

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. SPRINKLER HEAD SPACING IS BASED ON THE NFPA 13D STANDARDS FOR OCCUPANCIES (DWELLING) ALLOWING A MAXIMUM HEAD SPACING OF 324 S.F. PER HEAD.
4. LOCATIONS OF PIPING AS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD.
5. THE WATER TEST INFORMATION HAS BEEN PROVIDED BY J&D SPRINKLER CO DATED 11/25/2024 INDICATES THE FOLLOWING...

STATIC: 78 PSI
RESIDUAL: 75 PSI
FLOW: 893 GPM

RECOMMENDED PRACTICES AND PRECAUTIONS DO'S AND DON'TS

WHILE NOT A COMPLETE LIST, THE FOLLOWING IS INTENDED TO HIGHLIGHT MANY OF THE "DO'S" AND "DON'TS" WHEN INSTALLING CPVC BLAZEMASTER SPRINKLER PIPE

DO'S

- INSTALL PRODUCT ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND DESIGN MANUAL.
- FOLLOW RECOMMENDED SAFE WORK PRACTICES.
- MAKE CERTAIN THAT THREAD SEALANTS, GASKET LUBRICANTS, OR FIRE STOP MATERIALS ARE COMPATIBLE WITH BLAZEMASTER CPVC PIPE AND FITTINGS.
- USE ONLY LATEX-BASED PAINTS IF PAINTING IS DESIRED.
- KEEP PIPE AND FITTINGS IN ORIGINAL PACKAGING UNTIL NEEDED.
- COVER PIPE AND FITTINGS WITH AN OPAQUE TARP IF STORED OUTDOORS.
- FOLLOW PROPER HANDLING PROCEDURES.
- USE TOOLS SPECIFICALLY DESIGNED FOR USE WITH PLASTIC PIPE AND FITTINGS.
- USE PROPER SOLVENT CEMENT AND FOLLOW APPLICATION INSTRUCTIONS.
- USE A DROP CLOTH TO PROTECT INTERIOR FINISHES.
- CUT THE PIPE ENDS SQUARE.
- DEBURR AND BEVEL THE PIPE END BEFORE SOLVENT CEMENTING.
- ROTATE THE PIPE ONE EIGHTH TO ONE QUARTER TURN WHEN BOTTOMING PIPE IN FITTING SOCKET.
- AVOID PUDDLING OF SOLVENT CEMENT IN FITTINGS AND PIPE.
- MAKE CERTAIN THAT SOLVENT CEMENT DOES NOT RUN AND PLUG THE SPRINKLER HEAD ORIFICE.
- FOLLOW THE MANUFACTURER'S RECOMMENDED CURE TIMES PRIOR TO PRESSURE TESTING.
- FILL LINES SLOWLY AND BLEED THE AIR FROM THE SYSTEM PRIOR TO PRESSURE TESTING.
- SUPPORT SPRINKLER HEAD PROPERLY TO PREVENT LIFT UP OF THE HEAD THROUGH THE CEILING WHEN ACTIVATED.
- KEEP THREADED ROD WITHIN 1/16" (1.588 mm) OF THE PIPE.
- INSTALL BLAZEMASTER CPVC IN WET FIRE SPRINKLER SYSTEMS ONLY.
- USE ONLY INSULATION AND/OR GLYCERIN AND WATER SOLUTIONS FOR FREEZE PROTECTION.
- ALLOW FOR MOVEMENT DUE TO EXPANSION AND CONTRACTION.
- RENEW YOUR BLAZEMASTER CPVC FIRE SPRINKLER INSTALLATION TRAINING EVERY TWO YEARS.

DON'TS

- DO NOT USE EDIBLE OILS SUCH AS CRISCO AS A GASKET LUBRICANT.
- DO NOT USE PETROLEUM OR SOLVENT-BASED PAINTS, SEALANTS, LUBRICANTS OR FIRE STOP MATERIALS.
- DO NOT USE ANY GLYCOL BASED SOLUTIONS AS AN ANTI-FREEZE.
- DO NOT MIX GLYCERIN AND WATER SOLUTIONS IN CONTAMINATED CONTAINERS.
- DO NOT USE BOTH TEFLON TAPE AND THREAD SEALANTS SIMULTANEOUSLY.
- DO NOT USE SOLVENT CEMENT THAT EXCEEDS ITS SHELF LIFE OR HAS BECOME DISCOLORED OR GELLED.
- DO NOT ALLOW SOLVENT CEMENT TO PLUG THE SPRINKLER HEAD ORIFICE.
- DO NOT CONNECT RIGID METAL COUPLERS TO BLAZEMASTER CPVC GROOVED ADAPTERS.
- DO NOT THREAD, GROOVE OR DRILL BLAZEMASTER CPVC PIPE.
- DO NOT USE SOLVENT CEMENT NEAR SOURCES OF HEAT, OPEN FLAME, OR WHEN SMOKING.
- DO NOT PRESSURE TEST UNTIL RECOMMENDED CURE TIMES ARE MET.
- DO NOT USE DULL OR BROKEN CUTTING TOOL BLADES WHEN CUTTING BLAZEMASTER PIPE.
- DO NOT USE BLAZEMASTER CPVC PIPE THAT HAS BEEN STORED OUTDOORS, UNPROTECTED AND IS FADED IN COLOR.
- DO NOT ALLOW THREADED ROD TO COME IN CONTACT WITH THE PIPE.
- DO NOT INSTALL BLAZEMASTER CPVC PIPE AND FITTINGS IN COLD WEATHER WITHOUT ALLOWING FOR EXPANSION.
- DO NOT INSTALL BLAZEMASTER CPVC PIPE AND FITTINGS IN DRY SYSTEMS.
- DO NOT PRESSURE TEST WITH AIR OR COMPRESSED GAS.

NOTE: THIS LIST DOES NOT CONSTITUTE A COMPLETE INSTALLATION GUIDE

A BRAND OF NIBCO
www.tolco.com
Revision 8/6/2010

Fig. 28M - Offset Hanger and Restrainer for CPVC Plastic Pipe and IPS Pipe

Size Range: 3/4" thru 1-1/4" pipe
Material: Carbon Steel, Electro-Galvanized
Function: Designed to be used as a hanger and restrainer for CPVC piping where the stand-off design will ease installation by eliminating the need for wood blocking.

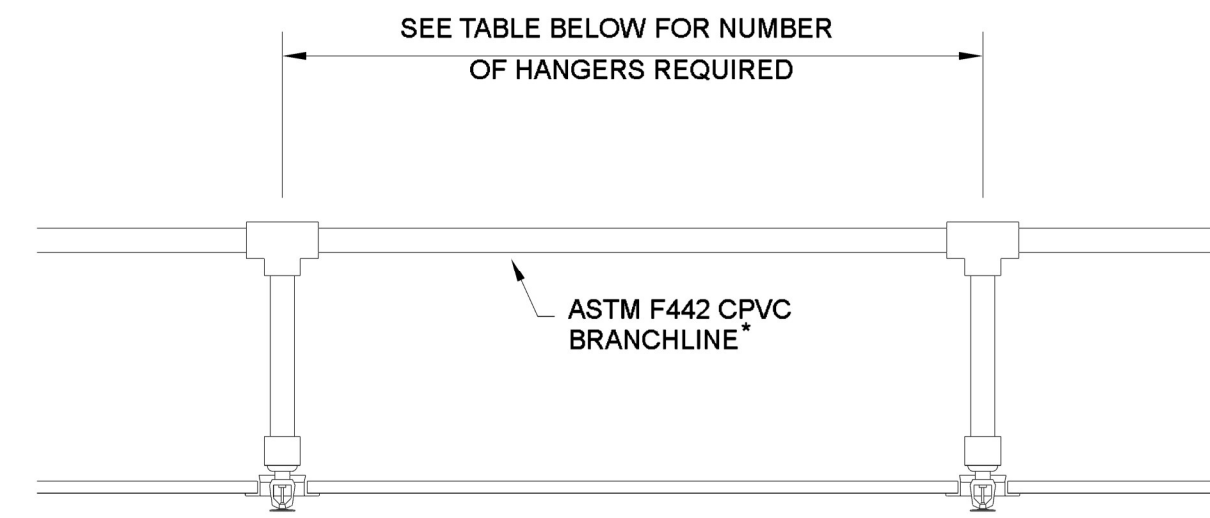
Features:

- Flared edge design protects CPVC pipe from any rough or abrasive surfaces.
- Unique snap-on design holds pipe firmly in place and allows retrofit type of installation.
- The stand-off design eliminates the need for wood block extension.
- Can be installed on horizontal or vertical piping regardless of mounting surface orientation.
- Attaches easily to wood structure with two hex head self-threading screws furnished with product.
- Installs easily using rechargeable electrical driver with 5/16" extension socket eliminating impact tool damage to pipe.
- Attaches easily to steel, minimum 19 gauge with (2) 1/4x 11tek type self drilling tapping screws.

ULus Listed as a hanger and a restrainer for fire sprinkler piping.
Approvals - Underwriters' Laboratory Listed in the USA (UL) and Canada (cUL) to support automatic fire sprinkler systems. May be installed into wood using fasteners screws. Meets and exceeds the requirements of NFPA 13, 13R and 13D.
Fig. 28M satisfies the UL vertical restraint requirements where needed.
Order By - Figure number and pipe size
Patent #7,744,042

Pipe Size	A	B	C	Max. Spacing required per NFPA 13 for CPVC plastic pipe	Approx. Wt./100
3/4"	2"	3/16"	3-1/2"	6'-6"	9
1"	2-1/8"	3/16"	3-1/2"	6'-0"	12
1-1/4"	2-5/16"	3/16"	3-1/2"	6'-6"	13

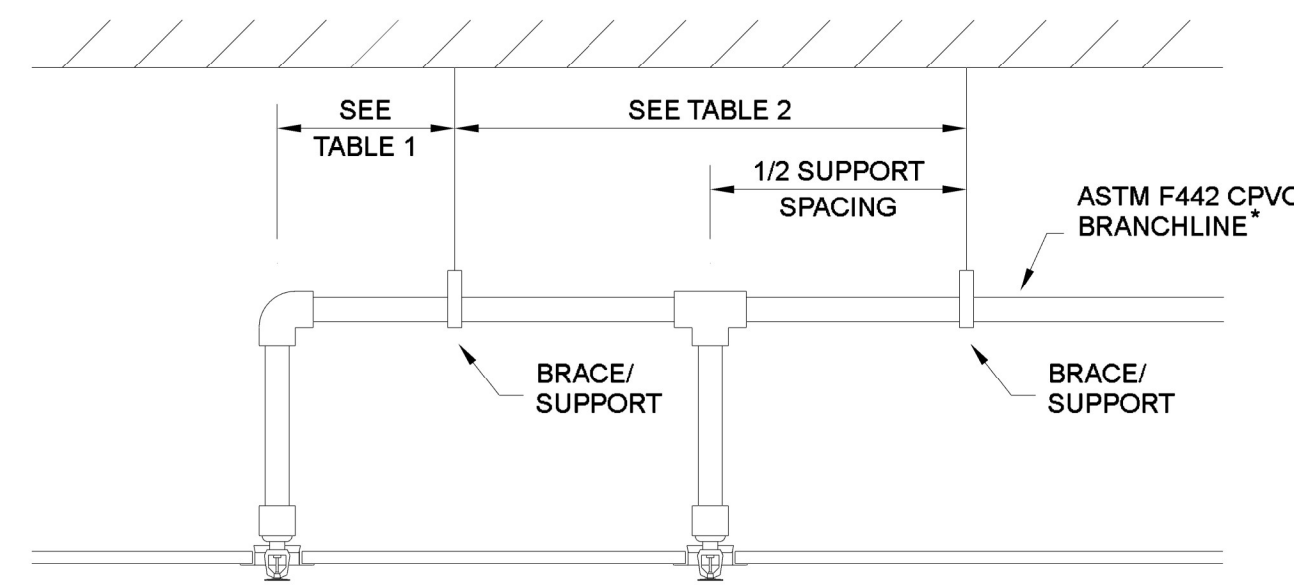
OFFICE/MANUFACTURING FACILITY: 1275 SAMBORN BLVD., CORONA, CA 92709 PH: 951-737-5599 FAX: 951-737-6290
CUSTOMER SERVICE: 800-784-5368
www.tolco.com



MINIMUM ALLOWABLE HANGERS PER LENGTH OF PIPE

PIPE SIZE inches	Pipe Length		
	1 Hanger	2 Hangers	3 Hangers
3/4"	0'-0" TO 5'-6"	5'-7" TO 11'-0"	11'-1" TO 16'-6"
1"	0'-0" TO 6'-0"	6'-1" TO 12'-0"	12'-1" TO 18'-0"
1 1/4"	0'-0" TO 6'-6"	6'-7" TO 13'-0"	13'-1" TO 19'-6"
1 1/2"	0'-0" TO 7'-0"	7'-1" TO 14'-0"	14'-1" TO 21'-0"
2"	0'-0" TO 8'-0"	8'-1" TO 16'-0"	16'-1" TO 24'-0"
2 1/2"	0'-0" TO 9'-0"	9'-1" TO 18'-0"	18'-1" TO 27'-0"
3"	0'-0" TO 10'-0"	10'-1" TO 20'-0"	20'-1" TO 30'-0"

* NSF INTERNATIONAL APPROVED FOR USE WITH POTABLE WATER



PIPE SIZE inches	TABLE 1 MAXIMUM SUPPORT SPACING DISTANCE END LINE SPRINKLER HEAD DROP ELBOW		TABLE 2 MAXIMUM SUPPORT SPACING DISTANCE INLINE SPRINKLER HEAD DROP TEE	
	SYSTEM PRESSURE < 100 psi	SYSTEM PRESSURE > 100 psi	PIPE SIZE inches	SYSTEM PRESSURE < 100 psi
3/4"	9"	6"	3/4"	4"
1"	12"	9"	1"	4"
1 1/4"	16"	12"	1 1/4"	5"
1 1/2"-3"	24"	12"	1 1/2"-3"	7"

**CURE TIMES WITH ONE STEP SOLVENT CEMENT
225 psi (MAXIMUM) TEST PRESSURE**

PIPE SIZE inches	Ambient Temperature During Cure Period		
	60°F TO 120°F	40°F TO 59°F	0°F TO 39°F
3/4"	1 hr.	4 hr.	48 hr.
1"	1.5 hr.	4 hr.	48 hr.
1 1/4"	3 hr.	32 hr.	10 days
1 1/2"	3 hr.	32 hr.	10 days
2"	8 hr.	48 hr.	See Note 1
2 1/2"	24 hr.	96 hr.	See Note 1
3"	24 hr.	96 hr.	See Note 1

Note 1 For these sizes, the solvent cement can be applied at temperatures below 32°F, however, the sprinkler system temperature must be raised to a temperature of 32°F or above and allowed to cure per the above recommendations prior to pressure testing.

Sprinkler Design Data

Project Name: AMPLE STORAGE - ERWIN	System: 1
Project Street Address: JACKSON BLVD-US HWY 421, ERWIN NC	Sys. Sq. Ft.: 1200
Suite: -	Floor#: -
Designed By: J&D SPRINKLER	Phone: 919-553-2356
Occupancy: DWELLING	Hazard: RESIDENTIAL
	Ceiling Height: -
	Total Bldg. Hgt.: 13'-9"

Design Summary

	SYSTEM #1	-	-	-	-
Design Method	CALCULATED	-	-	-	-
Design Area #	REMOTE AREA #1	-	-	-	-
Location	LIVING/KITCHEN AREA	-	-	-	-
Type of System	WET	-	-	-	-
Hazard Class	RESIDENTIAL	-	-	-	-
Criteria From	NFPA 13D	-	-	-	-
Design Area	1 COMPARTMENT	-	-	-	-
Sprinkler Spacing	18" X 18" MAX	-	-	-	-
Density	.05	-	-	-	-
K-factor	4.9	-	-	-	-
Hose Allowance	-	-	-	-	-
# Design Sprinklers	4	-	-	-	-
Special Application Spk.	RESIDENTIAL	-	-	-	-
Requirement @ BASE					
G.P.M. Req'd	70.22	-	-	-	-
P.S.I. Req'd	21,254	-	-	-	-
Requirement @ TEST					
GPM Required	70.22	-	-	-	-
PSI Required	60.616	-	-	-	-
Safety factor @ Test	17.857	-	-	-	-
Dry Sys. Volume (gal)	-	-	-	-	-

Water Supply Information

Tested by	J&D SPRINKLER CO	Date/Time	11/25/2024	Pressure Hydrant	-
Hydrant Elevation	-	Flow Hydrant #1	-	Flow Hydrant #2	-
Static (PSI)	78	Residual (PSI)	75	Flow (gpm)	893

Copy of Water Test Data Included with Calculation is required

Fire Pump Data

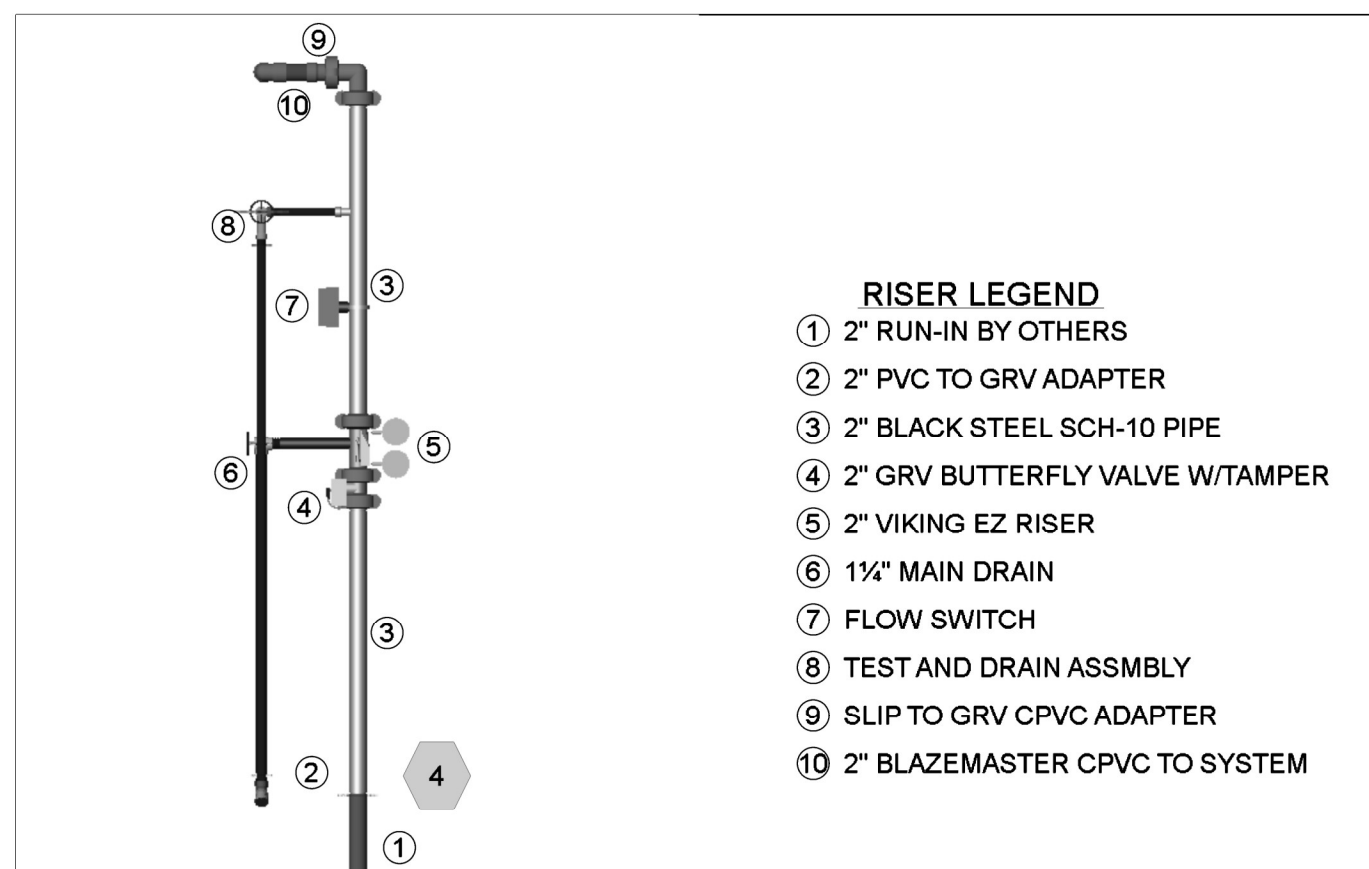
Rated G.P.M.	Rated Pressure	Horsepower
---	---	---
---	---	---
---	---	---

Certified pump curve required

If Storage is Greater than 12 Feet Complete Commodity Storage Design Information

Commodity Description	Commodity Class	Storage Height	Storage Type (Rack, Bin, Pile)				Clearance
			Stable/Unstable	Open/Close Array	Wet/Dry System	-	
Figure #	Curve #	Density	Height Factor	Clear Factor	Array Factor	Dry Penalty	Design Minimum Design Final Design
-	-	Initial	-	-	-	-	-
-	-	Sec-ondary	-	-	-	-	-

System compliant with Chapter 23 (FPC) Is storage area layout, rack, and pile plan included?



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

AMPLE STORAGE APT ERWIN
JACKSON BLVD-US HWY 421
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 AND PLANS

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 fire sprinkler system. J & D Sprinkler Co. must perform any and all installation work and other 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.



DANA GRAHAM

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

NC # 16269FS CERT # 121842
NICET LEVEL III

REVISION:
NO. DATE

Date:
11/26/2024

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

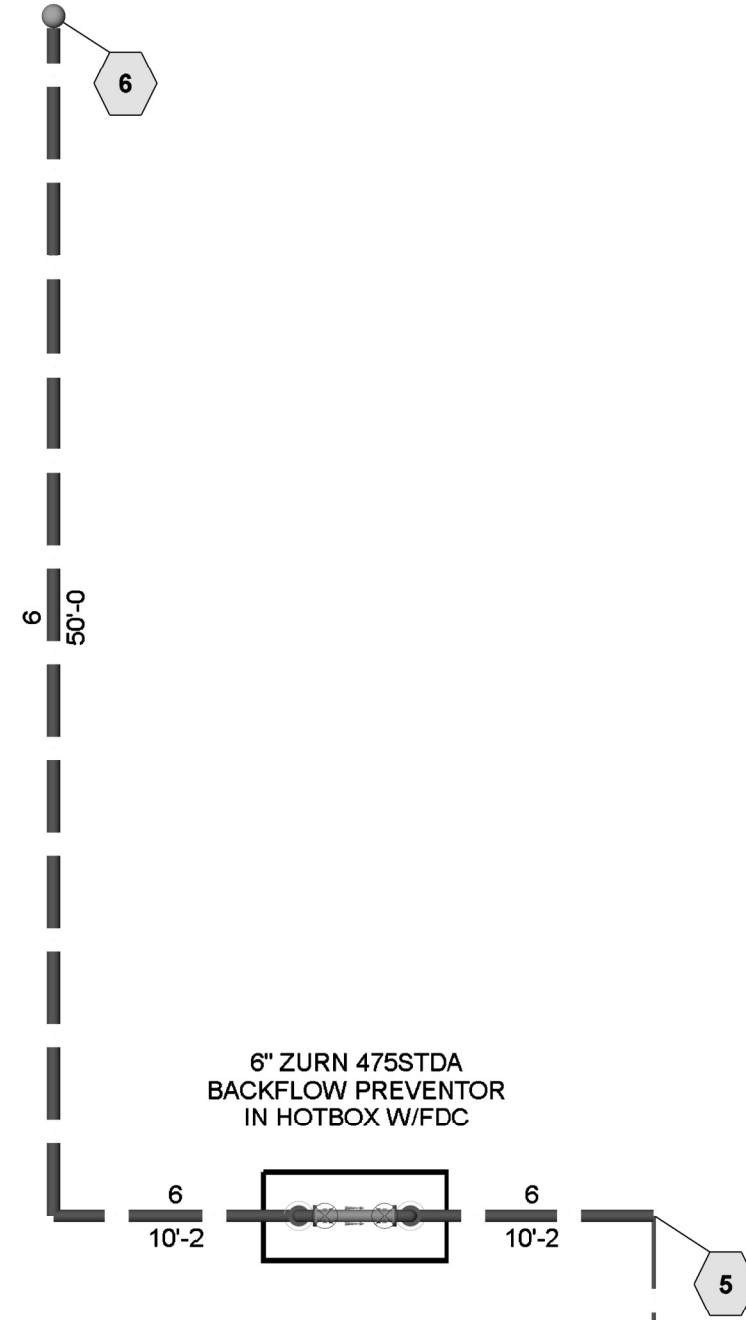
Job Number:
B24263

Drawn By:
MWL

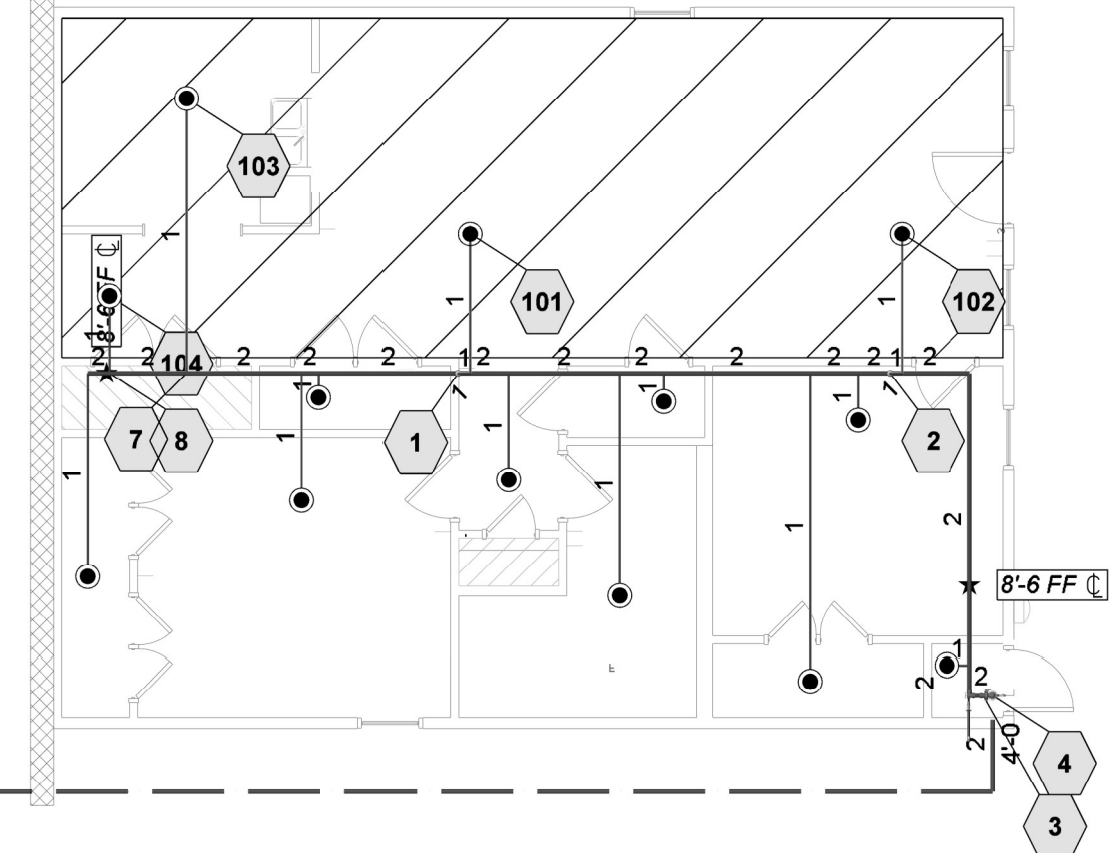
Sheet Number

FP-1

Supply Flow Test Data	
Static Pressure	78.000
Residual Pressure	75.000
Flow	893.00
Test Conducted By	J&D SPRINKLER CO
Test Witnessed By	JASON PHILLIPS CITY OF DUNN
Date of Test	11/25/2024
Time of Test	11:45AM



Hydraulic Information	
OCCUPANCY CLASSIFICATION	Residential
DENSITY (gpm/ft ²)	0.05 for 900ft ² (Actual 554ft ²)
TOTAL HEADS FLOWING	4
K-FACTOR	4.9
TOTAL WATER REQUIRED	70.22
TOTAL PRESSURE REQUIRED	60.016
BASE of RISER (gpm)	70.22
BASE of RISER (psi)	21.254
SAFETY MARGIN (psi)	+17.957 (23.0%)
Residential=0.05gpm/ft ² for 554ft ²	



Plan North **PIPING PLAN**
AMPLE STORAGE APARTMENT 1/8"=1'-0"

Sprinkler Legend											
Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note
●	Viking	VK468	Residential	13	4.9	Pendent	1/2"	Quick	White	175°F	18' X 18' MAX
				Total = 13							

- SYMBOLS:**
- DENOTES A HYDRAULIC CALCULATION POINT OF REFERENCE
 - DENOTES A HYDRAULIC REMOTE AREA
 - DENOTES NEW SPRINKLER PIPE
 - DENOTES UNDERGROUND PIPE

AMPLE STORAGE APT ERWIN
JACKSON BLVD-US HWY 421
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

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 of the State of North Carolina. The Designer's seal and signature are required for this drawing. The Designer must perform any and all installation work and other 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.
c. 2013 J & D Sprinkler Co., Inc.



DANA GRAHAM
NC # 16269FS CERT # 71075
NICET LEVEL III
JASON GRAHAM
NC # 16269FS CERT # 121842
NICET LEVEL III

REVISION:
NO. DATE

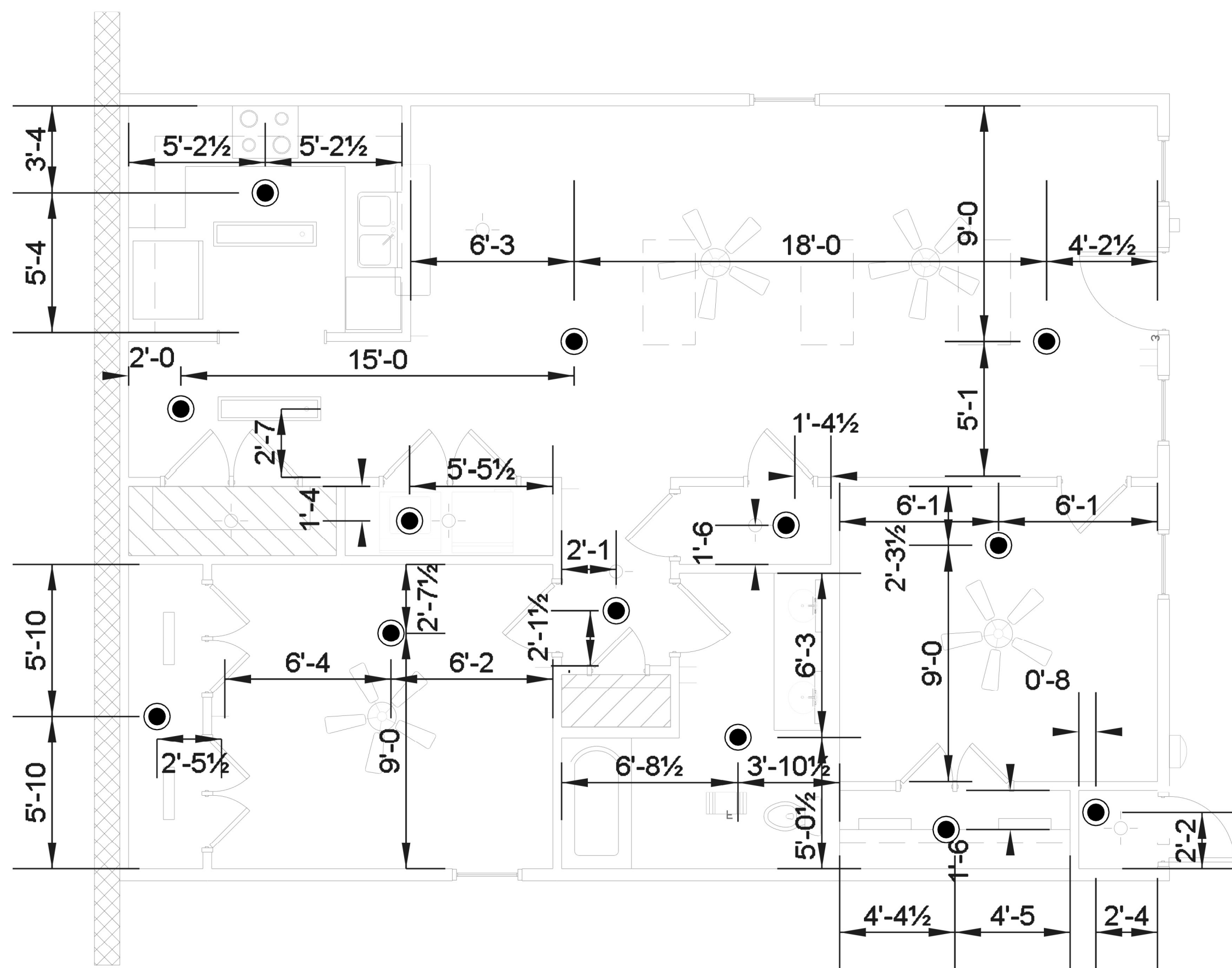
Date:
11/26/2024

Scale:
1/8"=1'-0"
0 10'

Job Number:
B24263

Drawn By:
MWL

Sheet Number
FP-2



Plan North **CEILING PLAN**
AMPLE STORAGE APARTMENT 1/4"=1'-0"

Sprinkler Legend											
Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note
●	Viking	VK468	Residential	13	4.9	Pendent	1/2	Quick	White	175°F	18' X 18' MAX
				Total = 13							

SPRINKLERS OMITTED IN HATCHED AREAS IN ACCORDANCE WITH NFPA13D 8.3.2 & 8.3.3

AMPLE STORAGE APT ERWIN
JACKSON BLVD-US HWY 421
ERWIN NC

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

SHEET TITLE:
**REFLECTED
CEILING PLAN**

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 of the State of North Carolina. J & D Sprinkler Co. is not responsible for any work not 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.
c. 2013 J & D Sprinkler Co., Inc.



DANA GRAHAM

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

NC # 16269FS CERT # 121842
NICET LEVEL III
REVISION:
NO. DATE

Date:
11/26/2024

Scale:
1/8"=1'-0"
0 10'

Job Number:
B24263

Drawn By:
MWL

Sheet Number
FP-3