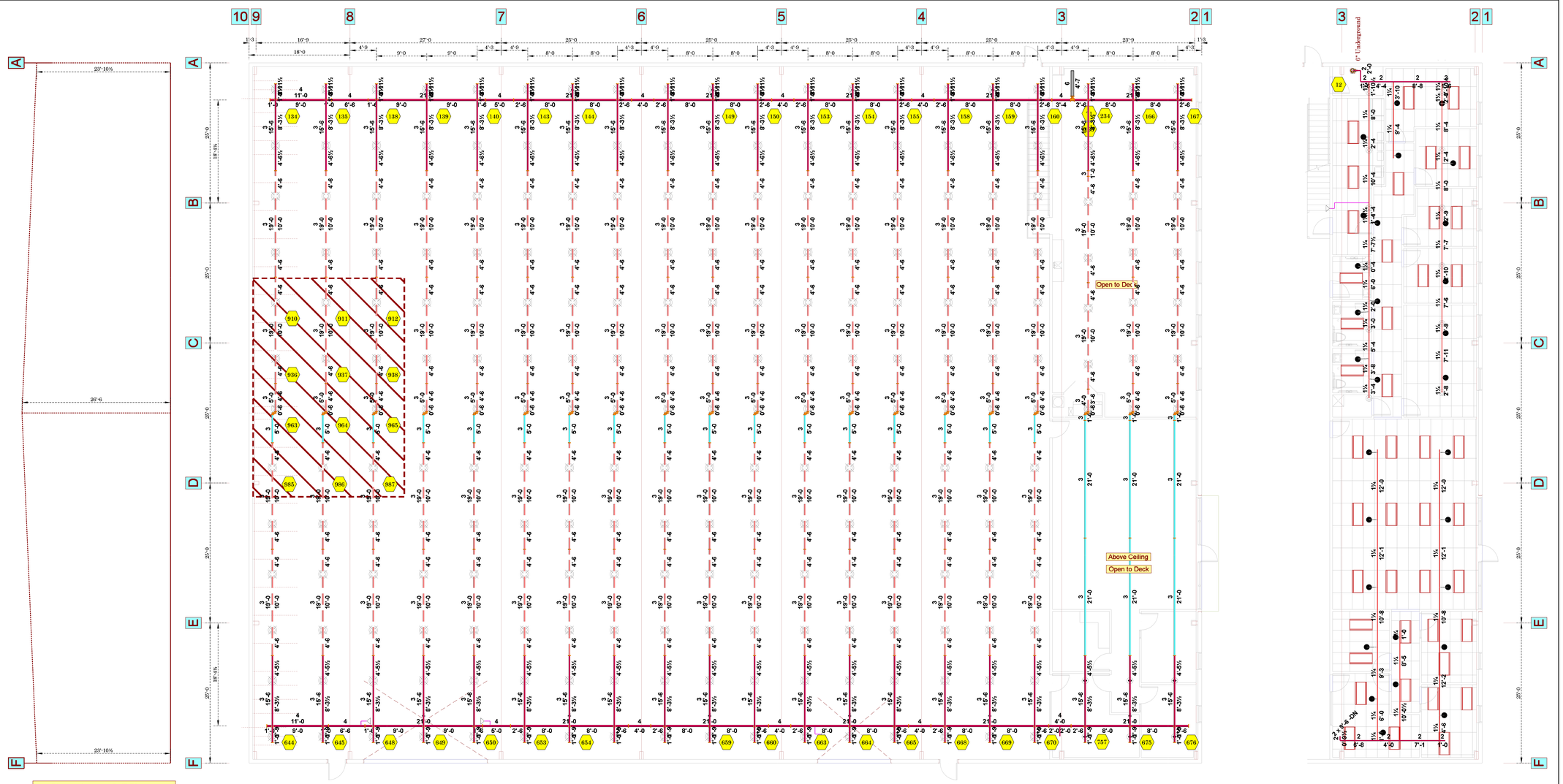
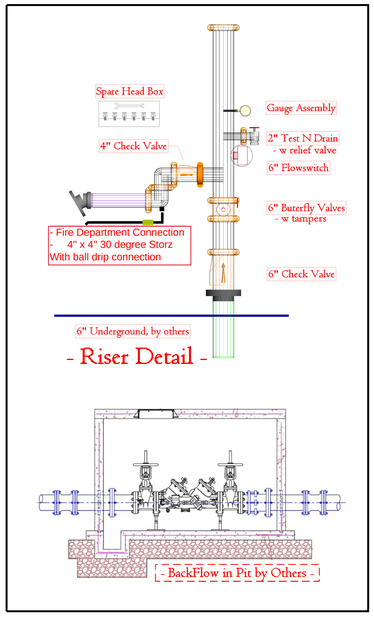


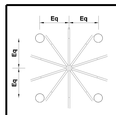
· Sectional View ·

· Overhead Piping Plan ·

· Office Piping Plan ·



Weight of Water filled Pipe	
2½"	5.9 lb / ft
3"	7.9 lb / ft
4"	10.9 lb / ft
6"	23.1 lb / ft
8"	40.2 lb / ft

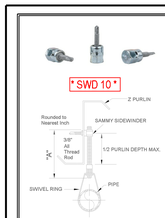


11.1.7* High Volume Low Speed (HVLS) Fans. The installation of HVLS fans in buildings equipped with sprinklers, including ESFR sprinklers, shall comply with the following:

(1) The maximum fan diameter shall be 24 ft (7.3 m).
(2) The HVLS fan shall be centered approximately between four adjacent sprinklers.
(3) The vertical clearance from the HVLS fan to sprinkler deflector shall be a minimum of 3 ft (0.9 m).
(4) All HVLS fans shall be interlocked to shut down immediately upon receiving a waterflow signal from the alarm system in accordance with the requirements of NFPA 72.

· HVLS Fan Protection Criteria·

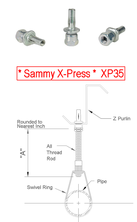
- HVLS Fans locations to be adjusted Relocated



Hanger Schedule for Steel Pipe	
Pipe Size	Max Hanger Spacing
1"	12'-0
1¼"	12'-0
1½"	12'-0
2"	12'-0
2½"	15'-0
3"	15'-0
4"	15'-0

*Branchline Hangers w SWD 10 *

All Branch Line Hangers to be 0'-4" ATR



Hanger Schedule for Steel Pipe	
Pipe Size	Max Hanger Spacing
1"	12'-0
1¼"	12'-0
1½"	12'-0
2"	12'-0
2½"	15'-0
3"	15'-0
4"	15'-0

*Main Hangers w Sammy X-Press *

ESFR Design Criteria:
Protection for storage areas with roof deck under 30' based on NFPA 13 · 2016 protection of Class 1·4 commodities, encapsulated or unencapsulated cartoned Group A plastic in racking to 25' or lesser hazard.
·· 12 K25.2 ESFR heads at 15psi. ··

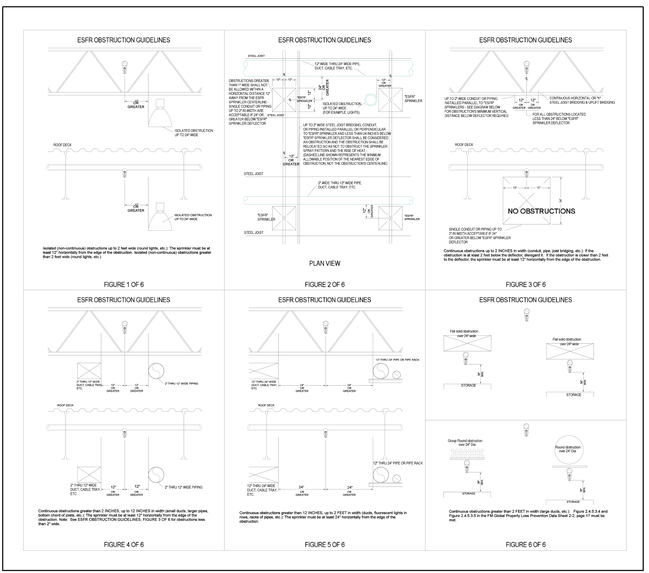
Hydraulic Information	
Remote Area Storage · ESFR · Sys 01	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	15.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	25.2
TOTAL WATER REQUIRED	1435.77
TOTAL PRESSURE REQUIRED	53.808
SAFETY MARGIN (psi)	+10.779 (16.7%)

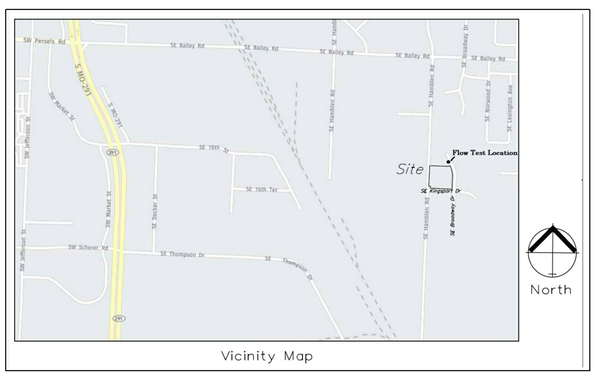
RELEASED FOR CONSTRUCTION
As Noted on Plan Review

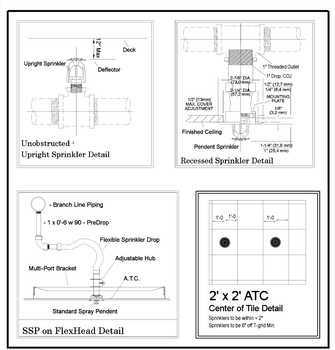
Lee's Summit Fire Department
Lee's Summit, Missouri

10/06/2025

Sprinkler Legend · FP 01											
Symbol	SIN	Model	Qty	-K-	Type	Size	Response	Finish	Temp	Note	Note2
	VK510	ESFR	242	25.2	Pendent	1	Quick	Brass	200°F	Viking	
	VK3021	QP·SSP	29	5.6	Pendent	½	Quick	Chrome	175°F	Viking	15' x 15'
	Bush		6	0	Pendent	1	Standard	Brass	N/A	CI	
	VK950	COIN	12	5.6	Upright	½	Quick	Brass	175°F	Viking	16'-x16
	VK104	HSW	4	5.6	Horizontal Sidewall	½	Standard	Brass	175°F	Viking	14' x 14'







- Flow Test -	
Test Conducted By	LS Water
Date of Test	12/5/2024
Location	1460 Broadway Dr
Static Pressure	89.000
Residual Pressure:	49.000
Flow	1875.00
Test Witnessed By	LS Water
Hydrant Numbers	H20545 & H20538
Hydrant Elevation	1007

ABBREVIATIONS & SYMBOLS

A.F.G. - ABOVE FINISHED CEILING
T.O.S. - TOP OF STEEL, ROOF DECK
T.O.B.TS - TOP OF STEEL, ROOF PLAIN)
AST - Above bottom of Eave
DIP - DUTILE IRON PIPE
C.I. - CAST IRON
CPLG - COUPLINGT CONNECTION
G-BOND - GROUNDED
GALV. - GALVANIZED
GLEN. - WELDED GROOVED OUTLET
M.T. - MECHANICAL TEE
R.C. - WELDED THREADED OUTLET
R.G. - REDUCER COUPLING
BFG - BOTTOM OF
T & THD. - THREADED
V.O. - VALVE
R.O. - BOTTOM OF RISER
FM - FEED MAIN
UG - UNDERGROUND
CM - CONDUIT MAIN
CM - CROSS MAIN
SP - SPRIG
BL - BRANCH
SSL - STANDARD SPRAY UPRIGHT
SSP - STANDARD SPRAY PENDENT
HSW - HORIZONTAL SIDE WALL
QR - QUICK RESPONCE
EC - EXTENDED COVERAGE
BF - BAR JOIST
LR - LONG RANGE (U-BEAM)
ATR - ALL THREAD ROD
(H) - HYDRAULIC REFERENCE NODE

- Prefabricated Metal Building -
- Beam & Purlin Construction -

GENERAL NOTES

1. This design is based upon the owner's acceptance of NFPA 13 - 2016 for installation and NFPA 25 for maintenance of this fire protection system.
2. All above ground Threaded piping to be Sch 40 or equal.
   All above ground Grooved piping 4" or less to be Eddy Flow or equal.
   All above ground Grooved piping 6" or more to be Sch 10.
3. All sprinkler material to comply w local requirements & applicable NFPA Standards.
4. Continuous central monitoring of sprinkler systems per NFPA 72 to be by others.
6. All electrical wiring to be by others.
7. All underground piping to be by others.
8. All painting of sprinkler pipe to be by others.
9. All patching and/or painting of penetrated drywall & masonry walls to be by others.
10. Building to be provided with adequate heat to prevent piping from freezing.
11. All marking or labeling of sprinkler piping to be by others.

REVIEWING AUTHORITY
LS Codes

SCALE
1/8" = 1'-0

DRAWN BY
JJR

DATE DRAWN
- 09-04-2025 -

CONTRACT NUMBER
NC-1478

DRAWING NUMBER
FP.1

· Submittal ·

- 09-04-2025 -

· 1460 Broadway ·
1460 SE Broadway Dr
Lee's Summit, MO 64081

Contract with:
· KH Construction ·

Fire Protection Plan

Alliance Fire Protection
130 W 8th Ave
Suite 101
NORTH KANSAS CITY, MO 64116
PHONE (913) 888-0667
FAX (913) 888-0618