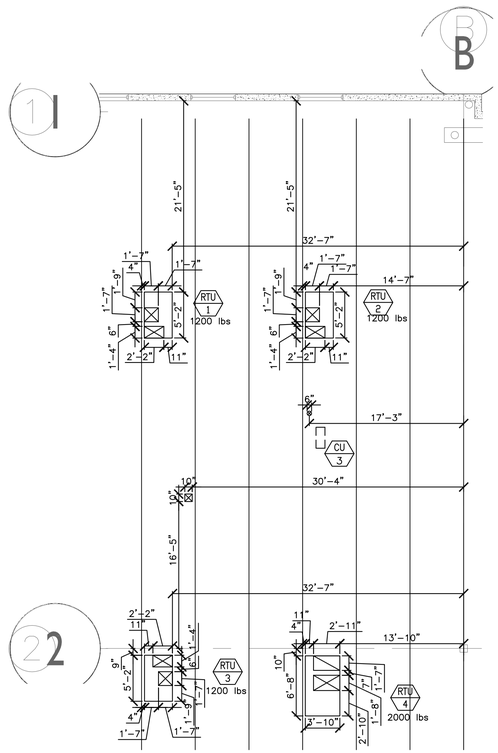

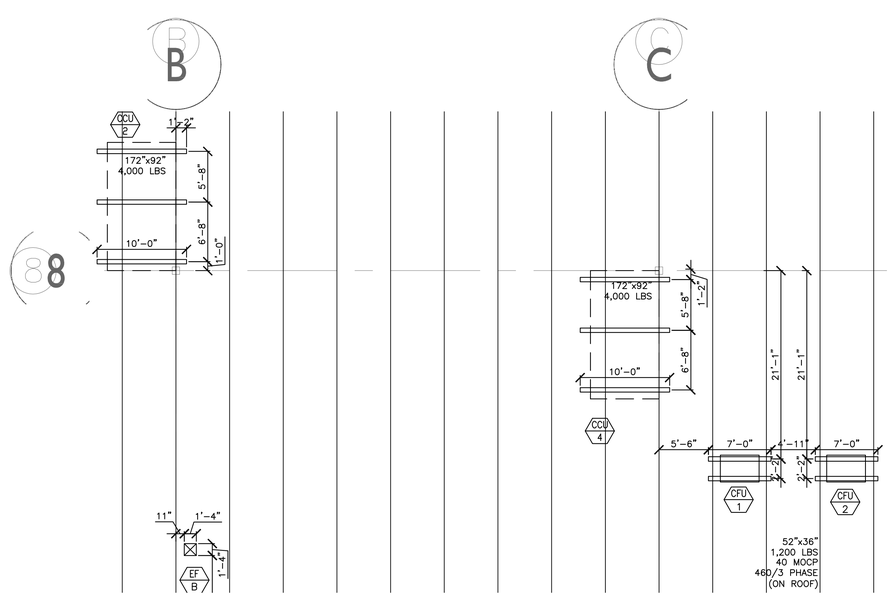

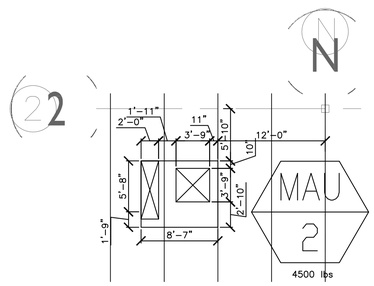

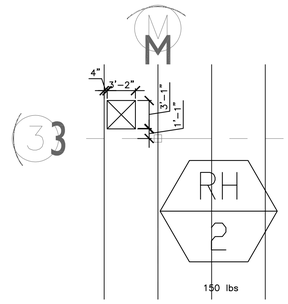

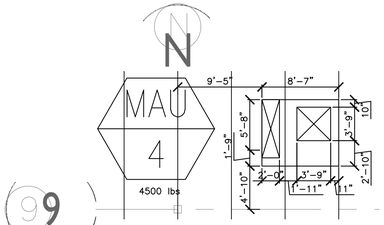

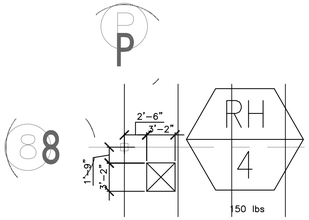

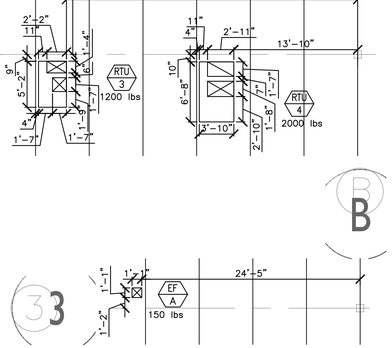

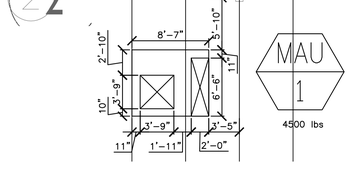

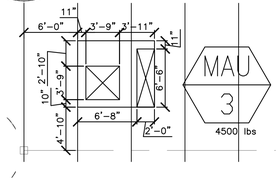

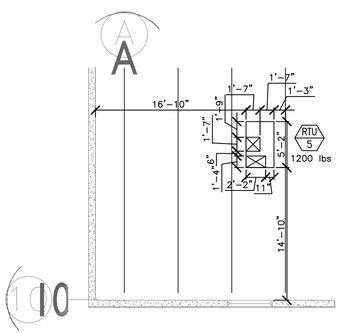

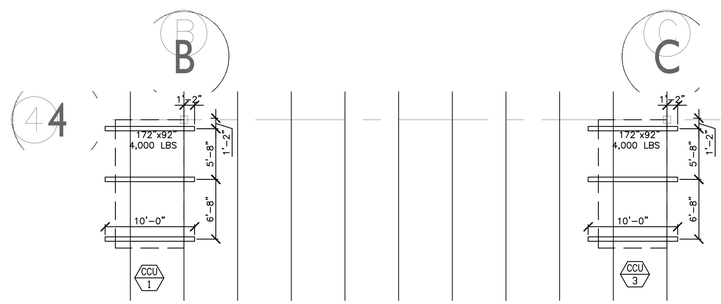

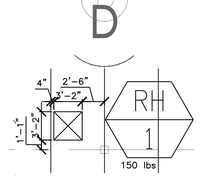

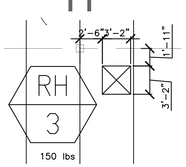

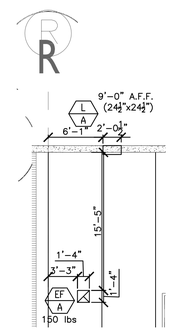

1 ROOF DETAIL
scale: 1/8" = 1'-0"

north

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MetroAir

LSCC BLDG. #1 – TI

LEE'S SUMMIT, MO

SCALE: AS NOTED	DATE: 12/15/22	DRAWN BY: M.D.K.
APPROVED BY: JDG	DWG # M1	
COORDINATION DWGS		of 5

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PROJECT INFORMATION

LEE'S SUMMIT LOGISTICS BUILDING A LOT 1

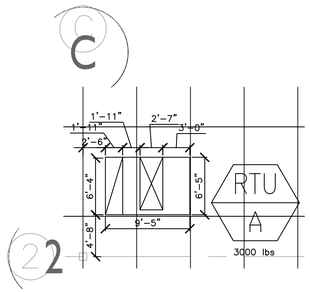
NW CORNER OF
NE TUDOR RD & MAIN ST
LEE'S SUMMIT, MO 64086

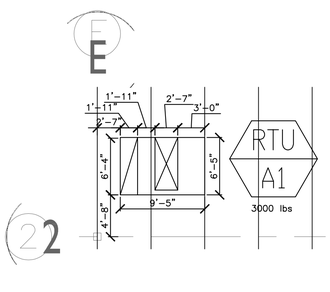
ISSUE DATES

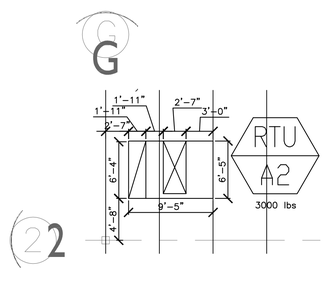
PERMIT SET	04.21.22

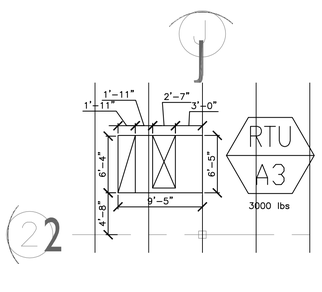
210300

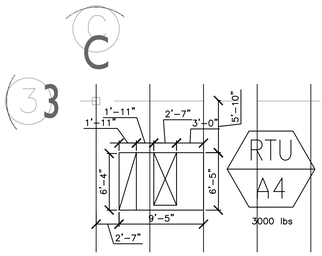
M1.4

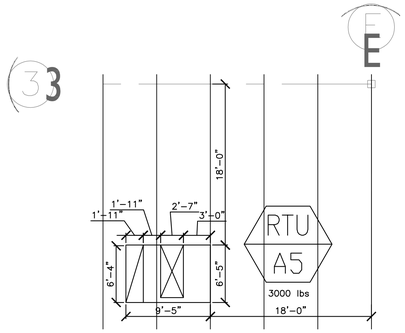


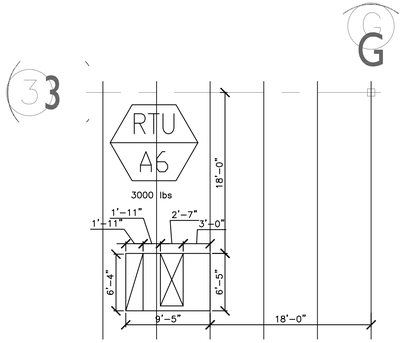


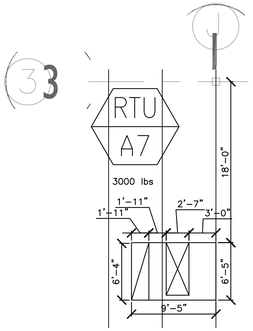


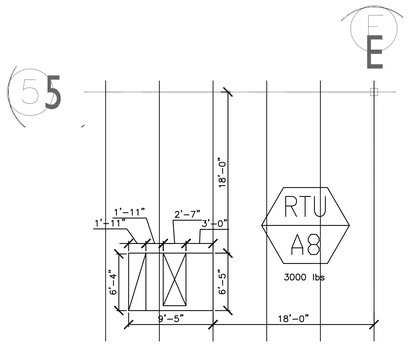


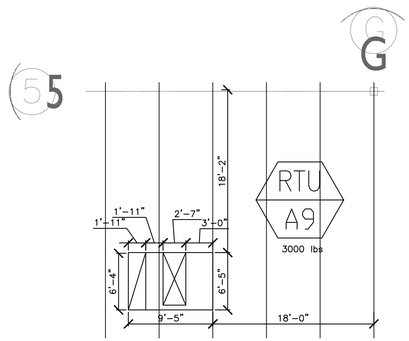


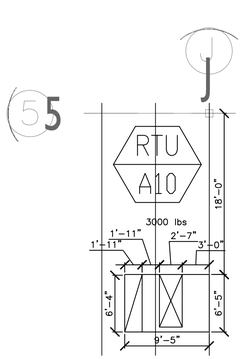


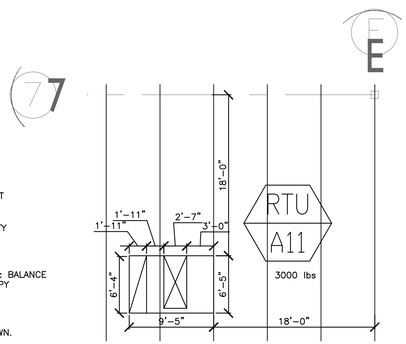


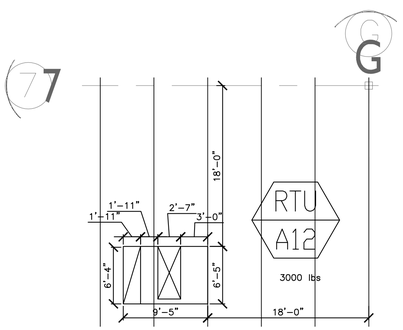


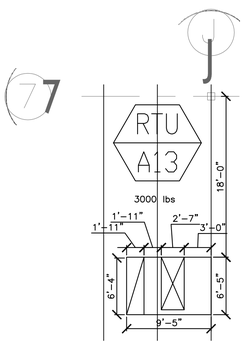












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1 ROOF DETAIL
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north

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LSCC BLDG. #1 – TI

LEE'S SUMMIT, MO

SCALE: AS NOTED	DATE: 12/15/22	DRAWN BY: M.D.K.
APPROVED BY: JDG	DWG # M1	
COORDINATION DWGS		of 5

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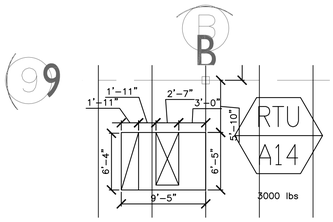
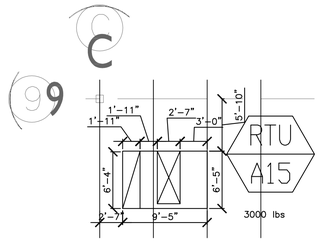
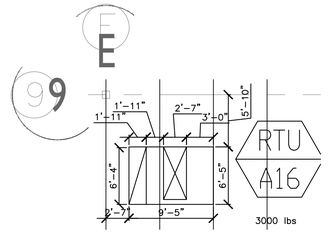
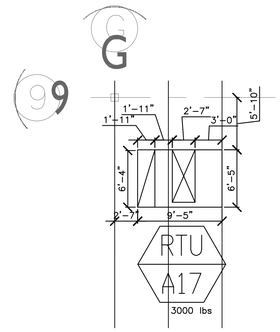
210300

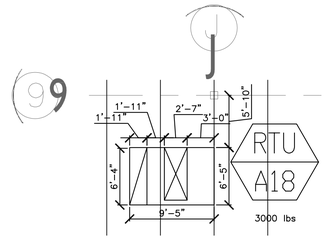
M1.5

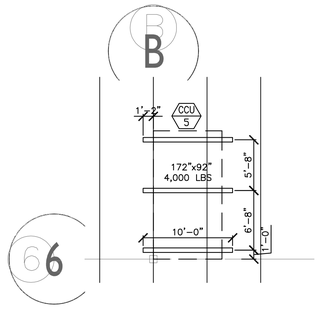


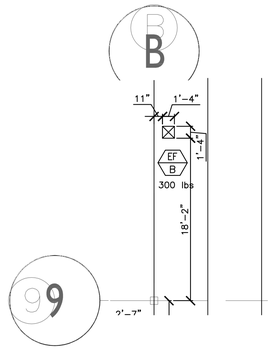


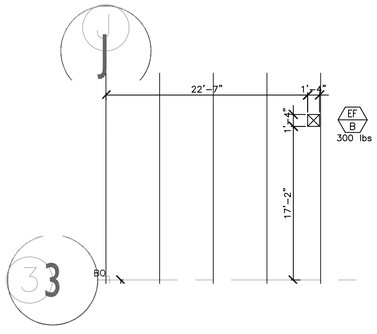












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LSCC BLDG. #1 – TI

LEE'S SUMMIT, MO

SCALE: AS NOTED | DATE: 12/15/22 | DRAWN BY: M.D.K.

APPROVED BY: JDG | DWG # M1 of 5

COORDINATION DWGS

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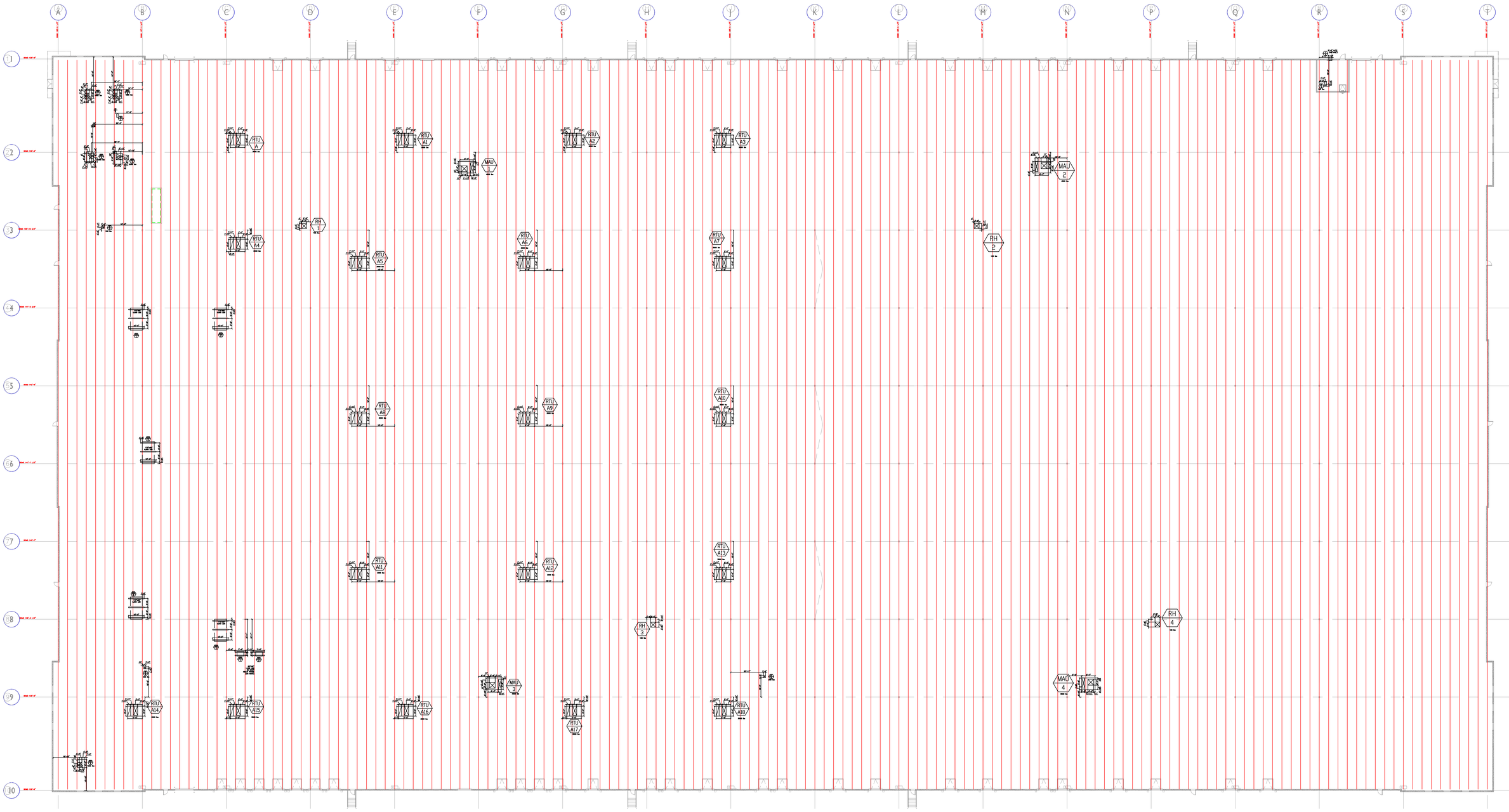
210300

M1.6



MECHANICAL GENERAL NOTES:

1. ALL MECHANICAL DUCTWORK SHALL BE GALVANIZED STEEL, CONSTRUCTED ACCORDING TO SMACNA STANDARDS.
2. ALL CONCEALED SUPPLY AIR AND RETURN AIR DUCTWORK SHALL BE EXTERNALLY INSULATED WITH 2" THICK, 3/4 LB DENSITY FIBERGLASS DUCT WRAP.
   ALL EXPOSED (WAREHOUSE) SUPPLY AIR DUCTWORK AND RETURN AIR DUCTWORK SHALL BE INTERNALLY INSULATED WITH 1" THICK, 2 LB DENSITY FIBERGLASS DUCT LINER.
3. HVAC CONTRACTOR WILL CHECK EACH SYSTEM FOR PROPER OPERATION.
4. HVAC CONTRACTOR SHALL HAVE AN INDEPENDENT CONTRACTOR TO TEST & BALANCE HVAC SYSTEM TO THE PROPER AIRFLOWS AND STATIC PRESSURES. A COPY OF THE BALANCING REPORT WILL BE SUBMITTED TO THE OWNER UPON COMPLETION. AIR TO (+/-) 10% , WATER TO (+/-) 5%.
5. FLEXIBLE RUN-OUTS TO BE U.L. LISTED AND HAVE A MAXIMUM LENGTH OF 8'-0". DUCT RUNS TO BE SAME SIZE AS DIFFUSER NECK SIZE SHOWN.
6. AIR HANDLING UNITS SUPPLYING 2,000 CFM OR MORE SHALL HAVE A SMOKE DETECTOR INSTALLED IN THE RETURN AIR DUCTWORK. THE SMOKE DETECTOR SHALL BE INTERLOCKED TO SHUT DOWN ALL SUPPLY FANS UPON ALARM.
7. MAINTAIN MINIMUM 10'-0" FROM ALL PLUMBING VENTS AND EXHAUST VENTS TO ALL OUTSIDE AIR INTAKES.
8. DO NOT INSTALL PIPING OR DUCTWORK OVER ELECTRICAL PANELS.
9. ALL COOLER/FREEZER REFRIGERANT PIPING TO BE INSULATED WITH 1" ARMAFLEX. ALL CONDENSATE PIPING TO BE INSULATED WITH 1" ARMAFLEX. CPVC CAN BE USED FOR ALL NON-HEAT TRACED CONDENSATE PIPING. COPPER TO BE USED FOR ALL HEAT-TRACED CONDENSATE.
   PROVIDE HEAT TRACING ON ALL CONDENSATE PIPING IN FREEZER PER MANUFACTURER'S RECOMMENDATIONS.
   PROVIDE UV PAINT ON ALL EXTERIOR INSULATION.

1 Overall Mechanical Floor Plan
scale: 1" = 25'-0"

north

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MetroAir

LSCC BLDG. #1 – TI		
LEE'S SUMMIT, MO		
SCALE: AS NOTED	DATE: 12/15/22	DRAWN BY: M.D.K.
APPROVED BY: JDG	DWG # M1 of 5	
COORDINATION DWGS		

M1.7

SECTION 1500 - MECHANICAL GENERAL PROVISIONS

1.1 DESCRIPTION:

A. Division 15 shall be governed by all applicable provisions of the Contract Documents. The Mechanical Contractor shall furnish, install and connect all materials, equipment, apparatus, mechanical systems and incidentals required for complete and working installation. The Contractor shall supply all necessary labor, equipment, tools, insurance, taxes services; and The Contractor shall assume full responsibility for all obligations associated with completion of mechanical work as provided by the Contract Documents.

1.2 STANDARDS, REGULATIONS AND CODES:

A. The work shall comply with the edition of the applicable standards, regulations and codes currently in force of all State and location authorities having jurisdiction. Where quantities, sizes, or other requirements indicated on the drawings or herein specified are in excess of the standard or code requirements, the specifications and/or drawings shall govern. In the absence of other applicable local codes, acceptable to the Architect/Engineer, the Uniform Plumbing and Mechanical Codes shall apply to this work.

B. The Contractor shall comply with rules and regulations of public utilities and municipal departments affected by connections of services. The Contractor shall pay all fees associated there with.

C. The Mechanical Contractor shall be licensed to perform mechanical work in the municipality in which the project is located.

D. All products and types of construction shall meet or exceed the latest edition of applicable standards of manufacturer, testing, performance and installation.

1.3 LOCAL CONDITIONS:

A. The Contractor shall carefully examine the local conditions and existing installations and shall thoroughly familiarize himself with all existing conditions which may affect his work. The Contractor shall locate all existing utilities and protect them during the execution of the work.

B. The Contractor shall examine the Architectural, Mechanical and Electrical Drawings and Specifications to familiarize himself with the type of construction, materials, and equipment to be used for all work and how it will affect the installation of his contract.

1.4 CUTTING AND PATCHING:

A. All necessary cutting, drilling and patching shall be provided by this Contractor. Structural members shall not be disturbed without prior approval of the Architect. All areas disturbed by work performed under this Contract shall be neatly repaired and refinished to the condition of adjoining surfaces in a manner suitable to the Architect.

1.5 OPERATION DURING CONSTRUCTION:

A. Mechanical equipment shall not be used during construction unless instructed by the General Contractor. The mechanical contractor is responsible for the installation and operation, service and maintenance of all new equipment during construction and prior to acceptance by the Owner of the completed project at additional costs to the GC and/or owner.

B. Warranty periods shall not commence until final acceptance by the Owner/Substantial Completion.

1.6 SAFETY REGULATIONS:

A. All Mechanical work shall be performed in compliance with all applicable governing safety regulations, including OSHA regulations. Provide safety lights, guards and signs required.

1.7 HOUSEKEEPING:

A. The Contractor shall be responsible for keeping stocks of material and equipment stored on the premises in a neat and orderly manner.

B. The Contractor shall clean and maintain his portion of the work as specified in the General Conditions.

C. The Contractor shall remove from the premises all waste material present as a result of his work.

1.8 GRAPHIC REPRESENTATION AND JOB CONDITIONS:

A. The drawings shall serve as working drawings for the general layout of the various items of equipment; are diagrammatic unless specifically dimensioned; and do not necessarily indicate every required item.

B. The Architectural drawings take precedence over the mechanical drawings in the representation of the general construction work.

C. Arrange work in a neat, well organized manner. Coordinate work with other trades involved.

1.9 GUARANTEES:

A. The Contractor shall guarantee all work performed and materials and equipment furnished under this contract, against defects in materials and workmanship for a period of one year from the Date of the Owner's Final Acceptance of the Work, or as noted in each section.

1.10 MOTORS AND CONTROLS:

A. All motors furnished under this specification shall be recognized manufacturer, of adequate capacity for the loads involved. All motors shall conform to the standards of manufacturer and performance of the National Electrical Manufacturers Association as shown in their latest publications.

1.11 PIPING IN ELECTRICAL ROOMS:

A. No piping except specifically noted otherwise will be permitted in electrical rooms. In rooms, where piping is indicated over electrical equipment, a suitable galvanized sheetmetal pan or gutter piped to the drainage system shall be provided.

END OF SECTION

SECTION 15100 - HEATING, VENTILATION AND AIR CONDITIONING

1.1 SCOPE:

A. The work included under this contract consists of providing all labor, materials, tools, transportation, services, etc., necessary to complete the installation of the heating, ventilating, and air conditioning systems and other items herein listed and as described in these specifications, as illustrated in the accompanying drawings or as directed by the Architect.

1.2 SHEET METAL:

A. Provide ductwork shown with necessary dampers. Construction of new galvanized prime grade steel sheets per ASHRAE and SMACNA Standards. Provide round or rectangular duct as indicated. Fabricate for the pressure and SMACNA seal class required.

B. Flexible duct shall be Wiremold WCK or acceptable equal maximum length shall be 8' - 0" or as noted/detailed.

C. All duct sizes shown are actual size and include liner, where required.

1.3 GRILLES, REGISTERS, INLETS AND OUTLETS:

A. All supply grilles, registers and diffusers shall be as scheduled on the drawings and shall be ADC rated.

1.4 DUCTWORK ACCESSORIES:

A. Provide single thickness turning vanes in all supply duct turns.

B. Provide duct access doors for all internal mounted equipment.

C. Provide 45° take-off fittings with volume damper for all round takeoffs to diffusers.

D. Provide dampers where shown and required. Ballance and control dampers shall be opposed blade except air mixing dampers shall be parallel blade.

1.5 AIR CONDITIONING UNITS:

A. Air conditioning units shall be as scheduled. Units shall be standard catalogued products with the appropriate approval or certification by AGA, ARI and UL. Efficiencies shall conform to ASHRAE 90.1 standards.

1.6 FANS:

A. Fans with accessories shall be as scheduled and shall be AMCA rated.

1.7 VIBRATION ISOLATION:

A. Duct flexible connection shall be non-combustible, 16 ounce canvas. Piping flexible connection shall be Flexonics 401H or acceptable equal.

1.8 MISCELLANEOUS MECHANICAL EQUIPMENT:

A. Provide constant, variable volume and/or fan powered boxes and accessories as scheduled. Acceptable manufacturers are E.H. Price or acceptable equal.

1.9 CLEANING:

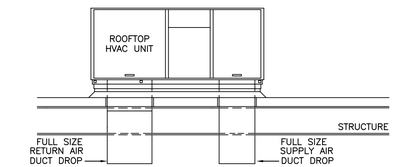
A. Clean system by operating at least three hours prior to final acceptance with temporary filters. Remove all filters and replace with clean.

B. Use precleaned precharged refrigerant tube. Clean per manufacturers recommendations.

1.10 TESTING AND ADJUSTING:

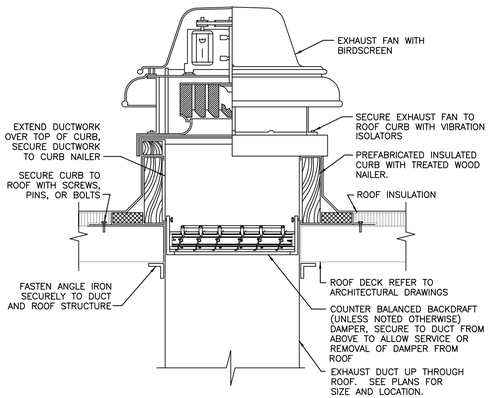
A. Contractor shall operate and test the air conditioning and ventillation systems and instruct the Owner in its operation. Perform a series of general capacity and operating tests. The tests shall demonstrate the specified capacities of various pieces of equipment.

END OF SECTION

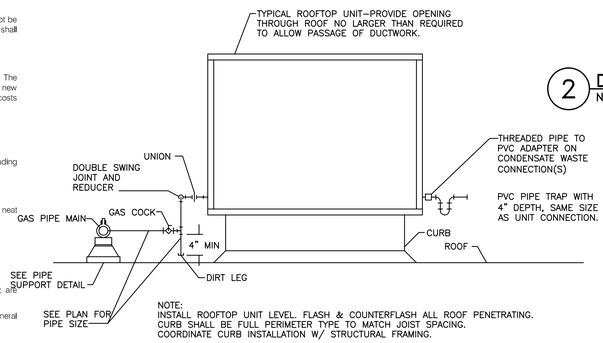


NOTES
1. PROVIDE OPENING THROUGH ROOF AND ROOF DECK INSULATION NO LARGER THAN REQUIRED TO ALLOW DUCTS TO PASS THROUGH. REFER TO PLANS FOR DUCT SIZES. FUTURE TI DUCTWORK CONNECTION BY OTHERS.

1 ROOFTOP UNIT DETAIL
NO SCALE

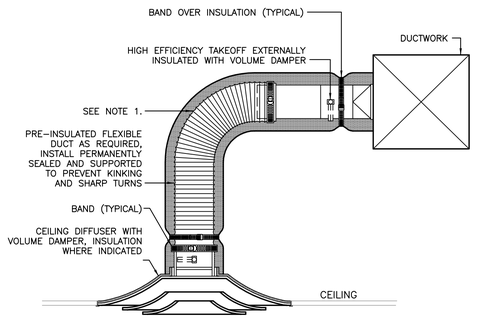


2 DOWNBLAST EXHAUST FAN DETAIL
NO SCALE



NOTE:
INSTALL ROOFTOP UNIT LEVEL. FLASH & COUNTERFLASH ALL ROOF PENETRATING. CURB SHALL BE FULL PERIMETER TYPE TO MATCH JOIST SPACING. COORDINATE CURB INSTALLATION W/ STRUCTURAL FRAMING.

3 ROOFTOP UNIT CONNECTION DETAIL
NO SCALE



NOTES:
1. EXTEND HARD METAL DUCT SO THAT MAXIMUM FLEXIBLE DUCT LENGTH DOES NOT EXCEED 8'–0".
2. DUCTWORK BRANCH RUNOUTS TO BE SAME SIZE AS DIFFUSER NECK UNLESS NOTED OTHERWISE.

4 CEILING DIFFUSER DETAIL
NO SCALE

ROOFTOP UNIT - CONSTANT VOLUME WITH SINGLE SETPOINT CONTROL (ALL RTU'S)
1. DESCRIPTION:
EACH SINGLE-ZONE PACKAGED ROOFTOP UNIT (RTU) WILL BE PROVIDED AS IDENTIFIED ON THE EQUIPMENT SCHEDULES, WITH DIRECT EXPANSION COOLING COIL, GAS HEAT, SINGLE-SPEED SUPPLY FAN, 2" FILTERS, ECONOMIZER, BAROMETRIC RELIEF, AND FIELD POWERED GFCI CONVENIENCE OUTLET. ECONOMIZERS SHALL BE 0-100% FULLY MODULATING WITH ENTHALPY CONTROL, LOW LEAK DAMPERS.
2. CONTROL:
EACH UNIT SHALL BE FURNISHED WITH A THERMOSTAT TO BE INSTALLED IN THE SPACE. THE OCCUPANCY MODE SHALL BE DETERMINED THROUGH A USER-ADJUSTABLE PROGRAMMABLE SCHEDULE WITH OR WITHOUT USER OVERRIDE BUTTON ON THE THERMOSTAT.
3. SUPPLY AIR FAN:
THE FAN MODE SHALL SHALL BE SELECTABLE FOR AUTO OR ON. WHEN AUTO IS SELECTED, THE FAN SHALL CYCLE ON AND OFF WITH HEATING OR COOLING. WHEN ON IS SELECTED, THE FAN SHALL OPERATE CONTINUOUS.
4. MECHANICAL COOLING:
EACH RTU SHALL CYCLE COOLING COMPRESSOR STAGES IN RESPONSE TO COOLING DEMAND FROM THE THERMOSTAT. THE SUPPLY FAN WILL BE ENERGIZED (AUTO MODE) AND STAGE COOLING CAPACITY TO MAINTAIN SPACE TEMPERATURE SETPOINT BASED ON FACTORY CONTROL SEQUENCES. THE SPACE COOLING TEMPERATURE SETPOINT SHALL BE ADJUSTABLE THRU THE PROGRAMMABLE THERMOSTAT AND WILL BE SET-UP TO MAINTAIN TEMPERATURES PER TABLE 2.
5. GAS HEATING:
THE RTU SHALL CYCLE GAS HEATING STAGES IN RESPONSE TO HEATING DEMAND FROM THE THERMOSTAT. ON A CALL FOR HEATING FROM THE ZONE SENSOR, THE SUPPLY FAN WILL BE ENERGIZED AND THE BURNER SHALL BE ENERGIZED TO MAINTAIN SPACE TEMPERATURE. THE SPACE HEATING TEMPERATURE SETPOINT SHALL BE ADJUSTABLE THRU THE PROGRAMMABLE THERMOSTAT AND WILL BE SET-UP TO MAINTAIN TEMPERATURES PER TABLE 2.
6. DEMAND CONTROL VENTILATION (BREAK ROOM RTUS ONLY):
THE SPACE MOUNTED CO2 SENSOR SHALL MONITOR THE SPACE AIR QUALITY. AS THE CO2 RISES ABOVE THE CO2 SETPOINT (700 PPM, ADJ) THE OUTSIDE AIR DAMPER INCREASES ABOVE MINIMUM SETPOINT TO A MAXIMUM POSITION SET DURING BALANCING. AS CO2 LEVELS DECREASE, THE DAMPER MODULATES CLOSED, ONCE THE CO2 LEVEL IS BELOW THE CO2 SETPOINT, THE OUTSIDE AIR DAMPER SHALL RETURN TO THE MINIMUM POSITION.
7. ECONOMIZER - ENTHALPY:
THE FACTORY RTU CONTROLLER WILL INDEX THE UNIT INTO ECONOMIZER MODE IF THE OUTDOOR AIR DRY BULB IS BELOW THE SETPOINT. WHEN ECONOMIZER MODE IS ENABLED, THE RETURN AND OUTSIDE AIR DAMPERS WILL MODULATE BETWEEN MINIMUM POSITION AND FULL OPEN AS NECESSARY TO MAINTAIN DISCHARGE AIR TEMPERATURE. THE RTU START-UP TECHNICIAN SHALL SET THE UNIT ECONOMIZER.
8. UNOCCUPIED MODE:
DURING UNOCCUPIED MODE, THE UNIT SHALL CONTROL TO THE UNOCCUPIED MODE SETBACK TEMPERATURE. IF THE UNOCCUPIED SETPOINT IS EXCEEDED, THE RTU SHALL HEAT OR COOL UNTIL THE ZONE TEMPERATURE IS WITHIN THE UNOCCUPIED SETPOINTS, PLUS OR MINUS AN OFFSET OF 5°F (ADJ.).
9. BAROMETRIC RELIEF DAMPER:
THE BAROMETRIC RELIEF DAMPER CONSISTS OF A GRAVITY DAMPER THAT WILL OPEN TO RELIEVE EXCESS AIR AS BUILDING PRESSURE INCREASES.
10. OUTSIDE AIR DAMPER:
WHEN UNIT IS NOT IN ECONOMIZER MODE AND THE SUPPLY FAN IS IN OPERATION, THE OUTDOOR AIR DAMPER SHALL MODULATE TO THE MINIMUM PER THE UNIT SCHEDULE DURING THE OCCUPIED MODE. THE OUTDOOR AIR DAMPER SHALL BE CLOSED WHEN THE SUPPLY FAN IS OFF.
11. BALANCING WAREHOUSE RTU WITH 4-WAY DIFFUSER:
BALANCING CONTRACTOR TO BALANCE WAREHOUSE RTU UTILIZING RPM AND MANUFACTURER'S FAN CURVE. INDIVIDUAL GRILLE AIRFLOW IS NOT REQUIRED. THE BALANCING CONTRACTOR SHALL ASSIST IN SETTING OUTDOOR AIR DAMPER POSITIONS.
12. SMOKE DETECTION CONTROL:
UPON DETECTION OF SMOKE FROM THE RETURN DUCT SMOKE DETECTOR (BY OTHERS), THE FANS WILL CYCLE OFF AND OUTDOOR AIR DAMPERS SHALL CLOSE. ONCE THE DETECTORS ARE RESET, THE UNIT WILL RETURN TO NORMAL CONTROL. SMOKE DETECTOR INSTALLATION BY OTHERS, AS NECESSARY, IT IS THE RESPONSIBILITY OF THE FIRE ALARM CONTRACTOR TO WIRE THE SMOKE DETECTOR TO THE EMERGENCY SHUT DOWN OF THE RTU CONTROLLER.

IT / DATA / MDF ROOM DUCTLESS COOLING-ONLY SPLIT SYSTEM, WALL-MOUNTED (FCU-3)
1. DESCRIPTION:
THE SYSTEM SHALL CONSIST OF A SINGLE-ZONE SPLIT SYSTEM WITH INDOOR FAN-COIL/HANDLING UNIT (FCU) AND COOLING-ONLY OUTDOOR CONDENSING UNIT (CU).
2. CONTROL:
THE SPACE TEMPERATURE SHALL BE CONTROLLED IN A STAND-ALONE MODE BY MANUFACTURER SUPPLIED THERMOSTAT MOUNTED IN ROOM
3. COOLING:
THE AHU SHALL OPERATE CONTINUOUSLY. THE CU SHALL CYCLE CAPACITY AS NEEDED TO MAINTAIN THE SPACE TEMPERATURE OF 74°F (ADJ.).

EXHAUST FAN (EF-1/2/3)
1. CONTROL:
THE EXHAUST FAN SHALL OPERATE CONTINUOUSLY AS INDICATED ON THE EXHAUST FAN EQUIPMENT SCHEDULE.
2. CONTINUOUS:
THE EXHAUST FAN SHALL OPERATE CONTINUOUSLY (24/7). THE FAN MAY BE DE-ENERGIZED USING THE DISCONNECT SWITCH.

EXHAUST FAN (CEF-1) (TYP.)
1. CONTROL:
THE EXHAUST FAN SHALL BE INTERLOCKED WITH THE RESTROOM LIGHT SWITCH, AS INDICATED ON THE EXHAUST FAN EQUIPMENT SCHEDULE.
2. ROOM LIGHT SWITCH:
THE EXHAUST FAN SHALL BE INTERLOCKED WITH THE ROOM LIGHT CONTROL OR WALL SWITCH AND SHALL BE ENERGIZED ANY TIME THE LIGHTS ARE ON IN THE ROOM. (WIRING BY OTHERS)

AIR CURTAIN (AC-A)
1. DESCRIPTION:
EACH UNIT SHALL CONSIST OF A HEATED ELECTRIC AIR CURTAIN FOR ENVIRONMENTAL SEPARATION. UNIT SHALL BE PROVIDED WITH FACTORY-INSTALLED 24V TRANSFORMER, MAGNETIC DOOR LIMIT SWITCH, HEAT-OFF-FAN SWITCH, AND THERMOSTAT.
2. DOOR LIMIT CONTROL:
AIR CURTAIN SHALL ENERGIZE AS DOOR BEGINS TO OPEN AS INDICATED BY THE MAGNETIC DOOR LIMIT SWITCHES. UNIT SHALL DE-ENERGIZE WHEN THE DOOR HAS CLOSED.
3. HEAT-OFF-FAN CONTROL:
WHEN THE SWITCH IS IN THE OFF POSITION THE AIR CURTAIN IS INOPERABLE. IN THE HEAT POSITION, THE AIR CURTAIN WILL RUN WITH HEAT BASED ON THE LIMIT SWITCH OR THERMOSTAT, IN THE FAN POSITION, THE AIR CURTAIN WILL RUN WITHOUT HEAT BASED ON THE LIMIT SWITCH.
4. HEATING:
AIR CURTAINS HAVING SINGLE (ONE-STAGE) HEATING ELEMENTS, ARE CONTROLLED BY A SINGLE STAGE THERMOSTAT. WHEN THE AIR CURTAIN CONTROL CIRCUIT CLOSES, THE AIR CURTAIN FAN WILL RUN AND THROUGH INTERLOCKING, WILL ENABLE THE HEATER CIRCUIT ON A CALL FOR HEAT, THE THERMOSTAT WILL ENERGIZE THE HEATER CONTROL CONTACTOR. THE THERMOSTAT WILL THEN CYCLE THE HEATER AS NEEDED, AS LONG AS THE AIR CURTAIN CONTROL CIRCUIT IS CLOSED (FAN IS RUNNING). WHEN THE AIR CURTAIN CONTROL CIRCUIT OPENS, THE HEATER CIRCUIT IS DISABLED, THE HEATER WILL DE-ENERGIZE AND THE FAN WILL SHUT OFF.

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PROJECT INFORMATION

LEE'S SUMMIT LOGISTICS
BUILDING A LOT 1

NW CORNER OF
NE TUDOR RD & MAIN ST
LEE'S SUMMIT, MO 64086

ISSUE DATES

PERMIT SET	04.21.22

210300

M2.1

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LSCC BLDG. #1 – TI

LEE'S SUMMIT, MO

SCALE: AS NOTED	DATE: 5/9/22	DRAWN BY: M.D.K.
APPROVED BY: JDG	DWG # M4	of 5
PROGRESS		

ROOFTOP UNIT SCHEDULE (NATURAL GAS HEAT)

MARK	MANUFACTURER	MODEL	SERVICE	QUANTITY	NOMINAL TONNAGE	SUPPLY FAN				COOLING COIL		GAS HEATING COIL			ELECTRIC HEATING		ELECTRICAL			WEIGHT (LBS) W/ CURB	MIN. OUTSIDE AIR (CFM)	MAX. OUTSIDE AIR (CFM)	MIN. EER	NOTES
						CFM	ESP (IN)	MODE	HP	TH (MBH)	SH (MBH)	INPUT (MBH)	OUTPUT (MBH)	STAGES	INPUT (KW)	STAGES	MCA	MOCP	V/PH					
RTU-A	TRANE	YSD300G4RHC	WAREHOUSE	19	25	9,000	0.50	CV	7.5	300	234	400	320	2	---	---	56	70	460/3	3,200	800	800	10.0	A - H
RTU-1	TRANE	YSC060	MAIN OFFICE	1	5	1,975	0.75	CV	1.0	60	48	100	81	2	---	---	15	20	460/3	1,200	200	200	12.0	A - H
RTU-2	TRANE	YSC060	MAIN OFFICE	1	5	1,950	0.75	CV	1.0	60	48	100	81	2	---	---	15	20	460/3	1,200	175	175	12.0	A - H
RTU-3	TRANE	YSC060	MAIN OFFICE	1	5	2,000	0.75	CV	1.0	60	48	100	81	2	---	---	15	20	460/3	1,200	300	300	12.0	A - H
RTU-4	TRANE	YSC092F	MAIN OFFICE	1	7.5	2,750	0.75	CV	2.0	90	63	150	120	2	---	---	18	20	460/3	1,700	450	450	11.0	A - H
RTU-5	TRANE	TSC036G4RBA	MAINTENANCE	1	3	1,000	0.50	CV	0.5	35	26	60	48	1	12	2	21	25	460/3	1,000	70	70	12.0	A - H

NOTES:

A. STARTERS FOR ALL MOTORS SHALL BE FURNISHED INTEGRAL WITH UNIT.
B. EQUIPMENT SIZED FOR 100 DEGREE F AMBIENT TEMPERATURE.
C. PROVIDE 2", 30% EFFICIENT PLEATED THROWAWAY AIR FILTERS.
D. PROVIDE MANUFACTURER'S STANDARD SRPING VIBRATION ISOLATION ROOF CURB WITH MINIMUM HEIGHT OF 14".
E. PROVIDE FACTORY MOUNTED DISCONNECT SWITCH, FIELD POWERED GFI OUTLET AND HAIL GUARDS.
F. PROVIDE WITH TRANE AIRFI CONTROLS TO INTEGRATE INTO BAS.
G. PROVIDE ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF DAMPER.
H. ELECTRICAL/FIRE ALARM CONTRACTOR TO FURNISH AND INSTALL SMOKE DETECTOR IN RETURN AIR DUCT.
J. PROVIDE WITH HOT-GAS REHEAT COIL, DEHUMIDIFICATION CONTROLS AND WALL MOUNTED CO2 SENSOR. CO2 SENSOR TO MODULATE OA FROM MINIMUM TO MAXIMUM AIRFLOWS.
K. PROVIDE WITH VARIABLE FREQUENCY DRIVE FOR SINGLE ZONE VAV OPERATION.
L. UNIT SHALL BE VVT. PROVIDE WITH BYPASS DAMPER AND REQUIRED CONTROLS FOR PROPER OPERATION.
M. PROVIDE WITH CO2 SENSOR MOUNTED AS SHOWN ON PLANS (WALL OR DUCT MOUNT) AND MODULATE VENTILATION FROM MINIMUM TO MAXIMUM SCHEDULED VALUES.

OUTSIDE AIR CALCULATIONS

UNIT SERVED	OCCUPANCY CLASSIFICATION	AREA (SQ. FT.)	PEOPLE PER 1,000 SQ. FT.	FIXED SEATING QUANTITY	QUANTITY OF PEOPLE	REQUIRED OUTSIDE AIR PER PERSON	REQUIRED OUTSIDE AIR PER SQ. FT.	TOTAL REQUIRED (CFM)	NOTES
RTU-A	WAREHOUSE	180,000	---	---	---	---	0.08	14,400	A
							REQUIRED VENTILATION	14,400 CFM	B

NOTES.
A. VALUES TAKEN FROM ASHRAE 62.1-2010 - VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY.
B. TOTAL VENTILATION FOR WAREHOUSE TO BE DIVIDED AMOUNG ALL RTU-A. REFER TO EQUIPMENT SCHEDULE FOR ACTUAL AMOUNT.

COOLER/FREEZER EQUIPMENT SCHEDULE

MARK	MANUFACTURER	MODEL	SERVICE	QUANTITY	TYPE	SUPPLY FAN(S)			PIPING CONNECTIONS			ELECTRICAL			WEIGHT	HEIGHT W/ O RAILS	NOTES
						CFM	HP	QTY.	LIQUID	SUCTION	CONDENSATE	MCA	MOCP	V/PH			
CFU-1	HEATCRAFT/BOHN	BCH0075LDACD	(-) 10 F FREEZER	1	CONDENSING UNIT	---	7.5	---	7/8"	1-5/8"	---	38	40	460/3	1,000	40"	A - D
EVAP-1	HEATCRAFT/LARKIN	SEM0325MS4EMA		1	EVAPORATOR	7,100	1/4	3	1-1/8"	1-5/8"	3/4"	18	---	460/1	300	30"	A - B
CFU-2	HEATCRAFT/BOHN	BCH0075LDACD	(-) 10 F FREEZER	1	CONDENSING UNIT	---	7.5	---	7/8"	1-5/8"	---	38	40	460/3	1,000	40"	A - D
EVAP-2	HEATCRAFT/LARKIN	SEM0325MS4EMA		1	EVAPORATOR	7,100	1/4	3	1-1/8"	1-5/8"	3/4"	18	---	460/1	300	30"	A - B
CCU-1	HEATCRAFT/BOHN	BCD0400MDACD		1	CONDENSING UNIT	---	40	---	1-5/8" x (2)	2-1/8" x (2)	---	142	150	460/3	4,500	56"	A - D
EV-1A	HEATCRAFT/BOHN	BHA1400SA	(+) 38 F COOLER	1	EVAPORATOR	20,700	1	3	1-5/8"	2-1/8"	1-1/4"	7	---	460/3	800	51"	A - B, E
EV-1B	HEATCRAFT/BOHN	BHA1400SA		1	EVAPORATOR	20,700	1	3	1-5/8"	2-1/8"	1-1/4"	7	---	460/3	800	51"	A - B, E
CCU-2	HEATCRAFT/BOHN	BCD0400MDACD		1	CONDENSING UNIT	---	40	---	1-5/8" x (2)	2-1/8" x (2)	---	142	150	460/3	4,500	56"	A - D
EV-2A	HEATCRAFT/BOHN	BHA1400SA	(+) 38 F COOLER	1	EVAPORATOR	20,700	1	3	1-5/8"	2-1/8"	1-1/4"	7	---	460/3	800	51"	A - B, E
EV-2B	HEATCRAFT/BOHN	BHA1400SA		1	EVAPORATOR	20,700	1	3	1-5/8"	2-1/8"	1-1/4"	7	---	460/3	800	51"	A - B, E
CCU-3	HEATCRAFT/BOHN	BCD0400MDACD		1	CONDENSING UNIT	---	40	---	1-5/8" x (2)	2-1/8" x (2)	---	142	150	460/3	4,500	56"	A - D
EV-3A	HEATCRAFT/BOHN	BHA1400SA	(+) 38 F COOLER	1	EVAPORATOR	20,700	1	3	1-5/8"	2-1/8"	1-1/4"	7	---	460/3	800	51"	A - B, E
EV-3B	HEATCRAFT/BOHN	BHA1400SA		1	EVAPORATOR	20,700	1	3	1-5/8"	2-1/8"	1-1/4"	7	---	460/3	800	51"	A - B, E
CCU-4	HEATCRAFT/BOHN	BCD0400MDACD		1	CONDENSING UNIT	---	40	---	1-5/8" x (2)	2-1/8" x (2)	---	142	150	460/3	4,500	56"	A - D
EV-4A	HEATCRAFT/BOHN	BHA1400SA	(+) 38 F COOLER	1	EVAPORATOR	20,700	1	3	1-5/8"	2-1/8"	1-1/4"	7	---	460/3	800	51"	A - B, E
EV-4B	HEATCRAFT/BOHN	BHA1400SA		1	EVAPORATOR	20,700	1	3	1-5/8"	2-1/8"	1-1/4"	7	---	460/3	800	51"	A - B, E

NOTES:
A. PROVIDE LOW AMBIENT CONTROL AND R448A REFRIGERANT AND 5YR COMPRESSOR WARRANTY.
B. EQUIPMENT SIZED FOR 100 DEGREE F AMBIENT TEMPERATURE.
C. PROVIDE WITH HEATCRAFT VANTAGE AUTO-ROTATE THERMOSTAT CONTROLLER FOR REFRGERATION SYSTEM. PROVIDE WITH TEMPERATURE SENSORS FOR MOUNTING IN COOLER/FREEZER UNIT SHALL BE PROGRAMMED TO CALL OUT DURING TEMPERATURE ALARMS.
D. ADD 16" EQUIPMENT SUPPORT RAILS TO CALCULATE OVERALL EQUIPMENT HEIGHT ON ROOF.
E. PROVIDE WITH HIGH AIRFLOW COLLAR.

OUTSIDE AIR CALCULATIONS

UNIT SERVED	OCCUPANCY CLASSIFICATION	AREA (SQ. FT.)	PEOPLE PER 1,000	FIXED SEATING QUANTITY	QUANTITY OF PEOPLE	REQUIRED OUTSIDE AIR PER PERSON	REQUIRED OUTSIDE AIR PER SF	TOTAL REQUIRED AIRFLOW	NOTES
RTU-1	OFFICE	470	7	---	3	5	0.06	45	A
	CORRIDOR	105	---	---	---	---	0.06	6	A
	CONFERENCE	385	50	---	19	5	0.06	119	A
							REQUIRED VENTILATION	170 CFM	C
RTU-2	OFFICE	1,390	7	---	10	5	0.06	132	A
	CORRIDOR	340	---	---	---	---	0.06	20	A
							REQUIRED VENTILATION	152 CFM	C
RTU-3	CONFERENCE	1,280	50	43	64	5	0.06	292	A
							REQUIRED VENTILATION	292 CFM	C
RTU-4	BREAK ROOM	1,250	25	60	31	5	0.06	375	A
	RESTROOMS	950	---	---	---	---	0.06	57	A
							REQUIRED VENTILATION	432 CFM	C
FCU-1	OFFICE	105	7	---	1	5	0.06	10	A
	RESTROOMS	70	---	---	---	---	0.06	4	A
							REQUIRED VENTILATION	14 CFM	D
FCU-2	OFFICE	105	7	---	1	5	0.06	10	A
	RESTROOMS	70	---	---	---	---	0.06	4	A
							REQUIRED VENTILATION	14 CFM	D
FCU-4	OFFICE	600	7	---	4	5	0.06	57	A
							REQUIRED VENTILATION	57 CFM	C

NOTES:
A. VENTILATION RATES ARE TAKEN FROM ASHRAE 62.1-2010 - VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY.
B. VENTILATION IS BASED ON TOTAL QUANTITY OF PEOPLE TAKEN FROM NUMBER OF ACTUAL SEATING SHOWN ON ARCHITECTURAL FLOOR PLAN.
C. REFER TO RTU SCHEDULE FOR ACTUAL VENTILATION AIRFLOWS.
D. VENTILATION PROVIDED BY OPERABLE DOORS.

DUCTLESS SPLIT SYSTEM EQUIPMENT SCHEDULE

MARK	MANUFACTURER	MODEL	TYPE	SUPPLY FAN		COOLING COIL		ELECTRICAL			VENTILATION (CFM)	WEIGHT (LBS)	NOTES
				CFM	ESP (IN)	TH (MBH)	SH (MBH)	MCA	MOCP	V/PH			
FCU-1	LENNOX	M22A012S4-2P	CEILING MOUNT CASSETTE	400	---	12	8	1	---	---	---	45	F, G
CU-1	LENNOX	MPB012S4S-1P	CONDENSING UNIT	---	---	---	---	12	15	208/1	---	150	A - E
FCU-2	LENNOX	M22A012S4-2P	CEILING MOUNT CASSETTE	400	---	12	8	1	---	---	---	45	F, G
CU-2	LENNOX	MPB012S4S-1P	CONDENSING UNIT	---	---	---	---	12	15	208/1	---	150	A - E
FCU-3	LENNOX	MWMA036S4	WALL MOUNT FAN-COIL	1,000	---	36	28	1	---	---	---	45	F
CU-3	LENNOX	MPB036S4S	CONDENSING UNIT	---	---	---	---	35	50	208/1	---	250	A - E

NOTES:

A. PROVIDE WITH WIRELESS TEMPERATURE CONTROLLER AND LOW-AMBIENT WIND BAFFLE KIT.
B. FAN-COIL TO BE POWERED FROM CONDENSING UNIT POWER CIRCUIT. REFER TO INSTALLATION INSTRUCTIONS.
C. INSTALL CONDENSING UNIT ON TREATED 4X4 WOOD BLOCKING.
D. PROVIDE WITH 50'-0" PRE-INSULATED LINESET AS REQUIRED.
E. ELECTRICAL CONTRACTOR TO PROVIDE ASSOCIATED POWER WIRING BETWEEN CU AND FCU.
F. PROVIDE WITH CONDENSATE PUMP AND DISCHARGE CONDENSATE PER PLANS AS REQUIRED.
G. VENTILATION PROVIDED BY OPERABLE DOORS.

GRILLE, REGISTER & DIFFUSER SCHEDULE

MARK	MANUFACTURER	MODEL	TYPE	SIZE	MOUNTING	FINISH	MATERIAL	NOTES
SD-1	PRICE	SPD	SQUARE PLAQUE	24" x 24"	LAY-IN	WHITE	STEEL	
SD-2	PRICE	SPD	SQUARE PLAQUE	24" x 24"	SURFACE	WHITE	STEEL	B
SD-3	PRICE	SPD	SQUARE PLAQUE	12" x 12"	LAY-IN	WHITE	STEEL	
SD-4	PRICE	SPD	SQUARE PLAQUE	12" x 12"	SURFACE	WHITE	STEEL	B
VAV-1	PRICE	VARITHERM	VAV	24" x 24"	LAY-IN	WHITE	STEEL	
LSD-1	PRICE	TBD	LINEAR SLOT	4'-0" X (4) 1" SLOT	LAY-IN	WHITE	STEEL	H
SG-1	PRICE	520DL	WALL MOUNT	AS NOTED	WALL/DUCT	WHITE	STEEL	A
SG-2	PRICE	SDGE	SPIRAL MOUNT	AS NOTED	DUCT	MILL	STEEL	A, C
RG-1	PRICE	PDDR	PERFORATED	24" x 24"	LAY-IN	WHITE	STEEL	
RG-2	PRICE	PDDR	PERFORATED	12" x 24"	LAY-IN	WHITE	STEEL	
RG-3	PRICE	530DL	WALL MOUNT	AS NOTED	WALL/DUCT	WHITE	STEEL	
EX-1	PRICE	APDDR	PERFORATED	24" x 24"	SURFACE	WHITE	ALUMINUM	A, B
EX-2	PRICE	APDDR	PERFORATED	24" x 24"	LAY-IN	WHITE	ALUMINUM	
EX-3	PRICE	APDDR	PERFORATED	12" x 12"	LAY-IN	WHITE	ALUMINUM	

NOTES:
A. PROVIDE WITH DAMPER OPERABLE FROM FACE OF DEVICE.
B. PROVIDE WITH SURFACE MOUNT FRAME KIT FOR MOUNTING IN HARD CEILING/WALL
C. PROVIDE WITH OPPOSED BLADE DAMPER AND MILL FINISH.
D. PERFORATED SUPPLY AIR GRILLE TO BE INSTALLED WITHOUT DEFLECTORS.
E. PROVIDE WITH 2KW ELECTRIC HEAT, WALL MOUNTED WIRELESS THERMOSTAT.
F. PROVIDE WITH RETURN AIR LIGHT SHIELD.
G. PROVIDE WITH INSULATED BACKING
H. PROVIDE WITH FACTORY INSULATED SUPPLY PLENUM.

EXHAUST FAN SCHEDULE

MARK	MANUFACTURER	MODEL	LOCATION/ MOUNTING	SERVICE	FAN				ELECTRICAL (V/PH)	WEIGHT (LBS)	NOTES
					CFM	ESP (IN)	RPM	HP/WATTS			
EF-A	GREENHECK	G-090	ROOF	RESTROOM EXHAUST	800	0.5	1435	1/4	120/1	100	A, B, E
EF-B	GREENHECK	GB-220	ROOF	RESTROOM EXHAUST	2,000	0.375	1600	3/4	120/1	150	A, B, C, J
CEF-1	GREENHECK	SPA-190	CEILING	RESTROOM EXHAUST	150	0.25	800	50	120/1	25	A, E, H
CEF-2	GREENHECK	SPA-090	CEILING	RESTROOM EXHAUST	75	0.25	800	50	120/1	25	A, E, H

NOTES:

A. PROVIDE FACTORY MOUNTED DISCONNECT SWITCH.
B. PROVIDE WITH 14" INSULATED ROOF CURB, BACKDRAFT DAMPER AND INSECT SCREEN.
C. FAN TO RUN CONTINUOUSLY.
D. FURNISH WITH WALL MOUNTED LINE VOLTAGE THERMOSTAT. THERMOSTAT TO BE INSTALLED BY ELECTRICAL CONTRACTOR.
E. INTERLOCK EXHAUST FAN WITH LIGHTSWITCH.
F. FAN TO BE CONTROLLED BY WALL MOUNTED SWITCH.
G. PROVIDE WITH REQUIRED ACCESSORIES FOR GREASE EXHAUST. FAN TO BE CONTROLLED BY HOOD MOUNTED SWITCH.
H. PROVIDE WITH UNIT MOUNTED SPEED CONTROLLER, HANGING BRACKET, BACKDRAFT DAMPER AND INLET GUARD.
J. FAN TO BE EXPLOSION PROOF.

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PROJECT INFORMATION

LEE'S SUMMIT LOGISTICS BUILDING A LOT 1

NW CORNER OF
NE TUDOR RD & MAIN ST
LEE'S SUMMIT, MO 64086

ISSUE DATES

PERMIT SET	04.21.22

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MetroAir

LSCC BLDG. #1 – TI
LEE'S SUMMIT, MO

SCALE: AS NOTED	DATE: 5/9/22	DRAWN BY: M.D.K.
APPROVED BY: JDG	DWG # M5	of 5
PROGRESS		

210300

M3.1

PLUMBING GENERAL NOTES:

1. INSTALL ALL PIPE, ETC. AS HIGH AS POSSIBLE.
2. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACES AVAILABLE, AND WITHOUT INTERFERENCES.
3. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF FIXTURES.
4. SAWCUT EXISTING FLOOR AS REQUIRED FOR INSTALLATION OF UNDERFLOOR PIPING. PATCH FLOOR TO MATCH EXISTING.
5. NO PIPING SHALL BE ROUTED OVER THE TOP OF ELECTRICAL PANELS.
6. ALL MATERIALS WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84.

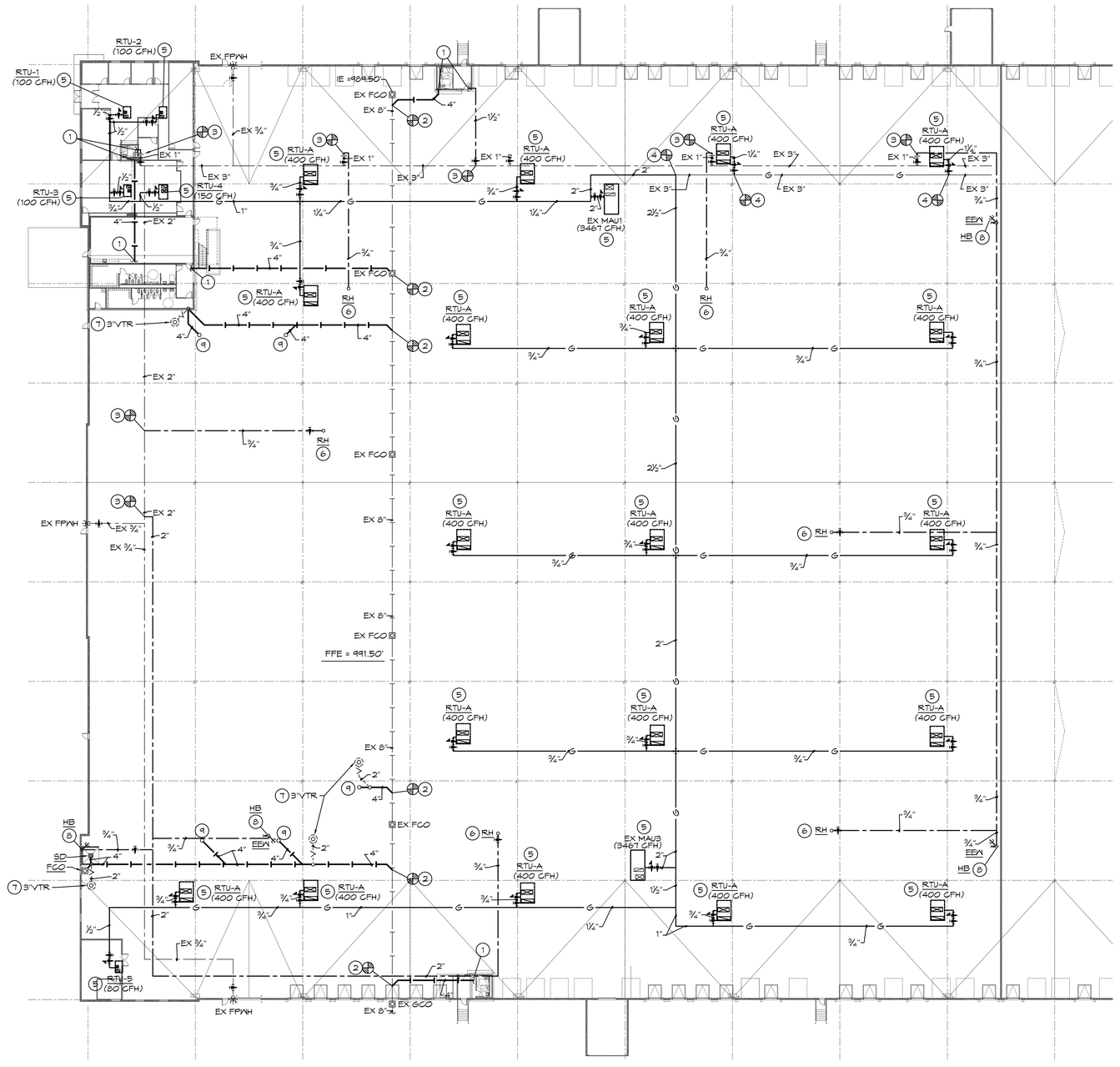
PLUMBING PLAN NOTES:

(1) REFER TO ENLARGED PLUMBING PLAN ON SHEET P1.2 FOR CONTINUATION.
(2) CONNECT WASTE TO EXISTING SANITARY SEWER AS REQUIRED. VERIFY EXACT LOCATION AND ELEVATION PRIOR TO INSTALLATION OF ANY PIPING.
(3) CONNECT WATER TO EXISTING DOMESTIC WATER AS REQUIRED. VERIFY EXACT LOCATION PRIOR TO INSTALLATION OF ANY PIPING.
(4) CONNECT GAS TO EXISTING NATURAL GAS AS REQUIRED. VERIFY EXACT SIZE, LOCATION AND PRESSURE PRIOR TO INSTALLATION OF ANY PIPING.
(5) CONNECT GAS TO EQUIPMENT AS REQUIRED AND AS DETAILED. GAS PRESSURE REGULATOR SHALL BE ON ROOF.
(6) INSTALL ROOF HYDRANT AS REQUIRED.
(7) LOCATION OF 3" VTR. VERIFY 10' CLEARANCE FROM ALL OUTDOOR AIR INTAKES. COORDINATE WITH GENERAL CONTRACTOR TO SEAL PENETRATION WEATHERTIGHT.
(8) INSTALL HOSE BIBB AS REQUIRED.
(9) INSTALL HUB DRAIN AS REQUIRED.

PLUMBING SYMBOLS

- SOIL AND WASTE PIPING BELOW FLOOR/GRADE
- SOIL AND WASTE PIPING ABOVE FLOOR/GRADE
- SANITARY VENT PIPING ABOVE GRADE
- SANITARY VENT PIPING BELOW GRADE
- DOMESTIC COLD WATER PIPING
- DOMESTIC HOT WATER PIPING
- DOMESTIC HOT WATER RECIRCULATION PIPING
- GAS PIPING
- EQUIPMENT DRAIN LINE
- COMPRESSED AIR PIPING BELOW FLOOR
- PIPING TURNING DOWN
- PIPING TURNING UP
- TEE TOP CONNECTION
- UNION
- BACKFLOW PREVENTER
- FD — FLOOR DRAIN
- FCO — FLOOR CLEAN OUT
- WCO — WALL CLEAN OUT
- GCO — GRADE CLEAN OUT
- VALVE
- BALANCING VALVE
- SOLENOID VALVE
- PRESSURE REGULATOR
- CHECK VALVE
- CONNECT TO EXISTING
- I.E. — INVERT ELEVATION OF PIPE
- MATCH MARKS ON PLUMBING RISER DIAGRAM
- CONTROL WIRING
- REFRIGERANT PIPING
- CHECK VALVE
- THERMOMETER
- PRESSURE GUAGE
- TEMPERATURE AND PRESSURE RELIEF VALVE
- PETE'S PLUG
- Y STRAINER
- VACUUM RELIEF VALVE

ALL STORM PIPING IS EXISTING TO REMAIN.



NORTH

PARTIAL PLUMBING FLOOR PLAN
SCALE: 1" = 30'-0" FFE = 991.50'

CENTRAL
PLUMBING, HEATING & AIR CONDITIONING, INC.
201 East Walnut
Cleveland, MO 64734
816-942-6355

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MISSOURI PE COA #2009003629
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RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
11/07/2022

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SCANNELL PROPERTIES

8/31/2022
STATE OF MISSOURI
ERIK B. KNUDSEN
NUMBER PE-2004026504
REGISTERED PROFESSIONAL ENGINEER

LEE'S SUMMIT LOGISTICS BUILDING A LOT 1

NW CORNER OF
NE TUDOR RD & MAIN ST
LEE'S SUMMIT, MO 64086

PERMIT SET	08.31.22

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PLUMBING PLAN

P1.0

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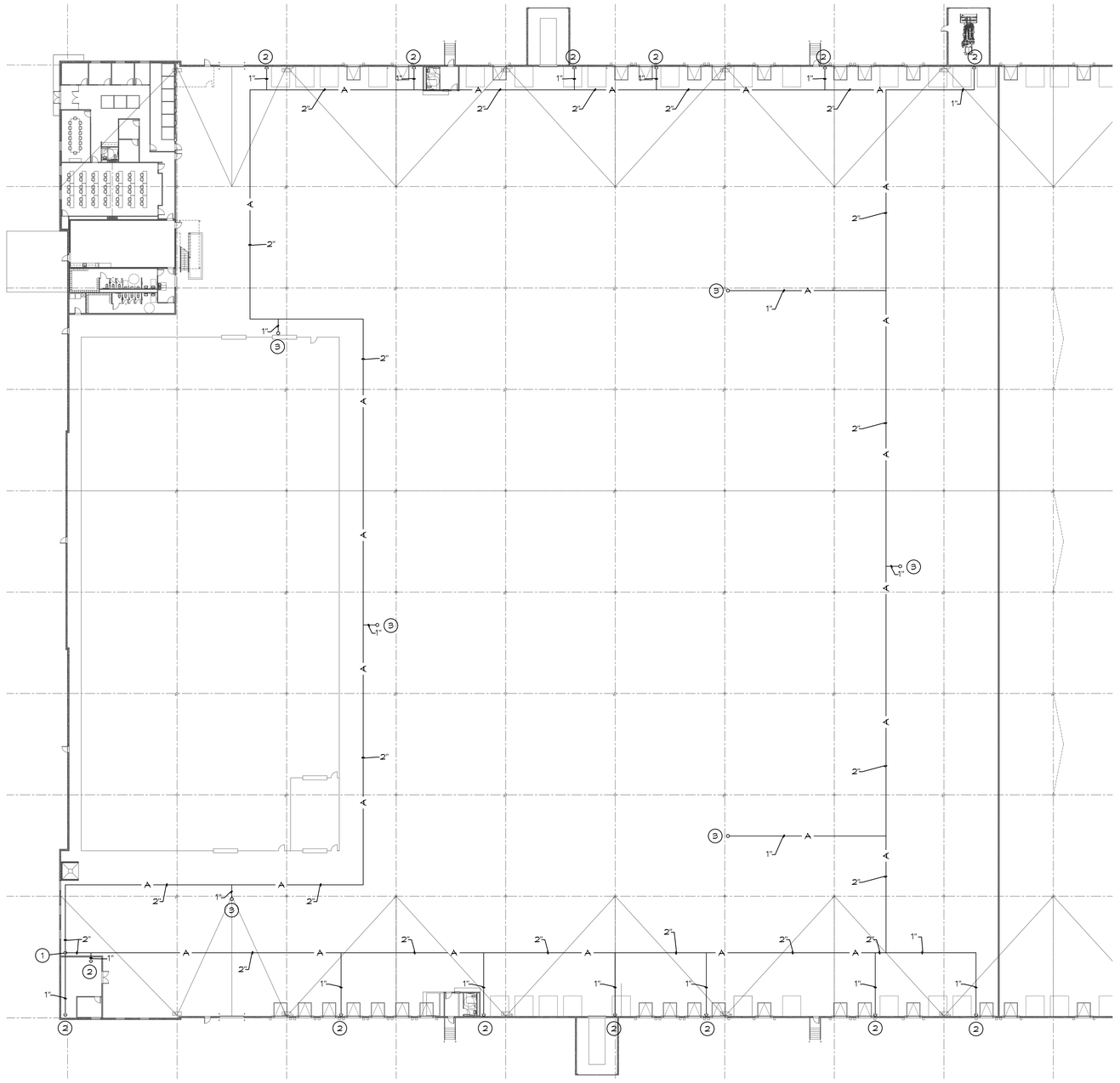
As Noted on Plans Review
Development Services Department
City of Lee's Summit, Missouri
11/07/2022

PLUMBING PLAN NOTES:

1. AIR PIPE WITH SHUT OFF VALVE DOWN TO AIR COMPRESSOR AND REGULATOR FURNISHED BY OTHERS. VERIFY EXACT LOCATION OF AIR CONNECTION AND COMPRESSED AIR REQUIREMENTS WITH MANUFACTURER'S SPECIFICATIONS.
2. AIR PIPE WITH SHUT OFF VALVE 4'-0" AFF. SUPPORT AS REQUIRED.
3. AIR PIPE WITH SHUT OFF VALVE ABOVE ROOF. SUPPORT AS REQUIRED.



NORTH

PARTIAL COMPRESSED AIR FLOOR PLAN

SCALE: 1" = 30'-0" FFE = 991.50'

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LEE'S SUMMIT, MO 64086

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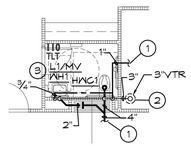
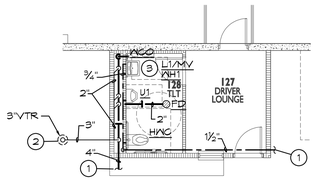
COMPRESSED AIR PLAN

P1.1





NORTH **ENLARGED PLUMBING FLOOR PLAN**
SCALE: 1/8" = 1'-0" FFE = 991.50'

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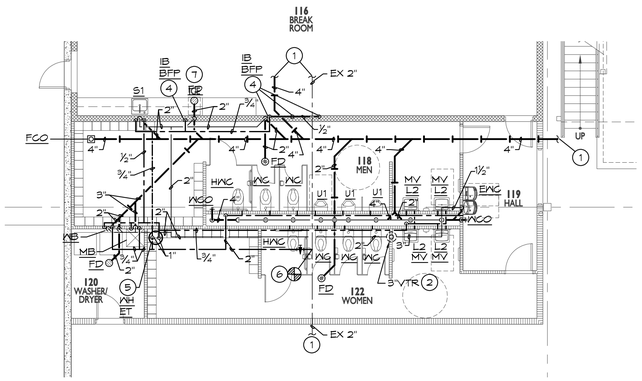
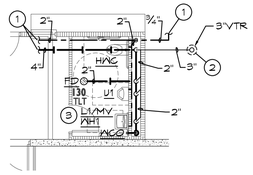
SCALE: 1/8" = 1'-0" FFE = 991.50'





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SCALE: 1/8" = 1'-0" FFE = 991.50'

NORTH **ENLARGED PLUMBING FLOOR PLAN**
SCALE: 1/8" = 1'-0" FFE = 991.50'

PLUMBING PLAN NOTES:

1. REFER TO PARTIAL PLUMBING PLAN ON P1.0 FOR CONTINUATION.
2. LOCATION OF 3" VTR. VERIFY 10' CLEARANCE FROM ALL OUTDOOR AIR INTAKES. SEAL PENETRATION WEATHERTIGHT.
3. INSTANTANEOUS WATER HEATER LOCATED BELOW SINK/LAV. SUPPORT FROM WALL PER THE MANUFACTURES REQUIREMENTS.
4. PROVIDE BFP AND CONNECT C/W TO ICE MAKER AND COFFEE MAKER AS REQUIRED.
5. SUPPORT WATER HEATER FROM STRUCTURE ABOVE CEILING. PROVIDE GALVANIZED DRAIN PAN UNDER WATER HEATER WITH DRAIN. ROUTE INDIRECT DRAIN PIPING TO MOP BASIN WITH AIR GAP.
6. CONNECT WATER TO EXISTING DOMESTIC WATER AS REQUIRED. VERIFY EXACT LOCATION PRIOR TO INSTALLATION OF ANY PIPING.
7. PROVIDE INDIRECT DRAIN FROM ICE MAKER TO FLOOR DRAIN WITH AIR GAP.

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ENLARGED PLUMBING PLANS

P1.2

CENTRAL
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BC PROJECT #22208
MISSOURI PE COA #2009003629

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PIPE HANGER SCHEDULE

PIPE MATERIAL	MAXIMUM HANGER SPACING	HANGER ROD DIAMETER
ABS (All sizes)	4'	3/8"
PVC (All Sizes)	4'	3/8"
CPVC, 1 inch and smaller	3'	1/2"
CPVC, 1-1/4 inches and larger	4'	1/2"
Cast Iron (All Sizes)	5'	5/8"
Cast Iron (All Sizes) with 10 foot length of pipe	10'	5/8"
Copper Tube, 1-1/4 inches and smaller	6'	1/2"
Copper Tube, 1-1/2 inches and larger	10'	1/2"
Steel, 3 inches and smaller	12'	1/2"
Steel, 4 inches and larger	12'	5/8"
Pex, 1" and below without support channel	32"	3/8"
Pex, 1-1/4" and above without support channel	48"	3/8"
Pex ¾" and below with support channel	6'	3/8"
Pex 1" and above with support channel	8'	3/8"

PEX PIPING REQUIREMENTS

PIPE SIZES GIVEN ON THE DRAWINGS ARE NOMINAL COPPER PIPE SIZE. IF PEX PIPING IS USED, INCREASE PEX PIPING ONE SIZE ABOVE LISTED SIZES AS REQUIRED TO EQUAL OR EXCEED COPPER PIPE INSIDE DIAMETER.

PLUMBING FIXTURE SCHEDULE (OR EQUAL):

HAC WATER CLOSET (HANDICAPPED): SAME AS WC, EXCEPT 18" HIGH BOWL FOR HANDICAPPED.

WC WATER CLOSET: AMERICAN STANDARD #2257.001, VITREOUS CHINA, WALL HUNG, ELONGATED BOWL, SIPHON JET ACTION, SLOAN #111 FLUSH VALVE, 1.6 GAL/FLUSH, CENTOCO #5TSCC-001 OPEN FRONT ELONGATED SEAT, FLOOR MOUNTED FIXTURE SUPPORT (HEAVY DUTY 500 LB CAPACITY).

HAC1 WATER CLOSET (HANDICAPPED): AMERICAN STANDARD, #3043.001 "MADERA ADA", VITREOUS CHINA, FLOOR MOUNTED, FLOOR OUTLET, 17-1/2" HIGH ELONGATED BOWL, SIPHON-JET ACTION, SLOAN "ROYAL" #111 FLUSH VALVE, 1.6 GAL/FLUSH, CENTOCO #5TSCC-001 OPEN FRONT ELONGATED SEAT WITH CHECK HINGE. HANDLE ON WIDE SIDE OF FIXTURE.

UI URINAL, WALL HUNG: AMERICAN STANDARD, #6561.017 "TRIMBROOK", VITREOUS CHINA, 0.5 GPM WASH OUT ACTION, WALL HUNG URINAL WITH 3/4" TOP SPUD, SLOAN #186-1.0 FLUSH VALVE, FLOOR MOUNTED FIXTURE SUPPORT. SET RIM HEIGHT PER ARCHITECTURAL DRAWINGS.

L1 HANDICAP LAVATORY, WALL HUNG: AMERICAN STANDARD #0355B012 "LUCERN", 20"x 18", VITREOUS CHINA, FRONT OVERFLOW, DELTA #B501LF FAUCET WITH SINGLE METAL LEVER FAUCET, OFFSET GRID ELBOW DRAIN AND 1-1/4" TAILPIECE, CHROME PLATED CAST BRASS P-TRAP WITH CLEANOUT (MOUNTED PARALLEL WITH WALL), CHROME PLATED LOOSE KEY ANGLE STOPS AND RISERS, FLOOR MOUNTED CONCEALED ARM LAVATORY SUPPORT, INSULATE EXPOSED DRAIN, WATER SUPPLIES, AND VALVES WITH PROWRAP SEAMLESS MOLDED CLOSED CELL VINYL INSULATION.

L2 HANDICAP LAVATORY, COUNTERTOP: AMERICAN STANDARD, #0476.028 "AQUALYN", VITREOUS CHINA, 20"x 17" OVAL BASIN, DELTA #B501LF FAUCET WITH SINGLE METAL LEVER HANDLE, OFFSET GRID DRAIN WITH 1-1/4" TAILPIECE, CHROME PLATED P-TRAP (MOUNTED PARALLEL WITH WALL), CHROME PLATED ANGLE STOPS AND RISERS, INSULATE EXPOSED DRAIN, WATER SUPPLIES, AND VALVES WITH PROWRAP SEAMLESS MOLDED CLOSED CELL VINYL INSULATION.

S1 SINK:ELKAY, "LRAD-2222, 19"x16"x 6-1/2" DEEP BOWL,21-3/8"x 21-3/8" CUT-OUT, ADA COMPLIANT, SINGLE COMPARTMENT, SELF-RIMMING STAINLESS STEEL SINK WITH SATIN FINISH AND SOUND DAMPENING UNDERCOATING, "LK-1000GR FAUCET, SWING SPOUT, AERATOR, SINGLE LEVER HANDLE, CHROME PLATED CAST BRASS P-TRAP WITH CLEANOUT, CHROME PLATED ANGLE STOPS AND RISERS, IN-SINK-ERATOR #BADGER 5 DISPOSAL, 1/2 HP, 120 VOLT.

MB MOP BASIN: FIAT, "MSB-2424, MOLDED STONE MOP BASIN, 2" DRAIN, 24"x 24" BASIN, VINYL BUMPER GUARD, STERN WILLIAMS "T-10-VB FAUCET, SPRING CHECKS, VACUUM BREAKER, INTEGRAL STOPS, WALL BRACE & PAIL HOOK, WALL BRACKET WITH 30" HOSE.

EWC ELECTRIC WATER COOLER: OASIS, "PSBACSL, BARRIER FREE TWO-STATION WATER COOLER, 8.0 GPH, 50 DEGREES F WATER WITH 90 DEGREES F AIR TEMPERATURE, 120 VOLT, COLOR TO BE SELECTED BY ARCHITECT AFTER AWARD OF CONTRACT, FRONT AND SIDE ANTIMICROBIAL PUSH PADS, ANITMICROBIAL FLEX BUBBLERS, CHROME PLATED CAST BRASS P-TRAP WITH CLEANOUT, CHROME PLATED LOOSE KEY ANGLE STOP, FLOOR MOUNTED CARRIER AND CANE APRON.

FD FLOOR DRAIN: JR SMITH, #2005-A, CAST IRON FLOOR DRAIN WITH ADJUSTABLE TOP, 6" NIKALOY STRAINER. PROVIDE WITH #2692 QUAD CLOSE TRAP SEAL DEVICE.

EEW PORTABLE EYE WASH STATION: BRADLEY #S19-921, SELF-CONTAINED. LOCATED AT EACH CHARGING STATION.

HB HOSE BIBB: PRIER, #P-164, 3/4" HOSE NOZZLE OUTLET, SATIN NICKEL PLATED BODY FINISH, HANDWHEEL OPERATED, INTEGRAL VACUUM BREAKER.

IB ICE BOX: SIOUX CHIEF #696-1000, ICE BOX WITH 1/2" INLET AND CONNECTION AND 1/4-TURN SHUT OFF VALVE.

WH1 TANKLESS HOT WATER HEATER: STIEBEL ELTRON MINI 3, 120 VOLT, 3.0 KW.

WH HOT WATER HEATER: AO SMITH #DEL-40, 40 GALLON STORAGE, 208 VOLT/1 PHASE, (2) 6000 WATT ELEMENT, NON-SIMULTANEOUS, ASME TEMPERATURE AND PRESSURE RELIEF VALVE.

ET HOT WATER EXPANSION TANK: AMTROL, #ST-5, 2 GALLON EXPANSION TANK WITH DIAPHRAGM.

MV MIXING VALVE: WATTS, #LFUSG-B, THERMOSTATIC CONTROLLED MIXING VALVE, LEAD FREE BRONZE BODY, LOCKED TEMPERATURE ADJUSTMENT CAP (VANDAL RESISTANT), COPPER ENCAPSULATED THERMOSTAT ASSEMBLY WITH BRASS SHUTTLE, STAINLESSSTEEL SPRINGS, INTEGRAL CHECK VALVES ON HOT AND COLD INLETS. (SET TO 110°F). ASSE 1070 LISTED.

BFP BACKFLOW PREVENTOR: WATTS #SD-3, DUAL CHECK VALVE WITH ATMOSPHERIC PORT & STRAINER FOR CARBONATED BEVERAGE MACHINES

RH FREEZELESS ROOF HYDRANT: WOODFORD #RHY2-MS, HEAVY-DUTY CAST IRON MOUNTING SYSTEM, AUTOMATICALLY DRAIN WHEN SHUT OFF, ASSE 1052 DOUBLE CHECK BACKFLOW PREVENTER.

WB WASHER BOX : SIOUX CHIEFS "OXBOX" 696 SERIES WASHER OUTLET BOX WITH BUILT IN WATER HAMMER ARRESTER WITH 1-1/2" DRAIN OUTLET AND TAILPIECE, AND 1/2" HOT & COLD WATER CONNECTION.

SD SCRUBBER DRAIN: RELIABLE CONCRETE 3030/21585C CATCH BASIN REINFORCED, CLAY & BAILEY 2158BG 135# GRATE.

WHA WATER HAMMER ARRESTOR: JR SMITH 'HYDROTROL' #5000 LEAD-FREE WATER HAMMER ARRESTOR, SIZED AS PER MANUFACTURER'S RECOMMENDATIONS.

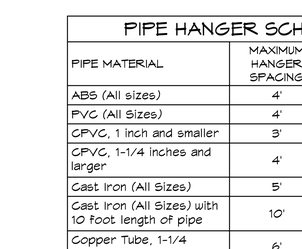
FCO/MCO VINYL TILE FLOOR: JR SMITH #4140, OR EQUAL.
QUARRY TILE FLOOR: JR SMITH #4200, OR EQUAL.
CARPETED FLOOR: JR SMITH #4020-Y, OR EQUAL.
UNFINISHED FLOOR: JR SMITH #4020, OR EQUAL.

PLUMBING FIXTURE BRANCH PIPING SCHEDULE

FIXTURE	WASTE	VENT	CW	HW
WATER CLOSET (FLUSH VALVE)	4"	2"	1"	" "
URINAL	2"	1-1/2"	3/4"	" "
LAVATORY	1-1/4"	1-1/4"	1/2"	1/2"
SINK	1-1/2"	1-1/2"	1/2"	1/2"
FLOOR DRAIN	2"	2"	" "	" "
MOP BASIN	2"	2"	1/2"	1/2"
ELECTRIC WATER COOLER (BI-LEVEL)	1-1/2"	1-1/2"	1/2"	" "

NOTE: INDIVIDUAL VENTS FOR FIXTURES ON PLANS AND RISER DIAGRAMS HAVE BEEN INCREASED WHERE HORIZONTAL VENT LENGTH IS IN EXCESS OF THE MAXIMUM DISTANCE INDICATED BY THE CODE.

CATCH BASIN DETAIL
SCALE: NONE



GAS PRESSURE REGULATORS FOR GAS FIRED EQUIPMENT SHALL BE SENSUS #243-8, 5 PSI INLET / 7" WC OUTLET PRESSURE WITH THE ORIFICE & SPRING SIZE AS RECOMMENDED BY THE MANUFACTURER.

PROVIDE GAS REGULATOR FOR EVERY PIECE OF GAS FIRED EQUIPMENT. VENT ON REGULATOR SHALL BE VENTED WITH FULL SIZE PIPE TO EXTERIOR OF BLDG. FLASH BLDG PENETRATION WEATHER TIGHT.

GAS CONNECTION DETAIL
SCALE: NONE
FOR ROOFTOP UNITS, MAKE-UP AIR UNITS, ETC. WITH 2 PSI GAS PRESSURE

PLUMBING DRAINAGE CALCULATIONS

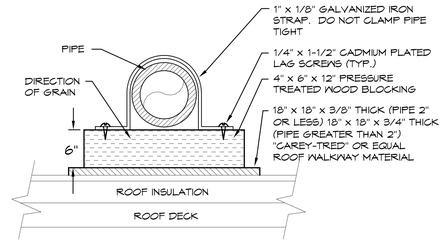
FIXTURE	QUANTITY	FU	TOTAL FU
WATER CLOSETS	10	4	40
URINAL (1.0 GPF)	5	2	10
LAVATORIES	7	1	7
SINKS	1	2	2
FLOOR DRAIN	7	2	14
FLOOR SINK	5	2	10
SCRUBBER DRAIN	1	2	2
WASHER BOX	1	3	3
MOP SINK	1	2	2
ELECTRIC WATER COOLER	1	.5	.5
TOTAL			90.5 FU

VENT MAINS - 3"
WASTE MAIN - 4"

PLUMBING FIXTURE WATER COUNT

FIXTURE	QUANTITY	CW FU	CW TOTAL FU	HW FU	HW TOTAL FU	COMBINED FU	COMBINED TOTAL FU
WATER CLOSETS	10	10	100	-	-	-	100
URINAL	5	5	25	-	-	-	25
LAVATORIES	7	1.5	10.5	1.5	10.5	2	14
SINKS	1	2.25	2.25	2.25	2.25	3	3
WATER BOXES	4	.25	1	-	-	-	1
CLOTHES WASHER	1	2.25	2.25	2.25	2.25	3	3
MOP SINK	1	2.25	2.25	2.25	2.25	3	3
WATER COOLER	1	.25	.25	-	-	-	.25
			143.5 FU		17.25 FU		149.25 FU

COLD WATER MAIN - 2"
HOT WATER MAIN - 1"



ROOF PIPE SUPPORT DETAIL
SCALE: NONE

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
11/07/2022

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SCANNELL PROPERTIES

8/31/2022
STATE OF MISSOURI
ERIK B. KNUDSEN
NUMBER PE-2004026504
REGISTERED PROFESSIONAL ENGINEER

LEE'S SUMMIT LOGISTICS BUILDING A LOT 1

NW CORNER OF
NE TUDOR RD & MAIN ST
LEE'S SUMMIT, MO 64086

PERMIT SET	08.31.22

210300

PLUMBING SCHEDULES AND DETAILS

P2.0

BC PROJECT #22208
MISSOURI PE COA #2009003629
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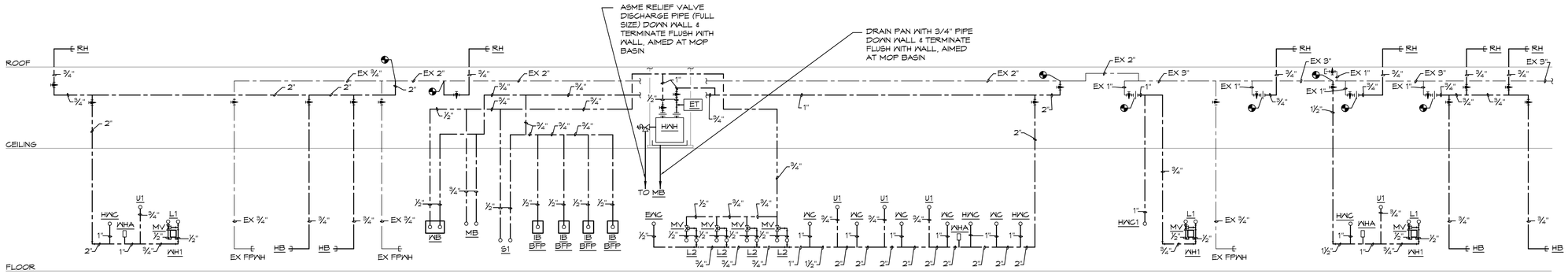

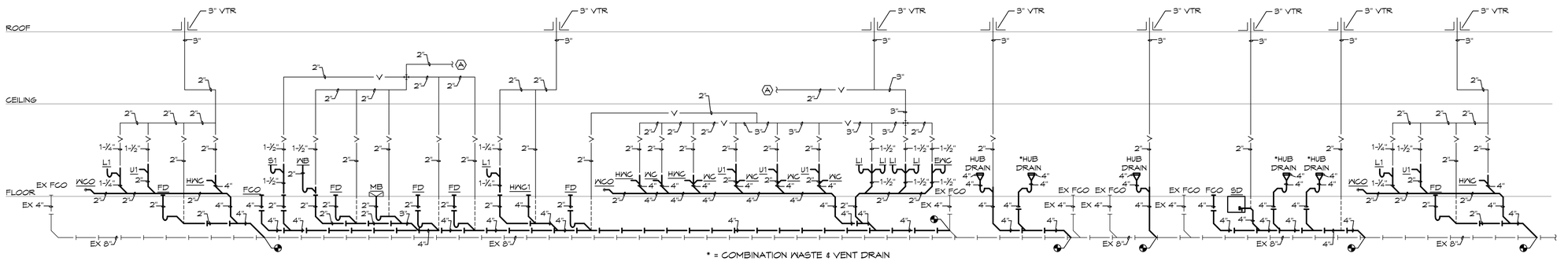

PLUMBING RISER DIAGRAMS

SCALE: NONE

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
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PERMIT SET	08.31.22

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PLUMBING RISERS

P2.1

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BC ENGINEERS INCORPORATED
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PLUMBING SPECIFICATIONS

1. GENERAL PROVISIONS:
   A. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, NECESSARY FOR THE COMPLETE INSTALLATION OF THE PLUMBING AND MECHANICAL SYSTEMS OUTLINED.
   B. OBTAIN ALL PERMITS, FEES, LICENSES, INSPECTIONS, AND CERTIFICATES OF COMPLIANCE OR APPROVAL AS REQUIRED BY THE AUTHORITIES.
   C. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS OF THE GOVERNMENTAL BODIES HAVING JURISDICTION OVER THE SITE.
   D. ALL TESTING REQUIRED BY AUTHORITIES SHALL BE CONSIDERED PART OF THIS WORK.
   E. DURING CONSTRUCTION, ALL FIXTURES, EQUIPMENT, PIPE, DUCT, ETC. SHALL BE COVERED, PLUGGED, OR CAPPED AS REQUIRED TO KEEP CLEAN AND UNDAMAGED. ALL DAMAGED ITEMS SHALL BE RESTORED TO ORIGINAL CONDITION OR REPLACED. ALL PROTECTIVE COVERING SHALL BE REMOVED BEFORE FINAL ACCEPTANCE.
   F. PROVIDE ALL NECESSARY CUTTING AND PATCHING OF WALLS, FLOORS, CEILINGS, AND ROOFS AS NECESSARY. PATCH AROUND ALL OPENINGS SHALL MATCH ADJACENT AREA. COORDINATE ALL ROOFING WORK WITH OWNER OR RESPONSIBLE PARTY, SO THAT THE EXISTING ROOFING WARRANTY WILL BE MAINTAINED.
   G. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS AGAINST DEFECTS FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.
2. OPERATION AND MAINTENANCE MANUALS:
   A. DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPILE OPERATING INSTRUCTIONS, WIRING DIAGRAMS, CATALOG CUTS, LUBRICATION AND PREVENTIVE MAINTENANCE INSTRUCTIONS, PARTS LISTS, ETC. FOR ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT.
   B. ALL LITERATURE AND INSTRUCTIONS SHIPPED WITH THE EQUIPMENT SHALL BE SAVED FOR INCLUSION IN THE OPERATION AND MAINTENANCE MANUALS.
   C. ALL LITERATURE LISTED ABOVE AND ALL PAPERS LISTING WARRANTIES, ETC. SHALL BE BOUND IN A 3-RING BINDER AND LABELED WITH THE PROJECT NAME, ADDRESS, ARCHITECT, ENGINEER, CONTRACTORS, ETC.
3. MANUFACTURERS:
   A. MANUFACTURERS, MODEL NUMBERS, ETC. INDICATED OR SCHEDULED ON THE DRAWINGS SHALL BE INTERPRETED AS HAVING ESTABLISHED A STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS LIMITING COMPETITION. ARTICLES, FIXTURES, ETC. OF EQUAL QUALITY BY MANUFACTURERS SHALL BE ACCEPTABLE, SUBJECT TO STRUCTURAL AND ELECTRICAL CONSTRAINTS OF THE PROJECT DESIGN, UNLESS NOTED OTHERWISE.
4. TESTING, BALANCING, AND CLEANING:
   A. ALL PIPING SHALL BE TESTED FOR LEAKS BEFORE BEING CONCEALED IN WALL CONSTRUCTION OR COVERED WITH INSULATION.
   B. SEWER AND VENT PIPING SHALL BE HYDROSTATICALLY TESTED WITH NO LESS THAN 10 FEET OF HEAD FOR A PERIOD OF NOT LESS THAN 15 MINUTES, PER THE LOCAL PLUMBING CODE, WITH NO LEAKS.
   C. DOMESTIC WATER PIPING SHALL BE HYDROSTATICALLY TESTED AT A PRESSURE OF NOT LESS THAN 1-1/2 TIMES THE OPERATING PRESSURE, BUT NOT LESS THAN 60 PSI, FOR A PERIOD OF NOT LESS THAN 2 HOURS, WITH NO LEAKS.
   D. NATURAL GAS PIPING SHALL BE PNEUMATICALLY TESTED AT A PRESSURE OF NOT LESS THAN 1-1/2 TIMES THE OPERATING PRESSURE, BUT NOT LESS THAN 50 PSI, FOR A PERIOD OF NOT LESS THAN 2 HOURS WITH NO LEAKS.
   E. BEFORE DOMESTIC WATER PIPING IS PLACED IN SERVICE, ALL DOMESTIC WATER DISTRIBUTION SYSTEMS, INCLUDING THOSE FOR COLD WATER AND HOT WATER SYSTEMS, SHALL BE FLUSHED, STERILIZED AND CHLORINATED IN ACCORDANCE WITH HEALTH DEPARTMENT REGULATIONS. THE SYSTEMS SHALL BE THOROUGHLY FLUSHED OF ALL DIRT AND FOREIGN MATTER, THEN FILLED WITH WATER TREATED WITH 50 PPM OF CHLORINE. DURING THE FILLING PROCESS, VALVES AND FAUCETS SHALL BE OPENED SEVERAL TIMES TO ASSURE TREATMENT OF THE ENTIRE SYSTEM. THE TREATED WATER SHALL BE LEFT IN THE SYSTEM FOR 24 HOURS AFTER WHICH TIME THE SYSTEM SHALL BE FLUSHED; IF THE RESIDUAL CHLORINE IS NOT LESS THAN 10 PPM, THE FLUSHING SHALL BE REPEATED. AFTER STERILIZATION, SAMPLES OF WATER IN THE SYSTEM SHALL BE APPROVED BY THE BOARD OF HEALTH.
5. PLUMBING:
   A. PROVIDE AN APPROVED WATER HAMMER ARRESTOR FOR EACH PLUMBING FIXTURE SUPPLY AS REQUIRED BY FIXTURE MANUFACTURER.
   B. ALL EXPOSED WASTE PIPE SHALL BE CHROME PLATED BRASS PIPE, NO FERROUS PIPE.
   C. PROVIDE CLEANOUTS AT EACH CHANGE OF DIRECTION AND AT 100 FOOT INTERVALS IN STRAIGHT RUNS.
   D. PROVIDE ACCESS PANELS FOR ALL CONCEALED VALVES AND TRAPS.
   E. CLEANOUTS:
      1) VINYL TILE FLOOR: JR SMITH #4140, OR EQUAL.
      2) QUARRY TILE FLOOR: JR SMITH #4200, OR EQUAL.
      3) CARPETED FLOOR: JR SMITH #4020-Y, OR EQUAL.
      4) UNFINISHED FLOOR: JR SMITH #4020, OR EQUAL.
      5) WALL: JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR.
      6) WAREHOUSE FLOORS/FORK TRUCK AREAS: JR SMITH #4100, OR EQUAL, WITH HEAVY DUTY CAST IRON BODY AND ROUND ADJUSTABLE SCORIATED EXTRA HEAVY DUTY NICKEL BRONZE TOP.
      7) GRADE: JR SMITH #4258, OR EQUAL, WITH HEAVY DUTY CAST IRON BODY AND COVER.
   F. PROVIDE DIELECTRIC UNIONS WITH APPROPRIATE END CONNECTIONS TO MATCH THE PIPE SYSTEM IN WHICH INSTALLED (SCREWED, SOLDERED, OR FLANGED). PROVIDE DIELECTRIC UNIONS ON ALL PIPING CONNECTIONS TO HOT WATER HEATERS AND EXPANSION TANKS.
   G. WATER HEATERS:
      1) EVERY WATER HEATER SHALL HAVE AN APPROVED MEANS INSTALLED ON THE COLD WATER SUPPLY LINE ABOVE THE EQUIPMENT TO PREVENT SIPHONING OF A STORAGE WATER HEATER OR TANK.
      2) BOTTOM FED WATER HEATERS AND TANKS CONNECT TO WATER HEATERS SHALL HAVE A VACUUM RELIEF VALVE INSTALLED, ANSI Z21.22.
      3) STORAGE HEATERS OPERATING ABOVE ATMOSPHERIC PRESSURE SHALL HAVE AN APPROVED PRESSURE RELIEF VALVE AND/OR TEMPERATURE RELIEF VALVE.
   H. ALL SEWER PIPING LOCATED INSIDE THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES.
      1) INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL.
      2) INSTALL 3" - 6" PIPE AT 1/8" PER FOOT FALL.
      3) INSTALL 8" AND LARGER PIPE AT 1/16" PER FOOT FALL.
6. PIPING:
   A. DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING (ABOVEGROUND).
      1) TYPE L HARD DRAWN COPPER TUBING, ASTM B-88.
         a) WROUGHT COPPER SOLDERED FITTINGS, ASTM B75 ALLOY C12200, ANSI B16.22, MSS SP-104.
         b) MECHANICAL PRESS COPPER FITTINGS FOR USE IN PLUMBING OR MECHANICAL APPLICATIONS, ASME B16.22, ASME B16.51, or ASME B16.18. MECHANICAL PRESS COPPER FITTINGS SHALL CONFORM TO IAPMO PS-117 OR ASME B16.51.
      2) PEX, HIGH-DENSITY CROSS-LINKED POLYETHYLENE TUBING SHALL BE MANUFACTURED TO THE REQUIREMENTS OF ASTM F876 AND MEET THE STANDARD GRADE HYDROSTATIC PRESSURE RATINGS FROM PLASTIC PIPE INSTITUTE IN ACCORDANCE WITH TR-4/03. (MUST BE INSTALLED PER THE MANUFACTURERS REQUIREMENTS FOR PLENUM USE)
         a) PEX-A AND PEX-B MEETING ANSI/NSF61 AND ANSI/NSF372 STANDARDS FOR POTABLE WATER SAFETY AND LEAD-FREE STANDARDS AND MUST BE MARKED WITH "PEX-a", "NSF-61-G" OR OTHER NSF-APPROVED MARKING. ASTM F2023 FOR USE WITH CHLORINATED WATER. (MUST BE INSTALLED PER THE MANUFACTURERS REQUIREMENTS FOR PLENUM USE)
         b) PEX MECHANICAL, CRIMP/INSERT OR EXPANSION FITTINGS INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. PIPE SIZES GIVEN ON THE DRAWINGS ARE NOMINAL COPPER PIPE SIZE. INCREASE PEX PIPING SIZE TO EQUAL OR EXCEED COPPER PIPE INSIDE DIAMETER FOR SUPPLY MAINS. (MUST BE INSTALLED PER THE MANUFACTURERS REQUIREMENTS FOR PLENUM USE)
      3) VALVES
         a) TO BE INSTALLED ON THE FIXTURE SUPPLY TO EACH PLUMBING FIXTURE.
         b) TO BE INSTALLED ON THE WATER SUPPLY SIDE TO EACH APPLIANCE OR MECHANICAL EQUIPMENT.
         c) TYPES:
            1. GATE VALVE: JOMAR T/S-3015 OR EQUAL. LEAD-FREE NSF 61, ANSI B1.20.1.
            2. GLOBE VALVE: JOMAR T-100 OR EQUAL.
            3. BALL VALVE: JOMAR JP100NP OR EQUAL COMPACT LEAD FREE BRASS BALL VALVE. UL842, CSA 3371-12 & 3371-12, FM, CALIFORNIA CODE AB1953, NSF61 ANNEX G APPROVED.
            4. BALL VALVE: JOMAR T-100NE OR EQUAL. UL842, FM, CSA, NSF 61-8, MSS SP-110
   B. DOMESTIC COLD, AND HOT WATER (UNDERGROUND).
      1) TYPE L HARD DRAWN COPPER TUBING, ASTM B-88.
         a) WROUGHT COPPER SOLDERED FITTINGS, ASTM B75 ALLOY C12200, ANSI B16.22, MSS SP-104.
         b) MECHANICAL PRESS COPPER FITTINGS FOR USE IN PLUMBING OR MECHANICAL APPLICATIONS, ASME B16.22, ASME B16.51, or ASME B16.18. MECHANICAL PRESS COPPER FITTINGS SHALL CONFORM TO IAPMO PS-117 OR ASME B16.51.
      2) PEX, HIGH-DENSITY CROSS-LINKED POLYETHYLENE TUBING SHALL BE MANUFACTURED TO THE REQUIREMENTS OF ASTM F876 AND MEET THE STANDARD GRADE HYDROSTATIC PRESSURE RATINGS FROM PLASTIC PIPE INSTITUTE IN ACCORDANCE WITH TR-4/03.
         a) PEX-A AND PEX-B MEETING ANSI/NSF61 AND ANSI/NSF372 STANDARDS FOR POTABLE WATER SAFETY AND LEAD-FREE STANDARDS AND MUST BE MARKED WITH "PEX-a", "NSF-61-G" OR OTHER NSF-APPROVED MARKING. ASTM F2023 FOR USE WITH CHLORINATED WATER.
         b) PEX MECHANICAL, CRIMP/INSERT OR EXPANSION FITTINGS INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. PIPE SIZES GIVEN ON THE DRAWINGS ARE NOMINAL COPPER PIPE SIZE. INCREASE PEX PIPING SIZE TO EQUAL OR EXCEED COPPER PIPE INSIDE DIAMETER FOR SUPPLY MAINS.
         c) HDPE, PIGMENTED BLUE THROUGHOUT, CTS SIZES 1"-2" AWWA C901 4710 DR9 PC250 IPS SIZES 2"-3", AWWA C901 4710 DR11 PC200.
   C. DOMESTIC WATER SERVICE, 1"-3"
      1) TYPE K SOFT DRAWN COPPER TUBING, ASTM B-88.
         a) Cast Copper Alloy Fittings for Flared Copper Tube, ASME/ANSI B16.26:
      2) HDPE, PIGMENTED BLUE THROUGHOUT, CTS SIZES 1"-2" AWWA C901 4710 DR9 PC250 IPS SIZES 2"-3", AWWA C901 4710 DR11 PC200 MATERIAL AND INSTALLATION MUST CONFORM TO WATER DEPARTMENT REQUIREMENTS.
   D. LEAD CONTENT OF WATER SUPPLY PIPE AND FITTINGS:
      1) PIPE AND PIPE FITTINGS, INCLUDING VALVES AND FAUCETS, UTILIZED IN THE WATER SUPPLY SYSTEM SHALL NOT HAVE MORE THAN 8% LEAD CONTENT.
      2) PIPE, PIPE FITTINGS, JOINTS, VALVES, FAUCETS, AND FIXTURE FITINGS UTILIZED TO SUPPLY WATER FOR DRINKING OR COOKING PURPOSES SHALL COMPLY WITH NSF 372 AND SHALL HAVE A WEIGHTED AVERAGE LEAD CONTENT OF 0.25% OR LESS.

PLUMBING SPECIFICATIONS (CONTINUED)

   E. STORM SEWER, SANITARY SEWER, GREASE WASTE, SAND OIL WASTE, AND VENTS. (UNDERGROUND, INTERIOR TO THE BUILDING).
      1) ABS SCHEDULE 40 CELLULAR CORE (FOAM CORE) PIPE AND DWV FITTING SYSTEM:(ASTM F1488) PIPE AND FITTINGS SHALL BE MANUFACTURED FROM ABS COMPOUND WITH A CELL CLASS OF 42222 FOR PIPE AND 32222 FOR FITTINGS AS PER ASTM D 3965 AND CONFORM WITH NATIONAL SANITATION FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM F 628 FITTINGS SHALL CONFORM TO ASTM D 2661. SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2235.
      2) PVC SCHEDULE 40 CELLULAR CORE (FOAM CORE) PIPE AND DWV FITTING SYSTEM:(ASTM F1488) PIPE AND FITTINGS SHALL BE MANUFACTURED FROM PVC COMPOUND WITH A CELL CLASS OF 11432 PER ASTM D 4396 FOR PIPE AND 12454 PER ASTM D 1784 FOR FITTINGS AND CONFORM WITH NATIONAL SANITATION FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM F 841. INJECTION MOLDED FITTINGS SHALL CONFORM TO ASTM D 2665. FABRICATED FITTINGS SHALL CONFORM TO ASTM F 1866. SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2564.
      3) PVC SCHEDULE 40 SOLID WALL PIPE AND DWV FITTING SYSTEM:(ASTM D2665) PIPE AND FITTINGS SHALL BE MANUFACTURED FROM PVC COMPOUND WITH A CELL CLASS OF 12454 PER ASTM D 1784 AND CONFORM WITH NATIONAL SANITATION FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM D 1785 AND ASTM D 2665. INJECTION MOLDED FITTINGS SHALL CONFORM TO ASTM D 2665. FABRICATED FITTINGS SHALL CONFORM TO ASTM F 1866. SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2564.
      4) HUBLESS CAST IRON SOIL PIPE AND FITTINGS: HUBLESS CAST IRON PIPE AND FITTINGS SHALL BE MANUFACTURED FROM GRAY CAST IRON AND SHALL CONFORM TO ASTM A 888 AND CISPI STANDARD 301. HUBLESS COUPLINGS SHALL CONFORM TO CISPI STANDARD 310 AND BE CERTIFIED BY NSF® INTERNATIONAL.
      5) HUB AND SPIGOT CAST IRON SOIL PIPE AND FITTINGS: HUB AND SPIGOT CAST IRON PIPE AND FITTINGS SHALL BE MANUFACTURED FROM GRAY CAST IRON AND SHALL CONFORM TO ASTM A 74.
   F. STORM SEWER, SANITARY SEWER, GREASE WASTE, SAND OIL WASTE, AND VENTS. (ABOVE GROUND, INTERIOR TO THE BUILDING).
      1) ABS SCHEDULE 40 CELLULAR CORE (FOAM CORE) PIPE AND DWV FITTING SYSTEM:(ASTM F1488) PIPE AND FITTINGS SHALL BE MANUFACTURED FROM ABS COMPOUND WITH A CELL CLASS OF 42222 FOR PIPE AND 32222 FOR FITTINGS AS PER ASTM D 3965 AND CONFORM WITH NATIONAL SANITATION FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM F 628 FITTINGS SHALL CONFORM TO ASTM D 2661. SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2235. (NOT FOR USE IN A RETURN AIR PLENUM)
      2) PVC SCHEDULE 40 CELLULAR CORE (FOAM CORE) PIPE AND DWV FITTING SYSTEM:(ASTM F1488) PIPE AND FITTINGS SHALL BE MANUFACTURED FROM PVC COMPOUND WITH A CELL CLASS OF 11432 PER ASTM D 4396 FOR PIPE AND 12454 PER ASTM D 1784 FOR FITTINGS AND CONFORM WITH NATIONAL SANITATION FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM F 841. INJECTION MOLDED FITTINGS SHALL CONFORM TO ASTM D 2665. FABRICATED FITTINGS SHALL CONFORM TO ASTM F 1866. SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2564. (NOT FOR USE IN A RETURN AIR PLENUM)
      3) PVC SCHEDULE 40 SOLID WALL PIPE AND DWV FITTING SYSTEM: (ASTM D 2665) PIPE AND FITTINGS SHALL BE MANUFACTURED FROM PVC COMPOUND WITH A CELL CLASS OF 12454 PER ASTM D 1784 AND CONFORM WITH NATIONAL SANITATION FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM D 1785 AND ASTM D 2665. INJECTION MOLDED FITTINGS SHALL CONFORM TO ASTM D 2665. FABRICATED FITTINGS SHALL CONFORM TO ASTM F 1866. SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2564. (WHERE APPROVED BY LOCAL JURISDICTIONS) (NOT FOR USE IN A RETURN AIR PLENUM)
      4) HUBLESS CAST IRON SOIL PIPE AND FITTINGS: HUBLESS CAST IRON PIPE AND FITTINGS SHALL BE MANUFACTURED FROM GRAY CAST IRON AND SHALL CONFORM TO ASTM A 888 AND CISPI STANDARD 301. HUBLESS COUPLINGS SHALL CONFORM TO CISPI STANDARD 310 AND BE CERTIFIED BY NSF® INTERNATIONAL.
      5) HUB AND SPIGOT CAST IRON SOIL PIPE AND FITTINGS: HUB AND SPIGOT CAST IRON PIPE AND FITTINGS SHALL BE MANUFACTURED FROM GRAY CAST IRON AND SHALL CONFORM TO ASTM A 74.
   G. STORM SEWER, SANITARY SEWER, GREASE WASTE, SAND OIL WASTE, AND VENTS. (UNDERGROUND, EXTERIOR TO THE BUILDING).
      1) ABS SCHEDULE 40 CELLULAR CORE (FOAM CORE) PIPE AND DWV FITTING SYSTEM: (ASTM F1488) PIPE AND FITTINGS SHALL BE MANUFACTURED FROM ABS COMPOUND WITH A CELL CLASS OF 42222 FOR PIPE AND 32222 FOR FITTINGS AS PER ASTM D 3965 AND CONFORM WITH NATIONAL SANITATION FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM F 2680 FITTINGS SHALL CONFORM TO ASTM D 2680. SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2235.
      2) PVC SCHEDULE 40 CELLULAR CORE (FOAM CORE) PIPE AND DWV FITTING SYSTEM: (ASTM F1488) PIPE AND FITTINGS SHALL BE MANUFACTURED FROM PVC COMPOUND WITH A CELL CLASS OF 11432 PER ASTM D 4396 FOR PIPE AND 12454 PER ASTM D 1784 FOR FITTINGS AND CONFORM WITH NATIONAL SANITATION FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM F 841. INJECTION MOLDED FITTINGS SHALL CONFORM TO ASTM F 1866. FABRICATED FITTINGS SHALL CONFORM TO ASTM F 1866. SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2564.
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      4) HUBLESS CAST IRON SOIL PIPE AND FITTINGS: HUBLESS CAST IRON PIPE AND FITTINGS SHALL BE MANUFACTURED FROM GRAY CAST IRON AND SHALL CONFORM TO ASTM A 888 AND CISPI STANDARD 301. HUBLESS COUPLINGS SHALL CONFORM TO CISPI STANDARD 310 AND BE CERTIFIED BY NSF® INTERNATIONAL.
      5) HUB AND SPIGOT CAST IRON SOIL PIPE AND FITTINGS: HUB AND SPIGOT CAST IRON PIPE AND FITTINGS SHALL BE MANUFACTURED FROM GRAY CAST IRON AND SHALL CONFORM TO ASTM A 74.
      6) COPPER DWV: DRAINAGE TUBE SHALL CONFORM TO ASTM B306, KROUGHT COPPER FITTINGS, ANSI B-16.29.
      7) GALVANIZED STEEL PIPE WITH MALLEABLE IRON, THREADED FITTINGS, DRAINAGE PATTERN FOR SEWERS SHALL CONFORM TO ASTM A 53.
   H. NATURAL GAS.
      1) BLACK STEEL PIPE, SCHEDULE 40, ASTM A53.
         a) PIPE 3" AND SMALLER: 150 LB. MALLEABLE IRON, THREADED FITTINGS.
         b) PIPE 4" AND SMALLER: VIEGA MEGAPRESS G FOR WATER AND GAS. GSA LC4, T95A/ASME B31 FOR USE WITH ASTM A53 SCHEDULE 40 BLACK IRON PIPE.
         c) PIPE 2-1/2" AND LARGER, WELDED
         d) PLUG VALVE: ROCKWELL NORDSTROM FIGURE NO. 142 OR 143.
         e) BALL VALVE: JOMAR T-100NE. APPROVALS- UL842, FM, GSA, NSF 61-8, MSS SP-110
      2) GAS PIPING LABELING:
         a) ALL ELEVATED PRESSURE GAS PIPING SHALL BE LABELED EVERY 40 FEET WITH SIGNS INDICATING 'ELEVATED PRESSURE'.
      3) GAS PIPING PAINTING:
         a) ALL BLACK STEEL GAS PIPING LOCATED EXTERIOR TO THE BUILDING SHALL BE PRIMED AND PAINTED TO EITHER MATCH ADJACENT EXTERIOR WHERE LOCATED ON OR NEAR EXTERIOR WALL AND PAINTED SAFETY YELLOW WHERE LOCATED ON THE ROOF.
   I. ALL PIPE HANGERS AND SUPPORTS SHALL BE STANDARD PRODUCTS OF GRINNELL, FEE AND MASON, OR ELCEN. HANGER SPACING SHALL BE IN ACCORDANCE WITH MSS-SP-69.
   J. SLEEVES
      1) PROVIDE, SET, AND PROPERLY LOCATE PIPE SLEEVES AS REQUIRED FOR THIS WORK. ALL SLEEVES SHALL BE OF SUFFICIENT SIZE TO PERMIT PIPE MOVEMENT DUE TO EXPANSION AND CONTRACTION AND TO ACCOMMODATE PIPE INSULATION.
      2) INTERIOR PARTITIONS: 18 GAGE GALVANIZED STEEL. PACK BETWEEN PIPE AND SLEEVE WITH FIRE SAFING AND CAULK AT EACH END WITH FIRE RESISTANT SEALANT.
      3) ROOF: FROSET OR EQUAL, MANUFACTURED PVC SCHEDULE 40 PIPE SLEEVE WITH WATERPROOF SEAL. COORDINATE WITH ROOFING CONTRACTOR AND FLASH AS REQUIRED TO MAINTAIN ROOF WARRANTY.
      4) PROTECTION AGAINST CONTACT: METALLIC PIPING, EXCEPT FOR CAST IRON, DUCTILE IRON AND GALVANIZED STEEL SHALL NOT BE PLACED IN DIRECT CONTACT WITH STEEL FRAMING MEMBERS, CONCRETE, OR CINDER WALLS AND FLOORS OR OTHER MASONRY. METALLIC PIPING SHALL NOT BE PLACED IN DIRECT CONTACT WITH CORROSIVE SOIL. SHEATHING USED TO PREVENT DIRECT CONTACT SHALL HAVE A THICKNESS OF GREATER THAN .008; AND THE SHEATHING SHALL BE MADE OF PLASTIC. ANY PIPE THAT PASSES THROUGH A FOUNDATION WALL OR FOOTING SHALL BE PROVIDED WITH A RELIEVING ARCH, OR A PIPE SLEEVE SHALL BE BUILT INTO THE FOUNDATION WALL. THE SLEEVE SHALL BE TWO SIZES GREATER THAN THE PIPE PASSING THOUGH THE WALL OR FOOTING.
      5) PLUMBING VENTS: FLASH ROOF VENT INTO ROOFING SYSTEM AS REQUIRED BY THE ROOFING CONTRACTOR TO MAINTAIN EXISTING ROOF WARRANTY. ALL PLUMBING VENT TERMINALS SHALL TERMINATE A MINIMUM OF 12" ABOVE ROOF OR EQUAL TO HEIGHT OF PARAPET, WHICHEVER IS GREATER.
7. INSULATION:
   A. ALL INSULATIONS AND ACCESSORIES SHALL HAVE A FIRE HAZARD CLASSIFICATION WITH A FLAME SPREAD RATING OF NOT OVER 25, A FUEL CONTRIBUTION RATING OF NOT OVER 50, AND A SMOKE DEVELOPED RATING OF NOT OVER 50, IN ACCORDANCE WITH NFPA.
   B. PIPE INSULATION - ABOVE GRADE.
      1) THE PIPING INSULATION USED SHALL HAVE A THERMAL CONDUCTIVITY OF 0.27 Btu PER in/hr*sqft*F° OR LESS.
      2) FIBERGLASS INSULATION WITH FACTORY APPLIED VAPOR BARRIER, ASJ JACKET, FACTORY APPLIED PRESSURE SEALING LONGITUDE LAP JOINT, NO STAPLES, ZESTON PREMOLDED PVC FITTING COVERS. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
      3) FLEXIBLE CLOSED CELL ELASTOMERIC THERMAL INSULATION, UNSLIT OR PRESLIT WITH PRESSURE SENSITIVE ADHESIVE SYSTEM FOR CLOSURE AND VAPOR SEALING, EQUAL TO ARMSTRONG AP ARMAFLEX OR ARMAFLEX 2000.
      4) FOR NON CIRCULATING SYSTEMS, THE FIRST 8 FEET OF INLET AND OUTLET PIPING BETWEEN THE TANK AND THE HEAT TRAP (INCLUDING THE HEAT TRAP) MUST BE INSULATED.
      5) FOR CIRCULATING SYSTEMS, ALL HOT WATER PIPING IN THE CIRCULATION LOOP MUST BE INSULATED AS SPECIFIED BELOW.
      6) INSULATION SCHEDULE:

?????	a) DOMESTIC COLD WATER	1/2"
	b) DOMESTIC HOT WATER	1" FOR PIPING UP TO 1-1/4"Ø, & 1-1/2" FOR PIPING 1-1/2"Ø AND LARGER
	c) HOT WATER RECIRCULATING	1"
	d) CONDENSATE DRAINS INSIDE BUILDING	1/2"
	e) REFRIGERANT SUCTION	3/4" FOR PIPING UP TO 1-1/4"Ø, & 1" FOR PIPING 1-1/2"Ø AND LARGER
	f) HORIZONTAL STORM PIPE	1/2"
	g) HORIZONTAL STORM OVERFLOW PIPE	1/2"
?????	h) ROOF DRAINS	1" INSULATION SHALL BE PROVIDED AT ROOF DRAIN BODY AND A MINIMUM OF 10' OF HORIZONTAL PIPING OR A MINIMUM OF 5' IF COMBINATION OF HORIZONTAL AND VERTICAL STORM PIPING DOWNSTREAM OF ROOF DRAIN BODY.

CENTRAL
PLUMBING, HEATING & AIR CONDITIONING, INC.
201 East Walnut
Cleveland, MO 64734
816-942-6355

BC PROJECT #22208
MISSOURI PE COA #2009003629

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SCANNELL
PROPERTIES

4/26/2022

LEE'S SUMMIT LOGISTICS BUILDING A LOT 1

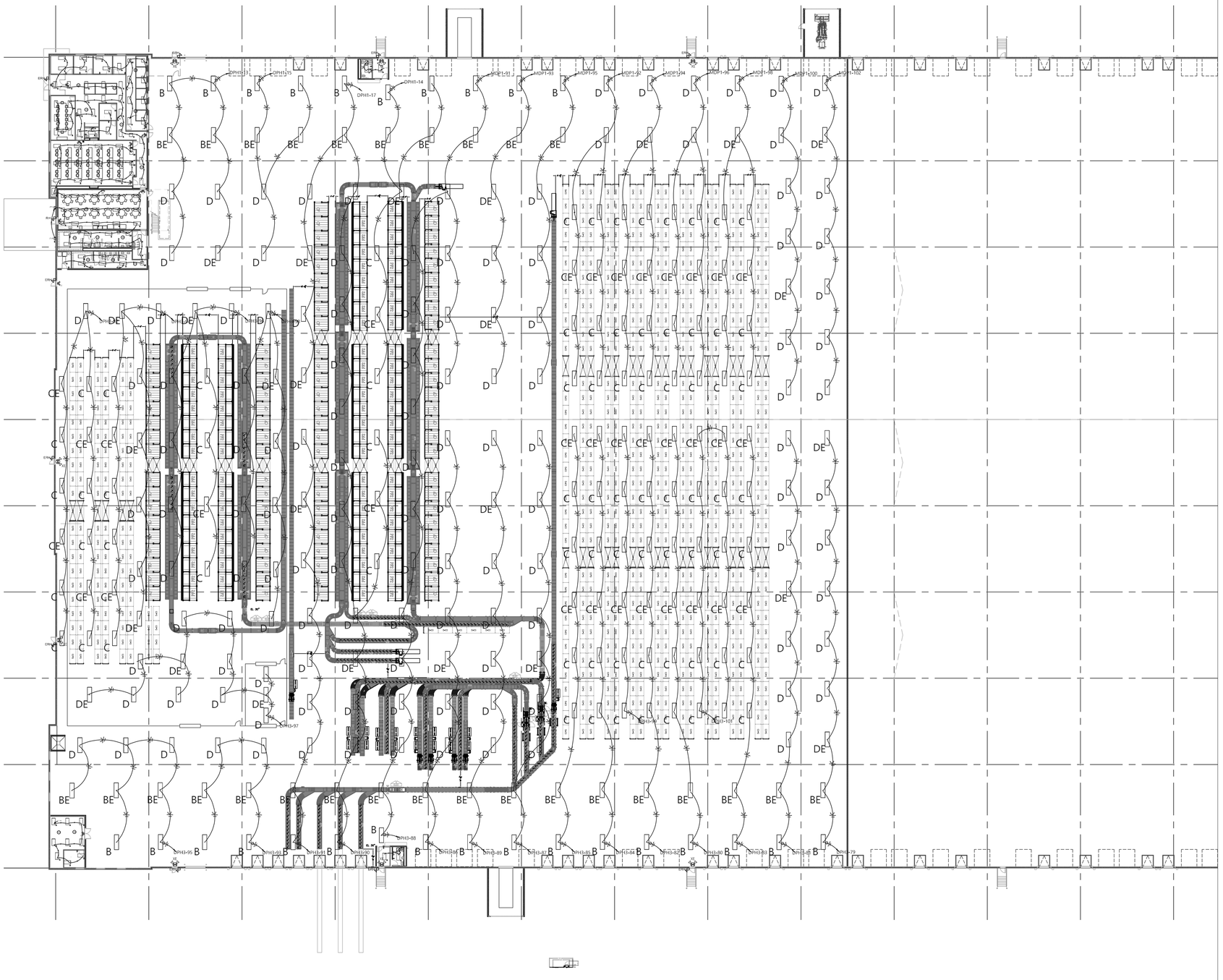
NW CORNER OF
NE TUDOR RD & MAIN ST
LEE'S SUMMIT, MO 64086

PERMIT SET	02.18.22

210300

PLUMBING SPECIFICATIONS

P106



1 Warehouse lighting Plan
scale: 1"=30'

north

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
11/07/2022

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CERTIFICATION

STATE OF MISSOURI
JOHN WILLIAM CASHION
NUMBER E-14378
PROFESSIONAL ENGINEER
10/20/22

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PROJECT INFORMATION

LEE'S SUMMIT LOGISTICS
BUILDING A LOT 1

NW CORNER OF
NE TUDOR RD & MAIN ST
LEE'S SUMMIT, MO 64086

ISSUE DATES

PERMIT SET	02.18.22
CITY COMMENTS	10.17.22

HERITAGE ELECTRIC, L.L.C.
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Olathe, Kansas
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fax (913) 747 0539

HERITAGE ELECTRIC

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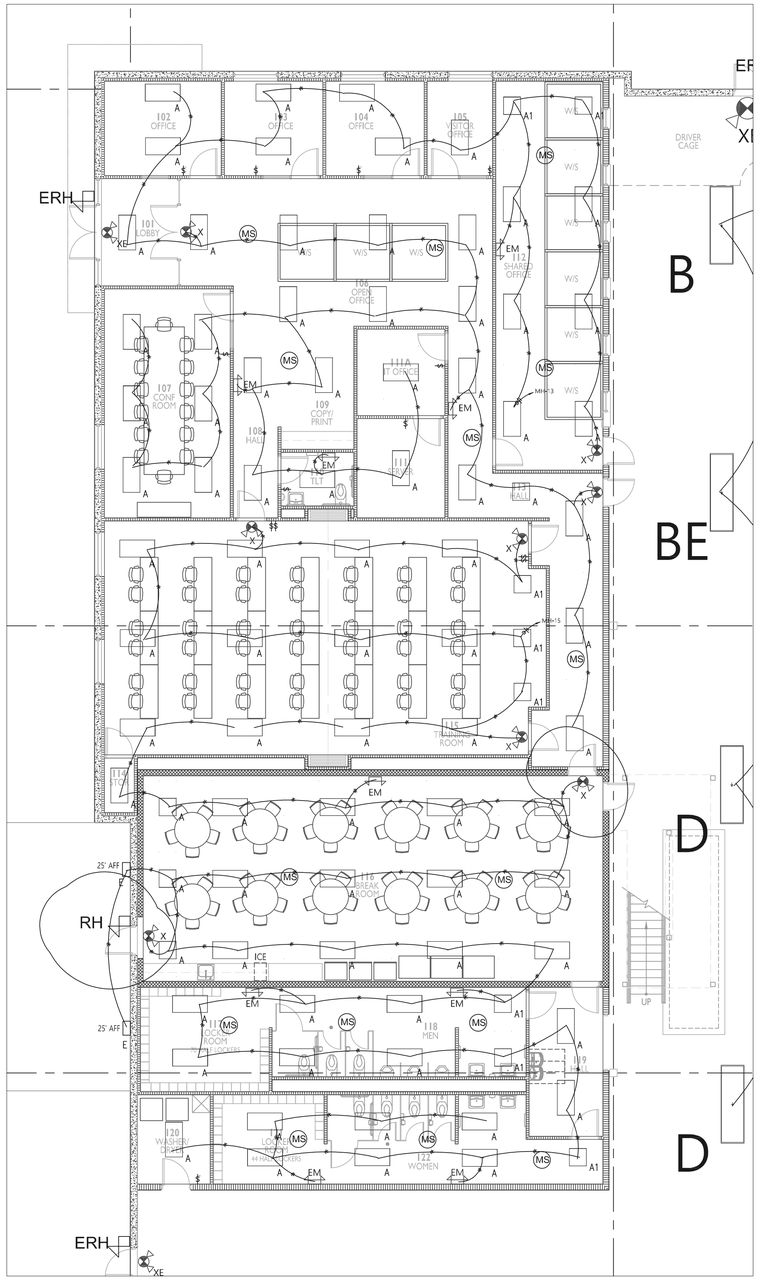
210300

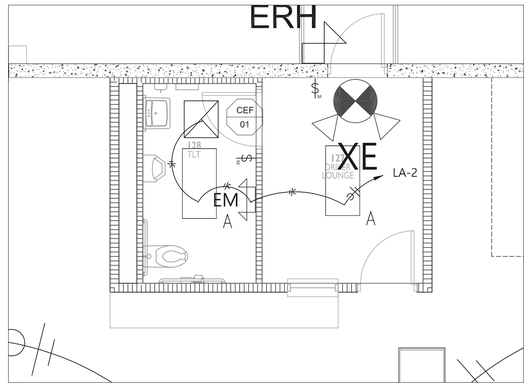
WAREHOUSE LIGHTING

E1.0



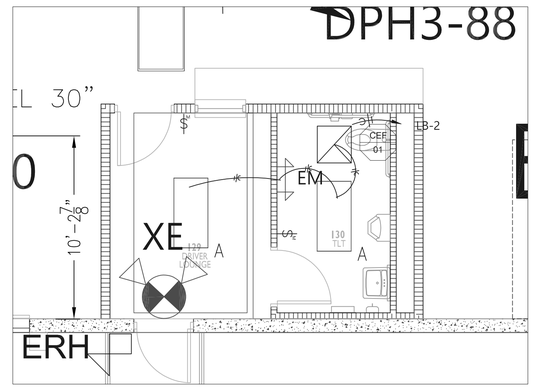
1 Office lighting Plan
scale: 1/8"=1'

north



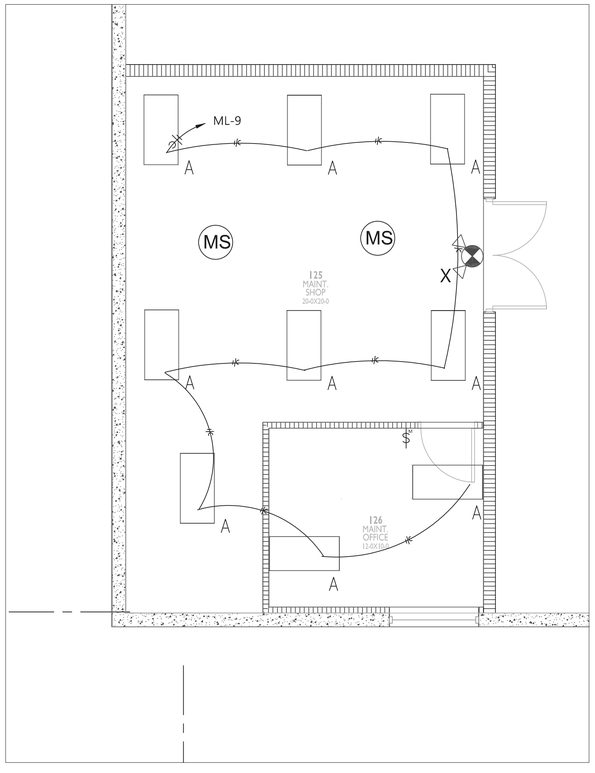
2 Drivers Office lighting Plan
scale: 1/4"=1'

north



3 Drivers Office lighting Plan
scale: 1/4"=1'

north



4 Maintenance Office lighting Plan
scale: 1/4"=1'

north

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PROJECT INFORMATION

LEE'S SUMMIT LOGISTICS
BUILDING A LOT 1

NW CORNER OF
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LEE'S SUMMIT, MO 64086

ISSUE DATES

PERMIT SET	02.18.22
CITY COMMENTS	10.17.22

210300

OFFICE LIGHTING

E1.1

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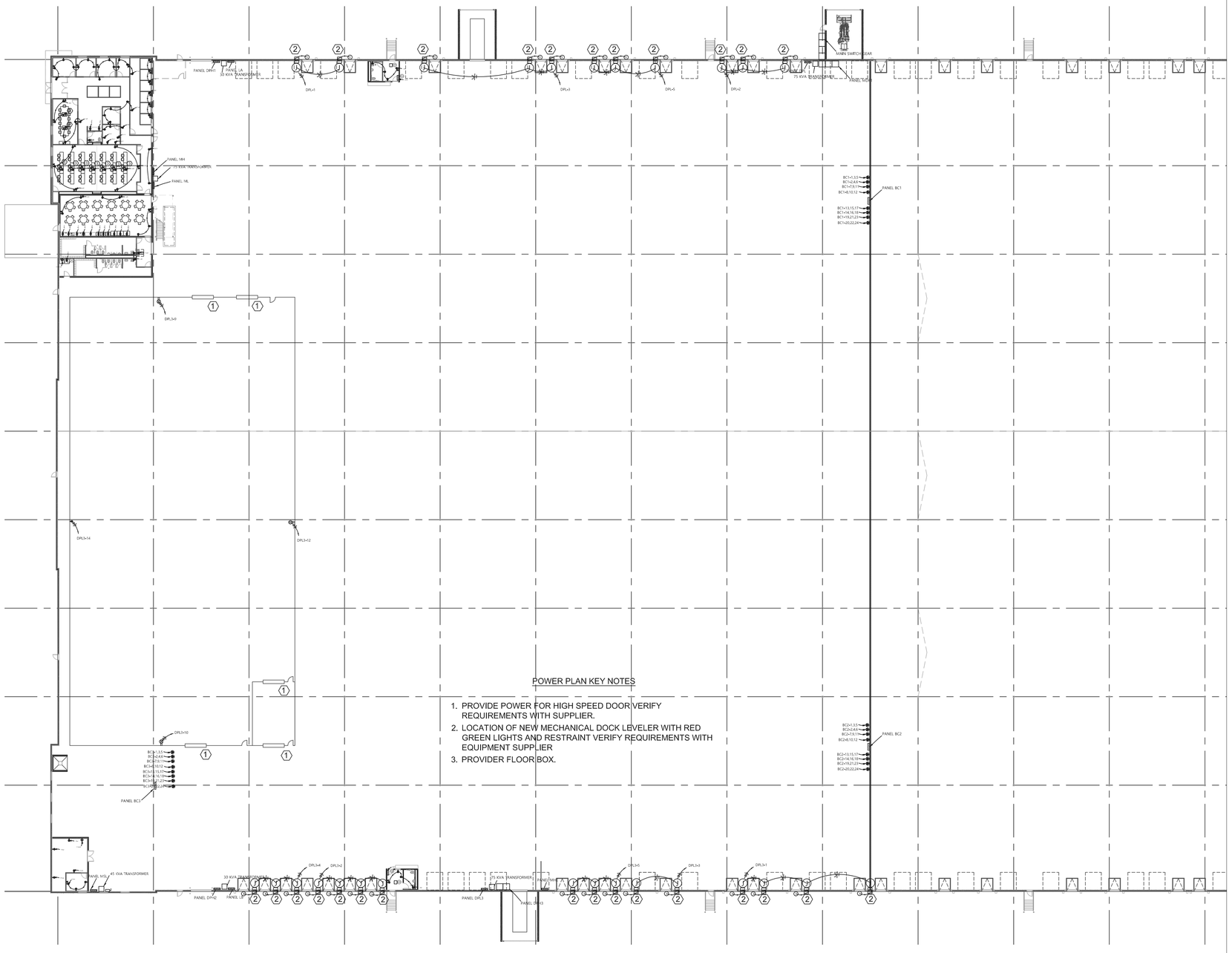

POWER PLAN KEY NOTES

1. PROVIDE POWER FOR HIGH SPEED DOOR VERIFY REQUIREMENTS WITH SUPPLIER.
2. LOCATION OF NEW MECHANICAL DOCK LEVELER WITH RED GREEN LIGHTS AND RESTRAINT VERIFY REQUIREMENTS WITH EQUIPMENT SUPPLIER
3. PROVIDER FLOOR BOX.

1 Warehouse Power Plan
scale: 1"=30'

north

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11/07/2022

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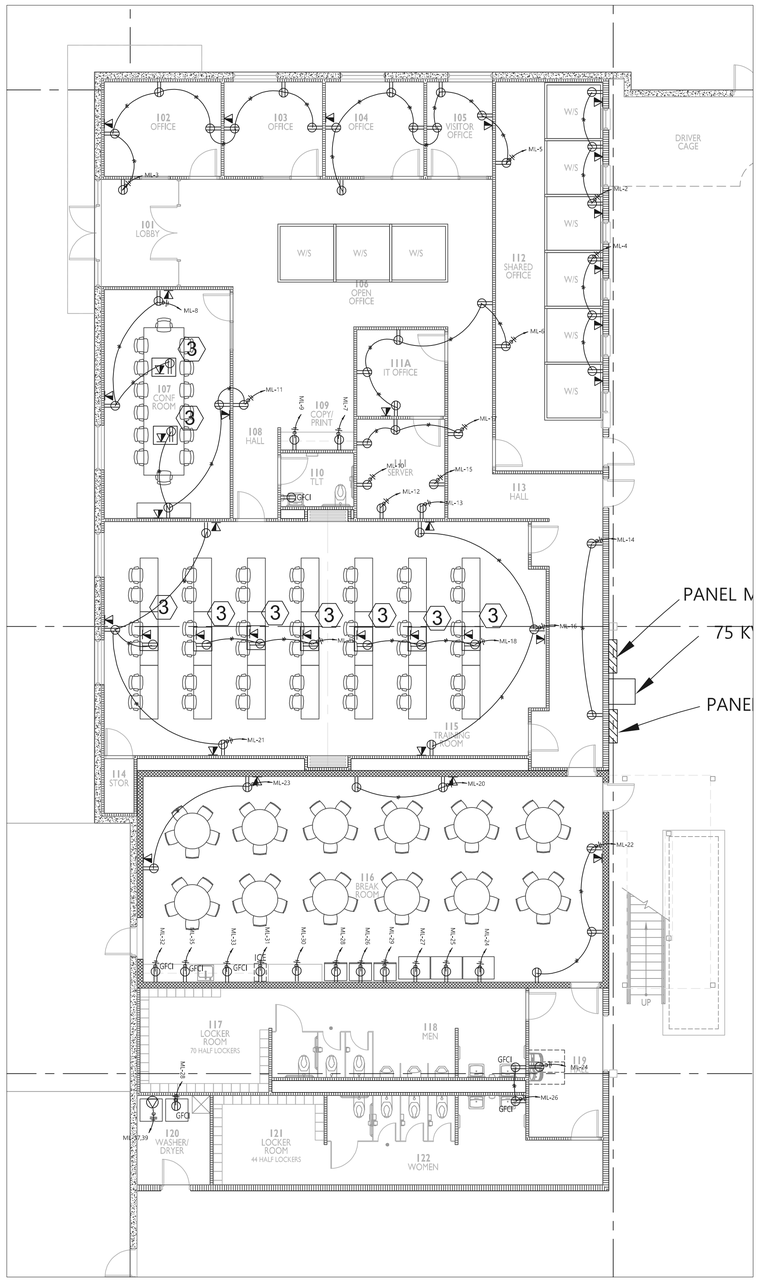
210300

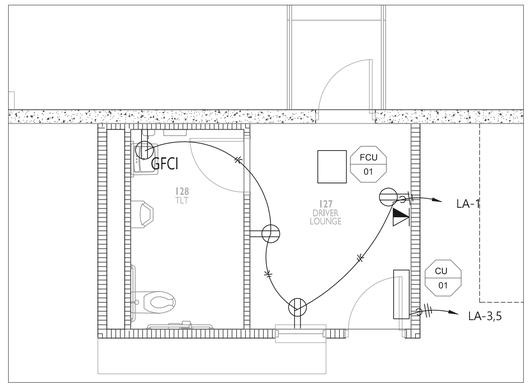
WAREHOUSE POWER

E2.0



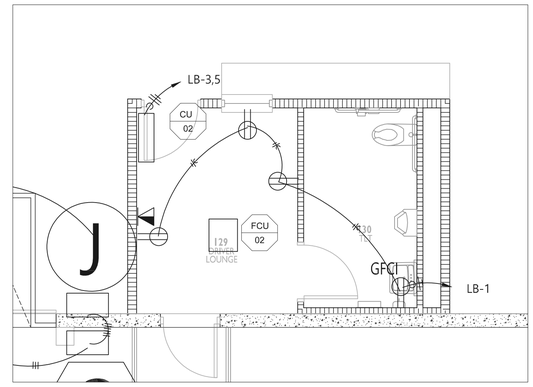
1 Office Power Plan
scale: 1/8"=1'

north



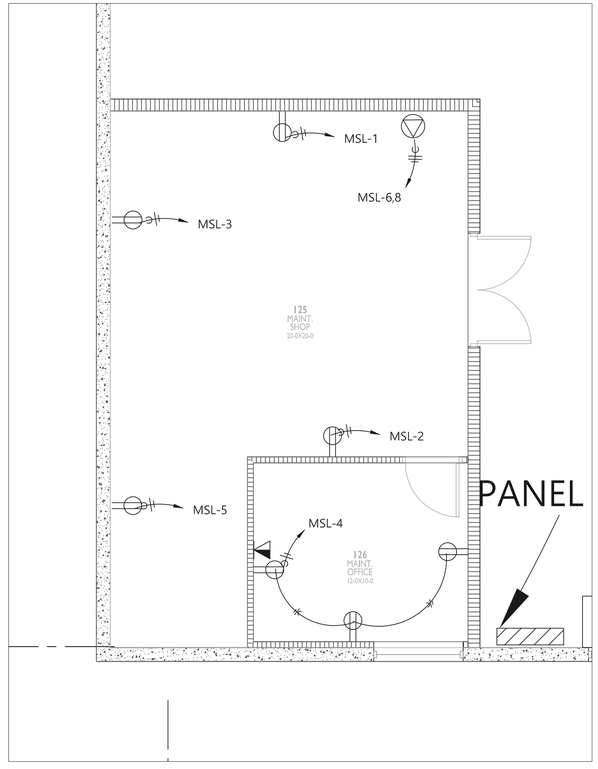
2 Drivers Office Power Plan
scale: 1/4"=1'

north



3 Drivers Office Power Plan
scale: 1/4"=1'

north



4 Maintenance Office Power Plan
scale: 1/4"=1'

north

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Development Services Department
Lee's Summit, Missouri
11.07.2022

CURRAN
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SCANNELL PROPERTIES

CERTIFICATION

STATE OF MISSOURI
JOHN WILLIAM CARRUTHERS
NUMBER E-14378
PROFESSIONAL ENGINEER
10/20/22

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PROJECT INFORMATION

LEE'S SUMMIT LOGISTICS BUILDING A LOT 1

NW CORNER OF
NE TUDOR RD & MAIN ST
LEE'S SUMMIT, MO 64086

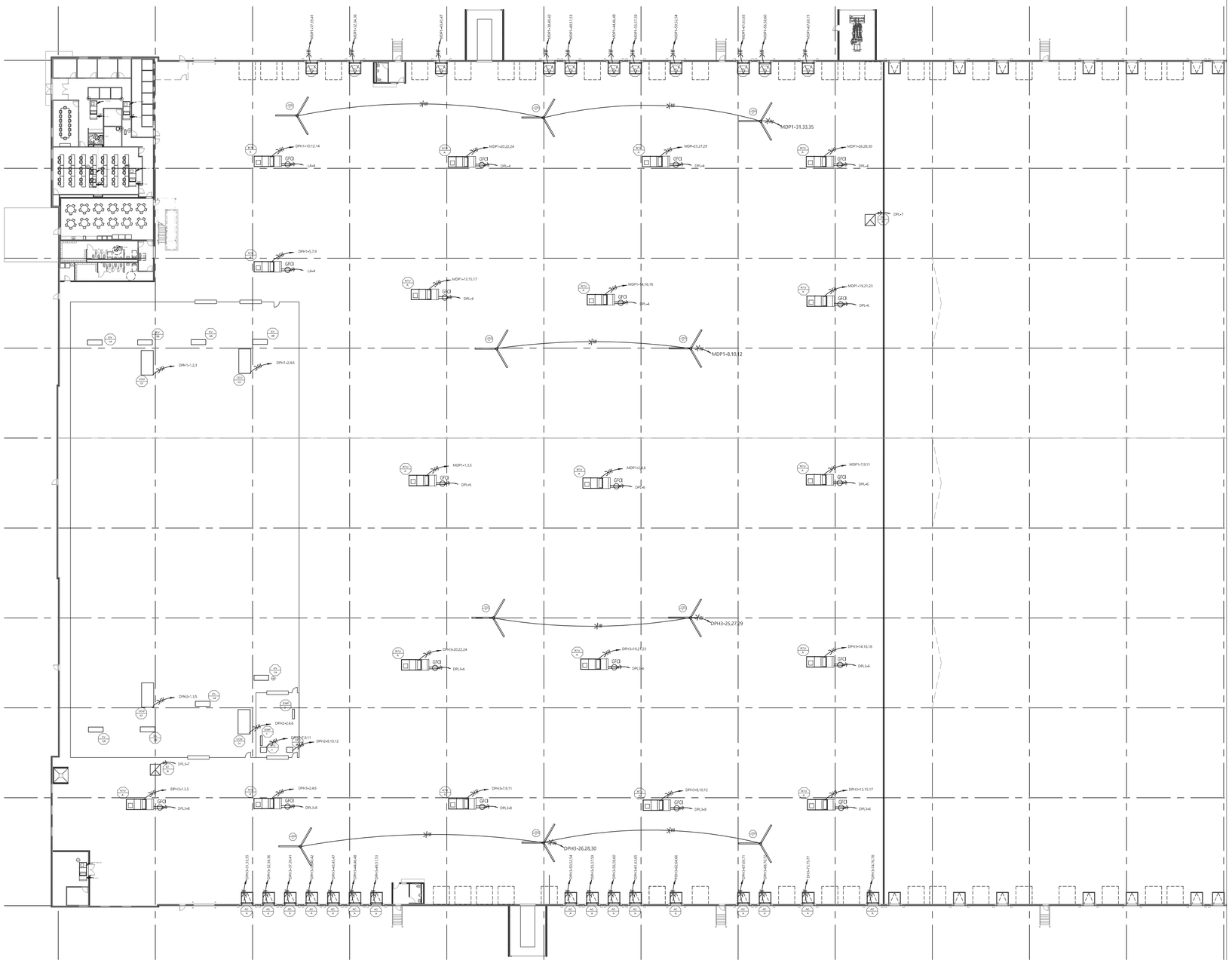
ISSUE DATES

PERMIT SET	02.18.22
CITY COMMENTS	10.17.22

210300

OFFICE POWER

E2.1



1 Warehouse HVAC Plan
scale: 1"=30'

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10/20/22

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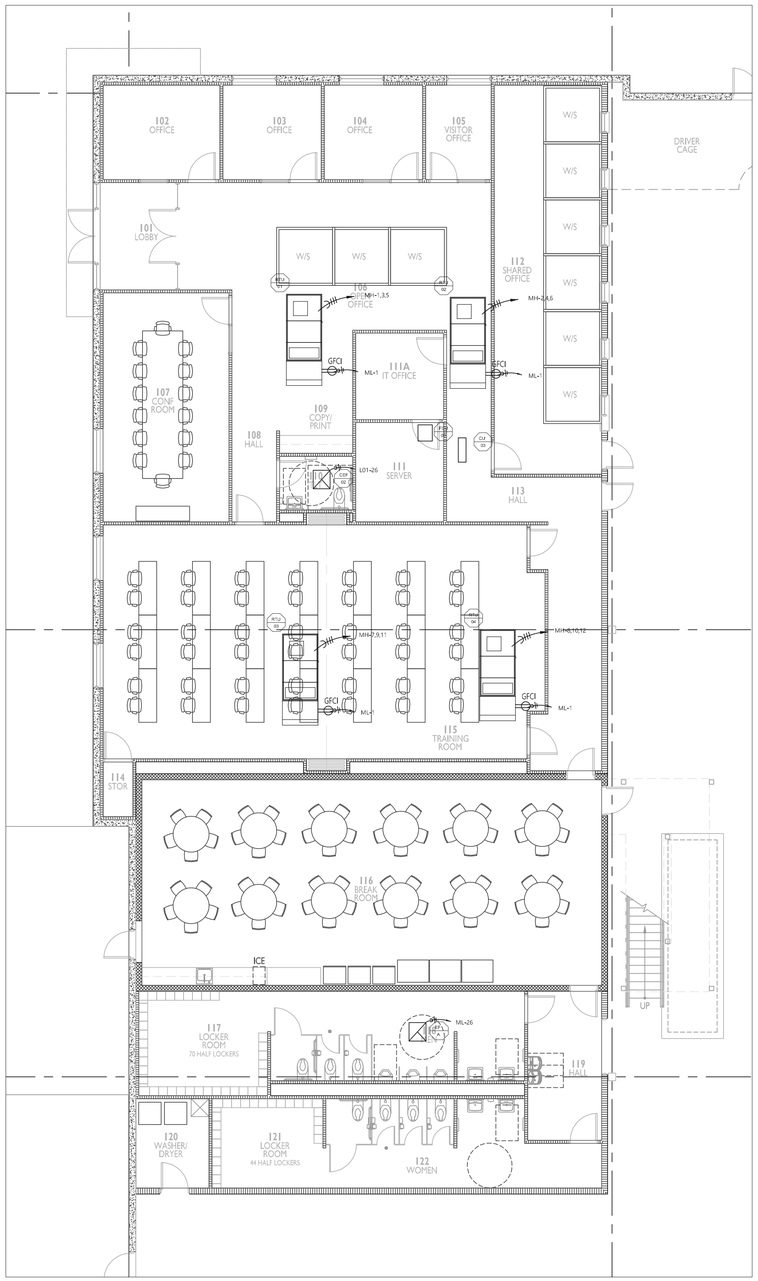
210300

HVAC POWER

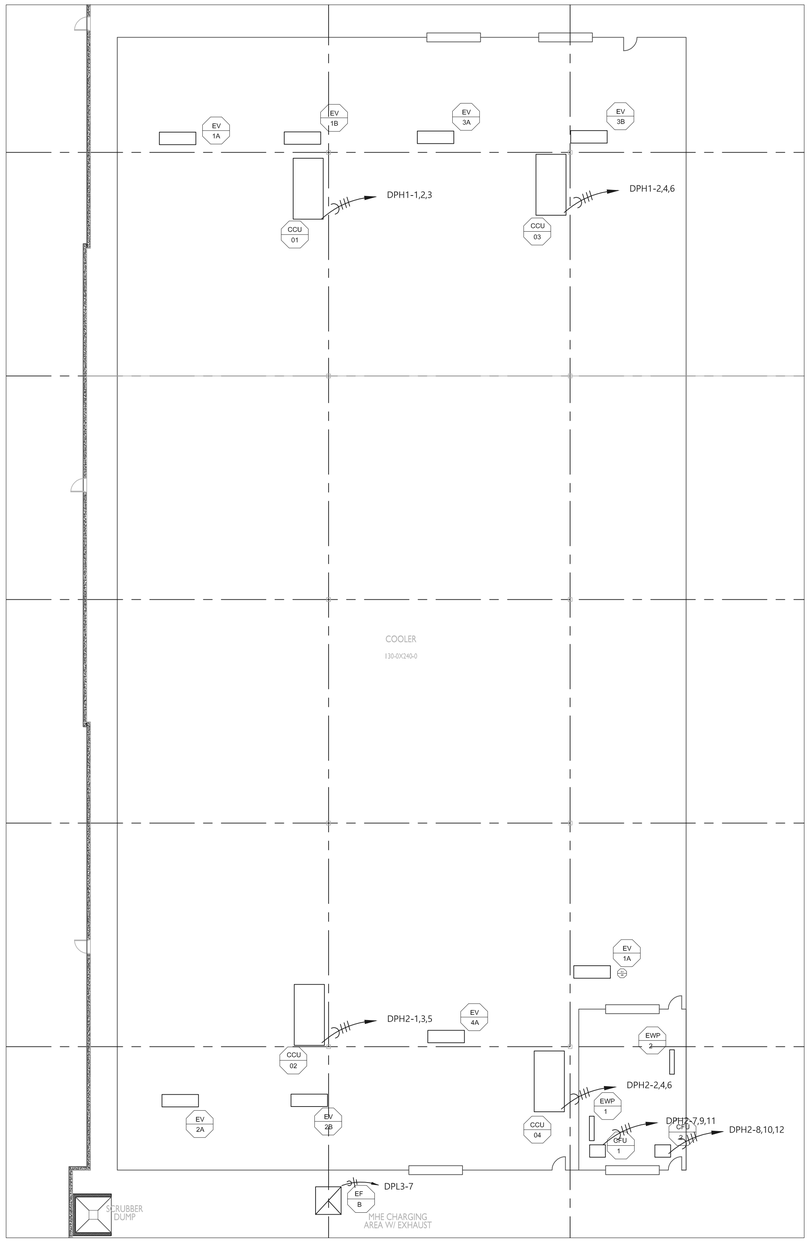
E3.0



1 Office HVAC Power

scale: 1/8"=1'

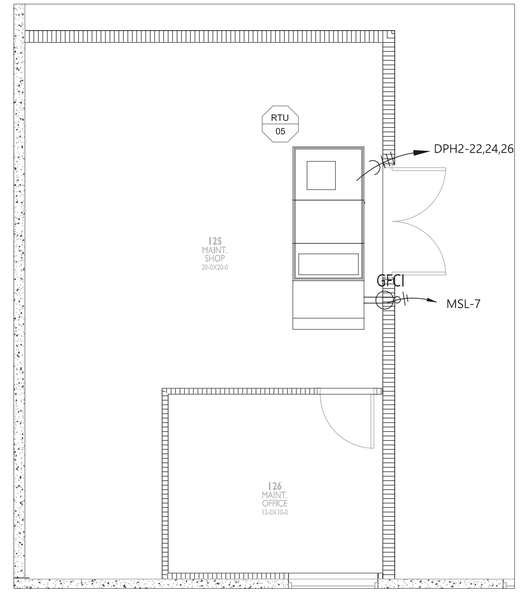
north



2 Cooler HVAC Power

scale: 1/8"=1'

north



3 Maintenance Office HVAC Power

scale: 1/4"=1'

north

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ISSUE DATES

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CITY COMMENTS	10.17.22

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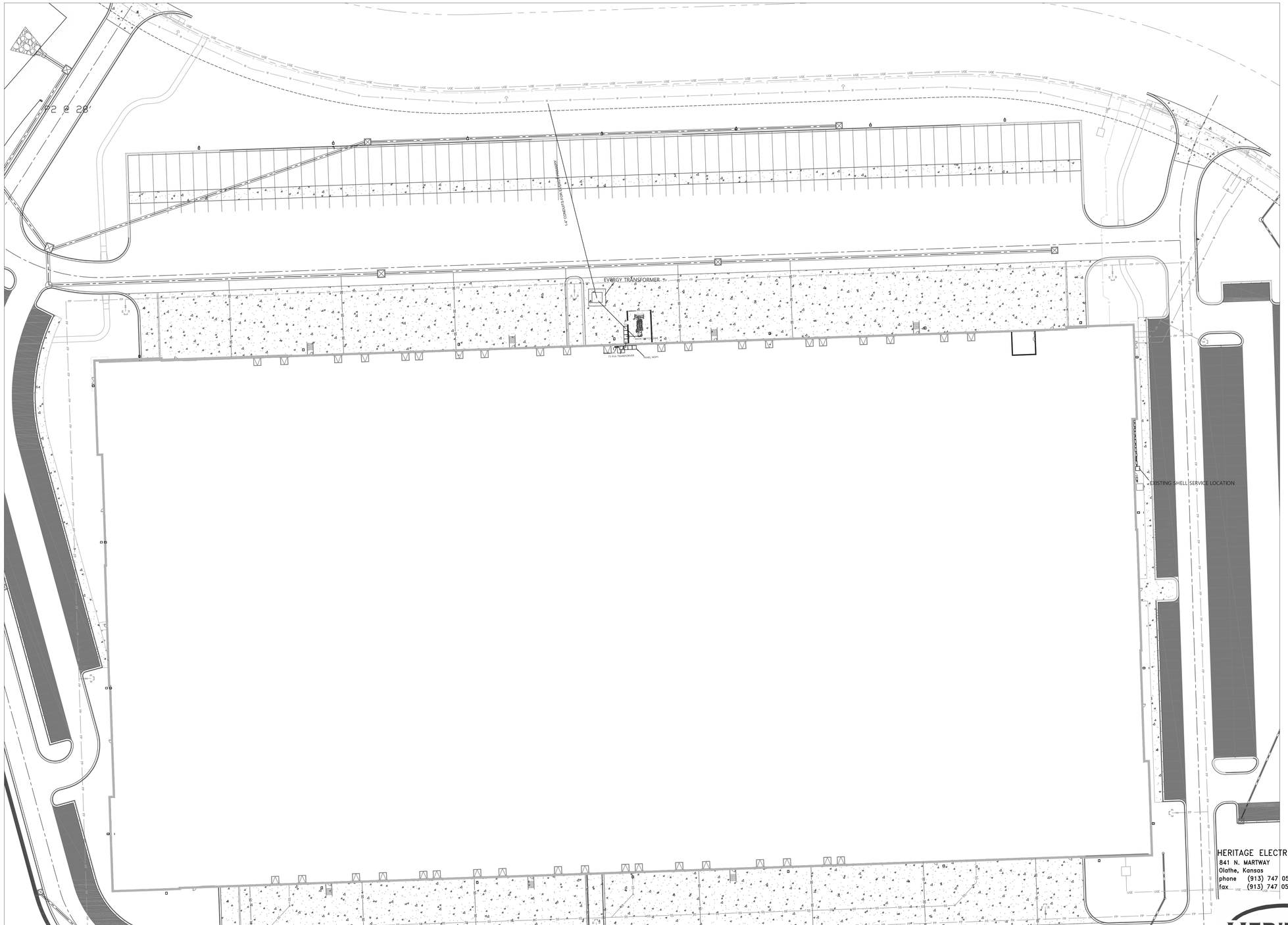
210300

OFFICE HVAC

E3.1



1 Site
scale: N.T.S

north

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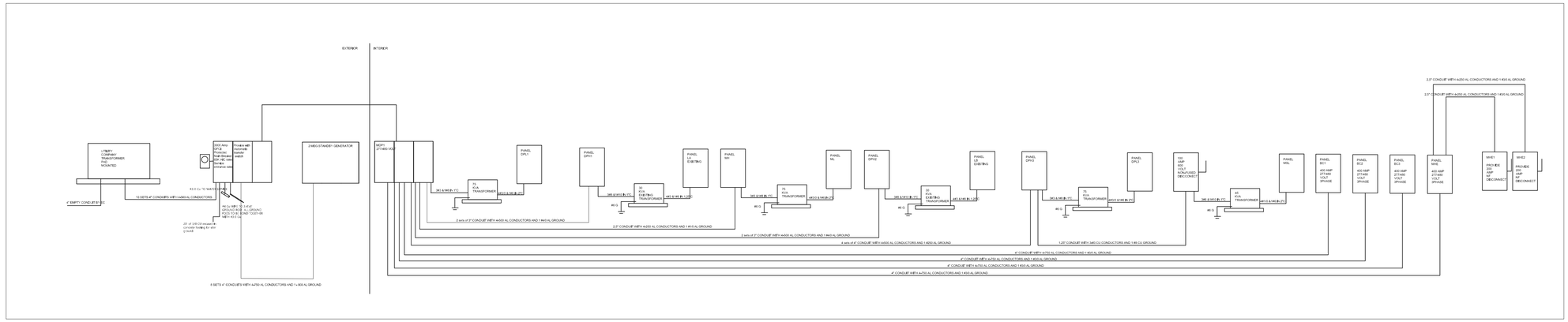
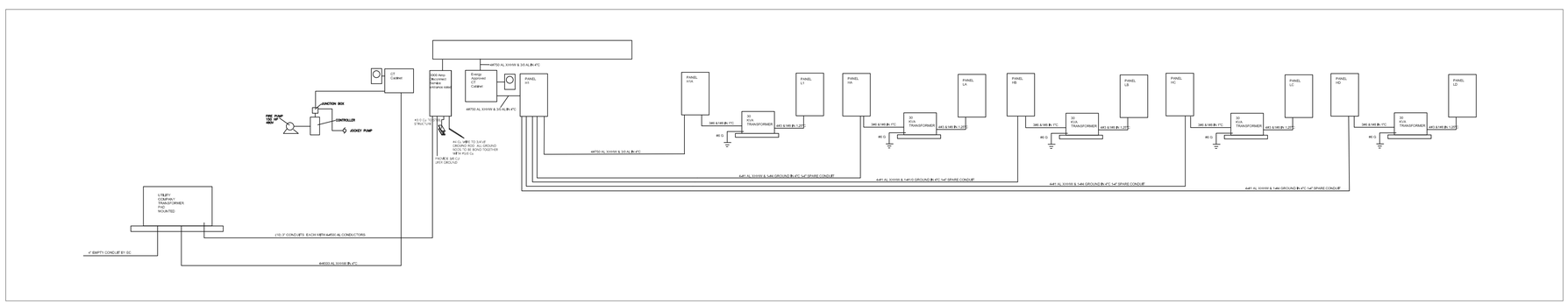
Site

E4.0



1 Riser
scale: N.T.S

north



1 Existing Shell Riser Diagram
scale: N.T.S

north

LIGHT FIXTURE SCHEDULE						
TYPE	MANUFACTURER	CATALOG NO.	LAMPS	MOUNTING	VOLTS	REMARKS
A	Columbia Lighting	CBT24-LS40	LED	CEILING	277	OR EQUAL
A1	Columbia Lighting	CBT22-LS40	LED	CEILING	277	OR EQUAL
B	Columbia Lighting	PEL2-40MV-EDU	LED	CEILING	277	PROVIDE WITH INTEGRAL OCCUPANCY SENSOR
BE	Columbia Lighting	PEL2-40MV-EDU	LED	CEILING	277	SAME AS TYPE B WITH EMERGENCY BALLAST
C	GE Lighitng	ABC1X30473Cxxx	LED	CEILING	277	PROVIDE WITH INTEGRAL OCCUPANCY SENSOR
CE	GE Lighitng	ABC1X30473Cxxx	LED	CEILING	277	SAME AS TYPE C WITH EMERGENCY BALLAST
D	GE Lighitng	ABC1X30475Cxxx	LED	CEILING	277	PROVIDE WITH INTEGRAL OCCUPANCY SENSOR
E	GE Lighting	EWS3-4-E3-D1-40-3-DKBZ	LED	WALL	277	OR EQUAL
DE	GE Lighitng	ABC1X30475Cxxx	LED	CEILING	277	SAME AS TYPE D WITH EMERGENCY BALLAST
X1	Compass	CCR	LED	WALL	277	OR EQUAL
RH	Compass	CUWZ-PC	LED	WALL	277	OR EQUAL
EM	Compass	CU2	LED	WALL	277	OR EQUAL
XE	Compass	CCR	LED	WALL	277	EXISTING EXIT/EM LIGHT INSTALLED IN SHELL
ERH	Compass	CUWZ-PC	LED	WALL	277	EXISTING REMOTE HEAD LIGHT INSTALLED IN SHELL

SPECIFICATIONS

1. CONDUIT ABOVE GRADE SHALL BE EMT UNLESS OTHERWISE NOTED
2. CONDUIT BELOW GRADE SHALL BE RIGID PVC UNLESS OTHERWISE NOTED
3. CONNECTIONS SHALL BE MADE USING SET SCREW CONNECTORS
4. MC CABLE IS ACCETABLE FOR FINAL CONNECTIONS TO LIGHT FIXTURES PROVIDE WITH 10' WHIP ON ALL HIGHBAYS
5. BRANCH WIRING SHALL BE #12 THHN COPPER UNLESS OTHERWISE NOTED
6. WIRING SHALL BE AS PER CURRENT NEC 2005
7. WIRING DEVICES SHALL BE OF COMMERCIAL GRADE RATED AT 20 AMP
8. INSTALLATION SHALL ADHERE TO ADA STANDARDS
9. ALUMINUM XHHW-#2 CABLE MAY BE USED FOR FEEDERS LARGER THEN #2 OTHERWISE COPPER
10. REFER TO KCP&L STANDARDS MANUAL FOR 480 SERVICES
11. ALL LIGHTING/EQUIPMENT IN WAREHOUSE SHALL BE MOUNTED TO PROVIDE A MIN OF 36' CLEAR HEIGHT

Scope:
Provide electrical for new TI in existing warehouse
All Electrical work shall be as per NEC 2017.
All work shall be done by qualified electricians.
All branch wiring shall be copper.
Devices shall be 20a commercial grade and color shall be by architect.

ELECTRICAL GENERAL NOTES

1. WORK INCLUDED, FURNISH ALL LABOR, MATERIAL, SERVICES AND SKILLED SUPERVISION NECESSARY FOR THE CONSTRUCTION, ERECTION, INSTALLATION CONNECTIONS, TESTING AND ADJUSTMENTS OF ALL CIRCUITS AND ELECTRICAL EQUIPMENT SPECIFIED HEREIN, OR NOTED ON THE DRAWINGS, AND ITS DELIVERY TO THE OWNER COMPLETE IN ALL RESPECTS READY FOR USE.
2. CONTRACT DRAWINGS THE CONTRACT DRAWINGS ARE SHOWN IN PART DIAGRAMMATIC, INTENDED TO CONVEY THE SCOPE OF WORK, INDICATING THE GENERAL ARRANGEMENT OF EQUIPMENT, CONDUIT AND OUTLETS. VERIFY SPACES FOR THE INSTALLATION OF THE MATERIALS BASED ON ACTUAL DIMENSIONS OF EQUIPMENT FURNISHED, IF A QUESTION EXISTS AS TO THE EXACT INTENDED LOCATION OF OUTLETS OR EQUIPMENT, OBTAIN INSTRUCTIONS FROM THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH WORK.
3. MINIMUM SIZE OF CONDUIT SHALL BE 1/2" UNLESS NOTED OTHERWISE.
4. ALL WIRING FOR LIGHTING, RECEPTACLE AND POWER CIRCUITS WHERE NOT SHOWN ON DRAWINGS SHALL BE WITH #12 CONDUCTORS, NUMBER AS REQUIRED IN CONDUIT SIZED PER N.E.C. PROVIDE EQUIPMENT GROUNDING CONDUCTOR FOR ALL BRANCH CIRCUITS AND FEEDERS. HOMERUNS TO PANEL SHALL BE IN INDIVIDUAL CONDUITS, UNLESS NOTED OTHERWISE, WITH CIRCUITS AS SHOWN.
5. THE USE OF TYPE 'MC' AND TYPE 'AC' CABLE IS PERMITTED IN ALL AREAS PER NEC AND LOCAL CODE REQUIREMENTS.
6. THE USE OF ALUMINUM CONDUCTORS WITH AMPACITY EQUIVALENT TO COPPER IS PERMITTED IN ALL AREAS PER NEC REQUIREMENTS.
7. ALL JUNCTION BOXES, PULL BOXES, AND PANELBOARDS SHALL BE RIGIDLY ATTACHED TO STRUCTURE.
8. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACE AVAILABLE, AND WITHOUT INTERFERENCES.
9. ALL CONDUIT, BOXES, ETC, SHALL BE CONCEALED OR MOUNTED FLUSH WITH CEILING OR WALL CONSTRUCTION, CONDUITS SHALL BE MOUNTED AS HIGH AS POSSIBLE, NO SURFACE MOUNTED CONDUIT, BOXES, ETC, WILL BE PERMITTED WITHOUT PERMISSION OF THE ENGINEER PRIOR TO INSTALLATION. ALL CONDUIT PENETRATIONS SHALL BE FIRE-CAULKED AS REQUIRED.

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210300

Riser

E5.0

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PANEL: MDP1 — 3000 MB 277/480 V, 3PH, 4W,+GRND. — NEW PANEL

CCT	SERVES	VA	OCP	WIRE	PHASE	WIRE	OCP	VA	SERVES	CCT
1	RTU A	15512	70/3	4-#4, 1-#8G	A	4-#4, 1-#8G	70/3	15512	RTU A	2
3		15512			B	-		15512		4
5		15512			C	-		15512		6
7	RTU A	15512	70/3	4-#4, 1-#8G	A	4-#4, 1-#8G	20/3	15512	RTU A	8
9		15512			B	-		15512		10
11		15512			C	-		500		12
13	RTU A	15512	70/3	4-#4, 1-#8G	A	4-#4, 1-#8G	70/3	15512	RTU A	14
15		15512			B	-		15512		16
17		15512			C	-		15512		18
19	RTU A	15512	70/3	4-#4, 1-#8G	A	4-#4, 1-#8G	70/3	15512	RTU A	20
21		15512			B	-		15512		22
23		15512			C	-		15512		24
25	RTU A	15512	20/3	4-#4, 1-#8G	A	4-#10, 1-#10G	25/3	500	HVLS FAN	26
27		15512			B	-		500	HVLS FAN	28
29		15512			C	-		500	HVLS FAN	30
31	HVLS FAN	1000	20/3	4-#12, 1-#12G	A	4-#12, 1-#12G	25/3	3333	AIR CURTAIN	32
33	HVLS FAN	1000			B			3333		34
35	HVLS FAN	1000			C			3333		36
37	AIR CURTAIN	3333	20/3	4-#12, 1-#12G	A	4-#12, 1-#12G	25/3	3333	AIR CURTAIN	38
39		3333			B			3333		40
41		3333			C			3333		42
43	**AIR CURTAIN**	3333	20/3	4-#12, 1-#12G	B	4-#12, 1-#12G	25/3	3333	**AIR CURTAIN**	44
45		3333			C			3333		46
47		3333			A			3333		48
49	**AIR CURTAIN**	3333	20/3	4-#12, 1-#12G	B	4-#12, 1-#12G	25/3	3333	AIR CURTAIN	50
51		3333			C			3333		52
53		3333			A			3333		54
55	AIR CURTAIN	3333	20/3	4-#12, 1-#12G	B	4-#12, 1-#12G	25/3	3333	AIR CURTAIN	56
57		3333		--	C	--		3333		58
59		3333			B			3333		60
61	AIR CURTAIN	3333	20/3	4-#12, 1-#12G	C	2 SETS 4-#500AL, 1-#40 ALG	600/3	121977	DPH1	62
63		3333			A			120325		64
65		3333			B			121175		66
67	AIR CURTAIN	3333	20/3	4-#12, 1-#12G	C	4-#250 AL, 1-#10 AL G	200/3	16020	PANEL MH	68
69		3333			B			16580		70
71		3333			C			16620		72
73	PANEL MH1 EQUIPMENT	88640	400/3	4-#750 AL, 1-#30 AL G	B	4 SETS 4-#500 AL, 1-#250 AL G	1200/3	178924	PANEL DPH 3	74
75		88640		--	C	--		178924		76
77		88640			B			178924		78
79	PANEL DPH2	115139	600/3	2 SETS 4-#300 AL, 1-#40 ALG	C	4-#750 AL, 1-#30 AL G	400/3	35456	BC1	80
81		113586			A			35456		82
83		113386			B			35456		84
85	BC2	35456	400/3	4-#750 AL, 1-#30 AL G	C	4-#750 AL, 1-#30 AL G	400/3	35456	BC3	86
87		35456			B			35456		88
89		35456			C			35456		90
91	**WAREHOUSE LIGHTS**	1260	20/1	3-#12, 1-#12G	A	3-#12, 1-#12G	20/1	1260	**WAREHOUSE LIGHTS**	92
93	**WAREHOUSE LIGHTS**	1260	**20/1**	3-#12, 1-#12G	B	3-#12, 1-#12G	20/1	2110	WAREHOUSE LIGHTS	94
95	**WAREHOUSE LIGHTS**	1260	**20/1**	3-#12, 1-#12G	C	3-#12, 1-#12G	20/1	2110	WAREHOUSE LIGHTS	96
97	**TRANSFORMER**		**100/3**	4/#3, 1-#8G	A	3-#12, 1-#12G	20/1	2110	WAREHOUSE LIGHTS	98
99				--	B	3-#12, 1-#12G	20/1	1470	WAREHOUSE LIGHTS	100
101				--	C	3-#12, 1-#12G	20/1	1470	WAREHOUSE LIGHTS	102

NOTES:
1 NEMA 3R ENCLOSURE
2 PROVIDE BOLT ON BREAKERS
3

LOAD SUMMARY	CONN	NEC	DEM	LOAD BALANCE PER PHASE	
1-LIGHTING	14310	1.25	17887.5	PHASE A	322598
2-RECEPTACLES	0	NEC	0	PHASE B	321516
3-KITCHEN	0	0.65	0	PHASE C	305394
4-HVAC	2394604	1	2394604	LOWEST PHASE PLUS 10%	
5-NON-CONT	4500	1	4500	305394 + 10%	335933.4
LARGEST MOTOR	0	0.25	0	PHASES ARE BALANCED	
TOTAL VA	2413414		2416991.5		
TOTAL AMPS	2903.0		2907.3		

PANEL: DPL — 200 MLO 120/208 V, 3PH, 4W.+GRND. — NEW PANEL

CCT	SERVES	VA	OCP	WIRE	PHASE	WIRE	OCP	VA	SERVES	CCT
1	DOCK EQUIPMENT	800	20/1	2-#12, 1-#12G	A	2-#12, 1-#12G	20/1	600	DOCK EQUIPMENT	2
3	DOCK EQUIPMENT	400	20/1	2-#12, 1-#12G	B	2-#12, 1-#12G	20/1	800	GFCI RECEP	4
5	DOCK EQUIPMENT	600	20/1	2-#12, 1-#12G	C	2-#12, 1-#12G	20/1	800	GFCI RECEP	6
7	EWAUST FAN	560	20/1	2-#12, 1-#12G	A	2-#12, 1-#12G	20/1		SPARE	8
9	SPARE		20/1	2-#12, 1-#12G	B	2-#12, 1-#12G	20/1		SPARE	10
11	SPARE		20/1	2-#12, 1-#12G	C	2-#12, 1-#12G	20/1		SPARE	12
13	SPARE		20/1	2-#12, 1-#12G	A	2-#12, 1-#12G	20/1		SPARE	14
15	SPARE		20/1	2-#12, 1-#12G	B	3-#12, 1-#12G	20/1		SPARE	16
17					C					18
19					A					20
21					B					22
23					C					24
25					A					26
27					B					28
29					C					30
31					A					32
33					B					34
35					C					36
37					A					38
39					B					40
41					C					42

NOTES:
1 NEMA 1 ENCLOSURE
2 PROVIDE BOLT ON BREAKERS
3

LOAD SUMMARY	CONN	NEC	DEM	LOAD BALANCE PER PHASE	
1-LIGHTING	0	1.25	0	PHASE A	19660
2-RECEPTACLES	4560	NEC	4560	PHASE B	1200
3-KITCHEN	0	0.65	0	PHASE C	1400
4-HVAC	0	1	0	LOWEST PHASE PLUS 10%	
5-NON-CONT	0	1	0	1200 + 10%	1320
LARGEST MOTOR	0	0.25	0	REBALANCE LOADS	
TOTAL VA	4560		4560		
TOTAL AMPS	12.7		12.7		

PANEL: LB — 100 MLO 120/208 V, 3PH, 4W.+GRND. — EXISTING

CCT	SERVES	VA	OCP	WIRE	PHASE	WIRE	OCP	VA	SERVES	CCT
1	RECEP	900	20/1	2-#12, 1-#12G	A	2-#12, 1-#12G	20/1	120	LIGHTS	2
3	FCU-2	1248	15/2	2-#12, 1-#12G	B	2-#12, 1-#12G	20/1	200	GFCI RECEP	4
5		1248			C	2-#12, 1-#12G	20/1		SPARE	6
7	DOCK RECEP	800	20/1	2-#12, 1-#12G	A	2-#12, 1-#12G	20/1		SPARE	8
9	DOCK RECEP	800	20/1	2-#12, 1-#12G	B	2-#12, 1-#12G	20/1		SPARE	10
11	DOCK RECEP	800	20/1	2-#12, 1-#12G	C	2-#12, 1-#12G	20/1		SPARE	12
13	SPARE		20/1	2-#12, 1-#12G	A	2-#12, 1-#12G	20/1		SPARE	14
15	SPARE		20/1	2-#12, 1-#12G	B	2-#12, 1-#12G	20/1		SPARE	16
17					C					18
19					A					20
21					B					22
23					C					24
25					A					26
27					B					28
29					C					30
31					A					32
33					B					34
35					C					36
37					A					38
39					B					40
41					C					42

NOTES:
1 NEMA 1 ENCLOSURE
2 PROVIDE BOLT ON BREAKERS
3

LOAD SUMMARY	CONN	NEC	DEM	LOAD BALANCE PER PHASE	
1-LIGHTING	120	1.25	150	PHASE A	1720
2-RECEPTACLES	5696	NEC	5696	PHASE B	2248
3-KITCHEN	0	0.65	0	PHASE C	2048
4-HVAC	200	1	200	LOWEST PHASE PLUS 10%	
5-NON-CONT	0	1	0	1720 + 10%	1892
LARGEST MOTOR	0	0.25	0	REBALANCE LOADS	
TOTAL VA	6016		6046		
TOTAL AMPS	16.7		16.8		

PANEL: DPL3 — 200 MLO 120/208 V, 3PH, 4W.+GRND. — NEW PANEL

CCT	SERVES	VA	OCP	WIRE	PHASE	WIRE	OCP	VA	SERVES	CCT
1	DOCK EQUIPMENT	800	20/1	2-#12, 1-#12G	A	2-#12, 1-#12G	20/1	800	DOCK EQUIPMENT	2
3	DOCK EQUIPMENT	400	20/1	2-#12, 1-#12G	B	2-#12, 1-#12G	20/1	800	DOCK EQUIPMENT	4
5	DOCK EQUIPMENT	600	20/1	2-#12, 1-#12G	C	2-#12, 1-#12G	20/1	800	GFCI RECEP	6
7	EWAUST FAN	560	20/1	2-#12, 1-#12G	A	2-#12, 1-#12G	20/1	800	GFCI RECEP	8
9	COOLER RECEP	1200	20/1	2-#12, 1-#12G	B	2-#12, 1-#12G	20/1	1200	COOLER RECEP	10
11	SPARE		20/1	2-#12, 1-#12G	C	2-#12, 1-#12G	20/1	1200	COOLER RECEP	12
13	SPARE		20/1	2-#12, 1-#12G	A	2-#12, 1-#12G	20/1	1200	COOLER RECEP	14
15	SPARE		20/1	2-#12, 1-#12G	B	2-#12, 1-#12G	20/1		SPARE	16
17					C					18
19					A					20
21					B					22
23					C					24
25					A					26
27					B					28
29					C					30
31					A					32
33					B					34
35					C					36
37					A					38
39					B					40
41					C					42

NOTES:
1 NEMA 1 ENCLOSURE
2 PROVIDE BOLT ON BREAKERS
3

LOAD SUMMARY	CONN	NEC	DEM	LOAD BALANCE PER PHASE	
1-LIGHTING	0	1.25	0	PHASE A	3960
2-RECEPTACLES	10160	NEC	10160	PHASE B	3600
3-KITCHEN	0	0.65	0	PHASE C	2600
4-HVAC	0	1	0	LOWEST PHASE PLUS 10%	
5-NON-CONT	0	1	0	2600 + 10%	2860
LARGEST MOTOR	0	0.25	0	REBALANCE LOADS	
TOTAL VA	10160		10080		
TOTAL AMPS	28.2		28.0		

PANEL: MSL — 150 MLO 120/208 V, 3PH, 4W.+GRND. — NEW PANEL

CCT	SERVES	VA	OCP	WIRE	PHASE	WIRE	OCP	VA	SERVES	CCT
1	RECEP	1000	20/1	2-#12, 1-#12G	A	2-#12, 1-#12G	20/1	1000	RECEP	2
3	RECEP	1000	20/1	2-#12, 1-#12G	B	2-#12, 1-#12G	20/1	600	RECEP	4
5	RECEP	1000	20/1	2-#12, 1-#12G	C	2-#12, 1-#12G	50/2	4160	WELDING RECEP	6
7	GFCI RECEP	200	20/1	2-#12, 1-#12G	A	2-#12, 1-#12G		4160		8
9	SPARE		20/1	2-#12, 1-#12G	B	2-#12, 1-#12G	20/1		SPARE	10
11	SPARE		20/1	2-#12, 1-#12G	C	2-#12, 1-#12G	20/1		SPARE	12
13	SPARE		20/1	2-#12, 1-#12G	A	2-#12, 1-#12G	20/1		SPARE	14
15	SPARE		20/1	2-#12, 1-#12G	B	2-#12, 1-#12G	20/1		SPARE	16
17					C					18
19					A					20
21					B					22
23					C					24
25					A					26
27					B					28
29					C					30
31					A					32
33					B					34
35					C					36
37					A					38
39					B					40
41					C					42

NOTES:
1 NEMA 1 ENCLOSURE
2 PROVIDE BOLT ON BREAKERS
3

LOAD SUMMARY	CONN	NEC	DEM	LOAD BALANCE PER PHASE	
1-LIGHTING	0	1.25	0	PHASE A	6360
2-RECEPTACLES	4080	NEC	4080	PHASE B	1600
3-KITCHEN	0	0.65	0	PHASE C	5160
4-HVAC	0	1	0	LOWEST PHASE PLUS 10%	
5-NON-CONT	8320	1	8320	2600 + 10%	1760
LARGEST MOTOR	0	0.35	0	REBALANCE LOADS	
TOTAL VA	13120		12120		
TOTAL AMPS	36.4		36.4		

PANEL: DPH3 — 1200 MB 277/480 V, 3PH, 4W.+GRND. — NEW PANEL

CCT	SERVES	VA	OCP	WIRE	PHASE	WIRE	OCP	VA	SERVES	CCT
1	RTU A	15512	70/3	4-#4, 1-#8G	A	4-#4, 1-#8G	70/3	15512	RTU A	2
3		15512			B	-		15512		4
5		15512			C	-		15512		6
7	RTU A	15512	70/3	4-#4, 1-#8G	A	4-#4, 1-#8G	70/3	15512	RTU A	8
9		15512			B	-		15512		10
11		15512			C	-		15512		12
13	RTU A	15512	70/3	4-#4, 1-#8G	A	4-#4, 1-#8G	70/3	15512	RTU A	14
15		15512			B	-		15512		16
17		15512			C	-		15512		18
19	RTU A	15512	70/3	4-#4, 1-#8G	A	4-#4, 1-#8G	70/3	15512	RTU A	20
21		15512			B	-		15512		22
23		15512			C	-		15512		24
25	HVLS FAN	1000	20/3	4-#10, 1-#10G	A	4-#10, 1-#10G	20/3	500	HVLS FAN	26
27	HVLS FAN	1000			B			500	HVLS FAN	28
29	HVLS FAN	1000			C			500	HVLS FAN	30
31	AIR CURTAIN	3333	20/3	4-#12, 1-#12G	A	4-#12, 1-#12G	20/3	3333	AIR CURTAIN	32
33		3333			B			3333		34
35		3333			C			3333		36
37	AIR CURTAIN	3333	20/3	4-#12, 1-#12G	A	4-#12, 1-#12G	20/3	3333	AIR CURTAIN	38
39		3333			B			3333		40
41		3333			C			3333		42
43	**AIR CURTAIN**	3333	20/3	4-#12, 1-#12G	B	4-#12, 1-#12G	20/3	3333	**AIR CURTAIN**	44
45		3333			C			3333		46
47		3333			A			3333		48
49	**AIR CURTAIN**	3333	20/3	4-#12, 1-#12G	B	4-#12, 1-#12G	20/3	3333	AIR CURTAIN	50
51		3333			C			3333		52
53		3333			A			3333		54
55	AIR CURTAIN	3333	20/3	4-#12, 1-#12G	B	4-#12, 1-#12G	20/3	3333	AIR CURTAIN	56
57		3333		--	C	--		3333		58
59		3333			B			3333		60
61	AIR CURTAIN	3333	20/3	4-#12, 1-#12G	C	4-#12, 1-#12G	20/3	3333	AIR CURTAIN	62
63		3333			A			3333		64
65		3333			B			3333		66
67	AIR CURTAIN	3333	20/3	4-#12, 1-#12G	C	4-#12, 1-#12G	20/3	3333	AIR CURTAIN	68
69		3333			B			3333		70
71		3333			C			3333		72
73	**AIR CURTAIN**	3333	20/3	4-#12, 1-#12G	A	4-#12, 1-#12G	20/3	3333	**AIR CURTAIN**	74
75		3333			B			3333		76
77		3333			C			3333		78
79	**WAREHOUSE LIGHTS**	1680	20/1	3-#12, 1-#12G	B	3-#12, 1-#12G	20/1	1680	**WAREHOUSE LIGHTS**	80
81	**WAREHOUSE LIGHTS**	1680	20/1	3-#12, 1-#12G	C	3-#12, 1-#12G	20/1	1680	**WAREHOUSE LIGHTS**	82
83	**WAREHOUSE LIGHTS**	1680	20/1	3-#12, 1-#12G	A	3-#12, 1-#12G	20/1	1680	**WAREHOUSE LIGHTS**	84
85	**WAREHOUSE LIGHTS**	1680	20/1	3-#12, 1-#12G	B	3-#12, 1-#12G	20/1	1860	WAREHOUSE LIGHTS	86
87	**WAREHOUSE LIGHTS**	1680	20/1	3-#12, 1-#12G	C	3-#12, 1-#12G	20/1	1860	WAREHOUSE LIGHTS	88
89	**WAREHOUSE LIGHTS**	1680	20/1	3-#12, 1-#12G	A	3-#12, 1-#12G	20/1	2520	WAREHOUSE LIGHTS	90
91	WAREHOUSE LIGHTS	1680	20/1	3-#12, 1-#12G	B	3-#12, 1-#12G	20/1	2110	WAREHOUSE LIGHTS	92
93	WAREHOUSE LIGHTS	1260	20/1	3-#12, 1-#12G	C	3-#12, 1-#12G	20/1	1860	WAREHOUSE LIGHTS	94
95	WAREHOUSE LIGHTS	1680	20/1	3-#12, 1-#12G	B	3-#12, 1-#12G	20/1	2730	WAREHOUSE LIGHTS	96
97	WAREHOUSE LIGHTS	2520	20/1	3-#12, 1-#12G	C	3-#12, 1-#12G	20/1	2730	WAREHOUSE LIGHTS	98
99	WAREHOUSE LIGHTS	1260	20/1	3-#12, 1-#12G	A					100
101	WAREHOUSE LIGHTS	2520	20/1	3-#12, 1-#12G	B					102
103					C					104
105					B					106
107					C					108
109					A					110
111					B					112
113					C					114
115	**TRANSFORMER**		**100/3**	3/#0, 1-#6G	A	3/#0, 1-#6G	75/3		TRANSFORMER	116
117				--	B					118
119				--	C	--				120

NOTES:
1 NEMA 3R ENCLOSURE
2 PROVIDE BOLT ON BREAKERS
3

LOAD SUMMARY	CONN	NEC	DEM	LOAD BALANCE PER PHASE:	
1-LIGHTING	42850	1.25	53562.5	PHASE A	178924
2-RECEPTACLES	0	NEC	0	PHASE B	178924
3-KITCHEN	0	0.65	0	PHASE C	178924
4-HVAC	532272	1	532272	LOWEST PHASE PLUS 10%	
5-NON-CONT	4500	1	4500	178924 + 10%	196816.4
LARGEST MOTOR	0	0.25	0	PHASES ARE BALANCED	
TOTAL VA	579622		590334.5		
TOTAL AMPS	697.2		710.1		

PANEL: DPH2 — 600A MLO 277/480 V, 3PH, 4W.+GRND. — NEW PANEL

CCT	SERVES	VA	OCP	WIRE	PHASE	WIRE	OCP	VA	SERVES	CCT
1	CCU 02	39334	150/3	2-#12, 1-#12G	A	2-#12, 1-#12G	150/3	39334	CCU 04	2
3		39334		2-#12, 1-#12G	B	2-#12, 1-#12G		39334		4
5		39334		2-#12, 1-#12G	C	2-#12, 1-#12G		39334		6
7	CFU 1	8864	40/3	2-#12, 1-#12G	A	2-#12, 1-#12G	40/3	8864	CFU 2	8
9		8864			B	2-#12, 1-#12G		8864		10
11		8864			C	2-#12, 1-#12G		8864		12
13	WAREHOUSE LIGHTS	2000	20/1	2-#12, 1-#12G	A	2-#12, 1-#12G	20/1	2000	WAREHOUSE LIGHTS	14
15	WAREHOUSE LIGHTS	2000	20/1	2-#12, 1-#12G	B	3-#8, 1-#10G	50/3	6925	MAU1	16
17	WAREHOUSE LIGHTS	2000	20/1	2-#12, 1-#12G	C			6925		18
19	OVERHEAD DOOR	200	20/3	4-#10, 1-#12G	A			6925		20
21		200			B	3-#8, 1-#10G	25/3	5817	RTU 5	22
23		200			C			5817		24
25					A			5817		26
27					B					28
29					C					30
31					A					32
33				-	B					34
35				-	C					36
37	TRANSFORMER	1800	50/3	3-#8, 1-#10G	A		-			38
39	TRANSFORMER	2248			B		-			40
41	TRANSFORMER	2048	-		C		-			42

NOTES:
1 NEMA 1 ENCLOSURE
2 PROVIDE BOLT ON BREAKERS
3

LOAD SUMMARY	CONN	NEC	DEM	LOAD BALANCE PER PHASE	
1-LIGHTING		1.25	0	PHASE A	121977
2-RECEPTACLES		NEC	0	PHASE B	120325
3-KITCHEN		0.65	0	PHASE C	121175
4-HVAC		1	0	LOWEST PHASE PLUS 10%	
5-NON-CONT		1	0	0 + 10%	0
LARGEST MOTOR		0.25	0	PHASES ARE BALANCED	
TOTAL VA			0		
TOTAL AMPS			0		

PANEL: DPH1 — 600A MLO 277/480 V, 3PH, 4W.+GRND. — NEW PANEL

CCT	SERVES	VA	OCP	WIRE	PHASE	WIRE	OCP	VA	SERVES	CCT
1	CCU 01	39334	150/3	2-#12, 1-#12G	A	2-#12, 1-#12G	150/3	39334	CCU 03	2
3		39334		2-#12, 1-#12G	B	2-#12, 1-#12G		39334		4
5		39334		2-#12, 1-#12G	C	2-#12, 1-#12G		39334		6
7	RTU A	15512	70/3	2-#12, 1-#12G	A	2-#12, 1-#12G	70/3	15512	RTU A	8
9		15512			B	2-#12, 1-#12G		15512		10
11		15512			C	2-#12, 1-#12G		15512		12
13	WAREHOUSE LIGHTS	1680	20/1	2-#12, 1-#12G	A	2-#12, 1-#12G	20/1	1680	WAREHOUSE LIGHTS	14
15	WAREHOUSE LIGHTS	1260	20/1	2-#12, 1-#12G	B	3-#8, 1-#10G	50/3	6925	MAU1	16
17	WAREHOUSE LIGHTS	2310	20/1	2-#12, 1-#12G	C			6925		18
19	OVERHEAD DOOR	200	20/3	4-#10, 1-#12G	A			6925		20
21		200			B					22
23		200			C					24
25					A					26
27					B					28
29					C					30
31					A					32
33				-	B					34
35				-	C					36
37	TRANSFORMER	1800	50/3	3-#8, 1-#10G	A		-			38
39	TRANSFORMER	2248			B		-			40
41	TRANSFORMER	2048	-		C		-			42

NOTES:
1 NEMA 1 ENCLOSURE
2 PROVIDE BOLT ON BREAKERS
3

LOAD SUMMARY	CONN	NEC	DEM	LOAD BALANCE PER PHASE	
1-LIGHTING	6930	1.25	8662.5	PHASE A	121977
2-RECEPTACLES	6096	NEC	6096	PHASE B	120325
3-KITCHEN	0	0.65	0	PHASE C	121175
4-HVAC	349801	1	349801	LOWEST PHASE PLUS 10%	
5-NON-CONT	600	1	600	120325 + 10%	132357.5
LARGEST MOTOR	0	0.25	0	PHASES ARE BALANCED	
TOTAL VA	363477		365209.5		
TOTAL AMPS	431.2		439.3		

PANEL: MHE — 400 MLO 277/480 V, 3PH, 4W.+GRND. — NEW PANEL

CCT	SERVES	VA	OCP	WIRE	PHASE	WIRE	OCP	VA	SERVES	CCT
1	MHE EQUIPMENT FEED	44320	200/3	2-#12, 1-#12G	A	2-#12, 1-#12G	200/3	44320	MHE EQUIPMENT FEED	2
3		44320			B			44320		4
5		44320			C			44320		6
7					A					8
9					B					10
11					C					12
13					A					14
15					B					16
17					C					18
19					A					20
21					B					22
23					C					24
25					A					26
27					B					28
29					C					30
31					A					32
33					B					34
35					C					36
37					A					38
39					B					40
41					C					42

NOTES:
1 NEMA 1 ENCLOSURE
2 PROVIDE BOLT ON BREAKERS
3

LOAD SUMMARY	CONN	NEC	DEM	LOAD BALANCE PER PHASE	
1-LIGHTING	0	1.25	0	PHASE A	88640
2-RECEPTACLES	221600	NEC	115000	PHASE B	88640
3-KITCHEN	0	0.65	0	PHASE C	88640
4-HVAC	0	1	0	LOWEST PHASE PLUS 10%	
5-NON-CONT	44320	1	44320	88640 + 10%	97504
LARGEST MOTOR	0	0.25	0	PHASES ARE BALANCED	
TOTAL VA	265920		160120		
TOTAL AMPS	319.9		192.6		

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SCANNELL PROPERTIES

CERTIFICATION

STATE OF MISSOURI — JOHN WILLIAM CASSELL — NUMBER E-14378 — PROFESSIONAL ENGINEER
10/20

PANEL: LA 100 MLO 120/ 208 V, 3PH, 4W.+GRND. **EXISTING**

CCT	SERVES	VA	OCP	WIRE	PHASE	WIRE	OCP	VA	SERVES	CCT
1	RECEP	800	20/1	2-#12,1-#12G	A	2-#12,1-#12G	20/1	200	LIGHTS	2
3	FCU-1	1248	15/2	2-#12,1-#12G	B	2-#12,1-#12G	20/1	200	GFCI RECEP	4
5		1248			C	2-#12,1-#12G	20/1		SPARE	6
7	DOCK RECEP	800	20/1	2-#12,1-#12G	A	2-#12,1-#12G	20/1		SPARE	8
9	DOCK RECEP	800	20/1	2-#12,1-#12G	B	2-#12,1-#12G	20/1		SPARE	10
11	DOCK RECEP	800	20/1	2-#12,1-#12G	C	2-#12,1-#12G	20/1		SPARE	12
13	SPARE		20/1	2-#12,1-#12G	A	2-#12,1-#12G	20/1		SPARE	14
15	SPARE		20/1	2-#12,1-#12G	B	2-#12,1-#12G	20/1		SPARE	16
17					C					18
19					A					20
21					B					22
23					C					24
25					A					26
27					B					28
29					C					30
31					A					32
33					B					34
35					C					36
37					A					38
39					B					40
41					C					42

NOTES:
1 NEMA 1 ENCLOSURE
2 PROVIDE BOLT ON BREAKERS
3

LOAD SUMMARY	CONN	NEC	DEM	LOAD BALANCE PER PHASE	
1-LIGHTING	200	1.25	200	PHASE A	1800
2-RECEPTACLES	5696	NEC	5696	PHASE B	2248
3-KITCHEN	0	0.65	0	PHASE C	2048
4-HVAC	200	1	200	LOWEST PHASE PLUS 10%	
5-NON-CONT	0	1	0	1800 + 10%	1980
LARGEST MOTOR	0	0.25	0	REBALANCE LOADS	
TOTAL VA	6096		6146		
TOTAL AMPS	16.9		17.1		

PANEL: BC1 400 MLO 277/ 480 V, 3PH, 4W.+GRND. **NEW PANEL**

CCT	SERVES	VA	OCP	WIRE	PHASE	WIRE	OCP	VA	SERVES	CCT
1	BATTERY CHARGER	4432	30/3	3-#10,1-#10G	A	3-#10,1-#10G	30/3	4432	BATTERY CHARGER	2
3	BATTERY CHARGER	4432			B			4432	BATTERY CHARGER	4
5	BATTERY CHARGER	4432			C			4432	BATTERY CHARGER	6
7	BATTERY CHARGER	4432	30/3	3-#12,1-#10G	A	3-#12,1-#10G	30/3	4432	BATTERY CHARGER	8
9	BATTERY CHARGER	4432			B			4432	BATTERY CHARGER	10
11	BATTERY CHARGER	4432			C			4432	BATTERY CHARGER	12
13	BATTERY CHARGER	4432	30/3	3-#12,1-#10G	A	3-#12,1-#10G	30/3	4432	BATTERY CHARGER	14
15	BATTERY CHARGER	4432			B			4432	BATTERY CHARGER	16
17	BATTERY CHARGER	4432			C			4432	BATTERY CHARGER	18
19	BATTERY CHARGER	4432	30/3	3-#12,1-#10G	A	3-#12,1-#10G	30/3	4432	BATTERY CHARGER	20
21	BATTERY CHARGER	4432			B			4432	BATTERY CHARGER	22
23	BATTERY CHARGER	4432			C			4432	BATTERY CHARGER	24
25					A					26
27					B					28
29					C					30
31					A					32
33			-		B					34
35			-		C					36
37					A		-			38
39					B		-			40
41			-		C		-			42

NOTES:
1 NEMA 1 ENCLOSURE
2 PROVIDE BOLT ON BREAKERS
3

LOAD SUMMARY	CONN	NEC	DEM	LOAD BALANCE PER PHASE	
1-LIGHTING	0	1.25	0	PHASE A	35456
2-RECEPTACLES	0	NEC	0	PHASE B	35456
3-KITCHEN	0	0.65	0	PHASE C	35456
4-HVAC	0	1	0	LOWEST PHASE PLUS 10%	
5-NON-CONT	106368	1	106368	35456 + 10%	39001.6
LARGEST MOTOR	0	0.25	0	PHASES ARE BALANCED	
TOTAL VA	106368		106368		
TOTAL AMPS	127.9		127.9		

PANEL: BC2 400 MLO 277/ 480 V, 3PH, 4W.+GRND. **NEW PANEL**

CCT	SERVES	VA	OCP	WIRE	PHASE	WIRE	OCP	VA	SERVES	CCT
1	BATTERY CHARGER	4432	30/3	3-#10,1-#10G	A	3-#10,1-#10G	30/3	4432	BATTERY CHARGER	2
3	BATTERY CHARGER	4432			B			4432	BATTERY CHARGER	4
5	BATTERY CHARGER	4432			C			4432	BATTERY CHARGER	6
7	BATTERY CHARGER	4432	30/3	3-#12,1-#10G	A	3-#12,1-#10G	30/3	4432	BATTERY CHARGER	8
9	BATTERY CHARGER	4432			B			4432	BATTERY CHARGER	10
11	BATTERY CHARGER	4432			C			4432	BATTERY CHARGER	12
13	BATTERY CHARGER	4432	30/3	3-#12,1-#10G	A	3-#12,1-#10G	30/3	4432	BATTERY CHARGER	14
15	BATTERY CHARGER	4432			B			4432	BATTERY CHARGER	16
17	BATTERY CHARGER	4432			C			4432	BATTERY CHARGER	18
19	BATTERY CHARGER	4432	30/3	3-#12,1-#10G	A	3-#12,1-#10G	30/3	4432	BATTERY CHARGER	20
21	BATTERY CHARGER	4432			B			4432	BATTERY CHARGER	22
23	BATTERY CHARGER	4432			C			4432	BATTERY CHARGER	24
25					A					26
27					B					28
29					C					30
31					A					32
33			-		B					34
35			-		C					36
37					A		-			38
39					B		-			40
41			-		C		-			42

NOTES:
1 NEMA 1 ENCLOSURE
2 PROVIDE BOLT ON BREAKERS
3

LOAD SUMMARY	CONN	NEC	DEM	LOAD BALANCE PER PHASE	
1-LIGHTING	0	1.25	0	PHASE A	35456
2-RECEPTACLES	0	NEC	0	PHASE B	35456
3-KITCHEN	0	0.65	0	PHASE C	35456
4-HVAC	0	1	0	LOWEST PHASE PLUS 10%	
5-NON-CONT	106368	1	106368	35456 + 10%	39001.6
LARGEST MOTOR	0	0.25	0	PHASES ARE BALANCED	
TOTAL VA	106368		106368		
TOTAL AMPS	127.9		127.9		

PANEL: BC3 400 MLO 277/ 480 V, 3PH, 4W.+GRND. **NEW PANEL**

CCT	SERVES	VA	OCP	WIRE	PHASE	WIRE	OCP	VA	SERVES	CCT
1	BATTERY CHARGER	4432	30/3	3-#10,1-#10G	A	3-#10,1-#10G	30/3	4432	BATTERY CHARGER	2
3	BATTERY CHARGER	4432			B			4432	BATTERY CHARGER	4
5	BATTERY CHARGER	4432			C			4432	BATTERY CHARGER	6
7	BATTERY CHARGER	4432	30/3	3-#12,1-#10G	A	3-#12,1-#10G	30/3	4432	BATTERY CHARGER	8
9	BATTERY CHARGER	4432			B			4432	BATTERY CHARGER	10
11	BATTERY CHARGER	4432			C			4432	BATTERY CHARGER	12
13	BATTERY CHARGER	4432	30/3	3-#12,1-#10G	A	3-#12,1-#10G	30/3	4432	BATTERY CHARGER	14
15	BATTERY CHARGER	4432			B			4432	BATTERY CHARGER	16
17	BATTERY CHARGER	4432			C			4432	BATTERY CHARGER	18
19	BATTERY CHARGER	4432	30/3	3-#12,1-#10G	A	3-#12,1-#10G	30/3	4432	BATTERY CHARGER	20
21	BATTERY CHARGER	4432			B			4432	BATTERY CHARGER	22
23	BATTERY CHARGER	4432			C			4432	BATTERY CHARGER	24
25					A					26
27					B					28
29					C					30
31					A					32
33			-		B					34
35			-		C					36
37					A		-			38
39					B		-			40
41			-		C		-			42

NOTES:
1 NEMA 1 ENCLOSURE
2 PROVIDE BOLT ON BREAKERS
3

LOAD SUMMARY	CONN	NEC	DEM	LOAD BALANCE PER PHASE	
1-LIGHTING	0	1.25	0	PHASE A	35456
2-RECEPTACLES	0	NEC	0	PHASE B	35456
3-KITCHEN	0	0.65	0	PHASE C	35456
4-HVAC	0	1	0	LOWEST PHASE PLUS 10%	
5-NON-CONT	106368	1	106368	35456 + 10%	39001.6
LARGEST MOTOR	0	0.25	0	PHASES ARE BALANCED	
TOTAL VA	106368		106368		
TOTAL AMPS	127.9		127.9		

PANEL: MH 200A MLO 277/ 480 V, 3PH, 4W.+GRND. **NEW PANEL**

CCT	SERVES	VA	OCP	WIRE	PHASE	WIRE	OCP	VA	SERVES	CCT
1	RTU 1	4155	20/3	3-#10,1-#10G	A	3-#10,1-#12G	20/3	4155	RTU 2	2
3	RTU 1	4155			B			4155	RTU 2	4
5	RTU 1	4155			C			4155	RTU 2	6
7	RTU 3	4155	20/3	3-#10,1-#12G	A	3-#10,1-#12G	20/3	4155	RTU 4	8
9	RTU 3	4155			B			4155	RTU 4	10
11	RTU 3	4155			C			4155	RTU 4	12
13	OFFICE LIGHTS	1800	20/1	2-#12,1-#12G	A	2-#12,1-#12G	20/1			14
15	OFFICE LIGHTS	1960	20/1	2-#12,1-#12G	B	2-#12,1-#12G	20/1			16
17			20/1	2-#12,1-#12G	C	2-#12,1-#12G	20/1			18
19			20/1	2-#12,1-#12G	A	2-#12,1-#12G	20/1			20
21			20/1	2-#12,1-#12G	B	2-#12,1-#12G	20/1			22
23			20/1	2-#12,1-#12G	C	2-#12,1-#12G	20/1			24
25			20/1	2-#12,1-#12G	A					26
27					B					28
29					C					30
31					A					32
33			-		B					34
35			-		C					36
37	TRANSFORMER		100/3	3-#3,1-#8G	A	-				38
39	TRANSFORMER				B	-				40
41	TRANSFORMER		-		C	-				42

NOTES:
1 NEMA 1 ENCLOSURE
2 PROVIDE BOLT ON BREAKERS
3

LOAD SUMMARY	CONN	NEC	DEM	LOAD BALANCE PER PHASE	
1-LIGHTING	3560	1.25	4450	PHASE A	18220
2-RECEPTACLES	0	NEC	0	PHASE B	18580
3-KITCHEN	0	0.65	0	PHASE C	19620
4-HVAC	45860	1	45860	LOWEST PHASE PLUS 10%	
5-NON-CONT	0	1	0	19620 + 10%	18282
LARGEST MOTOR	0	0.25	0	REBALANCE LOADS	
TOTAL VA	53420		54310		
TOTAL AMPS	84.3		85.3		

PANEL: ML 200A MLO 120/ 208 V, 3PH, 4W.+GRND. **NEW PANEL**

CCT	SERVES	VA	OCP	WIRE	PHASE	WIRE	OCP	VA	SERVES	CCT
1	GFCI RECEP	400	20/1	2-#12,1-#12G	A	2-#12,1-#12G	20/1	800	RECEPS	2
3	RECEPS	1400	20/1	2-#12,1-#12G	B	2-#12,1-#12G	20/1	800	RECEPS	4
5	RECEPS	1600	20/1	2-#12,1-#12G	C	2-#12,1-#12G	20/1	1000	RECEPS	6
7	PRINTER	1200	20/1	2-#12,1-#12G	A	2-#12,1-#12G	20/1	800	RECEPS	8
9	PRINTER	1200	20/1	2-#12,1-#12G	B	2-#12,1-#12G	20/1	1000	RECEPS	10
11	RECEPS	800	20/1	2-#12,1-#12G	C	2-#12,1-#12G	20/1	1000	RECEPS	12
13	RECEPS	1000	20/1	2-#12,1-#12G	A	2-#12,1-#12G	20/1	400	RECEPS	14
15	RECEPS	1000	20/1	2-#12,1-#12G	B	2-#12,1-#12G	20/1	600	RECEPS	16
17	RECEPS	600	20/1	2-#12,1-#12G	C	2-#12,1-#12G	20/1	600	RECEPS	18
19	RECEPS	600	20/1	2-#12,1-#12G	A	2-#12,1-#12G	20/1	400	RECEPS	20
21	RECEPS	800	20/1	2-#12,1-#12G	B	2-#12,1-#12G	20/1	600	RECEPS	22
23	RECEPS	400	20/1	2-#12,1-#12G	C	2-#12,1-#12G	20/1	1000	REFRIGERATOR	24
25	REFRIGERATOR	1000	20/1	2-#12,1-#12G	A	2-#12,1-#12G	20/1	1000	BREAK ROOM RECEP	26
27	REFRIGERATOR	1000	20/1	2-#12,1-#12G	B	2-#12,1-#12G	20/1	1000	BREAK ROOM RECEP	28
29	BREAK ROOM RECEP	1000	20/1	2-#12,1-#12G	C	2-#12,1-#12G	20/1	1000	BREAK ROOM RECEP	30
31	BREAK ROOM RECEP	1000	20/1	2-#12,1-#12G	A	2-#12,1-#12G	20/1	1000	BREAK ROOM RECEP	32
33	BREAK ROOM RECEP	1000	20/1	2-#12,1-#12G	B	2-#12,1-#12G	20/1	1200	DRINKING FOUNTAIN	34
35	BREAK ROOM RECEP	1000	20/1	2-#12,1-#12G	C	2-#12,1-#12G	20/1	400	BATHROOM GFI	36
37	DRYER-RECEP	1500	30/2	3-#10,1-#12G	A	2-#12,1-#12G	20/1	600	WASHER	38
39		1500			B		20/1		SPARE	40
41	SAPRE		20/1		C		20/1		SPARE	42
43	SPARE		20/1		A		20/1		SPARE	44
45	SPARE		20/1		B		20/1		SPARE	46
47	SPARE		20/1		C		20/1		SPARE	48
49					A					50
51					B					52
53					C					54
55					A					56
57					B					58
59					C					60
61					A					62
63					B					64
65					C					66

NOTES:
1 NEMA 1 ENCLOSURE
2 PROVIDE BOLT ON BREAKERS
3

LOAD SUMMARY	CONN	NEC	DEM	LOAD BALANCE PER PHASE	
1-LIGHTING	0	1.25	0	PHASE A	11300
2-RECEPTACLES	34600	NEC	22200	PHASE B	12900
3-KITCHEN	0	0.65	0	PHASE C	10400
4-HVAC	0	1	0	LOWEST PHASE PLUS 10%	
5-NON-CONT	0	1	0	10400 + 10%	11440
LARGEST MOTOR	0	0.25	0	REBALANCE LOADS	
TOTAL VA	34600		22200		
TOTAL AMPS	96.9		61.9		

COMcheck Software Version 4.1.1.0
Interior Lighting Compliance Certificate

Project Information

Energy Code: 90.1 (2016) Standard
Project Title: Lee's Summit Logistics Lot 1
Project Type: New Construction

Construction Site:
NW Corner of NE Tudor Rd & Main St
Lee's Summit, MO 64086

Owner/Agent:

Designer/Contractor:
Jeremy Hansen
Heritage Electric
841 N Martway Drive
Olathe, KS 66061
913-747-0528
jhansen@heritage-electric.com

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-Warehouse	229419	0.46	105097
2-Office	8100	0.79	6399
		Total Allowed Watts=	106436

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watts	E (C X D)
1-Warehouse				
LED 1: Other	1	312	210	65520
2-Office				
LED 2: Other	1	103	40	4120
		Total Proposed Watts =		69640

Interior Lighting PASSES: Design 35% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2021 (2018) Standard requirements for COMcheck Version 4.1.1.0 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Jeremy Hansen V.P. — 08/25/2022
Name - Title — Signature — Date

Project Title: Lee's Summit Logistics Lot 1 — Report date: 08/25/22
Data Filename: Unbilled.cck — Page 1 of 3

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
10/07/2022

CURRAN
ARCHITECTURE
5719 LAWTON LOOP E. DR. #212
INDIANAPOLIS, IN 46216
O :: 317 . 288 . 0681
F :: 317 . 288 . 0753

SCANNELL PROPERTIES

CERTIFICATION

STATE OF MISSOURI — JOHN WILLIAM CARMICHAEL — NUMBER E-14378 — PROFESSIONAL ENGINEER
10/20/22

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PROJECT INFORMATION

LEE'S SUMMIT LOGISTICS
BUILDING A LOT 1

NW CORNER OF
NE TUDOR RD & MAIN ST
LEE'S SUMMIT, MO 64086

HERITAGE ELECTRIC, L.L.C.
841 N. MARTWAY
Olathe, Kansas
phone (913) 747 0528
fax (913) 747 0539

HERITAGE ELECTRIC

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ISSUE DATES

PERMIT SET	02.18.22
CITY COMMENTS	10.17.22

210300

Panel Schedule

E6.1

FIRE PROTECTION PLANS

F. E. MORAN, INC. FIRE PROTECTION
16815 COLLEGE BLVD.
LENEXA, KS 66219
(217) 356-0700 (217) 356-0777 FAX

MISSOURI COA: E-2022012018

SCOPE OF WORK

SCOPE OF WORK:
** FURNISH & INSTALL (11) NEW WET PIPE SPRINKLER SYSTEM FOR THE NEW BUILDING.
** FURNISH & INSTALL A NEW FIRE PUMP AND ACCESSORIES
** FIRE PUMP ROOM POINT OF CONNECTION (START OF CONTRACT): 10'' FLANGE, 12'' ABOVE THE FINISHED FLOOR IN THE FIRE PUMP ROOM.
**FEED RISER POINT OF CONNECTION (START OF CONTRACT): 8'' FLANGE, 12'' ABOVE THE FINISHED FLOOR IN THE FIRE PUMP ROOM. TWO LOCATED ON EACH END OF THE BUILDING AND ONE ON EACH SIDE.
** INSTALL (18) 2½'' HOSE VALVES LOCATED AT MAN DOORS AND FED FROM ADJACENT SYSTEMS

NOT INCLUDED:
** WIRING OF ELECTRICAL DEVICES
** FIRE EXTINGUISHERS
** STANDPIPES AND HOSE STATIONS
** FIRE PUMP CONTROLLER AUTO TRANSFER SWITCH
** UNDERGROUND PIPING AND TESTING
** COLUMN SPRINKLERS
** SEISMIC BRACING
** PAINTED PIPING
** CONCRETE PADS
** COMPONENT IDENTIFICATION BEYOND NFPA 13 REQUIREMENTS
** ACCESS PANELS
** CUTTING AND PATCHING
** PIPE SLEEVES
** WALL POST INDICATOR VALVE
** PUMP CONTROLLER AUTOMATIC TRANSFER SWITCH

CODE INFORMATION

CODE INFORMATION:
**NFPA 13, 2016 EDITION: INSTALLATION OF SPRINKLER SYSTEMS
**NFPA 20, 2016 EDITION: INSTALLATION OF CENTRIFUGAL FIRE PUMPS
**INTERNATIONAL BUILDING & FIRE CODE, 2018 EDITION
**LOCAL AMENDMENTS

BUILDING INFO:
IBC OCCUPANCY CLASSIFICATION: S-1
IBC CONSTRUCTION TYPE: II-B
IBC SEISMIC DESIGN CATEGORY: B
HIGHEST FLOOR ELEVATION FROM FIRE DEPARTMENT VEHICLE ACCESS: GRADE
NUMBER OF STORIES: 1
BUILDING AREA: 433,364 S.F.

GENERAL REQUIREMENTS

** SUPPLY A SPARE SPRINKLER CABINET WITH WRENCH FOR EACH SPRINKLER TYPE AS REQUIRED BY NFPA 13.
** IDENTIFY ALL HYDRAULICALLY CALCULATED SYSTEMS WITH A PERMANENTLY MARKED AND WEATHERPROOF SIGN.
** ALL NEW PIPING OR PIPING MODIFICATIONS WHICH AFFECT MORE THAN 20 SPRINKLERS SHALL BE HYDROSTATICALLY TESTED AT 200 PSI OR 50 PSI OVER THE SYSTEM WORKING PRESSURE. THE SYSTEM SHALL MAINTAIN THIS PRESSURE WITHOUT LOSS FOR 2 HOURS.
** ** ALL NEW PIPING OR PIPING MODIFICATIONS WHICH AFFECT 20 SPRINKLERS OR LESS, SHALL BE TESTED AT THE SYSTEM WORKING PRESSURE.
** ALL PIPING MODIFICATIONS WHICH CANNOT BE ISOLATED FROM THE EXISTING SYSTEM, SHALL BE TESTED AT THE SYSTEM WORKING PRESSURE.
** THE LOCAL FIRE/BUILDING INSPECTOR IS TO BE NOTIFIED 48 HOURS IN ADVANCE OF ALL TESTING.
UNDERGROUND TESTING AND FLUSHING:
** ALL UNDERGROUND PIPE SHALL BE TESTED AND FLUSHED BY THE INSTALLING CONTRACTOR AS REQUIRED BY NFPA 24 BEFORE ANY OVERHEAD SPRINKLER PIPING IS CONNECTED.

VALVES

** ALL VALVES CONTROLLING WATER FLOW TO SPRINKLERS SHALL BE INDICATING & SUPERVISED.
** ALL VALVES SHALL BE ACCESSIBLE AT ALL TIMES AND PERMANENTLY IDENTIFIED.
** THE IDENTIFICATION OF CONTROL VALVES SHALL INCLUDE A DESCRIPTION OR DIAGRAM OF WHAT THEY CONTROL.
** ALL TRAPPED PORTIONS OF SPRINKLER PIPING SHALL BE PROVIDED WITH A LOW POINT DRAIN AS REQUIRED BY NFPA 13.

PIPE HANGERS

** 2½''-6'' HANGER RINGS ARE TO BE ADJUSTABLE SWIVEL RINGS, ZINC PLATED, MANUFACTURED TO ANSI/MSS SP-69 STANDARDS.
** 2½''-6'' CLEVIS HANGERS ARE TO BE ADJUSTABLE CLEVIS RINGS, PLAIN, MANUFACTURED TO ANSI/MSS SP-69 STANDARDS.
** HANGERS AND SEISMIC BRACING ARE TO BE INSTALLED PER NFPA 13 REQUIREMENTS.
** HANGER ROD SIZES AND LOCATIONS ARE TO BE AS REQUIRED BY NFPA 13.

DESIGN CRITERIA - LIGHT HAZARD

SPRINKLER SYSTEM DESIGN CRITERIA - LIGHT HAZARD AREA/DENSITY (WET & SINGLE INTERLOCKED PREACTION SYSTEMS):
THE NEW SYSTEM HAS BEEN DESIGNED WITH A DESIGN DENSITY OF .10 GPM/S.F. OVER THE MOST REMOTE AND DEMANDING DESIGN AREA OF 1500 S.F. WITH 225 S.F. (15') MAXIMUM SPRINKLER HEAD SPACING AND 100 GPM OUTSIDE HOSE ALLOWANCE. WHERE ROOF OR CEILING SLOPES EXCEED A PITCH OF 2:12, THE DESIGN AREA HAS BEEN INCREASED IN SIZE BY 30% TO 1950 S.F. THE DESIGN AREA MAY BE REDUCED IN SIZE IN ACCORDANCE WITH NFPA 13 DUE TO THE USE OF QUICK RESPONSE SPRINKLERS BUT SHALL NEVER CONTAIN LESS THAN 5 SPRINKLERS. TOTAL SYSTEM SIZE SHALL NOT EXCEED 52,000 S.F.

WHERE EXTENDED COVERAGE SPRINKLERS ARE UTILIZED, THE MINIMUM DESIGN AREA SHALL BE 5 SPRINKLERS WITH 400 S.F. (20') MAXIMUM SPRINKLER HEAD SPACING. EXTENDED COVERAGE SPRINKLERS SHALL NOT BE USED WHERE ROOF OR CEILING SLOPES EXCEED A PITCH OF 2:12. WHERE SPECIFICALLY LISTED FOR SUCH USE, EXTENDED COVERAGE SPRINKLERS MAY BE USED FOR ROOF OR CEILING SLOPES UP TO A 4:12 PITCH.

WHEN A REDUCTION IN THE DESIGN AREA IS NOT USED, SPRINKLER DISCHARGE IN SMALL ROOMS SUCH AS CLOSETS AND WASHROOMS CONTAINING A SINGLE SPRINKLER MAY BE OMITTED FROM THE HYDRAULIC CALCULATIONS.

DRAWING SYMBOLS
PIPING CENTERLINES
★ 0'' TS — TO TOP OF STEEL OR ROOF DECK
★ 0'' TS — TO FLOOR
HANGER LOCATION
HYDRAULIC NODE
ELECTRIC ALARM BELL

WET SYSTEM PIPE & FITTINGS

WET-PIPE SPRINKLER SYSTEM BLACK PIPE:
** 1'' LINE PIPING SHALL BE BLACK STEEL SCH. 40 PIPE, MANUFACTURED TO ASTM A53 OR A795 STANDARDS.
** 2½'' LINE PIPING SHALL BE BLACK STEEL SCH. 7 PIPE, MANUFACTURED TO ASTM A795 STANDARDS.

** 8'' MAIN PIPING SHALL BE BLACK STEEL SCH. 10 PIPE, MANUFACTURED TO ASTM A135 STANDARDS.
** 2''-6'' MAIN PIPING SHALL BE BLACK STEEL SCH. 7 PIPE, MANUFACTURED TO ASTM A795 STANDARDS.

WET-PIPE SPRINKLER SYSTEM BLACK FITTINGS:
** 1'' BRANCH LINE FITTINGS SHALL BE BLACK DUCTILE IRON THREADED, CLASS 150 STANDARD, MANUFACTURED PER ANSI/ASME B16.3, U.L. LISTED FOR FIRE PROTECTION USE UP TO 175 PSI WORKING PRESSURE.
** 1/2'' - 3'' BRANCH LINE PIPE OUTLETS TO BE WELDED MANUFACTURED TO ASTM A53 & ANSI B1.20.1 STANDARDS.
** 1 1/4''-3'' BRANCH LINE FITTINGS SHALL BE STANDARD GROOVED DUCTILE IRON, MANUF. TO ASTM A536 STANDARDS.

** 2½''-8'' MAIN PIPE BRANCH OUTLETS TO BE WELDED MANUFACTURED TO ASTM A53 & ANSI B1.20.1 STANDARDS.
** 2½''-8'' MAIN PIPE FITTINGS SHALL BE STANDARD GROOVED DUCTILE IRON, MANUF. TO ASTM A536 STANDARDS.
** 2½''-8'' MAIN PIPE FITTINGS SHALL BE STANDARD GROOVED STEEL, MANUF. TO ASTM A958/A53 STANDARDS.

DESIGN CRITERIA - ESFR

SPRINKLER SYSTEM DESIGN CRITERIA (ESFR)-PALLETIZED/SOLID-PILE/RACK STORAGE:

FROM NFPA 13, 2016 EDITION TABLE 16.3.3.1
COMMODITY CLASSIFICATION: CLASS I, II, III OR IV, ENCAPSULATED OR UNENCAPSULATED, NO OPEN TOP CONTAINERS
STORAGE ARRANGEMENT: PALLETIZED/SOLID-PILE/SINGLE & DOUBLE ROW RACKS WITH NO SOLID SHELVING
CONSTRUCTION TYPE: ALL TYPES
MAXIMUM STORAGE HEIGHT: 35 FEET
MAXIMUM CEILING/ROOF HEIGHT: 40 FEET
MINIMUM CLEARANCE FROM SPRINKLER DEFLECTOR TO TOP OF STORAGE: 36 INCHES
SPRINKLER TYPE: ESFR (EARLY SUPPRESSION FAST-RESPONSE)
SPRINKLER K-FACTOR: 16.8
SPRINKLER TEMPERATURE RATING: 205°F
SPRINKLER ORIENTATION: PENDENT
MAXIMUM SPRINKLER DEFLECTOR DISTANCE BELOW CEILING: 14 INCHES
MINIMUM SPRINKLER DEFLECTOR DISTANCE BELOW CEILING: 6 INCHES
MAXIMUM SPRINKLER SPACING/AREA: 10 FEET/100 S.F.
MINIMUM SPRINKLER SPACING: 8 FEET/64 S.F.
TYPE OF SYSTEM: WET
NUMBER OF DESIGN SPRINKLERS: 12
MINIMUM SPRINKLER OPERATING PRESSURE: 52 PSI
INSIDE HOSE STREAM ALLOWANCE: 0 GPM
OUTSIDE HOSE STREAM ALLOWANCE: 250 GPM
TOTAL HOSE STREAM ALLOWANCE: 250 GPM
IN-RACK SPRINKLERS: NO

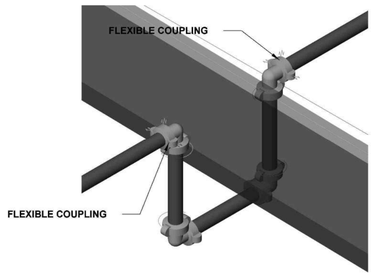
SPRINKLER SYSTEM DESIGN CRITERIA (ESFR)-PALLETIZED/SOLID-PILE/RACK STORAGE:

FROM NFPA 13, 2016 EDITION TABLE 16.3.3.1
COMMODITY CLASSIFICATION: CLASS I, II, III OR IV, ENCAPSULATED OR UNENCAPSULATED, NO OPEN TOP CONTAINERS
STORAGE ARRANGEMENT: PALLETIZED/SOLID-PILE/SINGLE & DOUBLE ROW RACKS WITH NO SOLID SHELVING
CONSTRUCTION TYPE: ALL TYPES
MAXIMUM STORAGE HEIGHT: 40 FEET
MAXIMUM CEILING/ROOF HEIGHT: 45 FEET
MINIMUM CLEARANCE FROM SPRINKLER DEFLECTOR TO TOP OF STORAGE: 36 INCHES
SPRINKLER TYPE: ESFR (EARLY SUPPRESSION FAST-RESPONSE)
SPRINKLER K-FACTOR: 22.4
SPRINKLER TEMPERATURE RATING: 205°F
SPRINKLER ORIENTATION: PENDENT
MAXIMUM SPRINKLER DEFLECTOR DISTANCE BELOW CEILING: 18 INCHES
MINIMUM SPRINKLER DEFLECTOR DISTANCE BELOW CEILING: 6 INCHES
MAXIMUM SPRINKLER SPACING/AREA: 10 FEET/100 S.F.
MINIMUM SPRINKLER SPACING: 8 FEET/64 S.F.
TYPE OF SYSTEM: WET
NUMBER OF DESIGN SPRINKLERS: 12
MINIMUM SPRINKLER OPERATING PRESSURE: 40 PSI
INSIDE HOSE STREAM ALLOWANCE: 0 GPM
OUTSIDE HOSE STREAM ALLOWANCE: 250 GPM
TOTAL HOSE STREAM ALLOWANCE: 250 GPM
IN-RACK SPRINKLERS: NO

SYSTEMS SHALL BE WET ONLY.

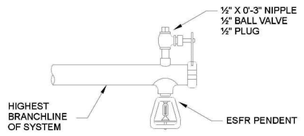
ROOF OR CEILING SLOPES SHALL NOT EXCEED A PITCH OF 2:12.

TOTAL SYSTEM SIZE SHALL NOT EXCEED 40,000 S.F. COMBINED HIGH PILED/RACK STORAGE & LIGHT/ORDINARY HAZARD SYSTEMS MAY COVER UP TO 52,000 S.F.



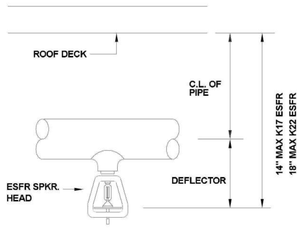
TYPICAL LINE AT EXPANSION JOINT

N.T.S.



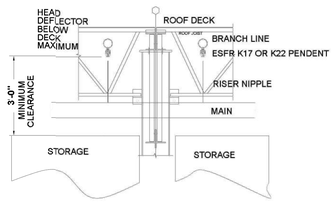
MANUAL AIR VENT DETAIL

N.T.S.



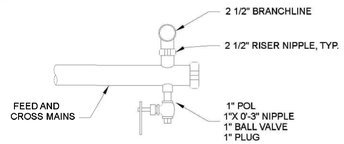
ESFR PENDENT DETAIL

N.T.S.



STORAGE CLEARANCE

N.T.S.



TYPICAL DRAIN DETAIL

N.T.S.

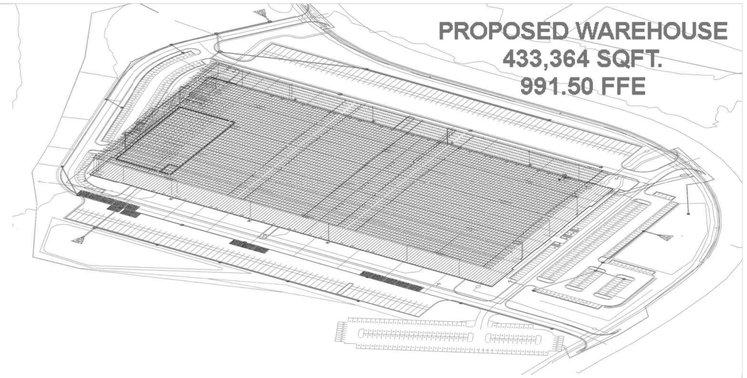
HANGER INSTALLATION REQUIREMENTS

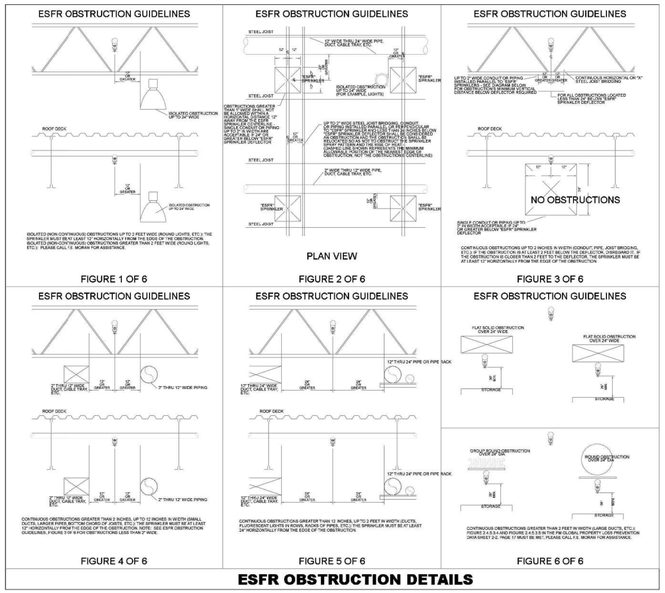
	MAXIMUM DISTANCE BETWEEN HANGERS							
NOMINAL PIPE SIZE	3/4''	1''	1-1/4''	1-1/2''	2''	2-1/2''	3''	4''
BLAZEMASTER CPVC	5' 8''	6' 0''	6' 8''	7' 0''	8' 0''	9' 0''	10' 0''	N/A
THREADABLE LIGHTWALL	N/A	12' 0''	12' 0''	12' 0''	12' 0''	12' 0''	12' 0''	N/A
STEEL PIPE (7/10/ 40)	N/A	12' 0''	12' 0''	15' 0''	15' 0''	15' 0''	15' 0''	15' 0''

THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER AND THE LAST HANGER ON THE LINE SHALL NOT EXCEED 36'' FOR 1'' PIPE, 48'' FOR 1 1/4'' PIPE AND 60'' FOR 1 1/2'' PIPE OR LARGER

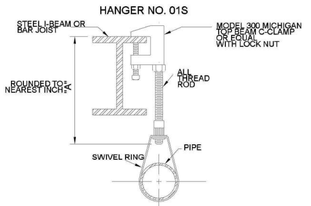
THE CUMULATIVE HORIZONTAL LENGTH OF AN UNSUPPORTED ARMOVER TO A SPRINKLER, SPRINKLER DROP, OR SPRIG-UP SHALL NOT EXCEED 24''

NOMINAL PIPE SIZE	SCHEDULE 40			SCHEDULE 10			EDDYFLOW		
	O.D.	I.D.	WALL THICKNESS	O.D.	I.D.	WALL THICKNESS	O.D.	I.D.	WALL THICKNESS
1	1.315	1.049	.133	1.315	1.097	.109	1.315	1.191	.062
1¼	1.660	1.380	.140	1.660	1.442	.109	1.660	1.536	.062
1½	1.900	1.610	.145	1.900	1.682	.109	1.900	1.728	.086
2	2.375	2.067	.154	2.375	2.157	.109	2.375	2.203	.086
2½	2.875	2.469	.203	2.875	2.635	.120	2.875	2.703	.086
3	3.500	3.068	.216	3.500	3.260	.120	3.500	3.314	.093
4	4.500	4.026	.237	4.500	4.260	.120	4.500	4.310	.095
5	5.563	5.047	.258	5.563	5.295	.134	----	----	----
6	6.625	6.065	.280	6.625	6.357	.134	----	----	----
8	8.625	7.981	.322	8.625	8.249	.188	----	----	----
10	10.750	10.020	.365	10.750	10.370	.188	----	----	----





ESFR OBSTRUCTION DETAILS



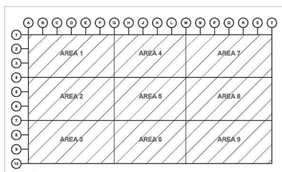
NOTE ON PLAN: HANGER NUMBER AND "A" DIMENSION

TOP BEAM C-CLAMP DETAIL

N.T.S.

DRAWING INDEX

FP0.0- SYSTEM NOTES
FP1.0 - HYDRAULIC SITE PLAN
FP2.0 - OVERHEAD PIPING PLAN
FP2.1.1 - AREA 1: SYSTEMS 1-2
FP2.1.2 - AREA 1: SYSTEMS 1-2 (CONT.)
FP2.2.1 - AREA 2: SYSTEMS 2-3
FP2.2.2 - AREA 2: SYSTEMS 2-3 (CONT.)
FP2.3.1 - AREA 3: SYSTEMS 3-4
FP2.3.2 - AREA 3: SYSTEMS 3-4 (CONT.)
FP2.4 - AREA 4: SYSTEM 05
FP2.5 - AREA 5: SYSTEM 06
FP2.6 - AREA 6: SYSTEM 07
FP2.7.1 - AREA 7: SYSTEMS 08-09
FP2.7.2 - AREA 7: SYSTEMS 08-09 (CONT.)
FP2.8.1 - AREA 8: SYSTEMS 09-10
FP2.8.2 - AREA 8: SYSTEM 09-10 (CONT.)
FP2.9.1 - AREA 9: SYSTEMS 10-11
FP2.9.2 - AREA 9: SYSTEMS 10-11 (CONT.)
FP3.0- FIRE PUMP & RISER DETAIL



KEY PLAN

NICET #156488 CERTIFIED

JASIEL COLBERT
NICET LEVEL 1
AUTO. SPRINKLER SYS. LAYOUT
VALID THROUGH MARCH 03, 2025

CURRAN
ARCHITECTURE
5719 LAWTON LOOP E. DR. #212
INDIANAPOLIS, IN 46216
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F :: 317 . 288 . 0753

SCANNELL PROPERTIES

CERTIFICATION

STATE OF MISSOURI
MICHELLE A. LOPEZ
NUMBER PE-2022007904
PROFESSIONAL ENGINEER
09/07/22

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PROJECT INFORMATION

LEE'S SUMMIT LOGISTICS BUILDING A LOT 1
NW CORNER OF
NE TUDOR RD & MAIN ST
LEE'S SUMMIT, MO 64086

ISSUE DATES

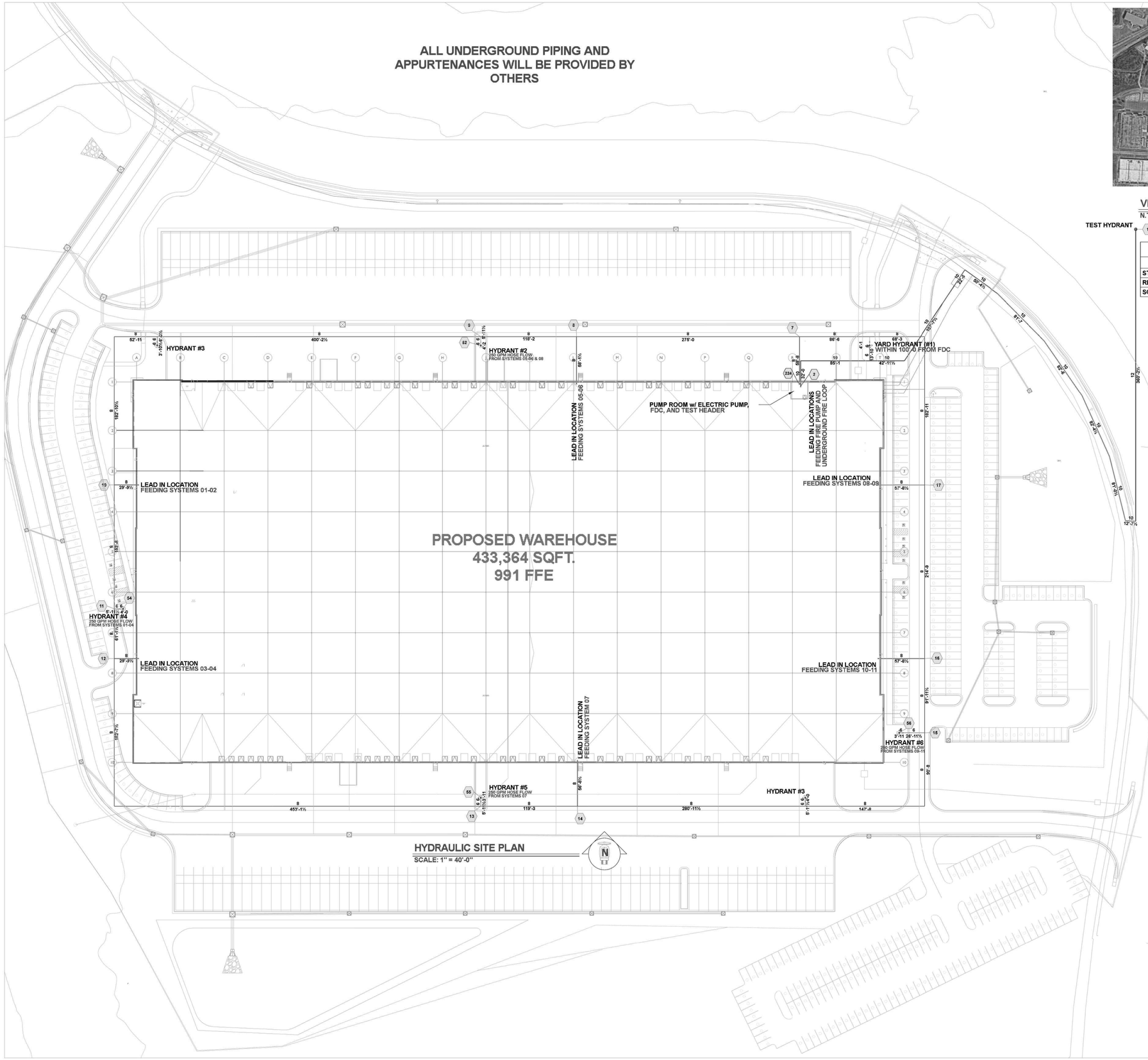
	PERMIT SET	02.18.22
1	TENANT IMPROVEMENT	09.07.22

210300

FP0.0

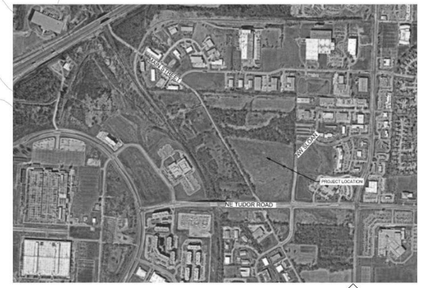
SYSTEM NOTES

ALL UNDERGROUND PIPING AND APPURTENANCES WILL BE PROVIDED BY OTHERS



HYDRAULIC SITE PLAN

SCALE: 1" = 40'-0"



VICINITY SITE MAP

N.T.S.

WATER FLOW TEST DATA	
DATE	03.31.2022
STATIC PRESSURE	97 PSI (980 ELEV.)
RESIDUAL PRESSURE	88 PSI @ 1900 GPM
SOURCE INFO	LEE'S SUMMIT WATER UTILITIES

KEY PLAN

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ISSUE DATES

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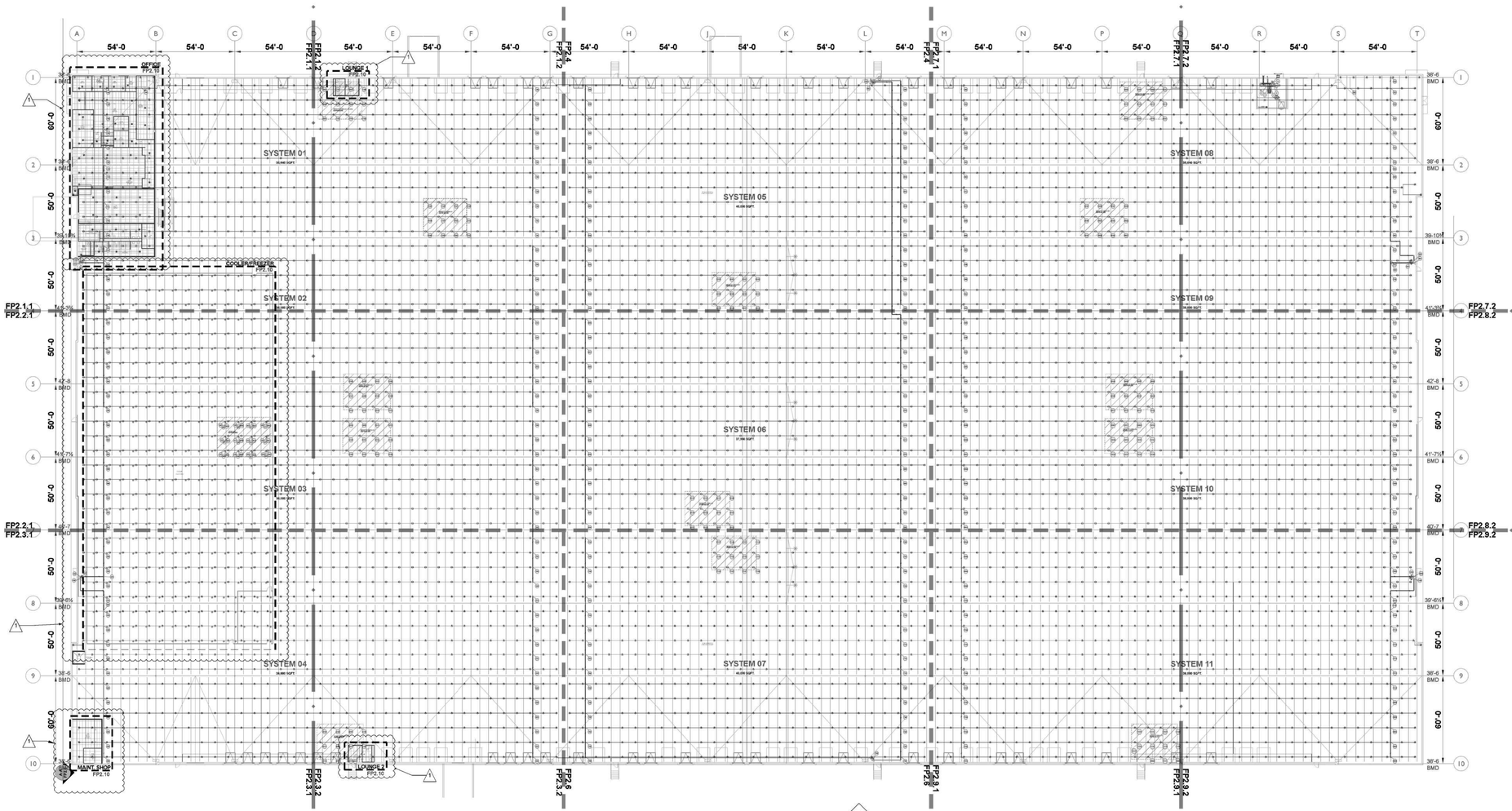
210300

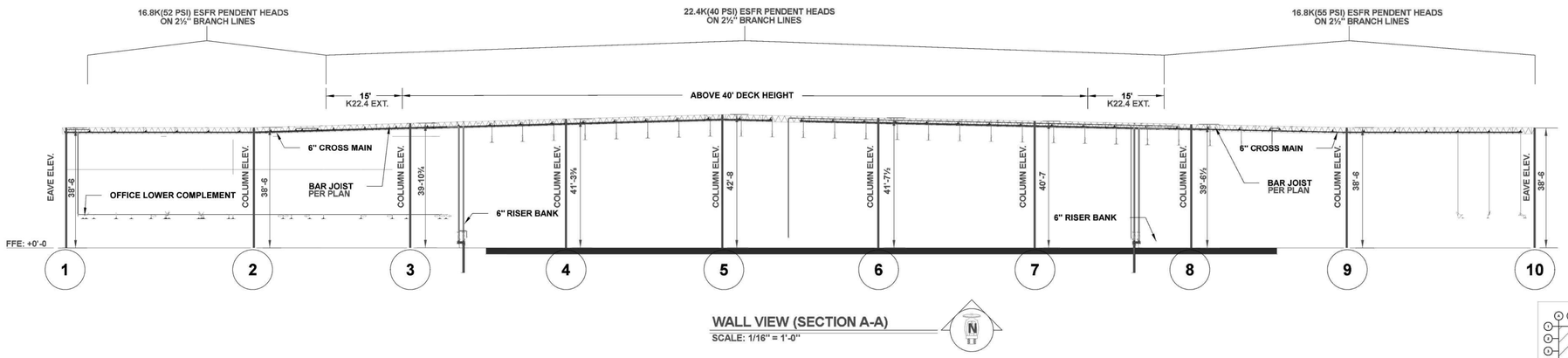
FP1.0

HYDRAULIC SITE PLAN



OVERHEAD PIPING

SCALE: 1" = 30'-0"



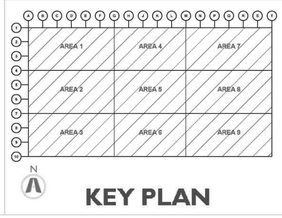
WALL VIEW (SECTION A-A)

SCALE: 1/16" = 1'-0"

Sprinkler Legend

SYMBOL	QUANTITY	MANUFACTURER	SIN	MODEL	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE
▲	2054	VICTAULIC	V4702	FL-QR/ST/ESFR	16.8	PENDENT	¾	FAST	BRASS	200°F
⊗	4	VICTAULIC	V3406	V34	8	PENDENT	½	QUICK	BRASS	200°F
⊕	2754	VICTAULIC	V3428	ESFR	22.4	PENDENT	1	FAST	BRASS	200°F
◉	48	VIKING	VK600	MICROFAST	5.6	PENDENT	½	QUICK	CHROME	135°F
◎	6	VIKING	VK3021		5.6	PENDENT	½	QUICK	CHROME	135°F
◆	368	VIKING	VK504	ESFR DRY	16.8	PENDENT	¾	QUICK	BRASS	205°F
	TOTAL = 5234									

**JOIST BRIDGING ROWS CANNOT BE ERECTED WITHIN OF 1'-6 OF ANY SURROUNDING ESFR BRANCH LINE CENTERLINE



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INDIANAPOLIS, IN 46216
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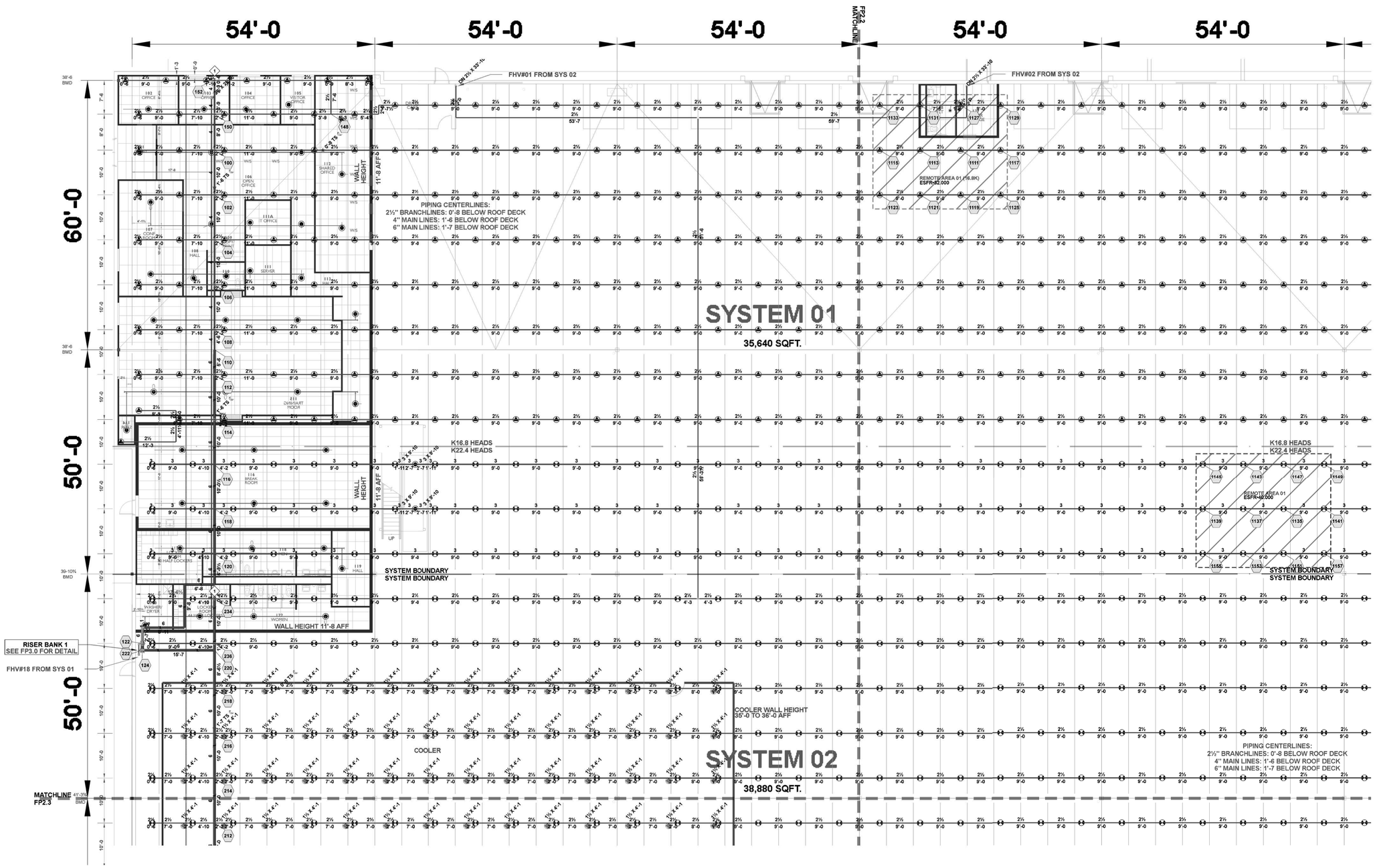
210300

FP2.0

OVERHEAD PIPING LAYOUT



Hydraulic Information	
Remote Area 01 (K16.8)	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	52.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	16.8
TOTAL WATER REQUIRED	1711.60
TOTAL PRESSURE REQUIRED	75.095
BASE OF RISER (GPM)	1711.60
BASE OF RISER (PSI)	75.095
SAFETY MARGIN (PSI)	+14.486 (16.2%)

Hydraulic Information	
Remote Area 01	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	40.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	22.4
TOTAL WATER REQUIRED	1959.70
TOTAL PRESSURE REQUIRED	68.043
BASE OF RISER (GPM)	1959.70
BASE OF RISER (PSI)	68.043
SAFETY MARGIN (PSI)	+19.427 (22.2%)

AREA 1: SYSTEMS 01-02

SCALE: 3/32" = 1'-0"

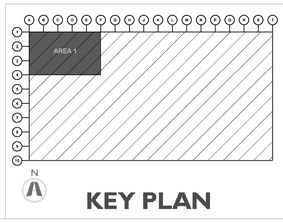
Sprinkler Legend

SYMBOL	QUANTITY	MANUFACTURER	SIN	MODEL	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE
▲	2054	VICTAULIC	V4702	FL-QR/ST/ESFR	16.8	PENDENT	¾	FAST	BRASS	200°F	
⊗	4	VICTAULIC	V3406	V34	8	PENDENT	¾	QUICK	BRASS	200°F	
◆	2754	VICTAULIC	V3428	ESFR	22.4	PENDENT	1	FAST	BRASS	200°F	
●	48	VIKING	VK600	MICROFAST	5.6	PENDENT	½	QUICK	CHROME	135°F	
◎	6	VIKING	VK3021		5.6	PENDENT	½	QUICK	CHROME	135°F	
◆	368	VIKING	VK504	ESFR DRY	16.8	PENDENT	¾	QUICK	BRASS	205°F	
	TOTAL = 5234										

**JOIST BRIDGING ROWS CANNOT BE ERECTED WITHIN OF 1'-6 OF ANY SURROUNDING ESFR BRANCH LINE CENTERLINE

1 - AUXILIARY DRAIN SEE FP0.0 FOR DETAIL

2 - AIR VENT SEE FP0.0 FOR DETAIL



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ISSUE DATES

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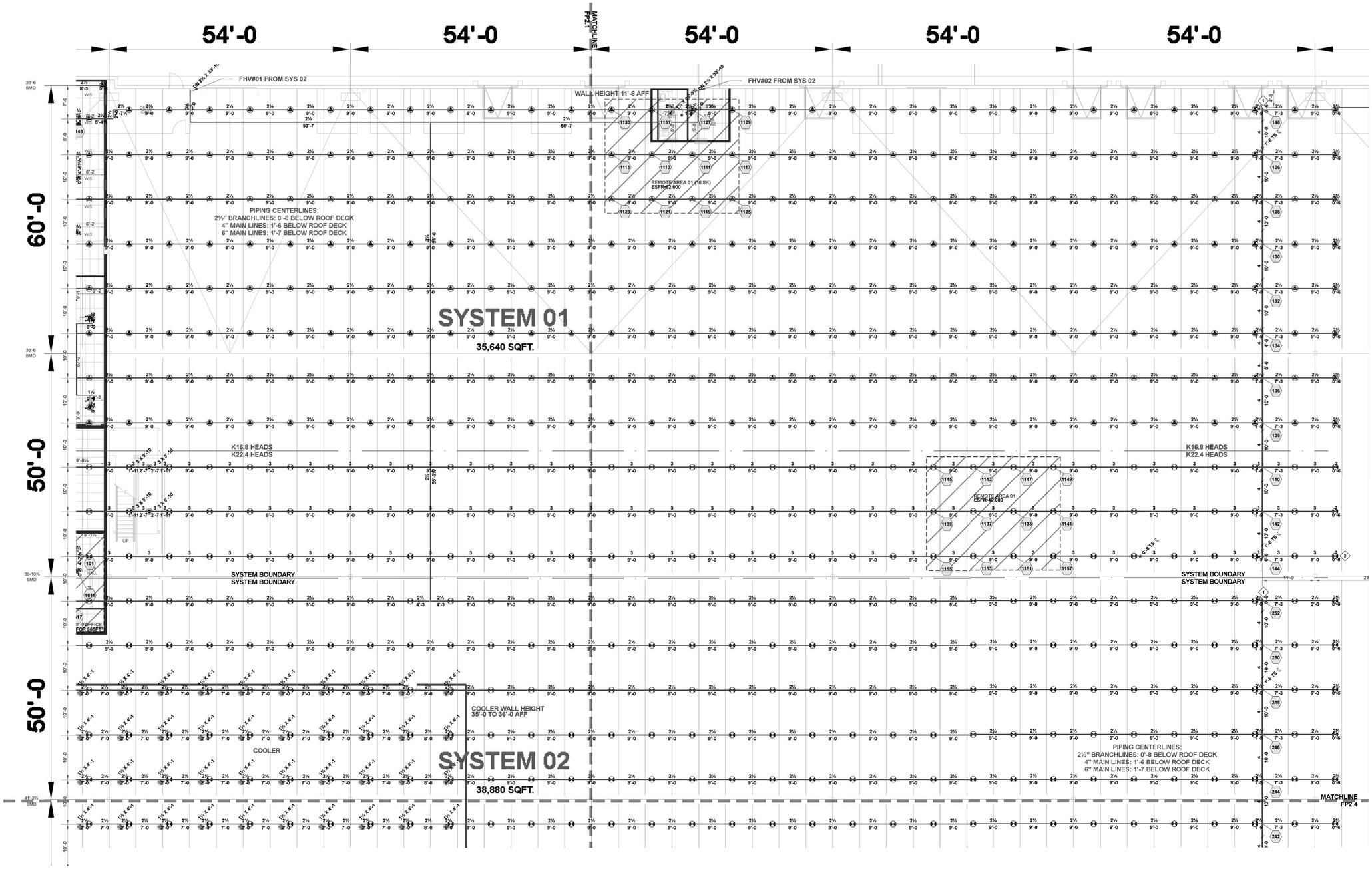
210300

FP2.1.1

AREA 1: SYSTEMS 01-02



Hydraulic Information	
Remote Area 01 (K16.8)	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	52.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	16.8
TOTAL WATER REQUIRED	1711.60
TOTAL PRESSURE REQUIRED	75.095
BASE OF RISER (GPM)	1711.60
BASE OF RISER (PSI)	75.095
SAFETY MARGIN (PSI)	+14.486 (16.2%)

Hydraulic Information	
Remote Area 01	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	40.000 (ESFR)
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TOTAL HEADS FLOWING	12
K-FACTOR	22.4
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BASE OF RISER (PSI)	68.043
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AREA 1 (CONT.): SYSTEMS 01-02

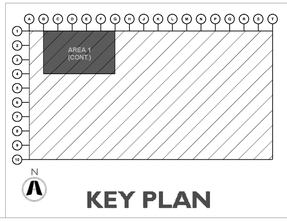
SCALE: 3/32" = 1'-0"

Sprinkler Legend											
SYMBOL	QUANTITY	MANUFACTURER	SIN	MODEL	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE
▲	2054	VICTAULIC	V4702	FL-QR/ST/ESFR	16.8	PENDENT	¾	FAST	BRASS	200°F	
⊗	4	VICTAULIC	V3406	V34	8	PENDENT	¾	QUICK	BRASS	200°F	
◆	2754	VICTAULIC	V3428	ESFR	22.4	PENDENT	1	FAST	BRASS	200°F	
●	48	VIKING	VK600	MICROFAST	5.6	PENDENT	½	QUICK	CHROME	135°F	
◎	6	VIKING	VK3021		5.6	PENDENT	½	QUICK	CHROME	135°F	
◆	368	VIKING	VK504	ESFR DRY	16.8	PENDENT	¾	QUICK	BRASS	205°F	
	TOTAL = 5234										

**JOIST BRIDGING ROWS CANNOT BE ERECTED WITHIN OF 1'-6 OF ANY SURROUNDING ESFR BRANCH LINE CENTERLINE

① - AUXILIARY DRAIN
SEE FP0.0 FOR DETAIL

② - AIR VENT
SEE FP0.0 FOR DETAIL



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SCANNELL PROPERTIES

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ISSUE DATES

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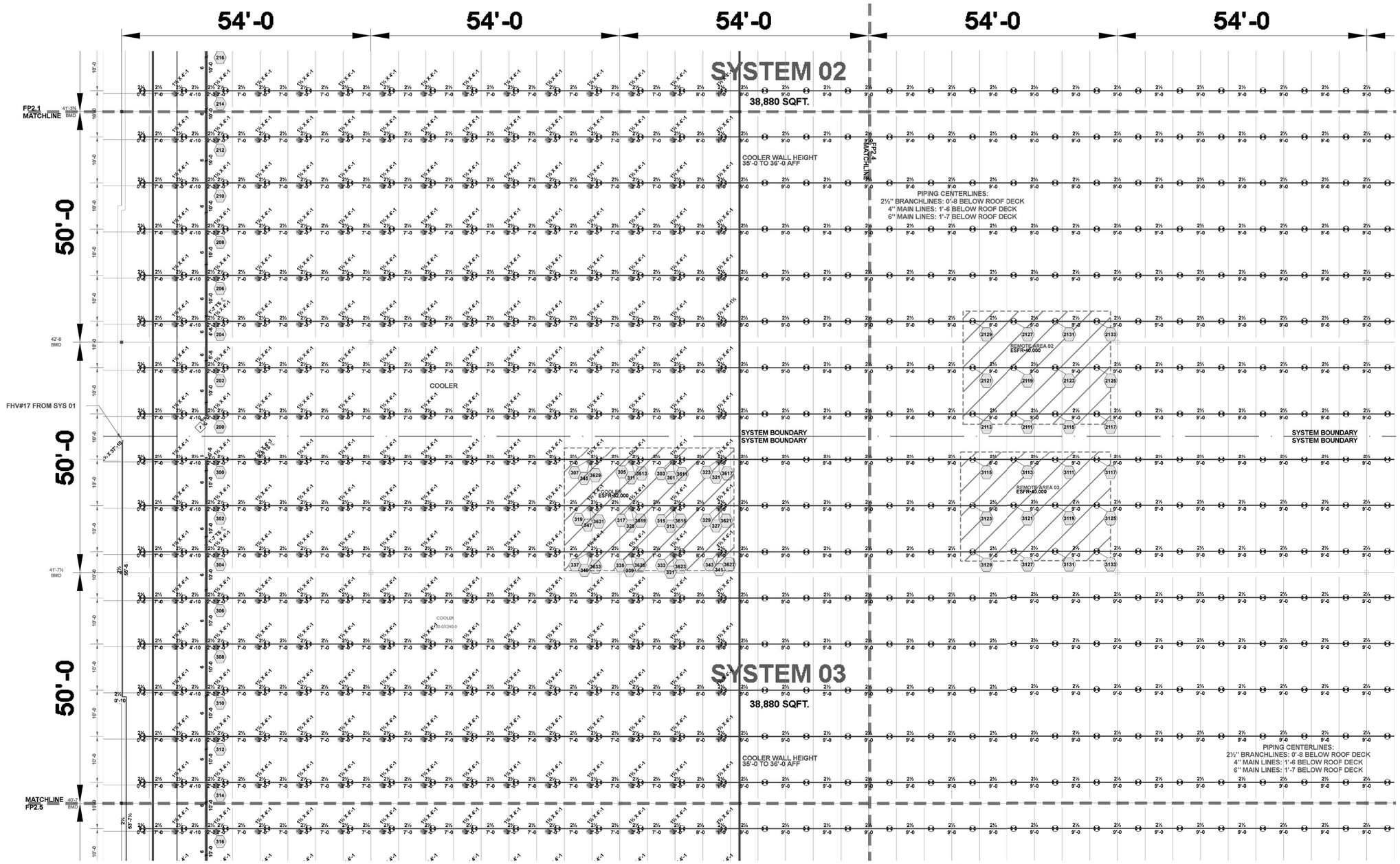
1	TENANT IMPROVEMENT	09.07.22

210300

FP2.1.2

AREA 1 (CONT.):
SYSTEMS 01-02



Hydraulic Information	
Remote Area 02	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	40.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	22.4
TOTAL WATER REQUIRED	1956.70
TOTAL PRESSURE REQUIRED	78.341
BASE OF RISER (GPM)	1956.70
BASE OF RISER (PSI)	78.341
SAFETY MARGIN (PSI)	+9.156 (10.5%)

Hydraulic Information	
Remote Area 03	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	40.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	22.4
TOTAL WATER REQUIRED	1958.59
TOTAL PRESSURE REQUIRED	79.726
BASE OF RISER (GPM)	1958.59
BASE OF RISER (PSI)	79.726
SAFETY MARGIN (PSI)	+7.754 (8.9%)

AREA 2: SYSTEMS 02-03

SCALE: 3/32" = 1'-0"

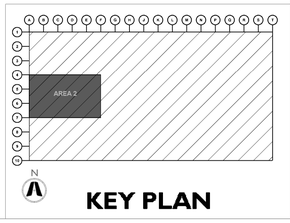
Sprinkler Legend

SYMBOL	QUANTITY	MANUFACTURER	SIN	MODEL	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE
▲	2054	VICTAULIC	V4702	FL-QR/ST/ESFR	16.8	PENDENT	¾	FAST	BRASS	200°F	
⊗	4	VICTAULIC	V3406	V34	8	PENDENT	¾	QUICK	BRASS	200°F	
◆◆	2754	VICTAULIC	V3428	ESFR	22.4	PENDENT	1	FAST	BRASS	200°F	
●	48	VIKING	VK600	MICROFAST	5.6	PENDENT	½	QUICK	CHROME	135°F	
◎	6	VIKING	VK3021		5.6	PENDENT	½	QUICK	CHROME	135°F	
◆	368	VIKING	VK504	ESFR DRY	16.8	PENDENT	¾	QUICK	BRASS	205°F	
	TOTAL = 5234										

**JOIST BRIDGING ROWS CANNOT BE ERECTED WITHIN OF 1'-6 OF ANY SURROUNDING ESFR BRANCH LINE CENTERLINE

① - AUXILIARY DRAIN SEE FP0.0 FOR DETAIL

② - AIR VENT SEE FP0.0 FOR DETAIL



KEY PLAN

CURRAN
ARCHITECTURE
5719 LAWTON LOOP E. DR. #212
INDIANAPOLIS, IN 46216
O :: 317 . 288 . 0681
F :: 317 . 288 . 0753

SCANNELL PROPERTIES

CERTIFICATION

STATE OF MISSOURI
MICHELLE A. LOPEZ
NUMBER PE-2022007904
PROFESSIONAL ENGINEER
09/07/22

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PROJECT INFORMATION

LEE'S SUMMIT LOGISTICS BUILDING A LOT 1

NW CORNER OF
NE TUDOR RD & MAIN ST
LEE'S SUMMIT, MO 64086

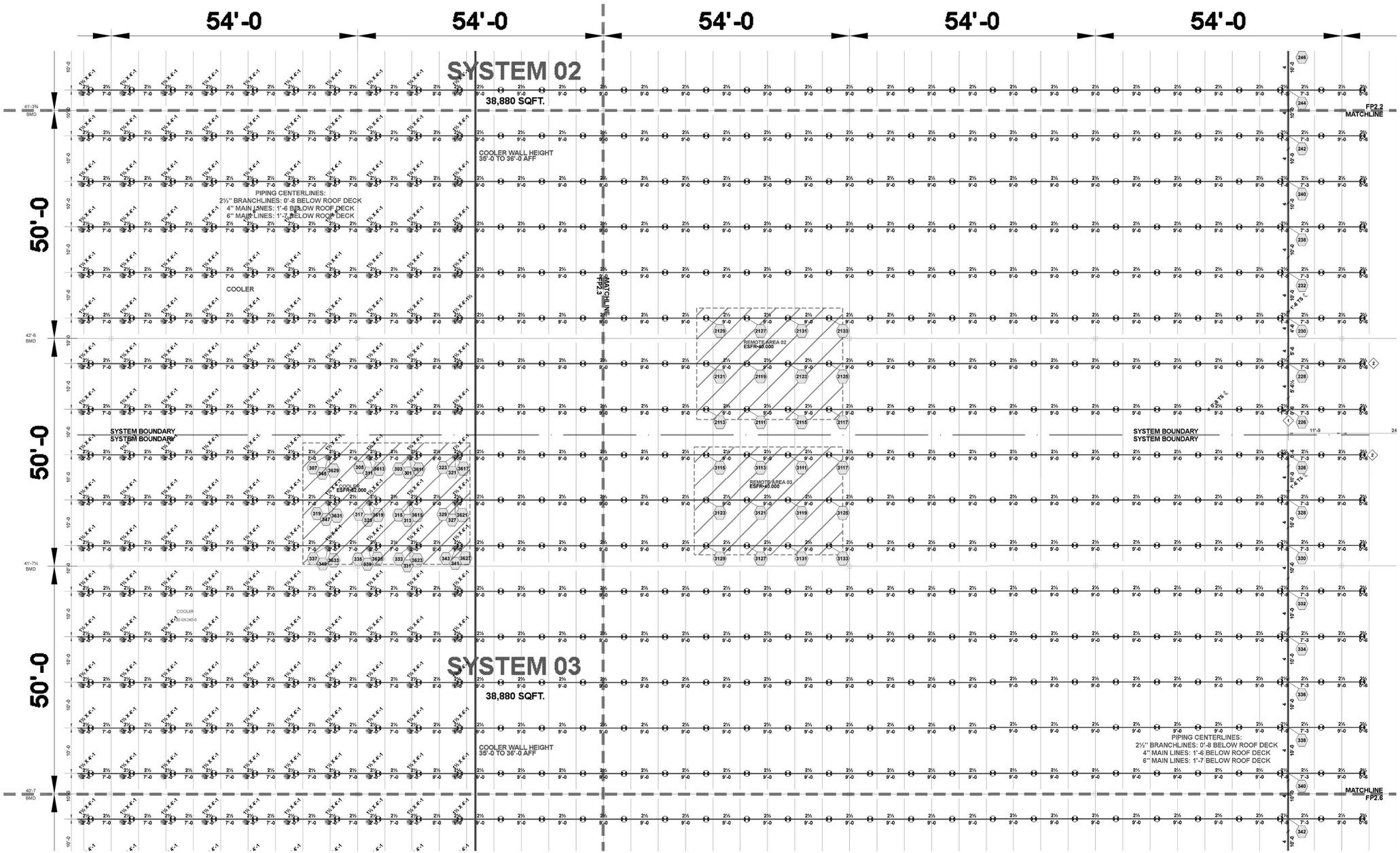
ISSUE DATES

PERMIT SET	02.18.22
1 TENANT IMPROVEMENT	09.07.22

210300

FP2.2.1

AREA 2: SYSTEM 02-03



Hydraulic Information	
Remote Area 02	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	40.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	22.4
TOTAL WATER REQUIRED	1956.70
TOTAL PRESSURE REQUIRED	78.341
BASE OF RISER (GPM)	1956.70
BASE OF RISER (PSI)	78.341
SAFETY MARGIN (PSI)	+9.156 (10.5%)

Hydraulic Information	
Remote Area 03	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	40.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	22.4
TOTAL WATER REQUIRED	1958.59
TOTAL PRESSURE REQUIRED	79.726
BASE OF RISER (GPM)	1958.59
BASE OF RISER (PSI)	79.726
SAFETY MARGIN (PSI)	+7.754 (8.9%)

AREA 2(CONT): SYSTEMS 02-03

SCALE: 3/32" = 1'-0"

Sprinkler Legend

SYMBOL	QUANTITY	MANUFACTURER	SIN	MODEL	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE
▲	2054	VICTAULIC	V4702	FL-QR/ST/ESFR	16.8	PENDENT	¾	FAST	BRASS	200°F	
⊗	4	VICTAULIC	V3406	V34	8	PENDENT	¾	QUICK	BRASS	200°F	
◆	2754	VICTAULIC	V3428	ESFR	22.4	PENDENT	1	FAST	BRASS	200°F	
●	48	VIKING	VK600	MICROFAST	5.6	PENDENT	½	QUICK	CHROME	135°F	
◎	6	VIKING	VK3021		5.6	PENDENT	½	QUICK	CHROME	135°F	
◆	368	VIKING	VK504	ESFR DRY	16.8	PENDENT	¾	QUICK	BRASS	205°F	
	TOTAL = 5234										

**JOIST BRIDGING ROWS CANNOT BE ERECTED WITHIN OF 1'-6 OF ANY SURROUNDING ESFR BRANCH LINE CENTERLINE

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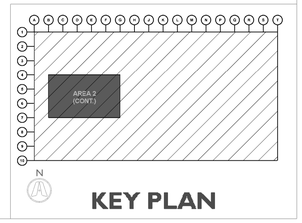
② - AIR VENT SEE FP0.0 FOR DETAIL



CURRAN ARCHITECTURE
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PROJECT INFORMATION

LEE'S SUMMIT LOGISTICS BUILDING A LOT 1

NW CORNER OF
NE TUDOR RD & MAIN ST
LEE'S SUMMIT, MO 64086

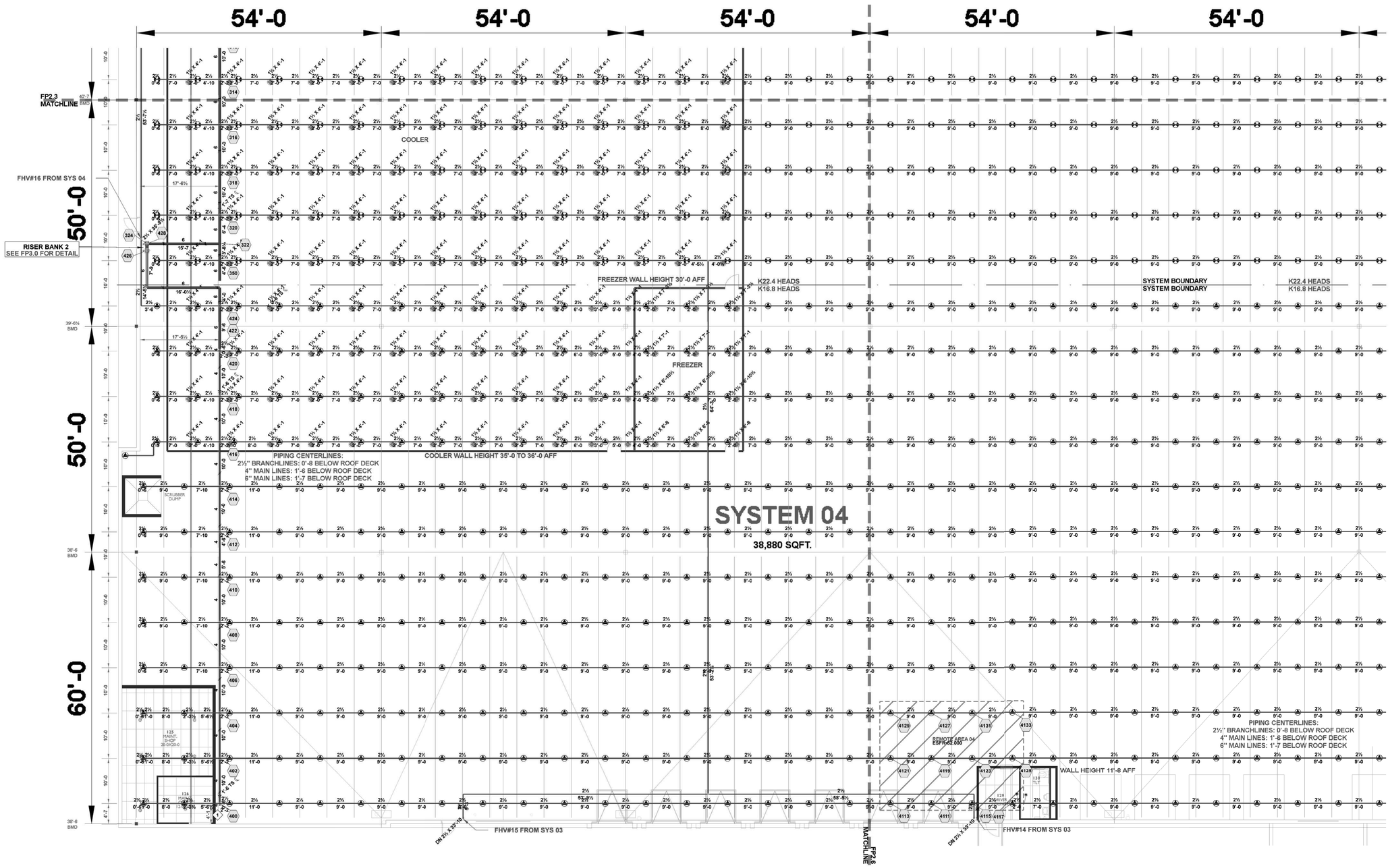
ISSUE DATES

PERMIT SET	02.18.22
⚠1 TENANT IMPROVEMENT	09.07.22

210300

FP2.2.2

AREA 2(CONT): SYSTEMS 02-03



Hydraulic Information

Remote Area 04	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	52.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	16.8
TOTAL WATER REQUIRED	1708.55
TOTAL PRESSURE REQUIRED	80.726
BASE OF RISER (GPM)	1708.55
BASE OF RISER (PSI)	80.726
SAFETY MARGIN (PSI)	+8.879 (9.9%)

AREA 3: SYSTEMS 03-04

SCALE: 3/32" = 1'-0"

Sprinkler Legend

SYMBOL	QUANTITY	MANUFACTURER	SIN	MODEL	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE
▲	2054	VICTAULIC	V4702	FL-QR/ST/ESFR	16.8	PENDENT	¾	FAST	BRASS	200°F	
⊗	4	VICTAULIC	V3406	V34	8	PENDENT	¾	QUICK	BRASS	200°F	
◆◆	2754	VICTAULIC	V3428	ESFR	22.4	PENDENT	1	FAST	BRASS	200°F	
●	48	VIKING	VK600	MICROFAST	5.6	PENDENT	½	QUICK	CHROME	135°F	
◎	6	VIKING	VK3021		5.6	PENDENT	½	QUICK	CHROME	135°F	
◆	368	VIKING	VK504	ESFR DRY	16.8	PENDENT	¾	QUICK	BRASS	205°F	
	TOTAL = 5234										

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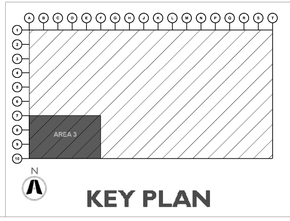
2 - AIR VENT SEE FP0.0 FOR DETAIL



KEY PLAN

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PROJECT INFORMATION

LEE'S SUMMIT LOGISTICS BUILDING A LOT I

NW CORNER OF
NE TUDOR RD & MAIN ST
LEE'S SUMMIT, MO 64086

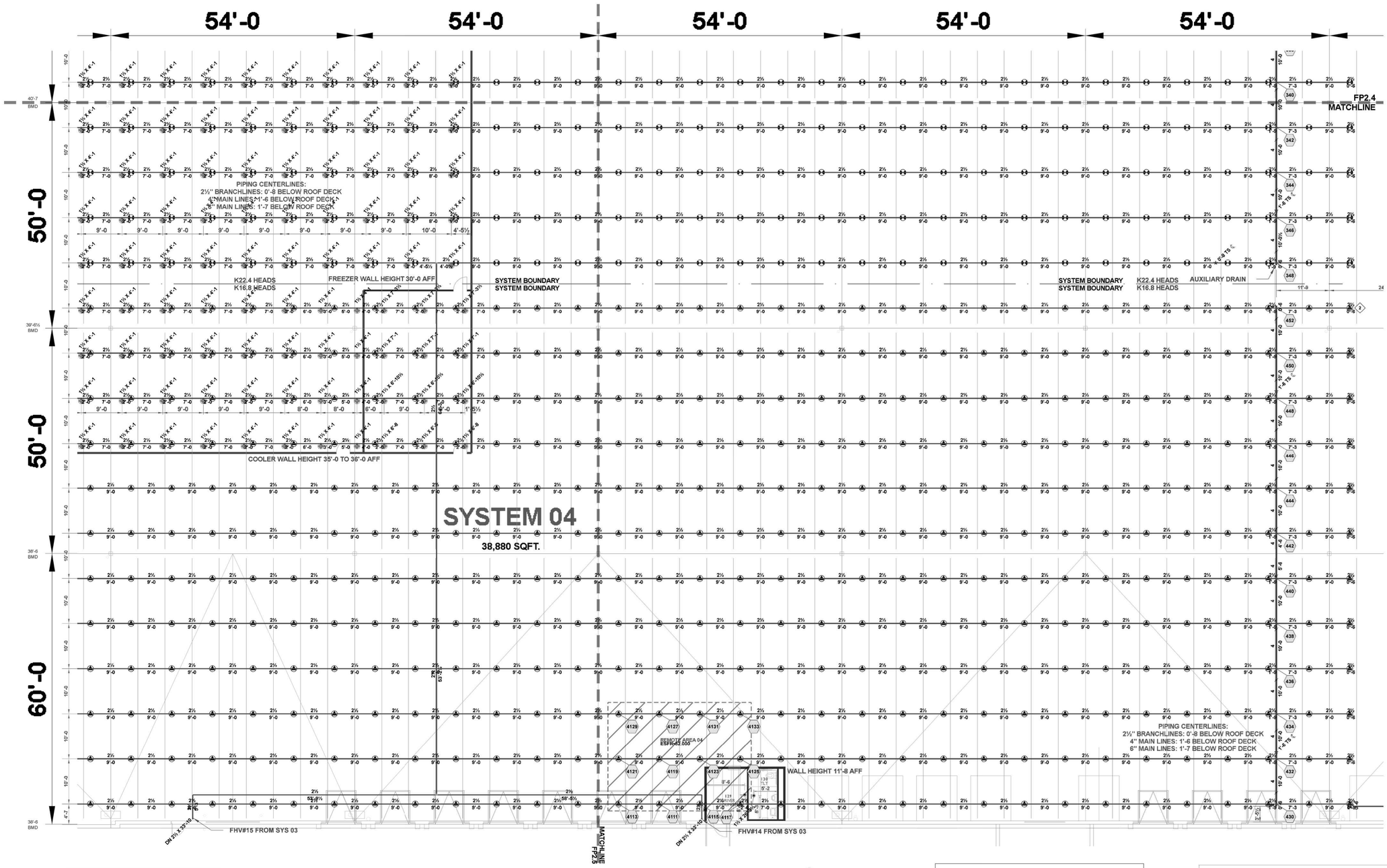
ISSUE DATES

	PERMIT SET	02.18.22
1	TENANT IMPROVEMENT	09.07.22

210300

FP2.3.1

AREA 3: SYSTEMS 03-04



Hydraulic Information

Remote Area 04	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	52.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	16.8
TOTAL WATER REQUIRED	1708.55
TOTAL PRESSURE REQUIRED	80.726
BASE OF RISER (GPM)	1708.55
BASE OF RISER (PSI)	80.726
SAFETY MARGIN (PSI)	+8.879 (9.9%)

AREA 3(CONT.): SYSTEMS 03-04

SCALE: 3/32" = 1'-0"

Sprinkler Legend

SYMBOL	QUANTITY	MANUFACTURER	SIN	MODEL	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE
▲	2054	VICTAULIC	V4702	FL-QR/ST/ESFR	16.8	PENDENT	¾	FAST	BRASS	200°F	
⊗	4	VICTAULIC	V3406	V34	8	PENDENT	¾	QUICK	BRASS	200°F	
◆	2754	VICTAULIC	V3428	ESFR	22.4	PENDENT	1	FAST	BRASS	200°F	
●	48	VIKING	VK600	MICROFAST	5.6	PENDENT	½	QUICK	CHROME	135°F	
◎	6	VIKING	VK3021		5.6	PENDENT	½	QUICK	CHROME	135°F	
◆	368	VIKING	VK504	ESFR DRY	16.8	PENDENT	¾	QUICK	BRASS	205°F	
	TOTAL = 5234										

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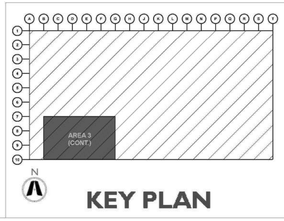
2 - AIR VENT SEE FP0.0 FOR DETAIL



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PROJECT INFORMATION

LEE'S SUMMIT LOGISTICS BUILDING A LOT 1

NW CORNER OF
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LEE'S SUMMIT, MO 64086

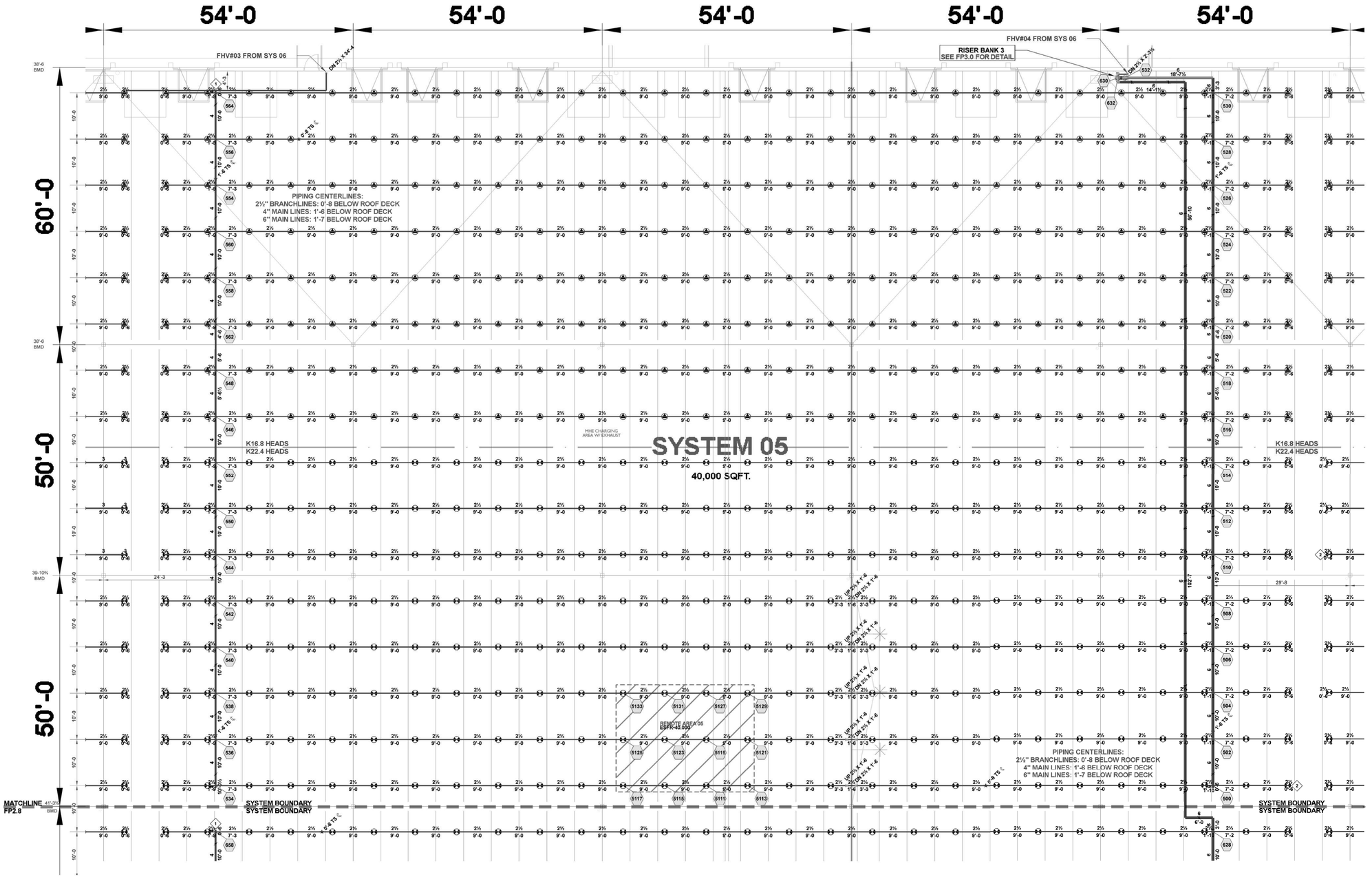
ISSUE DATES

PERMIT SET	02.18.22
1 TENANT IMPROVEMENT	09.07.22

210300

FP2.3.2

AREA 3(CONT.):
SYSTEMS 03-04



Hydraulic Information

Remote Area 05	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	40.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	22.4
TOTAL WATER REQUIRED	1959.12
TOTAL PRESSURE REQUIRED	73.843
BASE OF RISER (GPM)	1959.12
BASE OF RISER (PSI)	73.843
SAFETY MARGIN (PSI)	+13.633 (15.6%)

AREA 4: SYSTEM 05

SCALE: 3/32" = 1'-0"

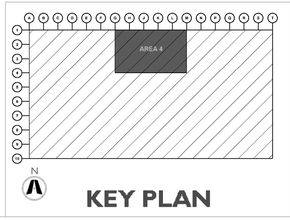
Sprinkler Legend

SYMBOL	QUANTITY	MANUFACTURER	SIN	MODEL	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE
▲	2054	VICTAULIC	V4702	FL-QR/ST/ESFR	16.8	PENDENT	¾	FAST	BRASS	200°F	
⊗	4	VICTAULIC	V3406	V34	8	PENDENT	¾	QUICK	BRASS	200°F	
◆	2754	VICTAULIC	V3428	ESFR	22.4	PENDENT	1	FAST	BRASS	200°F	
●	48	VIKING	VK600	MICROFAST	5.6	PENDENT	½	QUICK	CHROME	135°F	
◎	6	VIKING	VK3021		5.6	PENDENT	½	QUICK	CHROME	135°F	
◆	368	VIKING	VK504	ESFR DRY	16.8	PENDENT	¾	QUICK	BRASS	205°F	
	TOTAL = 5234										

**JOIST BRIDGING ROWS CANNOT BE ERECTED WITHIN OF 1'-6 OF ANY SURROUNDING ESFR BRANCH LINE CENTERLINE

① - AUXILIARY DRAIN SEE FP0.0 FOR DETAIL

② - AIR VENT SEE FP0.0 FOR DETAIL



CURRAN
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SCANNELL PROPERTIES

CERTIFICATION

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MICHELLE A. LOPEZ
NUMBER PE-2022007904
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09/07/22

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PROJECT INFORMATION

LEE'S SUMMIT LOGISTICS BUILDING A LOT 1

NW CORNER OF
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LEE'S SUMMIT, MO 64086

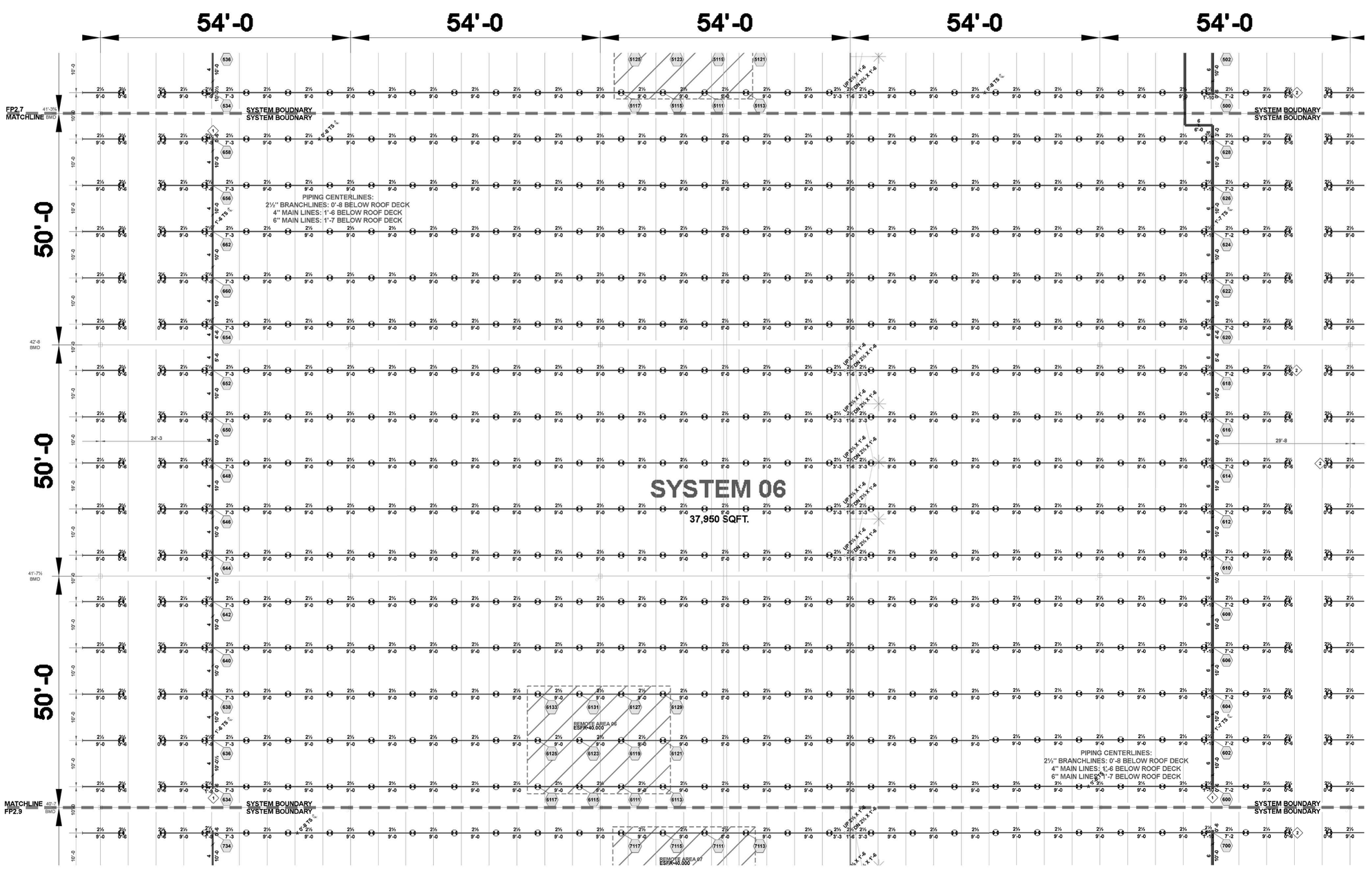
ISSUE DATES

PERMIT SET	02.18.22
1 TENANT IMPROVEMENT	09.07.22

210300

FP2.4

AREA 4: SYSTEM 05



Hydraulic Information

Remote Area 06	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	40.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	22.4
TOTAL WATER REQUIRED	1956.47
TOTAL PRESSURE REQUIRED	80.319
BASE OF RISER (GPM)	1956.47
BASE OF RISER (PSI)	80.319
SAFETY MARGIN (PSI)	+7.179 (8.2%)

AREA 5: SYSTEM 06

SCALE: 3/32" = 1'-0"

Sprinkler Legend

SYMBOL	QUANTITY	MANUFACTURER	SIN	MODEL	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE
▲	2054	VICTAULIC	V4702	FL-QR/ST/ESFR	16.8	PENDENT	¾	FAST	BRASS	200°F	
⊗	4	VICTAULIC	V3406	V34	8	PENDENT	¾	QUICK	BRASS	200°F	
◆	2754	VICTAULIC	V3428	ESFR	22.4	PENDENT	1	FAST	BRASS	200°F	
●	48	VIKING	VK600	MICROFAST	5.6	PENDENT	½	QUICK	CHROME	135°F	
◎	6	VIKING	VK3021		5.6	PENDENT	½	QUICK	CHROME	135°F	
◆	368	VIKING	VK504	ESFR DRY	16.8	PENDENT	¾	QUICK	BRASS	205°F	
	TOTAL = 5234										

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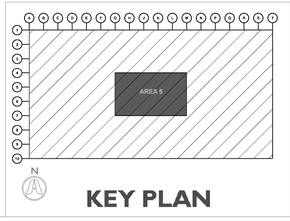
② - AIR VENT SEE FP0.0 FOR DETAIL



CURRAN
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SCANNELL PROPERTIES

CERTIFICATION

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MICHELLE A. LOPEZ
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PROJECT INFORMATION

LEE'S SUMMIT LOGISTICS
BUILDING A LOT 1

NW CORNER OF
NE TUDOR RD & MAIN ST
LEE'S SUMMIT, MO 64086

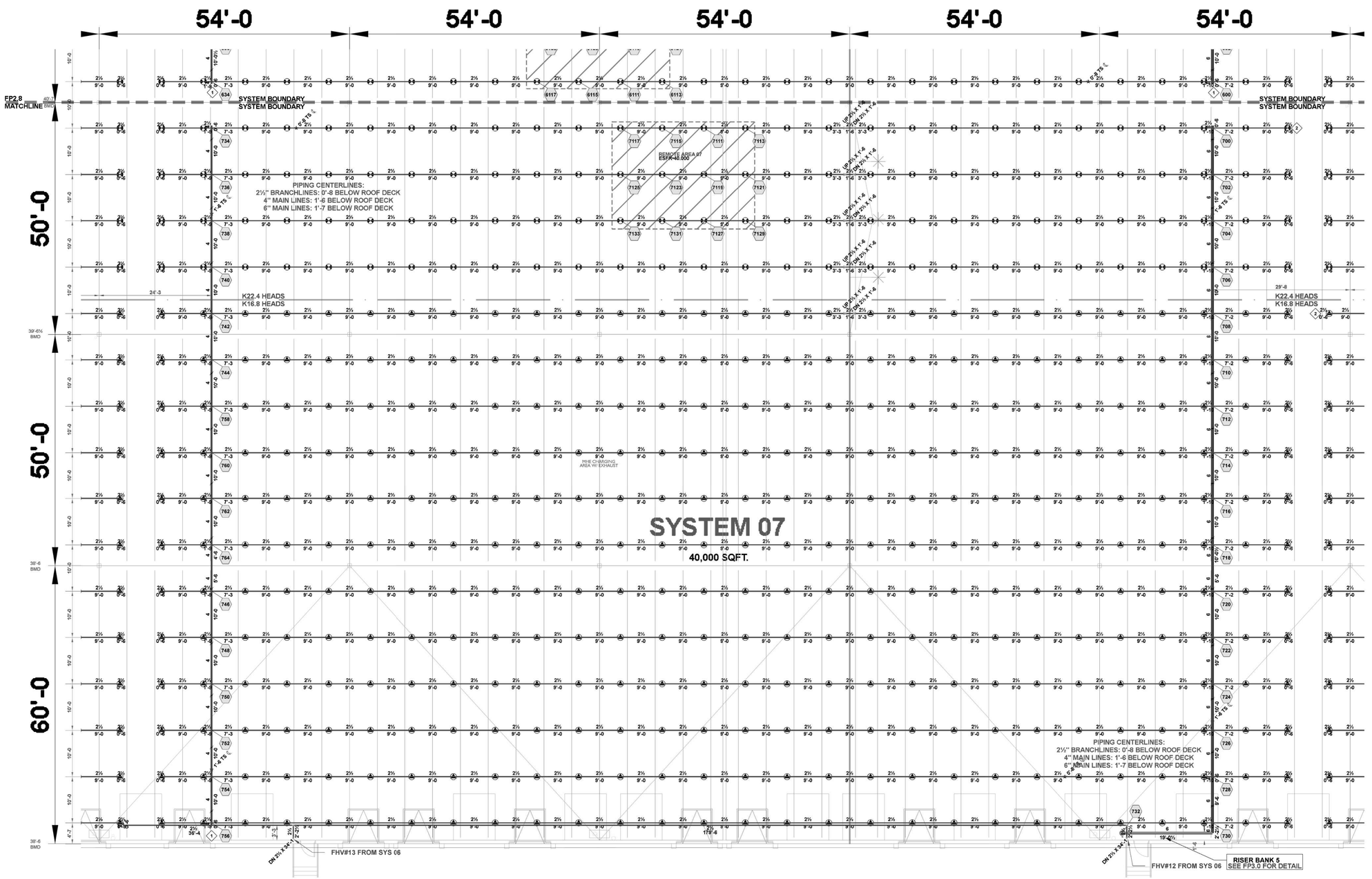
ISSUE DATES

	PERMIT SET	02.18.22
1	TENANT IMPROVEMENT	09.07.22

210300

FP2.5

AREA 5: SYSTEM 06



Hydraulic Information

Remote Area 07	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	40.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	22.4
TOTAL WATER REQUIRED	1958.72
TOTAL PRESSURE REQUIRED	74.363
BASE OF RISER (GPM)	1958.72
BASE OF RISER (PSI)	74.363
SAFETY MARGIN (PSI)	+13.116 (15.0%)

AREA 6: SYSTEM 07

SCALE: 3/32" = 1'-0"

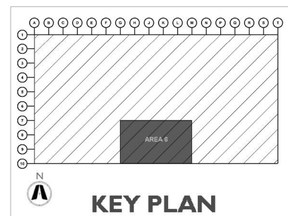
Sprinkler Legend

SYMBOL	QUANTITY	MANUFACTURER	SIN	MODEL	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE
▲	2054	VICTAULIC	V4702	FL-QR/ST/ESFR	16.8	PENDENT	¾	FAST	BRASS	200°F	
⊗	4	VICTAULIC	V3406	V34	8	PENDENT	¾	QUICK	BRASS	200°F	
◆	2754	VICTAULIC	V3428	ESFR	22.4	PENDENT	1	FAST	BRASS	200°F	
●	48	VIKING	VK600	MICROFAST	5.6	PENDENT	½	QUICK	CHROME	135°F	
◎	6	VIKING	VK3021		5.6	PENDENT	½	QUICK	CHROME	135°F	
◆	368	VIKING	VK504	ESFR DRY	16.8	PENDENT	¾	QUICK	BRASS	205°F	
	TOTAL = 5234										

**JOIST BRIDGING ROWS CANNOT BE ERECTED WITHIN OF 1'-6 OF ANY SURROUNDING ESFR BRANCH LINE CENTERLINE

① - AUXILIARY DRAIN SEE FP0.0 FOR DETAIL

② - AIR VENT SEE FP0.0 FOR DETAIL



KEY PLAN

CURRAN
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SCANNELL PROPERTIES

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MICHELLE A. LOPEZ
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PROFESSIONAL ENGINEER
09/07/22

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PROJECT INFORMATION

LEE'S SUMMIT LOGISTICS
BUILDING A LOT 1
NW CORNER OF
NE TUDOR RD & MAIN ST
LEE'S SUMMIT, MO 64086

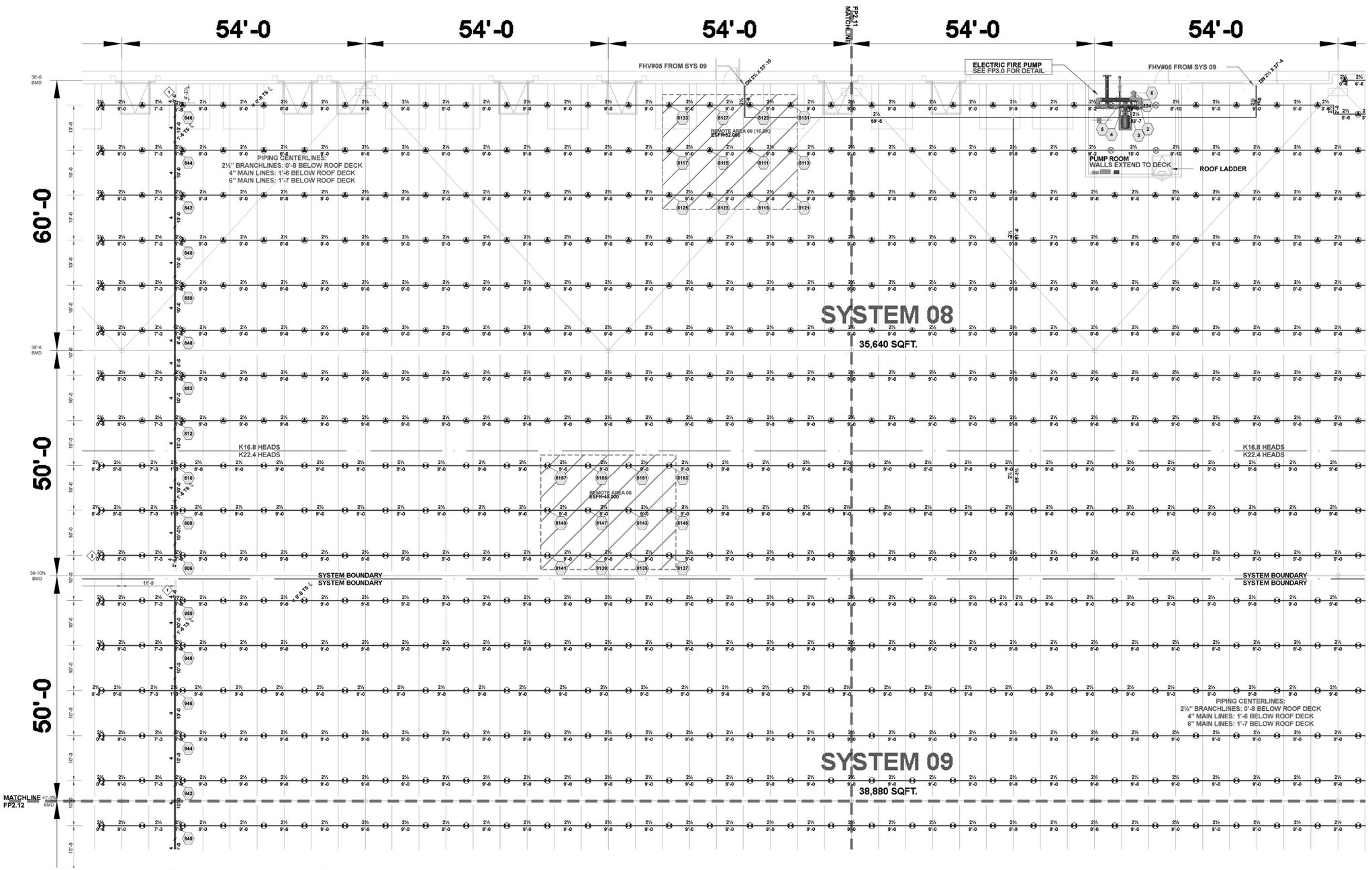
ISSUE DATES

	PERMIT SET	02.18.22
1	TENANT IMPROVEMENT	09.07.22

210300

FP2.6

AREA 6: SYSTEM 07



Hydraulic Information	
Remote Area 08 (K16.8)	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	52.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	16.8
TOTAL WATER REQUIRED	1711.62
TOTAL PRESSURE REQUIRED	73.476
BASE OF RISER (GPM)	1711.62
BASE OF RISER (PSI)	73.476
SAFETY MARGIN (PSI)	+16.104 (18.0%)

Hydraulic Information	
Remote Area 08	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	40.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	22.4
TOTAL WATER REQUIRED	1956.80
TOTAL PRESSURE REQUIRED	81.616
BASE OF RISER (GPM)	1956.80
BASE OF RISER (PSI)	81.616
SAFETY MARGIN (PSI)	+5.880 (6.7%)

AREA 7: SYSTEMS 08-09

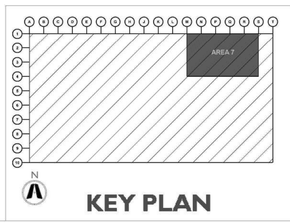
SCALE: 3/32" = 1'-0"

Sprinkler Legend										
SYMBOL	QUANTITY	MANUFACTURER	SIN	MODEL	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE
▲	2054	VICTAULIC	V4702	FL-QR/ST/ESFR	16.8	PENDENT	¾	FAST	BRASS	200°F	
⊗	4	VICTAULIC	V3406	V34	8	PENDENT	¾	QUICK	BRASS	200°F	
◆	2754	VICTAULIC	V3428	ESFR	22.4	PENDENT	1	FAST	BRASS	200°F	
●	48	VIKING	VK600	MICROFAST	5.6	PENDENT	½	QUICK	CHROME	135°F	
◎	6	VIKING	VK3021		5.6	PENDENT	½	QUICK	CHROME	135°F	
◆	368	VIKING	VK504	ESFR DRY	16.8	PENDENT	¾	QUICK	BRASS	205°F	
	TOTAL = 5234										

**JOIST BRIDGING ROWS CANNOT BE ERECTED WITHIN OF 1'-6 OF ANY SURROUNDING ESFR BRANCH LINE CENTERLINE

① - AUXILIARY DRAIN SEE FP0.0 FOR DETAIL

② - AIR VENT SEE FP0.0 FOR DETAIL



CURRAN
ARCHITECTURE
5719 LAWTON LOOP E. DR. #212
INDIANAPOLIS, IN 46216
O :: 317 . 288 . 0681
F :: 317 . 288 . 0753

SCANNELL PROPERTIES

CERTIFICATION

STATE OF MISSOURI
MICHELLE A. LOPEZ
NUMBER PE-2022007904
PROFESSIONAL ENGINEER
09/07/22

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PROJECT INFORMATION

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LEE'S SUMMIT, MO 64086

ISSUE DATES	
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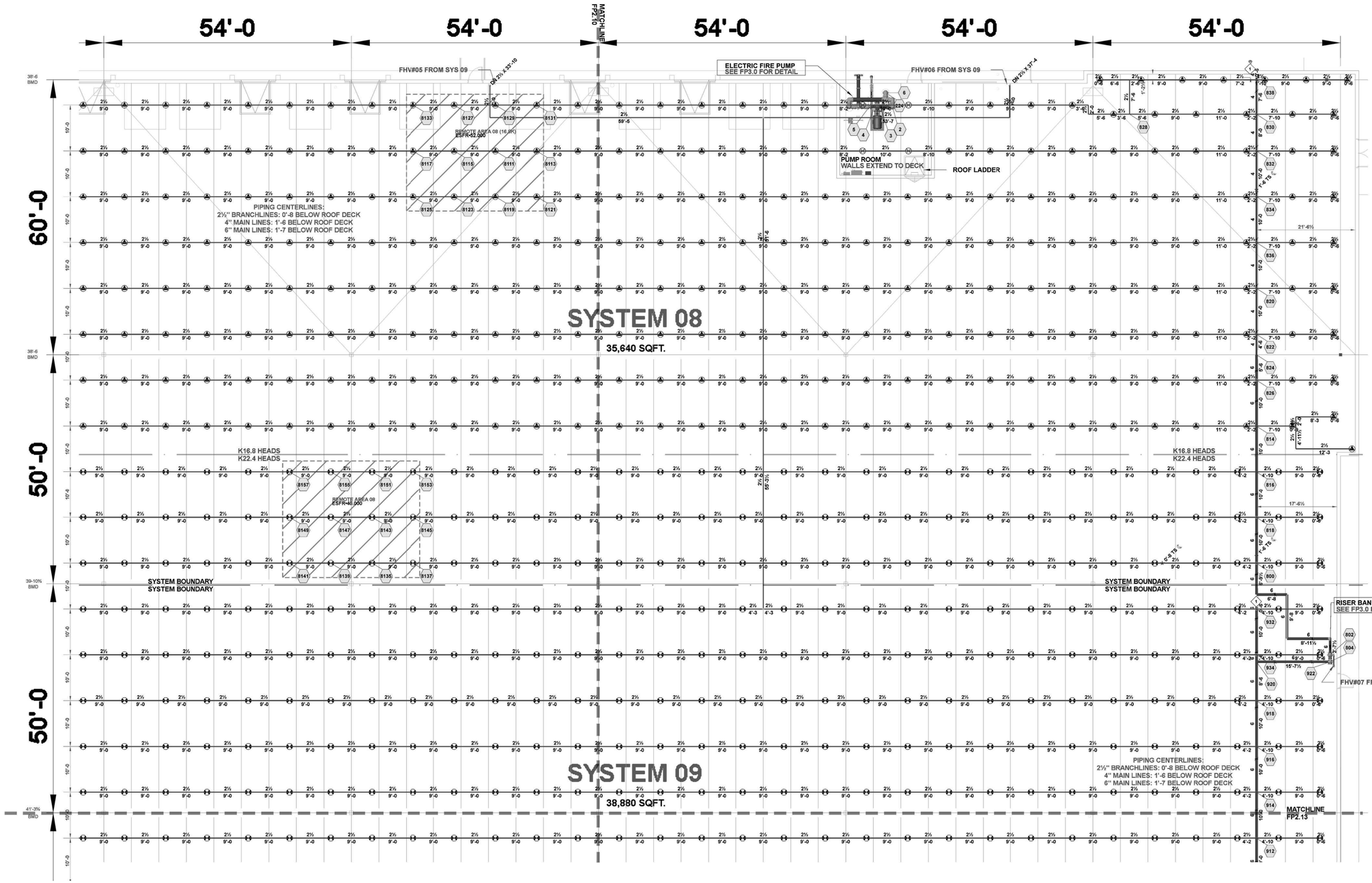
210300

FP2.7.1

AREA 7: SYSTEMS 08-09



Hydraulic Information	
Remote Area 08 (K16.8)	
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Hydraulic Information	
Remote Area 08	
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AREA 7(CONT): SYSTEMS 08-09

SCALE: 3/32" = 1'-0"

Sprinkler Legend

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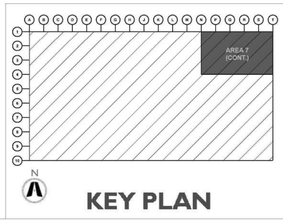

KEY PLAN

CURRAN ARCHITECTURE
5719 LAWTON LOOP E. DR. #212
INDIANAPOLIS, IN 46216
O :: 317 . 288 . 0681
F :: 317 . 288 . 0753

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ISSUE DATES

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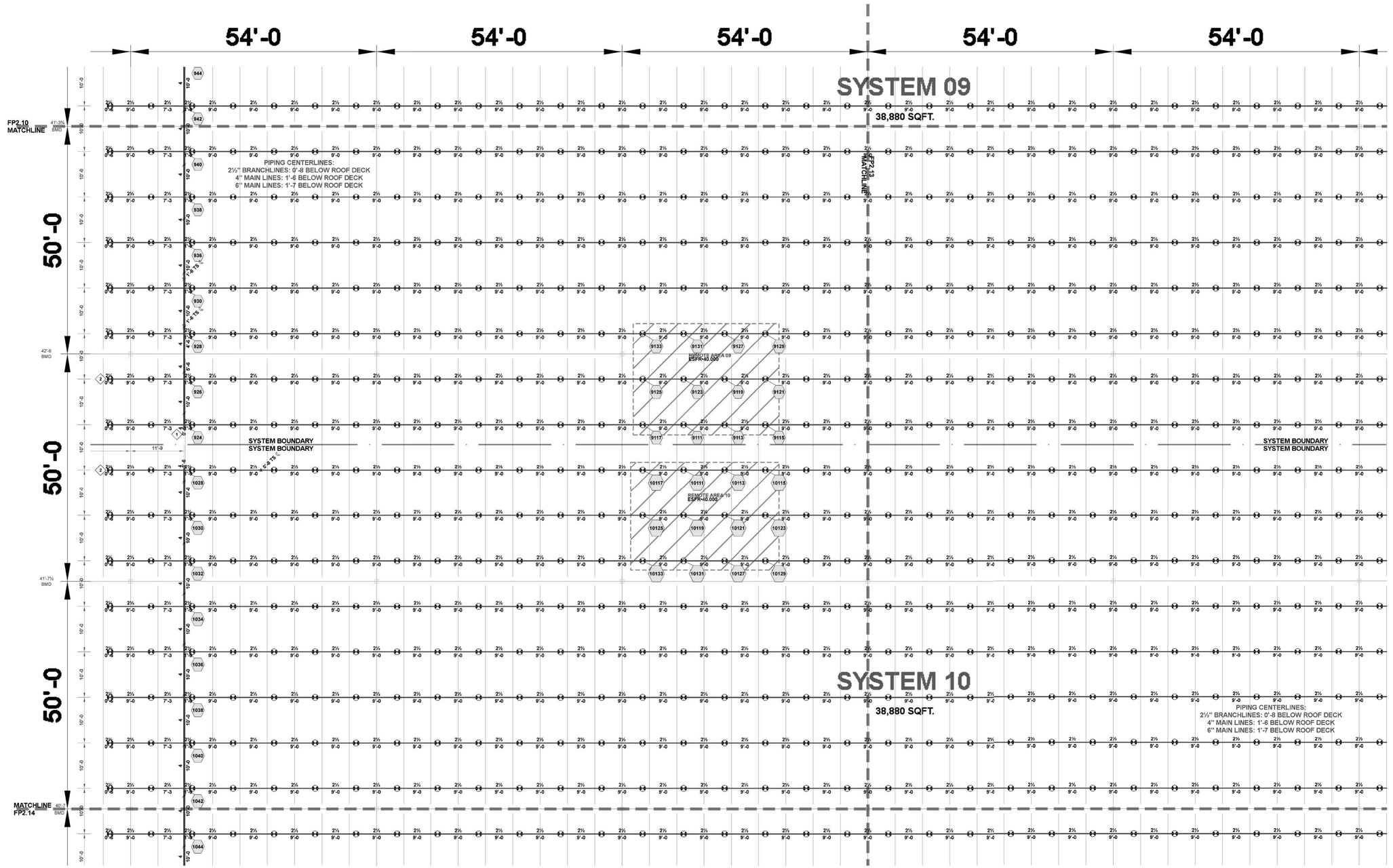
210300

FP2.7.2

AREA 7(CONT): SYSTEMS 08-09



AREA 8: SYSTEMS 09-10

SCALE: 3/32" = 1'-0"

Hydraulic Information	
Remote Area 09	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	40.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	22.4
TOTAL WATER REQUIRED	1956.70
TOTAL PRESSURE REQUIRED	75.314
BASE OF RISER (GPM)	1956.70
BASE OF RISER (PSI)	75.314
SAFETY MARGIN (PSI)	+12.183 (13.9%)

Hydraulic Information	
Remote Area 10	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	40.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	22.4
TOTAL WATER REQUIRED	1958.59
TOTAL PRESSURE REQUIRED	77.654
BASE OF RISER (GPM)	1958.59
BASE OF RISER (PSI)	77.654
SAFETY MARGIN (PSI)	+9.826 (11.2%)

Sprinkler Legend

SYMBOL	QUANTITY	MANUFACTURER	SIN	MODEL	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE
	2054	VICTAULIC	V4702	FL-QR/ST/ESFR	16.8	PENDENT	¾	FAST	BRASS	200°F	
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	TOTAL = 5234										

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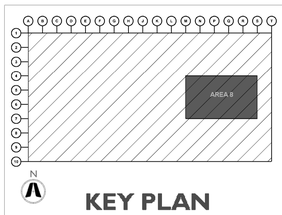

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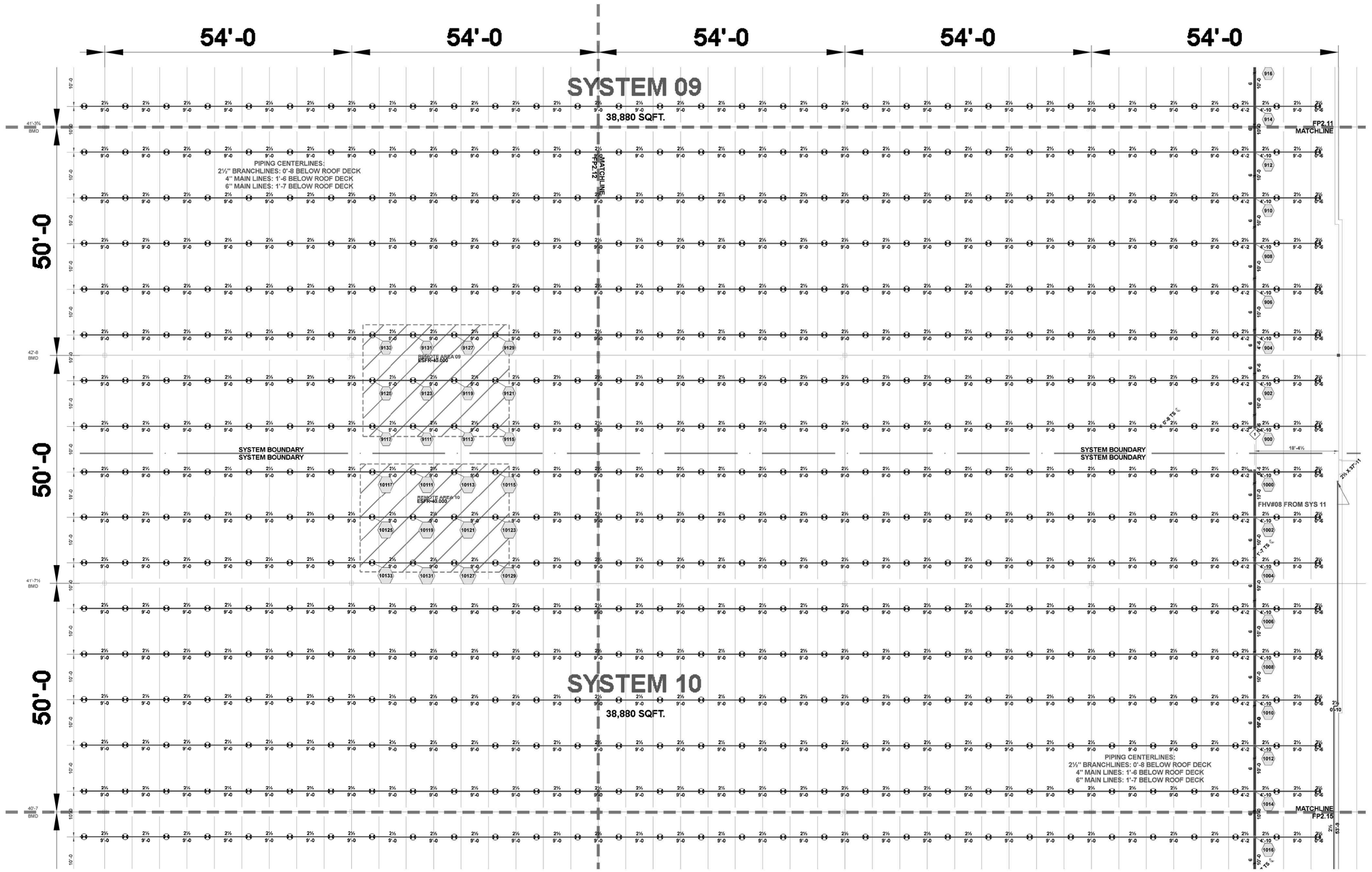
210300

FP2.8.1

AREA 8: SYSTEMS 09-10



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AREA 8 (CONT.): SYSTEMS 09-10

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	TOTAL = 5234										

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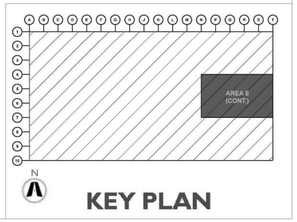

KEY PLAN

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INDIANAPOLIS, IN 46216
O :: 317 . 288 . 0681
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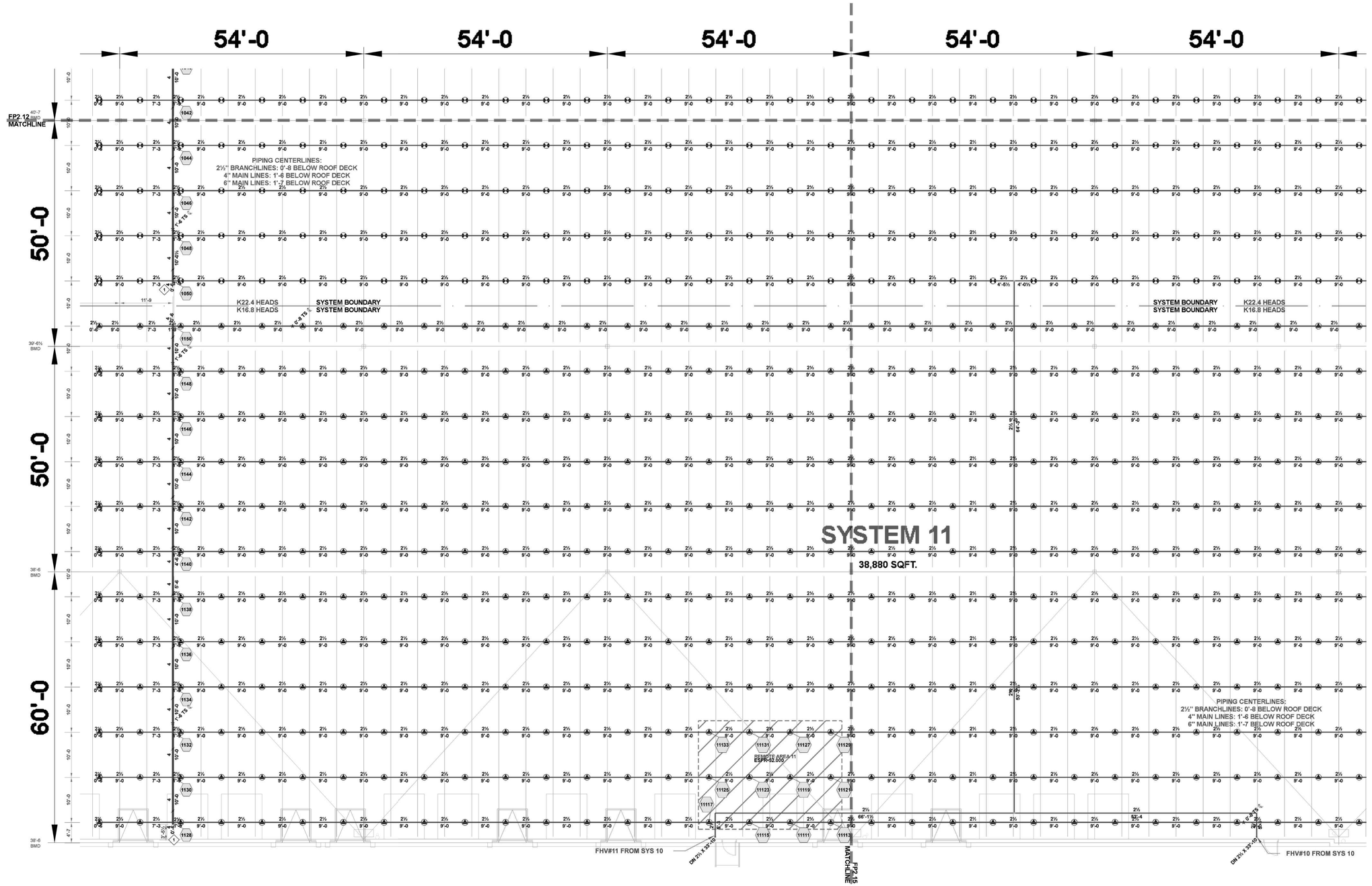
FP2.8.2

AREA 8 (CONT.): SYSTEMS 09-10



AREA 9: SYSTEMS 10-11

SCALE: 3/32" = 1'-0"

Hydraulic Information	
Remote Area 11	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	52.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	16.8
TOTAL WATER REQUIRED	1708.55
TOTAL PRESSURE REQUIRED	79.115
BASE OF RISER (GPM)	1708.55
BASE OF RISER (PSI)	79.115
SAFETY MARGIN (PSI)	+10.490 (11.7%)

Sprinkler Legend

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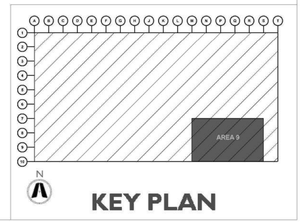

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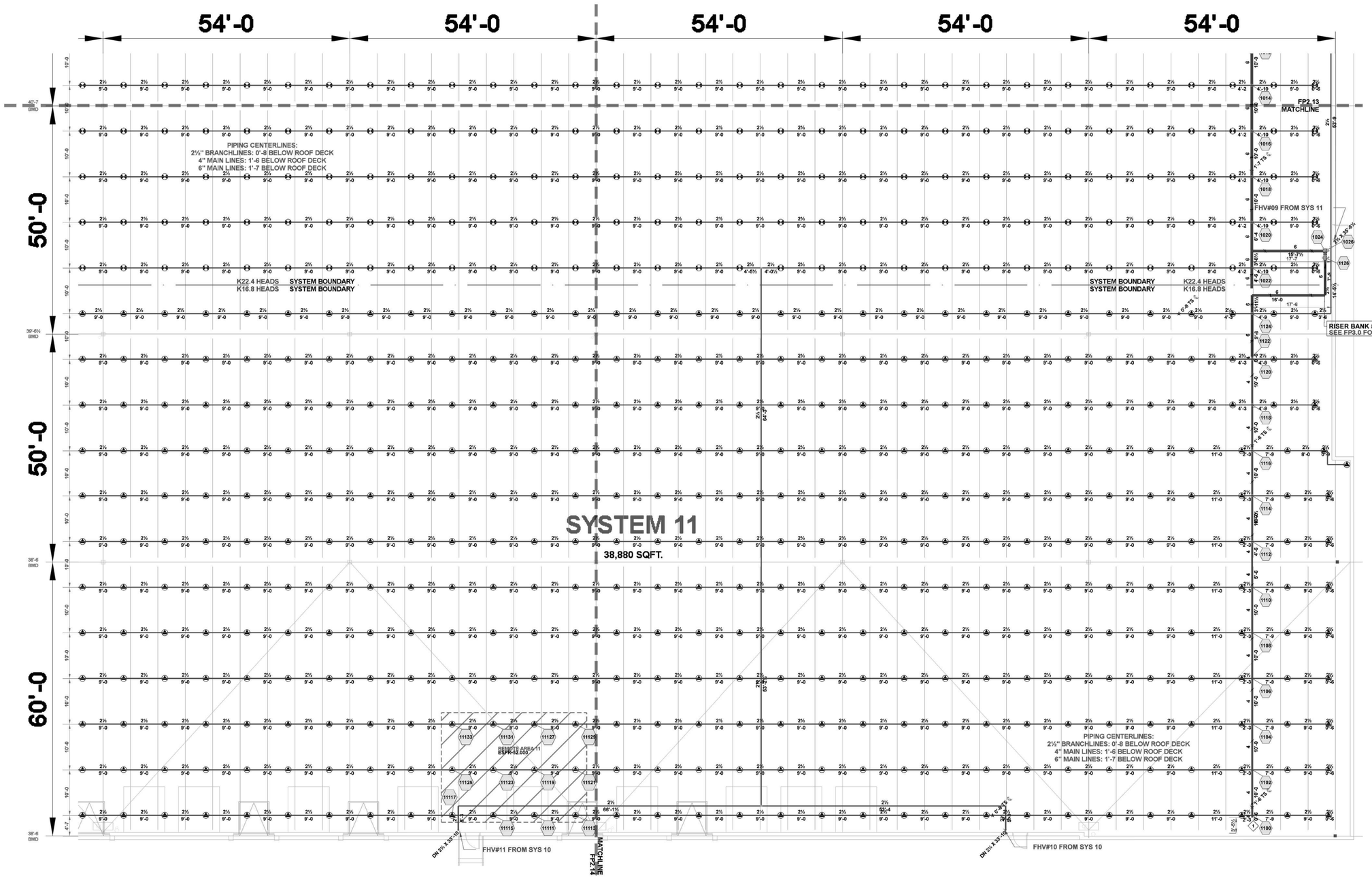
AREA 9: SYSTEMS 10-11



AREA 9(CONT.): SYSTEMS 10-11

SCALE: 3/32" = 1'-0"

Hydraulic Information	
Remote Area 11	
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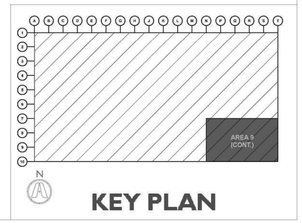

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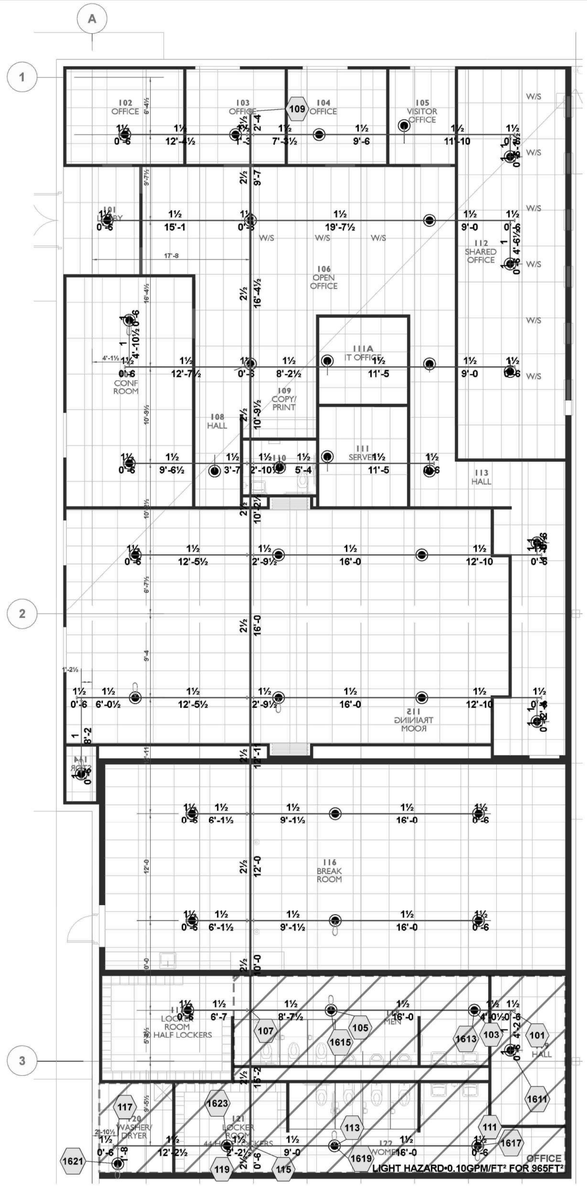
210300

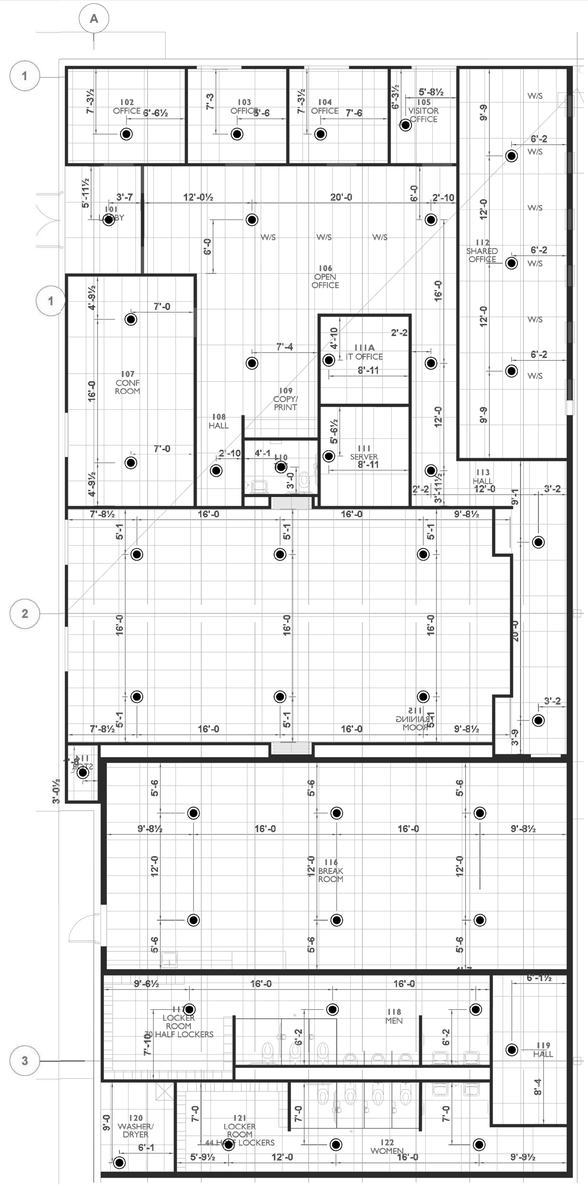
FP2.9.2

AREA 9(CONT.): SYSTEMS 10-11



OFFICE PIPING LAYOUT

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

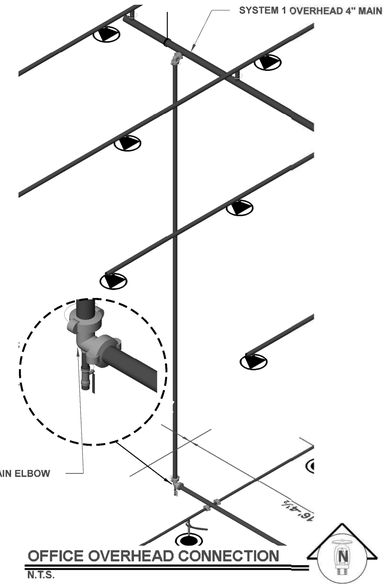


OFFICE SPRINKLER REFLECTED CEILING PLAN

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

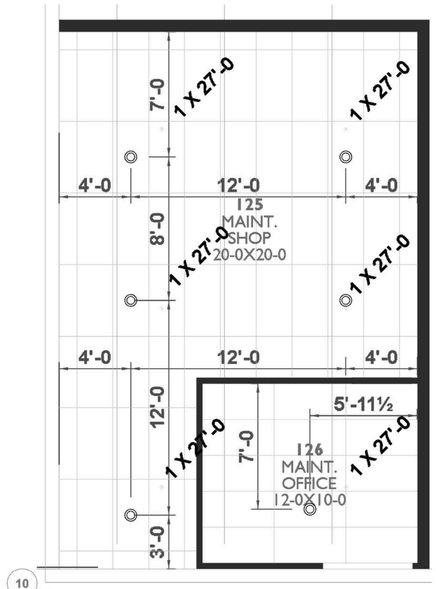
**ACT ELEVATIONS: 9'-8 AFF
**PIPING CENTERLINES: 10'-8 AFF

Hydraulic Information	
Remote Area Office	
OCCUPANCY CLASSIFICATION	LIGHT HAZARD
DENSITY (GPM/FT²)	0.10 FOR 1500FT² (ACTUAL 965FT²)
QUICK RESPONSE REDUCTION	9'-8 CEILING (40.0%) 900FT²
TOTAL HOSE STREAMS	100.00
TOTAL HEADS FLOWING	7
K-FACTOR	5.6
TOTAL WATER REQUIRED	388.74
TOTAL PRESSURE REQUIRED	42.659
BASE OF RISER (GPM)	388.74
BASE OF RISER (PSI)	42.659
SAFETY MARGIN (PSI)	+53.863 (55.8%)



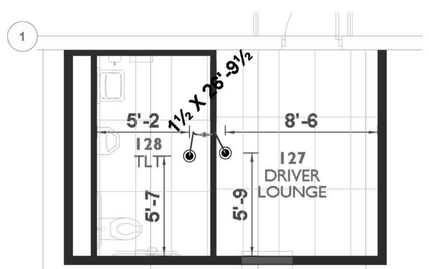
OFFICE OVERHEAD CONNECTION

N.T.S.



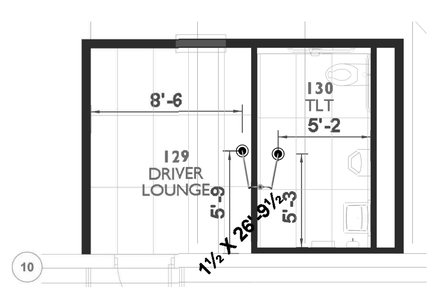
MAINT. SHOP SPRINKLER LAYOUT

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



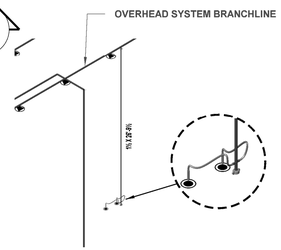
DRIVERS LOUNGE 1 REFLECTED CEILING PLAN

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



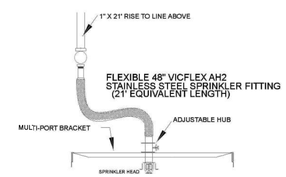
DRIVERS LOUNGE 2 REFLECTED CEILING PLAN

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



LOUNGE 1&2 OVERHEAD CONNECTION

N.T.S.

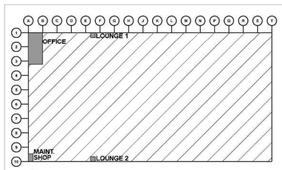


FLEXIBLE SPRINKLER DROP DETAIL

N.T.S.

Sprinkler Legend

SYMBOL	MANUFACTURER	SIN	MODEL	QUANTITY	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE
▲	VICTAULIC	V4702	FL-QR/ST/ESFR	2054	16.8	PENDENT	⅜	FAST	BRASS	200°F	
⊗	VICTAULIC	V3406	V34	4	8	PENDENT	½	QUICK	BRASS	200°F	
◆◆	VICTAULIC	V3428	ESFR	2754	22.4	PENDENT	1	FAST	BRASS	200°F	
●	VIKING	VK600	MICROFAST	48	5.6	PENDENT	½	QUICK	CHROME	135°F	
◎	VIKING	VK3021		6	5.6	PENDENT	½	QUICK	CHROME	135°F	
◆	VIKING	VK504	ESFR DRY	368	16.8	PENDENT	¾	QUICK	BRASS	205°F	
				TOTAL = 5234							



KEY PLAN

CURRAN
ARCHITECTURE
5719 LAWTON LOOP E. DR. #212
INDIANAPOLIS, IN 46216
O :: 317 . 288 . 0681
F :: 317 . 288 . 0753

SCANNELL PROPERTIES

CERTIFICATION

STATE OF MISSOURI
MICHELLE A. LOPEZ
NUMBER PE-2022007904
PROFESSIONAL ENGINEER
09/07/22

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PROJECT INFORMATION

LEE'S SUMMIT LOGISTICS BUILDING A LOT 1

NW CORNER OF
NE TUDOR RD & MAIN ST
LEE'S SUMMIT, MO 64086

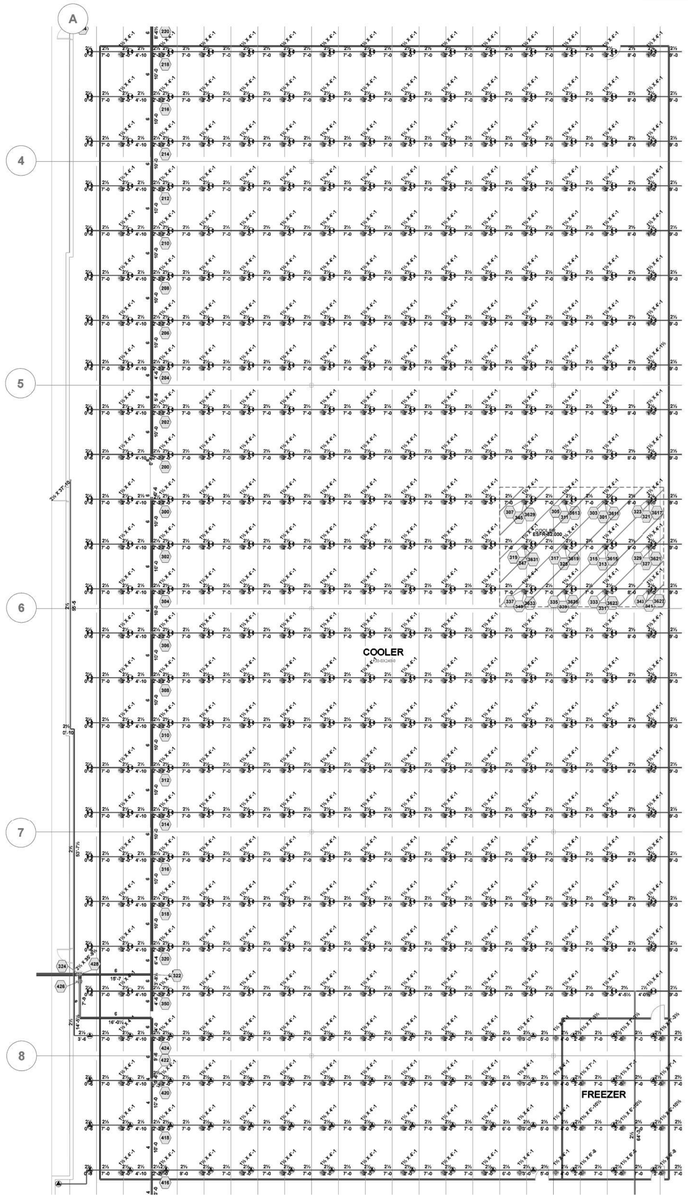
ISSUE DATES

PERMIT SET	02.18.22
1 TENANT IMPROVEMENT	09.07.22

210300

FP2.10

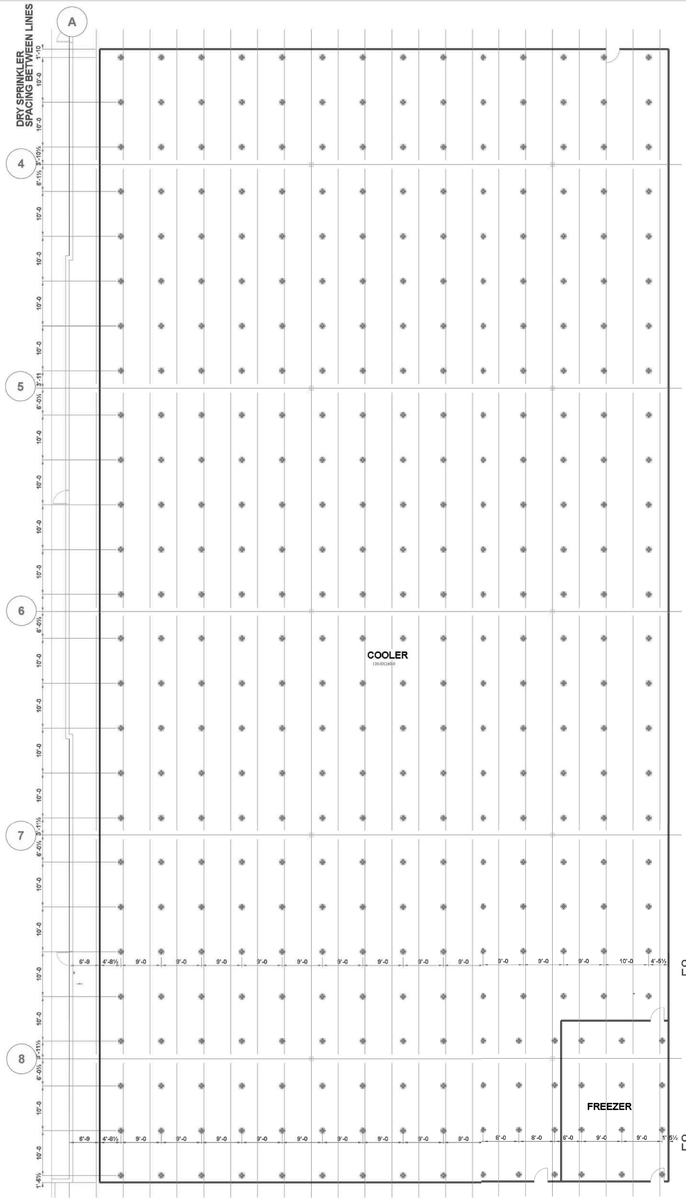
TENANT IMPROVEMENT OFFICE PLAN



COOLER/FREEZER OVERHAD LAYOUT

SCALE: 1/16" = 1'-0"

Hydraulic Information	
Remote Area Cooler	
OCCUPANCY CLASSIFICATION	ESFR
MIN. END HEAD PRESSURE	52.000 (ESFR)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	16.8
TOTAL WATER REQUIRED	1708.14
TOTAL PRESSURE REQUIRED	73.255
BASE OF RISER (GPM)	1708.14
BASE OF RISER (PSI)	73.255
SAFETY MARGIN (PSI)	+16.353 (18.2%)



COOLER/FREEZER LAYOUT

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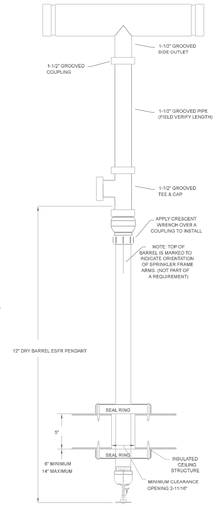

DRY BARREL OVERHEAD CONNECTION

N.T.S.

**COOLER CEILING ELEVATION: 6'-4 BELOW DECK
**COOLER CEILING THICKNESS: 0'-5
**BRANCHLINE CENTERLINES: 0'-8 BELOW DECK

Sprinkler Legend											
SYMBOL	MANUFACTURER	SIN	MODEL	QUANTITY	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE
▲	VICTAULIC	V4702	FL-QR/ST/ESFR	2054	16.8	PENDENT	¾	FAST	BRASS	200°F	
⊗	VICTAULIC	V3406	V34	4	8	PENDENT	¾	QUICK	BRASS	200°F	
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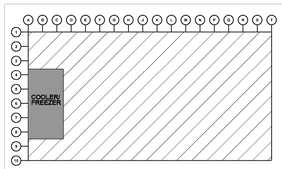
				TOTAL = 5234							



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LEE'S SUMMIT LOGISTICS BUILDING A LOT I

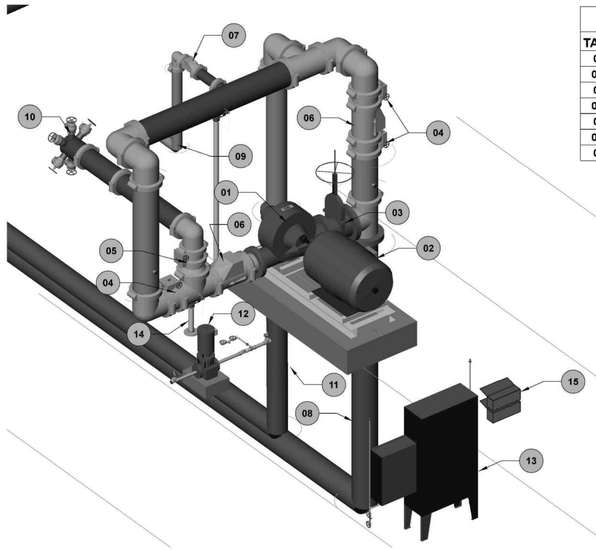
NW CORNER OF
NE TUDOR RD & MAIN ST
LEE'S SUMMIT, MO 64086

ISSUE DATES	
PERMIT SET	02.18.22
1 TENANT IMPROVEMENT	09.07.22

210300

FP2.11

TENANT IMPROVEMENT COOLER PLAN



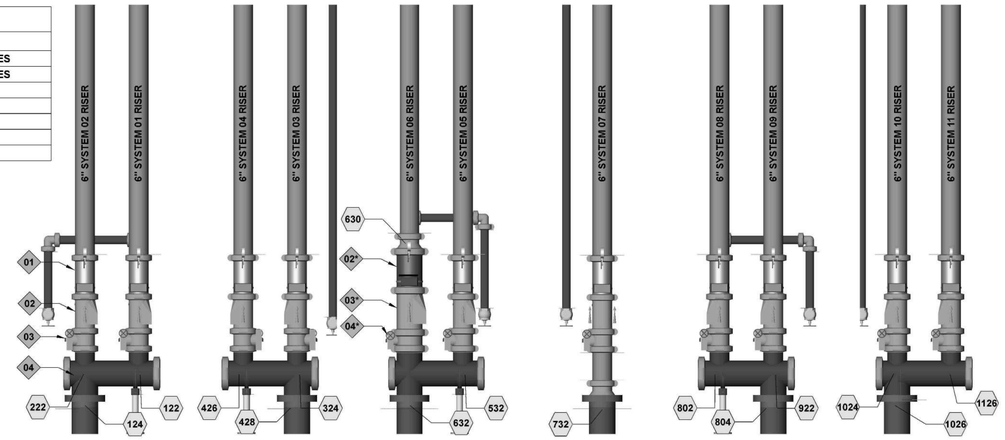
PUMP ROOM (3D VIEW)
SCALE: 3/32" = 1'-0"

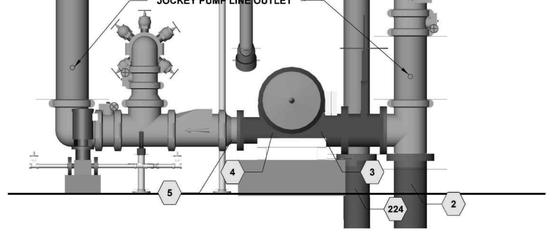
FIRE PUMP RISER BANK MATERIAL LIST

TAG#	MATERIAL CALL OUT
01	6" RISER MANIFOLD W/ FLOW SWITCH, INSP. TEST AND 2" MAIN DRAIN, & PRESSURE RELIEF VALVES
01*	8" RISER MANIFOLD W/ FLOW SWITCH, INSP. TEST AND 2" MAIN DRAIN, & PRESSURE RELIEF VALVES
02	6" CHECK VALVE
02*	8" CHECK VALVE
03	6" BUTTERFLY VALVE W/ TAMPER (NORMALLY OPEN)
03*	8" BUTTERFLY VALVE W/ TAMPER (NORMALLY OPEN)
04	8" RISER BANK HEADER

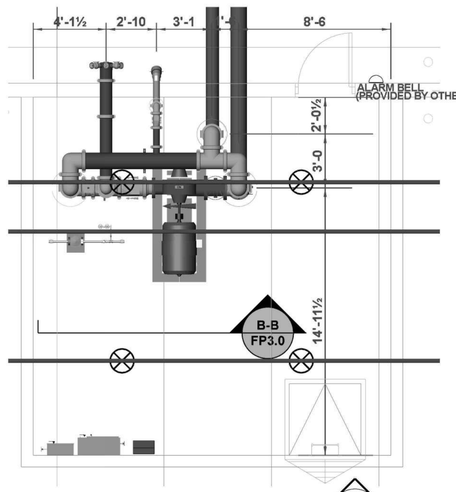
FIRE PUMP ROOM MATERIAL LIST

TAG#	MATERIAL CALL OUT
01	2000 GPM @ 60 PSI 10X8 FIRE PUMP
02	SPP 100 HP ELECTRIC MOTOR
03	10" FLG OS&Y GATE VALVE W/ TAMPER (NORMALLY OPEN)
04	10" BUTTERFLY VALVE W/ TAMPER (NORMALLY OPEN)
05	8" BUTTERFLY VALVE W/ TAMPER (NORMALLY CLOSED)
06	10" CHECK VALVE
07	4" CHECK VALVE
08	10" UNDERGROUND SUPPLY PIPING
09	4" FDC PIPING W/ STORZ TYPE CONNECTION
10	8X2½(6) TEST HEADER
11	10" WATER DISCHARGE PIPING TO FIRE LOOP
12	2 HP JOCKEY PUMP ASSEMBLY (15 GPM @ 104 PSI)
13	ELECTRIC & JOCKEY PUMP CONTROLLERS
14	10" PIPE STAND
15	SPARE HEAD BOXES

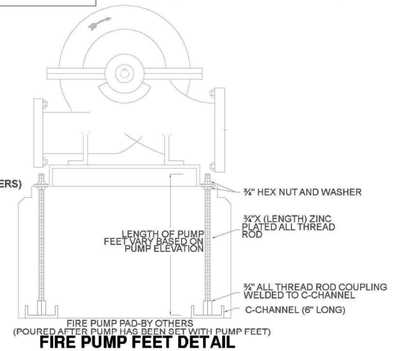




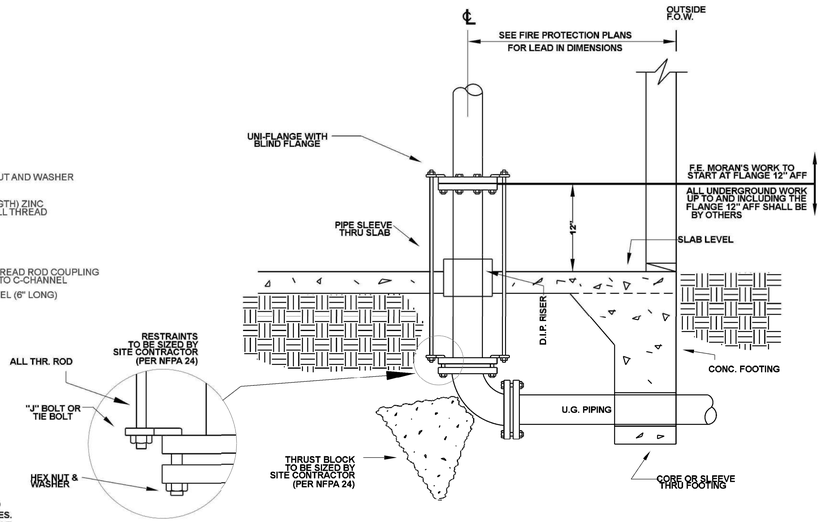
FIRE PUMP (SECTION B-B)
SCALE: 1/2" = 1'-0"



PUMP ROOM (PLAN VIEW)
SCALE: 1/4" = 1'-0"



FIRE PUMP FEET DETAIL



TYPICAL UNDERGROUND LEAD-IN

FIRE PUMP NOTES:
-IN ADDITION TO THE FOLLOWING NOTES, ALL WORK AND MATERIAL SHALL CONFORM TO NFPA 13 AND NFPA 20, AS APPLICABLE

NFPA 20 REQUIREMENTS:

EQUIPMENT PROTECTION:
SUITABLE MEANS SHALL BE PROVIDED FOR MAINTAINING THE TEMPERATURE OF A PUMP ROOM OR PUMP HOUSE, WHERE REQUIRED, ABOVE 40 DEG F. ARTIFICIAL LIGHT SHALL BE PROVIDED IN THE PUMP ROOM OR PUMP HOUSE. EMERGENCY LIGHTING SHALL BE PROVIDED BY FIXED OR PORTABLE BATTERY OPERATED LIGHTS, INCLUDING FLASHLIGHTS. EMERGENCY LIGHTS SHALL NOT BE CONNECTED TO AN ENGINE STARTING BATTERY. PROVISION SHALL BE MADE FOR VENTILATION OF THE PUMP ROOM OR PUMP HOUSE. FLOORS SHALL BE PITCHED FOR ADEQUATE DRAINAGE OF ESCAPING WATER AWAY FROM CRITICAL EQUIPMENT SUCH AS THE PUMP, DRIVER, CONTROLLER, ECT. THE PUMP ROOM OR PUMP HOUSE SHALL BE PROVIDED WITH A FLOOR DRAIN THAT WILL DISCHARGE TO A FROST-FREE LOCATION.

PIPE AND FITTINGS:
WHERE CORROSIVE CONDITIONS EXIST, THE STEEL SUCTION PIPE SHALL BE GALVANIZED. ALL PROVISIONS FOR WELDED PIPE SHALL BE IN ACCORDANCE WITH NFPA 51B, STANDARD FOR FIRE PREVENTION DURING WELDING, CUTTING, AND OTHER HOT WORK.

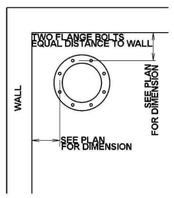
SUCTION PIPE AND FITTINGS:
THE SUCTION PIPE SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH NFPA. A BY-PASS SHALL BE INSTALLED AROUND THE PUMP WHEN THE SUCTION PRESSURE IS OF MATERIAL VALUE WITHOUT THE PUMP. THE PIPE SIZE OF THE BY-PASS SHALL BE AS LARGE AS THE SIZE REQUIRED FOR SUCTION PIPE IN NFPA 20. THE BY-PASS CONTROL VALVES SHALL BE NORMALLY OPEN

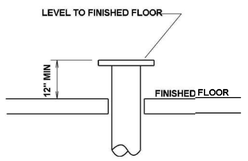
DISCHARGE PIPE:
SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH NFPA 13. THE SIZE OF THE PUMP DISCHARGE PIPE AND FITTINGS SHALL BE NOT LESS THAN THAT GIVEN IN NFPA 20.

ELECTRIC DRIVE FOR PUMPS:
ALL ELECTRICAL WORK TO SUPPLY POWER TO THE FIRE PUMP SHALL BE IN ACCORDANCE WITH CHAPTER 6 OF NFPA 20. ELECTRICAL WORK SHALL COMPLY WITH NFPA 70, ARTICLE 695 AND OTHER APPLICABLE ARTICLES. THE FIRE PUMP FEEDER CIRCUIT CONDUCTORS AND THEIR ACCESSORIES SHALL BE DEDICATED AND PROTECTED TO RESIST POSSIBLE DAMAGE BY FIRE, STRUCTURAL FAILURE, OR OPERATIONAL ACCIDENT. THE SUPPLY CONDUCTORS DIRECTLY CONNECT THE POWER SOURCE TO THE LISTED FIRE PUMP CONTROLLER.

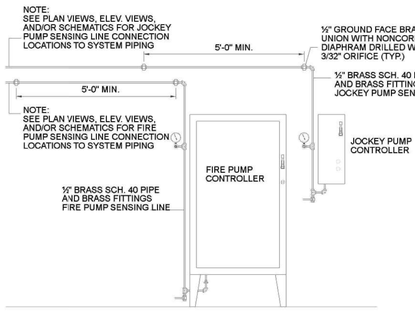
FIRE PUMP CONTROLLER:
SHALL BE WIRED FOR MANUAL SHUTDOWN. FIRE PUMP SHALL BE MONITORED FOR THE FOLLOWING CONDITIONS: FIRE PUMP OR MOTOR RUNNING, LOSS OF PHASE, PHASE REVERSAL.

NOTE: ALL FIRE PROTECTION PIPING STUB-UPS WHETHER INSIDE OR OUTSIDE A BUILDING (INCLUDING PUMP ROOMS), SHALL BE INSTALLED UTILIZING THE "2-HOLE METHOD" ON ALL FLANGES. THE FLANGE SHALL BE INSTALLED WITH THE BOLT HOLES ALIGNED SO THAT FITTING, VALVES, AND EQUIPMENT ARE IN A SQUARE ALIGNMENT WITH ADJACENT WALLS AND FLOOR.

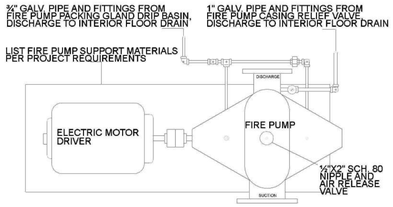




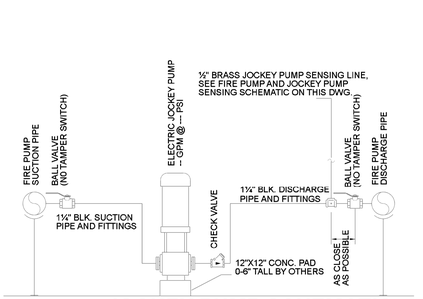
INCOMING FIRE PROTECTION SUPPLY DETAIL
NOT TO SCALE



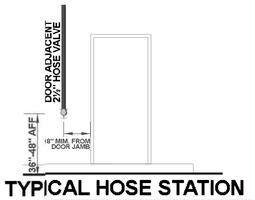
FIRE PUMP AND JOCKEY PUMP SENSING SCHEMATIC
NO SCALE



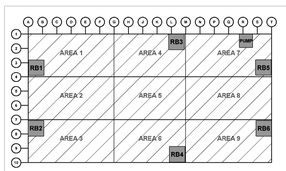
ELECTRIC FIRE PUMP SCHEMATIC
NO SCALE



JOCKEY PUMP SCHEMATIC
NO SCALE



TYPICAL HOSE STATION
N.T.S.



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210300

FP3.0

FIRE PUMP & RISER DETAIL