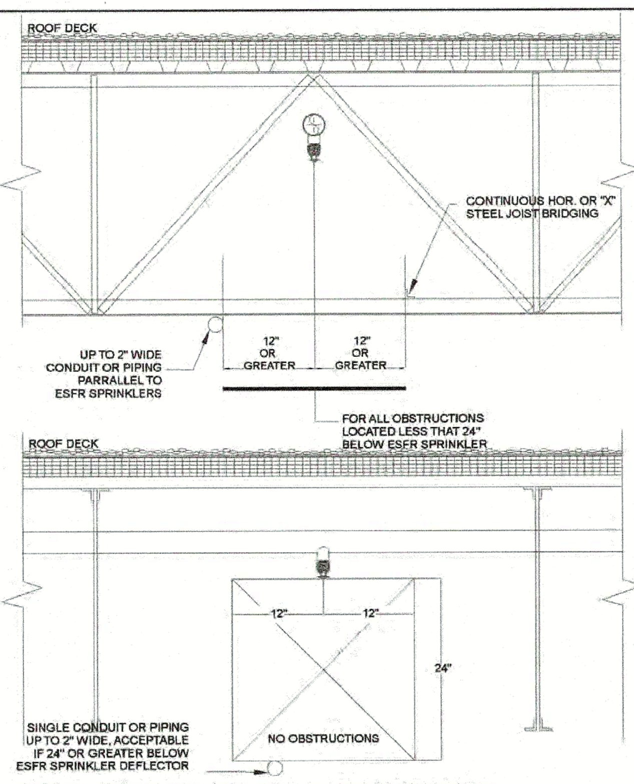
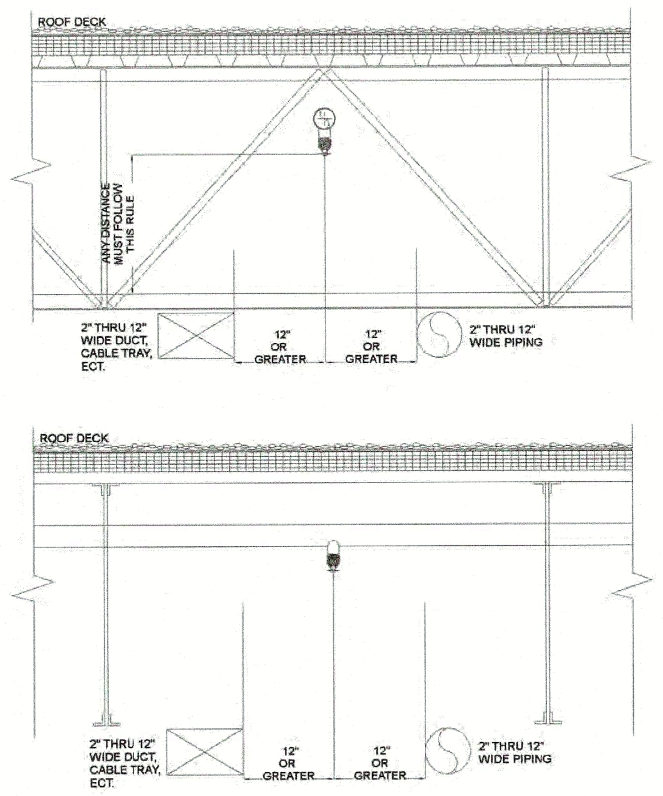
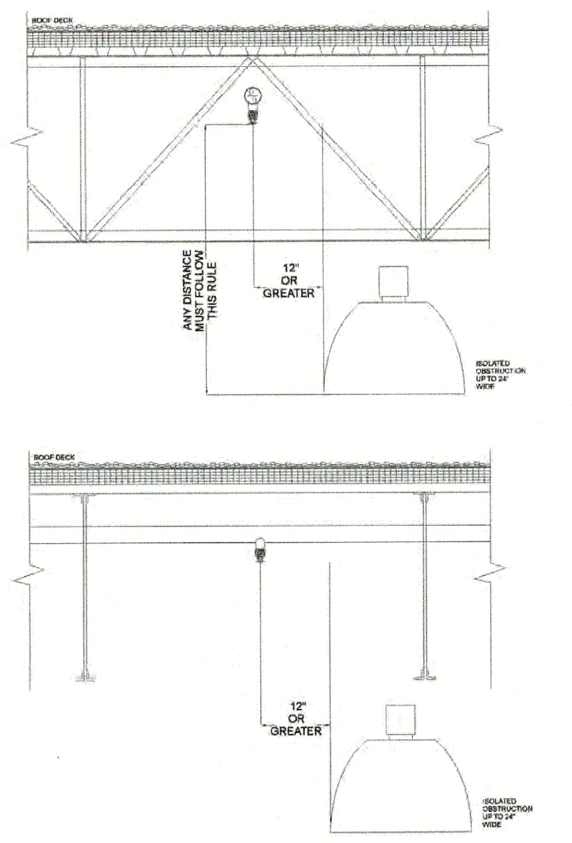


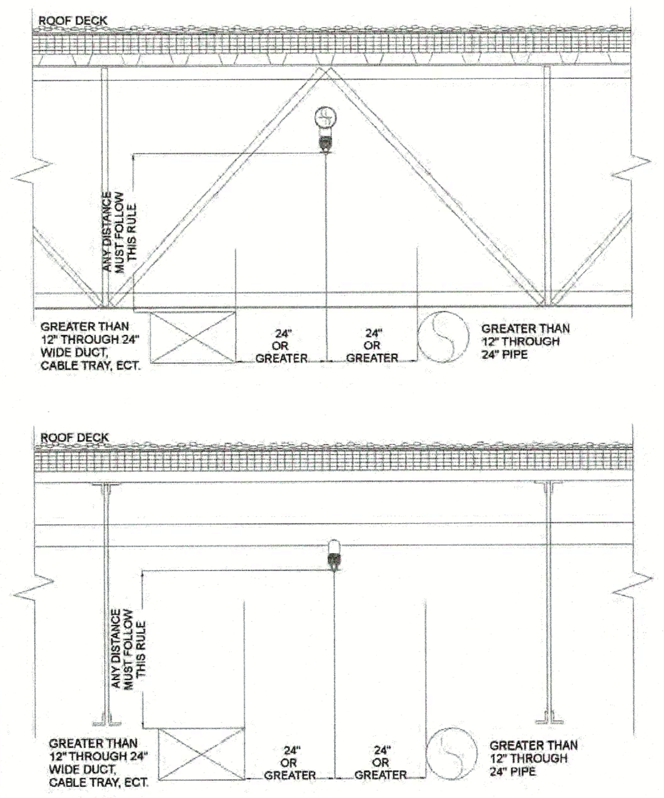
ESFR CONTINUOUS OBSTRUCTIONS
0" TO 2" WIDE
(CONDUIT, PIPE, JOIST BRIDGING, ECT.)
NO SCALE
IF THE OBSTRUCTION IS 24" OR GREATER BELOW THE SPRINKLER DEFLECTOR, DISREGARD IT.
IF THE OBSTUCTION IS LESS THAN 24" BELOW THE SPRINKLER DEFLECTOR, THE ESFR SPRINKLER MUST BE AT LEAST 12" HORIZONTALLY FROM THE EDGE OF THE OBSTRUCTION.



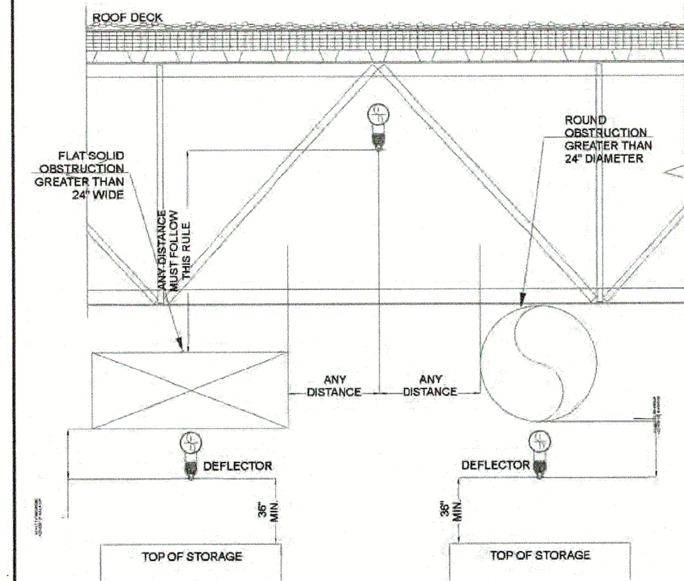
ESFR CONTINUOUS OBSTRUCTIONS
GREATER THAN 2" TO 12" WIDE
(DUCTS, PIPE, BOT. CORD OF JOIST, ECT.)
NO SCALE
THE ESFR SPRINKLER MUST BE AT LEAST 12" HORIZONTALLY
FROM THE EDGE OF THE OBSTRUCTION.



ESFR ISOLATED OBSTRUCTIONS
0" TO 24" WIDE
(LIGHTING FIXTURES, ECT.)
NO SCALE
ESFR SPRINKLER MUST BE AT LEAST 12" HORIZONTALLY
FROM THE EDGE OF THE OBSTRUCTION.



ESFR CONTINUOUS OBSTRUCTIONS
GREATER THAN 12" TO 24" WIDE
(DUCTS, RACKS OF PIPING, ECT.)
NO SCALE
THE ESFR SPRINKLER MUST BE AT LEAST 24" HORIZONTALLY
FROM THE EDGE OF THE OBSTRUCTION.

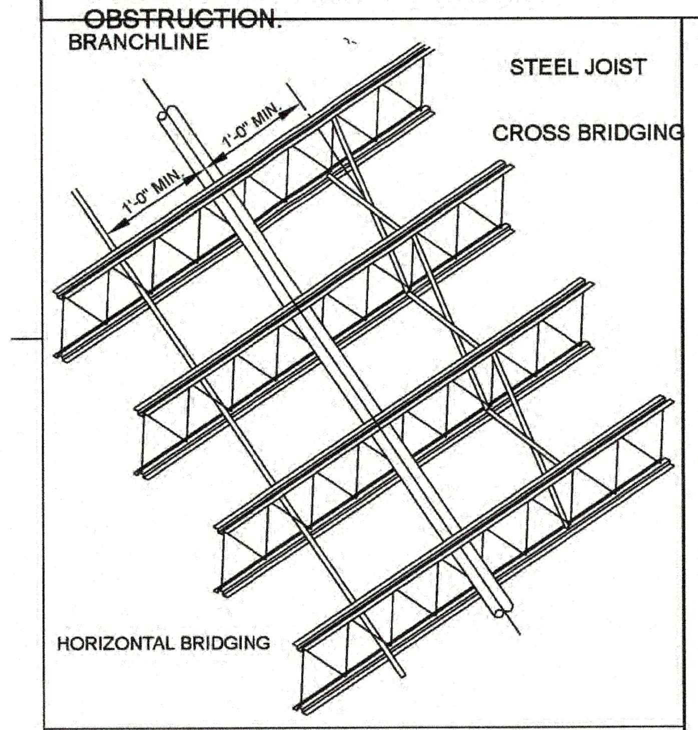


ESFR CONTINUOUS OBSTRUCTIONS
GREATER THAN 24" WIDE
(DUCTS, RACKS OF PIPING, ECT.)
NO SCALE
ESFR SPRINKLER MUST BE INSTALLED UNDER OBSTRUCTIONS GREATER THAN 24" IN WIDTH PER NFPA 13.

![S.A. COMUNALE CO. INC. FIRE PROTECTION CONTRACTORS]

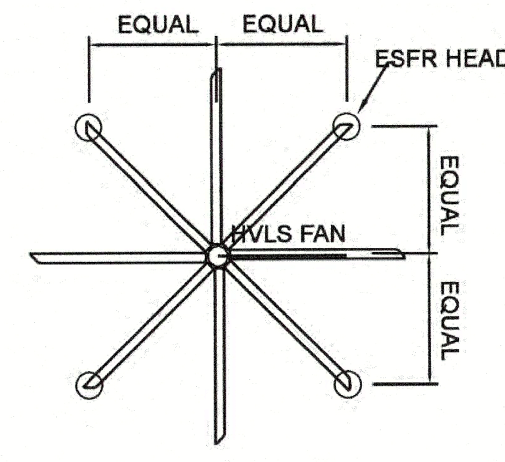
S.A. COMUNALE CO. INC.
FIRE PROTECTION CONTRACTORS

1 OF 20	BUILDING B TITLE PAGE
2 OF 20	BUILDING B PUMP HOUSE
3 OF 20	BUILDING B BUILDING SECTION & RISER DETAILS
4 OF 20	BUILDING B SYSTEM 1 FIRE PROTECTION PLAN
5 OF 20	BUILDING B SYSTEM 3 FIRE PROTECTION PLAN
6 OF 20	BUILDING B SYSTEM 5 FIRE PROTECTION PLAN
7 OF 20	BUILDING B SYSTEM 7 FIRE PROTECTION PLAN
8 OF 20	BUILDING B SYSTEM 9 FIRE PROTECTION PLAN
9 OF 20	BUILDING B SYSTEM 11 FIRE PROTECTION PLAN
10 OF 20	BUILDING B SYSTEM 13 FIRE PROTECTION PLAN
11 OF 20	BUILDING B SYSTEM 15 FIRE PROTECTION PLAN
12 OF 20	BUILDING B SYSTEM 2 FIRE PROTECTION PLAN
13 OF 20	BUILDING B SYSTEM 4 FIRE PROTECTION PLAN
14 OF 20	BUILDING B SYSTEM 6 FIRE PROTECTION PLAN
15 OF 20	BUILDING B SYSTEM 8 FIRE PROTECTION PLAN
16 OF 20	BUILDING B SYSTEM 10 FIRE PROTECTION PLAN
17 OF 20	BUILDING B SYSTEM 12 FIRE PROTECTION PLAN
18 OF 20	BUILDING B SYSTEM 14 FIRE PROTECTION PLAN
19 OF 20	BUILDING B SYSTEM 16 FIRE PROTECTION PLAN
20 OF 20	BUILDING B SYSTEM 17 FIRE PROTECTION PLAN

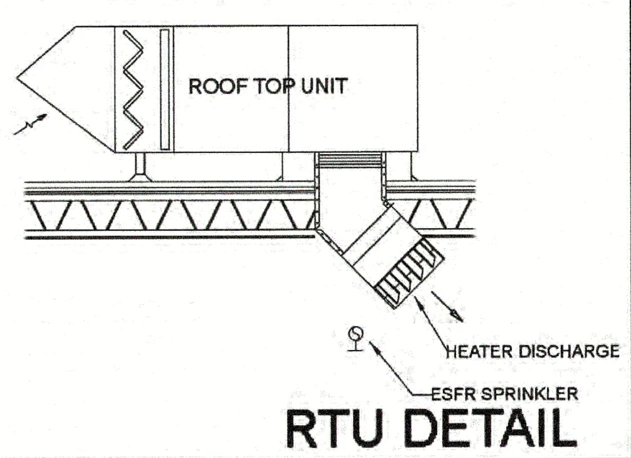


IN ACCORDANCE WITH NFPA THE DISTANCE FROM THE EDGE OF THE BRIDGING TO THE CENTERLINE OF THE BRANCHLINE SHALL BE NO LESS THAN 1'0", TO PREVENT AN OBTRUCTION TO THE ESFR SPRINKLER HEAD.

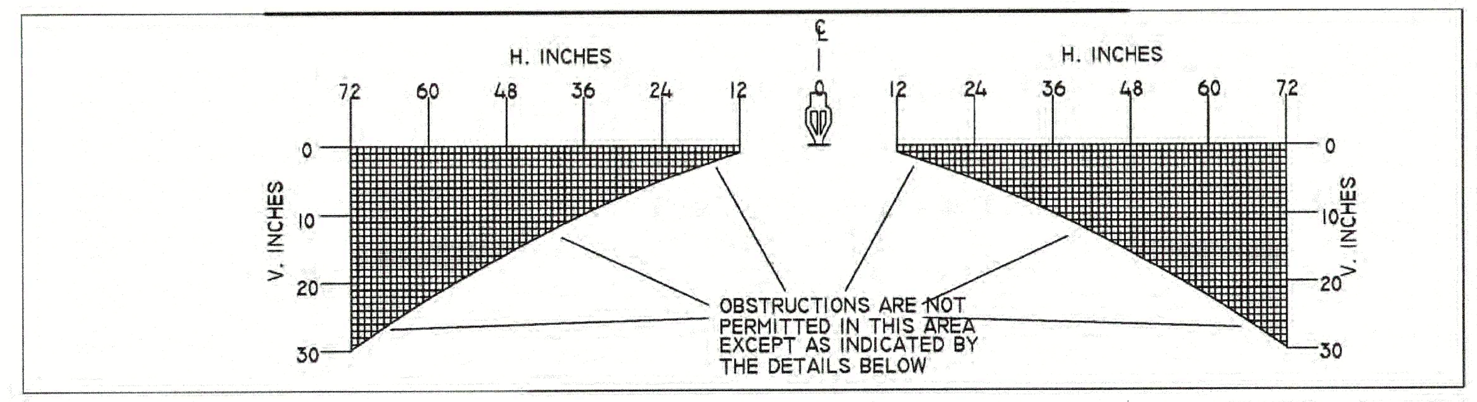
STRUCTURAL OBSTRUCTION DETAIL
SCALE: NONE

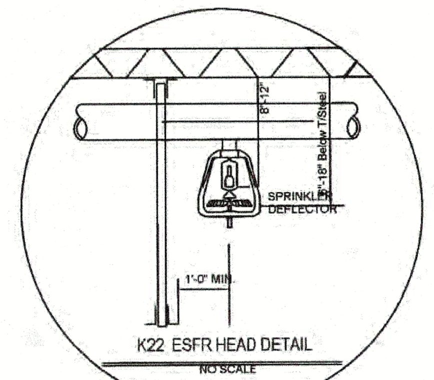


1.THE MAXIMUM FAN DIAMETER SHALL BE 24 FT
2.THE HVLS FAN SHALL BE CENTERED APPROXIMATELY BETWEEN FOUR ADJACENT SPRINKLERS.
3.THE VERTICAL CLEARANCE FROM THE HVLS FAN TO SPRINKLER DEFLECTOR SHALL BE A MINIMUM OF 3 FT.
4.ALL HVLS FANS SHALL BE INTERLOCKED TO SHUT DOWN IMMEDIATELY UPON RECEIVING A WATERFLOW SIGNAL FROM THE ALARM SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 72.



RTU DETAIL
ROOF MOUNTED GAS-FIRED SPACE HEATER DETAIL

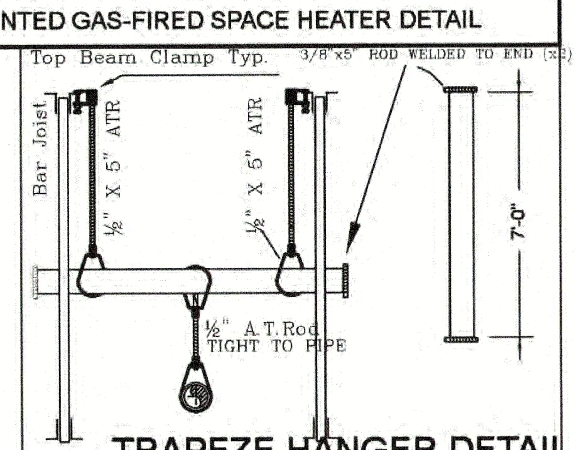




K22 ESFR HEAD DETAIL
NO SCALE

THIS JOB HAS ESFR SPRINKLERS
YOU MUST COORDINATE!

PLUMBING, HVAC, ELECTRICAL, STEEL BRIDGING



TRAPEZE HANGER DETAIL
NO SCALE
6" PIPES TO BE SUPPORTED BY 3" TRAP (1/2" ATR)

Table 14.4.1 ESFR Protection of Palletized and Solid-Piled Storage of Class I Through Class IV Commodities

Commodity	Maximum Storage Height ft	Maximum Storage Height m	Maximum Ceiling/Roof Height ft	Maximum Ceiling/Roof Height m	Nominal K-Factor	Orientation	Minimum Operating Pressure psi	Minimum Operating Pressure bar
Class I, II, III, or IV, encapsulated and nonencapsulated (no open-top containers)	20	6.1	25	7.6	14.0 (200)	Upright/ pendent	50	3.4
					16.8 (240)	Upright/ pendent	35	2.4
					22.4 (320)	Pendent	25	1.7
					25.2 (360)	Pendent	15	1.0
	25	7.6	30	9.1	14.0 (200)	Upright/ pendent	50	3.4
					16.8 (240)	Upright/ pendent	35	2.4
					22.4 (320)	Pendent	25	1.7
					25.2 (360)	Pendent	15	1.0
			32	9.8	14.0 (200)	Upright/ pendent	60	4.1
					16.8 (240)	Pendent	42	2.9
	30	9.1	35	10.7	14.0 (200)	Upright/ pendent	75	5.2
					16.8 (240)	Upright/ pendent	52	3.6
					22.4 (320)	Pendent	35	2.4
					25.2 (360)	Pendent	20	1.4
	35	10.7	40	12.2	16.8 (240)	Upright/ pendent	52	3.6
					22.4 (320)	Pendent	40	2.8
					25.2 (360)	Pendent	25	1.7
	35	10.7	45	13.7	22.4 (320)	Pendent	40	2.8
					25.2 (360)	Pendent	40	2.8
	40	12.2	45	13.7	22.4 (320)	Pendent	40	2.8
					25.2 (360)	Pendent	40	2.8

Description	Specification, UL
Sprinkler Type	ESFR
Temperature Rating °F (°C)	165°F (74°C) 212°F (100°C)
Response Type	QR
Sprinkler Position	Pendent, frame arms aligned with pipe, deflectors parallel with ceiling or roof
System Type	Wet
Maximum Area of Coverage	100 ft² (9.3 m²)
Minimum Area of Coverage	64 ft² (5.8 m²)
Maximum Slope Ceiling	2 in. rise for 12 in. run (16.7%)
Maximum Spacing	10 ft (3.1 m)
Minimum Spacing	8 ft (2.4 m)
Deflector Distance from Walls	Minimum of 4 in. (100 mm) from walls but no more than 1/2 the allowable distance permitted between sprinklers
Deflector to Top of Storage	Minimum of 36 in. (914 mm)
Deflector to Ceiling Distance	6 in. to 14 in. (152 mm to 356 mm)
Maximum Ceiling Height	48 ft (14.6 m)
Maximum Storage Height	43 ft (13.1 m)
Storage Arrangement	Palletized, solid piled, open frame; single row or double row
Commodity	Class I - IV, Cartoned unexpanded plastic
Sprinkler System Design	NFPA 13 for ESFR Sprinklers based upon 45 psi (3.1 bar) design pressure 169 gpm (640 Lpm) with 12 sprinkler remote area
Obstruction Criteria	Reference NFPA 13, [illegible]
Minimum Aisle Width	5 ft (1.5 m)
Hose Stream allowance and Water Supply Duration	250 gpm for 60 minutes (950 Lpm for 60 minutes)

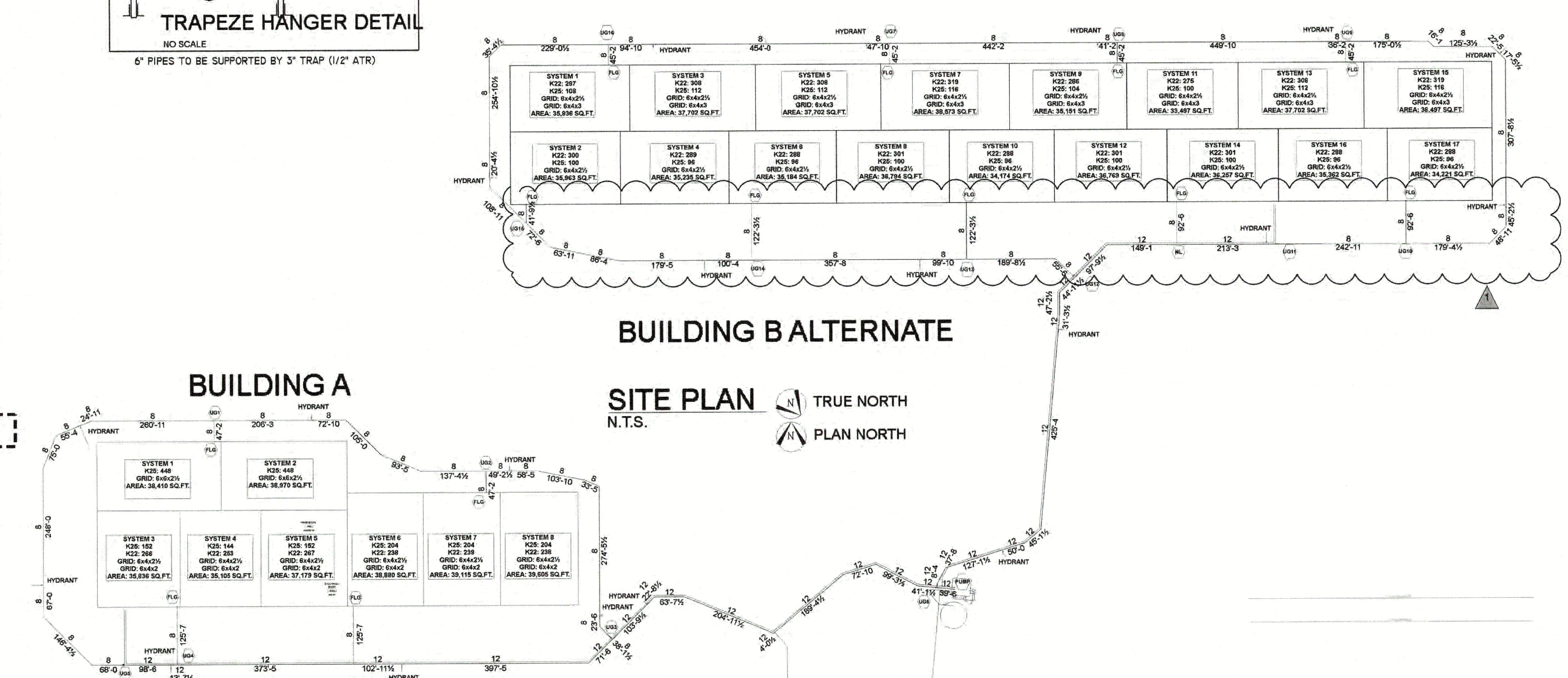
TABLE C
MODEL ESFR-25 PENDENT SPRINKLER
SPECIFIC APPLICATION LISTING (UL)
COMMODITY SELECTION AND DESIGN CRITERIA OVERVIEW

BUILDING B ALTERNATE

BUILDING A

SITE PLAN
N.T.S.

TRUE NORTH
PLAN NORTH



SEISMIC DESIGN CATEGORY 'B'
SEISMIC BRACING NOT REQUIRED

USE GROUP:	S-1, B
CONSTRUCTION TYPE:	2B
AREA OF WORK:	300,943 SQ.FT.

PROJECT NAME:
LINCOLN EQUITIES

PROJECT LOCATION:
BREWSTER, NY

JOSEPH R. FOWLER IV,
PROFESSIONAL ENGINEER
NY PE LIC.# 087280

SIGNATURE:
DATE SIGNED: 8/23/23

STATE OF NEW YORK JOSEPH R. FOWLER IV LICENSED PROFESSIONAL ENGINEER

STANDARD DRAWING SYMBOLS			
0" FF	DENOTES CENTERLINE OF PIPE ABOVE FINISH FLOOR.		
0" TS	DENOTES CENTERLINE OF PIPE BELOW TOP OF STEEL.		
	DENOTES CENTERLINE OF PIPE BELOW BOTTOM OF JOIST		
	DENOTES CENTERLINE OF PIPE BELOW BOTTOM OF BEAM.		
	DENOTES CENTERLINE OF PIPE BELOW THE CEILING.		
	DENOTES HANGER		FIRE HOSE VALVE
	DENOTES HANGER ROD LENGTH		FIRE HYDRANT
(0'-0")	DENOTES CEILING HEIGHT		ELECTRIC BELL
(0)	HYDRAULIC CALC. REF. POINT		RISER
	GROOVE COUPLING		FLOW SWITCH
	GROOVE CHECK VA.		FIRE DEPT. CONN.
F.H.C.	FIRE HOSE VALVE CABINET		AUXILIARY DRAIN
	HYDRAULIC DATA STICKER		PRESSURE GAUGE

TYPICAL HANGER ASSEMBLIES BY NUMBER			
01	TOP BEAM CLAMP (TBC)	08A	SAMMY SWC-20 SIDE CONCRETE
01A	WIDE MOUTH TOP BEAM CLAMP	09	SAMMY GST-20 STRAIGHT WOOD
01B	INVERTED TOP BEAM CLAMP	09A	SAMMY SWG-20 SIDE WOOD
01C	INVERTED WIDE MOUTH TBC	10	
01D	TBC w/CLEVIS RING	10B	SAMMY SWDR-516 SIDE STEEL
01R	TBC w/ 8" RETAINING STRAP	11A	EYE SOCKET
01S	TBC w/ 12" RETAINING STRAP	12	
04	ROD, RING	13A	U-HOOK HANGER
04A	ROD, RING, NUTS & WASHER	14	STRUT NUT, ROD & RING
04C	CLEVIS HANGER w/ROD	15	
06	CONCRETE/HILTI DROP IN ANCHOR	16	Z-PURLIN CLAMP
07	HILTI SHOT & STUD	17	SAMMY DSTR.75 STRAIGHT LIGHT WEIGHT STEEL
08	SAMMY CST-20 STRAIGHT CONCRETE	18	SAMMY SWDR.516 SIDE, HEAVY WEIGHT STEEL

FIRE PROTECTION SPECIFICATIONS

1. DO NOT SCALE DRAWING(S).

2. ALL PIPE AS:GC=GROOVED END TO CENTER GG=GROOVED END TO GROOVED END; INDICATES ACTUAL PIPE "CUT" LENGTHS (U.N.O.)

3. DESIGN, INSTALLATION & MATERIALS TO BE PER NFPA #13. 2013

4. HANGERS AND ATTACHMENTS TO BE UL LISTED AND SPACED PER NFPA #13. 2013

5. ALL NEW PIPING SHALL BE HYDROSTATICALLY TESTED AT 225 PSI FOR 2 HOURS W/ NO VISIBLE SIGN OF LEAKAGE.

7. CONTRACTOR SHALL PROVIDE THE OWNER, INSURANCE COMPANY & THE PROPER CITY OFFICIALS WITH COPIES OF THE MATERIAL AND TEST CERTIFICATES.

8. ALL FLOW AND TAMPER SWITCHED SHALL BE SUPERVISED IN ACCORDANCE WITH NFPA 72. THIS WORK TO BE DONE BY OTHERS AND IS NOT PART OF S. A. COMUNALE CONTRACT.

MATERIAL SPECIFICATIONS

Note:1" Pipe is Sch 40 A53 (uno)	GRID MAIN	GRID LINE	MAIN	LINES	SUPPLY THE FOLLOWING	Yes/No
					American Made (Domestic)	NO
Sch 40 A53 Black					Smith-Cooper Fittings	NO
Sch 10 Thinwall					Smith-Cooper Couplings	NO
Sch 7					Firelock Fittings	YES
Sch 40 Galvanized					Firelock Couplings	YES
Sch 10 Galvanized					Standard Vic/Central Ftgs	NO
Weld-O-Lets Thrd					Head Wrenches	YES
Weld-O-Lets Grv					Spare Head Cabinet	NO
Weld-O-Lets Buff					Top Beam Clamps	YES
Cast Iron Fittings					Concrete Inserts	NO
Galvanized Fittings					Sammy Screws	NO
Malleable Ftgs 150#					Pipe/Strut/Angle Iron	NO
Malleable Ftgs 300#					Can Heads be any brand?	NO
Cpvc					Fit Fittings	NO
Number of Welds					Hangers Cut Length	YES
Cut Lengths					Hangers Center to Center	NO
Center to Center					FM Approved Material Only	NO

REVISIONS

NO.	DESCRIPTION	BY	DATE
1	PER GC REVIEW/REVISED LEAD-INS	JB	6.15.22
2	PER LARGER TANK	JB	10.21.22
3	PER GHD REVIEW	JB	11.17.22
4	PER SCH 10 UPGRADE	JB	8.23.23

PENDENT SPRINKLERS SHALL BE INSTALLED PER THE SPACING DICTATED BY APPROPRIATE CODES AND SHALL BE ALIGNED WITHIN NORMAL FABRICATION TOLERANCES, BUT WILL NOT NECESSARILY BE CENTERED IN CEILING TILES.

SPRINKLER LEGEND

SYMBOL	QTY.	DESCRIPTION	SIN#	THD.	K=	TEMP
○	-	-	-	-	-	-°

-	TOTAL SPRINKLERS THIS DRAWING	6,828	TOTAL SPRINKLERS ON ENTIRE PROJECT

S.A. COMUNALE CO. INC.
FIRE PROTECTION CONTRACTORS

2900 NEWPARK DR BARBERTON, OHIO 44203 330-706-3040 FAX: 330-861-0860
CLEVELAND: 440-684-9325 COLUMBUS: 614-291-7001 CINCINNATI: 513-874-4268
FREMONT: 419-334-3841 PHILADELPHIA, PA: 856-848-4666 YOUNGSTOWN: 330-856-4440
MARION 740-383-6789 WASHINGTON, DC 410-768-1931 READING, PA: 610-670-3960

LINCOLN EQUITIES SOUTHEAST
NY312 & PUGSLEY RD, BREWSTER, NY 10509
BUILDING B TITLE PAGE

DATE:	SCALE:	DRAWN BY:	JOB #:	DWG #:
8.23.23	AS NOTED	JUSTIN BEOUGHER	50531092	1 OF 20

DESIGNER / BUILDER

ARCO
DESIGN/BUILD INDUSTRIAL
44 SOUTH BROADWAY, SUITE 1003
WHITE PLAINS, NY 10601
P: 914.821.5535 F: 914.306.6010

ADBI | DESIGN SERVICES

Lincoln Equities Group, LLC

PROJECT TITLE
LINCOLN EQUITIES - NY-312- ALT. BLDG B

NY-312 & PUGSLEY RD, SOUTHEAST, NY 10509

ARCHITECT
ADBI / DESIGN SERVICES LLC
44 SOUTH BROADWAY, SUITE 1003
WHITE PLAINS, NY 10601

CIVIL ENGINEER
LANGAN ENGINEERING
300 KIMBALL DRIVE
PARSIPPANY, NJ 07054

STRUCTURAL ENGINEER
SMITH/ ROBERTS AND ASSOCIATES, INC.
6501 BLUFF RD.
INDIANAPOLIS, INDIANA 46217

MECHANICAL ENGINEER
NATIONAL DESIGN/ BUILD SERVICES
11840 BORMAN DRIVE
ST. LOUIS, MO 63146

ELECTRICAL ENGINEER
FXB ENGINEERING
5 CHRISTY DRIVE, SUITE 307
CHADDS FORD, PA 19317

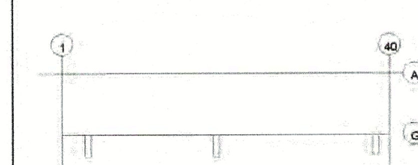
PLUMBING ENGINEER
MCCARTHY ENGINEERING ASSOCIATES, INC.
315 EAST SECOND STREET
BOYERTOWN, PA 19512

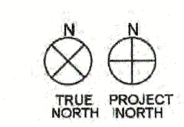
FIRE PROTECTION ENGINEER
S A COMUNALE CO. INC.
2900 NEWPARK DRIVE
BARBERTON, OH 44203

SEAL

JOSEPH V. DIGIORGIO | NY: 042948

KEY PLAN





SUBMITTALS

NO.	DATE	DESCRIPTION
0	02.--.2022	ISSUE FOR PERMIT

PROJECT NO.	DRAWN BY
AS286-21 I NY131	JB

SHEET TITLE
BUILDING B TITLE PAGE

SHEET NO.

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