© 2025 PIVOT ARCHITECTURE

GENERAL NOTES:

THIS PROJECT WILL BE A DESIGN BUILD FIRE SPRINKLER INSTALLATION IN A RENOVATED EXISTING BUILDING BY A LICENSED FIRE SPRINKLER CONTRACTOR AS THE ENGINEER OF RECORD (EOR). THE DESIGN-BUILD FIRE PROTECTION CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE AND OPERATIONAL SYSTEM IN COMPLIANCE WITH THE APPLICABLE NFPA STANDARDS, THE 2022 OREGON FIRE CODE, THE 2021 OREGON RESIDENTIAL SPECIALTY CODE (ORSC), THE 2022 OREGON STRUCTURAL SPECIALTY CODE, LOCAL COUNTY AND MUNICIPAL CODES, INCLUDING ALL REFERENCED STANDARDS AND GUIDELINES, LOCAL AND STATE AUTHORITIES HAVING JURISDICTION AT NO ADDITIONAL COST.

THE WORK SHALL CONFORM TO ALL STATE AND LOCAL CODES, AND ALL REFERENCED STANDARDS WITHIN.

WORK OF THIS SECTION SHALL BE GOVERNED BY THE CONTRACT DOCUMENTS. PROVIDE MATERIALS, LABOR, EQUIPMENT AND SERVICES NECESSARY TO FURNISH, DELIVER AND INSTALL ALL WORK OF THIS SECTION AS SHOWN ON THE DRAWINGS, AS SPECIFIED HEREIN, AND/OR AS REQUIRED BY JOB CONDITIONS.

DRAWINGS ARE DIAGRAMMATIC AND INDICATE A GENERAL ARRANGEMENT OF WORK. GENERAL DESIGN CONCEPTS INDICATED MUST BE FOLLOWED OR BETTERED. THE BID SHALL INCLUDE OFFSETS, ADDITIONAL PIPING, VALVES AND FIRE PROTECTION EQUIPMENT AND COMPONENTS AS REQUIRED TO MEET CONSTRUCTION CONDITIONS FOR PROPER OPERATION. DO NOT SCALE DRAWINGS. VISIT THE SITE TO SURVEY EXISTING CONDITIONS, AND CONSULT ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR SPACE CONDITIONS AND ADDITIONAL FIXTURES. DEVELOP AND SUBMIT COORDINATION DRAWINGS.

THE WORK UNDER THIS SECTION SHALL INCLUDE ALL INCIDENTALS, LABOR, MATERIAL, EQUIPMENT, APPLIANCES, SERVICES, HOISTING, SCAFFOLDING, SUPPORTS, TOOLS, CONSUMABLE ITEMS, FEES, LICENSES, AND ADMINISTRATIVE TASKS REQUIRED TO COMPLETE AND MAKE OPERABLE THE FIRE PROTECTION WORK AS INTENDED.

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT AS NECESSARY TO PROVIDE A COMPLETE INSTALLATION INCLUDING COORDINATION, SYSTEM CHECK OUT AND START UP ON EACH ITEM AND SYSTEM.

THIS CONTRACTOR SHALL INFORM HIMSELF FROM THE GENERAL CONSTRUCTION SPECIFICATIONS AND PLANS, OF THE EXACT DIMENSION OF FINISHED WORK AND OF THE HEIGHT OF FINISHED CEILINGS IN ALL ROOMS WHERE EQUIPMENT OR PIPES ARE TO BE PLACED AND ARRANGE HIS WORK IN ACCORDANCE WITH THE SCHEDULE OF INTERIOR FINISHES, AS INDICATED ON THE ARCHITECTURAL DRAWINGS.

MATERIAL QUALIFICATIONS: SHALL CONFORM TO ALL LOCAL, STATE, AND NATIONAL/FEDERAL CODES AND REGULATIONS WHICH MAY APPLY AND NOTHING IN THESE SPECIFICATIONS SHALL BE INTERPRETED AS AN INFRINGEMENT OF SUCH CODES OR REGULATIONS.

CONCEALED, INTERIOR INSTALLATIONS: CONCEALED FROM VIEW AND PROTECTED FROM PHYSICAL CONTACT BY BUILDING OCCUPANTS. EXAMPLES INCLUDE ABOVE CEILINGS AND IN CHASES.

COORDINATION

PREPARE AND SUBMIT COORDINATION DRAWINGS.
COORDINATE PRELIMINARY HEAD LOCATIONS AND EXPOSED PIPE ROUTING WITH ARCHITECT, AND OBTAIN ARCHITECT APPROVAL PRIOR TO SUBMITTING PERMIT DRAWINGS TO AHJ.

CLOSELY SCHEDULE THE WORK SO THAT WORK WILL BE INSTALLED AT THE PROPER TIME WITHOUT DELAYING THE COMPLETION OF THE ENTIRE PROJECT.

PREPARE COMPLETE SET OF DRAWINGS SHOWING ALL NECESSARY SLAB OPENINGS AND STRUCTURAL SUPPORTS THAT REQUIRE STRUCTURAL FRAMING. DRAWINGS SHALL CLEARLY INDICATE SIZES AND LOCATION RELATIVE TO ESTABLISHED COLUMN LINES. DRAWINGS SHALL BE COMPLETED IN SUFFICIENT TIME TO ALLOW FOR STRUCTURAL STEEL FABRICATION SO AS NOT TO DELAY PROJECT SCHEDULE.

COORDINATE INSTALLATION OF REQUIRED SUPPORTING DEVICES WITH SEOR. COORDINATE UNDERGROUND CONNECTIONS WITH CIVIL ENGINEER AND SITE WORK CONTRACTOR. COORDINATE ELECTRICAL CONNECTIONS FOR FIRE PUMP, ALARM DEVICES, ETC. WITH ELECTRICAL AND FIRE ALARM CONTRACTORS.

SHOP DRAWINGS AND SUBMITTALS

SUBMIT FOR REVIEW, WITHIN FIFTEEN (15) DAYS AFTER SIGNING CONTRACTS, THE REQUIRED NUMBER OF COPIES OF A COMPLETE LIST OF MATERIAL PROPOSED FOR USE, INCLUDING SIZES, CAPACITIES, ETC. THIS LIST INCLUDES:

1. SPRINKLERS
2. PIPING
3. FITTINGS
4. HANGERS / PIPE STANDS / SEISMIC BRACING MATERIALS / ANCHORS
5. PRESSURE GAUGES
6. VALVES (CONTROL, CHECK, RISER CHECK, DRY PIPE, DRAIN, TEST, ETC.)
7. AIR COMPRESSOR & TANK AND VAPOR PHASE DEPOSITION SYSTEM OR NITROGEN SYSTEM
8. ALARM DEVICES

SHOP COORDINATION DRAWINGS SHALL SHOW ALL DETAILS AND INFORMATION REQUIRED BY NFPA 13, INCLUDING ALL EARTHQUAKE BRACING (LONGITUDINAL AND LATERAL). IF UNNECESSARY DEVIATION FROM DRAWINGS ARE MADE BY CONTRACTOR WHICH CAUSE ADDITIONAL COST TO THE OWNER, CONTRACTOR SHALL SUBMIT THE CHANGES TO THE ARCHITECT FOR COMPLIANCE VERIFICATION AND THE ADDITIONAL COST SHALL BE BORNE BY THE CONTRACTOR

FINAL RECORD DRAWINGS SHALL BE SUBMITTED IN ACCORDANCE WITH THE ABOVE PARAGRAPH, SHOWING EXACT DIMENSIONAL LOCATIONS OF ALL UNDERGROUND PIPING AND OF ALL RISERS, MAINS AND CROSS-MAINS.

ON COMPLETION OF THE JOB, FURNISH THE ARCHITECT WITH A COPY OF THE "CONTRACTORS MATERIAL AND TEST CERTIFICATE" (PART A AND/OR B), SIGNED BY THE LOCAL FIRE MARSHALL AND A COPY OF THE TRANSMITTAL LETTER SENDING THE CERTIFICATE TO THE RATING AGENCY

SHOP DRAWINGS

THE CONTRACTOR SHALL SUBMIT ALL FIRE PROTECTION SHOP DRAWINGS IN ACCORDANCE WITH NFPA 13, AND LOCAL - REQUIREMENTS, EQUIPMENT AND CALCULATIONS TO THE LOCAL AHJ - "AUTHORITY HAVING JURISDICTION" (IE: FIRE MARSHAL), OWNERS INSURANCE COMPANY, ARCHITECT AND ENGINEER. APPROVAL TO BE SECURED PRIOR TO INSTALLATION

PROVIDE DIMENSIONAL INSTALLATION PIPING LAYOUT/S COORDINATED WITH ALL TRADES. INCLUDE ALL FIRE PUMP EQUIPMENT, FIRE PROTECTION PIPING, DRAINS, PIPE SIZES, HANGER STYLES AND LOCATIONS, VALVES, ALARM EQUIPMENT, AND ALL OTHER ITEMS FOR A COMPLETE SHOP DRAWING. SUBMITTAL SHOP DRAWINGS SHALL BE CLEAR AND LEGIBLE. ALL SPRINKLER INFORMATION MUST STANDOUT ON THE SHOP DRAWINGS (IE: BOLD PIPING, ETC. OR LIGHTER BACKGROUND).

SUBMIT FIELD TEST REPORTS AND CERTIFICATES: INDICATE AND INTERPRET TEST RESULTS FOR COMPLIANCE WITH PERFORMANCE REQUIREMENTS AND AS DESCRIBED IN NFPA. CONTRACTOR RESPONSIBLE TO DOCUMENT AND SUBMIT "CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR ABOVEGROUND PIPING" AND "CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING."

OVERHEAD PIPE AND FITTINGS
SCHEDULE 10 AND SCHEDULE 40 BLACK LISTED SPRINKLER PIPE PER PIPE SCHEDULE ON DRAWINGS.

LOW POINT DRAIN VALVES

PROVIDE VALVES AND/OR PLUGS AS REQUIRED OR INDICATED LOCATIONS FOR COMPLETE DRAINAGE OF SYSTEMS.

PROVIDE AT REQUIRED LOCATIONS PER NFPA 13.

PIPE TO SPILL OVER FLOOR DRAIN, OVER SUMP PIT, OVER MOP SINK, TO DRAIN RISER OR OTHER APPROVED LOCATION.

AT SYSTEM LOW POINTS WHERE DRAIN PIPING DOES NOT EXTEND TO A DRAIN RECEPTACLE, PROVIDE A THREADED HOSE AND ADAPTER AT THE VALVE OUTLET.

DRY SYSTEM AIR COMPRESSOR:
UL LISTED FOR FIRE PROTECTION. TANK MOUNTED. QUIET RUN (DESIGNED TO RUN BELOW 60 dBA)

ELECTRIC ALARM BELL

PROVIDE ELECTRIC ALARM BELL IF ONE IS NOT CURRENTLY INSTALLED AT SITE. BELL TO BE WIRED BY OTHERS.
10", 120VAC, WITH WEATHERPROOF BACKBOX, UL & FM LISTED/APPROVED. POTTER OR APPROVED EQUAL.

ALL SPRINKLER SYSTEM ALARM AND TROUBLE DEVICES SHALL BE WIRED TO BUILDINGS MAIN FIRE ALARM PANEL. COORDINATE WITH FIRE ALARM CONTRACTOR AND LOCAL FIRE MARSHAL.

VALVE TAGS, SIGNS, CHARTS AND MARKERS

DRAIN, AND TEST CONNECTION VALVES SHALL BE PROVIDED WITH PERMANENTLY MARKED WEATHERPROOF METAL OR RIGID PLASTIC IDENTIFICATION SIGNS IN ACCORDANCE WITH NFPA 13. ALL PIPING SHALL BE MARKED CONTINUOUSLY ALONG ITS LENGTH AND LABELED IN ACCORDANCE WITH NFPA 13.

CHARTS: PROVIDE LAMINATED DIAGRAMMATIC MOUNTED CHARTS SHOWING ESSENTIAL FEATURES OF SYSTEM, VALVES AND CONTROLS NUMBERED AND LETTERED TO CORRESPOND TO DESIGNATION ON METAL TAGS. LIST OF VALVES AND CONTROLS GIVING LOCATION AND FUNCTION, MINIMUM SIZE IS 11" X 17".

PIPE MARKERS: PROVIDE PIPE MARKERS WITH FLOW ARROWS AT 50'-0" MAXIMUM INTERVALS ON ALL CONCEALED AND EXPOSED PIPING.

CLOSEOUT:

SUBMIT AS-BUILT DRAWINGS AND A COPY OF NFPA 25: THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS FORMAT AS REQUESTED BY CLIENT. THE AS-BUILT DRAWINGS SHALL REFLECT AS INSTALLED CONDITIONS INCLUDING ALL ADDENDA, AND MISCELLANEOUS REVISIONS. THE CONTRACTOR SHALL MAKE NECESSARY MODIFICATIONS TO THE AS-BUILT DRAWINGS BASED UPON THE REVIEW SUBMISSION COMMENTS. THE FINAL PRODUCT SHALL INCLUDE A COPY OF ALL ELECTRONIC FILES AND PLOTS OF ALL AS-BUILT DRAWINGS OF SIZE AND FORMAT CONSISTENT WITH THE PROJECT STANDARDS

TESTING:
TEST SYSTEMS IN ACCORDANCE WITH NFPA 13, AND AUTHORITIES HAVING JURISDICTION.
ALL SPRINKLERS SYSTEMS PIPING MUST BE HYDROSTATICALLY TESTED FOR A PERIOD OF TWO (2) HOURS IN THE PRESENCE OF THE GENERAL CONTRACTOR.

NFPA 13 (2019) SEC. 28.2.1.1 AND 28.2.1.3, ALL PIPING AND ATTACHED APPURTENANCES SUBJECTED TO SYSTEM WORKING PRESSURE SHALL BE TESTED AT 200 PSI AND SHALL MAINTAIN THAT PRESSURE WITHOUT LOSS FOR 2 HOURS FOR SYSTEM PRESSURES UP TO 150 PSI, AND 50 PSI IN EXCESS OF SYSTEM WORKING PRESSURE FOR 2 HOURS WHERE SYSTEM PRESSURES EXCEED 150 PSI. THE LOCAL FIRE DEPARTMENT SHOULD BE NOTIFIED OF DATE AND TESTING SO THEY MAY OBSERVE TESTING.

THE PLANS SHALL INCLUDE THE INFORMATION ON THE HYDRAULIC DESIGN INFORMATION SIGN, IN COMPLIANCE WITH NFPA 13 SECTION 27.1.3 ITEM 33

NFPA 13 (2019) SPRINKLER CONTRACTOR SHALL COMPLETE AND SIGN CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR THE OVERHEAD SPRINKLER SYSTEM USING FORM IN FIGURE 25.1. THIS COMPLETED FORM SHALL BE GIVEN TO THE APPROVING AUTHORITY, OWNER, AND CONTRACTOR.

THE SPRINKLER CONTRACTOR SHALL HAVE A REPRESENTATIVE PRESENT AT THE ROUGH-IN/HYDRO INSPECTION

SCOPE OF WORK:

- PROVIDE AND INSTALL COMPLETE FIRE SPRINKLER SYSTEMS TO PROTECT THROUGHOUT NEW BUILDING.
- POINT OF CONNECTION IS TO NEW UNDERGROUND FIRE SUPPLY 5-0 OUTSIDE THE BUILDING FOOTPRINT AND TO THE NEW UNDERGROUND FDC SUPPLY 5-0 OUTSIDE THE BUILDING
- COORDINATE EXPOSED PIPE RUNS OUTSIDE OF RISER ROOM WITH ARCHITECT.
- COORDINATE HEAD LAYOUT WITH ARCHITECT.

LIST OF GOVERNING CODES

THIS WORK SHALL CONFORM TO ALL CURRENT AND ADOPTED LOCAL CODES

- OREGON STRUCTURAL SPECIALTY CODE (OSSC)
- OREGON MECHANICAL SPECIALTY CODE (OMSC)
- OREGON PLUMBING SPECIALTY CODE (OPSC)
- OREGON ENERGY CODE (OEG)
- OREGON FIRE CODE (OFC)

DESIGN CRITERIA:

TYPICAL AREAS AND NFPA 13 PROTECTION CRITERIA

SPACING INDICATED BELOW BASED ON STANDARD SPRAY (SS) SPRINKLERS

LIGHT HAZARD (LH) AND ORDINARY HAZARD SPACING:
MAX DISTANCE BETWEEN SS SPRINKLERS: 15-0
MIN DISTANCE BETWEEN SS SPRINKLERS: 6-0
MAX DISTANCE FROM WALL: 7-6
MIN DISTANCE FROM WALL: 0-4

1. CLASSROOMS, OFFICES, RESTROOMS, AND COMMON SPACES:

   PROTECT PER LIGHT HAZARD
   0.10 GPM/SQFT OVER 1500 SQFT*
   MAX AREA WITH STANDARD SPRAY (SS) SPRINKLERS PER CODE: 225 SQFT**

2. MECHANICAL, ELECTRICAL, AND DATA ROOMS:

   PROTECT PER ORDINARY HAZARD GROUP I
   0.15 GPM/SQFT OVER 1500 SQFT*
   MAX AREA WITH STANDARD SPRAY (SS) SPRINKLERS PER CODE: 130 SQFT**

3. STORAGE CLOSETS:

   PROTECT PER ORDINARY HAZARD GROUP II
   0.20 GPM/SQFT OVER 1500 SQFT*
   MAX AREA WITH STANDARD SPRAY (SS) SPRINKLERS PER CODE: 130 SQFT**

* MINIMUM DESIGN AREA INCREASES FOR CEILINGS SLOPED OVER 2:12 OR DRY SYSTEMS UNLESS OTHERWISE INDICATED BY SPRINKLER LISTING
30% AREA INCREASE FOR SLOPED CEILINGS = (E.G. 1500 X 1.3 = 1950 SQFT)
30% AREA INCREASE FOR DRY SYSTEMS = (E.G. 1500 X 1.3 = 1950 SQFT)
COMPOUNDED INCREASE FOR DRY SYSTEMS SLOPED OVER 2:12 (E.G. 1500 * 1.3 *1.3) = 2535 SQFT)

** REDUCED SPACING MAY BE REQUIRED BY HYDRAULIC CALCULATIONS.

AVAILABLE WATER SUPPLY

THE FIRE PROTECTION CONTRACTOR SHALL OBTAIN/PERFORM A CURRENT FIRE FLOW TEST ACCEPTABLE TO THE AHJ (PERFORMED WITHIN ONE YEAR OF PERMIT SUBMITTAL - OR LESS IF REQUIRED BY THE AHJ). THE PRELIMINARY VALUES BELOW WERE OBTAINED FROM THE CIVIL ENGINEER. DATES OF TESTS ARE UNKNOWN, AND HAVE NOT BEEN ADJUSTED FOR ANY ELEVATION DIFFERENCE TO PROJECT POINT OF CONNECTION.

STATIC AND RESIDUAL MEASURED AT HYDRANT #1139 FOR BOTH TESTS
TEST 1
FLOW HYDRANT: CFK HYDRANT #874
STATIC AT HYD 1139: 59 PSI
RESIDUAL AT HYD 1139: 51 PSI
FLOW: 2041 GPM

TEST 2
FLOW HYDRANT: CFK HYDRANT #1140
STATIC AT HYD 1139: 53 PSI
RESIDUAL AT HYD 1139: 31 PSI
FLOW: 1655 GPM

PRELIMINARY PIPE SIZE ESTIMATE

PRELIMINARY ESTIMATE BASED ON WET SYSTEM PROTECTION OF ATTIC (1950 SQFT)
MAIN PIPING: 4"
LINES: 2"

PRELIMINARY DEMAND ESTIMATE FOR THIS AREA / CONFIGURATION: 41 PSI AT 430 GPM

SIZES INDICATED FOR PRELIMINARY COORDINATION FOR ARCHITECT AND STRUCTURAL ENGINEER. FIRE PROTECTION CONTRACTOR SHALL PROVIDE LARGER SIZES AS REQUIRED BY THEIR DESIGN AT NO ADDITIONAL COST. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE GENERAL CONTRACTOR AND ARCHITECT IF LARGER PIPE WILL BE REQUIRED.

FIRE PUMP SIZE ESTIMATE

FIRE PROTECTION CONTRACTOR SHALL IMMEDIATELY NOTIFY THE GENERAL CONTRACTOR AND ARCHITECT IF THE AVAILABLE WATER FLOW THEY OBTAIN APPEARS INSUFFICIENT TO MEET THEIR SPRINKLER SYSTEM DESIGN DEMAND.

SEISMIC BRACING

SPECTRAL RESPONSE:
LATITUDE: 42.19646949937342
LONGITUDE: -121.70072801287859
STANDARD: ASCE/SEI 7-16
S_1 = 0.897

SEISMIC COEFFICIENT:
C_p = 0.4788 (2019 NFPA 13-TABLE 18.5.9.3)

USE C_p =0.48

MAXIMUM LINE RESTRAINT SPACING WHERE Cp <= 0.5

PIPE	MAXIMUM SPACING (FT)
1"	43
1.25"	46
1.5"	49
2"	53

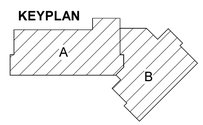
FIRE PROTECTION LEGEND

SYMBOL	ABBRV.	IDENTIFICATION	ABBRV.	IDENTIFICATION
	F	UNDERGROUND FIRE SUPPLY - IN SCOPE	FM	FACTORY MUTUAL INSURANCE COMPANY
	F	UNDERGROUND FIRE SUPPLY - BY OTHERS	FS	FLOOR SINK
	W	EXISTING UNDERGROUND WATER SUPPLY	FPM	FEET PER MINUTE
	M	WET SYSTEM SPRINKLER MAIN PIPING	FT	FEET
	BL	WET SYSTEM BRANCH LINE PIPING	FT HD	FEET HEAD
DSP	DSP	DRY STAND PIPE	GPM	GALLONS PER MINUTE
	BV	BALL VALVE	GALV	GALVANIZED
	CHVA	CHECK VALVE	GA	GAUGE
	OS&Y	OUTSIDE SCREW & YOKE GATE VALVE	GC	GENERAL CONTRACTOR
	BV/SOV	BALANCING/SHUT-OFF VALVES	HP	HORSEPOWER
		GATE VALVE	HR	HOUR
	T&PRV	TEMP & PRESS RELIEF VALVE	HZ	HERTZ
	GV	GLOBE VALVE	ID	INSIDE DIAMETER
		SOLENOID VALVE	IE	INVERT ELEVATION
			IN	INCH
	DCBP	DOUBLE CHECK BACKFLOW PREVENTER	INT	INTERIOR
		UNION	INV	INVERT
P		PRESSURE GAUGE	ITM	INSPECTIONS TESTING AND MAINTENANCE
	FP	FIRE PUMP	KW	KILOWATTS
	FC	FLEXIBLE CONNECTION	LBS	POUNDS
		HYDROSTATIC RELIEF VALVE	LG	LONG
	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER	LRA	LOCKED ROTOR AMPS
			LVG	LEAVING
	FH	FIRE HYDRANT	MAX	MAXIMUM
	FSR	FIRE SPRINKLER RISER	MC	MECHANICAL CONTRACTOR
	PIV	POST INDICATING VALVE	MCA	MINIMUM CIRCUIT AMPS
	EQB	FOUR WAY EQUIPMENT BRACING	MECH	MECHANICAL
AD	AD	ACCESS DOOR	MFR	MANUFACTURER
∅	DIA	DIAMETER	MIN	MINIMUM
	P.O.C.	POINT OF CONNECTION	MOCP	MAXIMUM OVERCURRENT PROTECTION
℄		CENTERLINE	(N)	NEW
	&	AND	NC	NORMALLY CLOSED
	@	AT	NIC	NOT IN CONTRACT
	°F	DEGREES FAHRENHEIT	NO	NORMALLY OPEN
	AD	AREA DRAIN	NTS	NOT TO SCALE
	AFF	ABOVE FINISH FLOOR	OC	ON CENTER
	AGGR	AGGREGATE	OD	OUTSIDE DIAMETER
	AMP	AMPERE	PD	PRESSURE DROP
	APPROX	APPROXIMATE	PH	PHASE
	ARCH	ARCHITECT/ARCHITECTURAL	P/N	PART NUMBER
	BHP	BRAKE HORSEPOWER	PRESS	PRESSURE
	BJ	BETWEEN JOISTS	PRV	PRESSURE REDUCING VALVE
	BLDG	BUILDING	PSI	POUNDS PER SQUARE INCH
	BTU	BRITISH THERMAL UNIT	P/T	PRESSURE/TEMPERATURE
	CFH	CUBIC FEET PER HOUR	QTY	QUANTITY
	CI	CAST IRON	REQD	REQUIRED
	CIRC	CIRCULATING	REQS	REQUIREMENTS
	CLG	CEILING	RLA	RATED/RUNNING LOAD AMPS
	CONC	CONCRETE	RM	ROOM
	CONN	CONNECTION	RPM	REVOLUTIONS PER MINUTE
	CONT	CONTINUED	RV	RELIEF VALVE
	COORD	COORDINATE	SEOR	STRUCTURAL ENGINEER OF RECORD
	CONST	CONSTRUCTION	SM	SHEETMETAL
	DN	DOWN	SOV	SHUT-OFF VALVE
	DWGS	DRAWINGS	SPEC	SPECIFICATION
	(E)	EXISTING	SQ	SQUARE
	EC	ELECTRICAL CONTRACTOR	STD	STANDARD
	ELEC	ELECTRICAL	STRUCT	STRUCTURAL
	ELEV	ELEVATION	STSL	STAINLESS STEEL
	EMBT	EMBEDMENT	TEMP	TEMPERATURE
	EQUIP	EQUIPMENT	TYP	TYPICAL
	EXT	EXTERIOR	UL	UNDERWRITER'S LABORATORIES
	FD	FLOOR DRAIN	UON	UNLESS OTHERWISE NOTED
	FFE	FINISHED FLOOR ELEVATION	V	VOLT
	FLA	FULL LOAD AMPS	W/	WITH
	FLEX	FLEXIBLE	WC	WATER COLUMN
	FLR	FLOOR	WT	WEIGHT

FIRE PROTECTION SHEET KEY

SHEET NUMBER	DESCRIPTION
F201	OVERALL FIRE PROTECTION
F211	FIRE PROTECTION - SECTOR A
F212	FIRE PROTECTION - SECTOR B
F213	FIRE PROTECTION - ATTIC
F401	FIRE PROTECTION - SECTIONS

KEYPLAN



PRINTED ON: 8/4/2025 4:06:06 PM FROM FILE: Autodesk Docs://20230862 - KCC Childcare Learning Center/20230862 KCC CLC_ME_23.rvt
SCALE OF 11 x 17 SHEETS IS HALF OF SCALE INDICATED

PIVOT ARCHITECTURE

COLEBREIT ENGINEERING OREGON | CALIFORNIA

BID AND PERMIT SET

KCC CHILDCARE LEARNING CENTER

PROJECT #: 20230862
KLAMATH COMMUNITY COLLEGE
7390 S. 6TH ST.
KLAMATH FALLS, OR
97603

SHEET TITLE:
LEGEND, NOTES AND DETAILS

REVISIONS:

#	DESCRP.	DATE

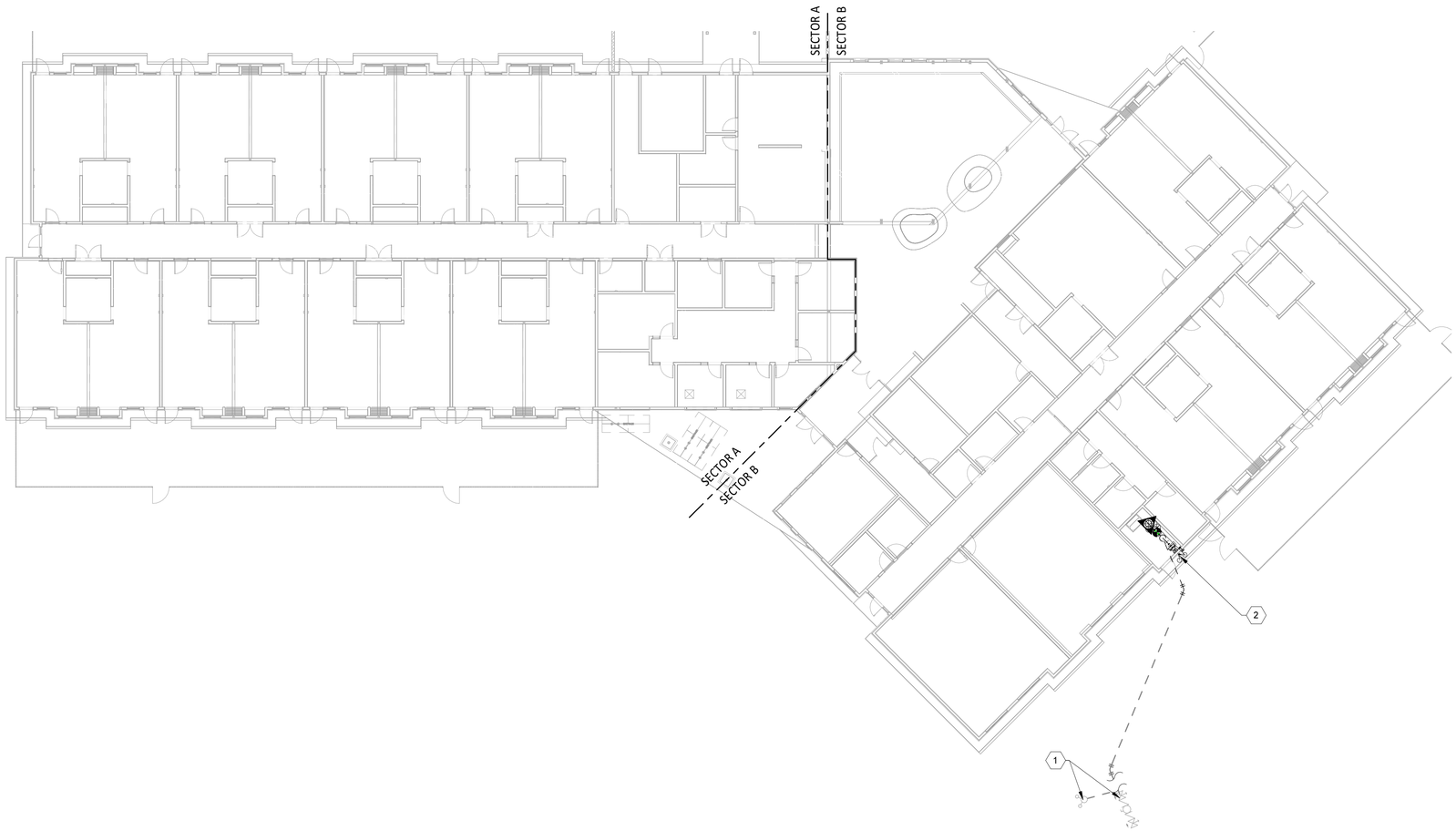
ISSUE DATE: 08/01/2025

F001

© 2025 PIVOT ARCHITECTURE

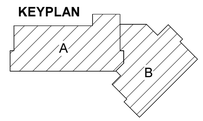
KEY NOTES

1. BACKFLOW AND REMOTE FDC UNDER CIVIL SECTIONS. COORDINATE SEPARATE RUN-IN FOR REMOTE FDC TO CONNECT DOWNSTREAM OF PUMP (IF REQUIRED)
2. BACKFLOW FORWARD FLOW TEST OUTLETS (1) 2½" NST OUTLET FOR EACH 250 GPM OF SPRINKLER SYSTEM DEMAND. PROVIDE CAPS, CHAINS, AND WALL PLATE READING 'BACKFLOW TEST CONN'. COORDINATE FLUSH MOUNT OR SURFACE MOUNT CONNECTIONS WITH ARCHITECT.



1 F201 OVERALL FIRE PROTECTION PLAN
1/16" = 1'-0"

KEYPLAN



PRINTED ON 8/4/2025 4:06:07 PM FROM FILE: Autodesk Docs://20230862 - KCC Childcare Learning Center/20230862 KCC CLC_ME_23.rvt
SCALE OF 11 x 17 SHEETS IS HALF OF SCALE INDICATED

PIVOT ARCHITECTURE

COLEBREIT ENGINEERING OREGON | CALIFORNIA

BID AND PERMIT SET

KCC CHILDCARE LEARNING CENTER

PROJECT #: 20230862
KLAMATH COMMUNITY COLLEGE
7390 S. 6TH ST.
KLAMATH FALLS, OR
97603

SHEET TITLE:
OVERALL FIRE PROTECTION

REVISIONS:

#	DESCRP.	DATE

ISSUE DATE: 08/01/2025

F201

© 2025 PIVOT ARCHITECTURE

PIPE AND FITTINGS

WET SYSTEM PIPE:
1" - 1¼":
UL/FM LISTED SCHEDULE 40 BLACK PIPE ASTM A795/A795M
ASTM A53
2"+:
UL/FM LISTED SCHEDULE 10 BLACK PIPE (TYP) ASTM A795 / A135
UL/FM LISTED SCHEDULE 40 BLACK PIPE (IF THREADING REQUIRED) ASTM A795/A795M ASTM A53

DRY SYSTEM PIPE:
UL/FM LISTED SCHEDULE 40 BLACK PIPE ASTM A795/A795M
ASTM A53

JOINING OF PIPE AND FITTINGS:
SCHEDULE 10 PIPE
UL/FM LISTED GROOVED FITTINGS AND COUPLINGS
WELDED CONNECTIONS PER NFPA 13
OUTLET FITTINGS PER NFPA 13
SCHEDULE 40 PIPE
CAST IRON THREADED CLASS 125 AND 250 ASME B16.4
CAST IRON FLANGED ASME B16.1
MALLEABLE IRON THREADED CLASS 150 AND 300 ASME B16.3
UL/FM LISTED GROOVED FITTINGS AND COUPLINGS
WELDED CONNECTIONS PER NFPA 13
OUTLET FITTINGS PER NFPA 13

NFPA 13 HAZARD CLASSIFICATIONS

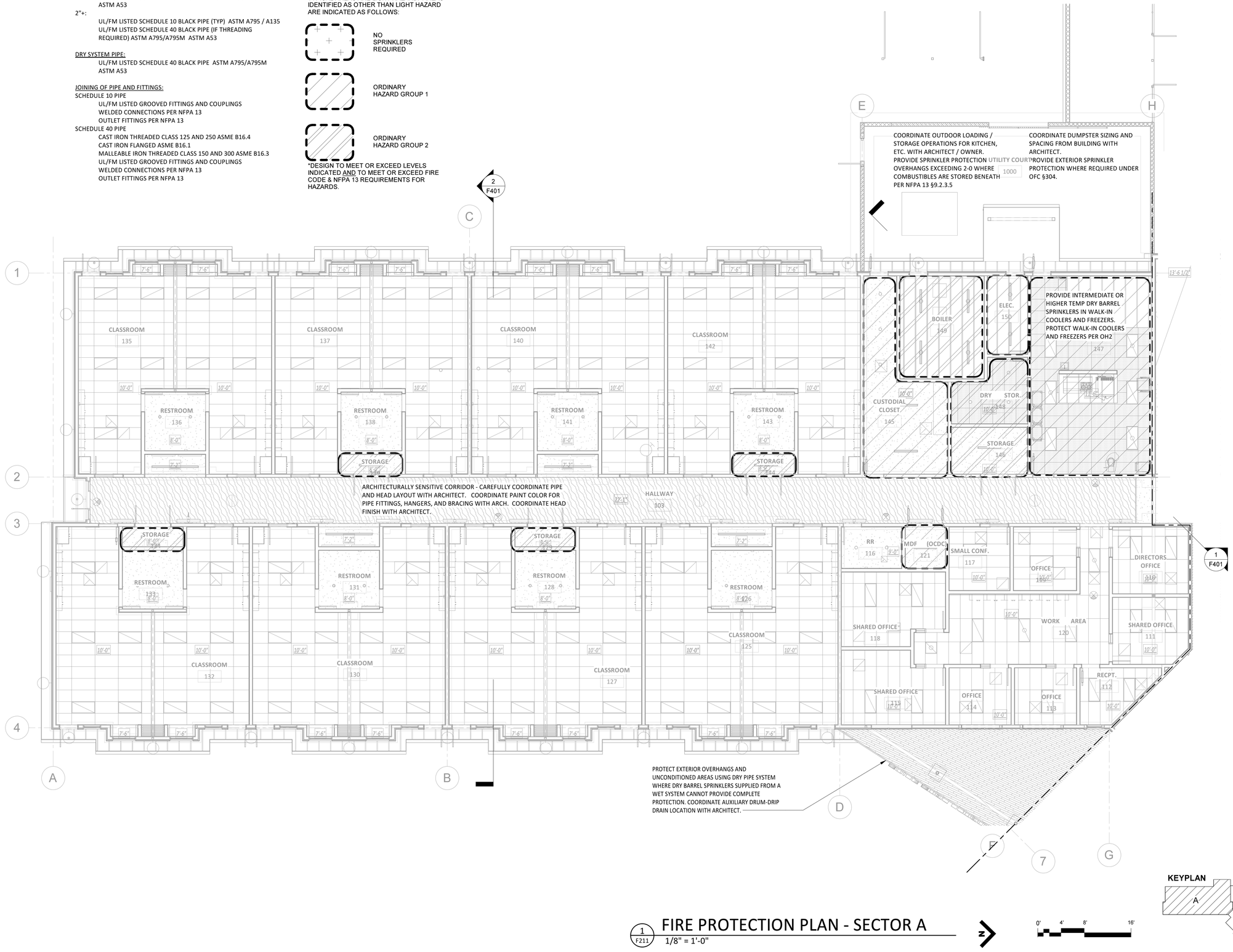
MINIMUM LEVEL OF PROTECTION REQUIRED* TYPICAL AREAS ARE LIGHT HAZARD. AREAS IDENTIFIED AS OTHER THAN LIGHT HAZARD ARE INDICATED AS FOLLOWS:

NO SPRINKLERS REQUIRED

ORDINARY HAZARD GROUP 1

ORDINARY HAZARD GROUP 2

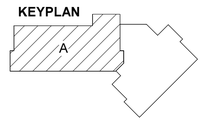
*DESIGN TO MEET OR EXCEED LEVELS INDICATED AND TO MEET OR EXCEED FIRE CODE & NFPA 13 REQUIREMENTS FOR HAZARDS.



1 F211 FIRE PROTECTION PLAN - SECTOR A
1/8" = 1'-0"

0' 4' 8' 16'

KEYPLAN



PRINTED ON: 8/4/2025 4:06:10 PM FROM FILE: Autodesk Docs://20230862 - KCC Childcare Learning Center/20230862 KCC CLC_ME_23.rvt
SCALE OF 11 x 17 SHEETS IS HALF OF SCALE INDICATED

PIVOT ARCHITECTURE

COLEBREIT ENGINEERING OREGON | CALIFORNIA

BID AND PERMIT SET

KCC CHILDCARE LEARNING CENTER

PROJECT #: 20230862
KLAMATH COMMUNITY COLLEGE
7390 S. 6TH ST.
KLAMATH FALLS, OR
97603

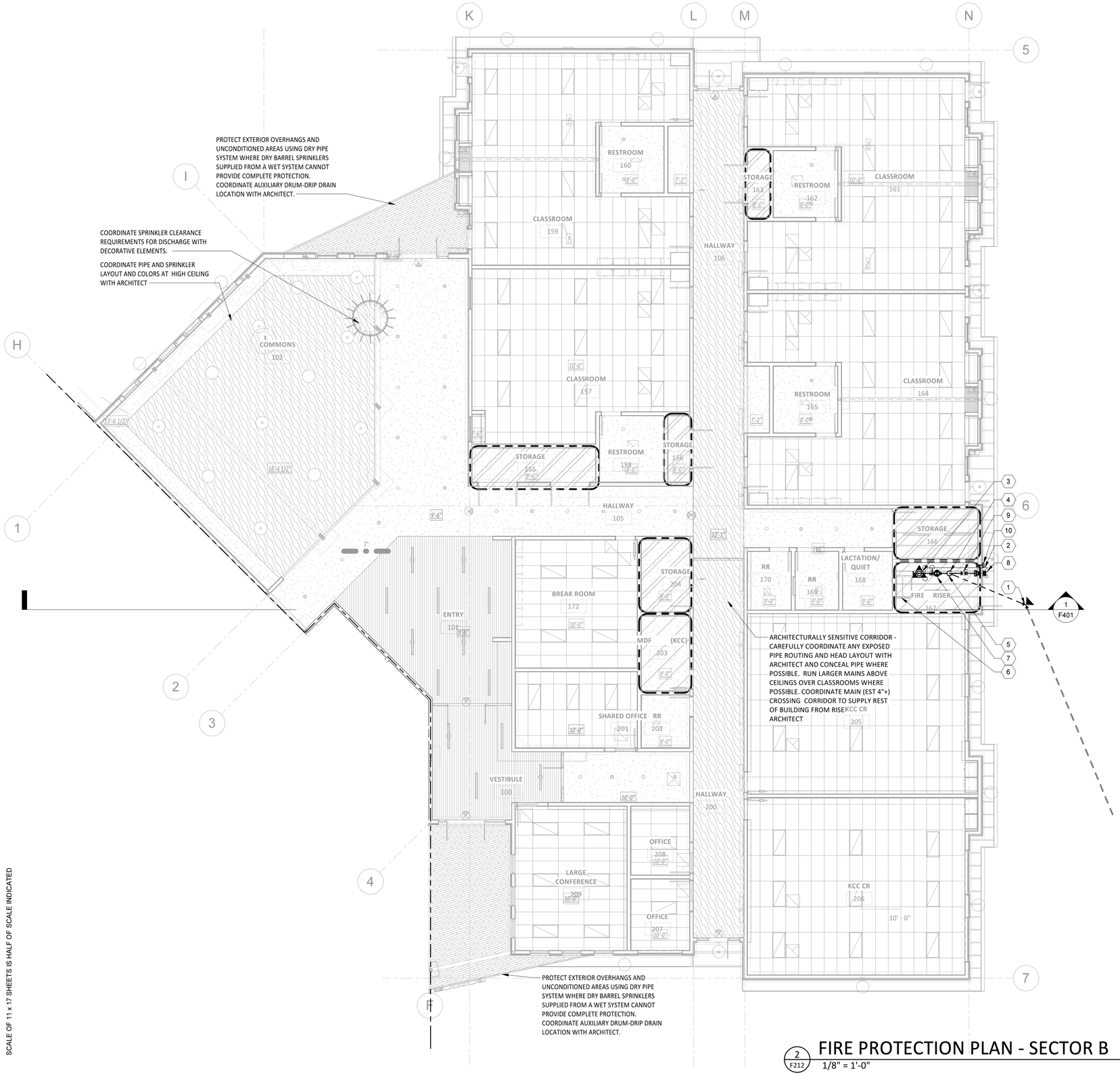
SHEET TITLE:
FIRE PROTECTION - SECTOR A

REVISIONS:
DESCRP. DATE

ISSUE DATE: 08/01/2025

F211

© 2025 PIVOT ARCHITECTURE



KEY NOTES

1. POC 5-0 FROM BUILDING
2. MAIN DRAIN DISCHARGE 1-0 ABOVE GRADE WITH DOWN-TURNED ELBOW AND SPLASHBLOCK.
3. UL/FM DRY PIPE VALVE WITH ACCELERATOR, ANTI-COLUMN DEVICE, WATER PRESSURE FLOW SWITCH, LOW AIR PRESSURE SWITCH, AND ALL REQUIRED TRIM. TIE IN WITH NITROGEN SUPPLY.
4. PROVIDE COMPLETE FIRE PUMP SYSTEM INCLUDING CONTROL PANELS, JOCKEY PUMP, TEST HEADER, BYPASS AND TEST LOOP IF A FIRE PUMP IS REQUIRED TO MEET SYSTEM DEMAND. IF CONTRACTOR DETERMINES A PUMP IS REQUIRED, THEY SHALL IMMEDIATELY NOTIFY THE ARCHITECT AND COORDINATE REQUIRED SPACE WITHIN THE BUILDING, AND THEY SHALL COORDINATE AN ADDITIONAL FDC RUN-IN TO CONNECT TO THE DISCHARGE SIDE OF THE FIRE PUMP.
5. AMES IN-BUILDING-RISER STUB-IN AT 1-0 AFF.
6. NITROGEN GENERATOR
7. WET SYSTEM RISER
8. BACKFLOW FORWARD FLOW TEST OUTLETS (1) 2½" NST OUTLET FOR EACH 250 GPM OF SPRINKLER SYSTEM DEMAND. PROVIDE CAPS, CHAINS, AND WALL PLATE READING 'BACKFLOW TEST CONN'. COORDINATE FLUSH MOUNT OR SURFACE MOUNT CONNECTIONS WITH ARCHITECT.
9. UL/FM GXG BUTTERFLY VALVE WITH TAMPER SWITCH - MONITORED NORMALLY CLOSED
10. 120 VAC ELEC BELL

NFPA 13 HAZARD CLASSIFICATIONS

MINIMUM LEVEL OF PROTECTION REQUIRED* TYPICAL AREAS ARE LIGHT HAZARD AREAS IDENTIFIED AS OTHER THAN LIGHT HAZARD ARE INDICATED AS FOLLOWS:

NO SPRINKLERS REQUIRED

ORDINARY HAZARD GROUP 1

ORDINARY HAZARD GROUP 2

*DESIGN TO MEET OR EXCEED LEVELS INDICATED AND TO MEET OR EXCEED FIRE CODE & NFPA 13 REQUIREMENTS FOR HAZARDS.

PIPE AND FITTINGS

WET SYSTEM PIPE:
1" - 1½":
UL/FM LISTED SCHEDULE 40 BLACK PIPE ASTM A795/A795M
ASTM A53
2"+:
UL/FM LISTED SCHEDULE 10 BLACK PIPE (TYP) ASTM A795 / A135
UL/FM LISTED SCHEDULE 40 BLACK PIPE (IF THREADING REQUIRED) ASTM A795/A795M ASTM A53

DRY SYSTEM PIPE:
UL/FM LISTED SCHEDULE 40 BLACK PIPE ASTM A795/A795M
ASTM A53

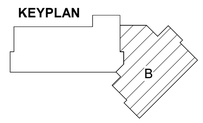
JOINING OF PIPE AND FITTINGS:
SCHEDULE 10 PIPE
UL/FM LISTED GROOVED FITTINGS AND COUPLINGS
WELDED CONNECTIONS PER NFPA 13
OUTLET FITTINGS PER NFPA 13
SCHEDULE 40 PIPE
CAST IRON THREADED CLASS 125 AND 250 ASME B16.4
CAST IRON FLANGED ASME B16.1
MALLEABLE IRON THREADED CLASS 150 AND 300 ASME B16.3
UL/FM LISTED GROOVED FITTINGS AND COUPLINGS
WELDED CONNECTIONS PER NFPA 13
OUTLET FITTINGS PER NFPA 13

2 F212 FIRE PROTECTION PLAN - SECTOR B

1/8" = 1'-0"

0' 4' 8' 16'

KEYPLAN



PIVOT ARCHITECTURE

COLEBREIT ENGINEERING OREGON | CALIFORNIA

BID AND PERMIT SET

KCC CHILDCARE LEARNING CENTER

PROJECT # 20230862
KLAMATH COMMUNITY COLLEGE
7390 S. 6TH ST.
KLAMATH FALLS, OR
97603

SHEET TITLE:
FIRE PROTECTION - SECTOR B

REVISIONS:

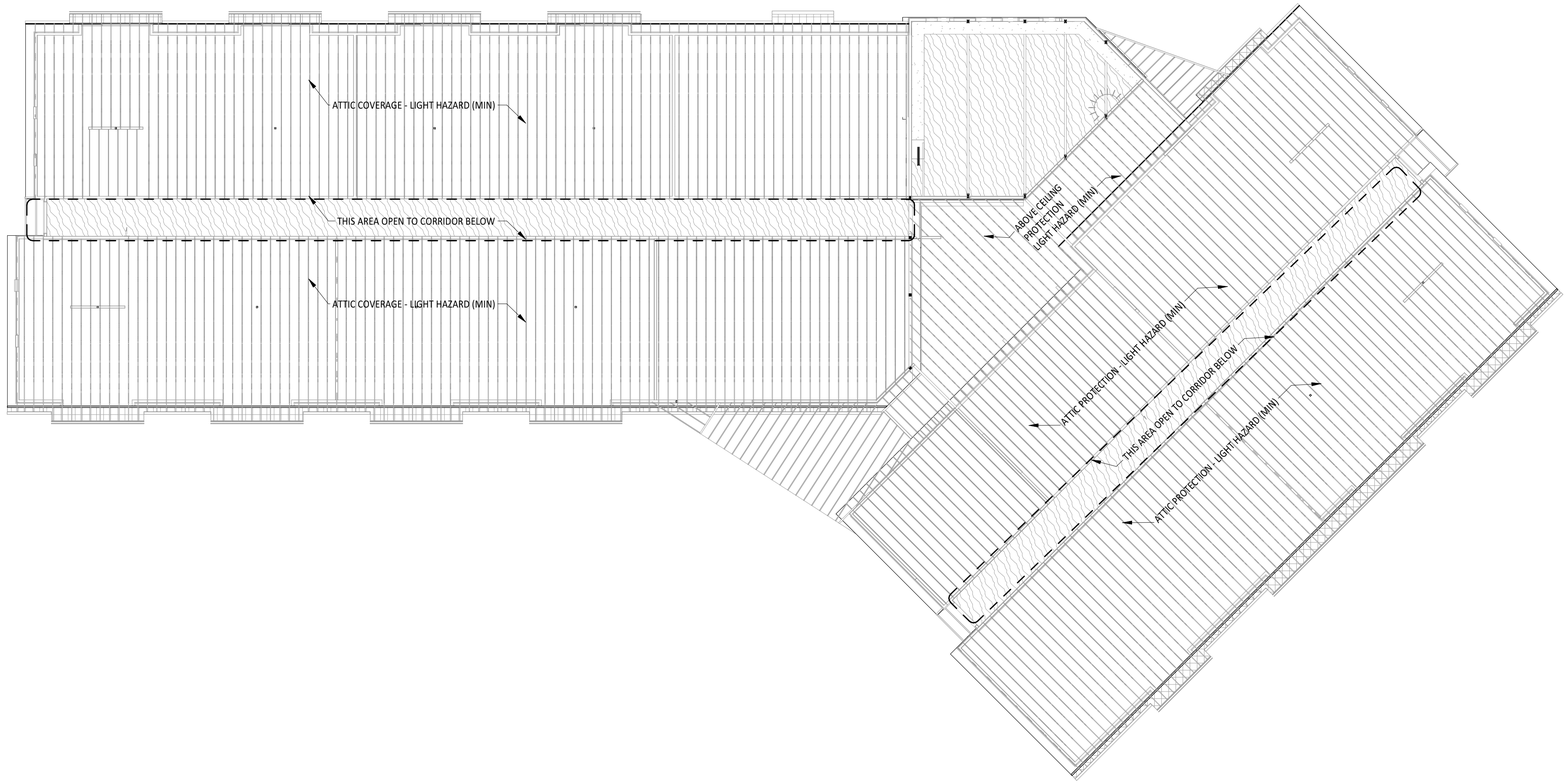
#	DESCRP.	DATE

ISSUE DATE: 08/01/2025

F212

PRINTED ON: 8/4/2025 4:06:15 PM FROM FILE: Autodesk Docs://20230862 - KCC Childcare Learning Center/20230862 KCC CLC_ME_23.rvt
SCALE OF 11 x 17 SHEETS IS HALF OF SCALE INDICATED

© 2025 PIVOT ARCHITECTURE



1 F213 FIRE PROTECTION ATTIC PLAN
1/16" = 1'-0"

NFPA 13 HAZARD CLASSIFICATIONS

MINIMUM LEVEL OF PROTECTION REQUIRED* TYPICAL AREAS ARE LIGHT HAZARD. AREAS IDENTIFIED AS OTHER THAN LIGHT HAZARD ARE INDICATED AS FOLLOWS:

NO SPRINKLERS REQUIRED

ORDINARY HAZARD GROUP 1

ORDINARY HAZARD GROUP 2

*DESIGN TO MEET OR EXCEED LEVELS INDICATED AND TO MEET OR EXCEED FIRE CODE & NFPA 13 REQUIREMENTS FOR HAZARDS.

PIPE AND FITTINGS

WET SYSTEM PIPE:
1" - 1½":
- UL/FM LISTED SCHEDULE 40 BLACK PIPE ASTM A795/A795M
- ASTM A53

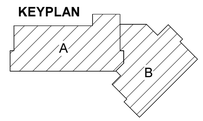
2"+:
- UL/FM LISTED SCHEDULE 10 BLACK PIPE (TYP) ASTM A795 / A135
- UL/FM LISTED SCHEDULE 40 BLACK PIPE (IF THREADING REQUIRED) ASTM A795/A795M ASTM A53

DRY SYSTEM PIPE:
- UL/FM LISTED SCHEDULE 40 BLACK PIPE ASTM A795/A795M
- ASTM A53

JOINING OF PIPE AND FITTINGS:
SCHEDULE 10 PIPE
- UL/FM LISTED GROOVED FITTINGS AND COUPLINGS
- WELDED CONNECTIONS PER NFPA 13
- OUTLET FITTINGS PER NFPA 13

SCHEDULE 40 PIPE
- CAST IRON THREADED CLASS 125 AND 250 ASME B16.4
- CAST IRON FLANGED ASME B16.1
- MALLEABLE IRON THREADED CLASS 150 AND 300 ASME B16.3
- UL/FM LISTED GROOVED FITTINGS AND COUPLINGS
- WELDED CONNECTIONS PER NFPA 13
- OUTLET FITTINGS PER NFPA 13

KEYPLAN



PIVOT ARCHITECTURE

COLEBREIT ENGINEERING OREGON, CALIFORNIA

BID AND PERMIT SET

KCC CHILDCARE LEARNING CENTER

PROJECT #: 20230862
KLAMATH COMMUNITY COLLEGE
7390 S. 6TH ST.
KLAMATH FALLS, OR
97603

SHEET TITLE:
FIRE PROTECTION - ATTIC

REVISIONS:

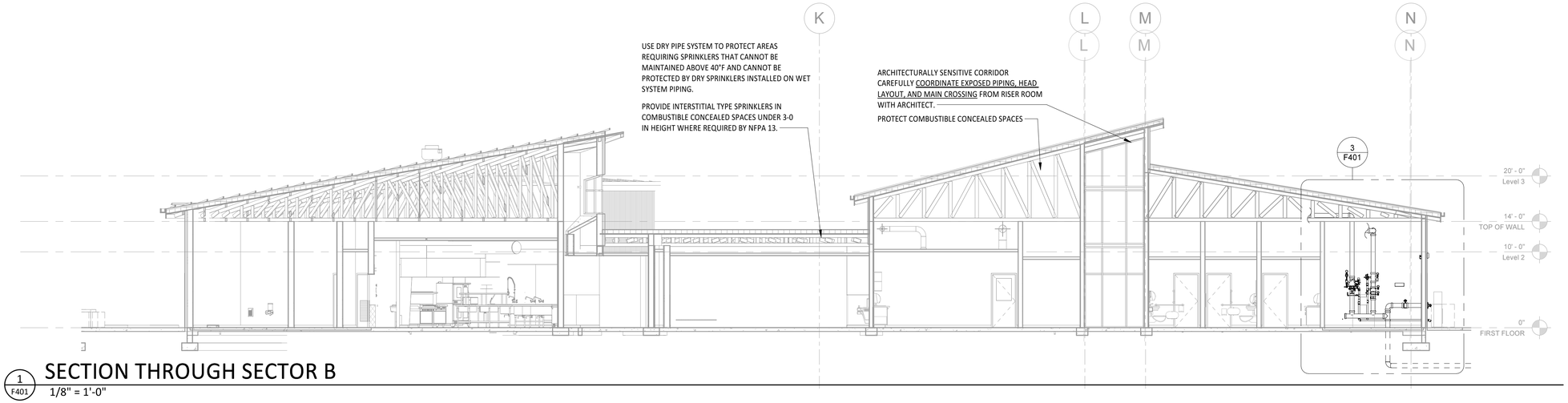
#	DESCRP.	DATE

ISSUE DATE: 08/01/2025

F213

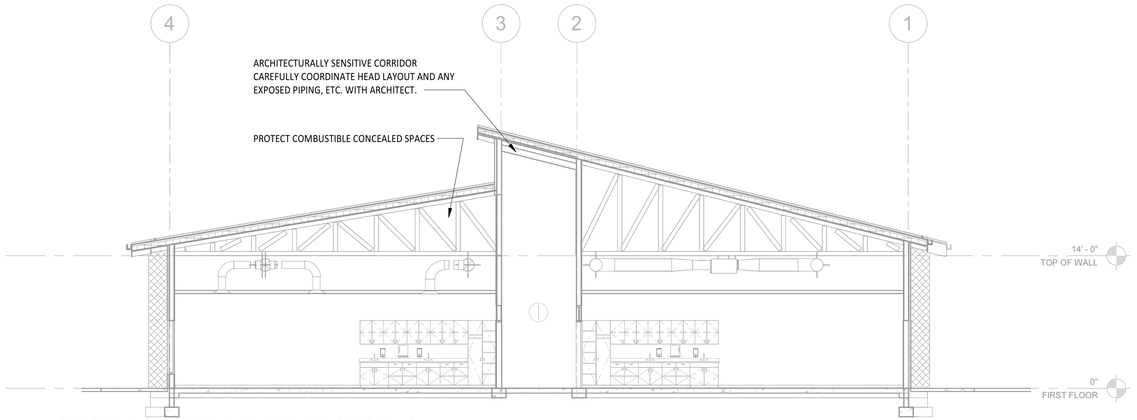
PRINTED ON: 8/4/2025 4:06:17 PM FROM FILE: Autodesk Docs://20230862 - KCC Childcare Learning Center/20230862 KCC CLC_ME_23.rvt
SCALE OF 11 x 17 SHEETS IS HALF OF SCALE INDICATED

© 2025 PIVOT ARCHITECTURE



1 F401 SECTION THROUGH SECTOR B

1/8" = 1'-0"

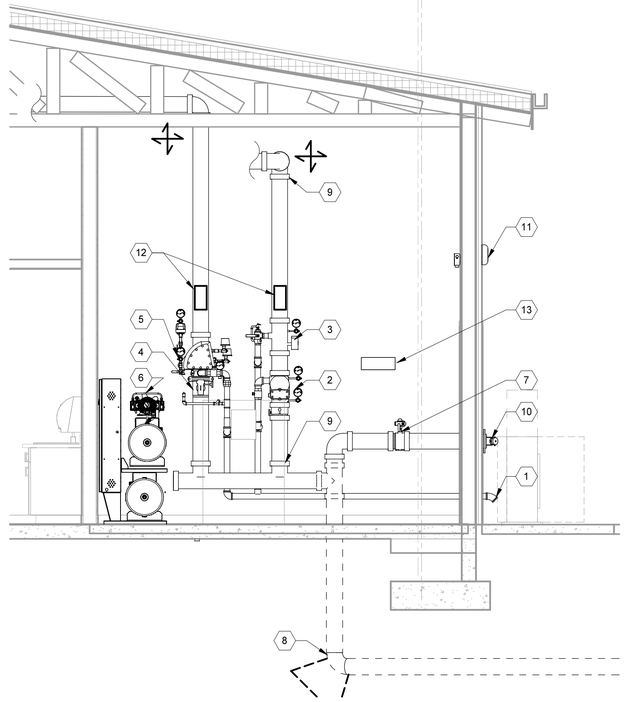


2 F401 SECTION THROUGH SECTOR A

1/8" = 1'-0"

KEY NOTES

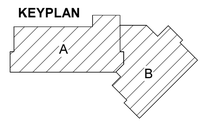
1. MAIN DRAIN DISCHARGE 1-0 ABOVE GRADE WITH DOWN-TURNED ELBOW AND SPLASHBLOCK.
2. UL/FM GXG RISER CHECK VALVE WITH PRESSURE GAUGE KITS AND DRAIN TRIM.
3. RISER MANIFOLD WITH LISTED VANE TYPE FLOW SWITCH, TEST AND DRAIN CONNECTION WITH PRESSURE RELIEF.
4. UL/FM GXG BUTTERFLY VALVE WITH TAMPER SWITCH
5. UL/FM DRY PIPE VALVE WITH ACCELERATOR, ANTI-COLUMN DEVICE, WATER PRESSURE FLOW SWITCH, LOW AIR PRESSURE SWITCH, AND ALL REQUIRED TRIM. TIE IN WITH NITROGEN SUPPLY.
6. NITROGEN GENERATOR
7. UL/FM GXG BUTTERFLY VALVE WITH TAMPER SWITCH - MONITORED NORMALLY CLOSED
8. MECHANICALLY RESTRAIN IN BUILDING RISER AND USE THRUST BLOCK.
9. INSTALL FLEXIBLE COUPLINGS WITHIN 2'-0 FROM TOP AND BOTTOM OF RISERS
10. BACKFLOW FORWARD FLOW TEST OUTLETS (1) 2½" NST OUTLET FOR EACH 250 GPM OF SPRINKLER SYSTEM DEMAND. PROVIDE CAPS, CHAINS, AND WALL PLATE READING 'BACKFLOW TEST CONN'. COORDINATE FLUSH MOUNT OR SURFACE MOUNT CONNECTIONS WITH ARCHITECT.
11. 120 VAC ELEC BELL
12. HYDRAULIC DATA PLATE
13. SPARE SPRINKLER CABINET WITH MINIMUM OF (2) OF EACH TYPE OF HEAD USED ON PROJECT, HEAD WRENCHES, AND TOTAL NUMBER OF SPRINKLERS MEETING OR EXCEEDING REQUIREMENTS OF NFPA 13.



3 F401 FIRE PROTECTION RISERS

3/8" = 1'-0"

KEYPLAN



PRINTED ON: 8/4/2025 4:06:19 PM FROM FILE: Autodesk Docs://20230862 - KCC Childcare Learning Center/20230862 KCC CLC_ME_23.rvt

SCALE OF 11 x 17 SHEETS IS HALF OF SCALE INDICATED

PIVOT ARCHITECTURE

COLEBREIT ENGINEERING OREGON, CALIFORNIA

BID AND PERMIT SET

KCC CHILDCARE LEARNING CENTER

PROJECT #: 20230862

KLAMATH COMMUNITY COLLEGE

7390 S. 6TH ST.
KLAMATH FALLS, OR
97603

SHEET TITLE:

FIRE PROTECTION - SECTIONS

REVISIONS:

#	DESCRP.	DATE

ISSUE DATE: 08/01/2025

F401