NFPA 13 - OBSTRUCTION CODES:

Table 8.6.5.2.2 Suspended or Floor-Mounted Obstructions in Light Hazard Occupancies Only (SSU/SSP)

Horizontal Distance *(A)*	Minimum Vertical Distance Below Deflector *(B)* [in. (mm)]
6 in. (150 mm) or less	3 (75)
More than 6 in. (150 mm) to 9 in. (225 mm)	4 (100)
More than 9 in. (225 mm) to 12 in. (300 mm)	6 (150)
More than 12 in. (300 mm) to 15 in. (375 mm)	8 (200)
More than 15 in. (375 mm) to 18 in. (400 mm)	9½ (240)
More than 18 in. (400 mm) to 24 in. (600 mm)	12½ (315)
More than 24 in. (600 mm) to 30 in. (750 mm)	15½ (395)
More than 30 in. (750 mm)	18 (450)

For SI units, 1 in. = 25.4 mm.
Note: For *A* and *B*, refer to Figure 8.6.5.2.2.

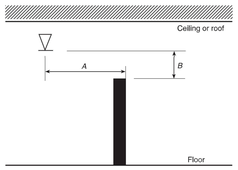


FIGURE 8.6.5.2.2 Suspended or Floor-Mounted Obstruction in Light Hazard Occupancies Only (SSU/SSP).

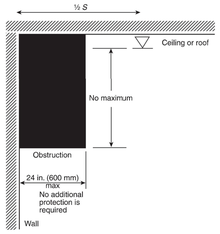
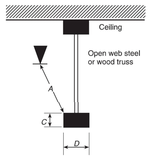
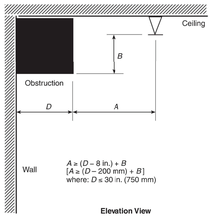


FIGURE 8.6.5.1.2(c) Obstructions Against Walls (SSU/SSP).



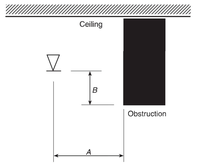
Elevation View of Truss
(Obstruction in horizontal orientation)
A ≥ 3*C* or 3*D*
A ≤ 24 in. (600 mm)
(Use dimension *C* or *D*, whichever is greater)

FIGURE 8.6.5.2.1.3(b) Minimum Distance from an Obstruction in the Horizontal Orientation (SSU/SSP).



Elevation View

FIGURE 8.6.5.1.2(b) Obstruction Against Wall (SSU/SSP).



Elevation View

FIGURE 8.6.5.1.2(a) Positioning of Sprinkler to Avoid Obstruction to Discharge (SSU/SSP).

8.6.6 Clearance to Storage (Standard Pendent and Upright Spray Sprinklers).

8.6.6.1 The clearance between the deflector and the top of storage shall be 18 in. (450 mm) or greater.

8.6.6.2 The 18 in. (450 mm) dimension shall not limit the height of shelving on a wall or shelving against a wall in accordance with 8.6.6, 8.7.6, 8.8.6, and Section 8.9.

8.6.6.2.1 Where shelving is installed on a wall and is not directly below sprinklers, the shelves, including storage thereon, shall be permitted to extend above the level of a plane located 18 in. (450 mm) below ceiling sprinkler deflectors.

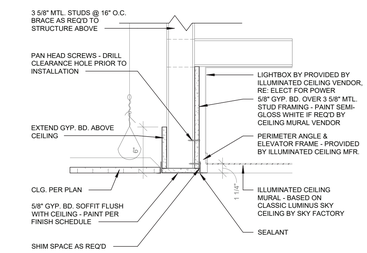
8.6.6.2.2 Shelving, and any storage thereon, directly below the sprinklers shall not extend above a plane located 18 in. (450 mm) below the ceiling sprinkler deflectors.

8.6.6.3 Where other standards specify greater clearance to storage minimums, they shall be followed.

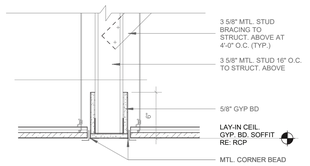
Table 8.6.5.1.2 Positioning of Sprinklers to Avoid Obstructions to Discharge [Standard Spray Upright/Standard Spray Pendent (SSU/SSP)]

Distance from Sprinklers to Side of Obstruction *(A)*	Maximum Allowable Distance of Deflector Above Bottom of Obstruction *(B)* [in. (mm)]
Less than 1 ft (300 mm)	0 (0)
1 ft (300 mm) to less than 1 ft 6 in. (450 mm)	2½ (65)
1 ft 6 in. (450 mm) to less than 2 ft (600 mm)	3½ (90)
2 ft (600 mm) to less than 2 ft 6 in. (750 mm)	5½ (140)
2 ft 6 (750 mm) in. to less than 3 ft (900 mm)	7½ (190)
3 ft (900 mm) to less than 3 ft 6 in. (1.1 m)	9½ (240)
3 ft 6 in. (1.1 m) to less than 4 ft (1.2 m)	12 (300)
4 ft (1.2 m) to less than 4 ft 6 in. (1.4 m)	14 (350)
4 ft 6 in. (1.4 m) to less than 5 ft (1.5 m)	16½ (420)
5 ft (1.5 m) to less than 5 ft 6 in. (1.7 m)	18 (450)
5 ft 6 in. (1.7 m) to less than 6 ft (1.8 m)	20 (510)
6 ft (1.8 m) to less than 6 ft 6 in. (2.0 m)	24 (600)
6 ft 6 in. (2.0 m) to less than 7 ft (2.1 m)	30 (750)
7 ft (2.1 m) to less than 7 ft 6 in. (2.3 m)	35 (875)

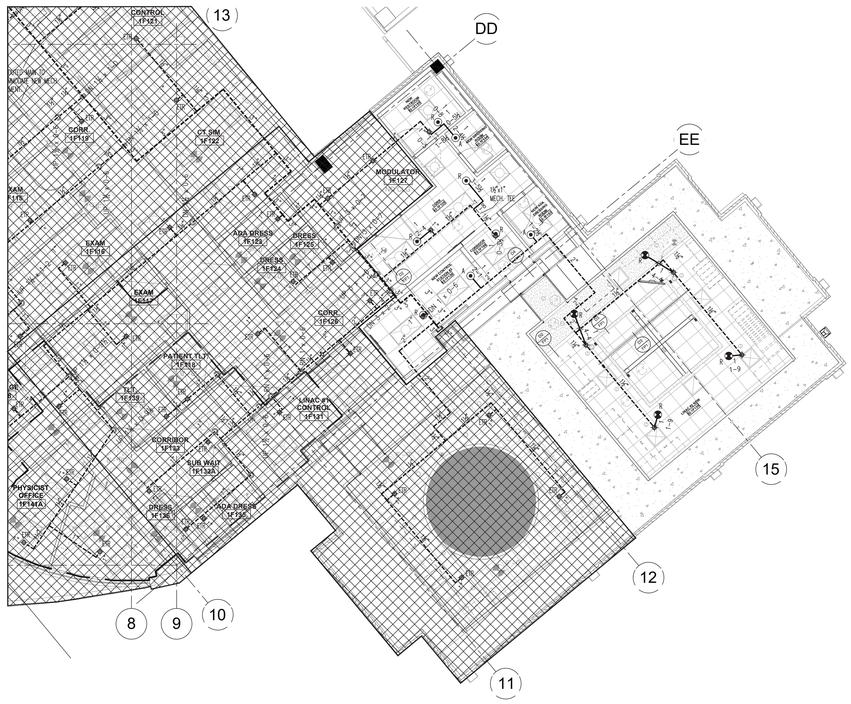
For SI units, 1 in. = 25.4 mm; 1 ft = 0.3048 m.
Note: For *A* and *B*, refer to Figure 8.6.5.1.2(a).



D3 SOFFIT DETAIL
1 1/2" = 1'-0"



D2 DETAIL AT BULKHEAD
1 1/2" = 1'-0"



FIRST FLOOR SPRINKLER PLAN

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

- NO WORK IN THIS AREA, EXISTING SPRINKLERS TO PROVIDE ADEQUATE COVERAGE.

SPRINKLERS ARE PERMITTED TO BE RELOCATED AND RE-INSTALLED WHEN THE SPRINKLER BEING REMOVED FROM THE SYSTEM REMAINS ATTACHED TO THE ORIGINAL FITTING OR WELDED OUTLET, PROVIDED CARE HAS BEEN TAKEN TO ENSURE THE SPRINKLER HAS NOT BEEN DAMAGED. PER NFPA 13, WHEN A SPRINKLER HAS BEEN REMOVED FROM A FITTING OR WELDED OUTLET, IT SHALL NOT BE RE-INSTALLED. PROVIDE NEW SPRINKLERS AS REQUIRED.

ALL SPRINKLER PIPING PASSING THROUGH FIRE RATED ASSEMBLIES SHALL BE FIRESTOPPED BY OTHERS. FIRE STOPPING MATERIAL SHALL BE SUITABLE FOR THE PIPE MATERIAL IN USE AND THE ASSEMBLY PENETRATED.

SEALANTS USED FOR CPVC MATERIALS SHALL BE FBC SYSTEM COMPATIBLE.

SPRINKLER RELOCATION LEGEND

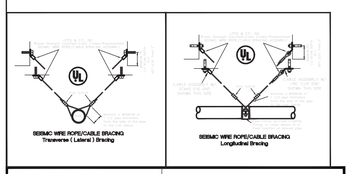
SYMBOL	DESCRIPTION
SYMBOL R	RELOCATED SPRINKLER FROM EXISTING OUTLET
SYMBOL C	CHANGED EXISTING SPRINKLER FROM S.R. TO O.R.
SYMBOL A	ADDED SPRINKLER FROM EXISTING SPRINKLER SYSTEM
SYMBOL	NEW SPRINKLER BEING INSTALLED FROM NEW SYSTEM

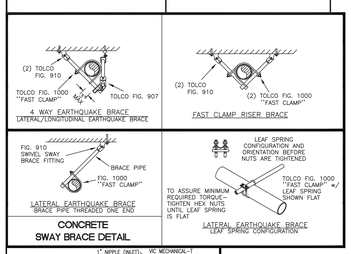
LEGEND

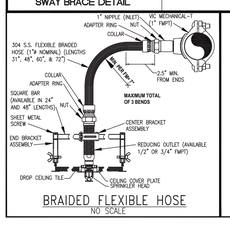
SYMBOL	DESCRIPTION
SYMBOL ETR	EXISTING SPRINKLER TO REMAIN
SYMBOL R	EXISTING SPRINKLER TO BE RELOCATED/REPLACED
ETR	EXISTING RISER NIPPLE TO REMAIN
	FIRE SPRINKLER STANDPIPE
	POINT OF CONNECTION
	NEW SPRINKLER LINE
	EXISTING SPRINKLER LINE
	HANGER LOCATION
	PIPE END CAP

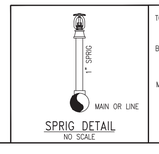
SPRINKLER LEGEND

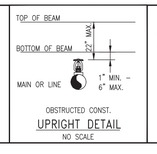
SYMBOL	SPRINKLER TYPE	SIN #	FINISH	TEMP.	ORIFICE	K-FACTOR	COUNT
	VIKING MICROFAST Q.R. PENDENT	VK302	CHROME	155°	1/2"	5.6 K	08
	VIKING MICROFAST Q.R.E.C. ELO PENDENT	VK608	CHROME	155°	3/4"	11.2 K	04
					TOTAL THIS SHEET		12
					TOTAL THIS JOB		12

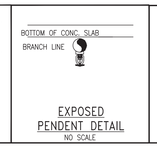


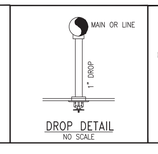


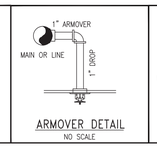


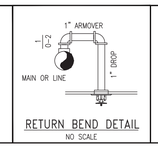


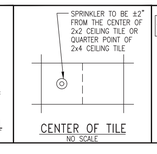


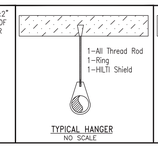


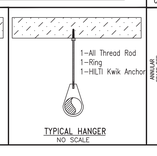


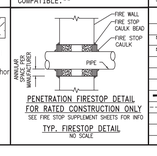












CODE SUMMARY:

PROJECT CONSTRUCTION PURPOSE: NEW LINEAR ACCELERATOR VAULT WITH CONTROL ROOM, TWO DRESSING ROOMS, AND NEW ADA RESTROOM. ALL CONSTRUCTION TO BE INTERIOR RENOVATION WORK OF EXISTING SHELL SPACE.

OWNER:
Saint Luke's East Hospital
100 NE Saint Luke's Blvd
Lee's Summit, MO 64063

DESIGNER:
ACI BOLAND ARCHITECTS
1710 WYANDOTTE ST.
KANSAS CITY, MO 64108
PHONE: (816) 763-9600

LOCAL AUTHORITY:
RESPONDING FIRE SERVICE: CITY OF LEE'S SUMMIT MO
LOCAL BUILDING INSPECTION: CITY OF LEE'S SUMMIT MO

CODE INFORMATION:
2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL PLUMBING CODE
2018 INTERNATIONAL MECHANICAL CODE
2017 NATIONAL ELECTRICAL CODE (NFPA 70)
2018 INTERNATIONAL FIRE CODE
2012 LIFE SAFETY CODE (NFPA 101 CHAPTER 20)
2009 ICC/ANSI A117.1 AS AMENDED AND ADOPTED BY THE CITY OF LEE'S SUMMIT
2010 ADA STANDARDS FOR ACCESSIBLE DESIGN / AMERICANS WITH DISABILITIES ACT OF 1990
STATE OF MISSOURI DEPT. OF HEALTH & ENVIRONMENT REFERENCES THE FOLLOWING CODES:
2012 NFPA 101 LIFE SAFETY CODE (LSC)
2018 FGI GUIDELINES FOR DESIGN & CONSTRUCTION OF HOSPITALS & OUTPATIENT FACILITIES
1979 19-CSR-30
NOTE: IF CODE REQUIREMENTS OVERLAP, THE MOST STRINGENT SHALL APPLY

TYPE OF CONSTRUCTION: TYPE 1-A -SECTION 602.2 (TYPE 1 - 332 SPRINKLERED - SECTION 18.1.6.1)

OCCUPANCY GROUP: I-2 -SECTION 308.3 (HEALTHCARE - SECTION 6.1.5)

OCCUPANT LOAD:
TOTAL SQUARE FOOTAGE: SF / = 1,460 SF
TOTAL NUMBER OF OCCUPANTS = 10

DEAD END CORRIDOR LENGTH LIMIT: 20'

EXIT ACCESS TRAVEL DISTANCE: 200'

AREA OF CONSTRUCTION: 1,460+/- SF

REQUIRED FIRE RESISTANCE RATINGS (IN HOURS) PER NFPA 101 A.8.2.1.2:

EXTERIOR BEARING WALLS	3 HR
INTERIOR BEARING WALLS	3 HR
PRIMARY STRUCTURAL FRAME	3 HR
FLOOR CONSTRUCTION	2 HR
ROOF CONSTRUCTION	1 1/2 HR
INTERIOR NON-BEARING WALLS	0 HR

PLUMBING FIXTURE CALCULATIONS: EXISTING TO REMAIN
NO CHANGE IN OCCUPANCY

ACTIVE FIRE SAFETY FEATURES:
- FIRE ALARM SYSTEM - THE FIRE ALARM SYSTEM IS SPECIFIED AS AN ADDRESSABLE TYPE SYSTEM. THE DEVICE TYPE AND LOCATIONS ARE PER THE APPLICABLE CODES AS WELL AS ADA REQUIREMENTS.

- SMOKE CONTROL SYSTEM - ALL DUCTWORK PENETRATING SMOKE RATED WALLS WILL HAVE A SMOKE OR COMBINATION FIRE/SMOKE DAMPER AS INDICATED ON CONSTRUCTION DOCUMENTS. THESE DAMPERS WILL CLOSE UPON DETECTION OF SMOKE BY THE AREA SMOKE DETECTORS OR DUCT SMOKE DETECTORS IN THE AIR HANDLING UNITS.

- FIRE SPRINKLER SYSTEM - SPECIFIED TO BE PER NFPA 13. THE SPRINKLER HEADS ARE SPECIFIED TO BE QUICK RESPONSE TYPE.

- EMERGENCY LIGHTING AND POWER - EMERGENCY LIGHTING, LIFE SAFETY AND CRITICAL LOADS WILL RECEIVE POWER FROM A BACKUP GENERATOR LOCATED OUTSIDE THE MAIN ELECTRICAL ROOM.

- ILLUMINATED EXIT SIGNS

PASSIVE FIRE SAFETY FEATURES:

- SMOKE COMPARTMENTS NO GREATER THAN 22,500 SF

GENERAL NOTES:

ALL FITTINGS CONFORM TO SECTION 2-4 OF NFPA PAMPHLET 13.

VALVES ON CONNECTIONS TO WATER SUPPLIES, SECTIONAL CONTROL VALVES AND OTHER VALVES IN SUPPLY PIPES TO SPRINKLERS SHALL BE SUPERVISED OPEN BY AN APPROVED METHOD.

IT IS THE OWNERS RESPONSIBILITY TO PROVIDE ADEQUATE HEAT TO KEEP THE SPRINKLER SYSTEM FROM FREEZING.

ALL ELECTRICAL WIRING OF ALARM BELLS, FLOW SWITCHES AND TAMPER SWITCHES (IF REQUIRED) TO BE DONE BY OTHERS.

THE SPRINKLER SYSTEM TO BE INSTALLED IN ACCORDANCE WITH NFPA 13. HANGERS TO BE SPACED TO MEET NFPA REQUIREMENTS

PER NFPA 13, SECTION 8.6.3.2.4, WITHIN SMALL ROOMS AS DEFINED IN SECTION 3.3.20, SPRINKLERS SHALL BE PERMITTED TO BE LOCATED NOT MORE THAN 9 FT. FROM ANY SINGLE WALL, AND SPRINKLER SPACING LIMITATIONS OF SECTION 8.6.3 AND AREA LIMITATIONS OF TABLE 8.6.2.2.1(a) SHALL NOT BE EXCEEDED. JFS WAY WOODIFY HEADS SHOWN ON THIS DRAWING TO COMPLY WITH THIS RULE.

℄ = CENTER LINE OF PIPE BELOW TOP OF STEEL
EL = CENTER LINE OF PIPE ABOVE FINISHED FLOOR

DESIGN CRITERIA:

BUILDING CODE: SEE CODE SUMMARY

OCCUPANCY: SEE CODE SUMMARY

TYPE OF CONSTRUCTION: SEE CODE SUMMARY

AREA OF CONSTRUCTION: SEE CODE SUMMARY

PER NFPA 13, 2016 EDITION:

SYSTEM TYPE: WET (EXISTING)

CORRIDOR, PATIENT ROOMS, OFFICES, ETC..
LIGHT HAZARD
0.10 GPM/S.F. FOR 1500 S.F.
MAXIMUM 225 S.F. SPRINKLER SPACING
100 GPM HOSE ALLOWANCE

MECHANICAL ROOMS, STORAGE ROOMS, ETC..
ORDINARY HAZARD GROUP II
0.20 GPM/S.F. FOR 1500 S.F.
MAXIMUM 130 S.F. SPRINKLER SPACING
250 GPM HOSE ALLOWANCE

PLAN NOTES:

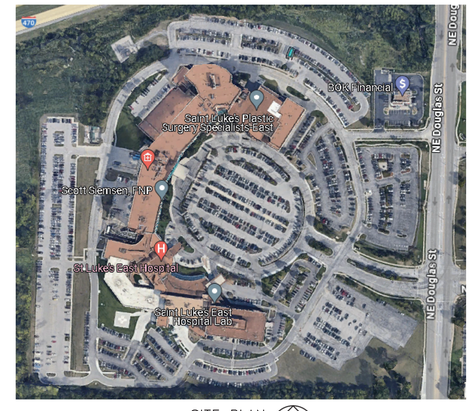
1. ALL CEILING HEIGHTS TO BE 9'-0" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.
2. SPRINKLERS SHALL BE CENTERED IN THE NARROW DIMENSION OF CEILING TILES, AS SPECIFIED (211313-3.6.A).
3. ALL THREADED PIPING IS TO BE ALLIED "SCHEDULE 40" WITH THREADED CAST IRON FITTINGS.
4. ALL GROOVED PIPING IS TO BE SCH. 10 PIPE, ASTM A-795 WITH ROLLED GROOVED ENDS. ALL FITTINGS TO BE IRON GROOVED OR WELDED STEEL OUTLETS.

CONSTRUCTION:

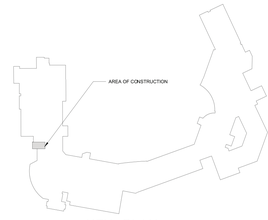
CONCRETE SLAB, CONCRETE BEAMS AND TEES

CODE NOTE:

8.6.5.2.1
IN LIGHT HAZARD OCCUPANCIES, PRIVACY CURTAINS SHALL NOT BE CONSIDERED OBSTRUCTIONS WHERE ALL OF THE FOLLOWING AREA MET:
(1) THE CURTAINS ARE SUPPORTED BY FABRIC MESH ON CEILING TRACK.
(2) OPENINGS IN THE MESH ARE EQUAL TO 70 PERCENT OR GREATER.
(3) THE MESH EXTENDS A MINIMUM OF 22 INCHES DOWN FROM CEILING.



SITE PLAN
N.T.S.
NORTH



KEY PLAN
N.T.S.
NORTH

MISSOURI PE COA #2016025677
CG Engineering, LLC
1624 N Glen Ellyn
Independence, MO 64056
816-516-9540

REVISIONS:

NO.	DATE	DESCRIPTION
1		

JAYHAWK FIRE SPRINKLER CO., INC.
LENEXA, KANSAS 66215
PHONE: (913) 422-8520
FAX: (913) 422-8522
CONTACT: MPIC

McCARTHY CONSTRUCTION
7930 SANTA FE TRAIL DRIVE
OVERLAND PARK, KANSAS 66204

Saint Luke's East Lee's Summit

100 NE Saint Luke's Blvd.
Lee's Summit, MO 64086

SAINT LUKE'S HEALTH SYSTEM
VAULT #2 LINEAR ACCELERATOR

SEAL

9-4-2025
STATE OF MISSOURI
CHRISTOPHER T. GROSS
NUMBER PE-2010038448
REGISTERED PROFESSIONAL ENGINEER

JFS CONTRACT NO. **20926M**
DRAWN BY: **TJA** CHECKED BY: **SB**
PROJECT MANAGER: **CA**
PLOT TYPE: **APPROVAL**
ISSUE DATE: **08/28/2025** PLOT DATE: **08/29/2025**
DRAWING NUMBER

FP-1

FIRE PROTECTION SPRINKLER SYSTEM 1ST FLOOR

SHEET: **1 OF 1**