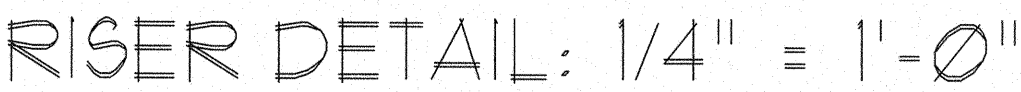




CALCULATED AREA: AREA 4
 OCCUPANCY: WAREHOUSE
 HAZARD: OXI
 AREA 1: SPRINKLER: 130
 DENSITY: 0.20 GPM / SQFT (MAX)
 AREA OF OPERATION: 1500 SQFT
 NUMBER OF OPERATING HEADS: 13
 SYSTEM DEMAND: 613.661 GPM @ 78.864 PSI
 @ TEST
 INSIDE HOSE DEMAND: N/A GPM
 OUTSIDE HOSE DEMAND: 150 GPM
 SPRINKLER HEAD: YIKING YK 3201 QM UPRIGHT
 OFFICER: 1
 K FACTOR: 5.6
 TEMPERATURE: 202°, 286°
 NOTE:
 CALCULATION DATA FILE:

1. THE SYSTEM DESIGN CRITERIA COMPLIES WITH THE REQUIREMENTS OF NFPA IS 2016 EDITION.
2. ALL PIPING SHALL CONFORM WITH THE REQUIREMENTS OF NFPA IS 2016 EDITION.
3. ALL FITTINGS SHALL CONFORM WITH THE REQUIREMENTS OF NFPA IS 2016 EDITION.
4. ALL HANGERS SHALL CONFORM TO THE REQUIREMENTS OF NFPA IS 2016 EDITION.
5. 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.
6. 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, W - WELD, F - FACE OR FLANGE OR T - THREAD.
7. ALL SECTIONS OF TRAPPED PIPING SHALL HAVE AUXILIARY DRAINS WHERE REQUIRED.
8. THE OWNER SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE HEAT TO PREVENT THE PIPING FROM FREEZING.
9. ALL SWITCHBOARDS, PANEL BOARDS, DISTRIBUTION BOARDS AND MOTOR CONTROL CENTERS SHALL BE PROTECTED FROM DAMAGE BY OTHERS.

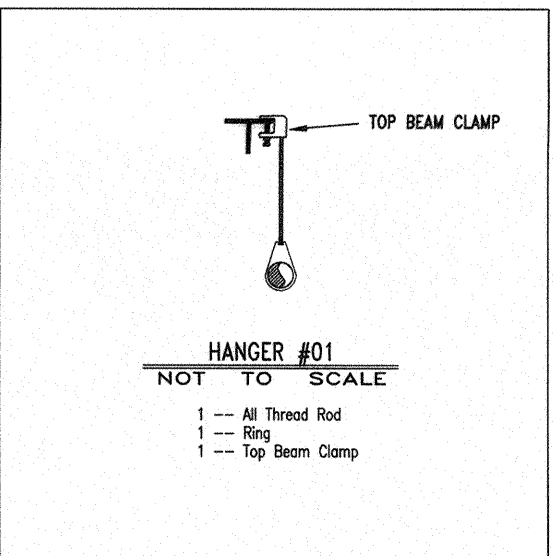


HANGER SPACING FOR STEEL PIPE (SCH. 40)

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

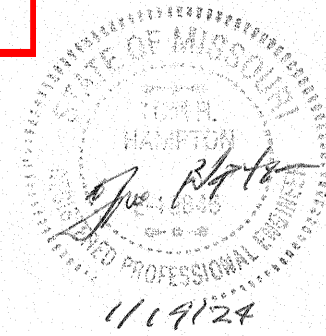
HANGER SPACING FOR STEEL PIPE (THINWALL)

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



RELEASED FOR CONSTRUCTION
As Noted on Plan Review

Lee's Summit Fire Department
Lee's Summit, Missouri
02/06/2024



FIRE SPRINKLER SITE/RISER PLAN

LAKEWOOD BUSINESS CENTER
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
DANIAL LOGSTON
REVISION DATE

DATE DRAWN
1-16-2024
CONTRACT NUMBER
J-2351
DRAWING NUMBER
1 OF 4

CONSTRUCTION:
INSULATED METAL DECK ROOF ON STEEL BEAMS + 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 GR II, 0.20 GPM/SQFT FOR 1500 SQFT. OPERATING
MAX 130 SQFT/HEAD SPACING + 250 GPM FOR HOSE ALLOWANCE.

FLOW TEST DATA:

STATIC :	105	PSI
RESIDUAL:	76	PSI
W/	2300	GPM

CONDUCTED BY LS WATER
ON 8-10-2023 10:20AM
HYDRANTS 014-011 AND 014-013

[illegible]

Symbols	
Symbol	Description
	Hydraulic Reference Points
$\ominus - 0' - 0'$	Elev. Below Top of Steel
$\text{EL} = 0' - 0'$	Elev. Above Finished Floor
$+ (TOS) 0' - 0'$	Elev. of Top of Steel
	Ceiling Height
	Denotes Hanger Location
$\circ$	Rise up or down
ALL PIPE CUTS ARE CENTER TO CENTER	

[illegible]

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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"

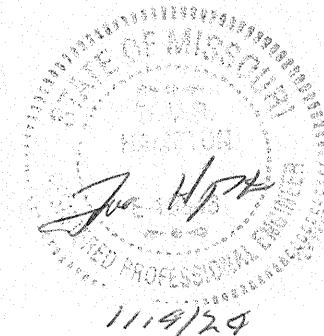
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FIRE SPRINKLER WEST

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

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FIRE PROTECTION SYSTEMS INC.
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4048 N.W. 11th Street
Blue Springs, MO. 64015
Tel. (816) 224-3400



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

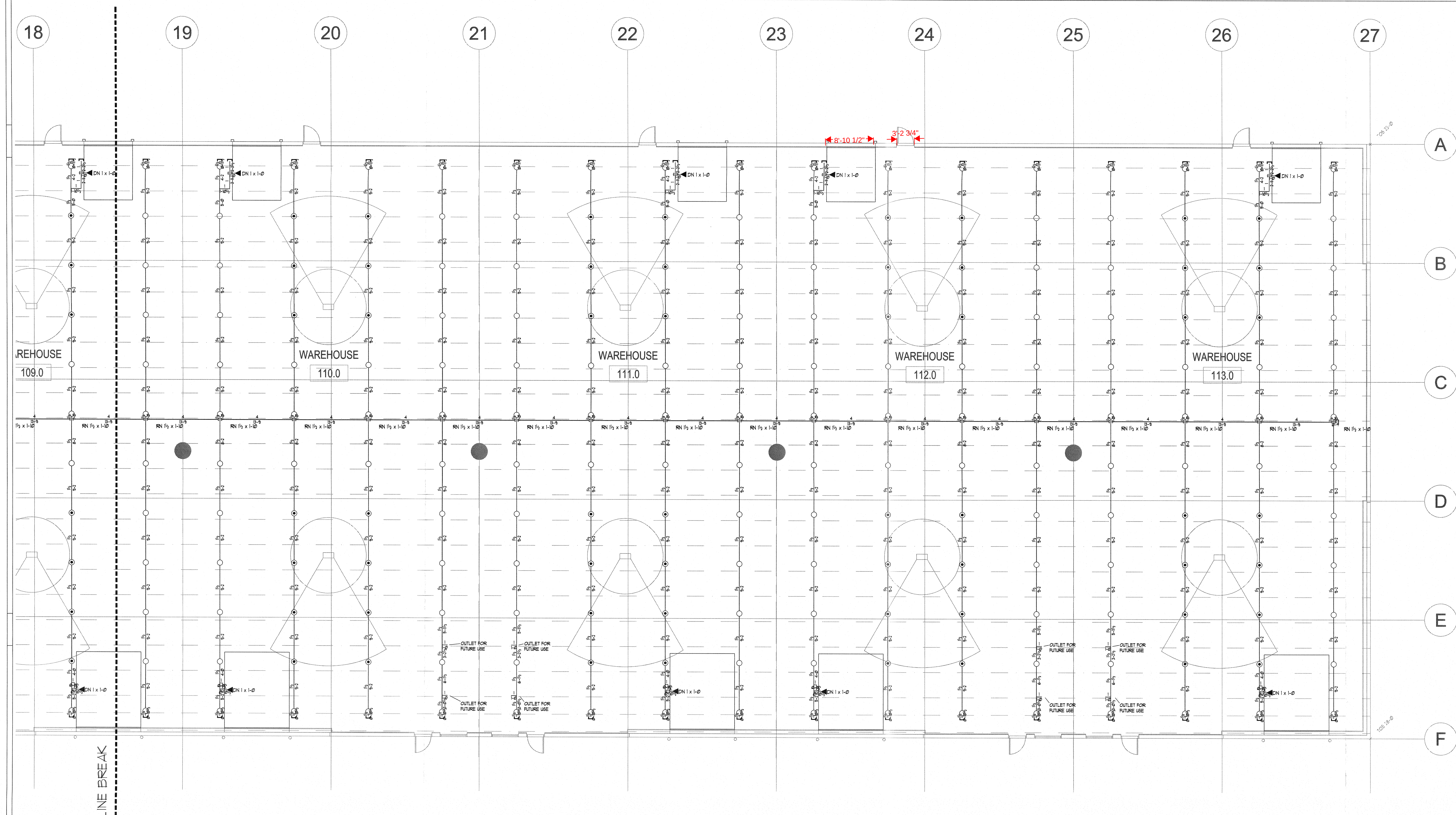
DESIGN CRITERIA:
PER NFPA 13, ORDINARY HAZARD OR II, 0.20 GPM/SQFT FOR 800 SQFT. OPERATING
MAX 120 SQFT/HEAD SPACING, 250 GPM FOR HOSE ALLOWANCE.

FLOW TEST DATA:
STATIC: 105 PSI
RESIDUAL: 76 PSI
W: 23000 GPM
CONDUCTED BY LS WATER
ON 8-10-2023 10:20AM
HYDRANTS 014-01 AND 014-03

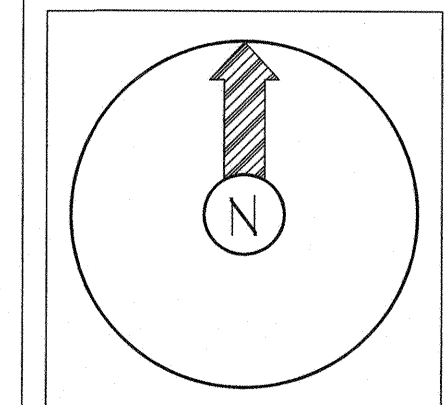
DATE	REVISION

Symbols	
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	

Sprinkler Head Summary										
Symbol	Count	NPT	Orif.	Make	Model	Finish	Style	Temp.	K=	SIN
⊖	56	1/2"	1/2"	Viking	QR	BRASS	UPRIGHT	180°	5.6	VK3201
⊖	148	1/2"	1/2"	Viking	QR	BRASS	UPRIGHT	180°	5.6	VK3201
◀	3	1/2"	1/2"	Viking	QR	BRASS	HOR SIDEWALL	180°	5.6	VK3205



*SEE PAGE 1 FOR GENERAL NOTES



CONSTRUCTION:
INSULATED METAL DECK ROOF ON STEEL BEAMS 4 BAR JOIST @ ELEV. AS NOTED ON PLAN

PIPE TYPE:
SCREWED 2" AND 3" HALLER 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 500 SQFT. OPERATING
MAX 130 SQFT/HEAD SPACING 7.50 GPM FOR HOSE ALLOWANCE.

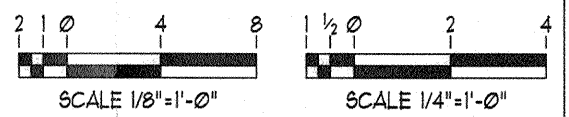
FLOW TEST DATA:
STATIC : 105 PSI
RESIDUAL: 16 PSI
W/ 2500 GPM
CONDUCTED BY LS WATER
ON 8-10-2023 10:20AM
HYDRANTS 014-01 AND 014-03

DATE	REVISION

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

Symbol	Count	NPT	Orif.	Make	Model	Finish	Style	Temp.	K=	SIN
⊙	56	1/2"	1/2"	Viking	GR	BRASS	UPRIGHT	226°	5.6	VK300
○	148	1/2"	1/2"	Viking	GR	BRASS	UPRIGHT	220°	5.6	VK300
◀	8	1/2"	1/2"	Viking	GR	BRASS	HOR. SIDEWALL	220°	5.6	VK305

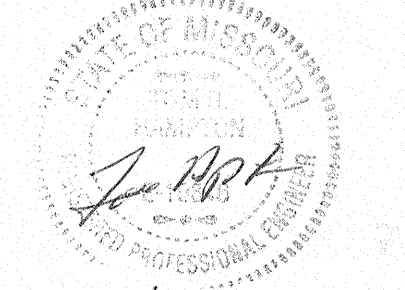
Symbol	Count	NPT	Orif.	Make	Model	Finish	Style	Temp.	K=	SIN
⊙	56	1/2"	1/2"	Viking	GR	BRASS	UPRIGHT	226°	5.6	VK300
○	148	1/2"	1/2"	Viking	GR	BRASS	UPRIGHT	220°	5.6	VK300
◀	8	1/2"	1/2"	Viking	GR	BRASS	HOR. SIDEWALL	220°	5.6	VK305



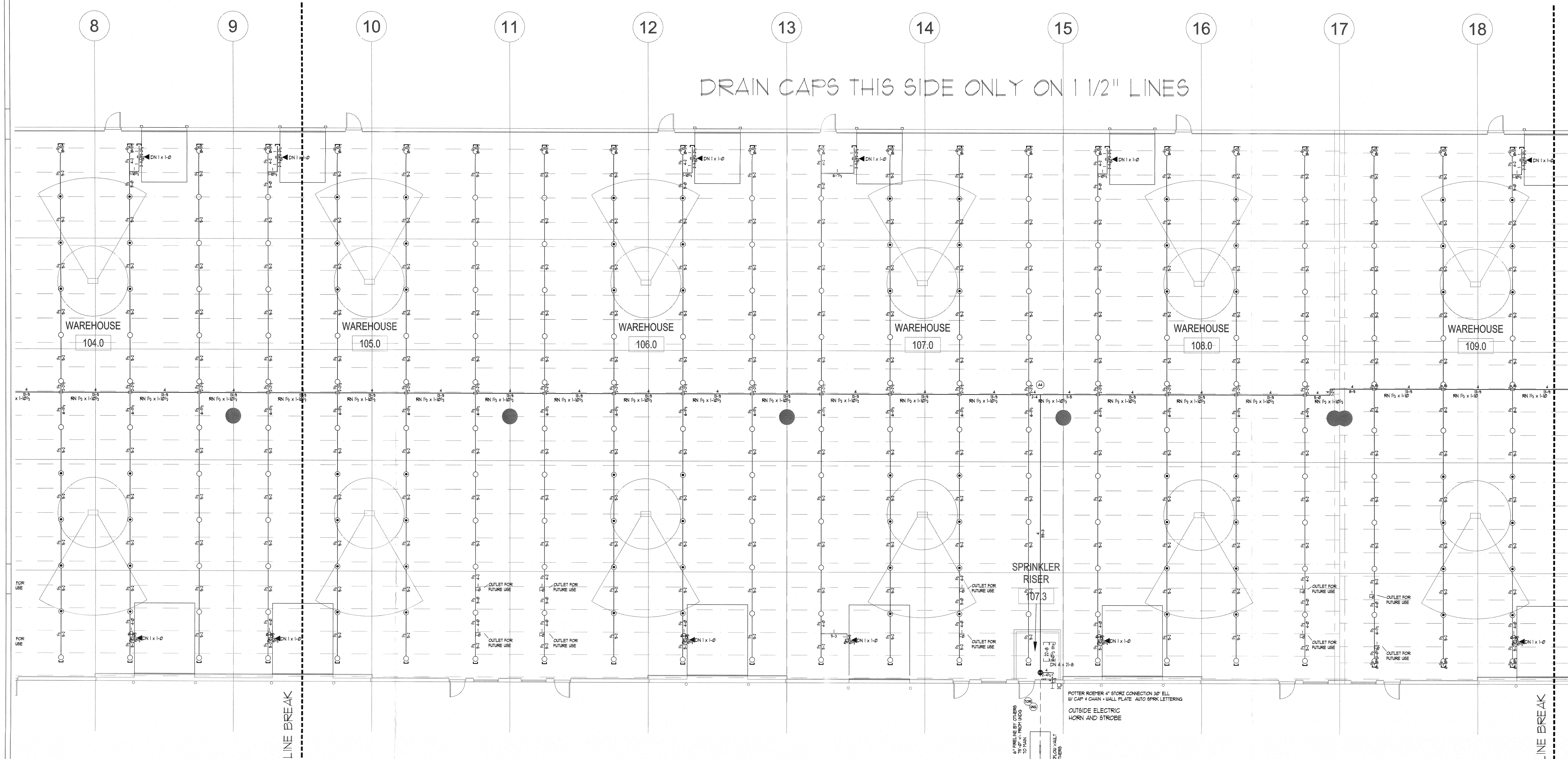
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FIRE SPRINKLER EAST
LAKEWOOD BUSINESS CENTER
LOT 1
NE MAGUIRE BLVD.
LEE'S SUMMIT, MO 64064

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Blue Springs, MO 64015
Tel. (816) 224-3400



REVIEWING AUTHORITY LS FIRE DEPT.	DATE DRAWN 1-16-2024
HEADS THIS SHEET 212	CONTRACT NUMBER J-2351
TOTAL HEADS FOR JOB 650	REVISION DATE
SCALE 1/8" = 1'-0"	BROWN BY DANIEL LOGSTON
DRAWN BY DANIEL LOGSTON	REVISION DATE
DATE DRAWN 1-16-2024	CONTRACT NUMBER J-2351
REVISION DATE	BROWN BY DANIEL LOGSTON
DATE DRAWN 1-16-2024	CONTRACT NUMBER J-2351
REVISION DATE	BROWN BY DANIEL LOGSTON



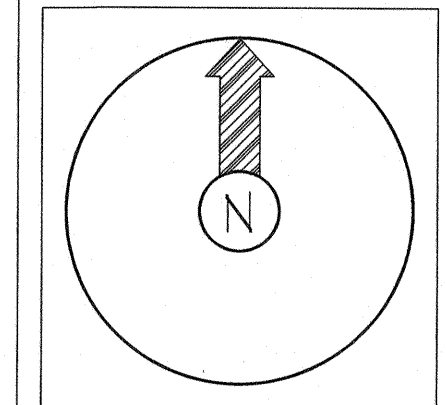
DRAIN CAPS THIS SIDE ONLY ON 1 1/2" LINES

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 STEEL PIPE 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
CONDUCTED BY: L.S. FIRE DEPT.
ON 8-10-2023 10:30AM
HYDRANTS 014-01 AND 014-03

DATE	REVISION

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

Symbol	Count	NPT	Orif.	Make	Model	Finish	Style	Temp.	K=	SIN
⊙	10	1/2"	1/2"	Viking	QR	BRASS	UPRIGHT	286°	5.6	VK3201
⊖	146	1/2"	1/2"	Viking	QR	BRASS	UPRIGHT	280°	5.6	VK3201
⬅	8	1/2"	1/2"	Viking	QR	BRASS	HOR SCREW	280°	5.6	VK3201

Symbol	Count	NPT	Orif.	Make	Model	Finish	Style	Temp.	K=	SIN
⊙	10	1/2"	1/2"	Viking	QR	BRASS	UPRIGHT	286°	5.6	VK3201
⊖	146	1/2"	1/2"	Viking	QR	BRASS	UPRIGHT	280°	5.6	VK3201
⬅	8	1/2"	1/2"	Viking	QR	BRASS	HOR SCREW	280°	5.6	VK3201

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FIRE SPRINKLER CENTER

LAKEWOOD BUSINESS CENTER
LOT 1
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LEE'S SUMMIT, MO 64064

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Blue Springs, MO 64015
Tel. (816) 224-3400

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