

GENERAL NOTES:

1. MATERIALS AND INSTALLATION SHALL COMPLY WITH APPLICABLE NFPA CODES (NFPA 13 2013 EDITION), STATE BUILDING CODE, LOCAL AUTHORITY HAVING JURISDICTION, AND INSURANCE UNDERWRITER'S REQUIREMENTS.

2. ALL MATERIALS AND EQUIPMENT SHALL BE NEW, UL LISTED FOR THE INTENDED USE AND SHALL BE INSTALLED IN FULL COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.

3. ALL NEW SPRINKLER PIPE 1" AND SMALLER IS SCHEDULE-40 BLACK STEEL WITH THREADED ENDS AND FITTINGS. ALL NEW SPRINKLER PIPE 1 1/4" AND LARGER IS SCHEDULE-10 BLACK STEEL WITH GROOVED ENDS AND FITTINGS.

4. SPRINKLER HEAD SPACING IS BASED ON THE NFPA STANDARDS FOR ORDINARY HAZARD OCCUPANCIES ALLOWING A MAXIMUM HEAD SPACING OF 130 S.F. PER HEAD.

5. LOCATIONS OF PIPING AS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD.

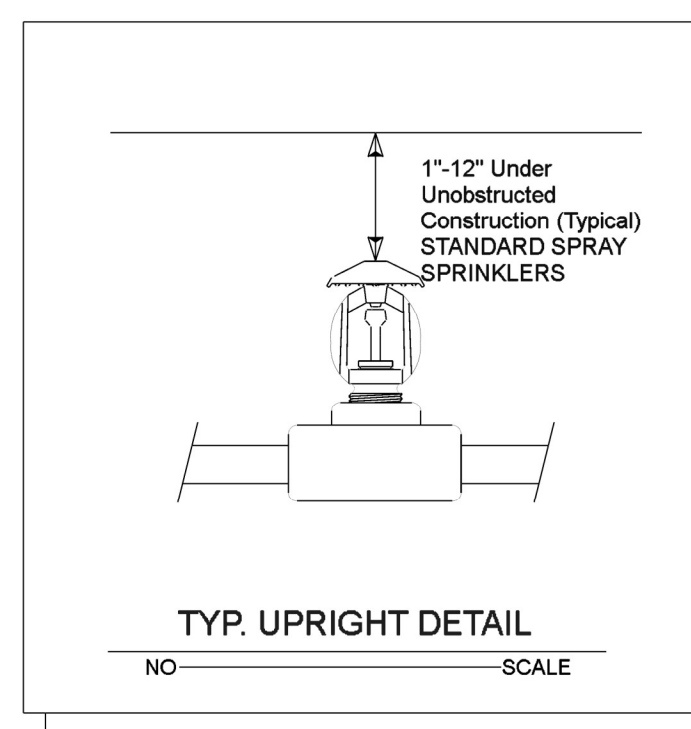
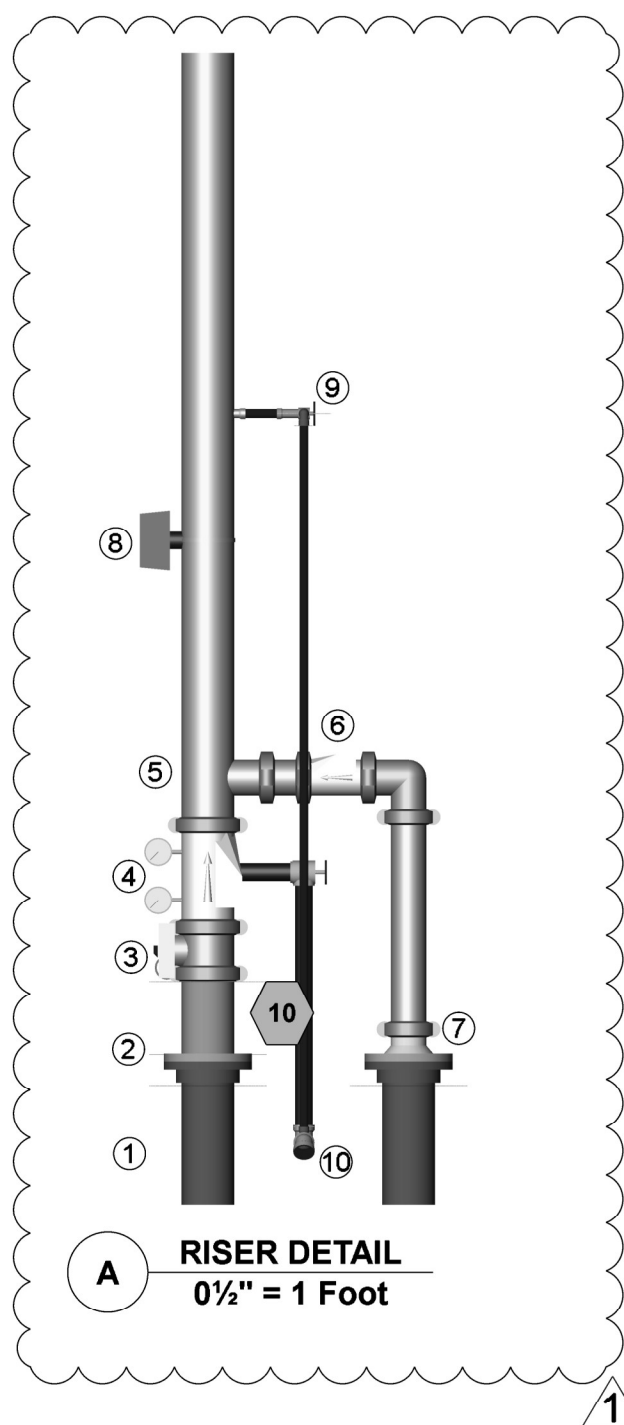
6. SCOPE OF WORK IS TO INSTALL A NEW ONE RISER SPRINKLER SYSTEM FOR NEW SHELL BUILDING.

7. THE WATER TEST INFORMATION HAS BEEN PROVIDED BY J&D SPRINKLER DATED 2/6/2024 INDICATES THE FOLLOWING...

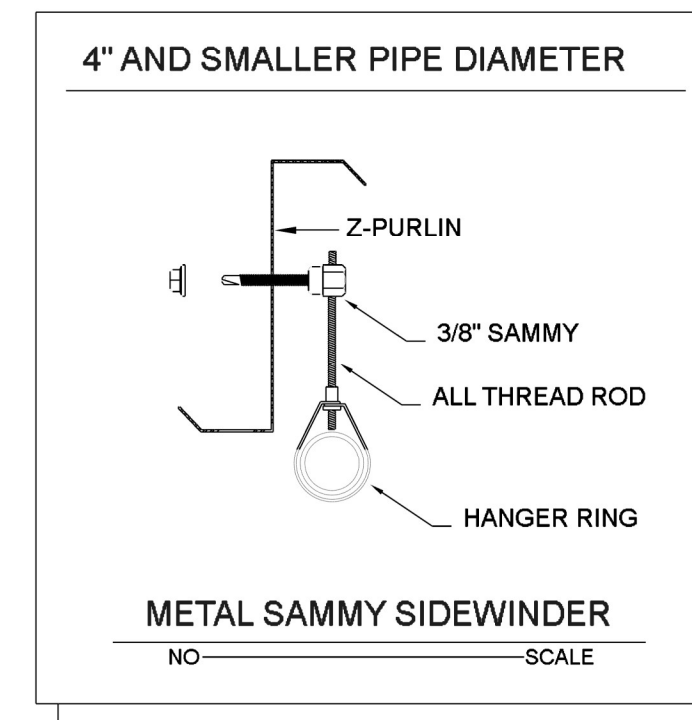
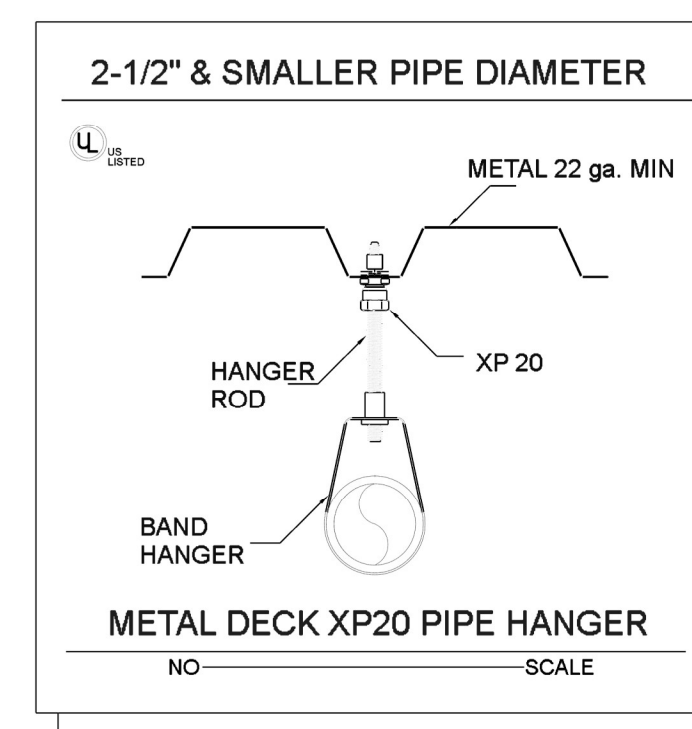
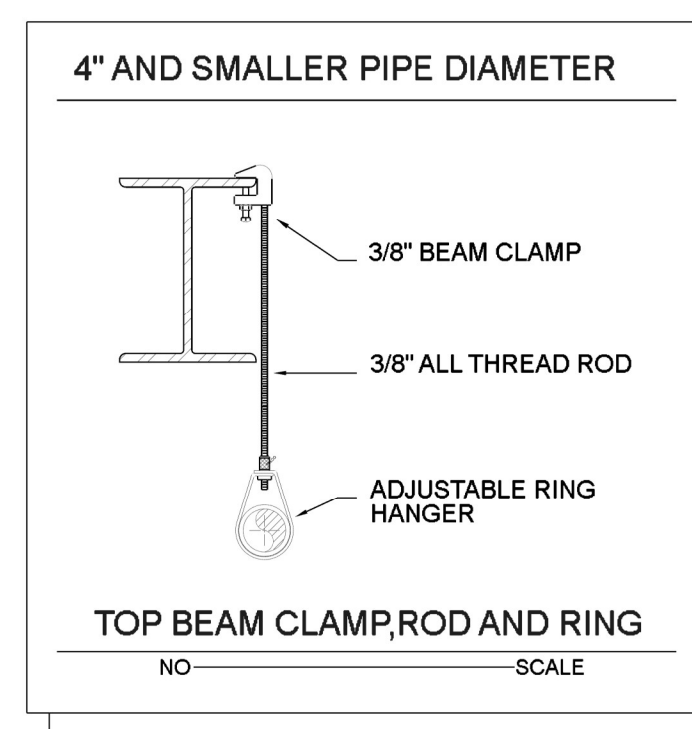
STATIC: 52 PSI
RESIDUAL: 36 PSI
FLOW: 840 GPM

SYMBOLS:

- DENOTES A HYDRAULIC CALCULATION POINT OF REFERENCE
- DENOTES A HYDRAULIC REMOTE AREA
- DENOTES NEW SPRINKLER PIPE
- DENOTES UNDERGROUND PIPE
- DENOTES PIPE CENTERLINE ELEVATION AFF
- DENOTES PIPE CENTERLINE BELOW TOP OF STEEL



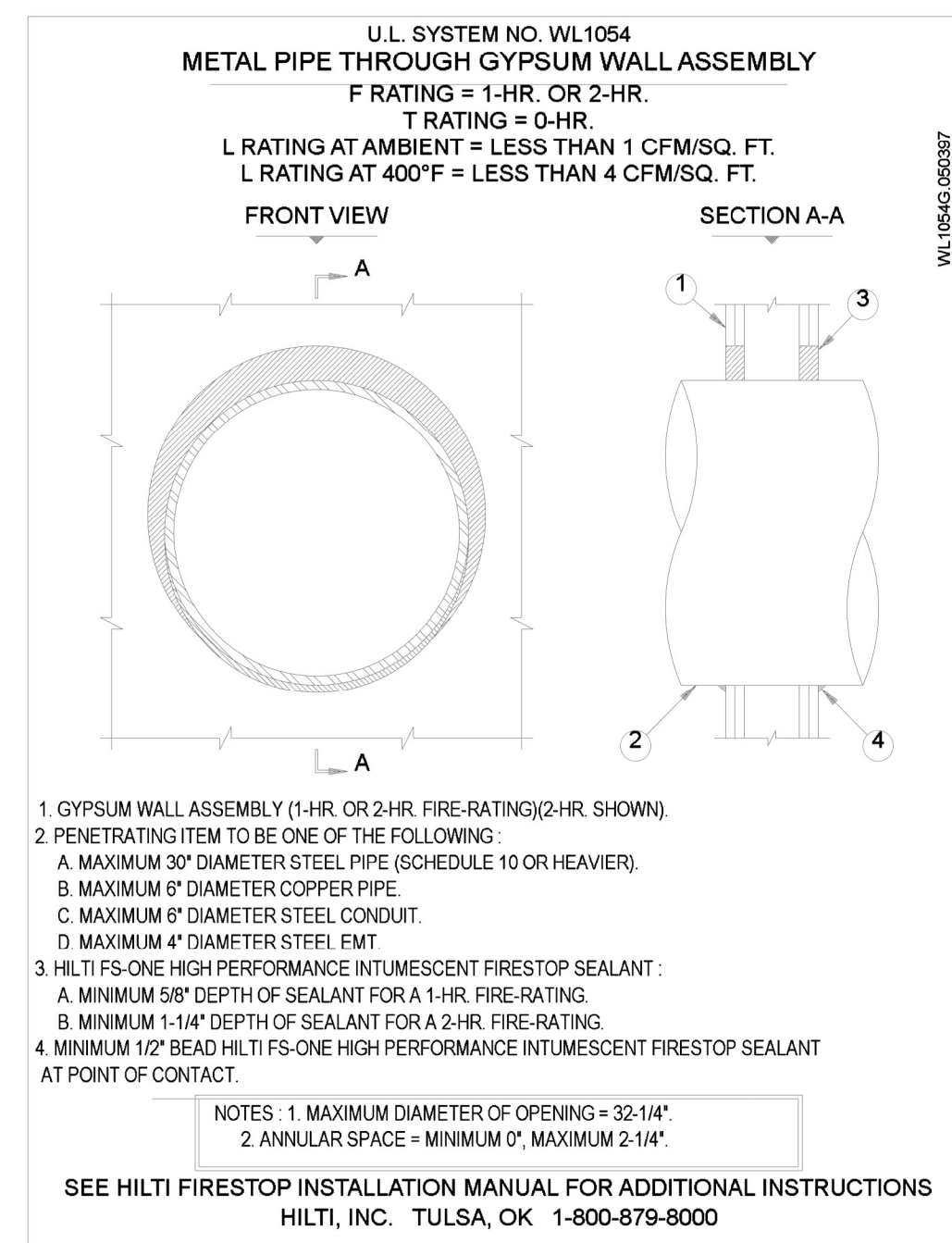
- ### RISER LEGEND
- ① 6" RUN-IN BY OTHERS
 - ② 6" GRV-SPLIT FLANGE
 - ③ 6" BUTTERFLY CONTROL VALVE W/TAMPER
 - ④ 6" VIKING EZ RISER CHECK VALVE
 - ⑤ 4" GRV OUTLET
 - ⑥ 4" SWING CHECK VALVE
 - ⑦ OUT TO YARD FDC
 - ⑧ FLOW SWITCH
 - ⑨ TEST & DRAIN ASSEMBLY
 - ⑩ 2" MAIN DRAIN



HANGER INSTALLATION REQUIREMENTS									
MAXIMUM DISTANCE BETWEEN HANGERS									
NOMINAL PIPE SIZE	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"
BLAZEMASTER CPVC	5' 6"	6' 0"	6' 6"	7' 0"	8' 0"	9' 0"	10' 0"	N/A	N/A
THREADABLE LIGHTWALL	N/A	12' 0"	12' 0"	12' 0"	12' 0"	12' 0"	12' 0"	N/A	N/A
STEEL PIPE (10' 40')	N/A	12' 0"	12' 0"	15' 0"	15' 0"	15' 0"	15' 0"	15' 0"	15' 0"

100 PSI STATIC PRESSURE ON SYSTEM REQUIRES UP-LIFT RESTRAINT WITHIN 12 INCHES HORIZONTALLY OF HEAD FOR ARM-OVERS AND END OF BRANCH LINE
THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER AND THE LAST HANGER ON THE LINE SHALL NOT EXCEED 36' FOR 1" PIPE, 48' FOR 1 1/4" PIPE AND 60' FOR 1 1/2" PIPE OR LARGER
THE CUMULATIVE HORIZONTAL LENGTH OF AN UNSUPPORTED ARM/OVER TO A SPRINKLER, SPRINKLER DROP, OR SPRIG-UP SHALL NOT EXCEED 24'

TRAPEZE INSTALLATION REQUIREMENTS									
SPAN OF TRAPEZE (Schedule 10)	NOMINAL PIPE SIZE SUPPORTED								
	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"	
1 FT. 6 IN.	1"	1"	1"	1"	1"	1"	1-1/4"	1-1/4"	
2 FT. 0 IN.	1"	1"	1"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/2"	2"
3 FT. 0 IN.	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/2"	1-1/2"	1-1/2"	2"	
4 FT. 0 IN.	1-1/2"	1-1/2"	1-1/2"	1-1/2"	2"	2"	2"	2-1/2"	2-1/2"
5 FT. 0 IN.	2"	2"	2"	2"	2"	2"	2-1/2"	2-1/2"	
6 FT. 0 IN.	2"	2"	2"	2"	2"	2-1/2"	2-1/2"	3"	
7 FT. 0 IN.	2"	2"	2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"	
8 FT. 0 IN.	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"	
9 FT. 0 IN.	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"	4"	
10 FT. 0 IN.	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"	3"	4"	



- 1 GYPSUM WALL ASSEMBLY (1-HR. OR 2-HR. FIRE-RATING)(2-HR. SHOWN)
2 PENETRATING ITEM TO BE ONE OF THE FOLLOWING:
A. MAXIMUM 30" DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER);
B. MAXIMUM 6" DIAMETER COPPER PIPE;
C. MAXIMUM 6" DIAMETER STEEL CONDUIT;
D. MAXIMUM 4" DIAMETER STEEL FMT;
3 HILTI FS-ONE HIGH PERFORMANCE INTUMESCENT FIRESTOP SEALANT:
A. MINIMUM 5/8" DEPTH OF SEALANT FOR A 1-HR. FIRE-RATING;
B. MINIMUM 1-1/4" DEPTH OF SEALANT FOR A 2-HR. FIRE-RATING;
4 MINIMUM 1/2" BEAD HILTI FS-ONE HIGH PERFORMANCE INTUMESCENT FIRESTOP SEALANT AT POINT OF CONTACT.
NOTES: 1. MAXIMUM DIAMETER OF OPENING = 33-1/4"
2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 2-1/4"
SEE HILTI FIRESTOP INSTALLATION MANUAL FOR ADDITIONAL INSTRUCTIONS
HILTI, INC. TULSA, OK 1-800-879-8000

Sprinkler Design Data

Project Name: HARBOR FREIGHT TOOLS	System: WET
Project Street Address: 46 SHRIJI LN, ERWIN NC	Sys. Sq. Ft.: 15,632
Suite: -	Floor#: -
Designed By: J&D SPRINKLER CO	Phone: 919-553-2356
Occupancy: MERCHANTILE	Hazard: ORDINARY GRP II
	Ceiling Height: VARIES
	Total Bldg. Hgt.: 22'-0

Design Summary

Design Method	CALCULATED	-	-	-	-
Design Area #	1	-	-	-	-
Location	-	-	-	-	-
Type of System	WET	-	-	-	-
Hazard Class	ORDINARY GRP II	-	-	-	-
Criteria From	NFPA13 2013 ED	-	-	-	-
Design Area	1500 S.F.	-	-	-	-
Sprinkler Spacing	130 S.F. MAX	-	-	-	-
Density	.20	-	-	-	-
K-factor	5.6	-	-	-	-
Hose Allowance	250 GPM	-	-	-	-
# Design Sprinklers	13	-	-	-	-
Special Application Spk.	-	-	-	-	-
Requirement @ BASE					
G.P.M. Req'd	329.07	-	-	-	-
P.S.I. Req'd	30.834	-	-	-	-
Requirement @ TEST					
GPM Required	579.07	-	-	-	-
PSI Required	41.685	-	-	-	-
Safety factor @ Test	2.275	-	-	-	-
Dry Sys. Volume (gal)	-	-	-	-	-

Water Supply Information

Tested by	J&D SPRINKLER CO	Date/Time	2/6/2024 @ 1:45PM	Pressure Hydrant	-
Hydrant Elevation	-	Flow Hydrant # 1	-	Flow Hydrant #2	-
Static (PSI)	52	Residual (PSI)	36	Flow (gpm)	840

Copy of Water Test Data Included with Calculation is required

HARBOR FREIGHT TOOLS

46 SHRIJI LN
ERWIN, NC

J & D SPRINKLER CO. INC.
315 W. MAIN ST., CLAYTON, NC 27520
PHONE: (919)553-2356 FAX: (919) 359-0622

SHEET TITLE:
NOTES/DETAILS

This fire sprinkler planning and design drawing has been prepared by J & D Sprinkler Co. as a licensed fire sprinkler contractor under Article 2 of Chapter 87 of the General Statutes for a & D Sprinkler's exclusive work performed in reliance on this drawing pursuant to G.S. § 55B-15(a)(2). Installation work or any other work performed by any other person or entity in reliance on this drawing or any copy thereof is strictly prohibited.
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DANA GRAHAM

NC # 16269FS CERT # 71075
NICET LEVEL III
JASON GRAHAM

NC # 16269FS CERT # 121842
NICET LEVEL III

REVISION:
NO. DATE
10/2/2024

Date:
4/24/2024

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

Job Number:
F24084

Drawn By:
MWL

Sheet Number

FP-1

Supply Flow Test Data	
Test Conducted By	J&D SPRINKLER CO
Test Witnessed By	FARRIN DUNN/TRAVIS CURRY
Date of Test	2/6/2024
Time of Test	1:45PM
Location	46 SHRJI LN
Static Pressure	52.000
Residual Pressure	36.000
Flow	840.00

6" BACKFLOW IN HOTBOX BY OTHERS

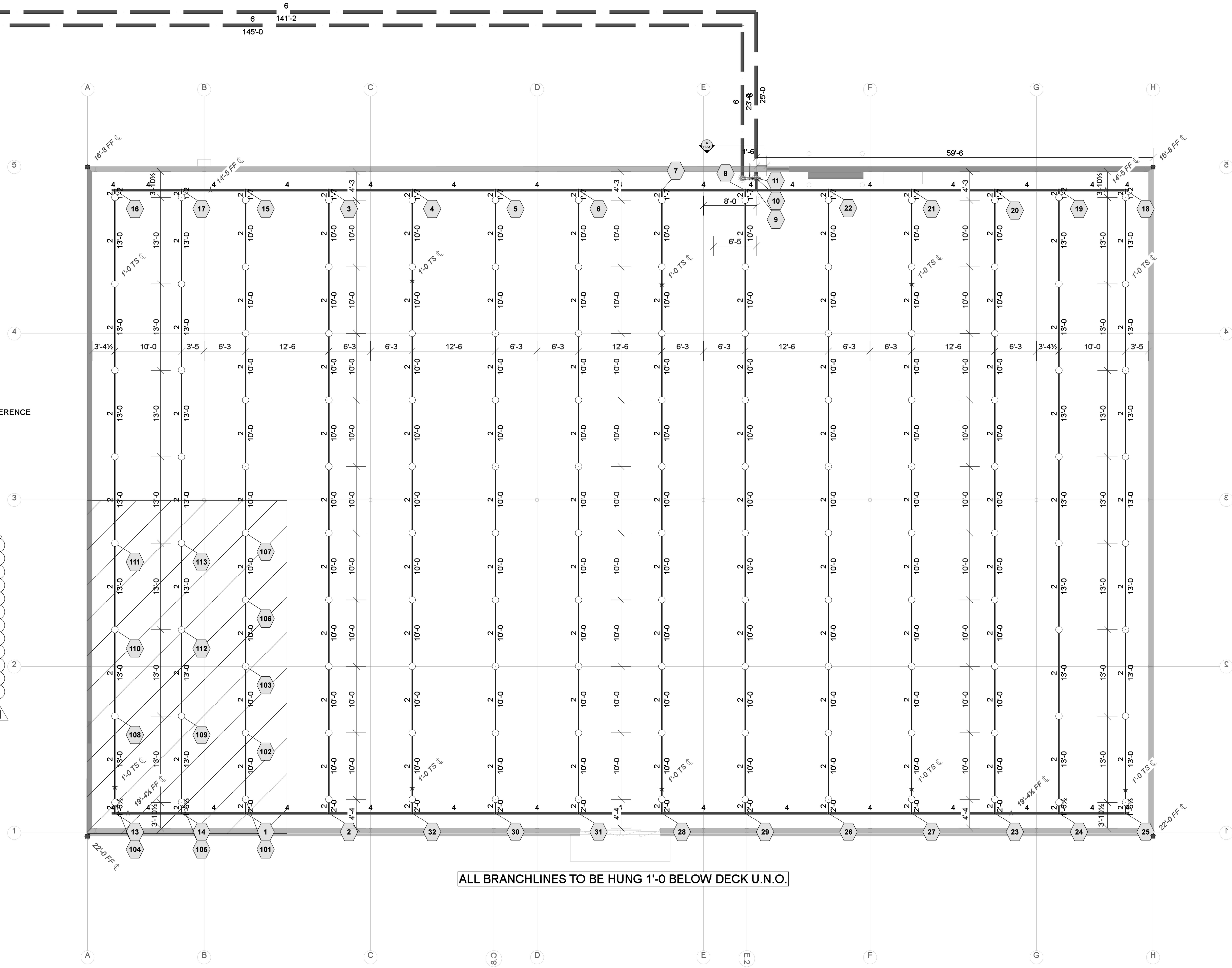
NEW SUPPLY TAP
FDC (BY OTHERS)

REVIEWER NOTE:
PREVIOUS SUBMITTAL HAD THE BACKFLOW SHOWN INSIDE THE BUILDING.
CONTRACTOR HAS SINCE MOVED IT OUTSIDE. NEW CALCULATIONS PERFORMED.

SYMBOLS:

- XX DENOTES A HYDRAULIC CALCULATION POINT OF REFERENCE
- DENOTES A HYDRAULIC REMOTE AREA
- DENOTES NEW SPRINKLER PIPE
- DENOTES UNDERGROUND PIPE
- *0'-0" FF \perp DENOTES PIPE CENTERLINE ELEVATION AFF
- *0'-0" TS \perp DENOTES PIPE CENTERLINE BELOW TOP OF STEEL

Hydraulic Information	
Remote Area 1	
OCCUPANCY CLASSIFICATION	Ordinary Group II
DENSITY (gpm/ft ²)	0.20 for 1500ft ² (Actual 1502ft ²)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	13
K-FACTOR	5.6
TOTAL WATER REQUIRED	579.07
TOTAL PRESSURE REQUIRED	41.685
BASE OF RISER (gpm)	329.07
BASE OF RISER (psi)	30.834
SAFETY MARGIN (psi)	+2.275 (5.2%)
Ordinary Group II-0.20gpm/ft ² for 1502ft ²	



Sprinkler Legend											
Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note
○	Victaulic	V2704	FL-QR	132	5.6	Upright	1/2"	Quick	Brass	200°F	
				Total = 132							

Plan North
PIPING PLAN
1/8"=1'-0"

HARBOR FREIGHT TOOLS

46 SHRJI LN
ERWIN, NC

J & D SPRINKLER CO. INC.
315 W. MAIN ST., CLAYTON, NC 27520
PHONE: (919)553-2356 FAX: (919) 359-0622

SHEET TITLE:
PIPING PLAN

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