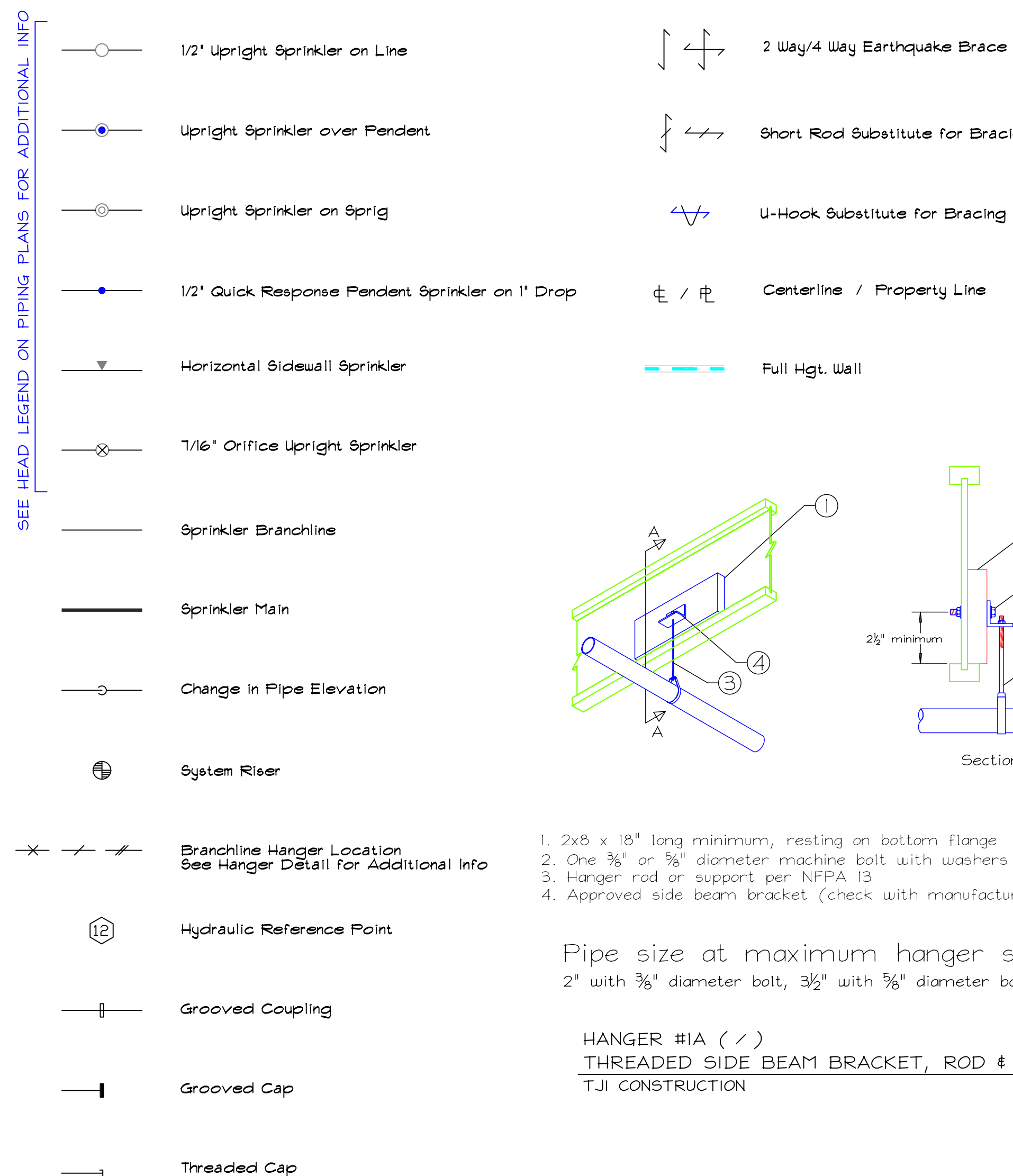
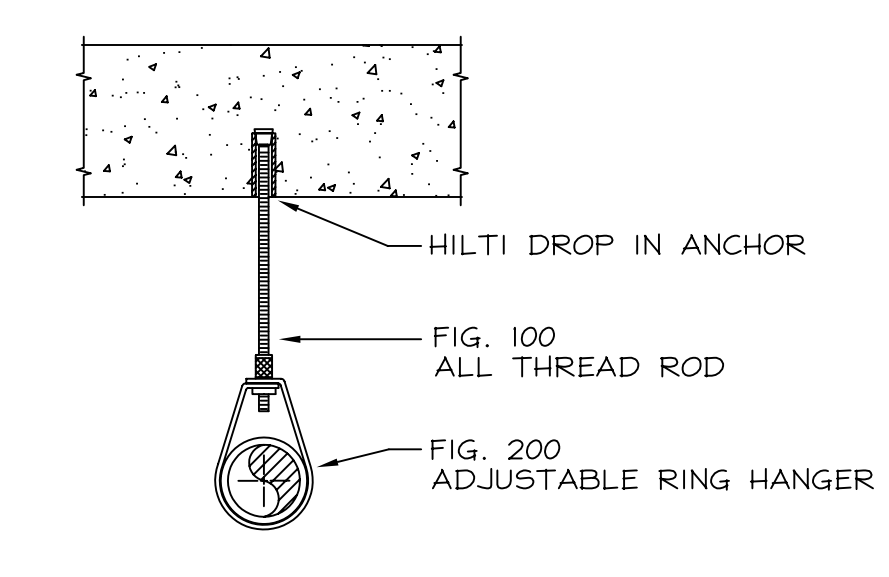
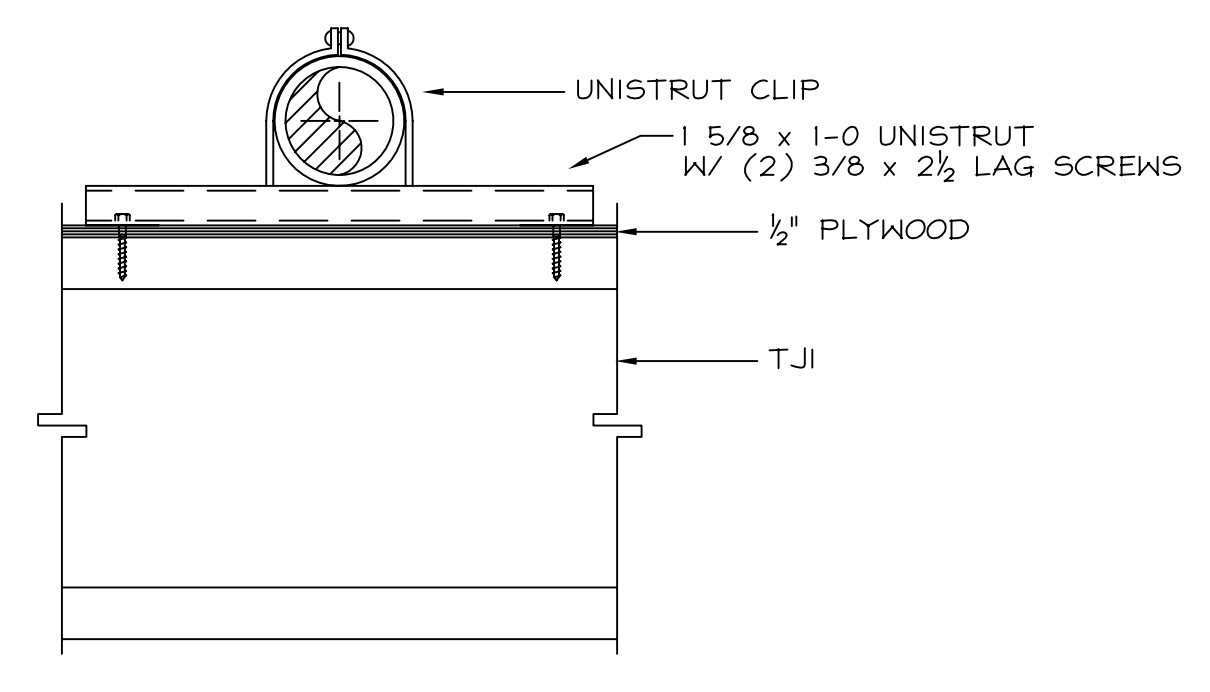
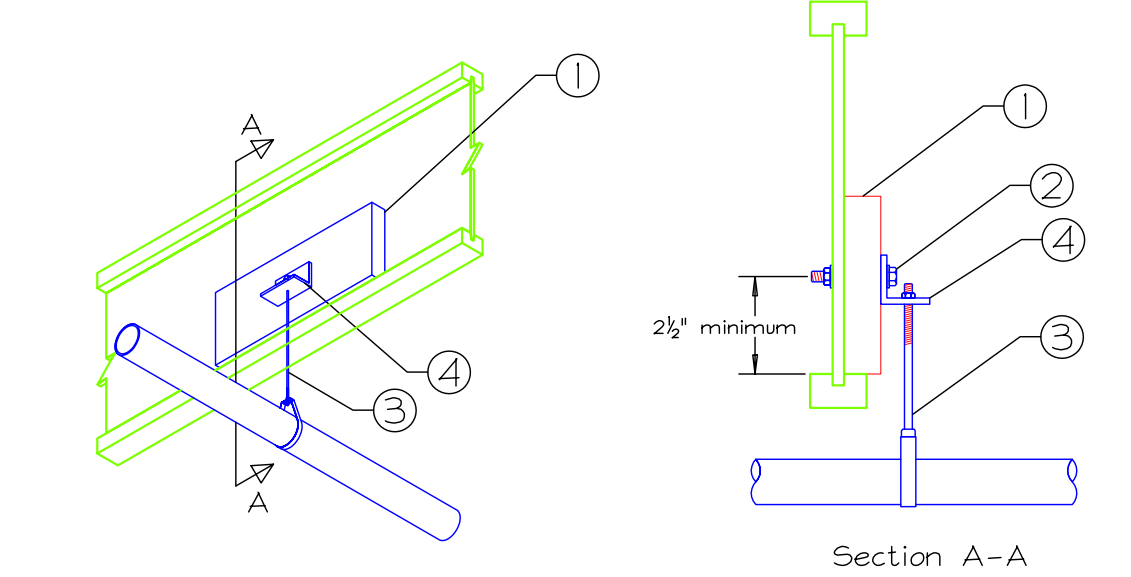
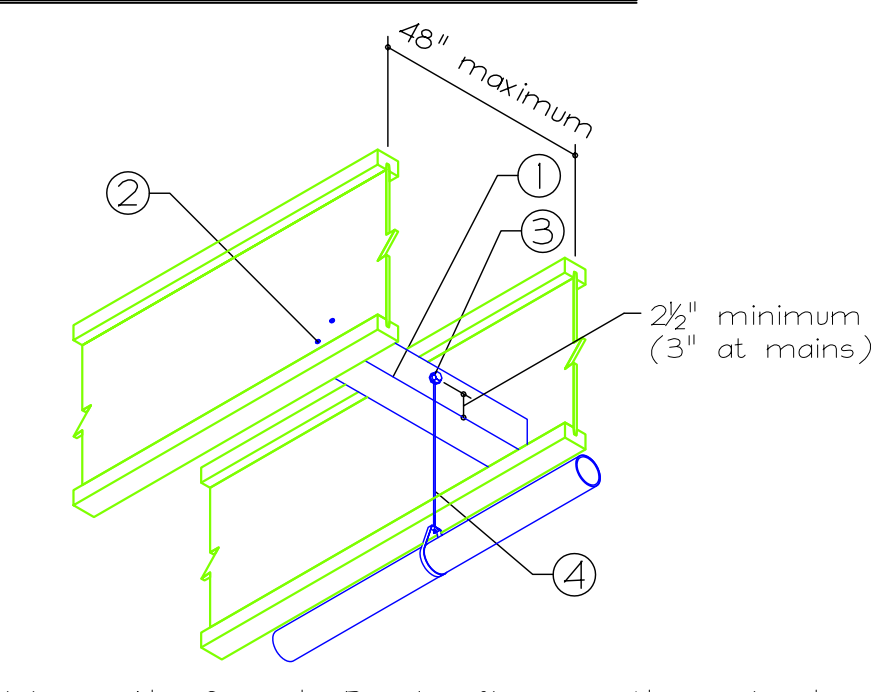
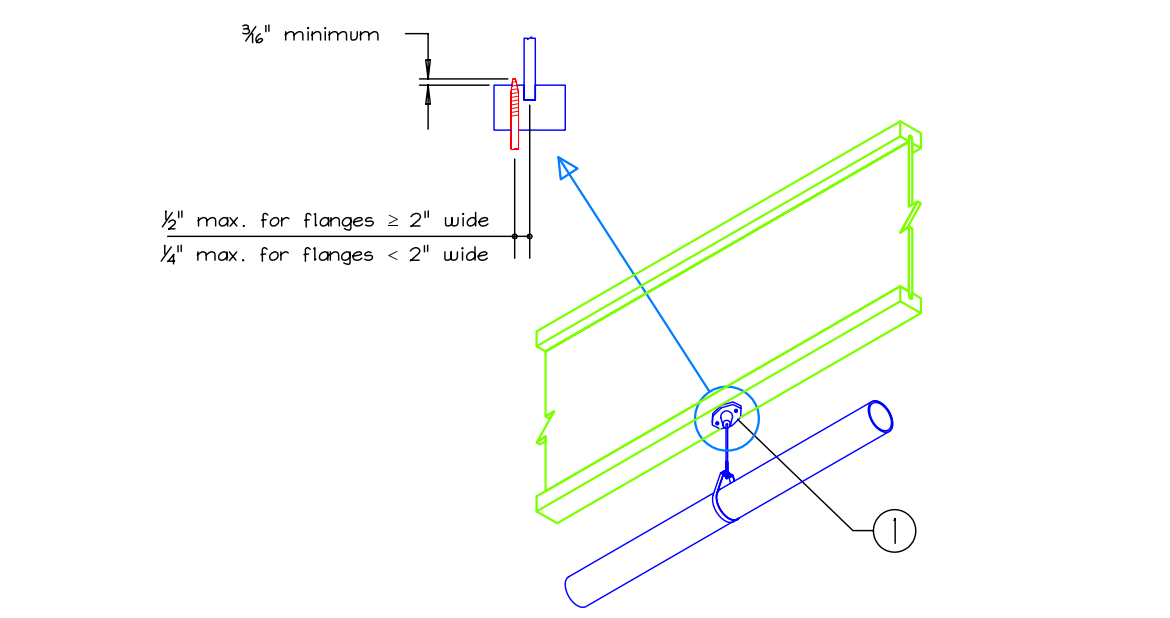
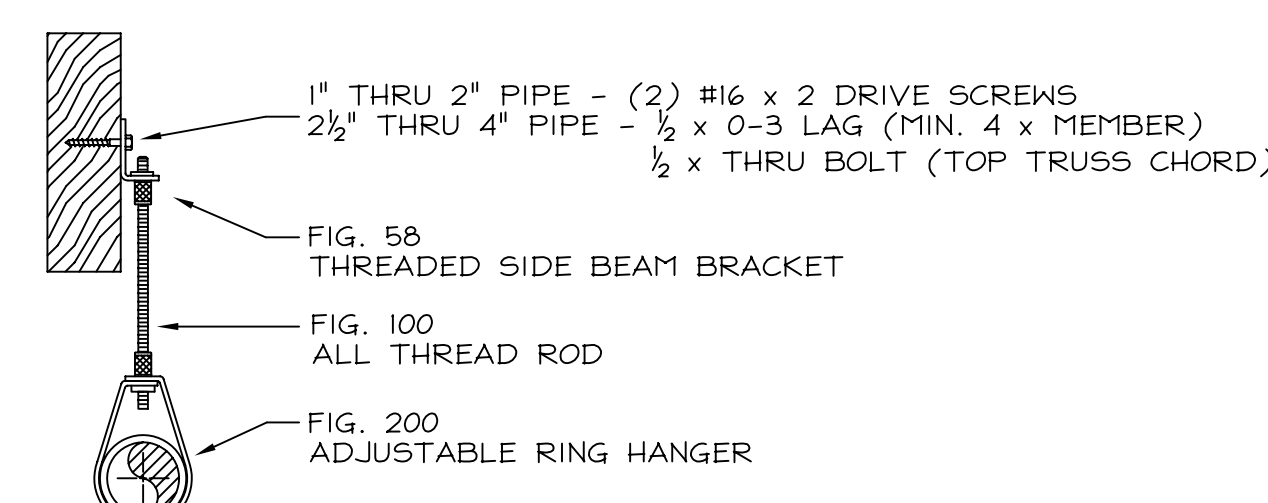


**SYMBOL LEGEND**



**HANGER DETAILS**



1. 2x8 x 18" long minimum, resting on bottom flange  
2. One 3/8" or 1/2" diameter machine bolt with washers - cinch tight  
3. Hanger rod or support per NFPA 13  
4. Approved side beam bracket (check with manufacturer)

Pipe size at maximum hanger spacing:  
2" with 3/8" diameter bolt, 3/2" with 5/8" diameter bolt

HANGER #1A ( / )  
THREADED SIDE BEAM BRACKET, ROD & RING  
TJI CONSTRUCTION

HANGER #4 ( X )  
UNISTRUT W/ UNISTRUT CLIP  
WOOD CONSTRUCTION

HANGER #5 ( X )  
BOTTOM BEAM CLAMP, ROD, AND RING

HANGER #6 ( X )  
DROP IN ANCHOR, ROD AND RING

**SWAY BRACE DETAILS & CALCULATIONS**

Tol-Brace Seismic Calculations	
<b>Brace Information</b>	<b>Tolco Brace Components</b>
Maximum Spacing = 40 Feet (12.2m) Length of Brace = 7'-0" (2.1m) Bracing Material = 1" (25mm) Sch.40 Angle from Vertical = 45° Min. Least Radius of Gyration = 0.42" (10.668mm) L/R Value = 200 Maximum Horizontal Load = 2499 lbs. (1134Kg.)	Fig.1000 Sway Brace Clamp = 1425 lbs.(646 Kg.) Fig.909 No-Thread Swivel = 1425 lbs.(646 Kg.) 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.
<b>Fastener Information</b>	<b>Assembly Detail</b>
Fastener Orientation = NFPA Type B Type of Fastener = Tolco Fig. 800 (Across) Diameter of Fastener = is N/A. Length of Fastener = is N/A Maximum Load = 1425 lbs.(646Kg.)	TOLCO FIG. 800 SWAY BRACE ATTACHMENT TO STEEL I-BEAM TOLCO FIG. 909 NO-THREAD SWIVEL SWAY BRACE ATTACHMENT TOLCO FIG. 1000 FAST CLAMP STEEL PIPE LATERAL BRACE
<b>Load Information</b>	
Size, Type, and Length of Pipe with Assigned Load	
1"(25mm) Sch.40 Pipe	40 Ft.(12.2m) 41 lbs.(19Kg.)
3"(75mm) Sch.10 Pipe	40 Ft.(12.2m) 158.8 lbs.(72Kg.)
1 1/2"(38mm) Sch.10 Pipe	240 Ft.(73.2m) 364.8 lbs.(165Kg.)
Percentage added for Fittings and Sprinklers	10% 56.5 lbs.(26Kg.)
Total Assigned Load of all Pipe within Zone Of Influence	621.5 lbs.(282Kg.)

Tol-Brace Seismic Calculations	
<b>Brace Information</b>	<b>Tolco Brace Components</b>
Maximum Spacing = 80 Feet (24.4m) Length of Brace = 7'-0" (2.1m) Bracing Material = 1" (25mm) Sch.40 Angle from Vertical = 45° Min. Least Radius of Gyration = 0.42" (10.668mm) L/R Value = 200 Maximum Horizontal Load = 2499 lbs. (1134Kg.)	Fig.4A Sway Brace Clamp = 1425 lbs.(646 Kg.) Fig.909 No-Thread Swivel = 1425 lbs.(646 Kg.) 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.
<b>Fastener Information</b>	<b>Assembly Detail</b>
Fastener Orientation = NFPA Type B Type of Fastener = Tolco Fig. 800 (Along) Diameter of Fastener = is N/A. Length of Fastener = is N/A Maximum Load = 894 lbs.(406Kg.)	TOLCO FIG. 800 SWAY BRACE ATTACHMENT TO STEEL I-BEAM STEEL PIPE LATERAL BRACE TOLCO FIG. 4A PIPE CLAMP FOR SWAY BRACING TOLCO FIG. 909 NO-THREAD SWIVEL SWAY BRACE ATTACHMENT TYP.
<b>Load Information</b>	
Size, Type, and Length of Pipe with Assigned Load	
3"(75mm) Sch.10 Pipe	80 Ft.(24.4m) 317.6 lbs.(144Kg.)
Percentage added for Fittings and Sprinklers	10% 31.8 lbs.(14Kg.)
Total Assigned Load of all Pipe within Zone Of Influence	350 lbs.(159Kg.)

**HANGER RODS TO BE INSTALLED TIGHT TO PIPE TO PREVENT UPWARD MOVEMENT\***

NOMINAL PIPE SIZE (in.)	MAXIMUM DISTANCE BETWEEN HANGERS								
	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"
STEEL PIPE EXCEPT THREADED LIGHTWALL	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0
THREADED LIGHTWALL STEEL PIPE	N/A	12-0	12-0	12-0	12-0	12-0	12-0	N/A	N/A

NOMINAL PIPE SIZE (in.)	HANGER ROD SIZES								
	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"
STEEL PIPE EXCEPT THREADED LIGHTWALL	N/A	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
THREADED LIGHTWALL STEEL PIPE	N/A	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"

**GENERAL NOTES**

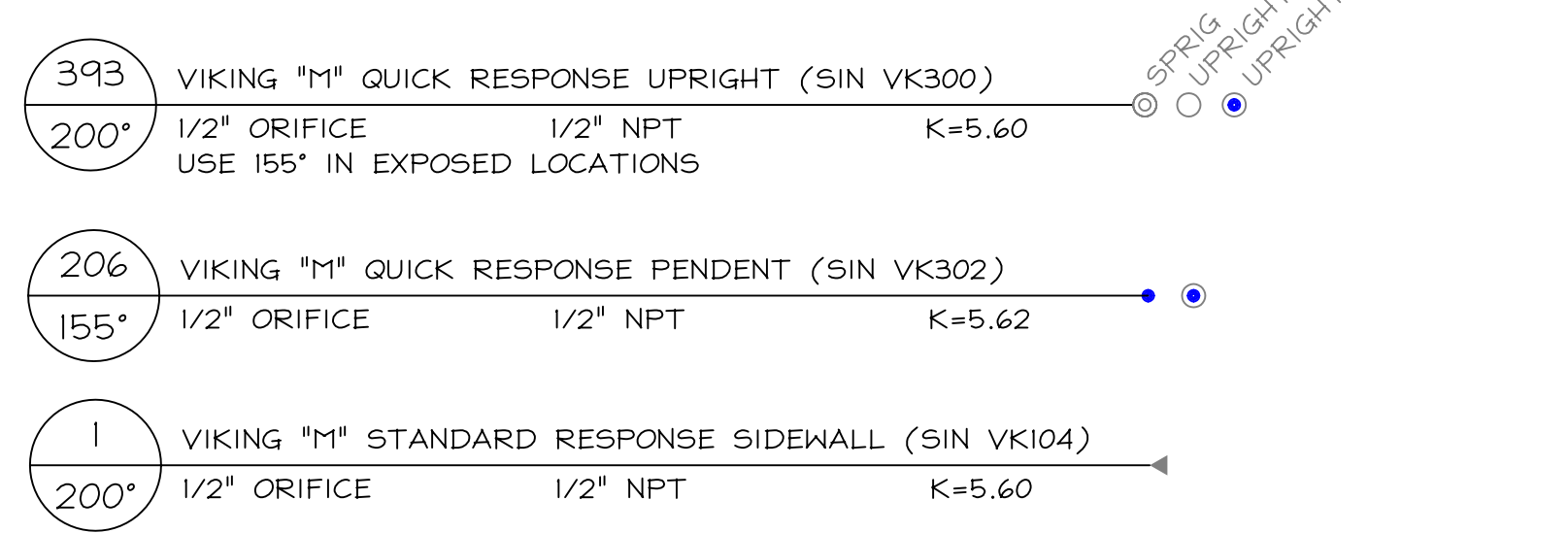
- The system design and installation shall comply with NFPA 13 1999, and the requirements of the local fire department.
- System hydraulic design is for:
  - First Floor - Area #1 - Ordinary Hazard I - .15/945\*
  - First Floor - Area #2 - Light Hazard - .10/945\*
  - Second Floor - Light Hazard - .10/1950\*\*\*
  - Attic Space - Light Hazard - .10/1170\*\*\*

\*Areas have been adjusted for "QR" heads & 12'-0" high ceilings  
 \*\*Areas have been adjusted for slopes ceilings  
 \*\*\*Areas have been adjusted for "QR" heads & 9'-0" high sloped ceilings

Isolated storage, mechanical rooms etc. are spaced for ordinary hazard.

A placard containing the system hydraulic requirements will be mounted in the riser room.
- Water Supply Information:
  - City Water Supply:
    - Static 62 psi
    - Residual 36 psi
    - Flow 1110 gpm
- All piping shall be as follows:
  - All grooved piping to be DynaFlow or equal.
  - All threaded piping to be DynaThread or equal.
- Fittings shall be class 125 threaded cast iron ANSI B16.4.
- All threaded pipe and fittings shall have threads cut to ANSI/ASME standard B1.20.1.
- All pipe welding shall be in compliance with the requirements of B2.1 (standard for building service piping)
- All piping shall be earthquake braced as outlined in NFPA 13 1999 section 6-4.5.
- All hanger components and installation shall be in accordance with NFPA 13 section 6-1.
- Electrical wiring and any painting of the pipe that may be required shall be by others.
- All piping is to be hydrostatically tested at 200 psi for a period not less than two hours.
- Flow and Tamper switches to be provided wiring by others.
- The emergency spare head cabinet to be located near riser.
- All grooved couplings are to be rigid with exception of those locations outlined in NFPA 13 1999, section 6-4.2.

**HEAD LEGEND**



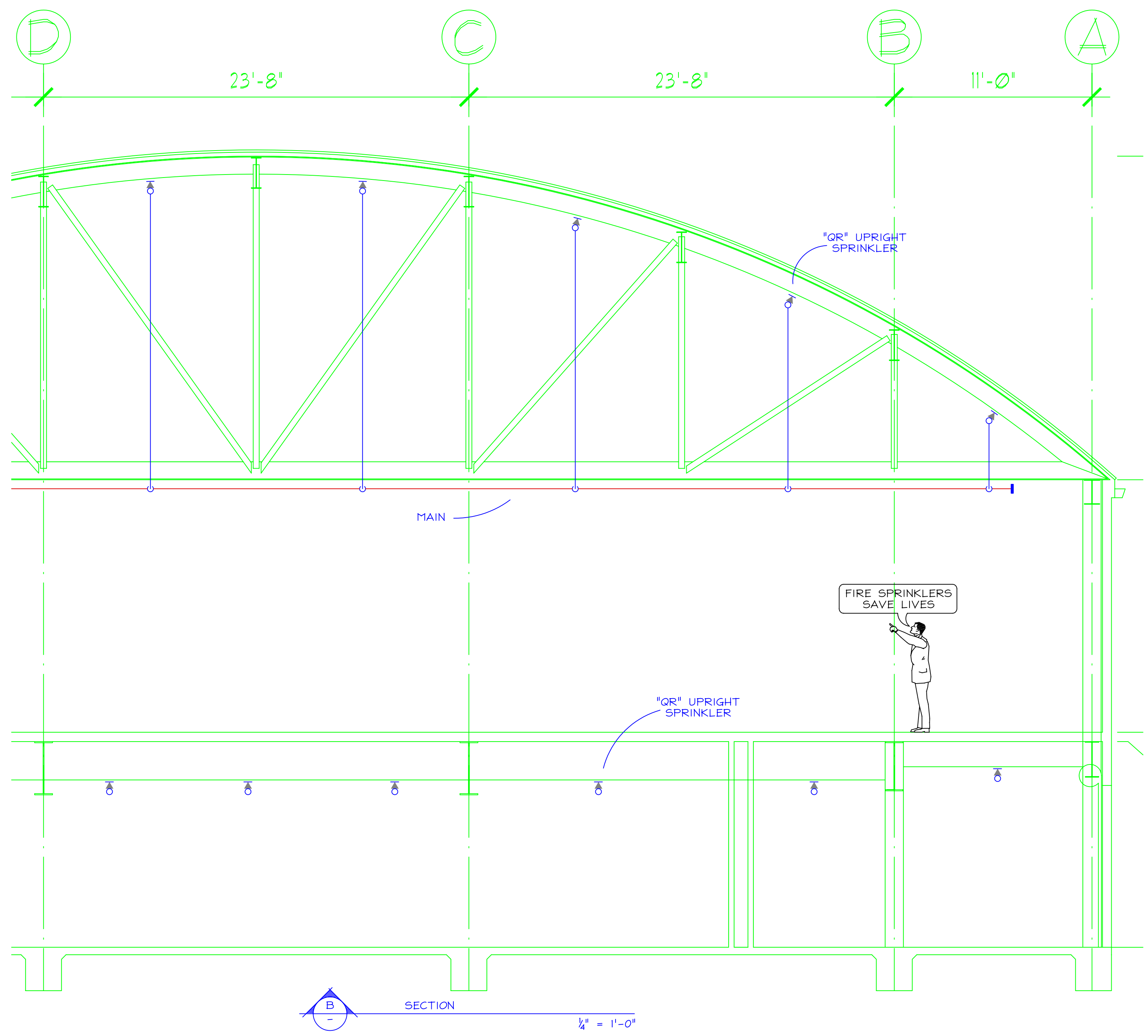
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 AUTOMATIC SPRINKLER "SPECIALISTS"  
 13457 COLLEA HWY. GRASS VALLEY, CA 95945, (530) 274-9400

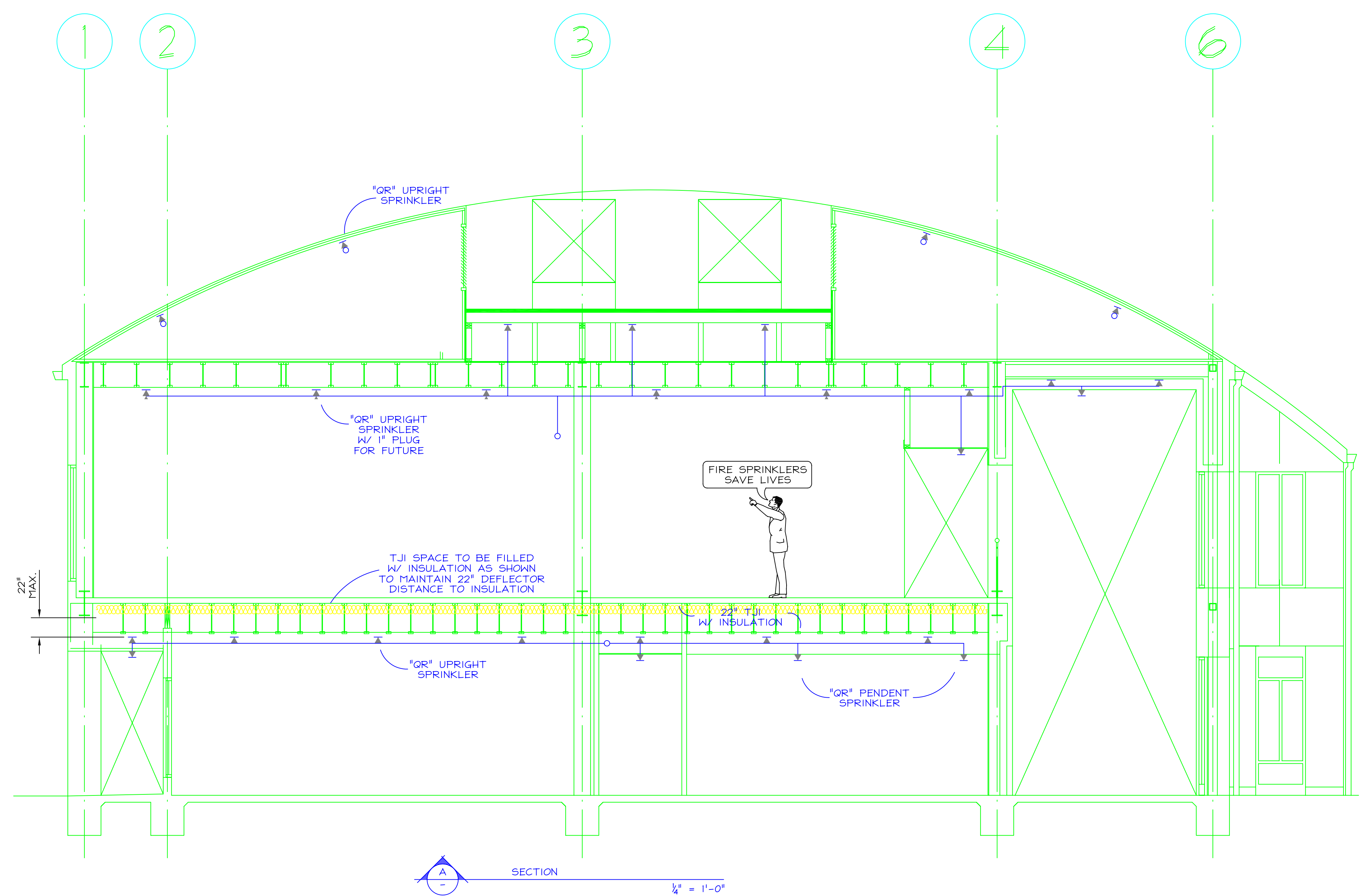
COMMUNITY CENTER

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 H. MORGADO  
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 05-03-05  
 SCALE  
 1/8" = 1'-0"  
 FILE NUMBER  
 10112  
 SHEET  
 FP-1  
 1 OF 7 SHEETS

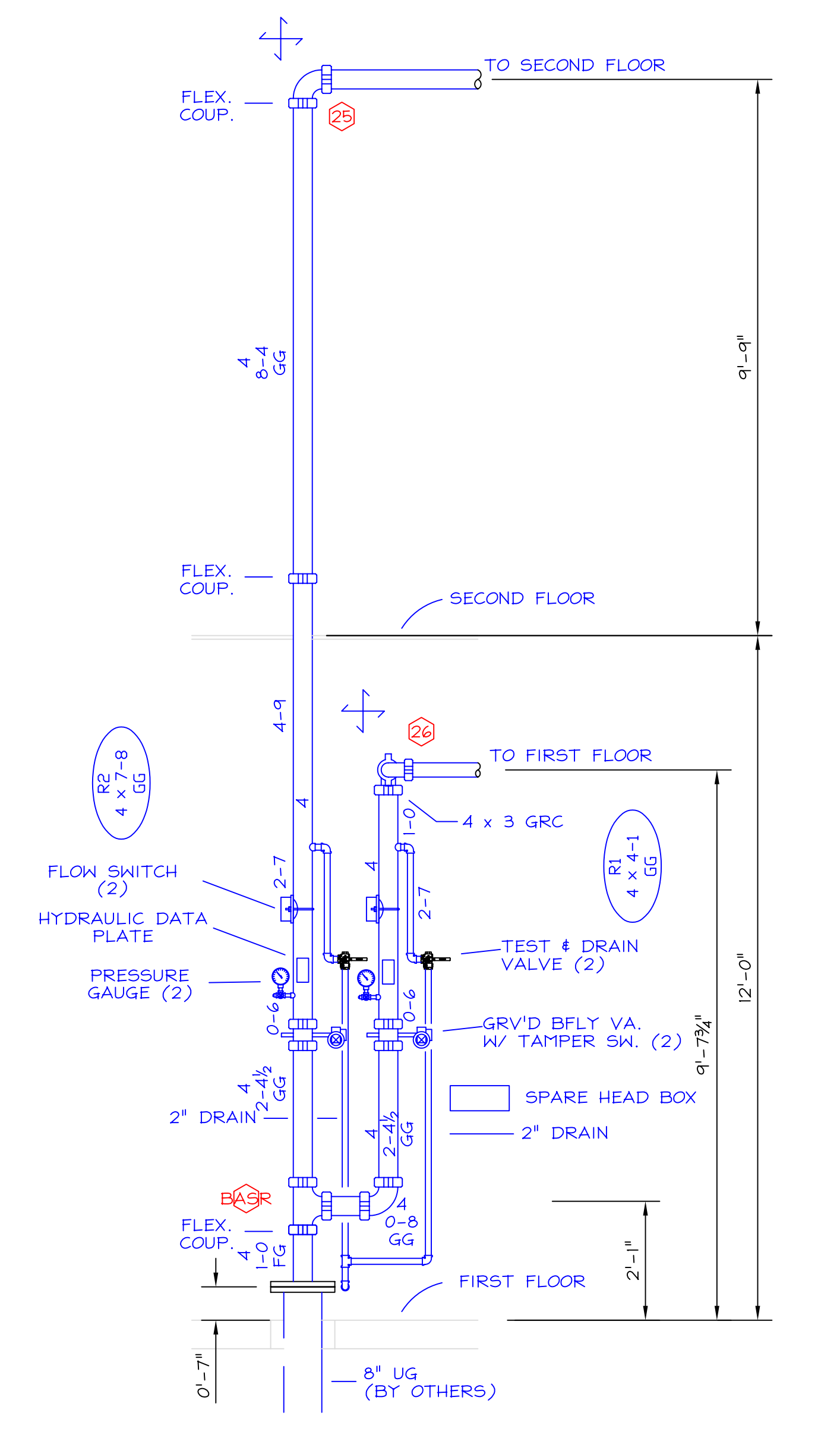




SECTION  
1/4" = 1'-0"



SECTION  
1/4" = 1'-0"



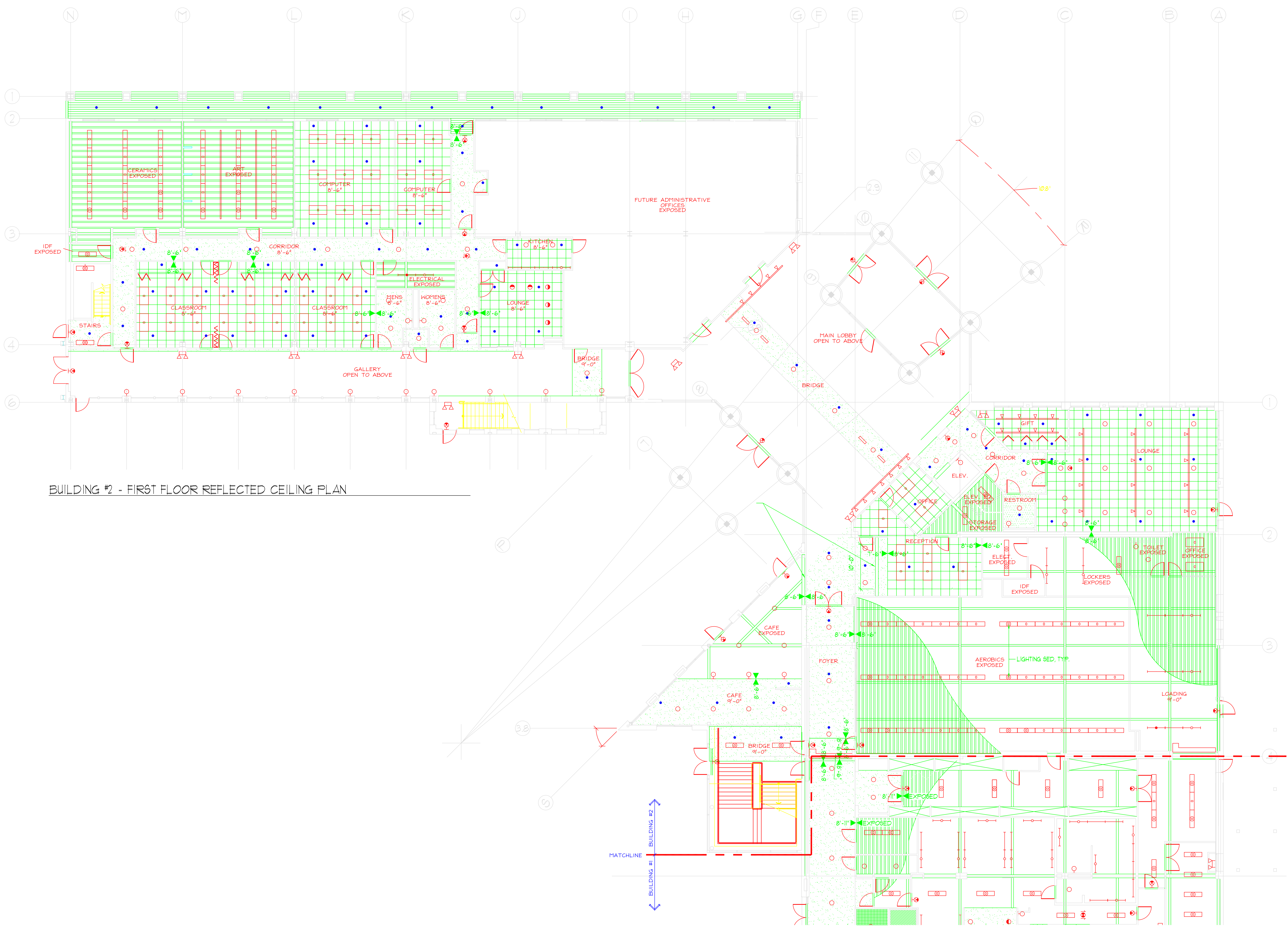
RISER DETAIL  
1/2" = 1'-0"

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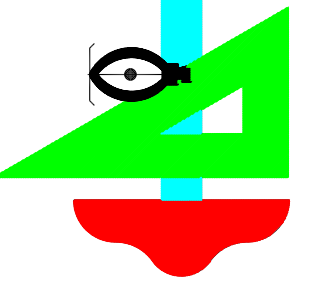
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 10112  
 SHEET  
**FP-2**  
 2 OF 7 SHEETS



BUILDING #2 - FIRST FLOOR REFLECTED CEILING PLAN

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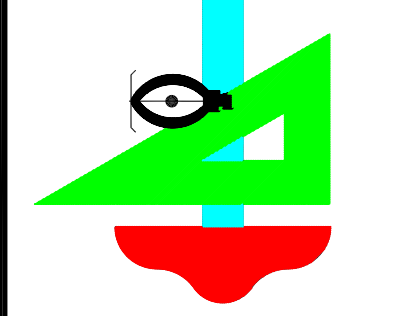
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DATE	05-03-05
SCALE	1/8" = 1'-0"
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SHEET	FP-3
3 OF 7 SHEETS	

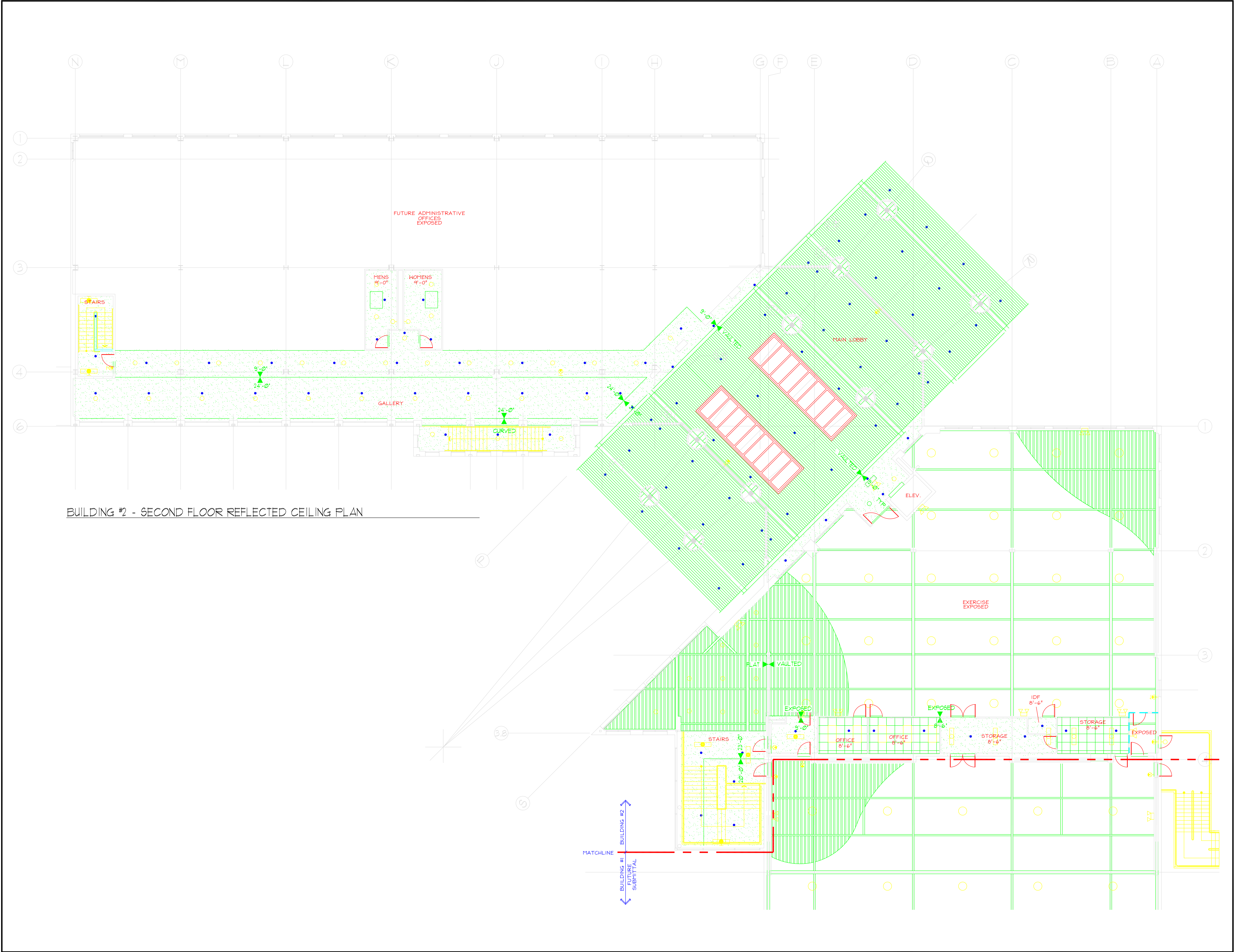


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DRAWN	H. MORGADO
DATE	05-03-05
SCALE	1/8" = 1'-0"
FILE NUMBER	10112
SHEET	FP-4
4 OF 7 SHEETS	

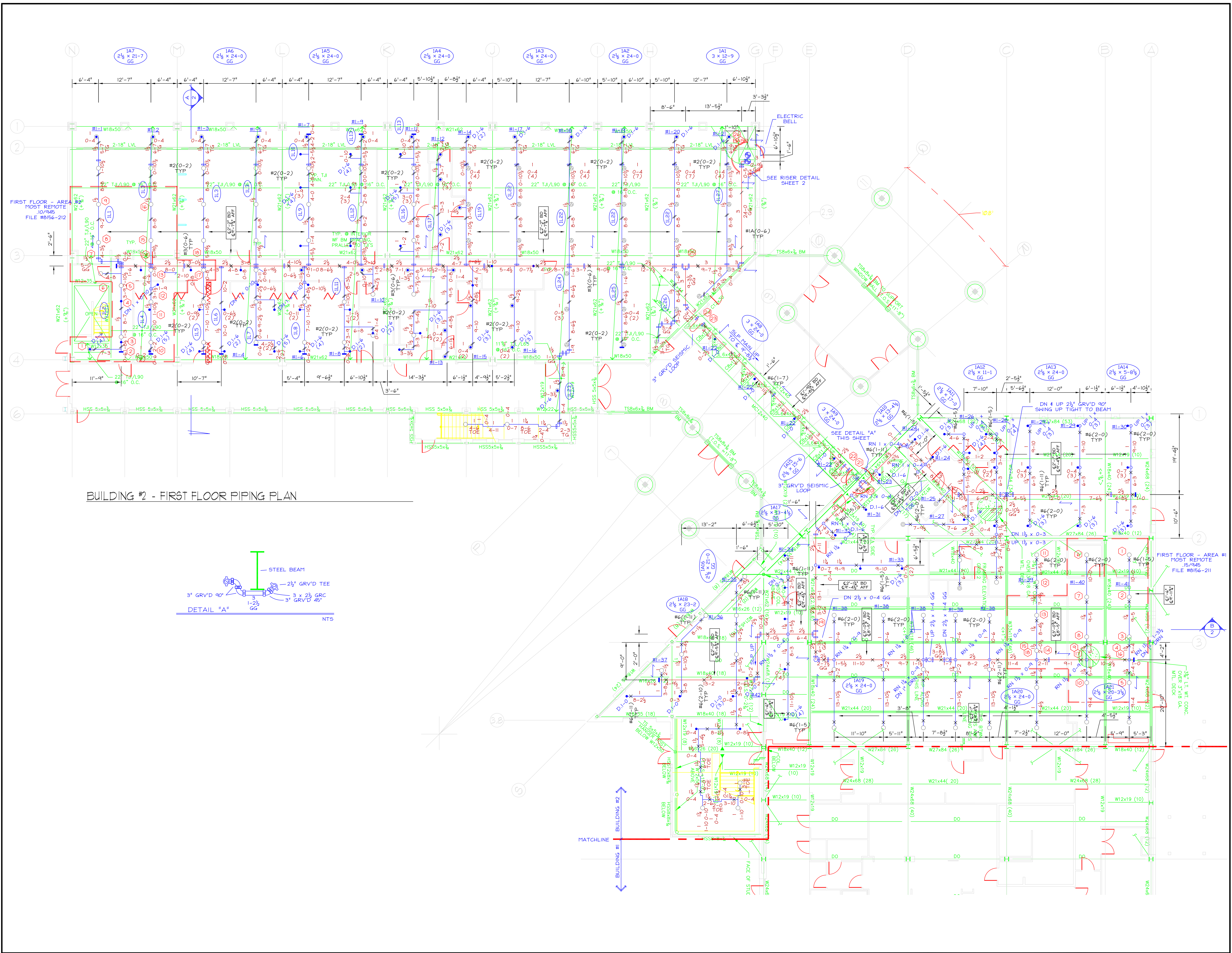
  
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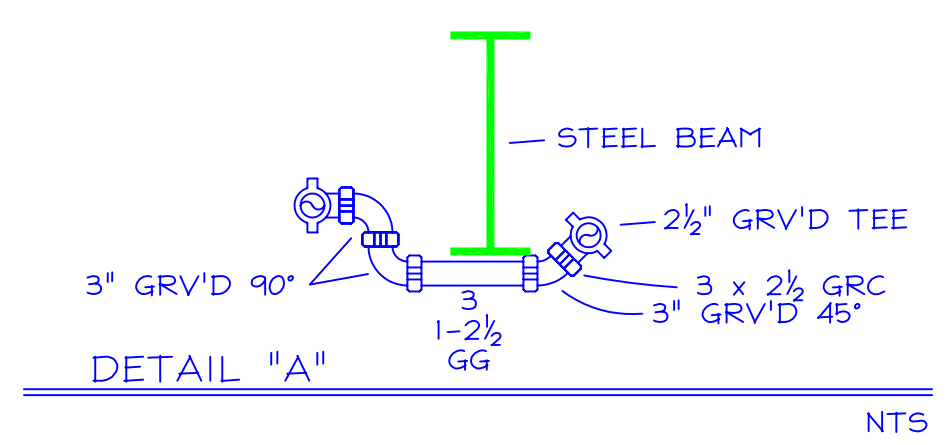
BUILDING #2 - SECOND FLOOR REFLECTED CEILING PLAN

MATCHLINE  
 BUILDING #1  
 BUILDING #2  
 FUTURE  
 SUBMITTAL





BUILDING #2 - FIRST FLOOR PIPING PLAN



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△	
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 H. MORGADO  
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 05-03-05  
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 SHEET  
**FP-5**  
 5 OF 7 SHEETS





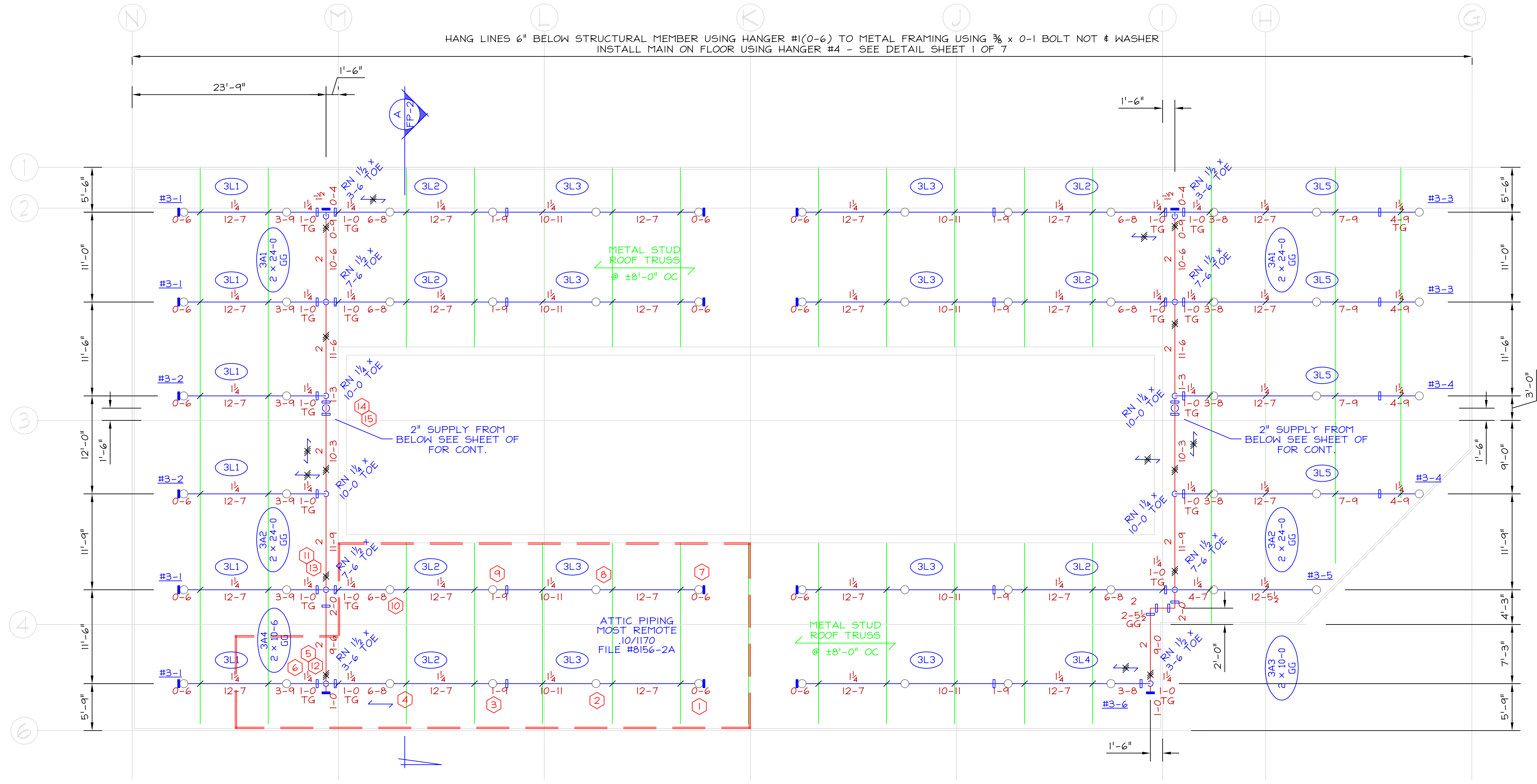


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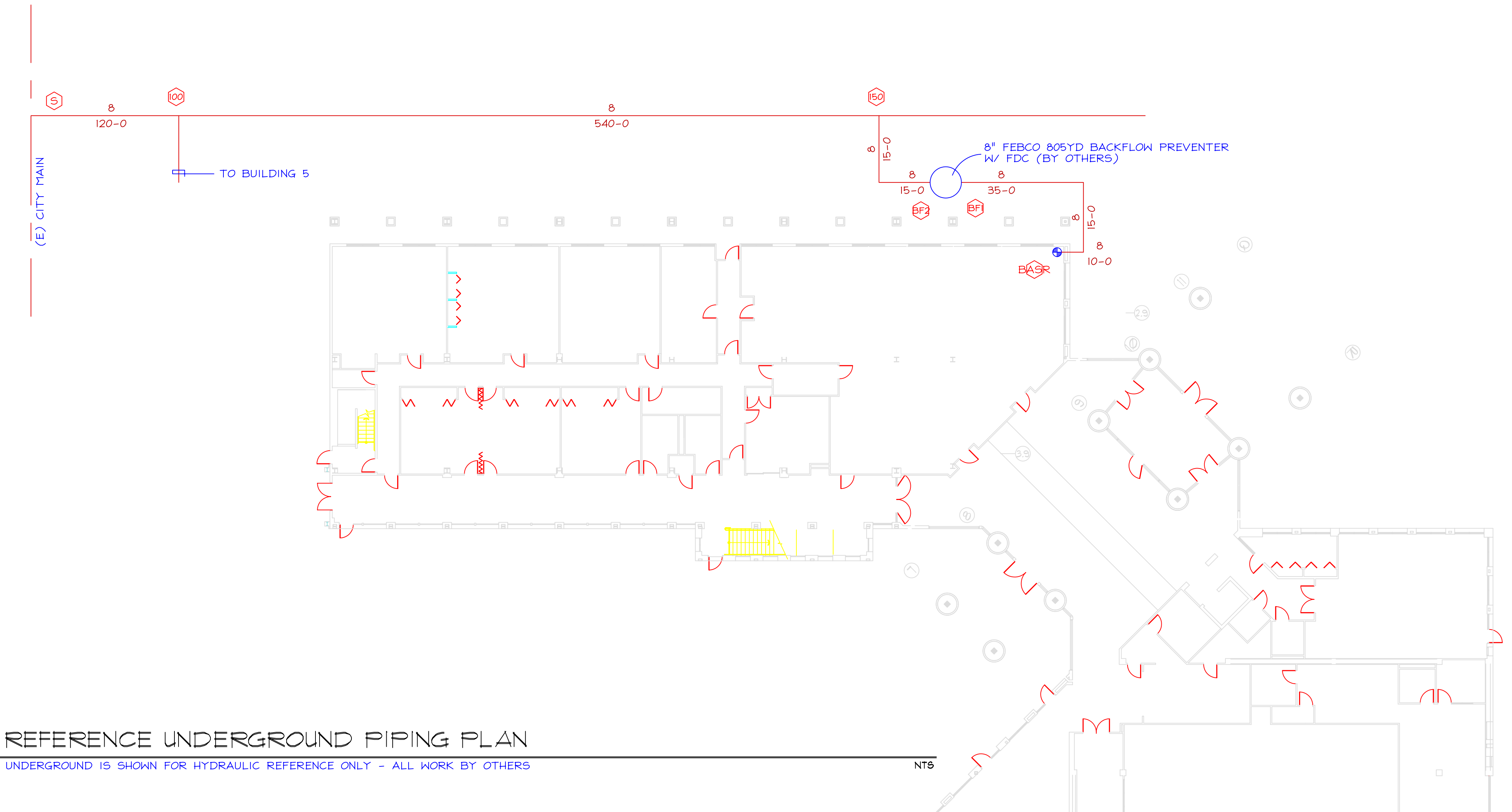
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DATE	05-03-05
SCALE	1/8" = 1'-0"
FILE NUMBER	10112
SHEET	FP-7
7 OF 7 SHEETS	



**BUILDING #2 - ATTIC PIPING PLAN**



**REFERENCE UNDERGROUND PIPING PLAN**  
 UNDERGROUND IS SHOWN FOR HYDRAULIC REFERENCE ONLY - ALL WORK BY OTHERS

NTS