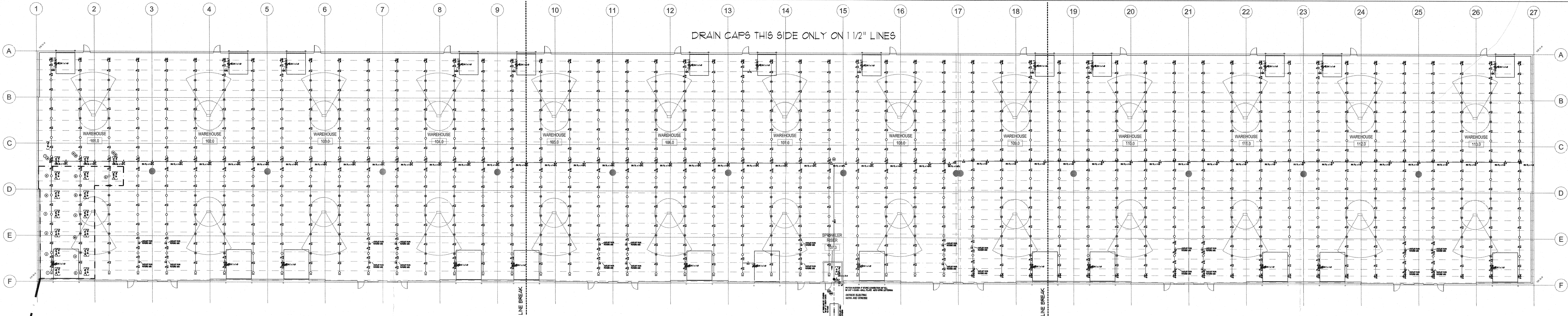
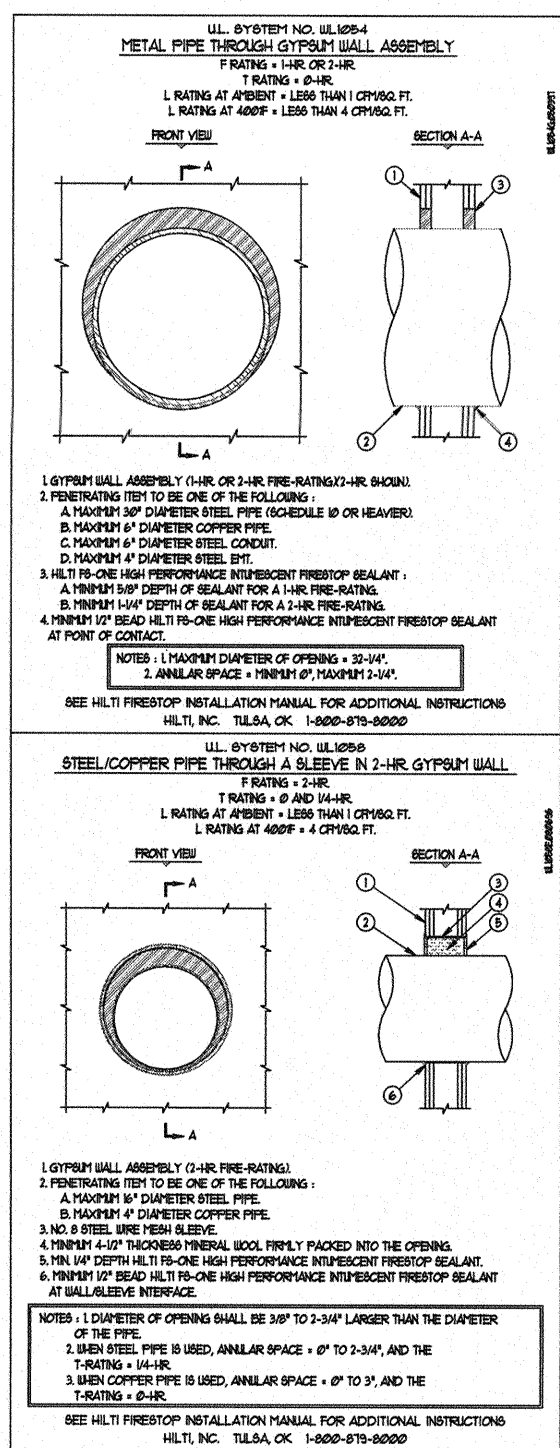




SYSTEM DESIGN SUMMARY	
CALCULATED AREA: AREA *	
OCCUPANCY: WAREHOUSE	
HAZARD: O2	
AREA / SPRINKLER: 150	
DENSITY: 0.20 GPM / SQFT (MAX)	
AREA OF OPERATION: 5000 SQFT	
NUMBER OF OPERATING HEADS: 33	
SYSTEM DEMAND: 633.621 GPM @ 15.864 PSI	
* TEST	
INSIDE HOSE DEMAND: N/A GPM	
OUTSIDE HOSE DEMAND: 750 GPM	
SPRINKLER HEAD: VIKING VC-3001 OR UPRIGHT	
ORIFICE: 1"	
K FACTOR: 3.6	
TEMPERATURE: 200°, 250°	
NOTE:	
CALCULATION DATA FILE:	

GENERAL NOTES

- THE SYSTEM DESIGN CRITERIA COMPLIES WITH THE REQUIREMENTS OF NFPA 13 2016 EDITION.
- ALL PIPING SHALL CONFORM WITH THE REQUIREMENTS OF NFPA 13 2016 EDITION.
- ALL FITTINGS SHALL CONFORM WITH THE REQUIREMENTS OF NFPA 13 2016 EDITION.
- ALL HANGERS SHALL CONFORM TO THE REQUIREMENTS OF NFPA 13 2016 EDITION.
- FITTINGS FOR 1" THRU 2" SHALL BE CAST IRON THREADED. FITTINGS FOR 2 1/2" THRU 4" PIPING ARE TO BE GROOVED OR WELDED OUTLETS.
- LENGTHS OF PIPING 1" THRU 2" ARE SHOWN AS THREAD TO THREAD UNLESS NOTED AS: G - GROOVE OR C - CENTER. 2 1/2" THRU 4" PIPE LENGTHS ARE SHOWN AS CENTER TO CENTER UNLESS NOTED AS: G - GROOVE, U - WELD, F - FACE OR FLANGE OR T - THREAD.
- ALL SECTIONS OF TRAPPED PIPING SHALL HAVE AUXILIARY DRAINS WHERE REQUIRED.
- THE OWNER SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE HEAT TO PREVENT THE PIPING FROM FREEZING.
- ALL SWITCHBOARDS, PANEL BOARDS, DISTRIBUTION BOARDS AND MOTOR CONTROL CENTERS SHALL BE PROTECTED FROM DAMAGE BY OTHERS.



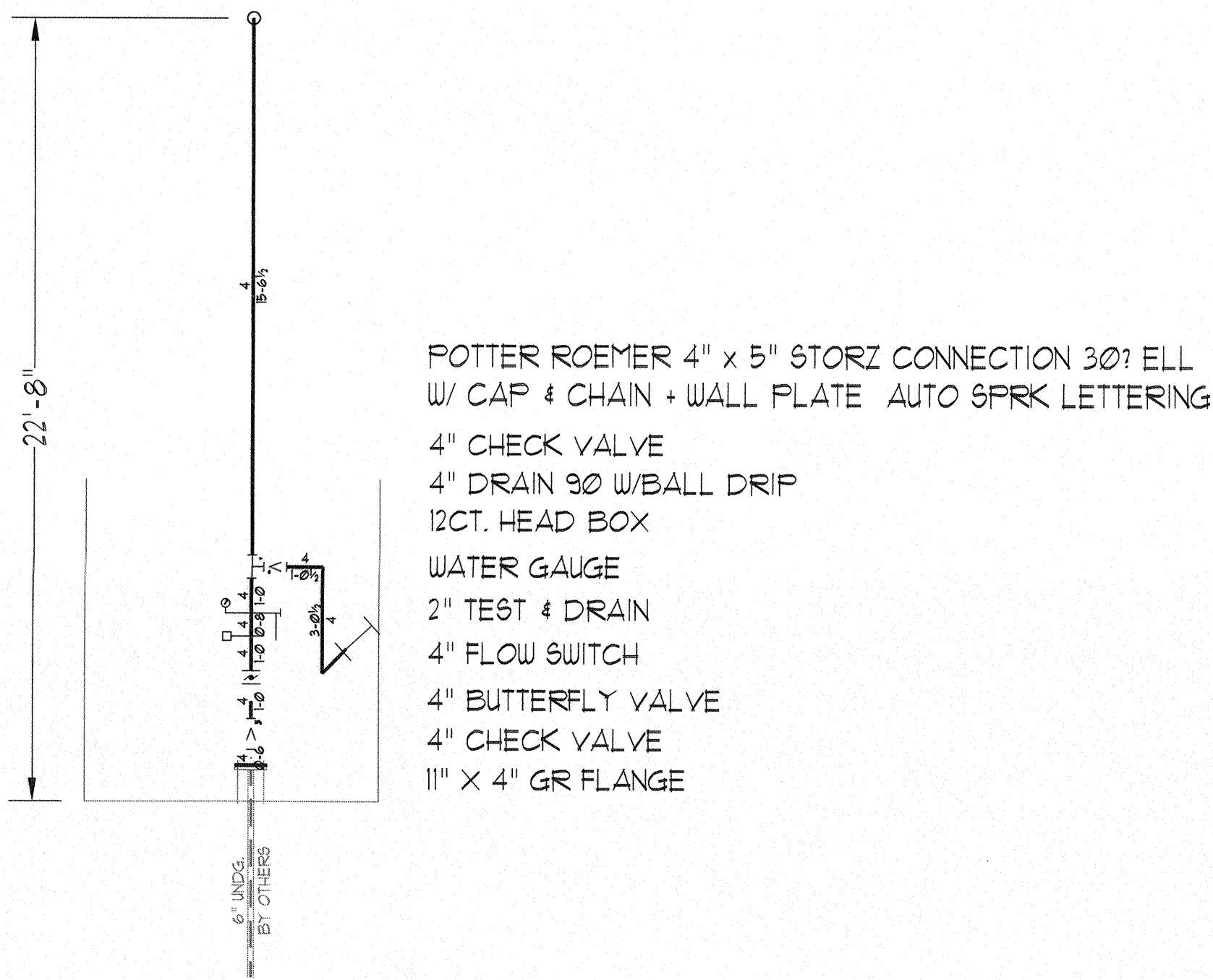
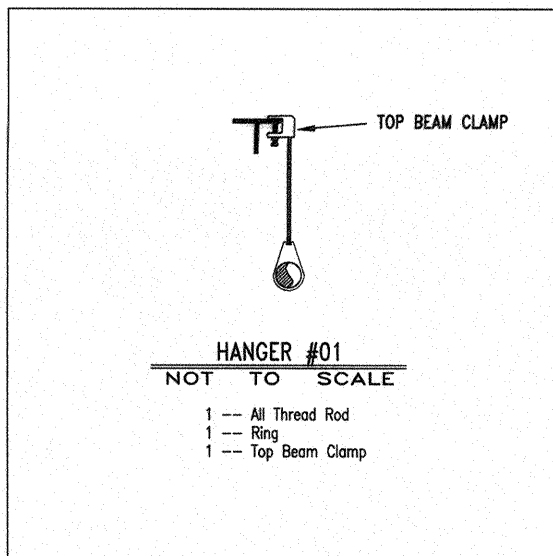
HANGER SPACING TABLE

HANGER SPACING FOR STEEL PIPE (SCH. 40)

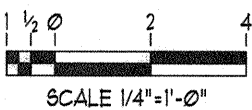
PIPE SIZE	HANGER SPACING
1", 1 1/4"	12'
1 1/2" & LARGER	15'

HANGER SPACING FOR STEEL PIPE (THINWALL)

PIPE SIZE	HANGER SPACING
1" - 3"	12'
4" & LARGER	15'



RISE DETAIL: 1/4" = 1'-0"



CONSTRUCTION:
INSULATED METAL DECK ROOF ON STEEL BEAMS 4 BAR JOIST • ELEV. AS NOTED ON PLAN
PIPE TYPE:
SCHEDULE 2" AND SMALLER TO BE SCH. 40 PIPE WELDED 2" AND LARGER TO BE SCH. 10 PIPE
DESIGN CRITERIA:
PER NFPA 13, ORDINARY HAZARD GR II, 0.20 GPM/SQFT FOR 5000 SQFT. OPERATING
MAX 150 SQFT/HEAD SPACING • 250 GPM FOR HOSE ALLOWANCE.

FLOW TEST DATA:
STATIC : 105 PSI
RESIDUAL: 16 PSI
W/ 25000 GPM
CONDUCTED BY LS WATER
ON 8-10-2023 10:10AM
HYDRANTS 014-01 AND 014-03

DATE	REVISION

Symbols	
Symbol	Description
○	Hydraulic Reference Points
⊖	Elev. Below Top of Steel
⊕	Elev. Above Finished Floor
+ (TOB 0'-0")	Elev. of Top of Steel
(C-0)	Ceiling Height
↕	Denotes Hanger Location
○	Rise up or down
ALL PIPE CUTS ARE CENTER TO CENTER	

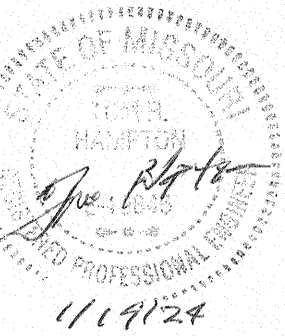
Sprinkler Head Summary											
Symbol	Count	NPT	Orif.	Make	Model	Finish	Style	Temp.	K=	SIN	
⊕	82	1/2"	1/2"	Viking	GR	BRASS	UPRIGHT	250°	5.6	VC3001	
⊖	442	1/2"	1/2"	Viking	GR	BRASS	UPRIGHT	200°	5.6	VC3001	
◀	26	1/2"	1/2"	Viking	GR	BRASS	HOR SIDEWALL	200°	5.6	VC3005	

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LOT 1
NE MAGUIRE BLVD.
LEE'S SUMMIT, MO 64064

ADVANTAGE
FIRE PROTECTION SYSTEMS INC.
"We are your Advantage"
404B N.W. 11th Street
Blue Springs, MO. 64015
Tel. (816) 224-3400



REVIEWING AUTHORITY LS FIRE DEPT. HEADS THIS SHEET 650 TOTAL HEADS FOR JOB 650 SCALE 1/4" = 1'-0" DRAWN BY DANIEL LOGSTON REVISION DATE
DATE DRAWN 1-16-2024 CONTRACT NUMBER J-2351 DRAWING NUMBER 1 OF 4

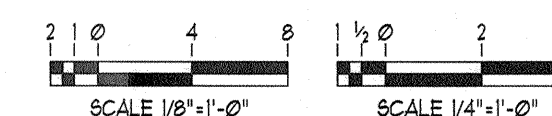
EXISTING 16" MAIN BY OTHERS

NEW 12" MAIN BY OTHERS

UNDERGROUND DISTANCE NOT TO SCALE
APPROX. 931'-0" FROM UNGI TO TEST

SYSTEM DESIGN SUMMARY
CALCULATED AREA: AREA 1
OCCUPANCY: WAREHOUSE
HAZARD: OHO
AREA / SPRINKLER: 800
DENSITY: 0.20 GPM / SQFT (MAX)
AREA OF OPERATION: 800 SQFT
NUMBER OF OPERATING HEADS: 13
SYSTEM DEMAND: 613.621 GPM * 18.864 PSI
* TEST
INSIDE HOSE DEMAND: N/A GPM
OUTSIDE HOSE DEMAND: 250 GPM
SPRINKLER HEAD: VIKING VK 3201 OR UPRIGHT
ORFICE: 1/2"
K FACTOR: 5.6
TEMPERATURE: 150° / 156°
NOTE:
CALCULATION DATA FILE:

*SEE PAGE 1 FOR GENERAL NOTES



SCALE 1/8"=1'-0" SCALE 1/4"=1'-0"

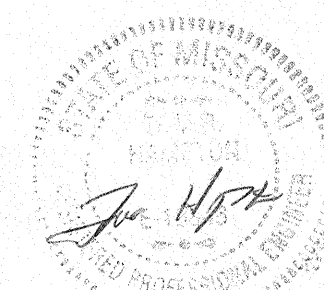
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11/9/24

REVIEWING AUTHORITY
LS FIRE DEPT.
HEADS THIS SHEET
213
TOTAL HEADS FOR JOB
650
SCALE
1/8" = 1'-0"
DRAWN BY
DANIEL LOGSTON
REVISION DATE
DATE DRAWN
1-16-2024
CONTRACT NUMBER
J-2251
DRAWING NUMBER
2 OF 4

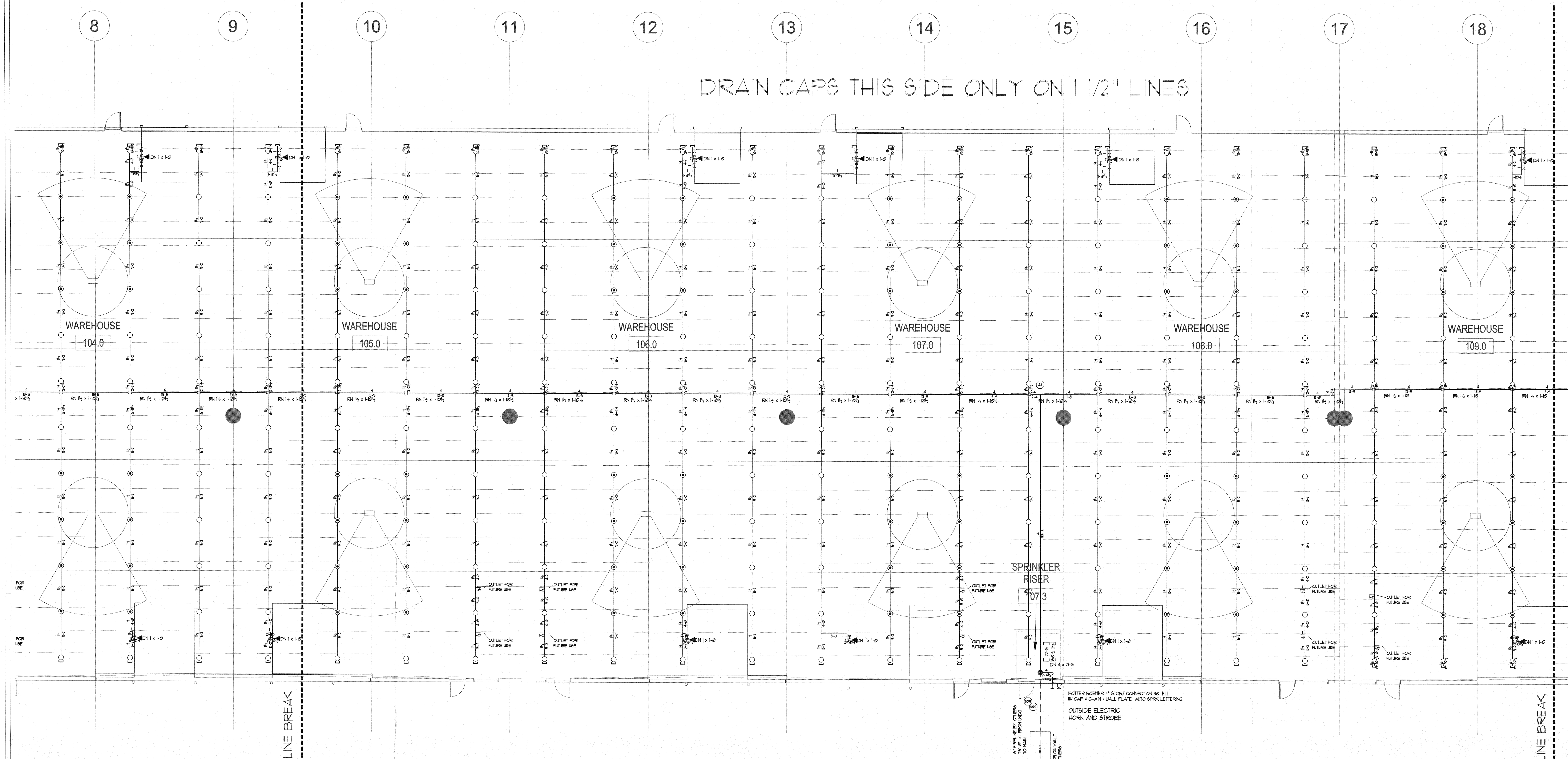
CONSTRUCTION:
INSULATED METAL DECK ROOF ON STEEL BEAMS 4 BAR JOIST * ELEV. AS NOTED ON PLAN
PIPE TYPE:
SCREWED 2" AND SMALLER TO BE SCH. 40 PIPE. WELDED 2" AND LARGER TO BE SCH. 10 PIPE
DESIGN CRITERIA:
PER NFPA 13, ORDINARY HAZARD OR II, 0.20 GPM/SQFT FOR 800 SQFT. OPERATING
MAX 120 SQFT/HEAD SPACING * 250 GPM FOR HOSE ALLOWANCE.

FLOW TEST DATA:
STATIC: 105 PSI
RESIDUAL: 16 PSI
W: 23000 GPM
CONDUCTED BY LS WATER
ON 8-10-2023 10:20AM
HYDRANTS 014-01 AND 014-03

DATE	REVISION

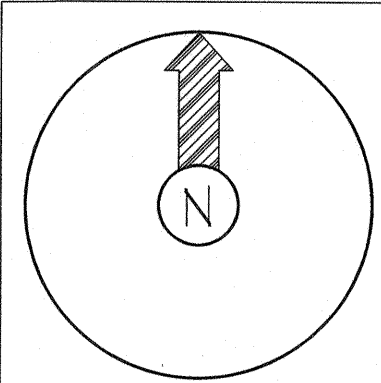
Symbol	Description
○	Hydraulic Reference Points
⊖	Elev. Below Top of Steel
⊕	Elev. Above Finished Floor
⊕	Elev. of Top of Steel
⊕	Ceiling Height
⊕	Denotes Hanger Location
○	Rise up or down
ALL PIPE CUTS ARE CENTER TO CENTER	

Symbol	Count	NPT	Orf.	Make	Model	Finish	Style	Temp.	K-	SIN
⊖	56	1/2"	1/2"	Viking	QR	BRASS	UPRIGHT	150°	5.6	VK3201
⊖	148	1/2"	1/2"	Viking	QR	BRASS	UPRIGHT	150°	5.6	VK3201
⊖	3	1/2"	1/2"	Viking	QR	BRASS	HOR SIDEWALL	150°	5.6	VK3205



NEW 12" MAIN BY OTHERS
UNDERGROUND DISTANCE NOT TO SCALE
APPROX. 93'-0" FROM UNGI TO TEST

*SEE PAGE 1 FOR GENERAL NOTES



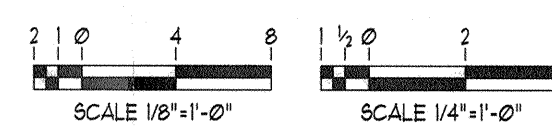
CONSTRUCTION:
INSULATED METAL DECK ROOF ON STEEL BEAMS 4 BAR JOIST • ELEV. AS NOTED ON PLAN
PIPE TYPE:
SCHEDULE 40 AND 80" SMALLER TO BE SCH. 40 PIPE WELDED 2" AND LARGER TO BE SCH. 10 PIPE
DESIGN CRITERIA:
PER NFPA 13, ORDINARY HAZARD GR II, 0.20 GPM/50FT FOR 1500 SQFT. OPERATING
MAX 150 SQFT HEAD SPACING • 750 GPM FOR HOSE ALLOWANCE

FLOW TEST DATA:
STATIC: 105 PSI
RESIDUAL: 16 PSI
W/ 2300 GPM
CONDUCTED BY L.S. WATER
ON 8-10-2023 10:30AM
HYDRANTS 014-01 AND 014-03

DATE	REVISION

Symbols	
Symbol	Description
○	Hydraulic Reference Points
⊖	Elev. Below Top of Steel
⊕	Elev. Above Finished Floor
+ roof	Elev. of Top of Steel
⊙	Ceiling Height
⊙	Denotes Hanger Location
↑	Rise up or down
○	ALL PIPE CUTS ARE CENTER TO CENTER

Sprinkler Head Summary										
Symbol	Count	NPT	Orif.	Make	Model	Finish	Style	Temp.	K=	SIN
⊙	10	1/2"	1/2"	Viking	QR	BRASS	UPRIGHT	166°	5.6	VK3001
○	146	1/2"	1/2"	Viking	QR	BRASS	UPRIGHT	166°	5.6	VK3001
◄	8	1/2"	1/2"	Viking	QR	BRASS	HOR SCREW	166°	5.6	VK3001

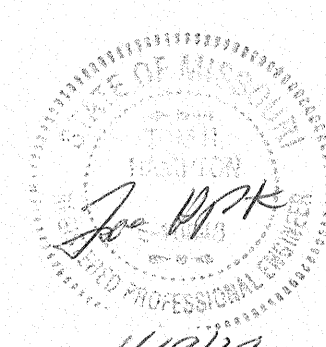


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REVIEWING AUTHORITY LS FIRE DEPT.	DATE DRAWN 1-16-2024
HEADS THIS SHEET 224	CONTRACT NUMBER J-2351
TOTAL HEADS FOR JOB 650	DRAWING NUMBER 3 OF 4
SCALE 1/8" = 1'-0"	REVISION DATE
BROWN BY DANIEL LOGSTON	