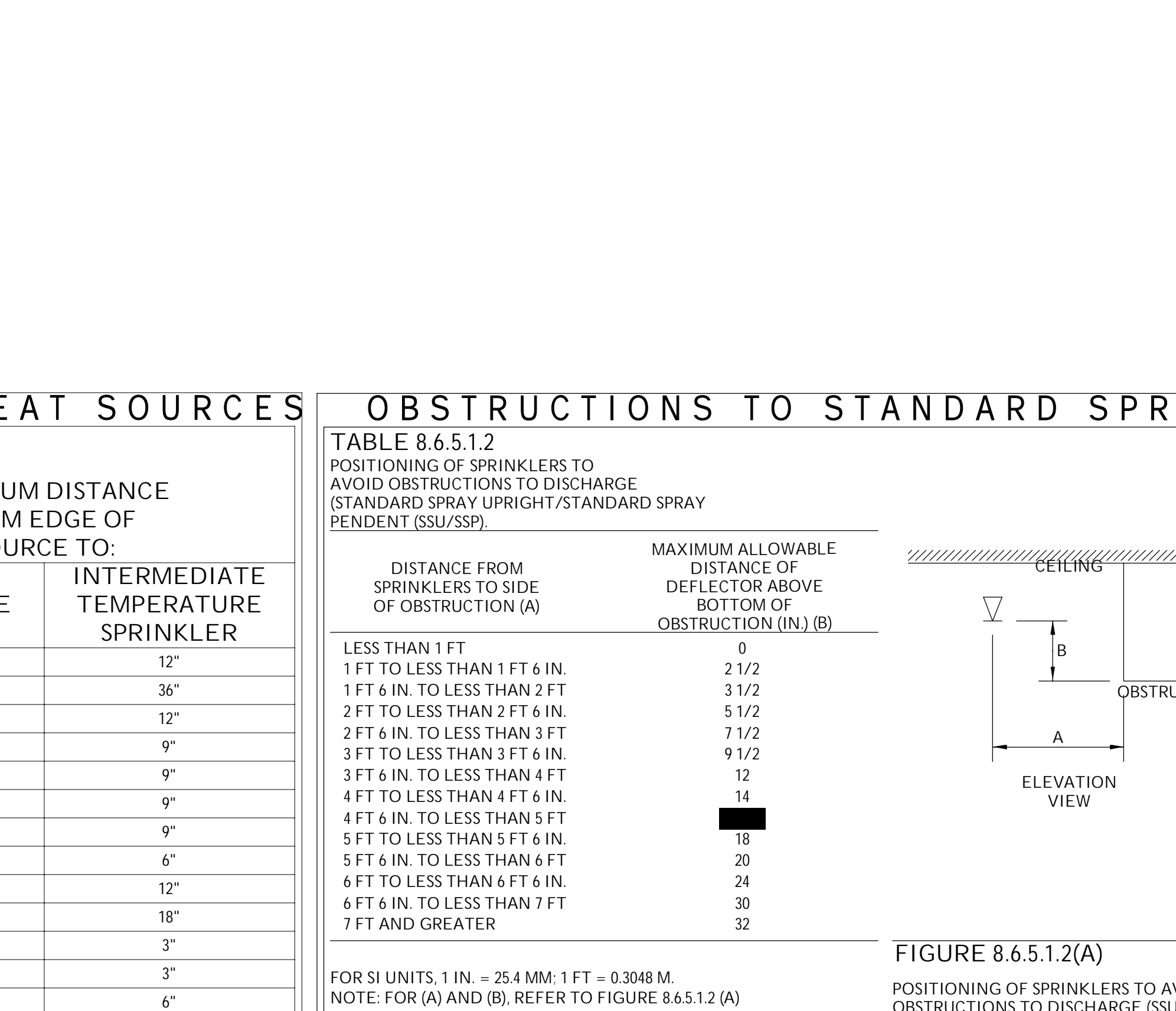
**SPRINKLER DIST. TO RESIDENTIAL HEAT SOURCES**

HEAT SOURCE	MINIMUM DISTANCE FROM EDGE OF SOURCE TO:	
	ORDINARY TEMPERATURE SPRINKLER	INTERMEDIATE TEMPERATURE SPRINKLER
SIDE OF OPEN OR RECESSED FIREPLACE	36"	12"
FRONT OF RECESSED FIREPLACE	60"	36"
COAL- OR WOOD-BURNING STOVE	42"	12"
KITCHEN RANGE	18"	9"
WALL OVEN	18"	9"
HOT AIR FLUES	18"	9"
UNINSULATED HEAT DUCTS	18"	9"
UNINSULATED HOT WATER PIPES	12"	6"
SIDE OF CEILING- OR WALL-MOUNTED HOT AIR DIFFUSERS	24"	12"
FRONT OF WALL-MOUNTED HOT AIR DIFFUSERS	36"	18"
HOT WATER HEATER OF FURNACE	6"	3"
0W - 250W LIGHT FIXTURE	6"	3"
250W - 499W LIGHT FIXTURE	12"	6"

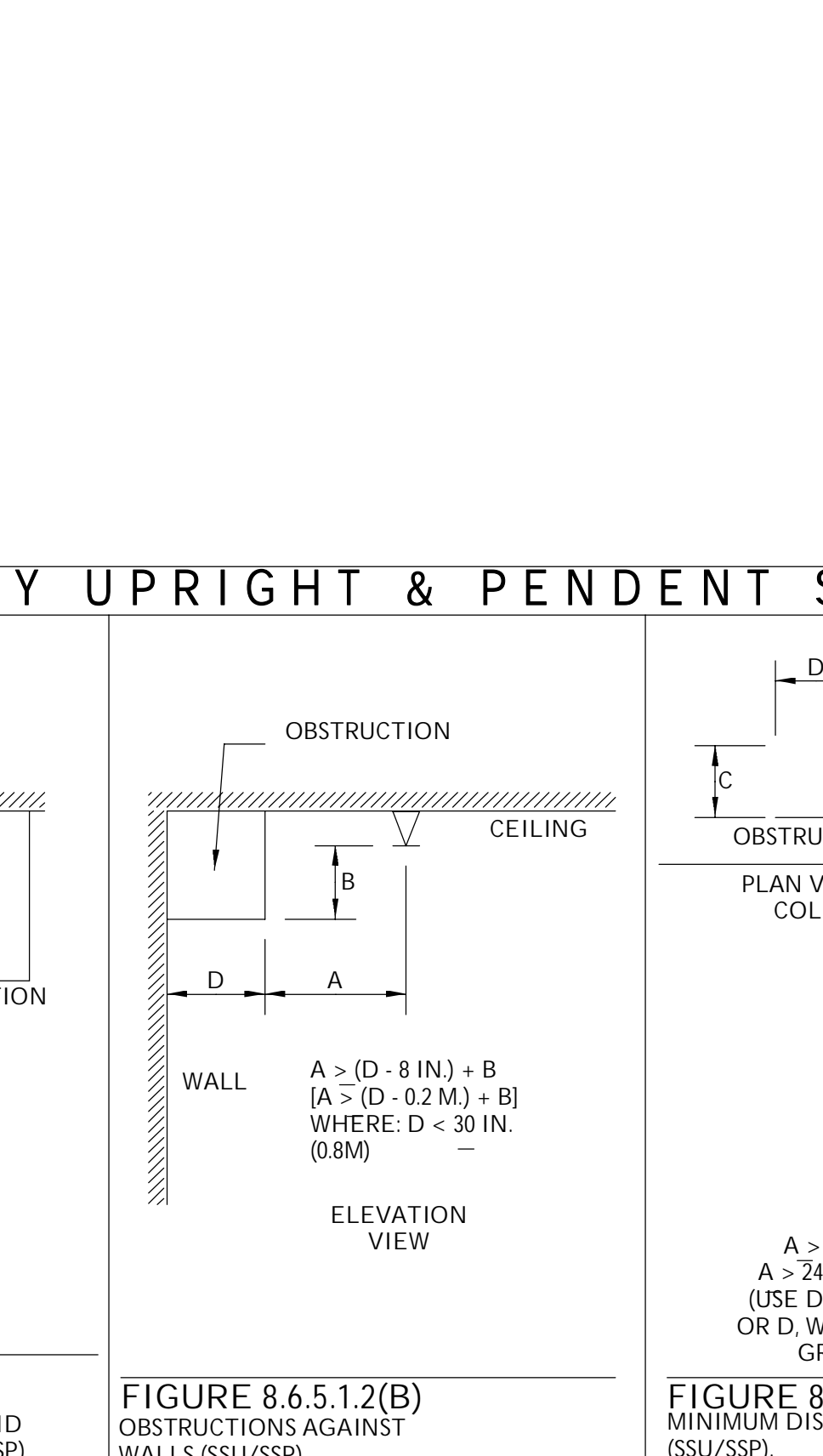
**OBSTRUCTIONS TO STANDARD SPRAY UPRIGHT & PENDENT SPRINKLERS**



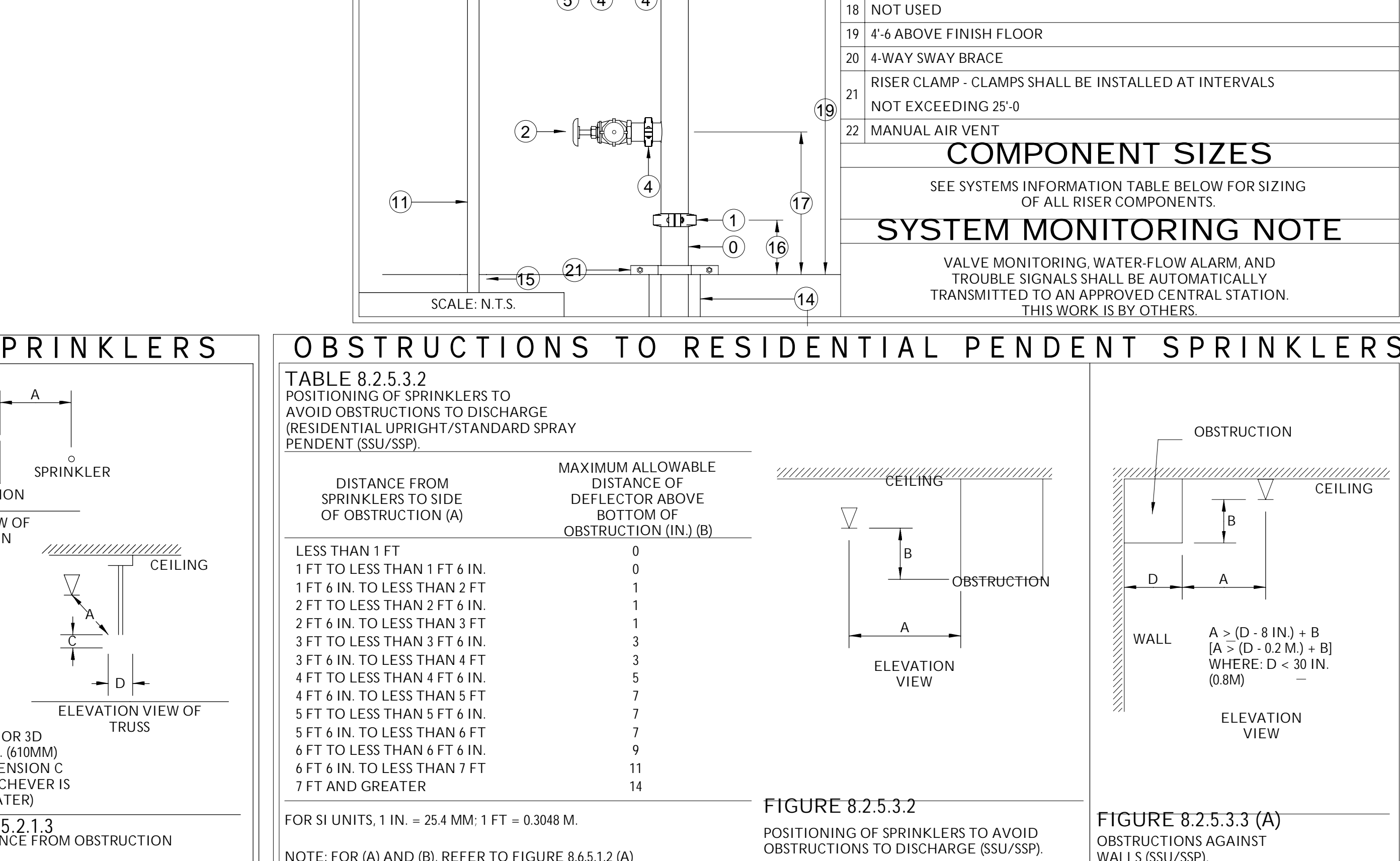
**OBSTRUCTIONS TO RESIDENTIAL PENDENT SPRINKLERS**



**OBSTRUCTIONS TO STANDARD SPRAY UPRIGHT & PENDENT SPRINKLERS**



**OBSTRUCTIONS TO RESIDENTIAL PENDENT SPRINKLERS**



**STANDARD SYMBOLS**

#	- HYDRAULIC NODE POINT
○	- FIRE DEPT. CONNECTION
—	- CPVC FP PIPING
—	- STEEL FP PIPING
—	- UNDERGROUND PIPING

**STANDARD SYMBOLS**

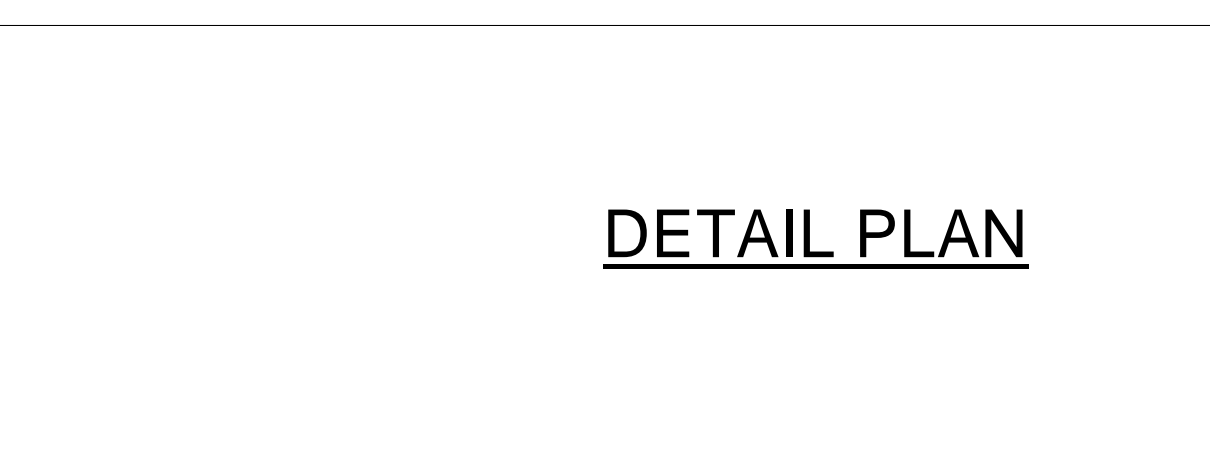
○	- GLOBE UMC RISER
○	- BUTTERFLY VALVE
○	- CHECK VALVE
○	- OS&Y VALVE
○	- BACKFLOW PREVENTER

**STANDARD SPRINKLER SYMBOLS**

○	- RESIDENTIAL PENDENT
○	- EXTENDED COVERAGE PENDENT
○	- UPRIGHT
○	- SEMI-RECESSED PENDENT
○	- CONCEALED PENDENT
○	- DRY PENDENT
○	- HORIZONTAL SIDEWALL
○	- VERTICAL SIDEWALL

**REVISION**

NO.	DESCRIPTION	BY



**DESIGNED BY:** Gerald W. Ebeling

**CHECKED BY:** CHK

**CONTRACT NO.:** 2226

**DATE:** 10/16/27 AM

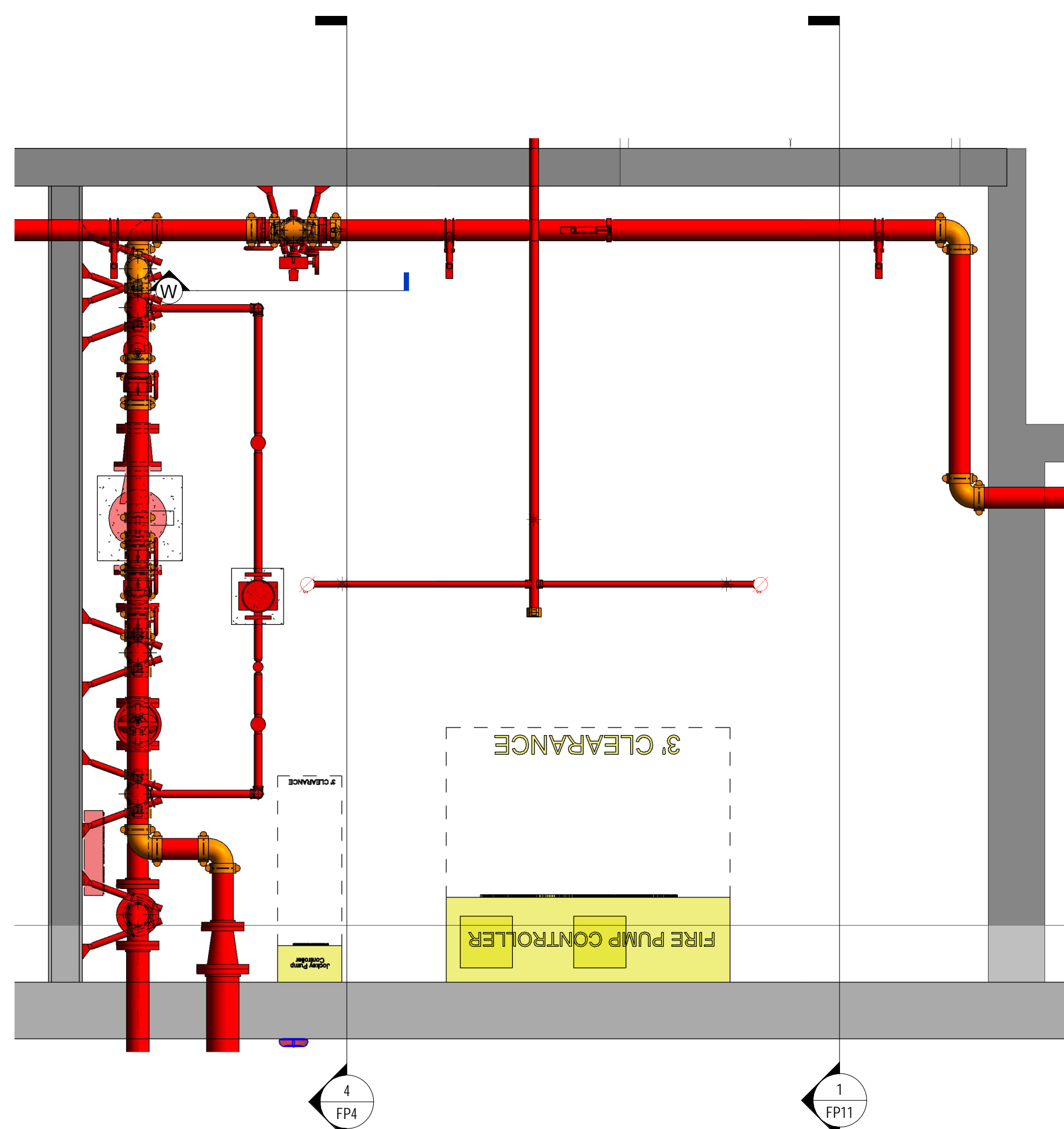
**DRAWING NO.:** FP2





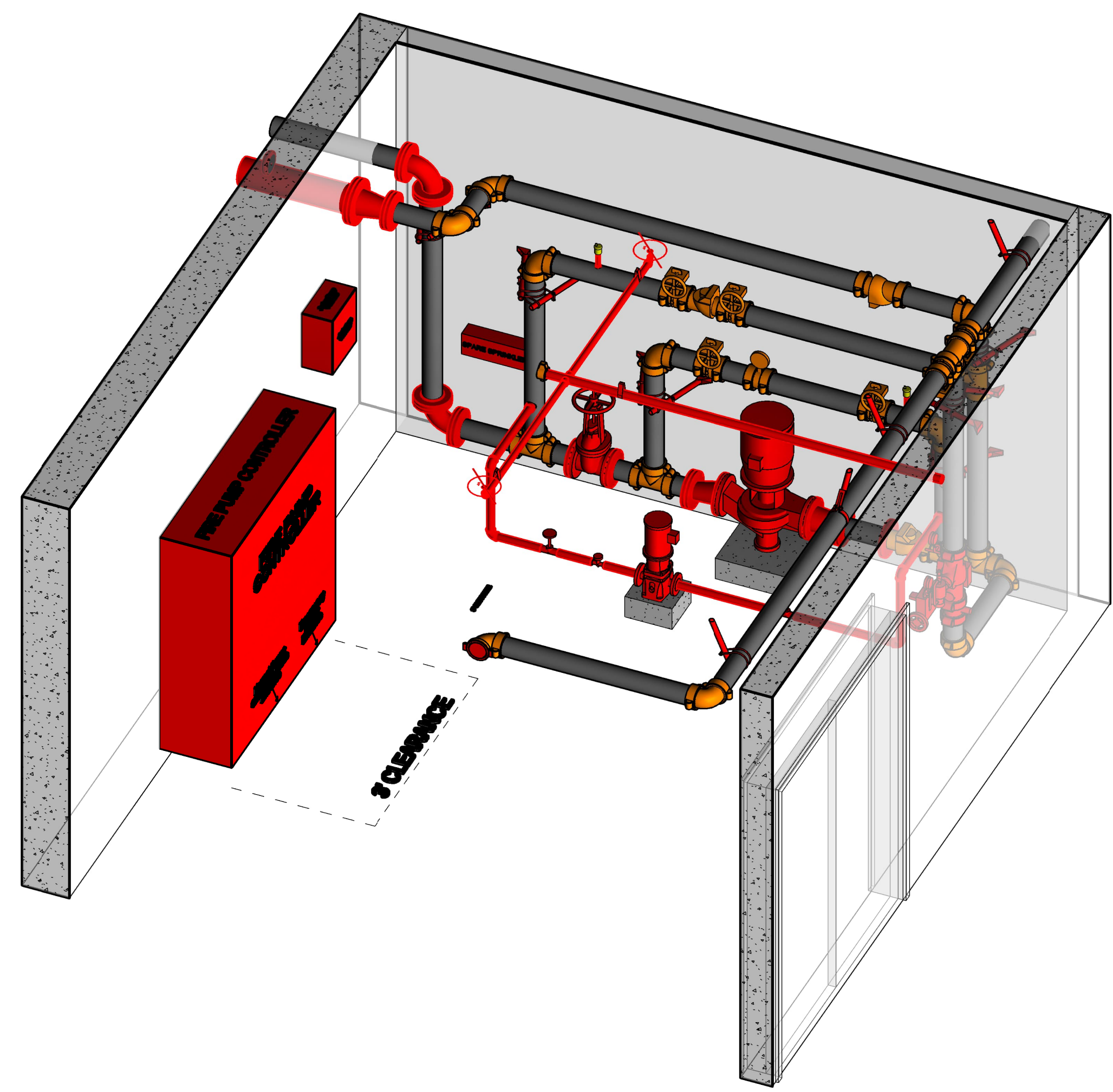


PUMP ROOM FLOOR PLAN

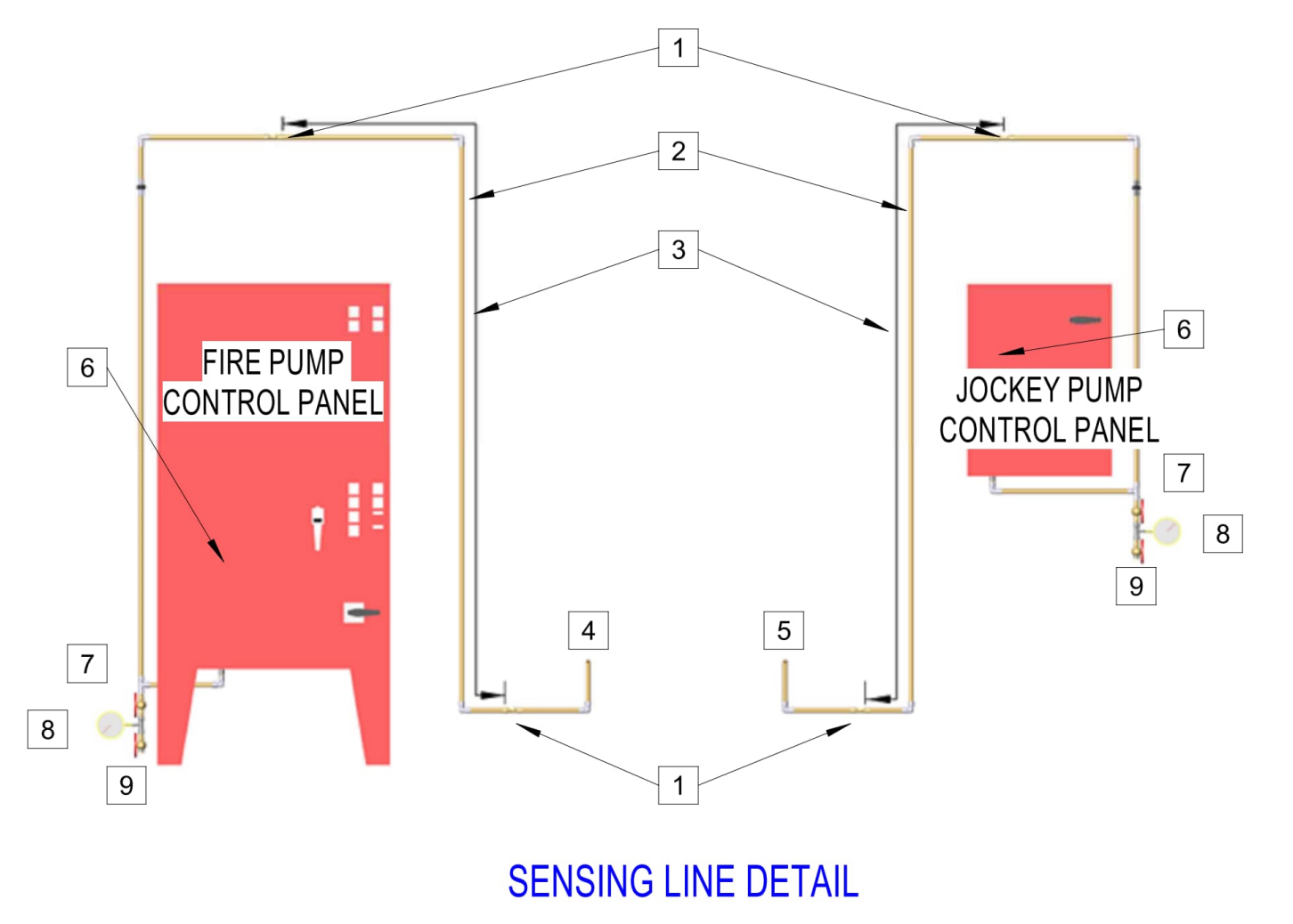


**SYSTEM MONITORING**  
VALVE MONITORING, WATER-FLOW ALARM, AND TROUBLE SIGNALS SHALL BE AUTOMATICALLY TRANSMITTED TO AN APPROVED CENTRAL STATION. THIS WORK IS BY OTHERS.

PUMP ROOM ISOMETRIC 1



NOT TO SCALE

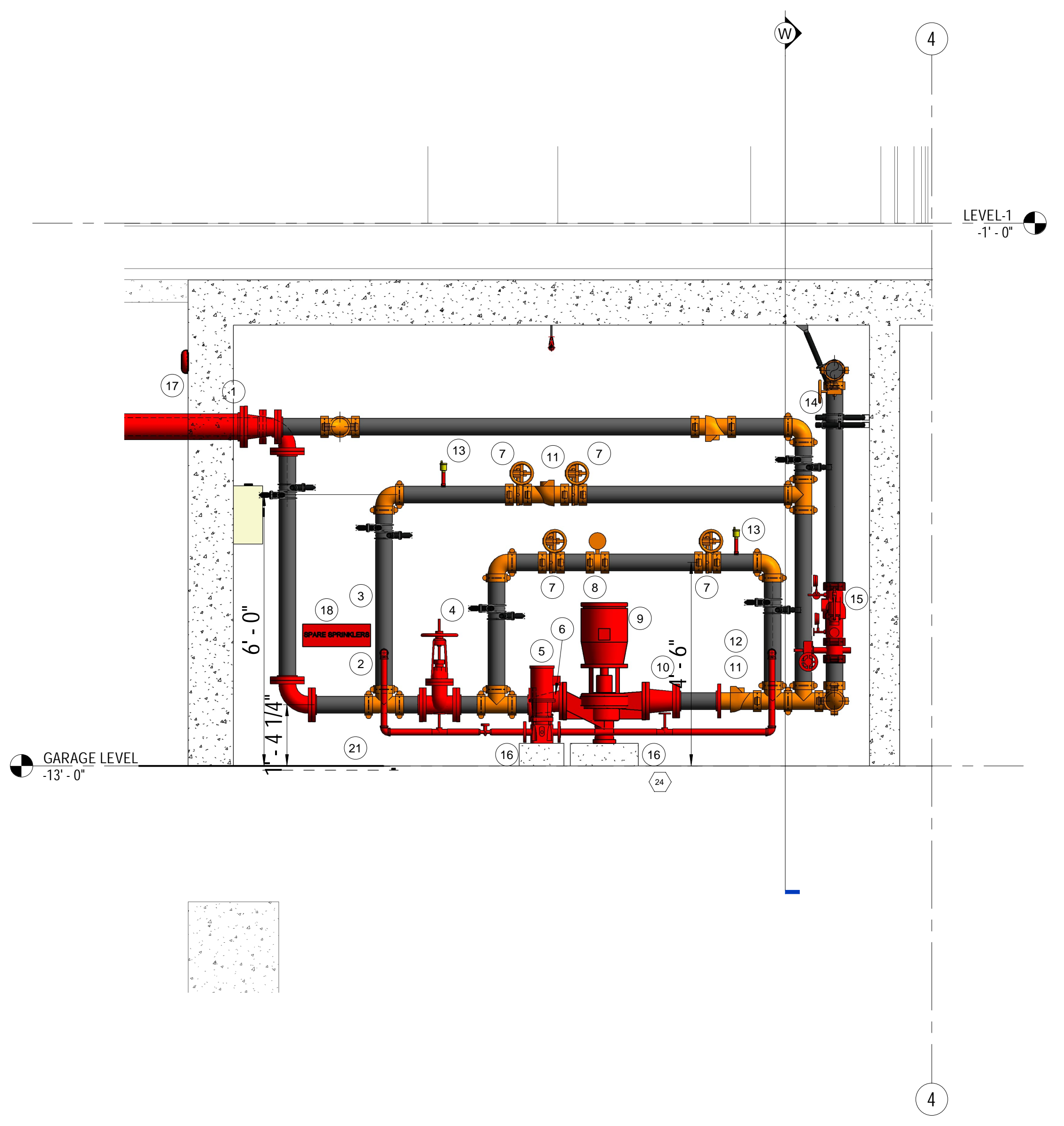


SENSING LINE DETAIL

JOCKEY PUMP NOTES

NUMBER	TEXT
1	1/2" BRASS SWING CHECK VALVE OR UNION WITH 3/32" HOLE IN CLAPPER
2	1/2" COPPER PIPING AND FITTINGS
3	MINIMUM OF 5' OF PIPING
4	1/2" TO FIRE PUMP
5	1/2" TO JOCKEY PUMP
6	PRESSURE SWITCH
7	1/2" GLOBE VALVE
8	1/4" PRESSURE GAUGE
9	1/2" GLOBE VALVE WITH 1/2" PLUG
10	1/2" COPPER PIPING TO JOCKEY PUMP CONTROLLER
11	1-1/4" DISCHARGE
12	1-1/4" DISCHARGE
13	1" MILWAUKEE BUTTERFLY VALVE
14	1" CHECK VALVE
15	1" OS&Y VALVE

PUMP ROOM SECTION 1

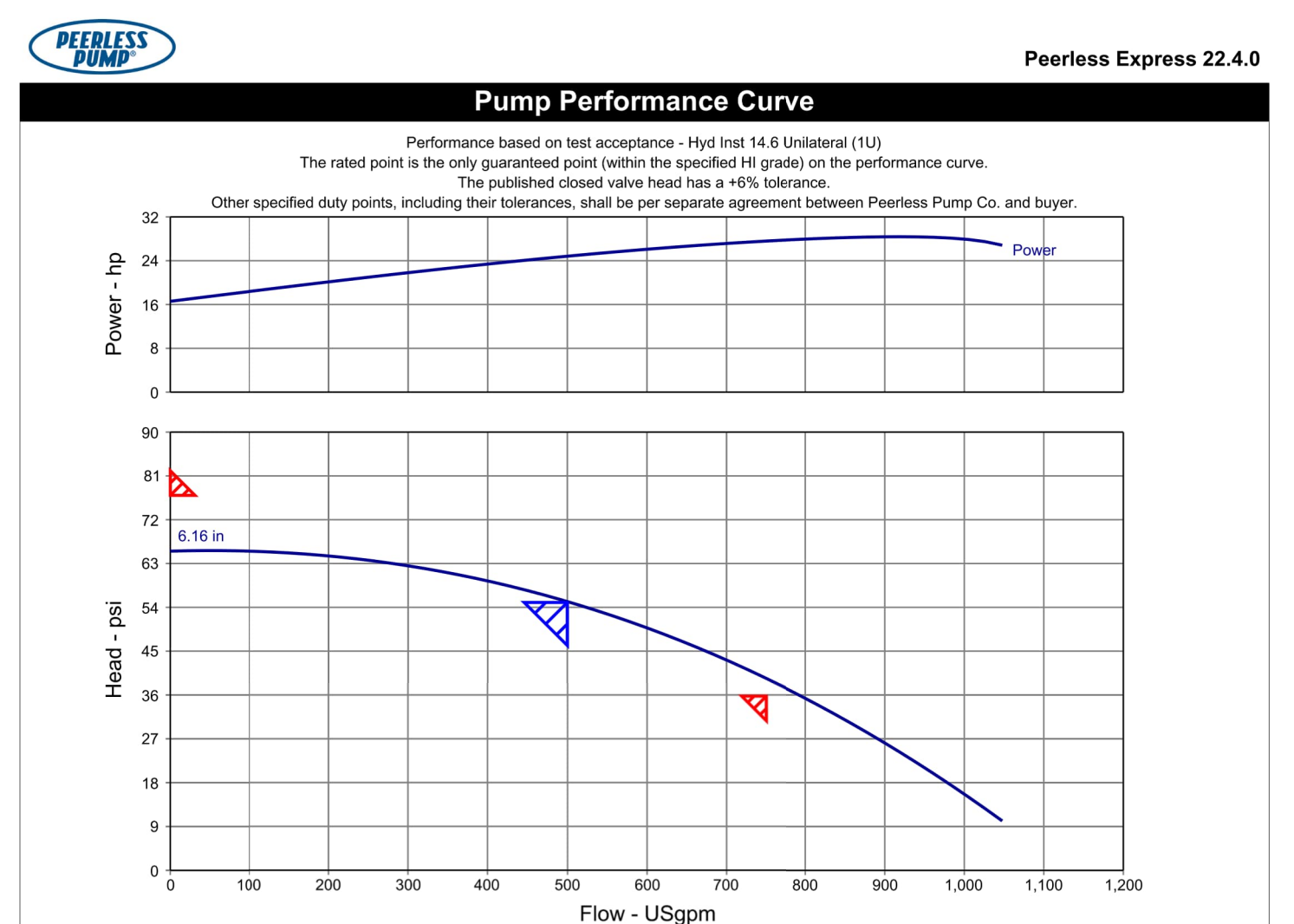


Fire Pump Room / Housing per NFPA 20 (BY OTHERS)

- 4.13.4 Equipment Access.
  - 4.13.4.1 The location and access to the fire pump room(s) shall be pre-planned with the fire department.
  - 4.13.4.1.1 Fire pump units supplying only local application fire protection systems shall be accessible by a path that is not subject to exposure from a fire in any hazard protected by the fire pump.
  - 4.13.4.2 The portions of the building needed for the access, as required by 4.13.4.1, shall have a fire resistance rating not less than the fire resistance rating of the fire pump room.
- 4.14.3 Heat.
  - 4.14.3.1 An approved or listed source of heat shall be provided for maintaining the temperature of a pump room or pump house, where required, above 40°F (4°C).
  - 4.14.3.2 The requirements of 4.14.3.1 shall be followed for higher temperature requirements for internal combustion engines.
- 4.14.4 Normal Lighting.
  - 4.14.4.1 Artificial light shall be provided in a pump room or pump house.
- 4.13.5 Emergency Lighting.
  - 4.13.5.1 Pump rooms shall be provided with emergency lighting.
  - 4.13.5.2 The intensity of illumination in the pump room(s) shall be 3.0 ft-candles (32.3 lux), unless otherwise specified by a requirement recognized by the authority having jurisdiction.
  - 4.13.5.3 Emergency lights shall not be connected to an engine-starting battery.
  - 4.13.5.4 The emergency lighting shall be capable of maintaining the lighting level for a minimum of 2 hours.
- 4.14.6 Ventilation.
  - 4.14.6.1 Provision shall be made for ventilation of a pump room or pump house.
- 4.14.7 Drainage.
  - 4.14.7.1 Floors shall be pitched for adequate drainage of escaping water away from critical equipment such as the pump, driver, controller, and so forth.
  - 4.14.7.2 The pump room or pump house shall be provided with a floor drain that will discharge to a frost-free location.
- 4.14.8 Guards: Couplings and flexible connecting shafts shall be installed with a coupling guard in accordance with Section 7 of ANSI B11.19. Performance Requirements for Safeguarding.

FIRE PUMP LEGEND

NUMBER	TEXT
1	4" DI STUB-IN
2	1-1/4" JOCKEY SUPPLY
3	4" BYPASS LOOP
4	4" OS&Y VALVE
5	JOCKEY PUMP
6	5X4 ECCENTRIC REDUCER
7	4" GROOVED BUTTERFLY VALVE
8	4" TEST METER
9	5X5 INLINE FIRE PUMP (500 GPM @ 55 PSI)
10	5X4 CONCENTRIC REDUCER
11	4" CHECK VALVE
12	1-1/4" JOCKEY DISCHARGE
13	AIR RELIEF
14	4" TO STANDPIPE SYSTEM
15	4" GLOBE UMC RISER
16	CONCRETE PAD
17	ELEC BELL (WIRING AND INSTALLATION BY OTHERS) - TO BE INSTALLED ON 1ST LEVEL
18	SPARE SPRINKLER CABINET
21	PIPE STAND - NOT SHOWN



Flow (USGpm)	Head (psi)	Efficiency (%)	Power (hp)	NPSHr (ft)	Thrust (lbf)
0	85.54	0.00	14.6	-	-
116	85.45	23.81	18.7	-	-
233	84.00	42.01	20.7	-	-
349	81.13	55.10	22.6	-	-
466	66.77	63.33	24.3	-	-
582	50.84	66.71	25.9	-	-
698	43.28	64.99	27.1	-	-
815	34.02	57.88	28.0	-	-
931	23.00	44.05	28.4	-	-
1,048	10.15	23.11	28.8	-	-

Construction		Electric Motor Information	
Direction of Rotation (viewed from drive end)	Clockwise (RH)	Motor Type	Foot Mount J Frame
Suction Flange Diameter	5.00 in	Manufacturer	WEG
Suction Flange Rating	125lb ANSI Flat faced	Material Number	99139171
Discharge Flange Diameter	5.00 in	Manufacturer catalog number	025360P3VFP256JPV-S
Discharge Flange Rating	125lb ANSI Flat faced	Rated power	25.0 hp
Impeller Diameter	6.18 in	Densified power	28.7 hp
Maximum Working Pressure	94.66 psi g	Installation elevation	0.00 in
Pump Seal	Packing seal	Installation temperature (max)	68.00 deg F
Materials		Voltage	200 V
Pump Casing	Cast Iron	Phase	3
Impeller	Silicon Brass	Frequency	60 Hz
Pump Shaft	Carbon steel	Rated speed	3600 rpm
Shaft Sleeve	Bronze with O-ring	Number of Poles	2
Case Ring	Bismuth tin bronze	Service Factor	1.15
Impeller wear ring	Integral	Starting Method	Direct-on-line
Paint	Peerless Fire Red	Frame Size	256JPV
Listings and Approvals		Enclosure	ODP
UL	Yes	Efficiency Class	IE2
FM	Yes	Testing	
ULC	No	Hydraulic performance test	Non-witnessed per IAH 14.6 IU
CE	No	Curve approval	No
NSF61	No	NPSH test	N/A
NSF61	No	String test	N/A
NSF61	No	Test w/ motor	No
Approximate Weights			
Complete pump	169 lb		
Driver	214 lb		

WM A Barron Co - 6690 Amador Plaza Road, Suite 220 - Dublin, CA 94568  
phone: (925) 556-1980

FIRE PUMP PLAN



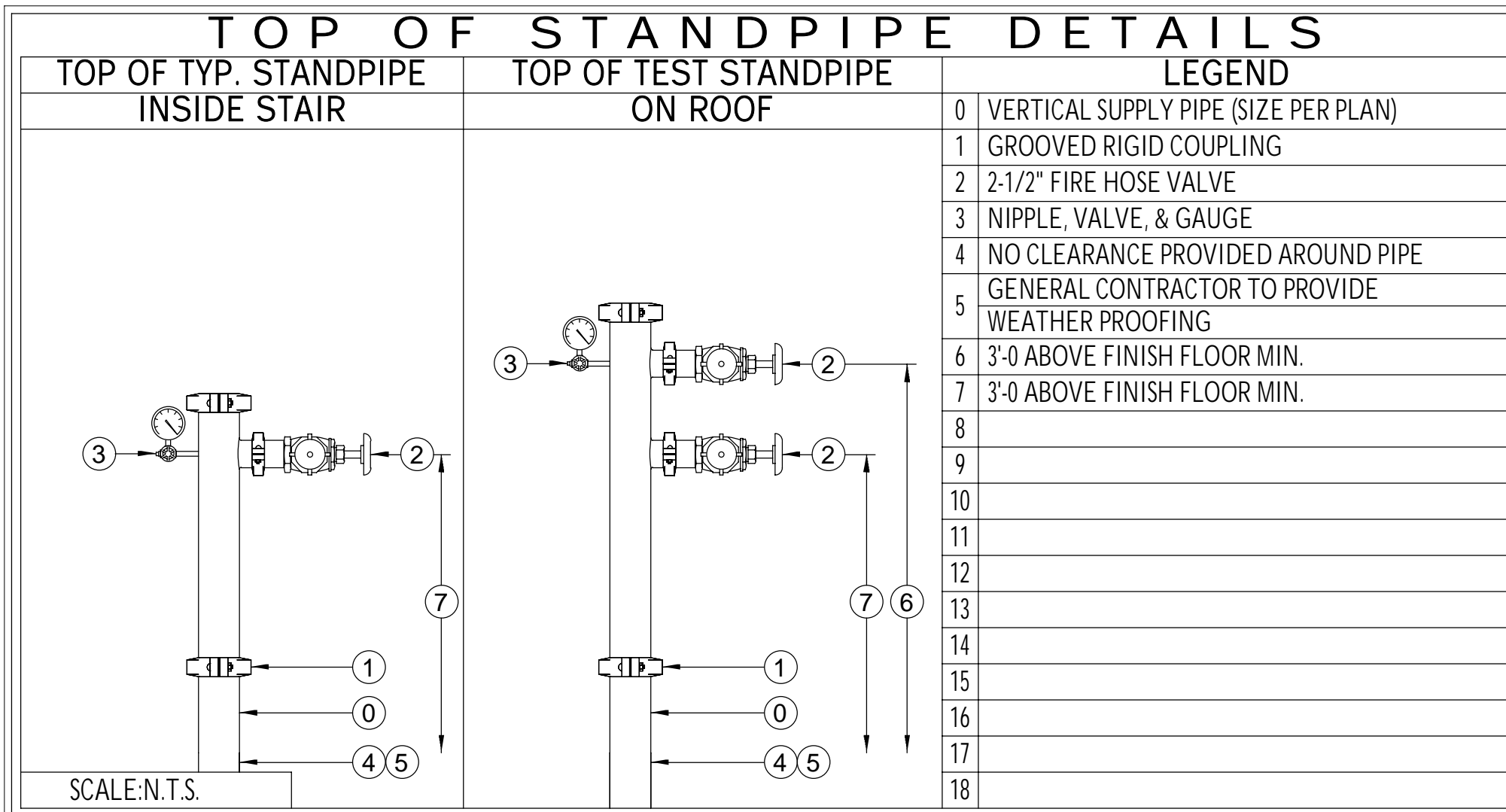
DESIGNED BY:  
Gerard W. Ebeling  
CONTRACT NO.: 2226  
DATE: 10/16/25  
DRAWING NO. FP4

SCALE: 1/2" = 1'-0"  
DESIGNED BY: Gerard W. Ebeling  
CHECKED BY: CHK  
CONTRACT NO.: 2226  
DATE: 10/16/25  
DRAWING NO. FP4

STANDARD SYMBOLS	STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	PLAN REVIEW STAMP
# - HYDRAULIC NODE POINT	Globe UMC Riser	Residential Pendent	[Stamp Area]
Fire Dept. Connection	Butterfly Valve	Extended Coverage Pendent	
CPVC FP Piping	Check Valve	Upright	
Steel FP Piping	OS&Y Valve	Semi-Recessed Pendent	
Underground Piping	Backflow Preventer	Concealed Pendent	
		Dry Pendent	
		Horizontal Sidewall	
		Vertical Sidewall	

REVISION	DESCRIPTION	BY





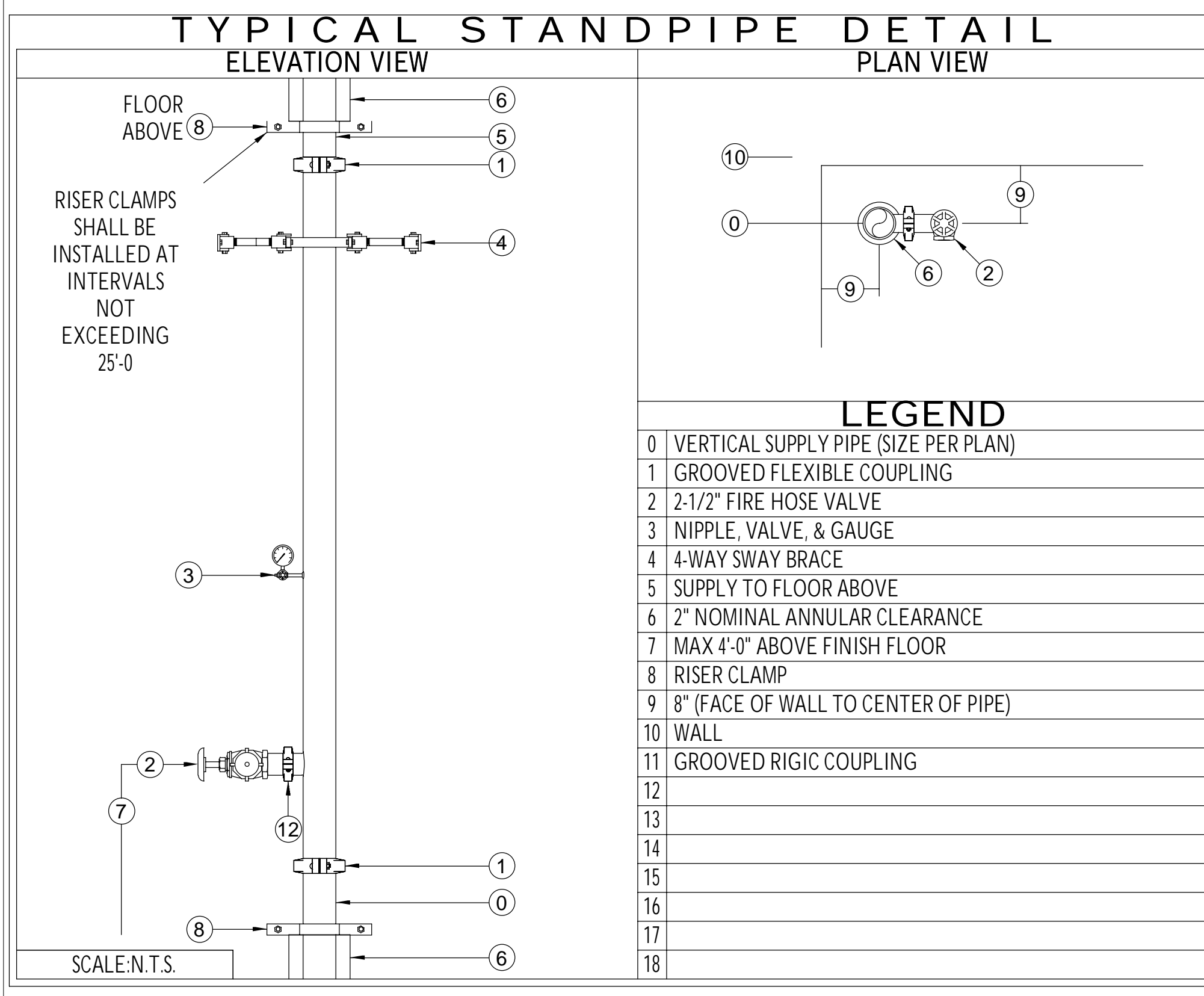
1. STANDPIPE SYSTEM TO COMPLY WITH NFPA 14 AND ALL APPLICABLE STATE AND LOCAL CODES. ALL HOSE CONNECTIONS SHALL BE 2 1/2".
2. ALL HOSE VALVES SHALL BE LISTED AND EQUIPPED WITH CAPS TO PROTECT THE HOSE THREADS. PRESSURE GAUGES SHALL BE INSTALLED ABOVE AND BELOW EACH ALARM CHECK VALVE, DRY PIPE VALVE, DELUGE VALVE, BACKFLOW PREVENTER, OR SYSTEM RISER CHECK VALVE WHERE SUCH DEVICES ARE PRESENT.
3. PRESSURE GAUGES SHALL BE INSTALLED ON THE UPSTREAM AND THE DOWNSTREAM SIDES OF EVERY PRESSURE-REGULATING DEVICE INSTALLED IN ACCORDANCE WITH 7.2.4(6).
4. EACH FIRE DEPARTMENT CONNECTION SHALL BE DESIGNATED BY A SIGN WITH LETTERS AT LEAST 1 IN. IN HEIGHT, THAT READS "STANDPIPE." FOR MANUAL SYSTEMS, THE SIGN SHALL ALSO INDICATE THAT THE SYSTEM IS MANUAL AND THAT IT IS EITHER WET OR DRY.
5. IF AUTOMATIC SPRINKLERS ARE ALSO SUPPLIED BY THE FIRE DEPARTMENT CONNECTION, THE SIGN OR COMBINATION OF SIGNS SHALL INDICATE BOTH DESIGNATED SERVICES.

### STANDPIPE SYSTEM DATA

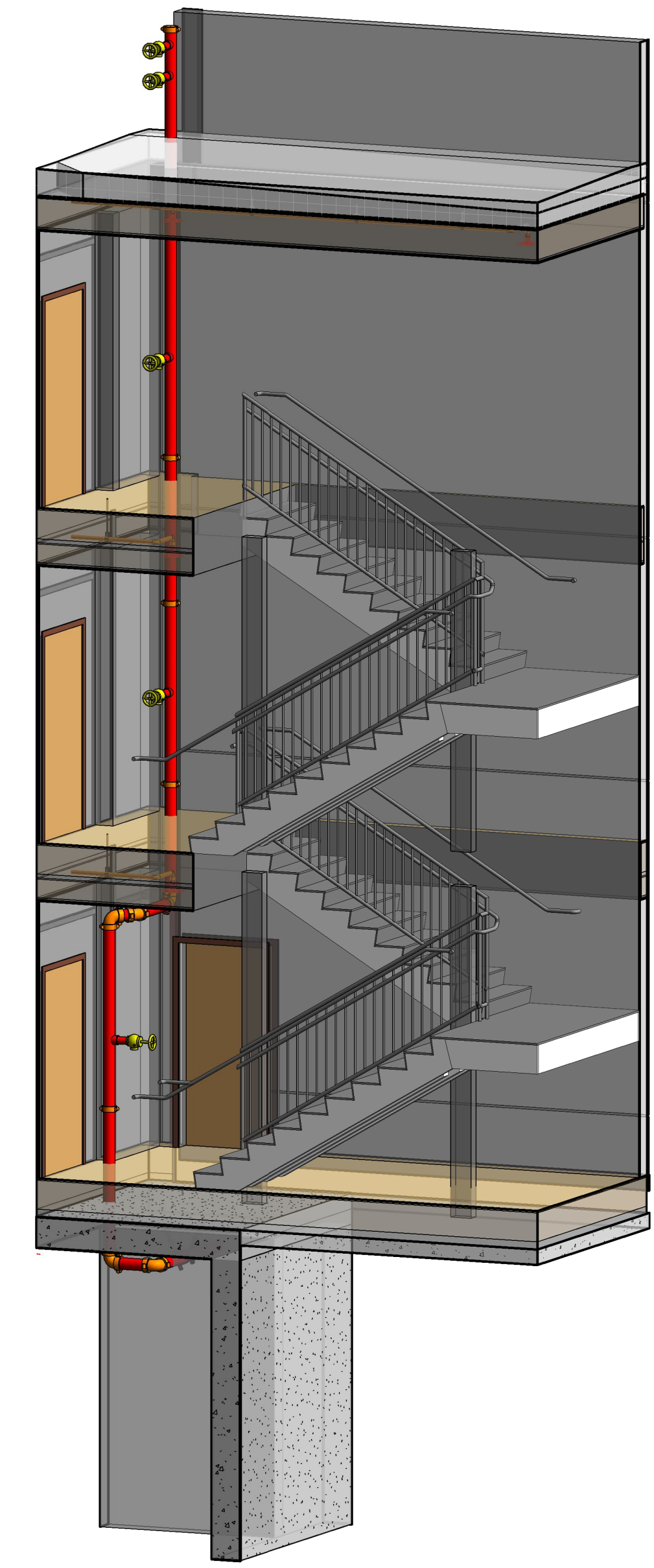
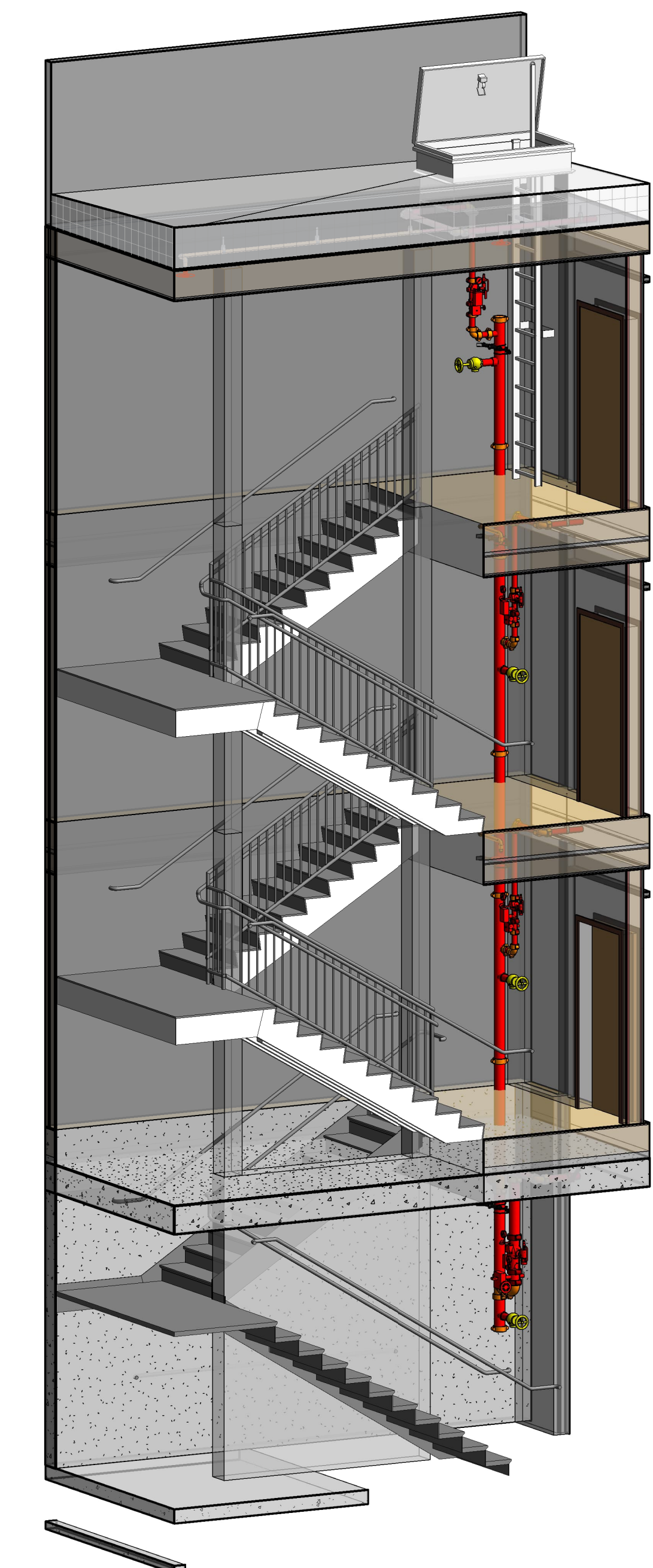
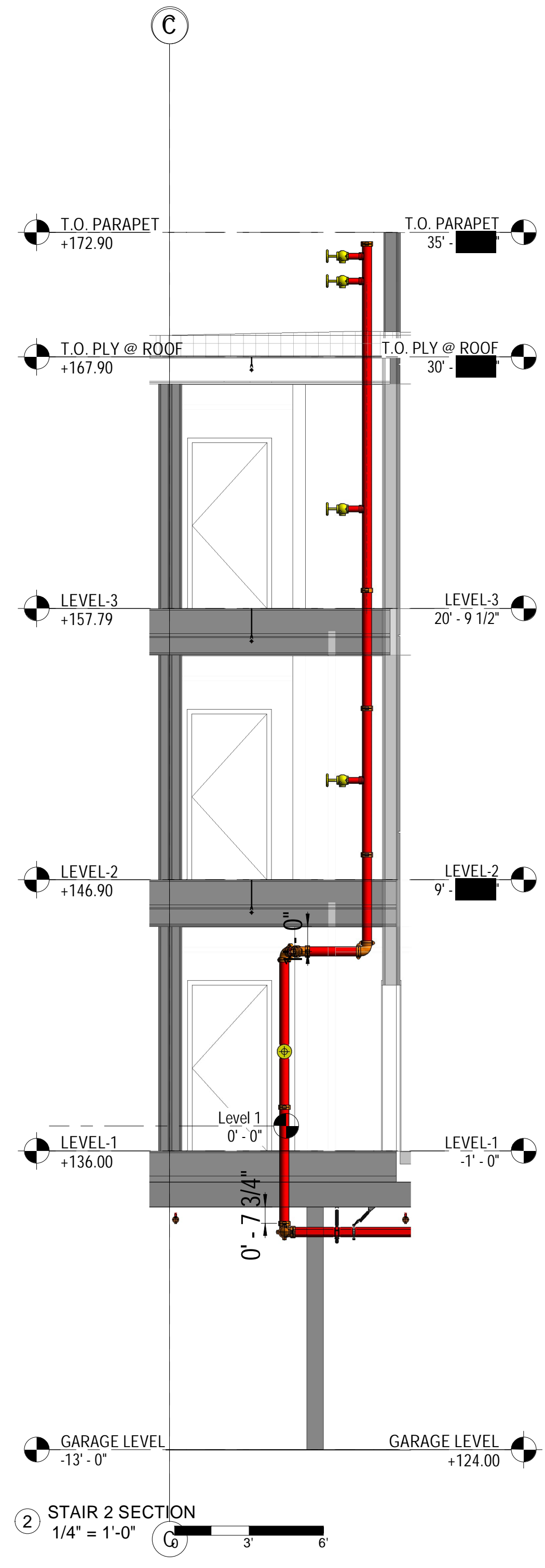
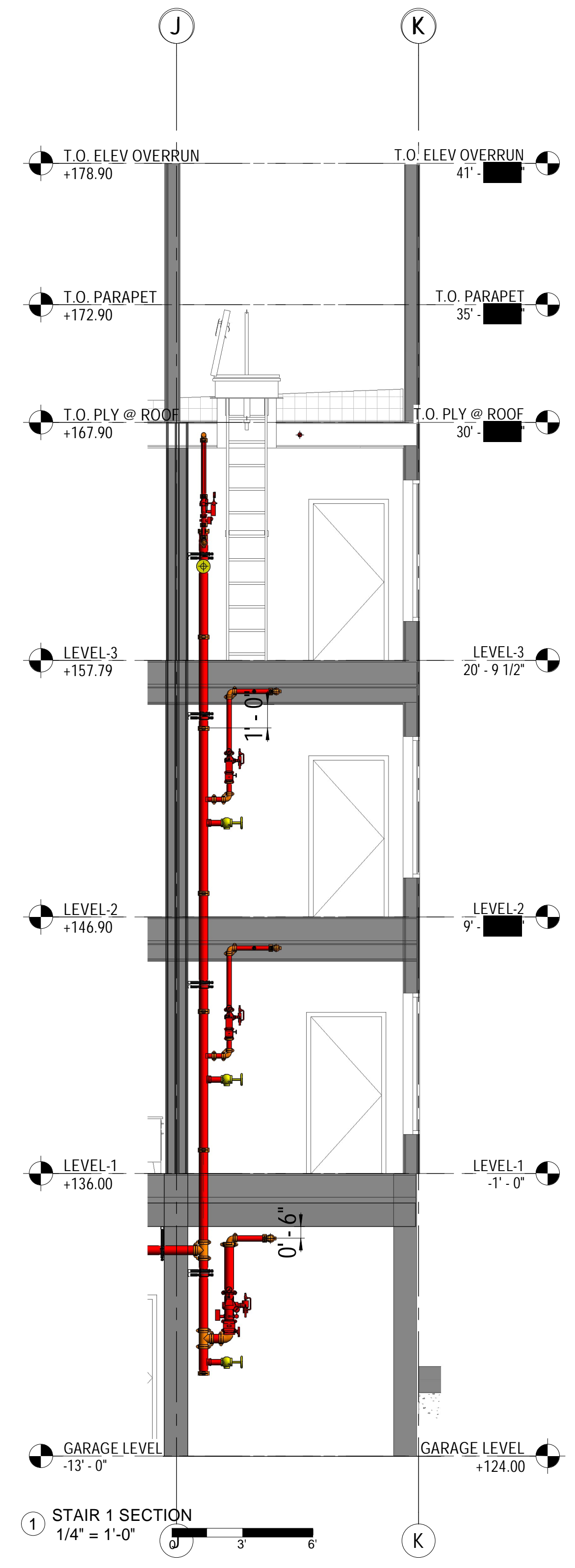
COMBINATION STANDPIPE	YES
STANDPIPE CLASSIFICATION	CLASS I
STANDPIPE TYPE	MANUAL WET
TOTAL # STANDPIPES	2
TOTAL # HOSE VALVES	9
TOTAL # HOSE VALVE CABINETS	NA
TOTAL # OF ISOLATION VALVES	2

NOTE: 4-WAY BRACES HAVE SHALL BE PERMITTED TO BE OMITTED WHERE RISERS PENETRATE INTERMEDIATE FLOORS WHERE THE CLEARANCE DOES NOT EXCEED THE LIMITS OF 9.3.4, PER NFPA 13 - 9.3.5.8.5.

LIMITED CLEARANCE AROUND A RISER EXTENDING THROUGH A SUBSTANTIAL FLOOR OR ROOF RESTRICTS MOVEMENT AND PROVIDES THE EQUIVALENT OF BRACING (SEE 9.3.5.8.3). FOR RISERS THAT EXTEND ABOVE A ROOF TO SERVE A STANDPIPE OUTLET, THE BRACING CAN BE LOCATED AT THE UNDERSIDE OF THE ROOF OR CAN BE PROVIDED BY THE CLEARANCE THROUGH THE ROOF STRUCTURE IN THIS MANNER.



- #### 7.3 Locations of Hose Connections.
- 7.3.1\* General.
- 7.3.1.1 Hose connections and hose stations shall be unobstructed and shall be located not less than 3 ft (0.9 m) or more than 5 ft (1.5 m) above the floor.
- 7.3.1.1.1 This dimension shall be measured from the floor to the center of the hose valve.
- 7.3.1.2 The hose connection shall not be obstructed by any closed or open stairwell door(s) or other objects on the landing.
- 7.3.2\* Class I Systems. Where required to be provided, hose connections shall be located in accordance with 7.3.2.
- 7.3.2.1 Hose connections shall be provided at each main floor landing of required exit stairs.
- 7.3.2.1.1\* Where required by the AHJ or local fire department, hose connections shall be permitted to be installed at the highest intermediate floor landings between floor levels in required exit stairs.
- 7.3.2.2\* Hose connections shall be provided on each side of the wall adjacent to the exit openings of horizontal exits.
- 7.3.2.2.1\* Where all floor areas are reachable from an exit stairway hose connection on the same side of a horizontal exit within the distances required by 7.3.2.2.1.1 or 7.3.2.2.1.2 as applicable, the hose connection on the other side of the horizontal exit shall be permitted to be omitted.
- 7.3.2.2.1.1 The travel distance in 7.3.2.2.1 shall be 200 ft (61 m) for sprinklered buildings.
- 7.3.2.2.1.2 The travel distance in 7.3.2.2.1 shall be 130 ft (39.7 m) for non-sprinklered buildings.
- 7.3.2.3 Hose connections shall be provided in each exit passageway in other than covered mall buildings.
- 7.3.2.3.1 The hose connections required in 7.3.2.3 shall be located in the exit passageway at each entrance to the building.
- 7.3.2.4 Nonrequired stairs connecting two adjacent floors shall not require hose connections.
- 7.3.2.5\* A single hose connection shall be permitted to be installed in the open corridor or open breezeway between open stairs that are not greater than 75 ft (23 m) apart.
- 7.3.2.6 Hose connections shall be provided in covered mall buildings, at the entrance to each exit passageway or exit corridor, and at the interior side of public entrances from the exterior to the mall.
- 7.3.2.7\* Hose connections shall be provided at the highest landing of stairways with stairway access to a roof.
- 7.3.2.8\* The hose connection required by 7.3.2.7 shall not be required where hose connections are installed in accordance with 7.3.2.1.1.
- 7.3.2.9 In stairways that do not access the roof, a hose connection shall be provided on the roof.



- 7.3.2.1 Hydraulic Calculations and pipe sizes for each standpipe shall be based on providing 250 gpm (946 L/min) at the two hydraulically most remote hose connections on the standpipe and at the topmost outlet of each of the other standpipes at the minimum residual pressure required by Section 7.8.
- 7.3.2.2 The maximum flow rate shall be 1000 gpm (3785 L/min) for buildings that are sprinklered throughout, in accordance with NFPA 13, and 1250 gpm (4731 L/min) for buildings that are not sprinklered throughout, in accordance with NFPA 13.
- 7.3.2.3 Flow Rate.
- 7.3.2.4 For Class I and Class III systems, the minimum flow rate for the hydraulically most remote standpipe shall be 500 gpm (1893 L/min), through the two most remote 2 1/2 in. (65 mm) outlets, and the calculation procedure shall be in accordance with 7.3.2.1.
- 7.3.2.5 Where a horizontal standpipe on a Class I or Class III system supplies three or more hose connections on any floor, the minimum flow rate for the hydraulically most demanding horizontal standpipe shall be 750 gpm (2840 L/min), and the calculation procedure shall be in accordance with 7.3.2.1.
- 7.3.2.6 The minimum flow rate for additional standpipes shall be 250 gpm (946 L/min) per standpipe for buildings with floor areas that do not exceed 80,000 ft<sup>2</sup> (7432 m<sup>2</sup>) per floor.
- 7.3.2.7 For buildings that exceed 80,000 ft<sup>2</sup> (7432 m<sup>2</sup>) per floor, the minimum flow rate for additional standpipes shall be 500 gpm (1893 L/min) for the second standpipe and 250 gpm (946 L/min) for the third standpipe if the additional flow is required for an unsprinklered building.
- 7.3.2.8 Flow rates for combined systems shall be in accordance with 7.3.2.1.
- 7.3.2.9 The maximum flow rate shall be 1000 gpm (3785 L/min) for buildings that are sprinklered throughout, in accordance with NFPA 13, and 1250 gpm (4731 L/min) for buildings that are not sprinklered throughout, in accordance with NFPA 13.

STANDARD SYMBOLS	STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	PLAN REVIEW STAMP	REVISION
# - HYDRAULIC NODE POINT	GLOBE UMC RISER	RESIDENTIAL PENDENT	BY	DESCRIPTION
- FIRE DEPT. CONNECTION	BUTTERFLY VALVE	EXTENDED COVERAGE PENDENT		
- CPVC FP PIPING	CHECK VALVE	UPRIGHT		
- STEEL FP PIPING	OS&Y VALVE	SEMI-RECESSED PENDENT		
- UNDERGROUND PIPING	BACKFLOW PREVENTER	CONCEALED PENDENT		
		DRY PENDENT		
		HORIZONTAL SIDEWALL		
		VERTICAL SIDEWALL		

STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	PLAN REVIEW STAMP	REVISION
# - HYDRAULIC NODE POINT	RESIDENTIAL PENDENT	BY	DESCRIPTION
- FIRE DEPT. CONNECTION	EXTENDED COVERAGE PENDENT		
- CPVC FP PIPING	UPRIGHT		
- STEEL FP PIPING	SEMI-RECESSED PENDENT		
- UNDERGROUND PIPING	CONCEALED PENDENT		
	DRY PENDENT		
	HORIZONTAL SIDEWALL		
	VERTICAL SIDEWALL		

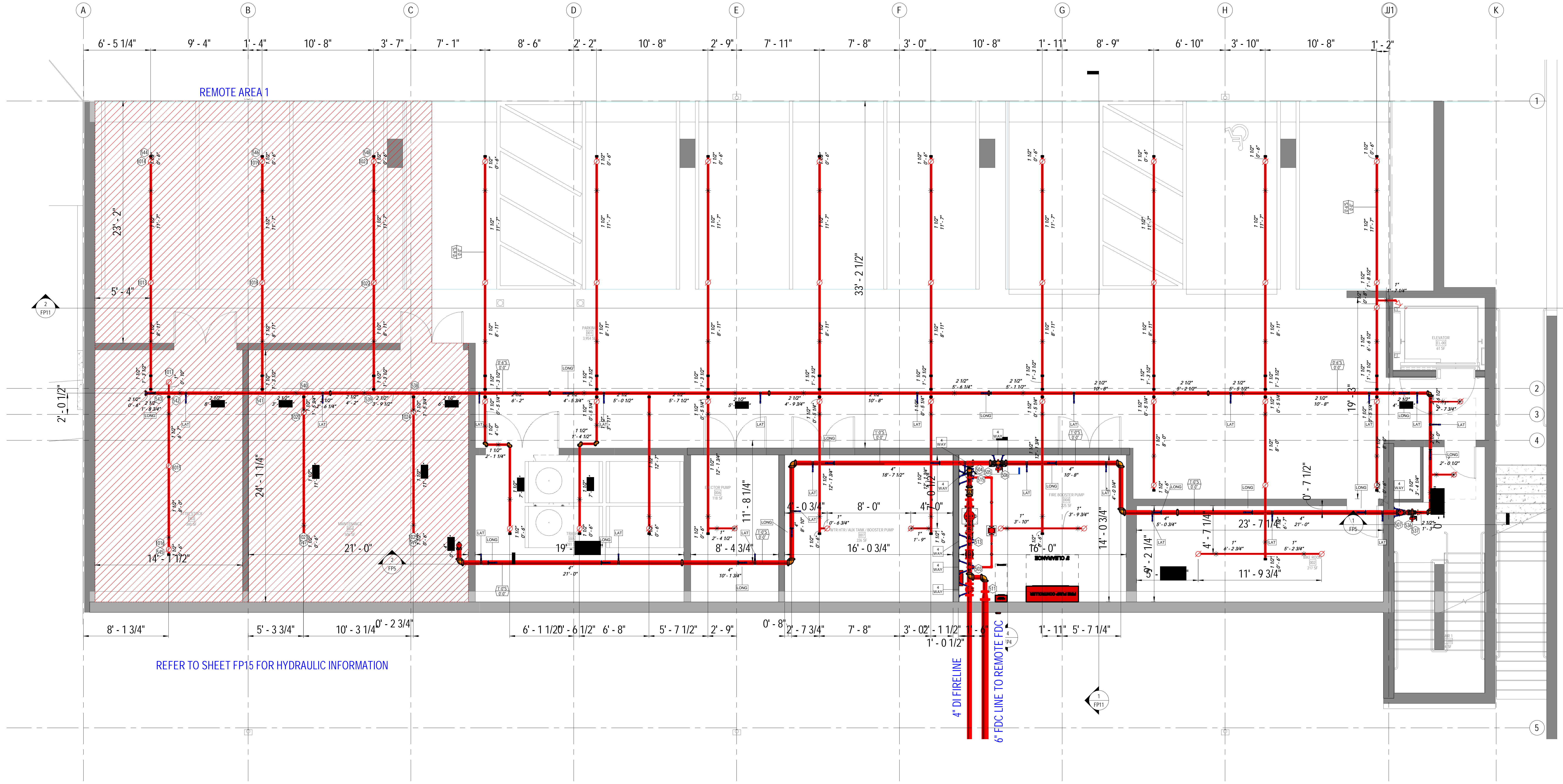
## STANDPIPE PLAN



DESIGNED BY:	SCALE:
1/4" = 1'-0"	DESIGNED BY:
	Gerard W. Ebeling
	CHECKED BY:
	CHK
	CONTRACT NO:
	2226
	DATE:
	10:16:55 AM
	DRAWING NO.
	FP5



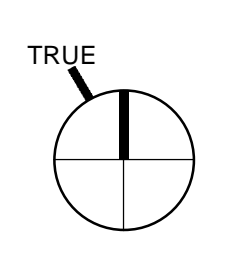
File Path: C:\Users\adamini\Dropbox\3D FIRE PROJECTS\CURRENT PROJECTS\2838 Park Avenue\2838 Park Ave FP PLAN R22.rvt  
 SOFTWARE: REVIT/MICROBIM FIRE



REFER TO SHEET FP15 FOR HYDRAULIC INFORMATION

NOTE: ALL PIPE THIS LEVEL TO BE BLACK STEEL

1 GARAGE LEVEL FP  
 1/4" = 1'-0"



STANDARD SYMBOLS	STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	PLAN REVIEW STAMP
# - HYDRAULIC NODE POINT	• - GLOBE UMC RISER	• - RESIDENTIAL PENDENT	[REVIEW STAMP]
• - FIRE DEPT. CONNECTION	• - BUTTERFLY VALVE	• - EXTENDED COVERAGE PENDENT	
• - CPVC FP PIPING	• - CHECK VALVE	• - UPRIGHT	
• - STEEL FP PIPING	• - OS&Y VALVE	• - SEMI-RECESSED PENDENT	
• - UNDERGROUND PIPING	• - BACKFLOW PREVENTER	• - CONCEALED PENDENT	
		• - DRY PENDENT	
		• - HORIZONTAL SIDEWALL	
		• - VERTICAL SIDEWALL	

REVISION	DESCRIPTION	BY

GARAGE LEVEL FP PIPING PLAN



DESIGNED BY:  
 [Signature]  
 CHECKED BY:  
 CHK  
 CONTRACT NO:  
 2226  
 DATE:  
 10:16:59 AM  
 DRAWING NO:  
 FP6

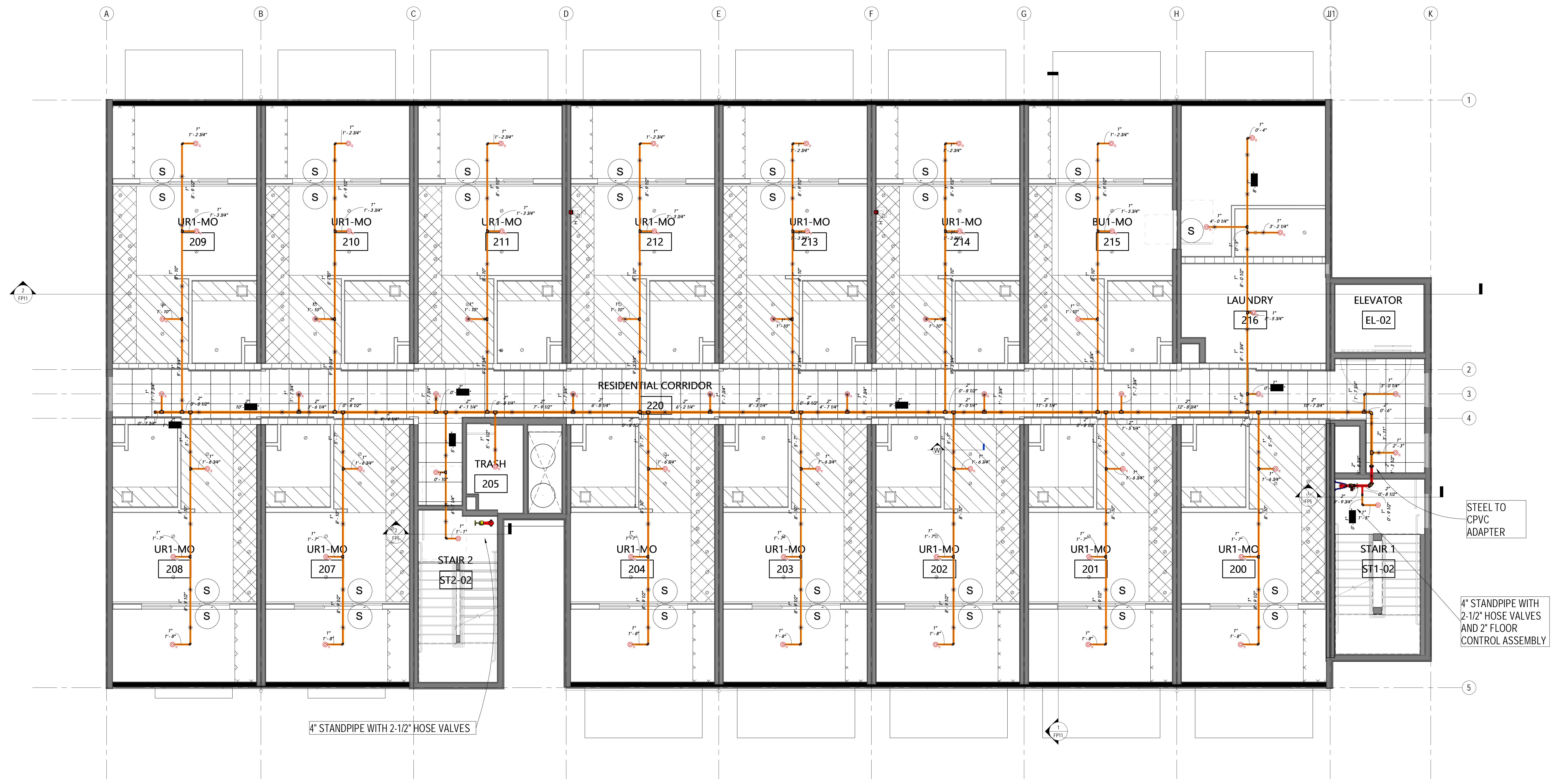
SCALE:  
 1/4" = 1'-0"  
 DESIGNED BY:  
 Gerald W. Ebeling  
 CHECKED BY:  
 CHK  
 CONTRACT NO:  
 2226  
 DATE:  
 10:16:59 AM  
 DRAWING NO:  
 FP6





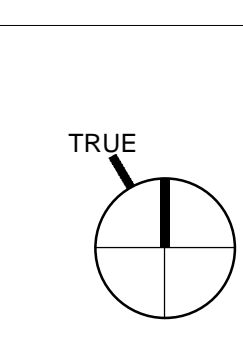


File Path: C:\Users\Administrator\Dropbox\3D FIRE PROJECTS\1 CURRENT PROJECTS\2838 PARK AVE FP PLAN R22.IVD  
 SOFTWARE: REVIT/MICROBIM FIRE



**NOTE: ALL PIPE THIS LEVEL TO BE CPVC EXCEPT STANDPIPE SYSTEM AND FLOOR CONTROL ASSEMBLY PIPING IN STAIRS**

1 LEVEL-2 FP  
1/4" = 1'-0"



STANDARD SYMBOLS	STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS
(#) - HYDRAULIC NODE POINT	(S) - GLOBE UMC RISER	(R) - RESIDENTIAL PENDENT
(-)- FIRE DEPT. CONNECTION	(B) - BUTTERFLY VALVE	(E) - EXTENDED COVERAGE PENDENT
(-)- CPVC FP PIPING	(C) - CHECK VALVE	(U) - UPRIGHT
(-)- STEEL FP PIPING	(O) - OS&Y VALVE	(S) - SEMI-RECESSED PENDENT
(-)- UNDERGROUND PIPING	(P) - BACKFLOW PREVENTER	(C) - CONCEALED PENDENT
		(D) - DRY PENDENT
		(H) - HORIZONTAL SIDEWALL
		(V) - VERTICAL SIDEWALL

PLAN REVIEW STAMP	REVISION
	DESCRIPTION
	BY

**2ND LEVEL FP PIPING PLAN**



DESIGNED BY: Gerald W. Ebeling

SCALE: 1/4" = 1'-0"

DESIGNED BY: Gerald W. Ebeling

CHECKED BY: CHK

CONTRACT NO: 2226

DATE: 10-17-10 AM

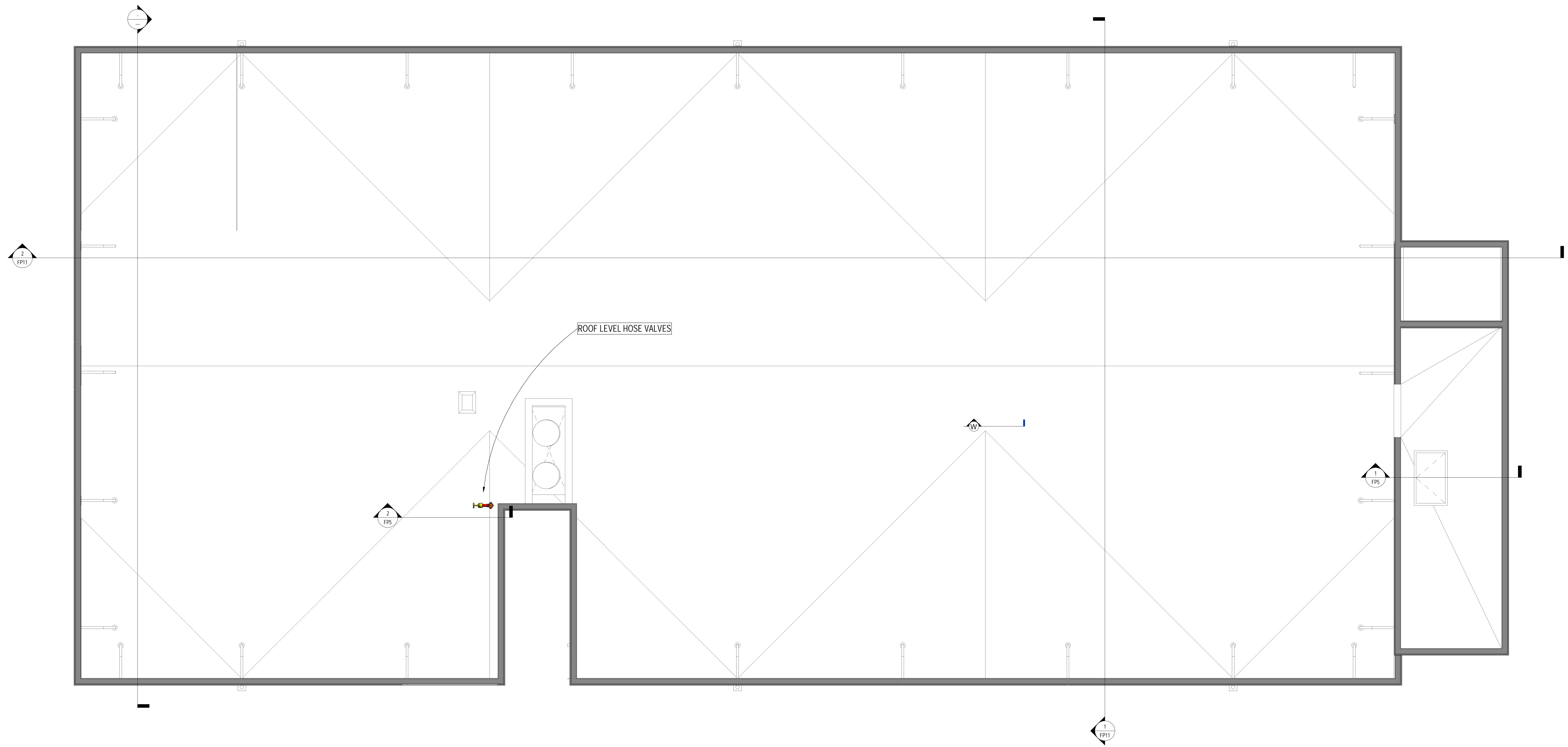
DRAWING NO: FPB







File Path: C:\Users\Adimi\Dropbox\3D FIRE PROJECTS\CURRENT PROJECTS\2838 Park Avenue\2838 Park Ave FP PLAN R22.rvt  
SOFTWARE: REVIT/MICROBIM FIRE



1 T.O. PLY @ ROOF  
1/4" = 1'-0"

STANDARD SYMBOLS	STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS
# - HYDRAULIC NODE POINT	Globe UMC Riser	Residential Pendent
- FIRE DEPT. CONNECTION	Butterfly Valve	Extended Coverage Pendent
- CPVC FP PIPING	Check Valve	Upright
- STEEL FP PIPING	OS&Y Valve	Semi-Recessed Pendent
- UNDERGROUND PIPING	Backflow Preventer	Concealed Pendent
		Dry Pendent
		Horizontal Sidewall
		Vertical Sidewall

PLAN REVIEW STAMP

REVISION	DESCRIPTION	BY

### ROOF FP PIPING PLAN



DESIGNED BY:  
Gerald W. Ebeling

CHECKED BY:  
CHK

CONTRACT NO:  
2226

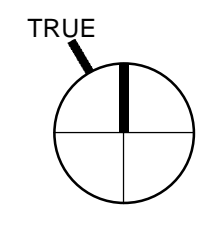
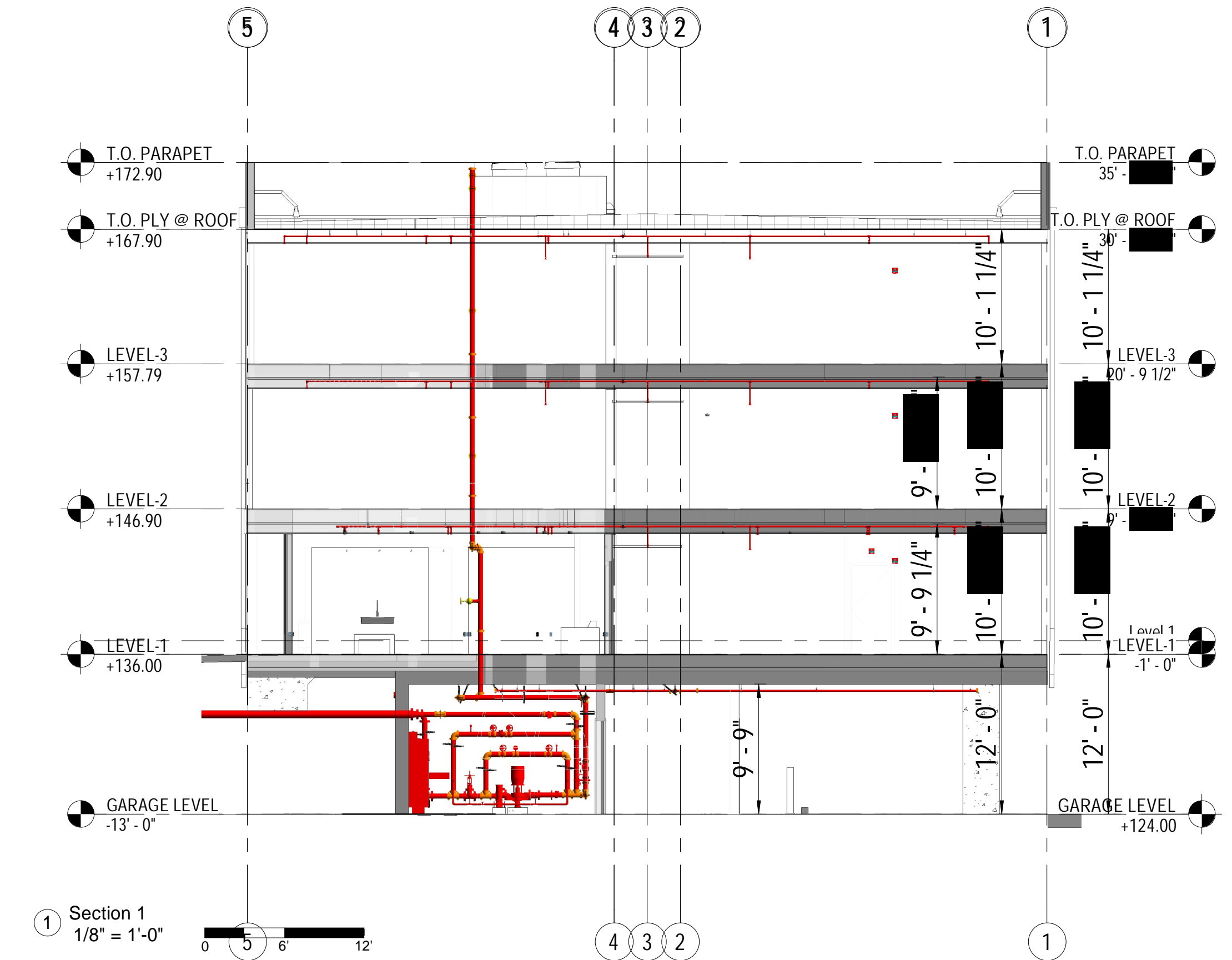
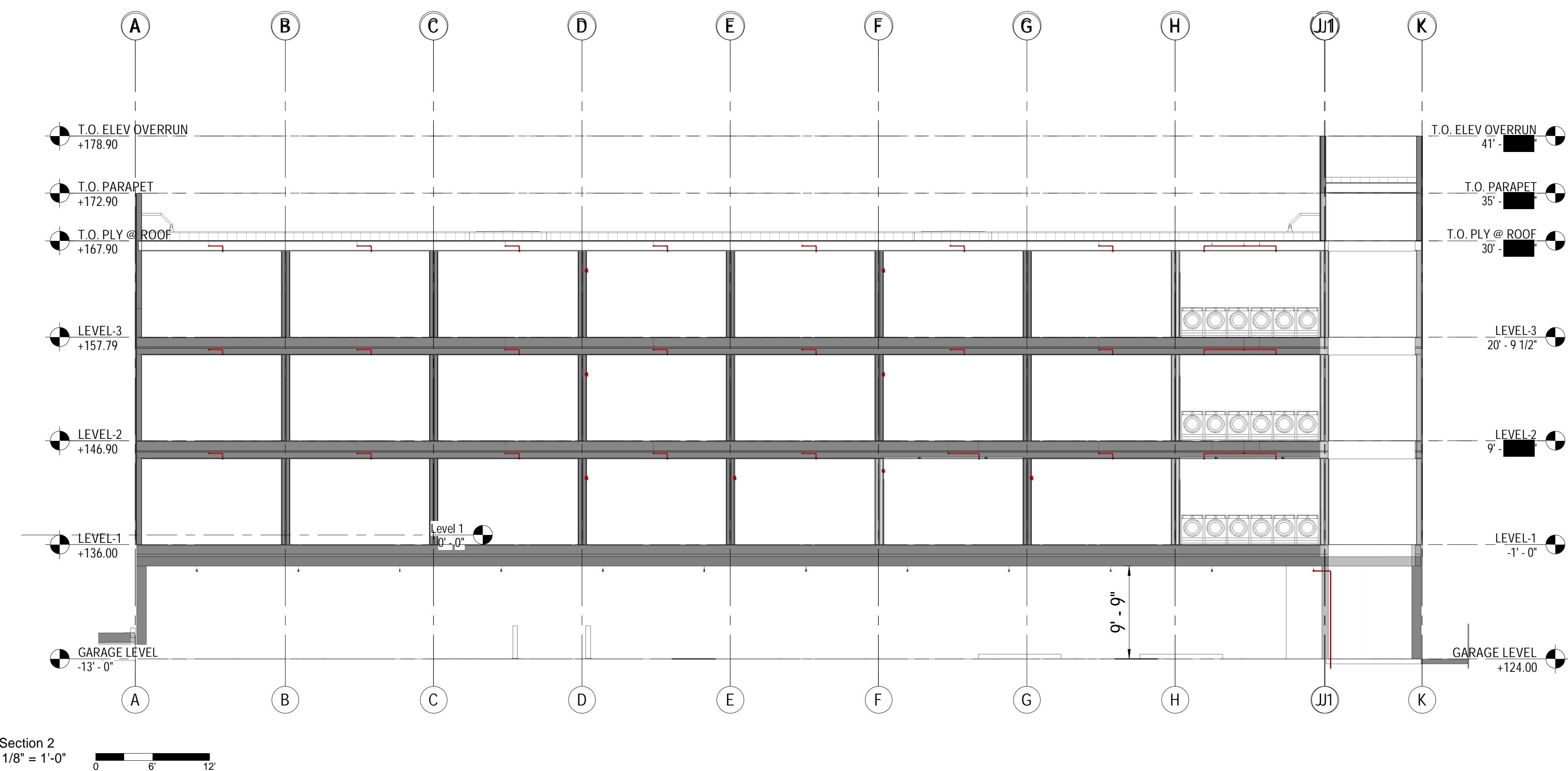
DATE:  
10:17:18 AM

DRAWING NO:  
FP10

SCALE:  
1/4" = 1'-0"



File Path: C:\Users\Admin\Dropbox\3D FIRE PROJECTS\FireCURRENT PROJECTS\2838 Park Avenue\2838 PARK AVE FP PLAN R22.rvt  
SOFTWARE: REVIT/MICROBIM FIRE



STANDARD SYMBOLS	STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	PLAN REVIEW STAMP																														
# - HYDRAULIC NODE POINT	GLOBE UMC RISER	RESIDENTIAL PENDENT	<table border="1"> <thead> <tr> <th>REVISION</th> <th>DESCRIPTION</th> <th>BY</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	REVISION	DESCRIPTION	BY																											
REVISION	DESCRIPTION	BY																															
- FIRE DEPT. CONNECTION	BUTTERFLY VALVE	EXTENDED COVERAGE PENDENT																															
- CPVC FP PIPING	CHECK VALVE	UPRIGHT																															
- STEEL FP PIPING	OS&Y VALVE	SEMI-RECESSED PENDENT																															
- UNDERGROUND PIPING	BACKFLOW PREVENTER	CONCEALED PENDENT																															
		DRY PENDENT																															
		HORIZONTAL SIDEWALL																															
		VERTICAL SIDEWALL																															

**SECTION PLAN**



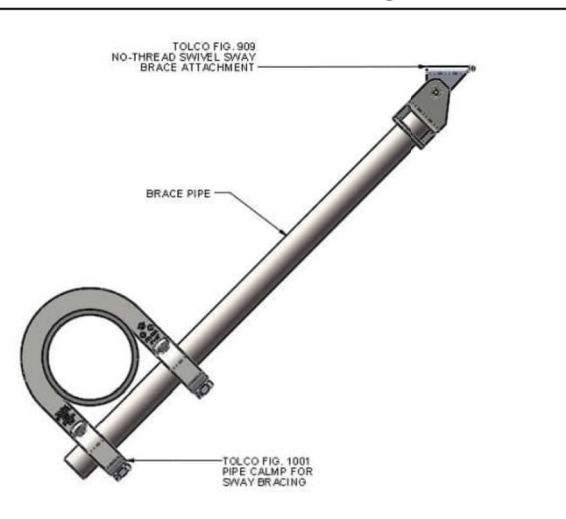
DESIGNED BY: Gerald W. Ebeling  
 CHECKED BY: CHK  
 CONTRACT NO: 2226  
 DATE: 10-17-21 AM  
 DRAWING NO: FP11

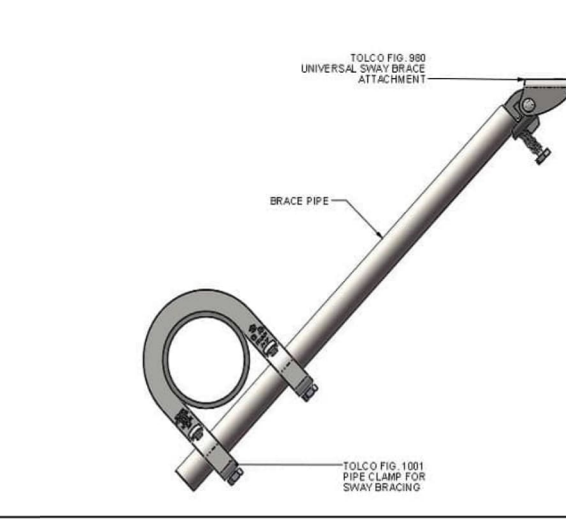
SCALE: 1/8" = 1'-0"

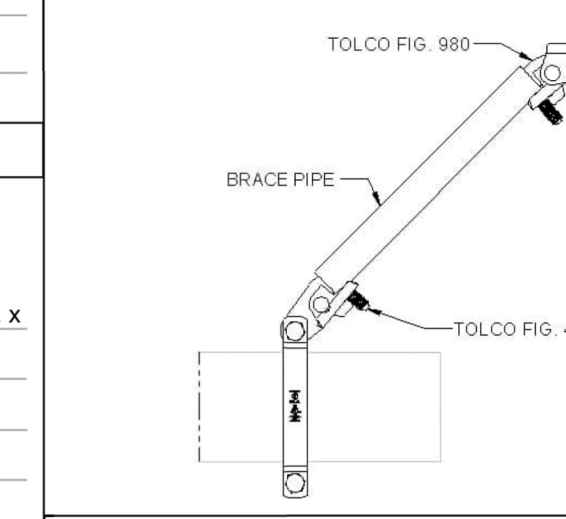


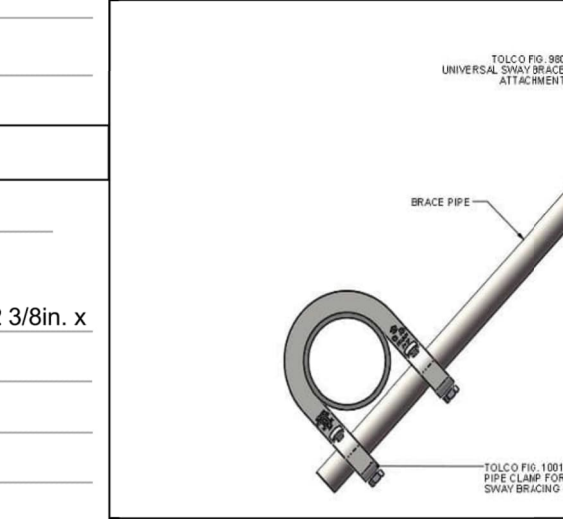


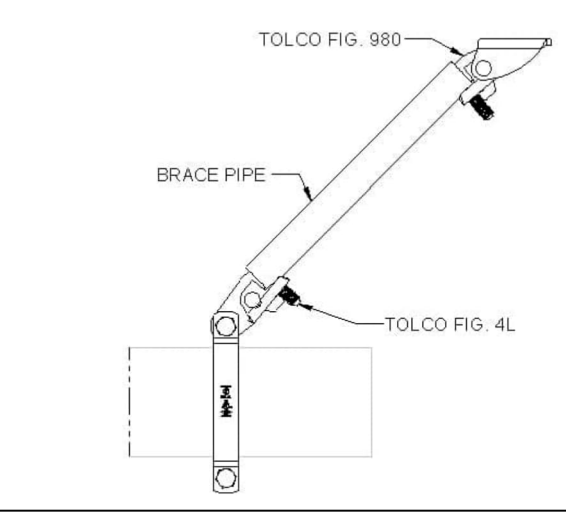


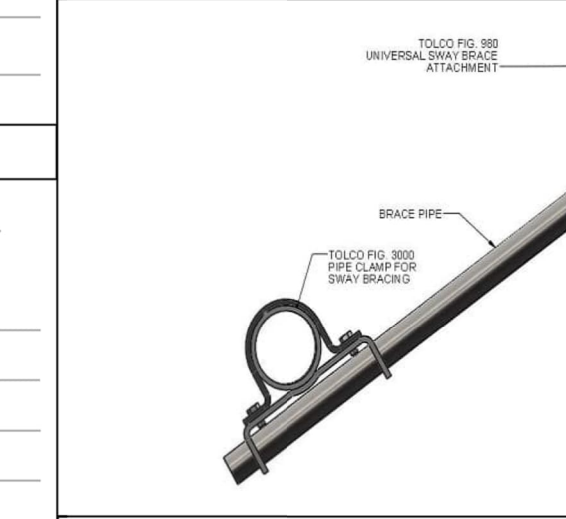
TOLBrace™ Seismic Bracing Calculations		VB.8.123										
<b>Project Address:</b> 2838 Park Ave 2838 Park Ave Soquel, Ca 95073 Job # _____		<b>Contractor:</b> 3D FIRE DESIGN, LLC <b>Address:</b> 16012 VALLEY VIEW FORNEY, TX 75126 Phone: 9722133210 License: NICET 105930 Calculations based on 2019 NFPA Pamphlet #13										
<b>Brace Information</b> Maximum Brace Length: 7' 0" (2.134 m) Diameter of Brace: 1" Type of Brace: Sch.40 Angle of Brace: 45° Min. Least Rad. of Gyration: 0.42" (11 mm) L/R Value: 200 Max Horizontal Load: 1310 lbs (594 kg)		<b>TOLCO™ Brace Components</b> <table border="1"> <thead> <tr> <th>TOLCO™ Component</th> <th>Listed Load</th> <th>Adjusted Load</th> </tr> </thead> <tbody> <tr> <td>Fig. 1001 Clamp</td> <td>1600 lbs (726 kg)</td> <td>1131 lbs (513 kg)</td> </tr> <tr> <td>Fig. 900 - 3/8" No-Thread Swt.</td> <td>1370 lbs (621 kg)</td> <td>969 lbs (440 kg)</td> </tr> </tbody> </table> <p>*Calculation Based on CONCENTRIC Loading            *Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.</p>		TOLCO™ Component	Listed Load	Adjusted Load	Fig. 1001 Clamp	1600 lbs (726 kg)	1131 lbs (513 kg)	Fig. 900 - 3/8" No-Thread Swt.	1370 lbs (621 kg)	969 lbs (440 kg)
TOLCO™ Component	Listed Load	Adjusted Load										
Fig. 1001 Clamp	1600 lbs (726 kg)	1131 lbs (513 kg)										
Fig. 900 - 3/8" No-Thread Swt.	1370 lbs (621 kg)	969 lbs (440 kg)										
<b>Fastener Information</b> Orientation to Connecting Surface: NFPA Type B Fastener Type: DeWalt Wood-Knocker II + 3/8in. C Diameter: 3/8in. Length: N/A Maximum Load: 172 lbs (78 kg)		<b>Seismic Brace Assembly Detail</b> 										
<b>Brace Identification on Plans</b> 4-WAY Brace Type: Lateral [ ] Longitudinal [ ] 4-Way [X]		<b>Brace Identification on Plans</b> SB1 Brace Type: Lateral [X] Longitudinal [ ] 4-Way [ ]										
<b>Sprinkler System Load Calculation (Fpw = CpWp)</b> Cp = 0.9116												
Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight							
4" (100 mm)	Eddy-Flow	10 ft (3 m)	10 ft (3 m)	11.29 lb/ft (16.8 kg/m)	113 lbs (51 kg)							
				Subtotal Weight:	113 lbs (51 kg)							
				Wp (incl. 15%):	130 lbs (59 kg)							
				Total (Fpw):	118 lbs (54 kg)							
				Maximum Fpw per 18.5.5.2 (if applicable):	N/A							

TOLBrace™ Seismic Bracing Calculations		VB.8.123										
<b>Project Address:</b> 2838 Park Ave 2838 Park Ave Soquel, Ca 95073 Job # _____		<b>Contractor:</b> 3D FIRE DESIGN, LLC <b>Address:</b> 16012 VALLEY VIEW FORNEY, TX 75126 Phone: 9722133210 License: NICET 105930 Calculations based on 2019 NFPA Pamphlet #13										
<b>Brace Information</b> Maximum Brace Length: 7' 0" (2.134 m) Diameter of Brace: 1" Type of Brace: Sch.40 Angle of Brace: 45° Min. Least Rad. of Gyration: 0.42" (11 mm) L/R Value: 200 Max Horizontal Load: 1310 lbs (594 kg)		<b>TOLCO™ Brace Components</b> <table border="1"> <thead> <tr> <th>TOLCO™ Component</th> <th>Listed Load</th> <th>Adjusted Load</th> </tr> </thead> <tbody> <tr> <td>Fig. 1001 Clamp</td> <td>2000 lbs (907 kg)</td> <td>1414 lbs (641 kg)</td> </tr> <tr> <td>Fig. 980 - 3/8" Universal Swive</td> <td>1600 lbs (726 kg)</td> <td>1131 lbs (513 kg)</td> </tr> </tbody> </table> <p>*Calculation Based on CONCENTRIC Loading            *Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.</p>		TOLCO™ Component	Listed Load	Adjusted Load	Fig. 1001 Clamp	2000 lbs (907 kg)	1414 lbs (641 kg)	Fig. 980 - 3/8" Universal Swive	1600 lbs (726 kg)	1131 lbs (513 kg)
TOLCO™ Component	Listed Load	Adjusted Load										
Fig. 1001 Clamp	2000 lbs (907 kg)	1414 lbs (641 kg)										
Fig. 980 - 3/8" Universal Swive	1600 lbs (726 kg)	1131 lbs (513 kg)										
<b>Fastener Information</b> Orientation to Connecting Surface: NFPA Type B Fastener Type: DeWalt Power-Stud+ SD2 3/8in. x Diameter: 3/8in. Length: 2 3/8in. Maximum Load: 289 lbs (131 kg)		<b>Seismic Brace Assembly Detail</b> 										
<b>Brace Identification on Plans</b> SB1 Brace Type: Lateral [X] Longitudinal [ ] 4-Way [ ]		<b>Brace Identification on Plans</b> SB1 Brace Type: Lateral [X] Longitudinal [ ] 4-Way [ ]										
<b>Sprinkler System Load Calculation (Fpw = CpWp)</b> Cp = 0.9116												
Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight							
4" (100 mm)	Eddy-Flow	20 ft (6.1 m)	20 ft (6.1 m)	11.29 lb/ft (16.8 kg/m)	226 lbs (103 kg)							
				Subtotal Weight:	226 lbs (103 kg)							
				Wp (incl. 15%):	260 lbs (118 kg)							
				Total (Fpw):	237 lbs (107 kg)							
				Maximum Fpw per 18.5.5.2 (if applicable):	1544 lb (700 kg)							

TOLBrace™ Seismic Bracing Calculations		VB.8.123										
<b>Project Address:</b> 2838 Park Ave 2838 Park Ave Soquel, Ca 95073 Job # _____		<b>Contractor:</b> 3D FIRE DESIGN, LLC <b>Address:</b> 16012 VALLEY VIEW FORNEY, TX 75126 Phone: 9722133210 License: NICET 105930 Calculations based on 2019 NFPA Pamphlet #13										
<b>Brace Information</b> Maximum Brace Length: 7' 0" (2.134 m) Diameter of Brace: 1" Type of Brace: Sch.40 Angle of Brace: 45° Min. Least Rad. of Gyration: 0.42" (11 mm) L/R Value: 200 Max Horizontal Load: 1310 lbs (594 kg)		<b>TOLCO™ Brace Components</b> <table border="1"> <thead> <tr> <th>TOLCO™ Component</th> <th>Listed Load</th> <th>Adjusted Load</th> </tr> </thead> <tbody> <tr> <td>Fig. 4L Clamp</td> <td>2000 lbs (907 kg)</td> <td>1414 lbs (641 kg)</td> </tr> <tr> <td>Fig. 980 - 3/8" Universal Swive</td> <td>1600 lbs (726 kg)</td> <td>1131 lbs (513 kg)</td> </tr> </tbody> </table> <p>*Calculation Based on CONCENTRIC Loading            *Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.</p>		TOLCO™ Component	Listed Load	Adjusted Load	Fig. 4L Clamp	2000 lbs (907 kg)	1414 lbs (641 kg)	Fig. 980 - 3/8" Universal Swive	1600 lbs (726 kg)	1131 lbs (513 kg)
TOLCO™ Component	Listed Load	Adjusted Load										
Fig. 4L Clamp	2000 lbs (907 kg)	1414 lbs (641 kg)										
Fig. 980 - 3/8" Universal Swive	1600 lbs (726 kg)	1131 lbs (513 kg)										
<b>Fastener Information</b> Orientation to Connecting Surface: NFPA Type B Fastener Type: DeWalt Power-Stud+ SD2 3/8in. x Diameter: 3/8in. Length: 2 3/8in. Maximum Load: 289 lbs (131 kg)		<b>Seismic Brace Assembly Detail</b> 										
<b>Brace Identification on Plans</b> SB2 Brace Type: Lateral [ ] Longitudinal [X] 4-Way [ ]		<b>Brace Identification on Plans</b> SB2 Brace Type: Lateral [ ] Longitudinal [X] 4-Way [ ]										
<b>Sprinkler System Load Calculation (Fpw = CpWp)</b> Cp = 0.9116												
Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight							
4" (100 mm)	Eddy-Flow	20 ft (6.1 m)	20 ft (6.1 m)	11.29 lb/ft (16.8 kg/m)	226 lbs (103 kg)							
				Subtotal Weight:	226 lbs (103 kg)							
				Wp (incl. 15%):	260 lbs (118 kg)							
				Total (Fpw):	237 lbs (107 kg)							
				Maximum Fpw per 18.5.5.2 (if applicable):	N/A							

TOLBrace™ Seismic Bracing Calculations		VB.8.123										
<b>Project Address:</b> 2838 Park Ave 2838 Park Ave Soquel, Ca 95073 Job # _____		<b>Contractor:</b> 3D FIRE DESIGN, LLC <b>Address:</b> 16012 VALLEY VIEW FORNEY, TX 75126 Phone: 9722133210 License: NICET 105930 Calculations based on 2019 NFPA Pamphlet #13										
<b>Brace Information</b> Maximum Brace Length: 7' 0" (2.134 m) Diameter of Brace: 1" Type of Brace: Sch.40 Angle of Brace: 45° Min. Least Rad. of Gyration: 0.42" (11 mm) L/R Value: 200 Max Horizontal Load: 1310 lbs (594 kg)		<b>TOLCO™ Brace Components</b> <table border="1"> <thead> <tr> <th>TOLCO™ Component</th> <th>Listed Load</th> <th>Adjusted Load</th> </tr> </thead> <tbody> <tr> <td>Fig. 1001 Clamp</td> <td>2000 lbs (907 kg)</td> <td>1414 lbs (641 kg)</td> </tr> <tr> <td>Fig. 980 - 3/8" Universal Swive</td> <td>1600 lbs (726 kg)</td> <td>1131 lbs (513 kg)</td> </tr> </tbody> </table> <p>*Calculation Based on CONCENTRIC Loading            *Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.</p>		TOLCO™ Component	Listed Load	Adjusted Load	Fig. 1001 Clamp	2000 lbs (907 kg)	1414 lbs (641 kg)	Fig. 980 - 3/8" Universal Swive	1600 lbs (726 kg)	1131 lbs (513 kg)
TOLCO™ Component	Listed Load	Adjusted Load										
Fig. 1001 Clamp	2000 lbs (907 kg)	1414 lbs (641 kg)										
Fig. 980 - 3/8" Universal Swive	1600 lbs (726 kg)	1131 lbs (513 kg)										
<b>Fastener Information</b> Orientation to Connecting Surface: NFPA Type B Fastener Type: DeWalt Power-Stud+ SD2 3/8in. x Diameter: 3/8in. Length: 2 3/8in. Maximum Load: 289 lbs (131 kg)		<b>Seismic Brace Assembly Detail</b> 										
<b>Brace Identification on Plans</b> SB3 Brace Type: Lateral [X] Longitudinal [ ] 4-Way [ ]		<b>Brace Identification on Plans</b> SB3 Brace Type: Lateral [X] Longitudinal [ ] 4-Way [ ]										
<b>Sprinkler System Load Calculation (Fpw = CpWp)</b> Cp = 0.9116												
Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight							
2.5" (65 mm)	Eddy-Flow	15 ft (4.6 m)	15 ft (4.6 m)	5.3 lb/ft (7.89 kg/m)	80 lbs (36 kg)							
1.5" (40 mm)	Eddy-Flow	60 ft (18.3 m)	60 ft (18.3 m)	2.86 lb/ft (4.26 kg/m)	172 lbs (78 kg)							
				Subtotal Weight:	252 lbs (114 kg)							
				Wp (incl. 15%):	290 lbs (131 kg)							
				Total (Fpw):	284 lbs (129 kg)							
				Maximum Fpw per 18.5.5.2 (if applicable):	549 lb (249 kg)							

TOLBrace™ Seismic Bracing Calculations		VB.8.123										
<b>Project Address:</b> 2838 Park Ave 2838 Park Ave Soquel, Ca 95073 Job # _____		<b>Contractor:</b> 3D FIRE DESIGN, LLC <b>Address:</b> 16012 VALLEY VIEW FORNEY, TX 75126 Phone: 9722133210 License: NICET 105930 Calculations based on 2019 NFPA Pamphlet #13										
<b>Brace Information</b> Maximum Brace Length: 7' 0" (2.134 m) Diameter of Brace: 1" Type of Brace: Sch.40 Angle of Brace: 45° Min. Least Rad. of Gyration: 0.42" (11 mm) L/R Value: 200 Max Horizontal Load: 1310 lbs (594 kg)		<b>TOLCO™ Brace Components</b> <table border="1"> <thead> <tr> <th>TOLCO™ Component</th> <th>Listed Load</th> <th>Adjusted Load</th> </tr> </thead> <tbody> <tr> <td>Fig. 4L Clamp</td> <td>2000 lbs (907 kg)</td> <td>1414 lbs (641 kg)</td> </tr> <tr> <td>Fig. 980 - 3/8" Universal Swive</td> <td>1600 lbs (726 kg)</td> <td>1131 lbs (513 kg)</td> </tr> </tbody> </table> <p>*Calculation Based on CONCENTRIC Loading            *Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.</p>		TOLCO™ Component	Listed Load	Adjusted Load	Fig. 4L Clamp	2000 lbs (907 kg)	1414 lbs (641 kg)	Fig. 980 - 3/8" Universal Swive	1600 lbs (726 kg)	1131 lbs (513 kg)
TOLCO™ Component	Listed Load	Adjusted Load										
Fig. 4L Clamp	2000 lbs (907 kg)	1414 lbs (641 kg)										
Fig. 980 - 3/8" Universal Swive	1600 lbs (726 kg)	1131 lbs (513 kg)										
<b>Fastener Information</b> Orientation to Connecting Surface: NFPA Type B Fastener Type: DeWalt Power-Stud+ SD2 3/8in. x Diameter: 3/8in. Length: 2 3/8in. Maximum Load: 289 lbs (131 kg)		<b>Seismic Brace Assembly Detail</b> 										
<b>Brace Identification on Plans</b> SB4 Brace Type: Lateral [ ] Longitudinal [X] 4-Way [ ]		<b>Brace Identification on Plans</b> SB4 Brace Type: Lateral [ ] Longitudinal [X] 4-Way [ ]										
<b>Sprinkler System Load Calculation (Fpw = CpWp)</b> Cp = 0.9116												
Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight							
2.5" (65 mm)	Eddy-Flow	40 ft (12.2 m)	40 ft (12.2 m)	5.3 lb/ft (7.89 kg/m)	212 lbs (96 kg)							
				Subtotal Weight:	212 lbs (96 kg)							
				Wp (incl. 15%):	244 lbs (111 kg)							
				Total (Fpw):	222 lbs (101 kg)							
				Maximum Fpw per 18.5.5.2 (if applicable):	N/A							

TOLBrace™ Seismic Bracing Calculations		VB.8.123										
<b>Project Address:</b> 2838 Park Ave 2838 Park Ave Soquel, Ca 95073 Job # _____		<b>Contractor:</b> 3D FIRE DESIGN, LLC <b>Address:</b> 16012 VALLEY VIEW FORNEY, TX 75126 Phone: 9722133210 License: NICET 105930 Calculations based on 2019 NFPA Pamphlet #13										
<b>Brace Information</b> Maximum Brace Length: 7' 0" (2.134 m) Diameter of Brace: 1" Type of Brace: Sch.40 Angle of Brace: 30° Min. Least Rad. of Gyration: 0.42" (11 mm) L/R Value: 200 Max Horizontal Load: 926 lbs (420 kg)		<b>TOLCO™ Brace Components</b> <table border="1"> <thead> <tr> <th>TOLCO™ Component</th> <th>Listed Load</th> <th>Adjusted Load</th> </tr> </thead> <tbody> <tr> <td>Fig. 3000 Clamp</td> <td>700 lbs (318 kg)</td> <td>350 lbs (159 kg)</td> </tr> <tr> <td>Fig. 980 - 3/8" Universal Swive</td> <td>1600 lbs (726 kg)</td> <td>800 lbs (363 kg)</td> </tr> </tbody> </table> <p>*Calculation Based on CONCENTRIC Loading            *Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.</p>		TOLCO™ Component	Listed Load	Adjusted Load	Fig. 3000 Clamp	700 lbs (318 kg)	350 lbs (159 kg)	Fig. 980 - 3/8" Universal Swive	1600 lbs (726 kg)	800 lbs (363 kg)
TOLCO™ Component	Listed Load	Adjusted Load										
Fig. 3000 Clamp	700 lbs (318 kg)	350 lbs (159 kg)										
Fig. 980 - 3/8" Universal Swive	1600 lbs (726 kg)	800 lbs (363 kg)										
<b>Fastener Information</b> Orientation to Connecting Surface: NFPA Type D Fastener Type: 1/2in. x 3 1/2in. Thru Bolt Diameter: 1/2in. Length: 3 1/2in. Maximum Load: 200 lbs (91 kg)		<b>Seismic Brace Assembly Detail</b> 										
<b>Brace Identification on Plans</b> SB5 Brace Type: Lateral [X] Longitudinal [ ] 4-Way [ ]		<b>Brace Identification on Plans</b> SB5 Brace Type: Lateral [X] Longitudinal [ ] 4-Way [ ]										
<b>Sprinkler System Load Calculation (Fpw = CpWp)</b> Cp = 0.9116												
Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight							
2" (50 mm)	CPVC	80 ft (24.4 m)	80 ft (24.4 m)	2.241 lb/ft (3.31 kg/m)	178 lbs (81 kg)							
				Subtotal Weight:	178 lbs (81 kg)							
				Wp (incl. 15%):	205 lbs (93 kg)							
				Total (Fpw):	187 lbs (85 kg)							
				Maximum Fpw per 18.5.5.2 (if applicable):	Contact Pipe Manufacturer							

STANDARD SYMBOLS	STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	PLAN REVIEW STAMP	REVISION
# - HYDRAULIC NODE POINT	👤 - GLOBE UMC RISER	🔴 - RESIDENTIAL PENDENT		DESCRIPTION
🔗 - FIRE DEPT. CONNECTION	👤 - BUTTERFLY VALVE	🔵 - EXTENDED COVERAGE PENDENT		
🔴 - CPVC FP PIPING	👤 - CHECK VALVE	🟩 - UPRIGHT		
🔴 - STEEL FP PIPING	👤 - OS&Y VALVE	🟩 - SEMI-RECESSED PENDENT		
🔴 - UNDERGROUND PIPING	👤 - BACKFLOW PREVENTER	🟩 - CONCEALED PENDENT		
		🟩 - DRY PENDENT		
		🟩 - HORIZONTAL SIDEWALL		
		🟩 - VERTICAL SIDEWALL		

### SEISMIC CALC PLAN

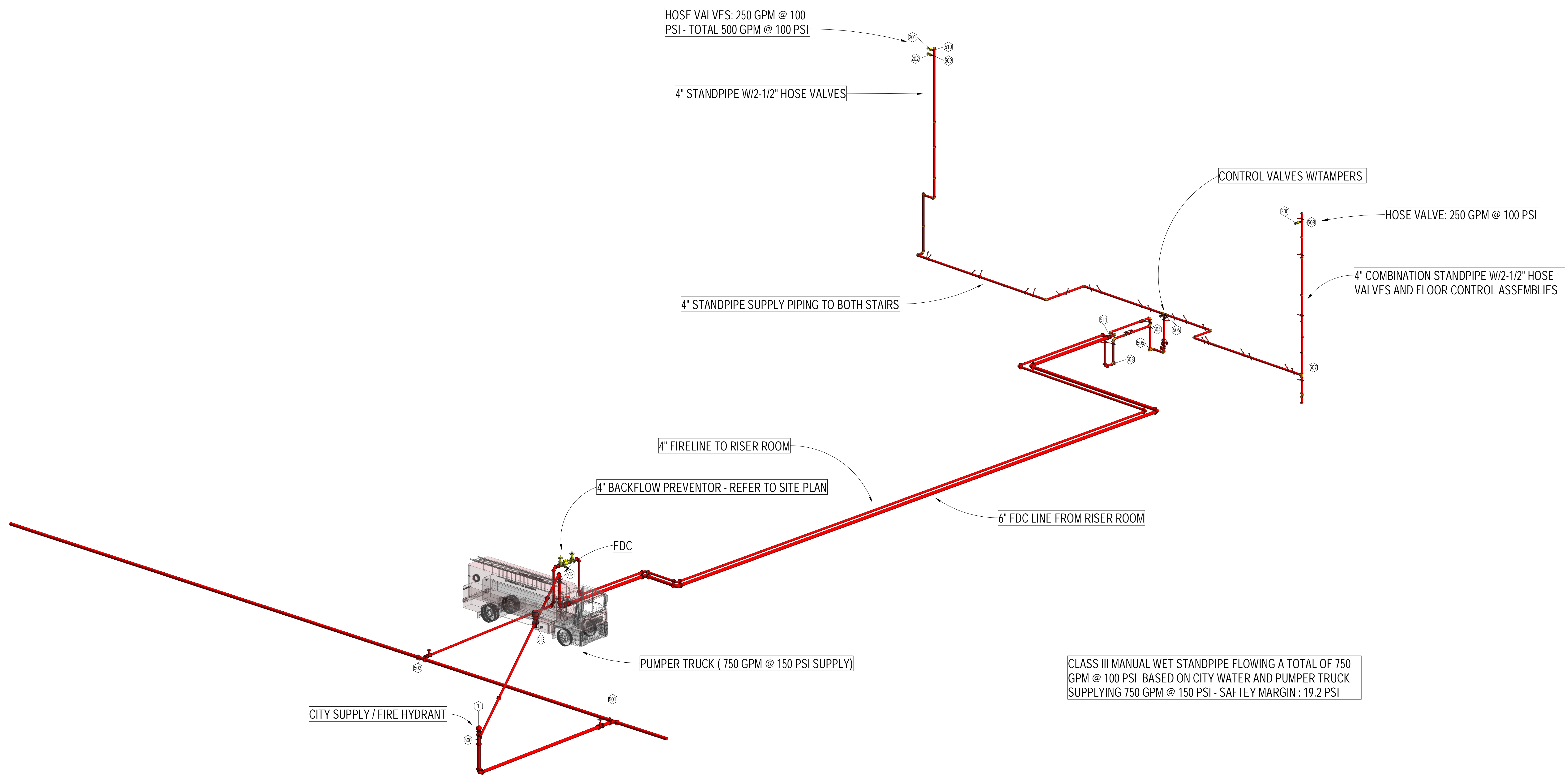


DESIGNED BY: Gerald W. Ebeling	SCALE:
CHECKED BY: CHK	DESIGNED BY: Gerald W. Ebeling
CONTRACT NO: 2226	CHECKED BY: CHK
DATE: 10.17.25 AM	CONTRACT NO: 2226
DRAWING NO: FP13	DATE: 10.17.25 AM

File Path: C:\Users\ADMINI~1\Dropbox\3D FIRE PROJECTS\CURRENT PROJECTS\2838 Park Avenue\2838 Park Ave FP PLAN R22.rvt

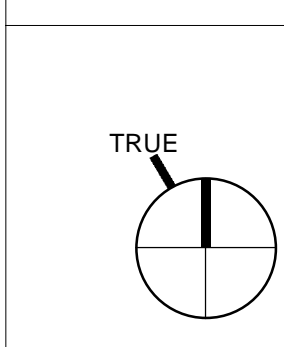


File Path: C:\Users\Admin\Dropbox\3D FIRE PROJECTS\1 - CURRENT PROJECTS\2838 Park Avenue\2838 Park Ave FP PLAN R22.rvt



1 3D STANDPIPE PLAN\_02

CLASS III MANUAL WET STANDPIPE FLOWING A TOTAL OF 750 GPM @ 100 PSI. BASED ON CITY WATER AND PUMPER TRUCK SUPPLYING 750 GPM @ 150 PSI - SAFETY MARGIN : 19.2 PSI



SOFTWARE: REVIT/MICROBIM FIRE

STANDARD SYMBOLS	STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	PLAN REVIEW STAMP
# - HYDRAULIC NODE POINT	GLOBE UMC RISER	RESIDENTIAL PENDENT	
- FIRE DEPT. CONNECTION	BUTTERFLY VALVE	EXTENDED COVERAGE PENDENT	
- CPVC FP PIPING	CHECK VALVE	UPRIGHT	
- STEEL FP PIPING	OS&Y VALVE	SEMI-RECESSED PENDENT	
- UNDERGROUND PIPING	BACKFLOW PREVENTER	CONCEALED PENDENT	
		DRY PENDENT	
		HORIZONTAL SIDEWALL	
		VERTICAL SIDEWALL	

REVISION	DESCRIPTION	BY

**STANDPIPE CALC NODE ISO PLAN**



DESIGNED BY: Gerald W. Ebeling  
 CHECKED BY: CHK  
 CONTRACT NO: 2226  
 DATE: 10-17-27 AM  
 DRAWING NO: FP14

SCALE: [Redacted]



REMOTE AREA 1

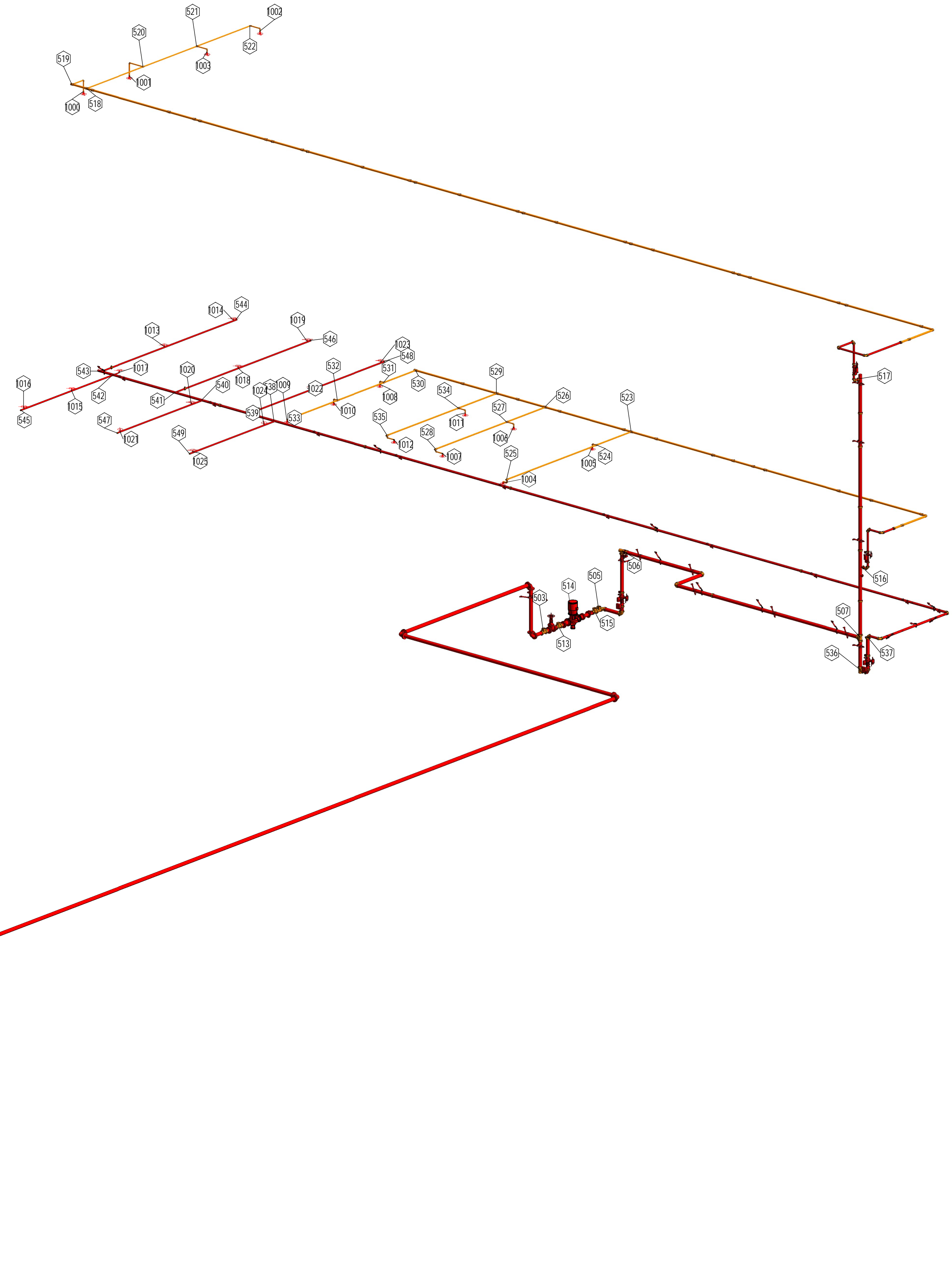
Calculation Summary	
Demand Flow	554.141 (gpm)
Demand Pressure	11.148 (psi)
Source Flow	554.141 (gpm)
Source Pressure	41.782 (psi)
BOR Flow	304.141 (gpm)
BOR Pressure	60.687 (psi)
Safety Margin	30.633 (psi)
Heads Flowing	13
Total Head Flow	304.141 (gpm)
Min Head Flow	22.781 (gpm)
Max Head Flow	24.504 (gpm)
Avg Head Flow	23.395 (gpm)
Max Velocity	17.894 (ft/s)

REMOTE AREA 2

Calculation Summary	
Demand Flow	326.078 (gpm)
Demand Pressure	18.916 (psi)
Source Flow	326.078 (gpm)
Source Pressure	43.168 (psi)
BOR Flow	226.078 (gpm)
BOR Pressure	73.564 (psi)
Safety Margin	24.252 (psi)
Heads Flowing	9
Total Head Flow	226.078 (gpm)
Min Head Flow	22.5 (gpm)
Max Head Flow	28.26 (gpm)
Avg Head Flow	25.12 (gpm)
Max Velocity	23.019 (ft/s)

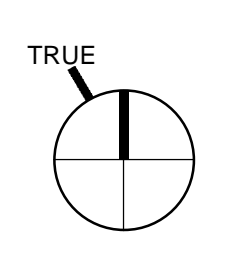
REMOTE AREA 3

Calculation Summary	
Demand Flow	195.395 (gpm)
Demand Pressure	6.979 (psi)
Source Flow	195.395 (gpm)
Source Pressure	43.677 (psi)
BOR Flow	95.395 (gpm)
BOR Pressure	64.972 (psi)
Safety Margin	36.698 (psi)
Heads Flowing	4
Total Head Flow	95.395 (gpm)
Min Head Flow	21.341 (gpm)
Max Head Flow	28.095 (gpm)
Avg Head Flow	23.849 (gpm)
Max Velocity	22.679 (ft/s)



1 3D CALC PLAN

File Path: C:\Users\Administrator\Dropbox\3D FIRE PROJECTS\FireCURRENT PROJECTS\2838 Park Avenue\2838 Park Ave FP PLAN R22.rvt  
SOFTWARE: REVIT/MICROBIM FIRE



STANDARD SYMBOLS	STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	PLAN REVIEW STAMP	REVISION
# - HYDRAULIC NODE POINT	Globe UMC Riser - GLOBE UMC RISER	Residential Pendent - RESIDENTIAL PENDENT		DESCRIPTION
- FIRE DEPT. CONNECTION	Butterfly Valve - BUTTERFLY VALVE	Extended Coverage Pendent - EXTENDED COVERAGE PENDENT		BY
- CPVC FP PIPING	Check Valve - CHECK VALVE	Upright - UPRIGHT		
- STEEL FP PIPING	OS&Y Valve - OS&Y VALVE	Semi-Recessed Pendent - SEMI-RECESSED PENDENT		
- UNDERGROUND PIPING	Backflow Preventer - BACKFLOW PREVENTER	Concealed Pendent - CONCEALED PENDENT		
		Dry Pendent - DRY PENDENT		
		Horizontal Sidewall - HORIZONTAL SIDEWALL		
		Vertical Sidewall - VERTICAL SIDEWALL		

CALC NODE ISO PLAN



DESIGNED BY: [Redacted]

CHECKED BY: CHK

CONTRACT NO: 2226

DATE: 10-17-20 AM

DRAWING NO: FP15

SCALE:

DESIGNED BY: Gerald W. Ebeling

CHECKED BY: CHK

CONTRACT NO: 2226

DATE: 10-17-20 AM

DRAWING NO: FP15