

## GENERAL NOTES

- ALL MATERIALS USED AND ALL WORK PERFORMED ARE TO BE IN ACCORDANCE WITH NFPA 13-2016, IBC & IFC 2018
- ALL DIMENSIONS SHOWN ARE CENTER TO CENTER.
- ALL GROOVED STEEL PIPING 1 1/2" AND LARGER SHALL BE SCH 10 GRV. PIPE
- ALL 2" PIPING AND SMALLER TO BE CPVC WITH CPVC PLASTIC FITTINGS.
- SYSTEM TO BE MONITORED BY REMOTE STATION TO BE BY OTHERS INCLUDING ALL TAMPER & FLOW SWITCHES
- OWNER TO PROVIDE ADEQUATE HEAT THROUGHOUT ALL AREAS WITH WET SYSTEM TO PREVENT FREEZING.
- ALL UNDERGROUND PIPING WAS DONE BY OTHERS (EXISTING TO REMAIN)

## DESIGN CRITERIA

(ATTIC, OFFICE SPACE)

PER NFPA 13 2016, LIGHT HAZARD 0.10 GPM/SOFT FOR 1500 SOFT  
OPERATING MAX 225 SOFT/HEAD SPACING + 100 GPM FOR OUTSIDE HOSE ALLOWANCE

(MECHANICAL, STORAGE, UTILITY ROOMS)

PER NFPA 13 2016, ORDINARY HAZARD GROUP I, 0.15 GPM/SOFT FOR 1500 SOFT  
OPERATING MAX 130 SOFT/HEAD SPACING + 250 GPM FOR OUTSIDE HOSE ALLOWANCE

## BUILDING NOTES

CONSTRUCTION TYPE: II-B - NON-SPRINKLERD  
OCCUPANCY GROUPS: B, A2  
ALLOWABLE BUILDING HEIGHT: 29'-10"  
2 STORY  
GROSS BUILDING AREA: 8,560 SQ.FT.

## GENERAL LEGEND

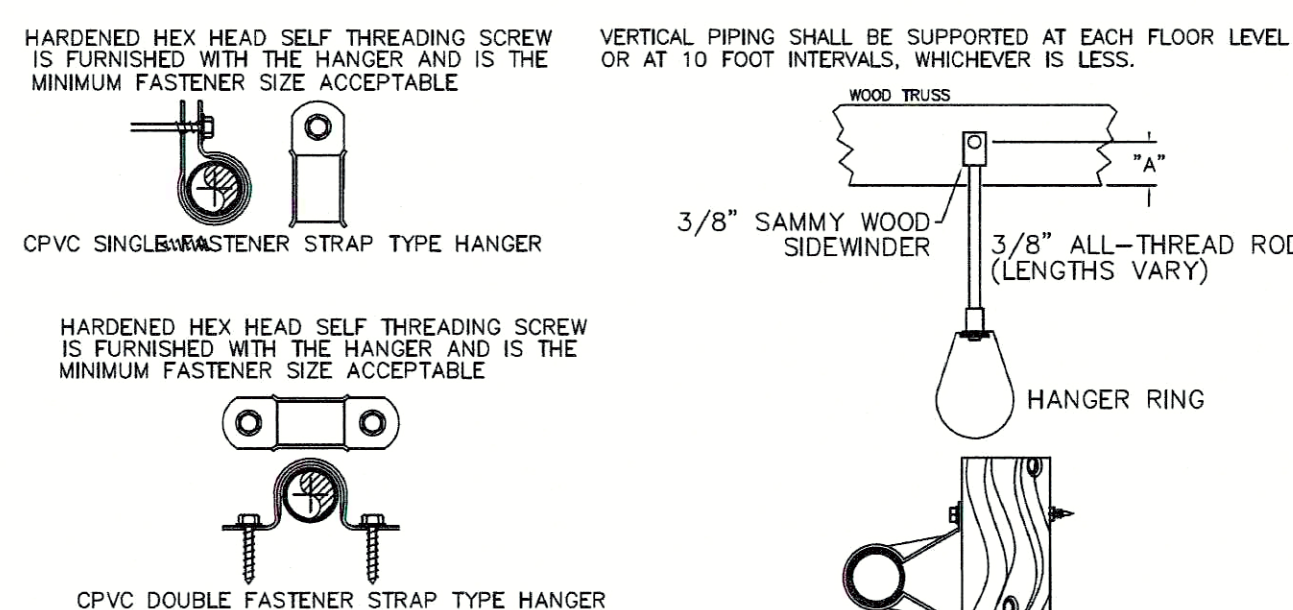
- CL-X-X-X-X : PIPE CENTERLINE TO BELOW DECKING  
CL-EV. ABOVE FINISH FLOOR
- 8'-0" : CEILING HEIGHT
- 1 : HYDRAULIC REFERENCE
- 1 : CAP
- : NEW PIPING
- : RISE OR DROP IN PIPE EL.
- : HYDRAULIC REMOTE AREA
- COJ : CUT ON JOB

SYSTEM DESIGN SUMMARY	
CALCULATED AREA:	2 - 1st Floor
OCCUPANCY:	Light
HAZARD:	Light
AREA / SPRINKLER	400 SQ.FT. (MAX.)
DENSITY	10 GPM / SQ. FT.
AREA OF OPERATION	1,113.58 SQ.FT.
# HEADS FLOWING	6
SYSTEM DEMAND:	271.8 GPM @ 57.1 PSI
INSIDE HOSE	0 GPM
OUTSIDE HOSE	100 GPM
SPRINKLER HEAD	ORSC UPRIGHT/ HSW
ORIFICE	3/4" / 1/2"
K FACTOR	112.8/5.6
TEMPERATURE	200 DEGREE

Safety Margin	11.4 PSI
Or	20%
Water Supply Summary @ The Base Of The Riser	176.8 GPM
System Pressure Demand @ The Base Of The Riser	57.4 PSI

PER NFPA 13 - 2016 11.2.3.2.3.1 & 11.2.3.2.3.2  
REDUCTION IN OPERATING AREA FOR THE USE OF QUICK RESPONSE SPRINKLERS

## HANGER DETAIL



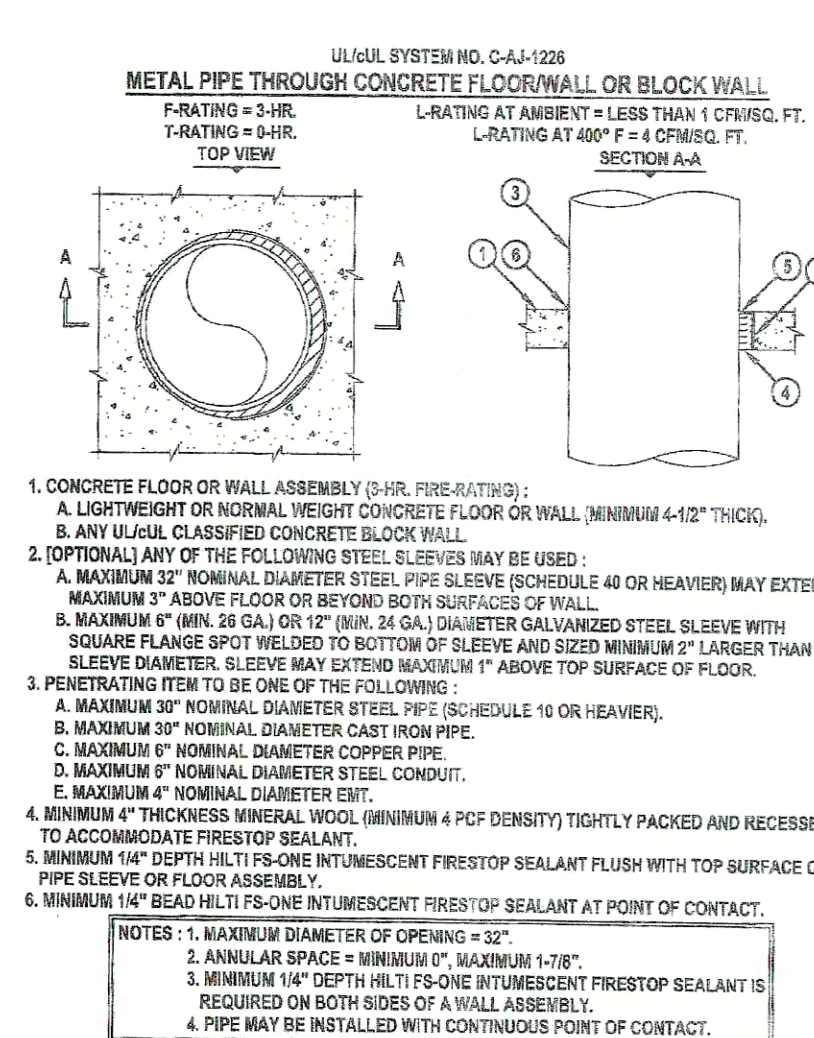
## HANGER SPACING

STEEL PIPE (EXCEPT THREADED LIGHTWALL)	MIN. SPACING	MAX. SPACING
1" - 1 1/4"	12 FT	15 FT
1 1/2" - 2"	15 FT	20 FT
2 1/2" - 3"	20 FT	25 FT
3" - 4"	25 FT	30 FT

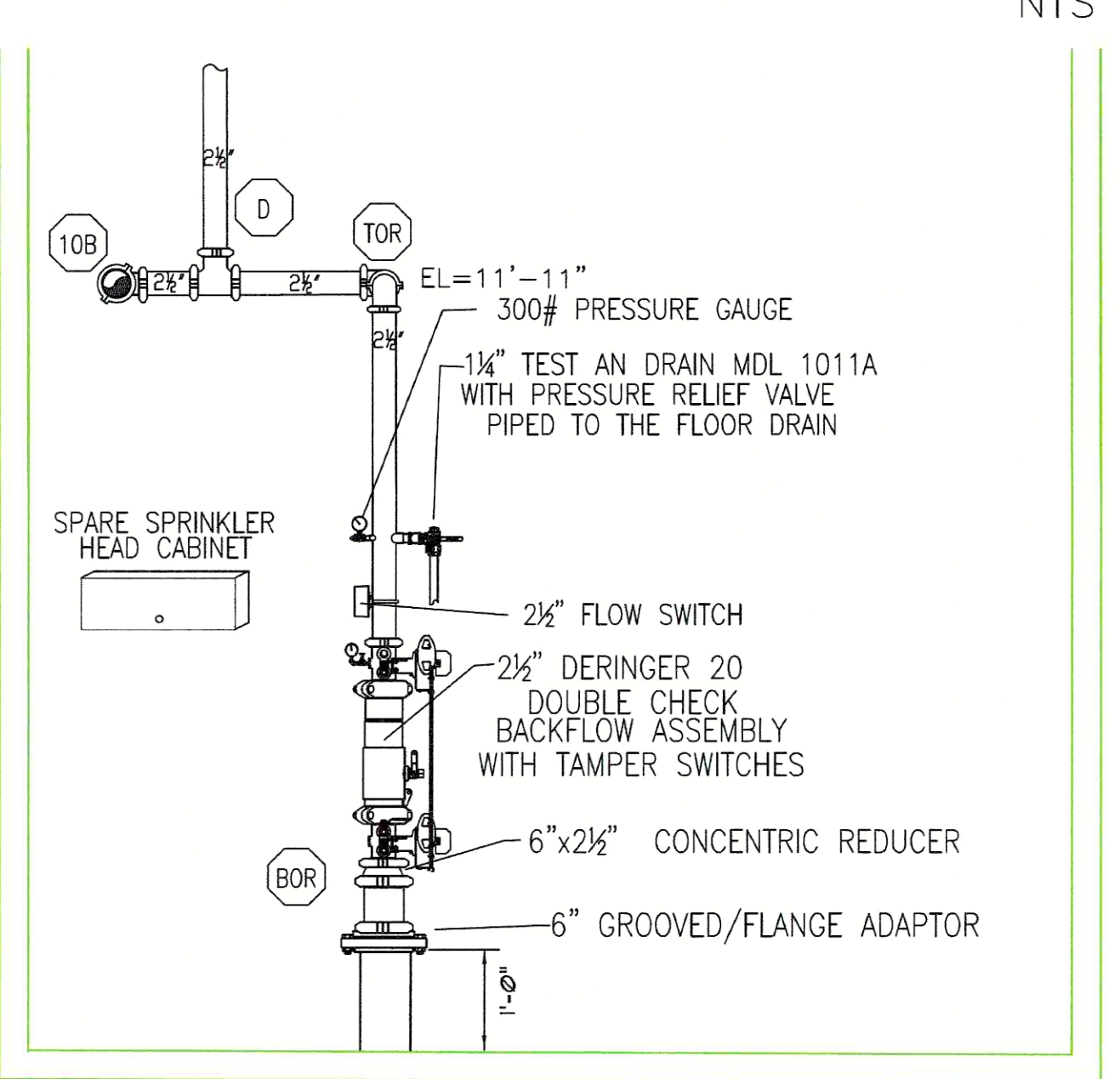
## SPRINKLER LEGEND

- 32 1/2" VIKING VK3001 MICROFAST QUICK RESPONSE BRASS UPRIGHT 5.6K, 175'/200"
- 2 1/2" VIKING VK3021 MICROFAST QUICK RESPONSE CHROME PENDENT 5.6K, 175'/200" WITH CHROME ESCUTCHEON
- 2 3/4" VIKING VK532 STANDARD/QUICK RESPONSE EXT. COV. CHROME UPRIGHT 11.2K, 175'/200" WITH CHROME ESCUTCHEON
- 0 1/2" VIKING VK4631 MIRAGE QUICK RESPONSE BRASS CONCEALED PENDENT 5.6K, 175'/200" WITH 165" WHITE FLAT COVER PLATE
- 9 1/2" VIKING VK305 MICROFAST QUICK RESPONSE CHROME HORIZONTAL SIDEWALL 5.6K, 175'/200" WITH CHROME ESCUTCHEON
- 4 3/4" VIKING VK606 MICROFAST QUICK RESPONSE EXTENDED COVERAGE CHROME HORIZONTAL SIDEWALL 8.0K, 155'/175" WITH CHROME ESCUTCHEON
- 0 1/2" VIKING VK696 ATTIC SPECIFIC APPLICATION BRASS UPRIGHT 4.2K, 200"
- 1 1/2" RELIABLE F3QR56 QUICK RESPONSE WHITE DRY PENDENT 5.6K, 200"
- 1 1/2" RELIABLE DH56 QUICK RESPONSE WHITE DRY HORIZONTAL SIDEWALL 5.6K, 200"
- 50 1ST FLOOR TOTAL
- 102 2ND FLOOR TOTAL

## FIRE STOP DETAIL



## FIRE SPRINKLER RISER DETAIL

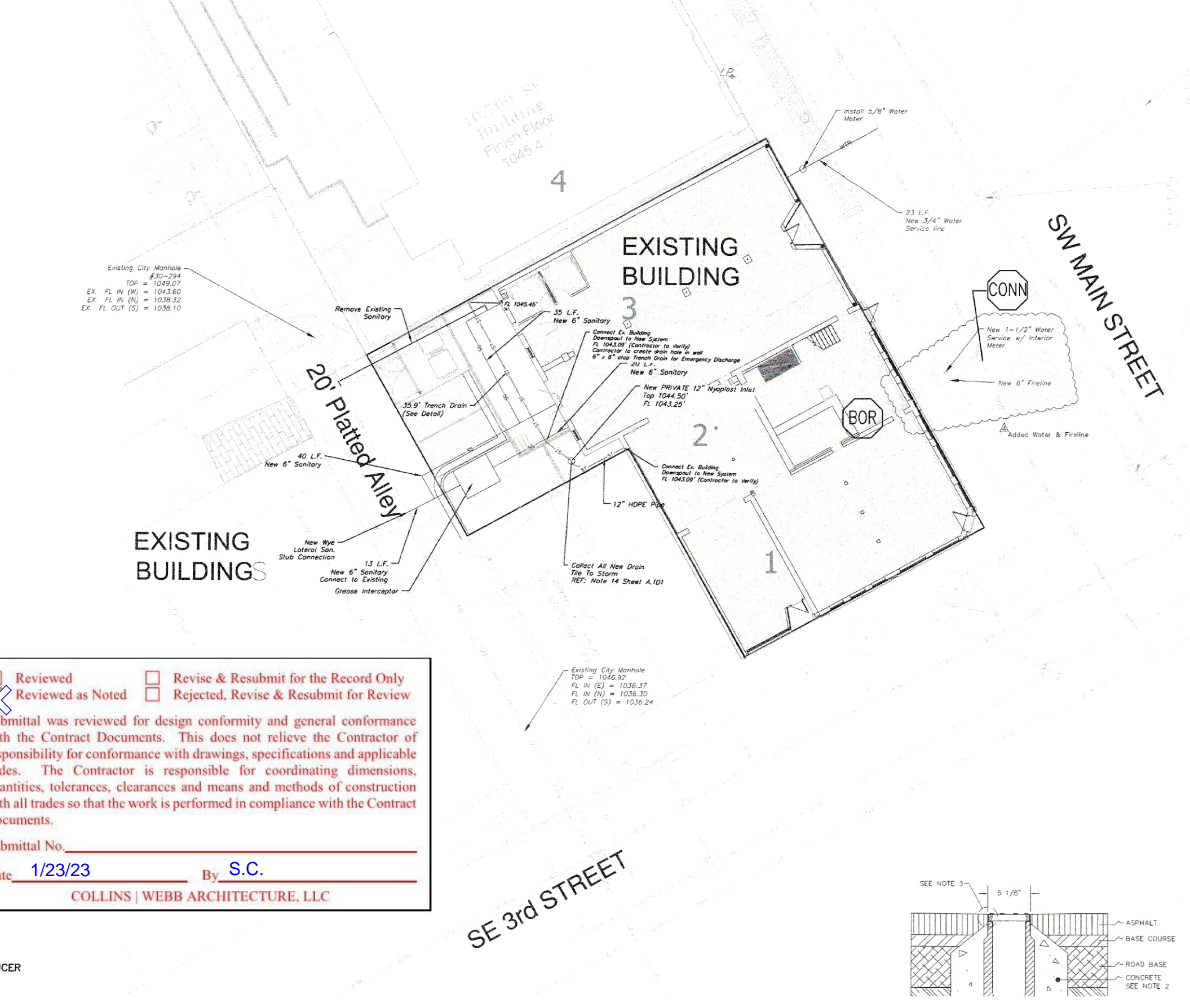


SYSTEM DESIGN SUMMARY	
CALCULATED AREA:	1st Floor
OCCUPANCY:	Light
HAZARD:	Light
AREA / SPRINKLER	130 SQ.FT. (MAX.)
DENSITY	10 GPM / SQ. FT.
AREA OF OPERATION	1,592.50 SQ.FT.
# HEADS FLOWING	14
SYSTEM DEMAND:	292.3 GPM @ 60.1 PSI
INSIDE HOSE	0 GPM
OUTSIDE HOSE	100 GPM
SPRINKLER HEAD	OR UPRIGHT
ORIFICE	1/2"
K FACTOR	4.2
TEMPERATURE	200 DEGREE

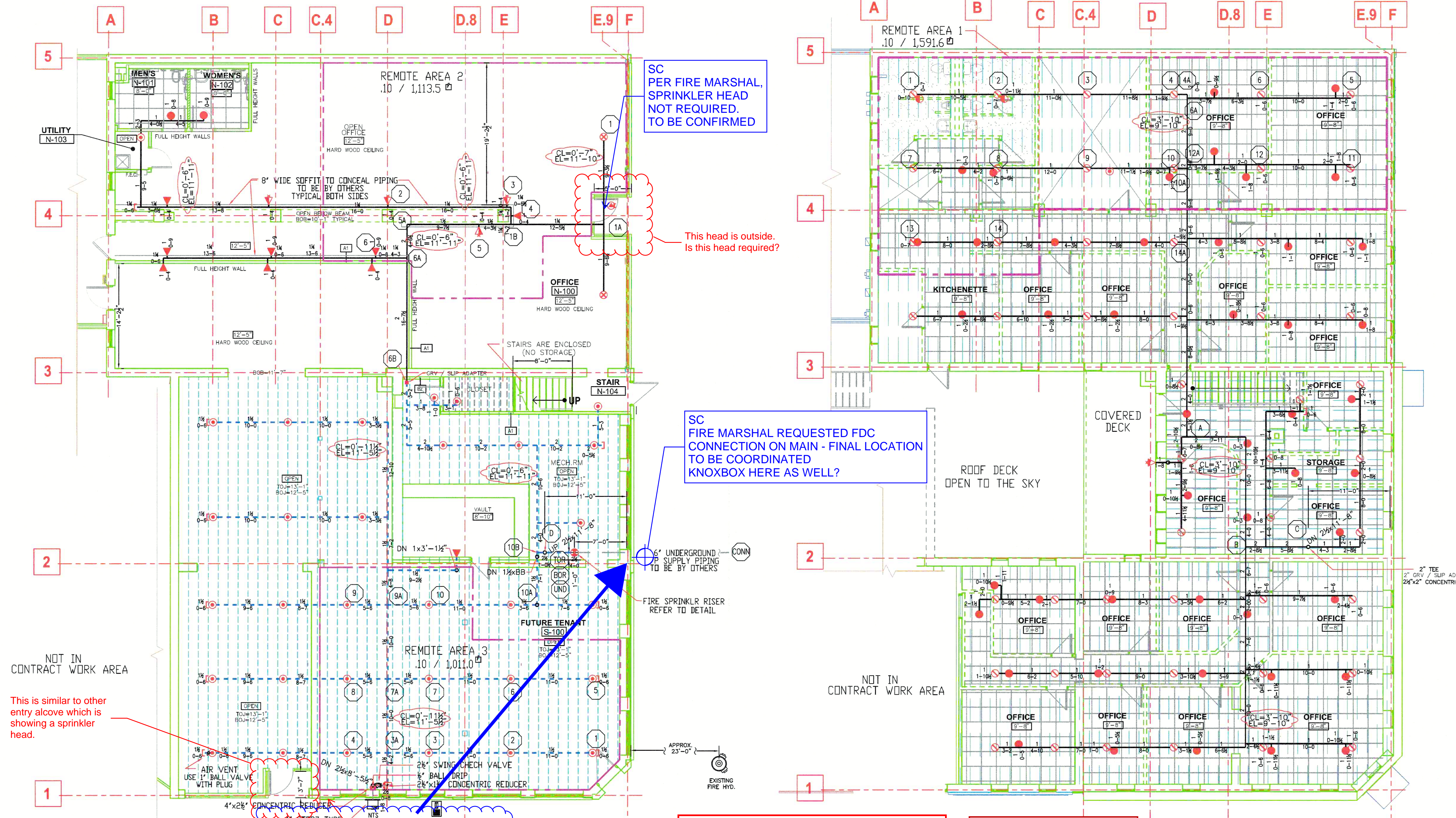
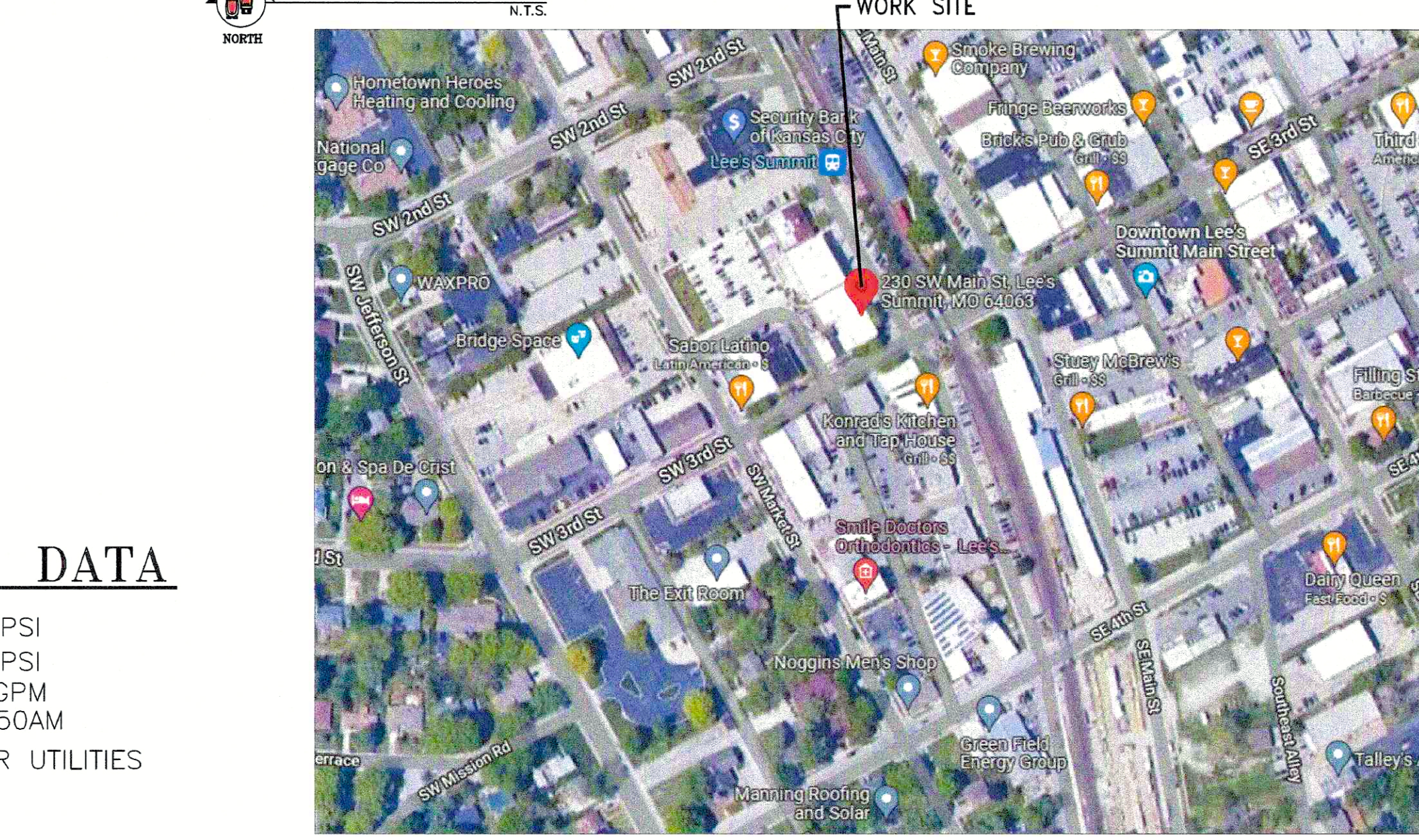
Safety Margin	8.25 PSI
Or	13.7%
Water Supply Summary @ The Base Of The Riser	192.3 GPM
System Pressure Demand @ The Base Of The Riser	60.4 PSI

## UTILITY PLAN

FROM CONTRACT DOCUMENTS C401 N.T.S.



## SITE PLAN



SYSTEM DESIGN SUMMARY	
CALCULATED AREA:	3 - 1st Floor
OCCUPANCY:	Light
HAZARD:	Light
AREA / SPRINKLER	110 SQ.FT. (MAX.)
DENSITY	10 GPM / SQ. FT.
AREA OF OPERATION	1,013.50 SQ.FT.
# HEADS FLOWING	10
SYSTEM DEMAND:	269.6 GPM @ 59.8 PSI
INSIDE HOSE	0 GPM
OUTSIDE HOSE	100 GPM
SPRINKLER HEAD	ORSC UPRIGHT
ORIFICE	1/2"
K FACTOR	5.6
TEMPERATURE	200 DEGREE

Safety Margin	8.7 PSI
Or	14.6%
Water Supply Summary @ The Base Of The Riser	169.6 GPM
System Pressure Demand @ The Base Of The Riser	60.1 PSI

PER NFPA 13 - 2016 11.2.3.2.3.1  
REDUCTION IN OPERATING AREA FOR THE USE OF QUICK RESPONSE SPRINKLERS

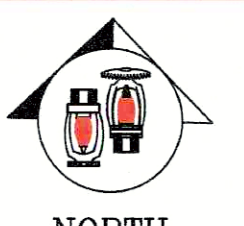
## FIRE PROTECTION PIPING PLAN

- SCH. 10 BLACK STEEL GROOVED PIPING
- CPVC PLASTIC PIPING

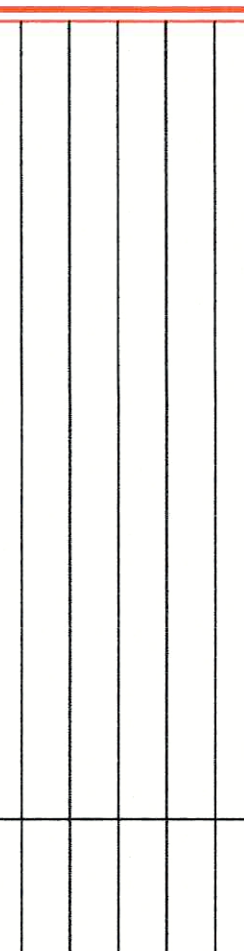
## 2ND FLOOR

## FLOW TEST DATA

STATIC: 69 PSI  
RESIDUAL: 52 PSI  
FLOW: 1,750 GPM  
1/6/2023 9:50AM  
LEE'S SUMMIT WATER UTILITIES



NORTH



Aegis Fire Protection, LLC  
Corporate: 11036 W. 119th St. #262 Overland Park, KS 66213  
Phone: 913-825-0343 Fax: 913-322-4475



Lee's Summit, Missouri 64063

SCALE 1/8"=1'-0"



JOB NO. 18110  
JOB NAME: Main Street Building Improvements  
230 SW Main Street  
Lee's Summit, Missouri 64063

SYSTEM TYPE: WET  
TOTAL HEADS: 152

AHJ: CITY & OWNER  
SCALE: 1/8"=1'-0"  
DESIGNED BY: RK/S  
CHECKED BY: KS  
DATE: 1/16/23  
SHEET NO.

FP1  
1 OF 1