DRAWING LIST

VICINITY MAP

BUILDING CODE INFORMATION

APPLICABLE BUILDING CODES:
- 2024 INTERNATIONAL BUILDING CODE (IBC)
- 2024 INTERNATIONAL MECHANICAL CODE (IMC)
- 2024 INTERNATIONAL EXISTING BUILDING CODE (IEBC)
- 2024 INTERNATIONAL FIRE CODE (IFC)
- 2024 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
- 2021 INTERNATIONAL FUEL GAS CODE (IFGC)
- 2021 INTERNATIONAL PLUMBING CODE (IPC)
- 2023 NATIONAL ELECTRICAL CODE (NEC)

NEW ROOFTOP UNIT SCHEDULE

Tag Name	Make	Unit Model	Unit Size	Quantity	Volts/Phase	Oper. Weight (lb)	Actual Airflow (CFM)	Condenser Entering Air DB (F)	Evaporator Entering Air DB (F)	Evaporator Entering Air WB (F)	Evaporator Leaving Air DB (F)	Evaporator Leaving Air WB (F)	Gross Cooling Capacity (MBH)	Sensible Cooling Capacity (MBH)	Compressor Power Input (kW)	E.S.P. (in wg)	T.S.P. (in wg)	Supply Fan Power (BHP)	HP	Gas Htg Entering Air Temp (F)	Gas Htg Leaving Air Temp (F)	Gas Htg. Capacity, 1st Stage (MBH)	Gas Htg. Capacity, 2nd Stage (MBH)	MCA	MOCP
RTU-1, 4, 7	CARRIER	48FEFM08B6M6-8L0A0	08 (7.5 Tons)	3	460/3	949	3000	95.0	85.0	60.0	51.2	47.9	90.09	90.09	6.15	1.20	1.31	2.08	3	60.0	111.6	180.00	224.00	22	25
RTU-2, 3	CARRIER	48FEFM09B6M6-8L0A0	09 (8.5 Tons)	2	460/3	1032	3400	95.0	85.0	60.0	51.9	48.1	100.04	100.04	6.70	1.20	1.34	2.13	3	57.3	102.8	180.00	224.00	21	25
RTU-5, 8	CARRIER	48FEFM14B6M6-8L0A0	14 (12.5 Tons)	2	460/3	1095	5000	95.0	85.0	60.0	53.1	48.6	141.71	141.71	11.12	1.10	1.42	4.57	5	57.3	92.4	200.00	250.00	35	40
RTU-6	CARRIER	48FEEA04B6M5-8L0A0	04 (3 Tons)	1	208/3	644	1200	95.0	85.0	60.0	53.7	48.9	33.34	33.34	2.43	1.00	1.04	0.57	1.5	57.3	120.0	82.00	110.00	26	30

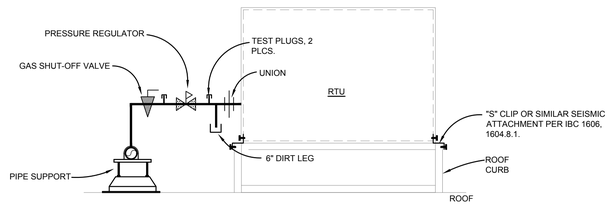
NOTES:
1. RA SMOKE DETECTORS, REFRIGERANT LEAK DETECTOR & FACTORY INSTALLED DISSIPATION CONTROLLER
2. LOW LEAK ECONOMIZER WITH BAROMETRIC RELIEF, POWER EXHAUST SYSTEM & CO2 SENSOR
3. LOUVERED HAIL GUARDS

REFRIGERANT DATA

CODE	MANUFACTURER AND MODEL No.	REFRIGERANT TYPE / QTY.	LOCATION	ROOM VOLUME	ROOM AREA	MAX REFRIGERANT PER CODE (LBS)
RTU-1	CARRIER 48FEFM08B6M6-8U0A0	R454B / 10.2 LBS	SEE PLANS	16,038 CU. FT.	1,782 SQ. FT.	352.8
RTU-2	CARRIER 48FEFM09B6M6-8U0A0	R454B / 10.75 LBS	SEE PLANS	13,689 CU. FT.	1,521 SQ. FT.	301
RTU-3	CARRIER 48FEFM09B6M6-8U0A0	R454B / 10.75 LBS	SEE PLANS	18,720 CU. FT.	2,080 SQ. FT.	411
RTU-4	CARRIER 48FEFM08B6M6-8U0A0	R454B / 10.2 LBS	SEE PLANS	17,883 CU. FT.	1,987 SQ. FT.	393
RTU-5	CARRIER 48FEFM14B6M6-8U0A0	R454B / 19.7 LBS	SEE PLANS	49,329 CU. FT.	5,481 SQ. FT.	1,085
RTU-6	CARRIER 48FEEA04B6M5-8U0A0	R454B / 4.4 LBS	SEE PLANS	12,500 CU. FT.	1,389 SQ. FT.	275
RTU-7	CARRIER 48FEFM08B6M6-8U0A0	R454B / 10.2 LBS	SEE PLANS	19,935 CU. FT.	2,215 SQ. FT.	438
RTU-8	CARRIER 48FEFM14B6M6-8U0A0	R454B / 19.7 LBS	SEE PLANS	15,858 CU. FT.	1,762 SQ. FT.	348

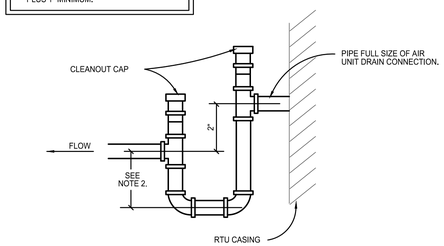
* MAX REFRIGERANT VALUES PER TABLE 1103.1 OF THE IMC. DOES NOT EXCEED CODE MAX, NO EXHAUST REQUIRED.

*ROOM AREA AND VOLUME INCLUDE ALL SPACES SERVED BY RTU THROUGH AIR DISTRIBUTION DUCTWORK.



1 / M0.1 ROOF CURB & GAS CONNECTION DETAIL
SCALE: N.T.S.

NOTES:
1. LOCATE TRAPS TO BE ACCESSIBLE FOR CLEANING.
2. HEIGHT SHALL BE EQUAL TO AIR UNIT TOTAL STATIC PRESSURE PLUS 1" MINIMUM.



2 / M0.1 RTU CONDENSATE DRAIN TRAP DETAIL
N.T.S.

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COLORADO REGISTERED KEVIN L. ATKINSON 32501 PROFESSIONAL ENGINEER

01/15/2026

RED ROCKS COMMUNITY COLLEGE
13300 W 6TH AVE
LAKEWOOD, CO 80228

PROJECT TITLE:

FIRE SCIENCE RTU REPLACEMENT PROJECT

MARK	DATE	DESCRIPTION
	1/15/26	FOR CONST.

Project Number:	-
Drawn By:	HDK
Checked By:	KLA

SHEET TITLE:

TITLE PAGE, MECHANICAL EQUIPMENT SCHEDULES & DETAILS

M0.1

RTU-1 Outside Air Ventilation Calculation

ELITE ZONE NO.	ZONE DESCRIPTION	OCCUPANCY CLASSIFICATION	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/PERSON)	AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/FT^2)	OCCUPANT DENSITY (PEOPLE / 1,000 S.F.)	ZONE AREA (FT^2)	NUMBER OF PEOPLE IN BREATHING ZONE	CALCULATED PEOPLE OUTDOOR AIR VOLUME (CFM)	CALCULATED AREA OUTDOOR AIR VOLUME (CFM)	ZONE DISTRIBUTION EFFECTIVENESS	TOTAL CALCULATED OUTDOOR AIR REQUIRED (CFM)	OA % OF TOTAL SA	TOTAL OUTSIDE AIR PROVIDED (CFM)
1	CLASSROOM	Classroom 9+ yrs	10.0	0.12	35.0	680.0	24.0	240.0	81.6	0.8	402.0	25.0%	402.5
2	HALLWAY	Corridor	0.0	0.06	0.0	740.0	0.0	0.0	44.4	0.8	55.5	25.0%	56.3
3	CONFERENCE	Conference	5.0	0.06	50.0	262.0	14.0	70.0	15.7	0.8	107.2	25.0%	107.5
4	RESTROOM	Toilet	0.0	0.00	0.0	100.0	0.0	0.0	0.0	0.8	0.0	25.0%	1.3
						Occupancy based on ARCH Floorplans where applicable.					**564.7**		**567.5**
	NOTES: VENTILTION AIRFLOW RATES PER TABLE 403.3.1.1 FROM THE INTERNATIONAL MECHANICAL CODE.												

RTU-2 Outside Air Ventilation Calculation

ELITE ZONE NO.	ZONE DESCRIPTION	OCCUPANCY CLASSIFICATION	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/PERSON)	AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/FT^2)	OCCUPANT DENSITY (PEOPLE / 1,000 S.F.)	ZONE AREA (FT^2)	NUMBER OF PEOPLE IN BREATHING ZONE	CALCULATED PEOPLE OUTDOOR AIR VOLUME (CFM)	CALCULATED AREA OUTDOOR AIR VOLUME (CFM)	ZONE DISTRIBUTION EFFECTIVENESS	TOTAL CALCULATED OUTDOOR AIR REQUIRED (CFM)	OA % OF TOTAL SA	TOTAL OUTSIDE AIR PROVIDED (CFM)
1	OFFICE	Office	5.0	0.06	5.0	160.0	1.0	5.0	9.6	0.8	18.3	25.0%	26.3
2	HALLWAY	Corridor	0.0	0.06	0.0	115.0	0.0	0.0	6.9	0.8	8.6	25.0%	13.8
3	LOBBY	Main Entry Lobbies	5.0	0.06	10.0	885.0	9.0	45.0	53.1	0.8	122.6	25.0%	123.8
4	RESTROOM	Toilet	0.0	0.00	0.0	361.0	0.0	0.0	0.0	0.8	0.0	25.0%	26.3
						Occupancy based on ARCH Floorplans where applicable.					**149.5**		**190.0**
	NOTES: VENTILTION AIRFLOW RATES PER TABLE 403.3.1.1 FROM THE INTERNATIONAL MECHANICAL CODE.												

RTU-3 Outside Air Ventilation Calculation

ELITE ZONE NO.	ZONE DESCRIPTION	OCCUPANCY CLASSIFICATION	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/PERSON)	AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/FT^2)	OCCUPANT DENSITY (PEOPLE / 1,000 S.F.)	ZONE AREA (FT^2)	NUMBER OF PEOPLE IN BREATHING ZONE	CALCULATED PEOPLE OUTDOOR AIR VOLUME (CFM)	CALCULATED AREA OUTDOOR AIR VOLUME (CFM)	ZONE DISTRIBUTION EFFECTIVENESS	TOTAL CALCULATED OUTDOOR AIR REQUIRED (CFM)	OA % OF TOTAL SA	TOTAL OUTSIDE AIR PROVIDED (CFM)
1	CLASSROOM	Classroom 9+ yrs	10.0	0.12	35.0	1,630.0	58.0	580.0	195.6	0.8	969.5	30.0%	970.5
2	HALLWAY	Corridor	0.0	0.06	0.0	450.0	0.0	0.0	27.0	0.8	33.8	30.0%	34.5
						Occupancy based on ARCH Floorplans where applicable.					**1,003.3**		**1,005.0**
	NOTES: VENTILTION AIRFLOW RATES PER TABLE 403.3.1.1 FROM THE INTERNATIONAL MECHANICAL CODE.												

RTU-4 Outside Air Ventilation Calculation

ELITE ZONE NO.	ZONE DESCRIPTION	OCCUPANCY CLASSIFICATION	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/PERSON)	AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/FT^2)	OCCUPANT DENSITY (PEOPLE / 1,000 S.F.)	ZONE AREA (FT^2)	NUMBER OF PEOPLE IN BREATHING ZONE	CALCULATED PEOPLE OUTDOOR AIR VOLUME (CFM)	CALCULATED AREA OUTDOOR AIR VOLUME (CFM)	ZONE DISTRIBUTION EFFECTIVENESS	TOTAL CALCULATED OUTDOOR AIR REQUIRED (CFM)	OA % OF TOTAL SA	TOTAL OUTSIDE AIR PROVIDED (CFM)
1	CLASSROOM	Classroom 9+ yrs	10.0	0.12	35.0	1,642.0	58.0	580.0	197.0	0.8	971.3	34.0%	972.4
2	HALLWAY	Corridor	0.0	0.06	0.0	345.0	0.0	0.0	20.7	0.8	25.9	34.0%	27.2
						Occupancy based on ARCH Floorplans where applicable.					**997.2**		**999.6**
	NOTES: VENTILTION AIRFLOW RATES PER TABLE 403.3.1.1 FROM THE INTERNATIONAL MECHANICAL CODE.												

RTU-5 Outside Air Ventilation Calculation

ELITE ZONE NO.	ZONE DESCRIPTION	OCCUPANCY CLASSIFICATION	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/PERSON)	AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/FT^2)	OCCUPANT DENSITY (PEOPLE / 1,000 S.F.)	ZONE AREA (FT^2)	NUMBER OF PEOPLE IN BREATHING ZONE	CALCULATED PEOPLE OUTDOOR AIR VOLUME (CFM)	CALCULATED AREA OUTDOOR AIR VOLUME (CFM)	ZONE DISTRIBUTION EFFECTIVENESS	TOTAL CALCULATED OUTDOOR AIR REQUIRED (CFM)	OA % OF TOTAL SA	TOTAL OUTSIDE AIR PROVIDED (CFM)
1	OFFICES	Office	5.0	0.06	5.0	2,076.0	11.0	55.0	124.6	0.8	224.5	25.0%	225.0
2	CLASSROOM	Classroom 9+ yrs	10.0	0.12	35.0	824.0	29.0	290.0	98.9	0.8	486.1	25.0%	486.3
3	LOBBY	Main Entry Lobbies	5.0	0.06	10.0	616.0	7.0	35.0	37.0	0.8	90.0	25.0%	90.0
4	HALLWAY	Corridor	0.0	0.06	0.0	1,965.0	0.0	0.0	117.9	0.8	147.4	25.0%	147.5
						Occupancy based on ARCH Floorplans where applicable.					**947.9**		**948.8**
	NOTES: VENTILTION AIRFLOW RATES PER TABLE 403.3.1.1 FROM THE INTERNATIONAL MECHANICAL CODE.												

RTU-6 Outside Air Ventilation Calculation

ELITE ZONE NO.	ZONE DESCRIPTION	OCCUPANCY CLASSIFICATION	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/PERSON)	AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/FT^2)	OCCUPANT DENSITY (PEOPLE / 1,000 S.F.)	ZONE AREA (FT^2)	NUMBER OF PEOPLE IN BREATHING ZONE	CALCULATED PEOPLE OUTDOOR AIR VOLUME (CFM)	CALCULATED AREA OUTDOOR AIR VOLUME (CFM)	ZONE DISTRIBUTION EFFECTIVENESS	TOTAL CALCULATED OUTDOOR AIR REQUIRED (CFM)	OA % OF TOTAL SA	TOTAL OUTSIDE AIR PROVIDED (CFM)
1	CLASSROOM	Classroom 9+ yrs	10.0	0.12	35.0	839.0	30.0	300.0	100.7	0.8	500.9	46.0%	501.4
2	LOCKER ROOMS	Locker Room	0.0	0.06	0.0	550.0	0.0	0.0	33.0	0.8	41.3	46.0%	41.4
						Occupancy based on ARCH Floorplans where applicable.					**542.1**		**542.8**
	NOTES: VENTILTION AIRFLOW RATES PER TABLE 403.3.1.1 FROM THE INTERNATIONAL MECHANICAL CODE.												

RTU-7 Outside Air Ventilation Calculation

ELITE ZONE NO.	ZONE DESCRIPTION	OCCUPANCY CLASSIFICATION	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/PERSON)	AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/FT^2)	OCCUPANT DENSITY (PEOPLE / 1,000 S.F.)	ZONE AREA (FT^2)	NUMBER OF PEOPLE IN BREATHING ZONE	CALCULATED PEOPLE OUTDOOR AIR VOLUME (CFM)	CALCULATED AREA OUTDOOR AIR VOLUME (CFM)	ZONE DISTRIBUTION EFFECTIVENESS	TOTAL CALCULATED OUTDOOR AIR REQUIRED (CFM)	OA % OF TOTAL SA	TOTAL OUTSIDE AIR PROVIDED (CFM)
1	OFFICES	Office	5.0	0.06	5.0	839.0	5.0	25.0	50.3	0.8	94.2	20.0%	181.0
2	BREAKROOM	Breakrooms	5.0	0.12	50.0	230.0	12.0	60.0	27.6	0.8	109.5	20.0%	110.0
3	HALLWAY	Corridor	0.0	0.06	0.0	1,146.0	0.0	0.0	68.8	0.8	86.0	20.0%	86.0
						Occupancy based on ARCH Floorplans where applicable.					**289.6**		**377.0**
	NOTES: VENTILTION AIRFLOW RATES PER TABLE 403.3.1.1 FROM THE INTERNATIONAL MECHANICAL CODE.												

RTU-8 Outside Air Ventilation Calculation

ELITE ZONE NO.	ZONE DESCRIPTION	OCCUPANCY CLASSIFICATION	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/PERSON)	AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/FT^2)	OCCUPANT DENSITY (PEOPLE / 1,000 S.F.)	ZONE AREA (FT^2)	NUMBER OF PEOPLE IN BREATHING ZONE	CALCULATED PEOPLE OUTDOOR AIR VOLUME (CFM)	CALCULATED AREA OUTDOOR AIR VOLUME (CFM)	ZONE DISTRIBUTION EFFECTIVENESS	TOTAL CALCULATED OUTDOOR AIR REQUIRED (CFM)	OA % OF TOTAL SA	TOTAL OUTSIDE AIR PROVIDED (CFM)
1	CLASSROOMS	Classroom 9+ yrs	10.0	0.12	35.0	1,762.0	62.0	620.0	211.4	0.8	1,039.3	25.0%	1,041.3
						Occupancy based on ARCH Floorplans where applicable.					**1,039.3**		**1,041.3**
	NOTES: VENTILTION AIRFLOW RATES PER TABLE 403.3.1.1 FROM THE INTERNATIONAL MECHANICAL CODE.												

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COLORADO REGISTERED KEVIN L. ATKINSON 32501 PROFESSIONAL ENGINEER

01/15/2026

RED ROCKS COMMUNITY COLLEGE

13300 W 6TH AVE
LAKEWOOD, CO 80228

PROJECT TITLE:

FIRE SCIENCE RTU REPLACEMENT PROJECT

MARK	DATE	DESCRIPTION
	1/15/26	FOR CONST.

Project Number: -
Drawn By: HDK
Checked By: KLA

SHEET TITLE:

MECHANICAL VENTILATION CALCULATIONS

M0.2

COMcheck-Web™

Compliance Certificate

Project Information

Energy Code:	2024 IECC
Project Title:	Red Rocks Community College
Location:	Lakewood, Colorado
Climate Zone:	5b
Project Type:	Alteration
Project No:	75133
Project Sub Type:	Initial Buildout
Project Mechanical Type:	With Central HVAC/SWH/Plant
All Electric:	false
Is Renewable:	false
Has Battery:	false
Has Charger:	false
Has Heat Pump	false

Construction Site: **Owner/Agent:** **Designer/Contractor:**

Notes:

Renewable energy

Number of Floors:	1
Area of Three Largest Floors:	0
Proposed Capacity:	0
Required Capacity:	0
Proposed Off-site Energy:	0
Required Off-site Energy:	0
Exception:	None

Renewables Pass

Building Area

Description	Floor Area

Mechanical Compliance Certificate

Project Information

Energy Code:	2024 IECC
Project Title:	Red Rocks Community College
Location:	Lakewood, Colorado
Climate Zone:	5b
Project Type:	Alteration

Construction Site: **Owner/Agent:** **Designer/Contractor:**

Mechanical Systems List

Quantity	Component	Description
HVAC Systems		
3	RTU-1,4,7 (Single Zone):	Heating: 1 each - Central Furnace (Heating Equip), Gas, Capacity = 224 kBtu/h Proposed Efficiency = 80.00% Et, Required Efficiency: 80.00 % Et or 80% AFUE Cooling: 1 each - Single Package DX Unit (Cooling Equip), Capacity = 90 kBtu/h, Air-Cooled Condenser, Air Economizer Proposed Efficiency = 14.60 IEER, Required Efficiency = 14.60 IEER Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00 Fan System: FAN 1 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: Fan Supply, Single-Zone VAV, 3000 CFM, 3.0 motor nameplate hp, 1.00 fan energy index
1	RTU-2,3 (Single Zone):	Heating: 1 each - Central Furnace (Heating Equip), Gas, Capacity = 224 kBtu/h Proposed Efficiency = 80.00% Et, Required Efficiency: 80.00 % Et or 80% AFUE Cooling: 1 each - Single Package DX Unit (Cooling Equip), Capacity = 100 kBtu/h, Air-Cooled Condenser, Air Economizer Proposed Efficiency = 14.60 IEER, Required Efficiency = 14.60 IEER Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00 Fan System: FAN 2 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: Fan Supply, Single-Zone VAV, 3400 CFM, 3.0 motor nameplate hp, 1.00 fan energy index
1	RTU-5,8 (Single Zone):	Heating: 1 each - Central Furnace (Heating Equip), Gas, Capacity = 250 kBtu/h Proposed Efficiency = 81.00% Et, Required Efficiency: 81.00 % Et Cooling: 1 each - Single Package DX Unit (Cooling Equip), Capacity = 141 kBtu/h, Air-Cooled Condenser, Air Economizer Proposed Efficiency = 14.00 IEER, Required Efficiency = 14.00 IEER Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00 Fan System: FAN 3 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: Fan Supply, Single-Zone VAV, 5000 CFM, 5.0 motor nameplate hp, 1.00 fan energy index
1	RTU-6 (Single Zone):	Heating: 1 each - Central Furnace (Heating Equip), Gas, Capacity = 110 kBtu/h Proposed Efficiency = 80.00% Et, Required Efficiency: 80.00 % Et or 80% AFUE Cooling: 1 each - Single Package DX Unit (Cooling Equip), Capacity = 33 kBtu/h, Air-Cooled Condenser, Air Economizer Proposed Efficiency = 13.40 SEER2, Required Efficiency = 13.40 SEER2 Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00 Fan System: FAN 4 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: Fan Supply, Single-Zone VAV, 1200 CFM, 1.5 motor nameplate hp, 1.00 fan energy index

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2024 IECC requirements in COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title	Signature	Date
HUNTER KEPON - P.E.	[signature]	1/14/2026

Inspection Checklist

Energy Code: 2024 IECC

Requirements: 0% were addressed directly in the COM*check* software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Plan Review

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C105.2 [PR2][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical and service water heating systems and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks. Hot water system sized per manufacturer's sizing guide.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Mechanical Rough-In Inspection

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.3 [ME1][2]	HVAC equipment efficiency verified.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	*See the Mechanical Systems list for values*
C403.12.3, C403.12.3.1, C403.12.3.2 [ME13][3]	Refrigerated display cases, walk-in coolers or walk-in freezers served by remote compressors and remote condensers not located in a condensing unit, have fan-powered condensers that comply with Sections C403.12.3.1 and refrigeration compressor systems that comply with C403.12.3.2..	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.14.1 [ME14][2]	Systems that heat outside the building envelope are radiant heat systems controlled by an occupancy sensing device or timer switch.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.13.1, C403.13.2 [ME15][2]	HVAC ducts and plenums insulated in accordance with C403.13.1 and constructed in accordance with C403.13.3, verification may need to occur during Foundation Inspection.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.2.2 [ME18][1]	Natural or mechanical ventilation is provided in accordance with International Mechanical Code Chapter 4. Mechanical ventilation has capability to reduce outdoor air supply to minimum per IMC Chapter 4.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.3.3 [ME20][1]	Hot gas bypass limited to: <=240 kBtu/h – 50% >240 kBtu/h – 25%	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.4.1.3 [ME24][2]	Where thermostatic control setpoints are adjustable by occupants or HVAC operators, the adjustments are independent for heating and cooling setpoint.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.4.1.5 [ME26][2]	Heating for vestibules and air curtains with integral heating include automatic controls that shut off the heating system when outdoor air temperatures > 45F. Vestibule heating and cooling systems controlled by a thermostat in the vestibule with heating setpoint <= 60F and cooling setpoint >= 80F.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.9 [ME3][2]	Large diameter fans where installed shall be tested and labeled in accordance with AMCA 230 and meet efficacy requirements of Table C403.9.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.4.7 [ME35][3]	Doors or operable openings from conditioned space to outdoors > 40 sq ft contain automatic controls interlocked with the heating and cooling system.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.4.8.1 [ME36][3]	Dehumidification controls do not use mechanical cooling to reduce humidity < 60% or a dew point < 55F	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.4.8.2 [ME37][3]	Humidity controls do not use fossil fuel or electricity for a humidity > 30% in warmest zone.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.4.8.3 [ME38][3]	Zones served by systems with both humidification and dehumification prevent simultaneous operation.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.5, C403.5.1, C403.5.2 [ME39][1]	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.5.2 [ME40][1]	Economizer operation will not increase heating energy use during normal operation.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.5.3.3 [ME41][1]	Air economizers automatically reduce outdoor air intake to the design minimum outdoor air quantity when outdoor air intake will not reduce cooling energy usage. See Table C403.5.3.3 for applicable device types and climate zones.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.5.3.4 [ME42][1]	System capable of relieving excess outdoor air during air economizer operation to prevent over pressurizing the building. The relief air outlet located to avoid recirculation into the building.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.5.3.5 [ME43][1]	Return, exhaust/relief and outdoor air dampers used in economizers have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Reference section C403.7.7 for details.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.5.5 [ME45][2]	Fault detection and diagnostics installed with air-cooled unitary DX units or VRF units having economizers.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.7.1 [ME56][1]	Demand control ventilation provided for spaces >250 ft2 and >15 people/1000 ft2 occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.7.2 [ME57][3]	Enclosed parking garage ventilation has separate ventilation systems for each section, can reduce airflow < 0.05 cfm/sq ft of floor area and >20% of design capacity.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.7.4 [ME59][1]	Exhaust air energy recovery on systems meeting Table C403.7.4(1) and C403.7.4(2).	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.7.5 [ME60][3]	Kitchen exhaust systems comply with replacement air and conditioned supply air limitations, and satisfy hood rating requirements and maximum exhaust rate criteria. Type I exhaust hoods contain demand control kitchen ventilation with > 50% reduction in exhaust.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.7.6 [ME61][3]	HVAC systems serving guestrooms in Group R-1 buildings with > 50 guestrooms: Each guestroom is provided with controls that automatically manage temperature setpoint and ventilation (see sections C403.7.6.1 and C403.7.6.2).	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.7.8, C403.7.8.1 [ME63][3]	Classrooms, training rooms, conference and multipurpose rooms, lounges, enclosed offices, open office areas and corridors contain occupied standby ventilation controls.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.8.4 [ME67][2]	Motors for fans that are not less than 1/12 hp and less than 1 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the means to adjust motor speed.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.8.6 [ME68][2]	Each DX cooling system > 65 kBtu and chiller water/evaporative cooling system with fans > 1/4 hp are designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.15 [ME69][2]	Dehumidification systems for plant growth and maintenance are tested in accordance with DOE 10 CFR 430, has on-site heat recovery > 75% of dehumidification energy or ha a solid or liquid desiccant.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.16 [ME70][2]	Service water pressure boost systems contain pressure sensors for pump control, no devices used to reduce pressure and booster pumps do not operate when there is no service water flow.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.17 [ME71][2]	Clean water pumps achieve a pump energy index (PEI) <= 1.0.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C408.2.2.1 [ME73][3]	Air outlets and zone terminal devices have means for air balancing.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Rough-In Electrical Inspection

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.7 [EL3][2]	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C405.8 [EL4][2]	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C405.10 [EL1][2]	Total voltage drop across the combination of feeders and branch circuits <= 5%.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C405.10.1, C405.10.2 [EL5][2]	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C405.12, C405.12.1 [EL6][2]	50% of 15/20 amp receptacles installed in enclosed offices, conference rooms, copy rooms, break rooms, classrooms and workstations and > 25% of branch circuit feeders for modular furniture will have automatic receptacle control in accordance with C405.11.1.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Final Inspection

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C403.1.1 [FI12][3]	HVAC systems and equipment design loads calculated in accordance with ANSI/ASHRAE/ACCA Standard 183 or by an approved equivalent computational procedure	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.3.1 [FI13][3]	HVAC systems and equipment capacity does not exceed calculated loads.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.4.1 [FI14][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.4.1.2 [FI16][3]	Thermostatic controls have a 5 °F deadband.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.4.1.4 [FI17][3]	Temperature controls have setpoint overlap restrictions.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.4.2 [FI18][3]	Each zone equipped with setback controls using automatic time clock or programmable control system.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.4.2.1, C403.4.2.2 [FI19][3]	Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.4.2.3 [FI20][3]	Systems include optimum start controls.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C405.15.1, C405.15.2 [FI25][3]	Buildings in climate zones 0 - 7 comply with the on-site and/or off-site renewable energy requirements of Section C405.15.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C408.1.1 [FI58][1]	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C408.2.1 [FI59][1]	Commissioning plan developed by registered design professional or approved agency.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C408.2.3.1 [FI60][1]	HVAC equipment, systems and system-to-system relationships have been tested to ensure proper operation.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C408.2.3.2 [FI74][1]	HVAC and service water heating control systems have been tested to ensure proper operation, calibration and adjustment of controls.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C408.2.3.3 [FI75][1]	Economizers have been tested to ensure proper operation.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C408.2.4 [FI61][1]	Preliminary commissioning report completed and certified by registered design professional or approved agency.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C408.2.5 [FI75][3]	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C408.2.5.1 [FI62][1]	An air and/or hydronic system balancing report is provided for HVAC systems.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C408.2.5.2 [FI76][1]	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C408.3.2.2 [FI77][3]	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C408.3.2.2 [FI63][3]	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

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COLORADO REGISTERED PROFESSIONAL ENGINEER 32501

01/15/2026

RED ROCKS COMMUNITY COLLEGE
13300 W 6TH AVE
LAKEWOOD, CO 80228

PROJECT TITLE:

FIRE SCIENCE RTU REPLACEMENT PROJECT

MARK	DATE	DESCRIPTION
	1/15/26	FOR CONST.

Project Number:	-
Drawn By:	HDK
Checked By:	KLA

SHEET TITLE:

MECHANICAL COMCHECK

M0.3

GENERAL NOTES

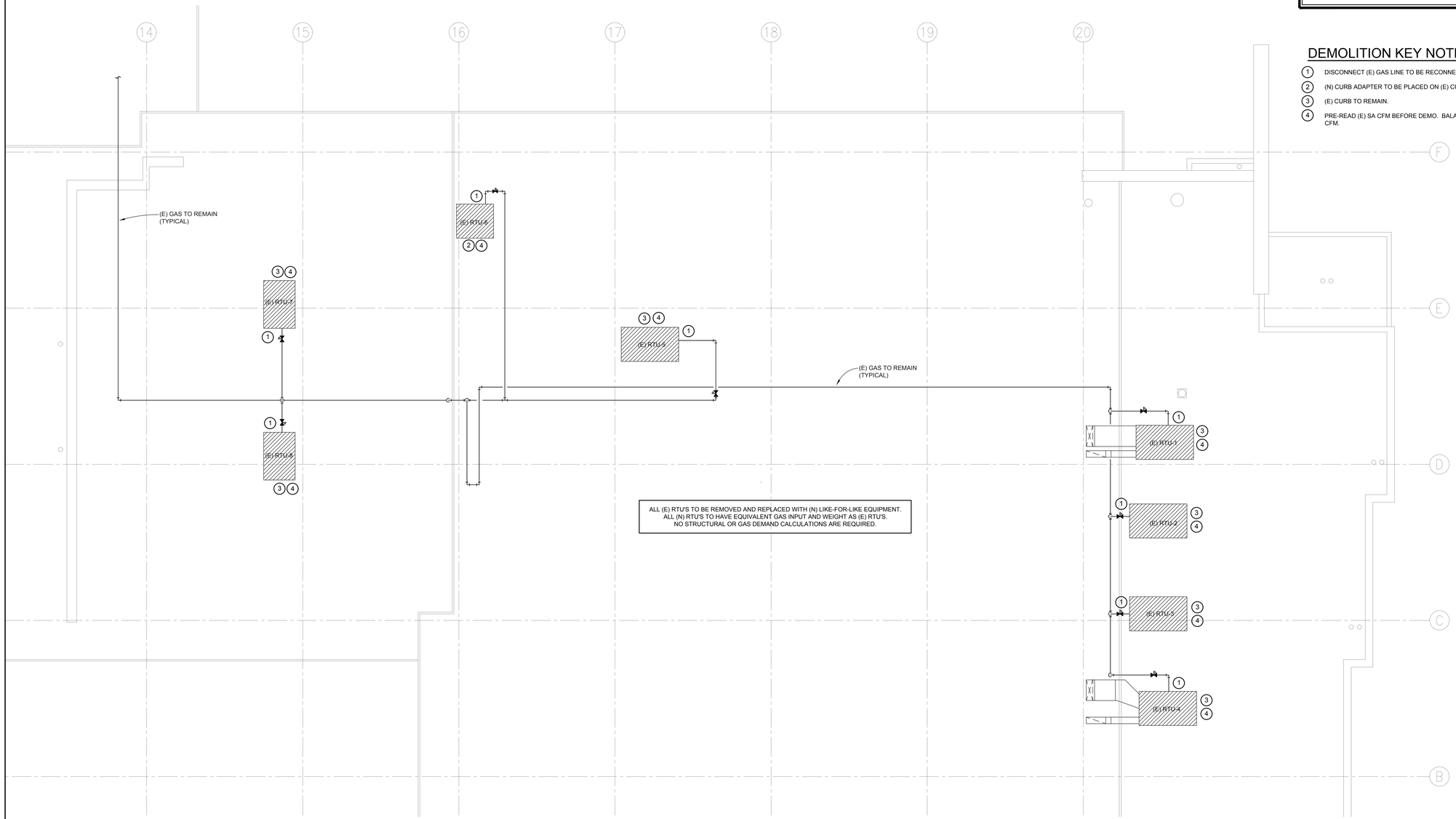
1. CONTRACTOR SHALL NOT SHUT-OFF/PUT OUT SERVICE ANY SYSTEMS/SERVICES WITHOUT FIRST COORDINATING WITH OWNER.
2. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF ANY WORK AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES FOR RESOLUTIONS.
3. IN THE EVENT THAT THE CONTRACTOR ENCOUNTERS HAZARDOUS MATERIALS OR CONDITIONS, THE CONTRACTOR SHALL CEASE ALL WORK IMMEDIATELY AND CONTACT THE OWNER/ENGINEER.
4. PIPES REMOVED SHALL HAVE HANGERS AND SUPPORTS REMOVED COMPLETELY.

LEGEND

HATCHED EQUIPMENT TO BE REMOVED.

DEMOLITION KEY NOTES

1. DISCONNECT (E) GAS LINE TO BE RECONNECTED TO (N) RTU.
2. (N) CURB ADAPTER TO BE PLACED ON (E) CURB.
3. (E) CURB TO REMAIN.
4. PRE-READ (E) SA CFM BEFORE DEMO. BALANCE (N) RTU TO MATCH (E) SA CFM.



ROOF - MECHANICAL DEMOLITION PLAN

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

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COLORADO REGISTERED KEVIN L. ATKINSON 32501 PROFESSIONAL ENGINEER

01/15/2026

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PROJECT TITLE:

FIRE SCIENCE RTU REPLACEMENT PROJECT

MARK	DATE	DESCRIPTION
	1/15/26	FOR CONST.

Project Number:	-
Drawn By:	HDK
Checked By:	KLA

SHEET TITLE:

MECHANICAL DEMOLITION PLAN

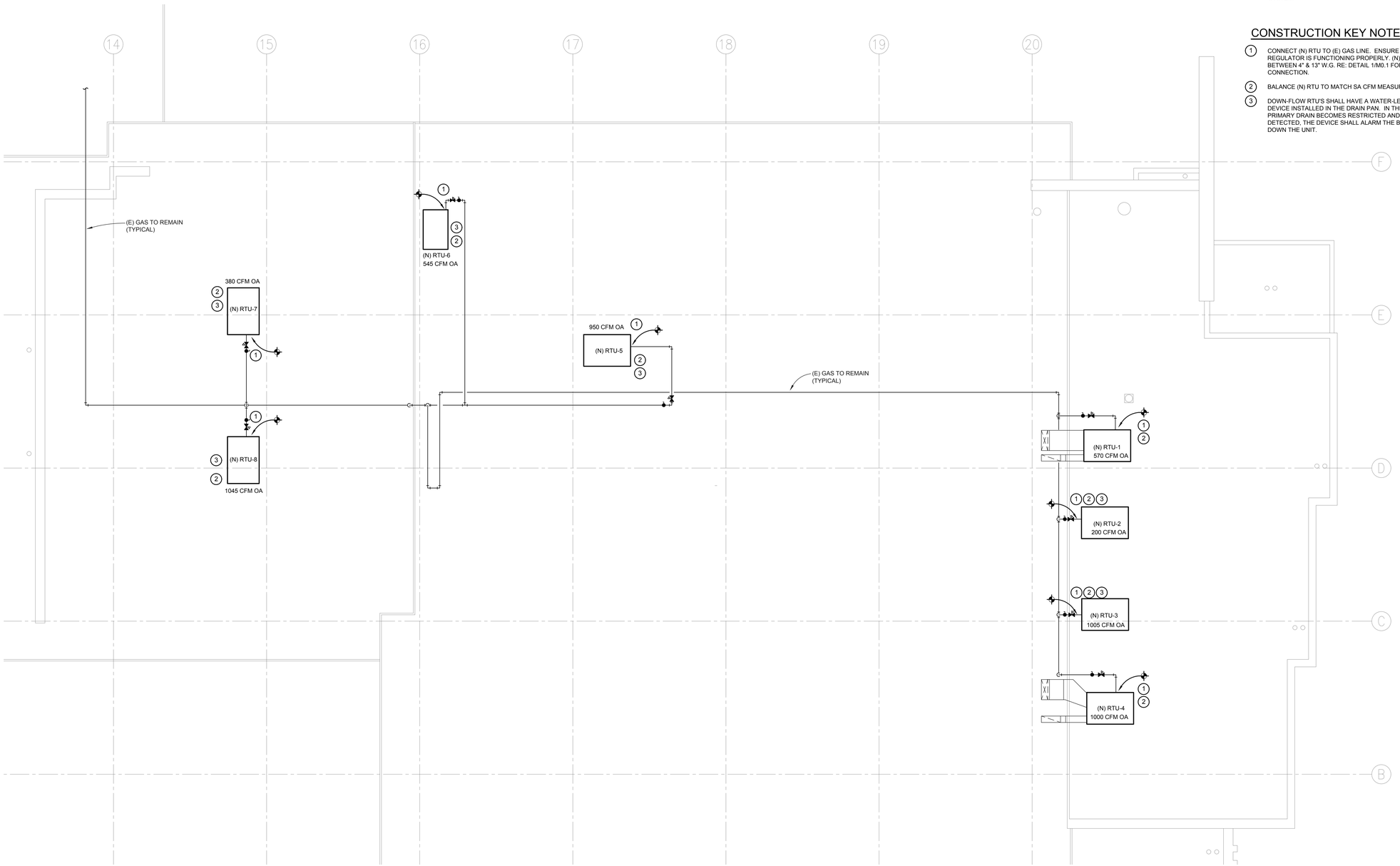
M1.0

GENERAL NOTES

1. IN THE EVENT THE CONTRACTOR ENCOUNTERS WHAT HE SUSPECTS TO BE HAZARDOUS MATERIALS AND/OR CONDITIONS , HE SHALL STOP WORK AND CONTACT THE OWNER/ARCHITECT IMMEDIATELY.
2. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL CONDITIONS PRIOR TO COMMENCEMENT OF ANY WORK AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES FOR RESOLUTIONS.
3. THIS CONTRACTOR SHALL COORDINATE LOCATIONS OF PIPING WITH OTHER TRADES AND ADVISE ENGINEER OF ANY POSSIBLE CONFLICTS. VERIFY EXACT LOCATIONS, ELEVATIONS AND DIMENSIONS OF STRUCTURAL MEMBERS AND OPENINGS.
4. THE INFORMATION PRESENTED ON THIS DRAWING IS DIAGRAMMATIC. IT DOES NOT NECESSARILY REPRESENT ALL COMPONENTS REQUIRED FOR A COMPLETE WORKING SYSTEM.

CONSTRUCTION KEY NOTES

1. CONNECT (N) RTU TO (E) GAS LINE. ENSURE (E) PRESSURE REGULATOR IS FUNCTIONING PROPERLY. (N) RTU'S REQUIRE BETWEEN 4" & 13" W.G. RE: DETAIL 1/M0.1 FOR TYPICAL GAS CONNECTION.
2. BALANCE (N) RTU TO MATCH SA CFM MEASURED ON (E) RTU.
3. DOWN-FLOW RTU'S SHALL HAVE A WATER-LEVEL MONITORING DEVICE INSTALLED IN THE DRAIN PAN. IN THE EVEN THAT THE PRIMARY DRAIN BECOMES RESTRICTED AND HIGH WATER IS DETECTED, THE DEVICE SHALL ALARM THE BAS AND SHUT DOWN THE UNIT.



ROOF - MECHANICAL CONSTRUCTION PLAN

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

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PROJECT TITLE:

FIRE SCIENCE RTU REPLACEMENT PROJECT

MARK	DATE	DESCRIPTION
	1/15/26	FOR CONST.

Project Number:	-
Drawn By:	HDK
Checked By:	KLA

SHEET TITLE:

MECHANICAL CONSTRUCTION PLAN

M2.0

SPECIFICATIONS - DIVISION 26 - ELECTRICAL (NOTES ON DRAWINGS SUPERCEDE THESE SPECIFICATIONS)

SECTION 26 00 01 - GENERAL ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of contract, including general and supplemental conditions and Division 1 Specification Sections, apply to work of Division 26 Sections.

B. E- Series drawings apply to work of Division 26 Sections and vice versa.

1.2 GENERAL STANDARDS

A. Provide work in compliance with applicable provisions of the following standards. Provide UL Listing and UL Label for all electrical materials, equipment, luminaires, devices, etc. In cases where UL Listing is not available for a particular product, provide equivalent listing and labeling from another third party nationally recognized certification laboratory (subject to approval by local electrical inspector and authorities having jurisdiction).

B. Provide work in strict accordance with the latest edition of applicable codes including, but not limited to, the following codes and standards:

1. National Electrical Code (NEC), NFPA 70
2. Life Safety Code, NFPA 101
3. Other provisions of the NFPA as applicable
4. Local electrical codes / amendments
5. Local Utility Company Requirements
6. ADA / ADAAG Requirements
7. ASME
8. International Building Code
9. International Energy Conservation Code

1.3 MATERIALS AND EQUIPMENT

A. Unless otherwise noted, furnish and install all specified and drawn equipment, raceway, boxes, luminaires, controls, wiring, cabling, supports, and other materials as required to render all electrical and electrically operated equipment, luminaires, devices, etc. as fully operational. Unless otherwise noted, furnish and install all materials that are specified under Division 26. Discrepancies or uncertainties perceived by a bidder, or other questionable interpretations by a bidder, are subject to final interpretations and decisions by the owner's representative unless addressed before bidding by an addendum or unless qualified or excepted within the bids.

B. Provide materials that are new, full weight, and of the best quality. Provide similar materials that are of the same type and manufacturer. Provide materials, apparatus, and equipment with UL label where regularly supplied.

C. Maintain safety and good condition of the materials and equipment installed until final acceptance by the owner. Store materials to prevent damage and weathering prior to installation.

D. When several materials, products, or items of equipment are specified by name or one use, select one of those specified.

END OF SECTION

SECTION 26 00 02 - BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1.1 GENERAL

A. Furnish and install all labor and material, tools, and equipment necessary to render all systems complete and operational, and ready for turnover to owner.

1.2 HEIGHT OF BOXES

A. Outlet mounting heights as indicated on the plans are approximate. Determine the exact mounting heights and locations of outlets in the field as shown on architectural details and equipment locations. Coordinate outlet locations with equipment, furniture plans, and with architectural elevation plans. Where mounting heights are not detailed or dimensioned, contact the owner's representative for direction.

B. Prior to rough-in, coordinate final mounting heights of system outlet boxes in the field with owner's representative. Install boxes at heights as follows, to center of box, unless otherwise directed in field or otherwise noted on E-Series drawings or architectural plans. Height of boxes dimensioned from ceiling apply to rooms having ceiling 9'-0" or less. In rooms having higher ceilings, locate as directed by tenant's representative and / or architect.

Switches @ Counters	44" (match counter receptacle heights)
Switches - Elsewhere	48" to top of outlet box
Occupancy Sensors - Wallbox	48" to top of outlet box
Occupancy Sensors - Elsewhere	as recommended by manufacturer
Receptacles @ Counters	44" (field verify)
Receptacles - Elsewhere	18"
Circuit Breaker @ Panelboards	72" to top of panel unless otherwise noted
Fire Alarm Devices	80" to bottom of outlet box
Card Readers / Keypads	46"
Telephone Outlets - Desk	46"
Telephone Outlets - Elsewhere	18"
Data Outlets	18" to top of outlet box
Television Receptacles	As indicated on drawings

1.3 ELECTRICAL INSTALLATIONS

A. Install conduits, wiring, and outlet box type work in finished areas shall be concealed in wall. Such work installed in unfinished areas may be exposed at the discretion of owner's representative.

B. Verify dimensions by field measurements. Take measurements and be responsible for exact sizes and locations of openings required for the installation of work. Figured dimensions are reasonably accurate and should govern in setting out work. Where detailed method of installation is not indicated or where variations exist between described work and approved practice, follow direction of the owner's representative.

C. Provide branch sub-feeder circuits as shown on the plans. The symbols used to indicate the purpose of which the various outlets are intended are identified in the electrical legend. Where outlets are indicated by letters on plans, provide corresponding switches to control them.

D. Provide no wire smaller than #12 for branch circuits unless otherwise noted on plans for control circuits. Provide larger sizes where required by prevailing codes or indicated on contract documents. Provide neutral conductor for all multi-pole feeders, provide neutral conductors for all multi-pole feeders and branch circuits unless this contractor determines in field that the affected load(s) will never have need for a neutral conductor and NEC does not mandate otherwise.

1.4 COORDINATION

A. Plans are diagrammatic indicating design intent and indicating required size, points of termination, suggested routes of raceways, etc.; however, it is not intended that the drawings indicate fully coordinated conduit routing, necessary offsets, etc. The drawings are an outline to indicate the approximate location and arrangement of ductwork, piping, equipment, outlets, raceways, cables, etc. Install piping, conduit, raceways, and cable assemblies, etc. as straight as possible as well as parallel and perpendicular with the architectural elements. Work in and on the building installed diagonal to building members is prohibited.

B. Consult the plans of other trades before installing work. Coordinate work to be performed with other trades so as not to interfere with other trades.

C. Participate in the coordination efforts in preparation of coordination drawings prior to fabrication or installation of equipment, materials, etc. Coordinate actual clearances of installed equipment. Coordinate exact location of electrical outlets, lighting fixtures, conduits, raceways, equipment, cable assemblies, applicable devices, etc. well in advance of installation so there will be no interference at installation between the trades.

D. Ensure that work and working clearances in electrical rooms and similar spaces comply with NEC Article 110. This also applies to finalizing locations of disconnects, starters, contactors, and other electrically operated equipment that may require testing or maintenance while energized.

E. Coordinate and correct conflicts in equipment and materials prior to installation. If a conflict cannot be resolved, refer the matter to the owner's representative for a final decision as to method and material.

1.5 IDENTIFICATION

A. General

1. Submit manufacturer's data on electrical identification materials and products. Submit detailed nameplate schedule indicating proposed nomenclature, colors, text heights, fastening methods, etc.

B. Cable and Conductor Identification

1. Provide manufacturer's standard vinyl-cloth self-adhesive conductor markers of wrap-around type, either pre-numbered plastic coated type, or write-on type with clear plastic self-adhesive cover flap; numbered to show circuit identification on conductors. Provide color coded insulation for conductors. Provide color coded jackets for cables. Match color schemes with marking system used in submittals, contract documents, industry standards, etc. Apply cable / conductor identification on each cable in each box / enclosure / cabinet for cables that are not available with color coded insulation or jackets.
2. Use of the following insulation color code for power system and voltage identification. This applies to both feeder and branch circuit wiring. Do no interchange colors. The use of schoth color coding tapes for phase identification may be used on feeder cables only (#4 AWG and larger):
   a. 208Y / 120V System: black, red, blue, and white (neutral)
   b. Electronic Ground: green with yellow tracer (neutral)
   c. Equipment Grounding: green

C. Raceway Identification

1. Provide manufacturer's standard self-adhesive vinyl tape not less than 3 mils thick by 1-1/2" wide, unless otherwise noted or required by authority having jurisdiction. Provide black lettering on orange base with minimum ½" high lettering. As a minimum, neatly install markers at each and every entry point to rooms. Junction boxes, pull boxes, equipment connections, etc. do not install these markers on exposed raceways in finished areas that will be occupied.

D. Fire Alarm Systems

1. Provide permanent identification for boxes, enclosures, etc. that are associated with fire alarm system work. Paint and identify fire alarm system pull boxes, junction boxes, and other access / pull points (boxes and covers) in accordance with NEC / NFPA. Provide fire alarm system control panel equipment cabinets, enclosures, etc. with red mechanically fastened engraved nameplates with the first line of text to read "fire alarm" and the remaining lines to include the necessary descriptive text.
2. Electrical contractor shall be building management approved and will submit fire alarm design to the Fire Marshal of the local fire department having jurisdiction for approval. The equipment supplier for this building shall be responsible for, and provide, a complete system design / shop drawings for the areas shown utilizing their devices with their specific knowledge and performance of their system and devices. The suppliers shop drawings and design shall be coordinated with the local Fire Marshal and all current codes in the jurisdiction.
3. Submit fire alarm drawings and submittals to tenant's construction manager for approval.

END OF SECTION

SECTION 26 05 19 - ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 GENERAL

A. Provide wire and cable suitable for the temperature, conditions, and location where installed.

1.2 CONDUCTORS

A. Provide copper conductor material for wires and cables unless specifically indicated otherwise on one line diagrams on drawings.

B. Conductor sizes indicated are based on copper unless specifically indicated otherwise on one line diagram on drawings.

C. Provide minimum #12 AWG conductor size.

D. Stranded or solid conductors may be used for type MC cable conductors that are #10 AWG or less where permitted by codes and authority having jurisdiction. Provide stranded conductors for all other applications.

E. Provide the following minimum wire sizes based on distances from panel to first device of a 15 or 20 amp general lighting or receptacle branch circuit. In addition to upsizing conductors as required for voltage drop, provide minimum #10 AWG conductors to the last device for branch circuits more than 150 feet in length.

Distance	AWG Wire Size
1'-0" - 60'-0"	#12
61'-0" - 90'-0"	#10
91'-0" - 150'-0"	#8
151'-0" - 240'-0"	#6

F. Provide conductor insulation rated at 600 VAC and 90 degrees Celsius. Provide THHN / THWN insulation for conductors size 500 KCMIL and larger, and for conductors #8 AWG and smaller. Provide THW or THHN/THWN insulation for other sizes as appropriate for the locations where installed.

G. Provide dedicated parity sized grounded (neutral) conductor for each branch circuit phase conductor fed from 15 and 20 ampere branch circuit breakers.

H. Provide grounded (neutral) conductor(s) for all multi-pole feeders unless otherwise indicated on power distribution one line diagram.

I. Provide grounded (neutral) conductor(s) for all multi-pole branch circuits.

1.3 TYPE AC / MC CABLES

A. Provide type AC / MC cables that are minimum 90 degrees Celsius rated, with components and fittings listed for grounding and compliant with the following:

1. UL Standard 4 and UL Standard 83
2. ANSI E119 and E814
3. NEC Articles 250 and 333.

B. Provide cable formed from continuous length of spirally wound, interlocked zinc-coated or galvanized (inside and outside) strip steel. Provide cables with full parity sized green insulated equipment ground conductor.

C. Provide compatible steel fittings with integral red plastic insulated throat bushings, compliant with NEC 350-5.

D. Type AC / MC cable may be utilized only if NEC approved and if approved by the authority having jurisdiction and if included in the limited applications defined below:

1. Provide for new 15 through 20 ampere branch circuit work. This applies only under all of the following circumstances and conditions:
   a. Provide only where concealed (install wiring for exposed applications in raceway).
   b. Route cables perpendicular and parallel to the building architectural elements and structural members, keeping offsets to a minimum and following surface contours where possible. Maintain a uniform elevation for cable runs wherever possible. Support and anchor cables at minimum 4'-0" intervals and within 12" of box or outlet in a manner that prevents sagging. Install cables in a manner that prevents overheating. Fasten cables directly to the structure using factory clamps and clips specifically designed for the respective cable.
   c. For exposed runs of cables down walls to surface mounted panelboards. Provide partition chase walls (constructed in a manner approved by architect), or within appropriately sized steel wireway(s), or within a custom fabricated heavy gauge painted sheet metal chase approved in advance by the engineer. Install in a manner that fully conceals cables, prevents overheating of cables, and is approved by authority having jurisdiction.
   d. Provide only where installed for normal utility circuits. Install wiring for emergency system circuits in steel conduits, no exceptions.

PART 2 - EXECUTION

2.1 INSTALLATION

A. Provide ungrounded (neutral) conductor in all lighting control device (switch, dimmer, occupancy sensor, etc.) wall outlet boxes, even if not immediately used.

B. Connect wires #6 AWG and larger to panels and apparatus by means of approved lugs or connectors large enough to enclose all strands of the conductors, provide solderless type connectors.

C. Provide factory splice kits (UL approved for submersion in water and direct burial) for wire splicing in outdoor grade or slab on grade junction boxes.

END OF SECTION

SECTION 26 05 21 - ELECTRICAL CONNECTIONS

PART 1 - GENERAL

1.1 RELATED WORK

A. Electrical connections include connections used for providing electrical power, control and monitoring to equipment, luminaires, and devices. Refer to sections of other divisions and to drawings of other trades for specific for electrical characteristics of equipment specified under respective divisions.

1.2 MATERIALS AND COMPONENTS

A. Provide complete assembly of materials for each type of required electrical connections, including but not limited to, pressure connectors, terminal (lugs), electrical insulating tape, heat-shrinkable insulating tubing, cable ties, solderless wirenuts, and other items and accessories as needed to complete splices and terminations of types indicated.

B. Unless otherwise indicated, provide wires / cables (conductors) for electrical connections that match size and ratings of wires / cables that are supplying electrical power. Provide copper conductors with conductivity of not less than 98% at 90 degrees Celsius.

C. Provide electrical connectors and terminals that mate and match, including sizes and ratings, with equipment terminals, and that are recommended by equipment manufacturer for intended applications.

D. Provide electrical insulating tape, heat-shrinkable insulating tubing and boots, wirenuts, cable ties, etc. as recommended for use by accessories manufacturers for intended applications.

PART 2 - EXECUTION

2.1 INSTALLATION

A. Connect electrical power supply conductors to equipment conductors in accordance with equipment manufacturer's written instructions and wiring diagrams, mate and match conductors of electrical connections for proper interface between electrical power supplies and installed equipment. Cover splices with electrical insulating material to achieve insulation at least 100% in excess of electrical insulation rating of those conductors being spliced. Prepare cables and wires by cutting and stripping covering armor, jacket, and insulation properly to ensure uniform and heat appearance where cables and wires are terminated. Exercise care to avoid cutting through tapes which will remain on conductors. Do no "ring" coppery conductors while skinning wire.

B. There may be cases where circuit or feeder conductor sizes are too large or too small to fit into the lugs normally supplied with the end-use equipment. Due to circumstances such as increasing conductor sizes to offset voltage drop, unusual breaker frame sizes, etc., provide appropriate factory lug kits for affected equipment if recommended by manufacturer, otherwise, provide insulated butt-splices with tails sized to fit respective lugs.

C. Ground metal frames of portable and stationary direct-wired electrically operated equipment by connecting frames to the circuit equipment ground conductor and to grounded metal raceway. Provide necessary electrical connections between the specified equipment and junction boxes, disconnect switches, and starts near equipment with flexible metallic conduit and matched connectors. Do not expose flexible conduit in finished areas.

D. Connect electrical equipment furnished under this scope of work and by the owner. Review documents of other trades to identify electrically operated / controlled equipment that is furnished or installed by the owner or by other trades. Provide power connections and local disconnects (if required) for all electrically operated equipment. Provide control wiring as required to ensure a fully operational equipment unless otherwise noted on drawings. Coordinate exact requirements of all equipment in the field with equipment vendor and installer.

END OF SECTION

SECTION 26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. This section includes ground and bonding requirements for electrical and telecommunications systems, circuits, and equipment.

B. Provide the following minimum requirements for grounding:

1. NFPA - components and installation shall comply with NFPA 70, NEC
2. UL - comply with UL 467, "Grounding and Bonding Equipment"
3. ANSI/TIA/EIA-607, "Commercial Building Grounding and Bonding Requirements for Telecommunications

PART 2 - PRODUCTS

2.1 MATERIALS

A. Subject to compliance with requirement, provide grounding and bonding product manufacturers of the installer's choice unless otherwise noted.

B. Except as noted on the drawings, provide copper electrical ground and bonding systems and materials with assembly of materials including but not limited to cables / wires, connectors, solderless lug terminals, grounding and plate electrodes, bonding jumper braid, and additional accessories needed for a complete installation. Where materials or components are not indicated, provide products that comply with NEC, UL, and IEEE requirements, and with established industry standards for those applications indicated, utilize compatible metallic materials throughout system to eliminate galvanic action.

C. Provide steel grounding electrodes with copper welded exterior, and ¾" diameter by 10'-0" length. Provide sheet copper plate electrodes that are 20 gauge by 36" by 36", with cable attachments (minimum quantity of 2), sized for cables as necessary to fulfill project grounding requirements, provide copper ground plates where ground rods cannot be used. Provide connection to ground electrodes at a point not less than 1'-0" below grade level and not less than 2'-0" away from footings and foundations. Weld grounding conductors to underground grounding electrodes where mechanical connections cannot, or should not, be utilized.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Terminate feeder and branch circuit insulated equipment grounding conductors with ground lug, bus, or bushing. Route grounding connections and conductors to ground and protective devices in shortest and straightest paths as possible to minimize transient voltage rises.

B. Install clamp-on connectors on clean metal contact surfaces to ensure electrical conductivity and circuit integrity.

C. Provide corrosion resistant finish to field connections where factory applied protective coatings have been damaged and where subject to corrosive action.

D. Route ground conductors used for bonding in protective conduit sleeves. Provide both ends of these conduit sleeves with ground bushings and bond ground bushings to enclosures and ground terminations at both ends using jumpers. Size ground jumper conductors the same as the respective ground conductor that is being protected within the respective conduit.

E. Provide corrosion resistant finish to buried metallic grounding and bonding products.

F. Terminate ground electrode conductors with two-hole compression lugs, terminate bonding jumper conductors with one-hole compression lugs.

END OF SECTION

SECTION 26 05 33 - RACEWAYS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED WORK

A. Install wire in raceway / conduit (sized per NEC) unless specifically permitted otherwise elsewhere in Division 26 sections or on drawings.

B. Install wiring for different power voltages in raceway system separate from each other.

C. Install wiring, with the exception of voice and data, for the various electrical systems in raceway systems, which are separate from each other.

D. Do not install conduits within slabs unless specifically noted on drawings or unless part of an underfloor duct raceway system.

E. Do not install conduits beneath slab on grade, except where specifically indicated otherwise on drawings or unless special case by case permission is obtained from owner's representative in the field.

F. Provide steel conduit and steel fittings for indoor above slab applications as specified in this section.

G. Provide conduit fittings with insulated throats, or plastic bushings for conduits 2" and larger where insulated throats are not readily available.

H. Provide maximum of 40% fill for raceways or a threshold of less as required by NEC.

PART 2 - PRODUCTS

2.1 ELECTRICAL METALLIC TUBING (EMT)

A. Provide galvanized or zinc coated steel EMT compliant with FS WW-C-563, ANSI C80.3, and UL797.

B. Provide EMT for above grade conduit, except where indicated otherwise on drawings or elsewhere within Division 26.

2.2 STEEL RIGID METAL CONDUIT (RMC)

A. Provide rigid steel, heavy wall, full weight, zinc-coated, threaded type (galvanized after cutting / threading) conduit conforming to ANSI C80.1 and UL 6. Provide zinc coating fused to inside and outside walls of conduit.

B. Provide galvanized or zinc coated steel threaded fittings.

C. Provide for the follow applications:

1. Conduit installed embedded in concrete or masonry.
2. Conduits (grounded) that turn up from below grade or below slab, excluding the 90 degree fittings that connect to horizontal conduits below grade or slab.

END OF SECTION

SECTION 26 05 34 - BOXES AND FITTINGS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 INDOOR BOXES

A. Provide minimum size of 4" square by 1-1/2" deep for outlet boxes and junction boxes. Provide outlet box accessories as required for each installation including box supports, mounting ears and brackets, wallboard hangers, box extension rings, fixture studs, cable clamps, and metal straps for supporting outlet boxes which are compatible with outlet boxes being used to fulfill installation requirements for individual wiring situations. Provide with stainless steel nuts, bolts, screws, and washers.

PART 2 - EXECUTION

2.1 INSTALLATION

A. Install electrical boxes in those locations that ensure accessibility to enclosed electrical wiring.

B. Do not install aluminum products in concrete.

C. Consider the outlet, junction, and pull box locations indicated on drawings are approximate. Study the general construction with relation to spaces and equipment surround each outlet, and neatly.

END OF SECTION

SECTION 26 05 80 - MECHANICAL EQUIPMENT

PART 1 - GENERAL

1.1 RELATED WORK

A. Provide all necessary electrically related work as required to render all mechanical equipment (including plumbing, heating, ventilating, and air conditioning equipment) fully operational and fully compliant with NEC. This includes, prior to ordering materials or commencing rough-in, reviewing equipment submittal data and coordinating with installing contractors to ensure the correct size, rating, and quantity of conductors are provide.

PART 2 - PRODUCTS

2.1 INSTALLATION

A. General

1. Provide disconnect switch ahead of all equipment, including controls, unless mechanical equipment comes with integral NEC compliant disconnect(s). Provide NEMA 3R enclosures where installed outdoors and where installed indoors in areas subject to moisture. Ground metal frames of equipment by connecting frames to the grounded metal raceway or to a full size green ground conductor or both. Provide the necessary electrical connections between the specified equipment and the junction box near equipment with flexible metallic conduit (Liquid Tight outdoors) and matched connectors (See Section 26 05 33). Where mechanical equipment lugs cannot accommodate conductor sizes shown on drawings, provide ILSCO Cleartap insulated multi-tap connectors.
2. Sizes, electrical ratings, etc. of equipment and wiring shown on drawings are based on the respective equipment design by the manufacturers. If different manufacturer(s) or model(s) are actually supplied, provide necessary coordination in field (prior to ordering materials and prior to rough-in) and provide the necessary size of related electrical equipment, wiring, conduit, etc.
3. Prior to furnishing submittals and prior to rough-in, determine exact electrically related characteristics, loads, voltages, disconnect and starter requirements, locations, mounting heights, connection points, etc. of mechanical equipment.

B. HACR Breakers

1. Coordinate in field with the respective trades and determine case by case, which equipment is factory listed for use with heating and air conditioning rated (HACR) breakers. In an effort to minimize requirements for stocking of fuses by the owner, utilize HACR breakers at the source panelboards as the NEC required overcurrent protection wherever possible (in lieu of fusing local disconnect switches).

C. Disconnect Switch and Starter Locations

1. Locations of disconnects and starters shown on drawings are indicated for schematic purposes only. Determine exact location in field in order to ensure they are compliant with NEC Article 110 Requirements for Panelboards.

END OF SECTION

SECTION 26 05 90 - MISCELLANEOUS SPECIALTIES

PART 1 - GENERAL

1.1 RELATED WORK

A. Pre-wired System Furniture

1. Provide final power (wiring and raceway) and communications (raceway) connections to systems furniture.
2. Participate in required meetings to discuss and note any required modifications of drawings.
3. Include actual layout, connection types / locations, wiring, fixture locations, etc. for systems furniture work in record drawings.
4. Install pre-wired power wiring harnesses. Provide final connections at wall outlet boxes. For bidding purposed, wiring harnesses will be configured for three 120V/20A circuits: three phase conductors, three neutral conductors, and one equipment ground conductor. Include each of these conductors in the homeruns to the respective source panelboard. Field verify wiring harness specifics prior to commencing with any related rough-in work. Provide wall plates for power wiring harnesses if not already supplied with the factory harnesses (single-gang and engraved with straight 90 degree fittings as required for making clean final connections to wall outlet boxes).
5. Determine exact mounting heights and locations of electrical system outlets and "seal-tite" conduit fitting types (straight, 90 degree, etc.) in the field with relation to architectural detail, equipment being served, and final locations of system furniture.
6. Provide permanent identification on wall plates indicating whether the outlet provides power, telephone, or data service to the respective system furniture connection.
7. Use manufacturer's recommended tools and installation procedures for connecting and installing system furniture electrical components and install same in a level, plumb, and secure manner.

END OF SECTION

SECTION 26 09 23 - OCCUPANCY SENSORS

PART 1 - GENERAL

1.1 RELATED WORK

A. Provide labor, materials, tools, appliances, control hardware, sensor, wire, junction boxes, and equipment necessary for and incidental to the delivery, installation, and furnishing of completely operational occupancy sensor lighting controls as described.

B. Provide products supplied from a single manufacturer that has been continuously involved in manufacturing of occupancy sensors for a minim of five years.

C. Provide occupancy sensors for the entire project that are all made by the same manufacturer regardless of where the materials are specified in Division 26 documents. Provide components that are all made by the same manufacturer in cases where occupancy sensor components are also connected to a building lighting control system regardless of where the materials are specified in Division 26 documents.

D. Provide components that are UL Listed, offer a five year warranty and meet state and local applicable code requirements.

E. Provide products manufactured by an ISO 9002 certified manufacturing facility

PART 2 - SPECIFIC REQUIREMENTS

2.1 ACCEPTABLE MANUFACTURERS

A. Basis of design manufacturer is Leviton or as stated on drawings. Other acceptable manufacturers are Wattstopper, Lutron, Sensor Switch, and LC&D. If any of these acceptable manufacturers are used, ensure the product meets the design intent and functionality of the design.

2.2 PRODUCTS

A. Ceiling Sensors: Provide standard of quality to Leviton or as indicated on drawings.

B. Power and Auxiliary Packs: Provide standard of quality of Leviton or as indicated on drawings.

C. Dual Technology Sensors: Provide sensors that are either wall mounted, corner mounted, or ceiling mounted in such a way as to minimize coverage in unwanted areas. Dual technology shall be passive infrared and ultrasonic.

D. General Standards

1. Provide sensors capable of operating normally with electronic ballasts, PL lamps, rated motor loads, and LED drivers.
2. Provide sensors with coverage that remains constant after sensitivity control has been set. Automatic reduction in coverage due to the cycling of air conditioner or heating fans is not permitted.
3. Provide sensors with readily accessible, user adjustable settings for the time delay and sensitivity. Locate setting on the sensor (not the control unit) and recess to limit tampering.
4. Provide bypass manual override on each sensor to accommodate failures. Configure so that when bypass is utilized, lighting remains on constantly or control diverts to a wall switch until sensor is replaces. Recess this control to prevent tampering.
5. Provide sensors with an LED as a visual means of indication at all times to verify that motion is being detected during both testing and normal operation.
6. Where specified, provide sensor with internal additional isolated relay with normally open, normally closed, and common outputs for use with HVAC control, data logging, and other control options. Do not use sensors that utilize separate components or specially modified units to achieve this function.
7. Provide sensors with UL Rated, 94V-0 plastic enclosures.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Provide grounded (neutral) conductor in all lighting control device (switch, dimmer, occupancy sensor, etc.) wall outlet boxes, even if not immediately used.

B. Locate and aim sensors in the correct location required for complete and proper volumetric coverage within the range of coverage(s) of controlled areas per the manufacturer's recommendations. Provide 90 to 100% coverage in rooms to completely cover the controlled area to accommodate all occupancy habits of single or multiple occupants at any location within the rooms. The locations and quantities of sensors shown on the drawings are diagrammatic and indicate only the rooms which are to be provided with sensors. Provide additional sensors if required to properly and completely cover the respective rooms.

END OF SECTION

SECTION 26 24 16 - PANELBOARDS

PART 1 - EXECUTION

1.1 INSTALLATION

A. Provide neatly typewritten circuit directory card for each panelboard upon completion of the installation work. Include accurate description of load and destination. Turn off all breakers that become "spare" during build out.

END OF SECTION

SECTION 26 27 26 - WIRING DEVICES

PART 1 - GENERAL

1.1 RELATED SECTIONS

A. See Section 26 00 02 for special identification related documents.

B. See Section 26 05 34 for damp and wet location coverplate requirements.

1.2 SUMMARY

A. Provide wiring devices in types, characteristics, grades, colors, and electrical ratings for applications indicated which are UL Listed and which comply with NEMA WD 1 and other applicable UL and NEMA Standards. Verify color selections with owner's representative.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. The following are approved manufacturers but are subject to project compliance:

Switches	Leviton, Hubbell, Cooper
Dimmers:	Leviton, Lutron, Hubbell
Receptacles:	Leviton, Hubbell, Cooper
Wall Plates:	Leviton, Hubbell, Cooper

2.2 WIRING DEVICE COLORS

A. Unless specifically indicated on the drawings or directed in the field by owner's representative, provide white colors for normal utility wiring devices.

2.3 SWITCHES

A. Wall Switches: Provide wall switches that are flush self-grounding with green ground screw and color codes cover, snap toggle type, back and side wired, specification grade. Provide wall switches rated 20A. 120/277V, 1 HP 12 120V A.C. quite type where locking type switches are indicated, provide same as below except with "L" suffix (provide six keys). Catalog numbers below are based on Leviton:

Single-pole, Toggle: Leviton 1221-2 Series or equal

Double-pole, Toggle: Leviton 1222-2 Series or equal

3-Way, Toggle: Leviton 1223-2 Series or equal

4-Way, Toggle: Leviton 1224-2 Series or equal

2.4 SPECIFICATION GRADE RECEPTACLES

A. Standard specification grade duplex / single receptacles

1. Provide duplex and single specification grade receptacles, 2-pole, 3-wire grounding, self-ground, green ground screw, ground terminals, and poles internally connected to mounting yoke, color coded base, 20-amperes, 125 Volts, with metal plaster ears, back and side wiring, NEMA configuration 5-20R.
2. Provide duplex receptacles equal to Leviton #5362 Series. For receptacle circuits protected with 15A breakers, provide NEMA 5-15R equivalents. Provide receptacles equal to Leviton #5361 Series for single applications. Provide clock hanger receptacles equal to Leviton #5361-Ch.

B. Ground-Fault Interrupter Specification Grade Receptacles

1. Provide self-grounding commercial specification grade duplex receptacles, ground fault circuit interrupters; feed-thru type, capable of protecting connected downstream receptacles on single circuit, grounding type UL-Rated 943, Class A, Group 1, specification grade, 20-amperes rating (device & feed-thru), 125-volts, 60 hz; with solid stat ground fault sensing and signaling (maximum threshold of 5mA at 0.025 seconds maximum). Equip with 20-ampere plug configuration, NEMA 5-20R.
2. Provide ground fault circuit interrupter duplex receptacles equal to Leviton #8898 Series. For receptacle circuits protected with 15A breakers, provide NEMA 5-15R equivalents.
3. Receptacles indicated as GFI may be GFI protected by an upstream GFI receptacle on the same circuit only if located in the same room. Otherwise provide a separate GFI receptacle for each one shown.
4. Where GFI protected receptacles are shown on drawings, provide a separate GFI receptacle for each one shown. Do not feed downstream receptacles from load-side (GFI protected) terminals of upstream receptacles.
5. Provide weather resistant receptacles with UL "WR" marking compliant with NEC 406.8 for all applications in wet or damp locations.

2.5 WIRING DEVICE ACCESSORIES

A. Wall Plates

1. Provide single and combination of types, sizes, and with ganging and cutouts as required to accommodate each application. Provide plates which mate and match with wiring devices to which attached. Provide metal screws for securing plates to devices with screw heads colored to match finish of plates. Provide wall plate color to match wiring devices unless specifically indicated otherwise.
2. Provide standard size wall plates. Do not provide "Midway", "Oversized" / "Jumbo", or "Extra Deep" wall plates.
3. Provide galvanized steel wall plates in unfinished exposed conduit areas.
4. Provide commercial grade, white finish wall plates in finished areas with beveled edges, unless otherwise specified on drawings.
5. Provide commercial specification grade thermoplastic wall plates in finished areas.
6. Provide receptacle wall plates with adhesive label identification of source panel and circuit number. Provide black lettering (1/4" high), and transparent background. Provide labels and lettering that are impervious to normal surrounding ambient heat and light. Install labels perfectly level / plumb. Utilize material that renders a virtually permanent adhesion but can be removed with a razor blade.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Provided grounded (neutral) conductor in all lighting control device (switch, dimmer, occupancy sensor, etc.) wall outlet boxes, even if not immediately used.

B. Install receptacles so that the ground pin is oriented in a consistent manner throughout the facility, so that the orientation is compliant with all prevailing codes and regulations and the orientation is acceptable to the electrical inspector.

C. Install wiring devices only in electrical boxes that are clean, free from building materials, dirt, and debris. Install wiring devices after wiring work is completed. Install wall plates only after respective wall surfaces have received their final finish.

D. Prior to energizing circuits, test wiring for electrical continuity and for short-circuits. Ensure proper polarity and ground of connections is maintained. Subsequent to energizing, test wiring devices and demonstrate compliance with requirements, operating each operable device at least six times. Test ground fault circuit interrupter operation with both local and remote fault simulations in accordance with manufacturer recommendations.

END OF SECTION

SECTION 26 27 30 - FLOOR BOXES

PART 1 - GENERAL

1.1 RELATED SECTIONS

A. See Section 26 27 26 for wiring devices and cover plates, provide wiring devices in floor boxes as required to fulfill respective applications.

1.2 DESCRIPTION OF WORK

A. Provide electrical floor devices (boxes / outlets) specified in this section including the following types:

1. Poke-thru floor outlets
2. Floor outlet accessories

B. Meet with architect before making final room-by-room catalog number selections for cover plates to ensure compatibility with room finished (for example, height and color of carpet edging, special floor finishes, etc.).

C. Meet with telecommunication system installers before making final box catalog number selections for the internal mounting bracket assemblies to ensure compatibility with outlet functions.

D. Make exact catalog selection based on type of floor structure in the respective room and based on type of final floor finish in the respective room. Coordinate with architectural drawings and architect as required to make proper selections, including selection of brass vs. aluminum flanges.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Provide receptacles by Wiremold (subject to compliance with requirements).

2.2 POKE-THROUGH FLOOR OUTLETS

A. Flush poke-through with flush activation

1. Provide poke-through units by Wiremold as applicable.
2. Provide factory power pre-wired poke-through units suitable for power work or suitable for communication work, or suitable for both.
3. Provide minimum UL Fire resistance rating of 3 hours.
4. Provide integral fire-stop with cold smoke barrier to prevent passage of smoke where heat is not present.
5. Provide units with through-floor conduit of proper length for floor thickness indicated and junction box which is self-supporting without attachment of above floor fitting.
6. Provide units with gaskets.
7. Provide units with carpet flange and cover assembly.
8. Provide units with necessary accessories for a complete operable installation.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Provide factory plates, adapters, inserts, extensions, nipples, flanges, mudcaps, rings, conversion kits, etc. Accessories as required for complete working units for each application.

B. Do not scale floor outlet locations from drawings.

C. Consider locations indicated on the drawings as approximate. Determine exact locations of each floor outlet, case by case, after consulting with owner and architect and after reviewing architectural documents so outlets are properly located to accommodate the final furniture and equipment layouts. Study the general construction with relation to spaces and equipment surrounding each outlet.

D. Provide sealed knockout closures to cap unused knockout holes where blanks have been removed. Install outlets in locations that ensure ready accessibility to enclosed electrical wiring.

E. Do not use aluminum products in concrete.

F. Fasten electrical boxes firmly and rigidly to substrates, or structural surfaces to which attached or solidly embed electrical boxes in concrete or masonry. Support boxes independent of conduit.

G. Set floor boxes so that the finished product is level and flush with finish flooring material.

END OF SECTION

SECTION 26 51 13 - LUMINAIRES

PART 1 - GENERAL

1.1 RELATED WORK

A. Provide luminaires as indicated on drawings.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Subject to compliance with requirements, provide products by manufacturers listed on the drawings / luminaire schedule.

B. Review drawings and specifications of other trades to verify ceiling types, modules, suspensions system appropriate to installation.

C. If a particular submittal does not include basis of design manufacturer or model number, provide "approved equal" manufacturers and model numbers compliant with and equivalent to quality, performance, dimensions, and aesthetics as the respective basis of design.

2.2 MATERIALS

A. Luminaires

1. Luminaires designated by letters are defined as indicated on the luminaire schedule or legend.
2. Provide luminaires, lamps, ballasts, and accessories with UL Listing and labeling for their specific application for this project.
3. Provide luminaires, of sizes, types, and ratings indicated; complete with, but not limited to, housings, energy-efficient lamps, lamp holders, reflectors, energy efficient ballasts, starters, and wiring. Ship luminaires factory assembled with components required for a complete operating installation.

B. Recessed Luminaires

1. Provide recessed luminaires with necessary gypsum board, plaster frames, and surface trim.
2. Provide UL Approved (Listed and Labeled) thermal protection per latest edition of NFPA / NEC for recess mounted luminaires.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install flush mounted luminaires properly to eliminate light leakage between luminaire frame and finished surface.

B. Provide type AC / MC cable or wiring in minimum ½" diameter flexible metal conduit (with full parity sized green insulated equipment ground wire) for "drops" from building wiring system junction boxes to suspended ceiling mounted luminaires. Limit the length of these "drops" to 72". Install "drops" to luminaires in gypsum board and similar inaccessible ceiling system from identified accessible junction boxes.

C. Connect the following ahead of switching and other controls as applicable: exit signs, nigh-lights, switch bypass devices, generator transfer (and similar) devices, emergency battery ballasts, and luminaires utilized for emergency egress lighting. The only exceptions to this are photocell only controls for outdoor emergency egress luminaires.

D. Fasten electrical luminaires and brackets securely to structural supports. Install luminaires level and plumb.

END OF SECTION

ELECTRICAL LEGEND

NOT ALL SYMBOLS SHOWN ARE NECESSARILY USED ON THESE DRAWINGS - NOTES ON DRAWINGS SUPERCEDE THIS INFORMATION

GENERAL

SYMBOL	DESCRIPTION
	EXISTING CIRCUITRY TO BE REMOVED / REUSED
	EXISTING CIRCUITRY TO REMAIN
	NEW CIRCUITRY
	EXISTING DEVICE TO BE REMOVED / REUSED
	EXISTING DEVICE TO REMAIN
	NEW / RELOCATED DEVICE
A	INDICATES DEVICE TYPE / SPECIFICATION / DESIGNATION
◀ ◀◀ ◀◀◀	CIRCUIT DESIGNATION NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS
◁	ISOLATED GROUND CIRCUIT DESIGNATION
	CIRCUITING - RUN CONCEALED IN WALL OR CEILING
	CIRCUITING - RUN CONCEALED IN FLOOR OR GRADE
	CONDUIT RISER - UP/DOWN
	CIRCUITING - CONTINUED AS DESIGNATED
	CIRCUITING - END CAP
LV LV	LOW VOLTAGE CIRCUITRY
#	REVISION DELTA
	REVISION CLOUD
# #	DETAIL NOTES
# # #	EQUIPMENT

ABBREVIATIONS

ABBR.	DESCRIPTION
A	AMP
AC	ABOVE COUNTER TOP
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AL	ALUMINUM
CU	COPPER
E, (E)	EXISTING
EPO	EMERGENCY POWER OFF
FLA	FULL LOAD AMPS
GFI, GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFPE	GROUND FAULT PROTECTION OF EQUIPMENT
GND	GROUND
HP	HORSEPOWER
IG	ISOLATED GROUND
KW	KILO WATT
LV	LOW VOLTAGE
MCA	MINIMUM CIRCUIT AMPS
N, (N)	NEW
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
P	POWER
R, (R)	RELOCATED
T/D	TELECOMMUNICATION / DATA
UC	UNDER COUNTER
UF	UNDER FLOOR
UF	UNDER FLOOR
V	VOLT
VA	VOLTAGE AMP
WP	WEATHER PROOF
+XX	SPECIAL DEVICE MOUNTING HEIGHT AFF

COMMUNICATIONS

SYMBOL WALL	SYMBOL CEILING	SYMBOL FLOOR	DESCRIPTION
	▼		TELEPHONE OUTLET
	▽		DATA OUTLET
			TELEPHONE / DATA OUTLET
			TELEVISION OUTLET
W			TELEPHONE OUTLET WALL +54"
			TELEPHONE BOARD
CABLE TRAY			CABLE TRAY

SECURITY / ADA

SYMBOL	DESCRIPTION
	SECURITY CAMERA
	SECURITY CAMERA WITH PAN-TILT ZOOM DRIVE UNIT
P	PANIC PUSH BUTTON
⊡	PUSH BUTTON
⊡ K	KEYSWITCH EXIT PUSHBUTTON
CR	CARD READER FOR ACCESS CONTROL
■	ELECTRIC CONTROLLED AND MONITORED DOOR.
□	ELECTRIC DOOR STATUS INDICATOR DEVICE

POWER

SYMBOL WALL	SYMBOL CEILING	SYMBOL FLOOR	DESCRIPTION
			DUPLEX RECEPTACLE
	⊕		FOURPLEX RECEPTACLE
			SPECIAL PURPOSE OUTLET
J	J	J	JUNCTION BOX (J-BOX)
			DEDICATED 20A. DUPLEX RECEPTACLE
			DEDICATED 20A. FOURPLEX RECEPTACLE
■ PP			POWER POLE
WM			SURFACE MOUNTED MULTI OUTLET ASSEMBLY - WIREMOLD
PM			SURFACE MOUNTED MULTI OUTLET ASSEMBLY - PLUGMOLD
WALL: J J P T/D		FLOOR: J J P T/D	FURNITURE SYSTEM JUNCTION BOXES P = POWER T/D= TELE/DATA COMMUNICATION
BP ©			BLANK PLATE / COVER PLATE
T			TRANSFORMER
SURFACE		RECESSED	ELECTRICAL PANEL
			MOTOR
⊠			STARTER
			DISCONNECT-RATED FOR USE
$ STO			THERMAL OVERLOAD SWITCH
$ D			DISPOSER WITH SWITCH
TS			TEMPERATURE SENSOR / ROOM SENSOR
CO2			CO2 SENSOR
			COMBINATION FIRE / SMOKE DAMPER
			FIRE SMOKE DAMPER
			SMOKE DAMPER
1-15			CODE
715/500			MAXIMUM PRIMARY CFM / FAN CFM
0.8 GPM			MAXIMUM CFM
1-27			CODE
800			MAXIMUM CFM
400			MINIMUM CFM
0.5			MAXIMUM CFM
+XX			SPECIAL DEVICE MOUNTING HEIGHT AFF

ONE LINE

SYMBOL	DESCRIPTION
"NAME"	PANEL BOARD
T	PAD MOUNTED TRANSFORMER
T	TRANSFORMER
C T	CURRENT TRANSFORMER
E G	EMERGENCY GENERATOR
	AUTOMATIC TRANSFER SWITCH
M M	METERS
	DISCONNECT SWITCHES
GFI M	CIRCUIT SWITCHES
GFI	CIRCUIT BREAKERS
	GROUNDING CONNECTION
	OVERHEADS - 3 WIRE, 4 WIRE
	MOTOR
# #	FAULT CURRENT VALUE TAG
# #	FEEDER TAG

SHADED AREAS INDICATE EXISTING TO BE REMOVED.
DASHED LINES INDICATE EXISTING TO REMAIN U.O.N.
SOLID LINES INDICATE NEW EQUIPMENT
HIDDEN LINES INDICATE FUTURE EQUIPMENT.

LIGHTING

SYMBOL OTHER	SYMBOL WALL	DESCRIPTION
		STRIP LIGHT
		WRAPAROUND
		RECESSED MOUNTED
		SURFACE MOUNTED
		DIRECT / INDIRECT
		PARABOLIC
		DOWNLIGHTS
		DIRECTIONAL WALL WASHER / ADJUSTABLE DOWNLIGHT
		WALL SCONCES INTERIOR / EXTERIOR
⊕		PENDANT LIGHT
		TRACK LIGHT
K		KEY LESS
		POLE MOUNTED LIGHTS
		BATTERY PACK EGRESS LIGHTS
⊗ ⊗		BATTERY PACK EXIT LIGHTS - DIRECTIONAL ARROWS
		COMBINATION OF BATTERY PACK EXIT / EGRESS LIGHT
(EM)		BATTERY PACK EXTERIOR EGRESS LIGHT. EGRESS ILLUMINATION SHALL CONFORM WITH IBC SECTION 2006. ENSURE 90 MINUTE BATTERY BACK UP.
		SHADED LUMINAIRES INDICATES CONNECTION TO EMERGENCY CIRCUIT, NON-SWITCHED CIRCUIT, OR 90-MINUITES SELF-CONTAINED BATTERY PACK
$		SINGLE POLE SWITCH
(x)		INDICATES SWITCHING DESIGNATION TO LUMINAIRE
$ X		3=3-WAY, 4=4-WAY, K=KEYED, P=PILOT, VS=VARIABLE SPEED, TO=THERMAL OVERLOAD, T=TIMER, UP/DN=UP AND DOWN, LV=LOW VOLTAGE, TO=THERMAL OVERLOAD
$$		DUAL LEVEL SWITCH
OS		WALL MOUNTED OCCUPANCY SENSOR
OSD		WALL MOUNTED OCCUPANCY SENSOR W/ DIMMERS
OS		CLG MOUNTED OCCUPANCY SENSOR WITH OVERRIDE SWITCH ON THE WALL
DS		CLG MOUNTED DAYLIGHT SENSOR
PP		POWER PACK FOR OCCUPANCY / DAY LIGHT SENSOR
D		DIMMER SWITCH
(EM) (NL)		EGRESS NIGHT LIGHT ON NON-SWITCHED CIRCUITRY
J		CEILING MOUNTED FAN

SEE LIGHTING PLAN SHEET FOR ADDITIONAL INFORMATION

FIRE ALARM

SYMBOL	DESCRIPTION
	REMOTE INDICATING LIGHT
T S	TAMPER SWITCH FOR OPEN STEM & YOKE
F S	FLOW SWITCH
■	DOOR CLOSER
	STROBE
FACP	FIRE ALARM CONTROL PANEL
ANN	ANNUNCIATOR
S	SPEAKER
J	FIREMANS PHONE JACK
●	SMOKE DETECTOR
● T	THERMAL DETECTOR
	HORN
	HORN/STROBE
	BREAKGLASS STATION, PULLSTATION
	DUCT DETECTOR

MISCELLANEOUS

SYMBOL	DESCRIPTION
	CHIME
V	VOLUME
	CEILING BOX

BUILDING CODES - LAKEWOOD

2023 NATIONAL ELECTRICAL CODE (NEC)
2021 INTERNATIONAL BUILDING CODE (IBC)
2021 INTERNATIONAL EXISTING BUILDING CODE (IEBC)
2021 INTERNATIONAL FIRE CODE (IFC)
2021 INTERNATIONAL RESIDENTIAL CODE (IRC)
2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)

VICINITY MAP

SCALE: NOT TO SCALE

N

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PROJECT TITLE:

FIRE SCIENCE RTU REPLACEMENT PROJECT

MARK	DATE	DESCRIPTION
	4/30/25	FOR CONST.

Project Number: -
Drawn By: MC+
Checked By: MDC, JMM

SHEET TITLE:

ELECTRICAL LEGEND AND SPECIFICATIONS

E0.1

NOTE:
THESE SCHEDULES ARE FOR REFERENCE ONLY. SEE MECHANICAL DRAWING FOR ACCURATE AND ADDITIONAL INFORMATION.
COORDINATE ALL ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT WITH MECHANICAL ENGINEER, TENANT / OWNER, AND VENDORS PRIOR TO ROUGH-IN.

EXISTING ROOFTOP UNIT SCHEDULE

CODE	MANUFACTURER AND MODEL NO.	SERVICE	SUPPLY FAN DATA: CFM AT ALTITUDE	SUPPLY FAN DATA: MINIMUM O.A. CFM	SUPPLY FAN DATA: E.S.P. (IN. W.C.) AT ALTITUDE	SUPPLY FAN DATA: HP	DX COOLING COIL DATA: MAXIMUM FACE VEL. (FPM)	DX COOLING COIL DATA: MAXIMUM A.P.D. (IN. W.C.)	DX COOLING COIL DATA: ENTERING AIR TEMP (°F) DB	DX COOLING COIL DATA: ENTERING AIR TEMP (°F) WB	DX COOLING COIL DATA: LEAVING AIR TEMP (°F) DB	DX COOLING COIL DATA: LEAVING AIR TEMP (°F) WB	DX COOLING COIL DATA: CAPACITY (MBH) TOTAL	DX COOLING COIL DATA: CAPACITY (MBH) SENS.	HEATING SECTION: TYPE	HEATING SECTION: GAS PRESS. RANGE	HEATING SECTION: ENTERING AIR TEMP (°F) DB	HEATING SECTION: ENTERING AIR TEMP (°F) WB	HEATING SECTION: LEAVING AIR TEMP (°F) DB	HEATING SECTION: LEAVING AIR TEMP (°F) WB	HEATING SECTION: INPUT (MBH) AT S.L.	ELECTRICAL DATA: VOLTAGE/ PHASE	ELECTRICAL DATA: M.C.A.	ELECTRICAL DATA: M.O.C.P.	OPERATING WEIGHT (LBS.)	ACCESSORIES AND REMARKS
RTU-1 & 4	CARRIER 48HJED08	FIRE SCIENCE BLDG.	3,000	800	1.2	3	400	–	85	60	57	47.2	92.9	92.9	NATURAL GAS	4" – 13"	60	–	–	–	120/180	460/3	19.2	25	870	① ②
RTU-2 & 3	CARRIER 48HJED09	FIRE SCIENCE BLDG.	3,400	800	1.2	3	400	–	85	60	51.7	49	101.2	101.2	NATURAL GAS	4" – 13"	57.3	–	96.6	–	120/180	460/3	23.3	30	880	① ②
RTU-5	CARRIER 48TCFD14A2G6	FIRE SCIENCE BLDG.	5,000	–	–	.5	400	–	85	60	51.7	49	140	140	NATURAL GAS	4" – 13"	57.3	–	96.6	–	200/250	460/3	30	40	–	① ②
RTU-6	RHEIM RRNL-B036CK10E	FIRE SCIENCE BLDG.	1,200	–	–	.5	400	–	85	60	51.7	49	35.6	26.4	NATURAL GAS	5" – 10.5"	57.3	–	96.6	–	100	208/3	17	25	–	① ②
RTU-7	CARRIER 48TFDD08	FIRE SCIENCE BLDG.	3,000	–	–	2	400	–	85	60	51.7	49	85	85	NATURAL GAS	4" – 13"	57.3	–	96.6	–	125	460/3	18	20	–	① ②
RTU-8	CARRIER 48TMD014	FIRE SCIENCE BLDG.	5,000	–	–	–	400	–	85	60	51.7	49	–	–	NATURAL GAS	4" – 13"	57.3	–	96.6	–	200/250	460/3	29.1	35	–	① ②

NOTES: ① PROVIDE WITH 2" (30lb) T.A. FILTERS, ECONOMIZER CYCLE, LOW LEAK ECONOMIZER DAMPER, AND MANUFACTURERS ROOF CURB.
② ALL NEW EQUIPMENT SHALL COMPLY WITH 2021 IECC REQUIREMENTS.

NEW ROOFTOP UNIT SCHEDULE

Tag Name	Make	Unit Model	Unit Size	Quantity	Volts/Phase	Oper Weight (lb)	Actual Airflow (CFM)	Condenser Entering Air DB (F)	Evaporator Entering Air DB (F)	Evaporator Entering Air WB (F)	Evaporator Leaving Air DB (F)	Evaporator Leaving Air WB (F)	Gross Cooling Capacity (MBH)	Sensible Cooling Capacity (MBH)	Compressor Power Input (kW)	E.S.P. (in wg)	T.S.P. (in wg)	Supply Fan Power (BHP)	HP	Gas Htg Entering Air Temp (F)	Gas Htg Leaving Air Temp (F)	Gas Htg Capacity, 1st Stage (MBH)	Gas Htg Capacity, 2nd Stage (MBH)	MCA	MOCP
RTU-1, 4, 7	CARRIER	48FEFM08B6M5-8L0A0	08 (7.5 Tons)	3	460/3	649	3000	95.0	85.0	60.0	51.2	47.9	90.09	90.09	6.15	1.20	1.31	2.06	3	60.0	111.6	160.00	224.00	22	25
RTU-2, 3	CARRIER	48FEFM09B6M5-8L0A0	09 (8.5 Tons)	2	460/3	1032	3400	95.0	85.0	60.0	51.9	48.1	100.04	100.04	6.70	1.20	1.34	2.13	3	57.3	102.8	160.00	224.00	21	25
RTU-5, 8	CARRIER	48FEFM14B6M5-8L0A0	14 (12.5 Tons)	2	460/3	1095	5000	95.0	85.0	60.0	53.1	48.6	141.71	141.71	11.12	1.10	1.42	4.57	5	57.3	92.4	200.00	250.00	35	40
RTU-6	CARRIER	48FEEA04B6M5-8L0A0	04 (3 Tons)	1	208/3	644	1200	95.0	85.0	60.0	53.7	48.9	33.34	33.34	2.43	1.00	1.04	0.57	1.5	57.3	120.0	82.00	110.00	28	30

NOTES:
1. RA SMOKE DETECTORS, REFRIGERANT LEAK DETECTOR & FACTORY INSTALLED DISSIPATION CONTROLLER
2. LOW LEAK ECONOMIZER WITH BAROMETRIC RELIEF, POWER EXHAUST SYSTEM & CO2 SENSOR
3. LOUVERED HAIL GUARDS

LEGEND

HATCHED EQUIPMENT TO BE REMOVED.

NOTE TO ELECTRICAL CONTRACTOR - DEMOLITION

1. DEMOLITION PLANS ARE FOR REFERENCE AND MAY NOT SHOW ALL ELECTRICAL DEVICES THAT NEED TO BE DEMOLISHED DUE TO FIELD CONDITION DURING THE ELECTRICAL SURVEY. FIELD VERIFY PRIOR TO PRICING. REFER TO ARCHITECTURAL AND MECHANICAL PLANS FOR ADDITIONAL INFORMATION PRIOR TO PRICING.
2. ELECTRICAL DEVICES SHOWN AS DASHED SHALL BE REMOVED. REMOVE CIRCUITRY, CONDUITS, AND BOXES. ENSURE CIRCUIT CONTINUITY TO RECEPTACLES THAT ARE EXISTING TO REMAIN AND MAY BE AFFECTED BY DEMOLITION.
3. REFER TO MECHANICAL DRAWINGS FOR ANY EQUIPMENT THAT IS TO BE DEMOLISHED DURING THIS SCOPE OF WORK. COORDINATE WITH MECHANICAL CONTRACTOR FOR DEMOLITION RESPONSIBILITIES.
4. COORDINATE WITH BUILDING MANAGEMENT DISPOSAL OF EXISTING EQUIPMENT TO BE REMOVED AND IF ANY EQUIPMENT IS TO BE RETURNED TO BUILDING STOCK PRIOR TO PRICING.
5. TURN OFF ALL UNUSED BREAKERS AND INDICATE "SPARE" ON UPDATED PANEL INDEXES.

ELECTRICAL DETAIL NOTES

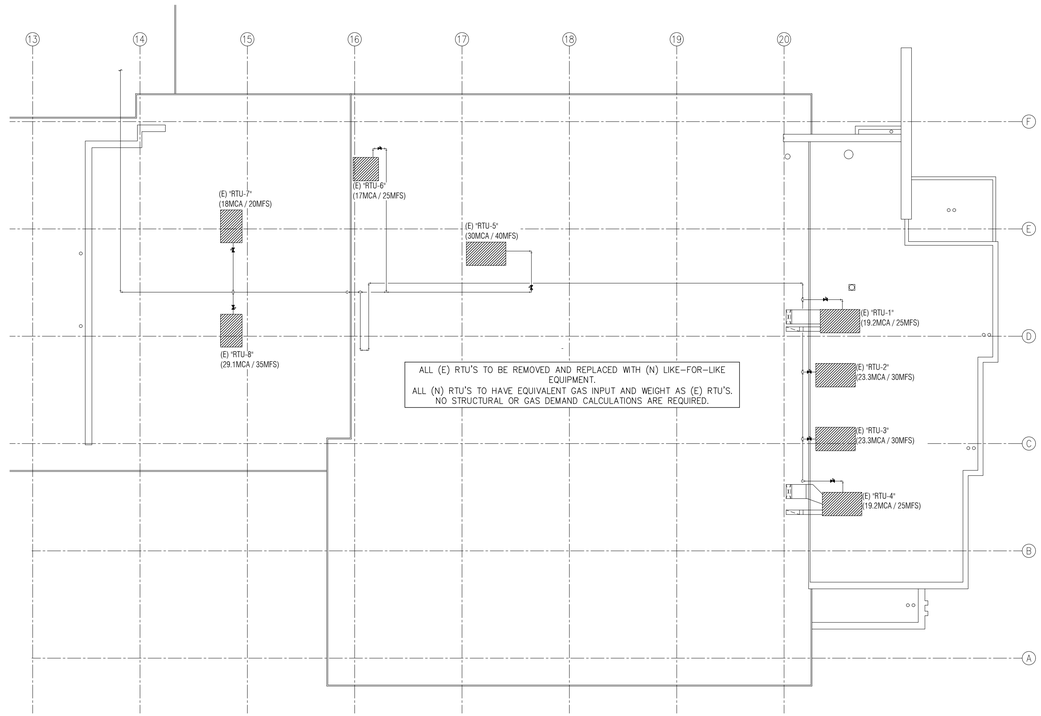
E1 PROVIDE AND INSTALL NEW BRANCH CIRCUITRY AS INDICATED UNLESS EXISTING BRANCH CIRCUITRY COMPLIES WITH NEW BRANCH CIRCUITRY AS SHOWN. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO PRICING AND INSTALLATION.

E2 APPROXIMATE LOCATION OF EXISTING PANEL BELOW.

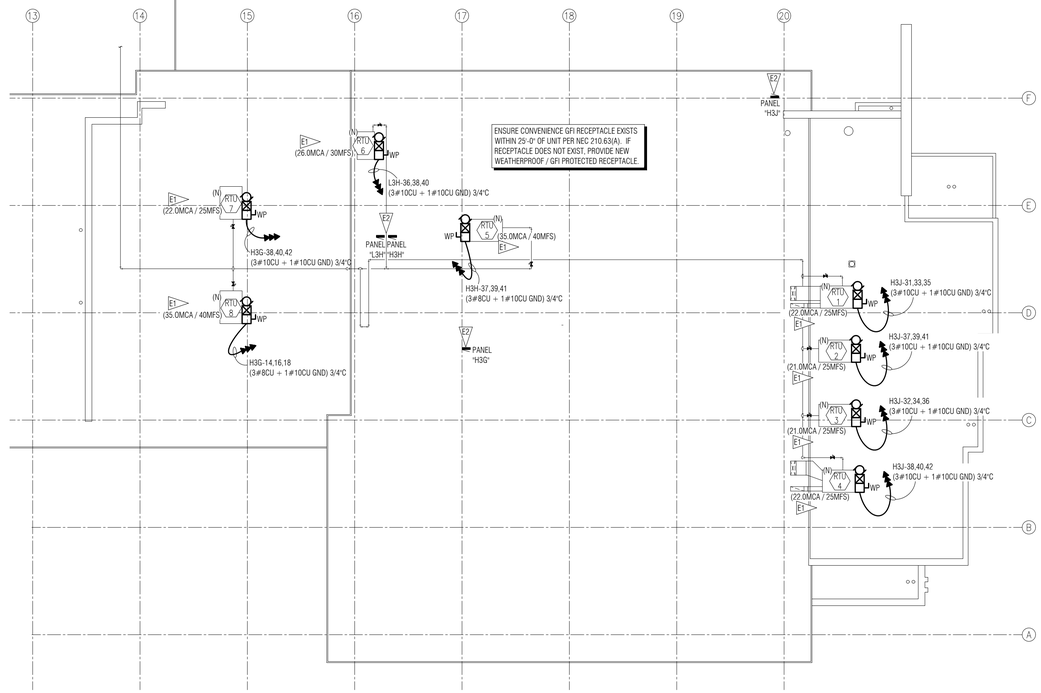
NOTES TO ELECTRICAL CONTRACTOR - POWER

1. CIRCUIT NUMBERS SHOWN ARE FOR REFERENCE ONLY AND SHOW DESIGN INTENT. ACTUAL AVAILABLE CIRCUIT NUMBERS MAY DIFFER. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY.
2. ENSURE CIRCUIT CONTINUITY TO RECEPTACLES THAT ARE EXISTING TO REMAIN AND MAY BE AFFECTED BY DEMOLITION / REMODEL WORK.
3. COORDINATE ALL FIRE ALARM REQUIREMENTS WITH FIRE ALARM CONTRACTOR.
4. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR ANY ADDITIONAL INFORMATION AND ELECTRICAL REQUIREMENTS REGARDING ELECTRICAL EQUIPMENT.
5. PROVIDE TYPEWRITTEN UPDATED PANEL DOOR DIRECTORIES FOR ALL AFFECTED PANELS REFLECTING ALL CIRCUITS WITH THEIR ACCURATE DESTINATIONS PER N.E.C. 408.4. TURN OFF ALL UNUSED BREAKERS AND INDICATE "SPARE" IN PANEL INDEX.
6. PROVIDE STICKERS ON ALL RECEPTACLE COVERPLATES INDICATING PANEL AND CIRCUIT NUMBER INFORMATION IN TENANT SUITE.

NOTES:
ALL ELECTRICAL IS EXISTING TO REMAIN U.O.N.
(N) = NEW FIXTURE (R) = RELOCATED



1 ELECTRICAL DEMOLITION PLAN - ROOF
SCALE: 1/16" = 1'-0"



2 ELECTRICAL MECHANCAL EQUIPMENT PLAN - ROOF
SCALE: 1/16" = 1'-0"

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PROJECT TITLE:

FIRE SCIENCE RTU REPLACEMENT PROJECT

MARK	DATE	DESCRIPTION
	4/30/25	FOR CONST.

Project Number:	-
Drawn By:	MC+
Checked By:	MDC, JMM

SHEET TITLE:

ELECTRICAL DEMOLITION AND MECHANICAL EQUIPMENT PLAN

E1.1

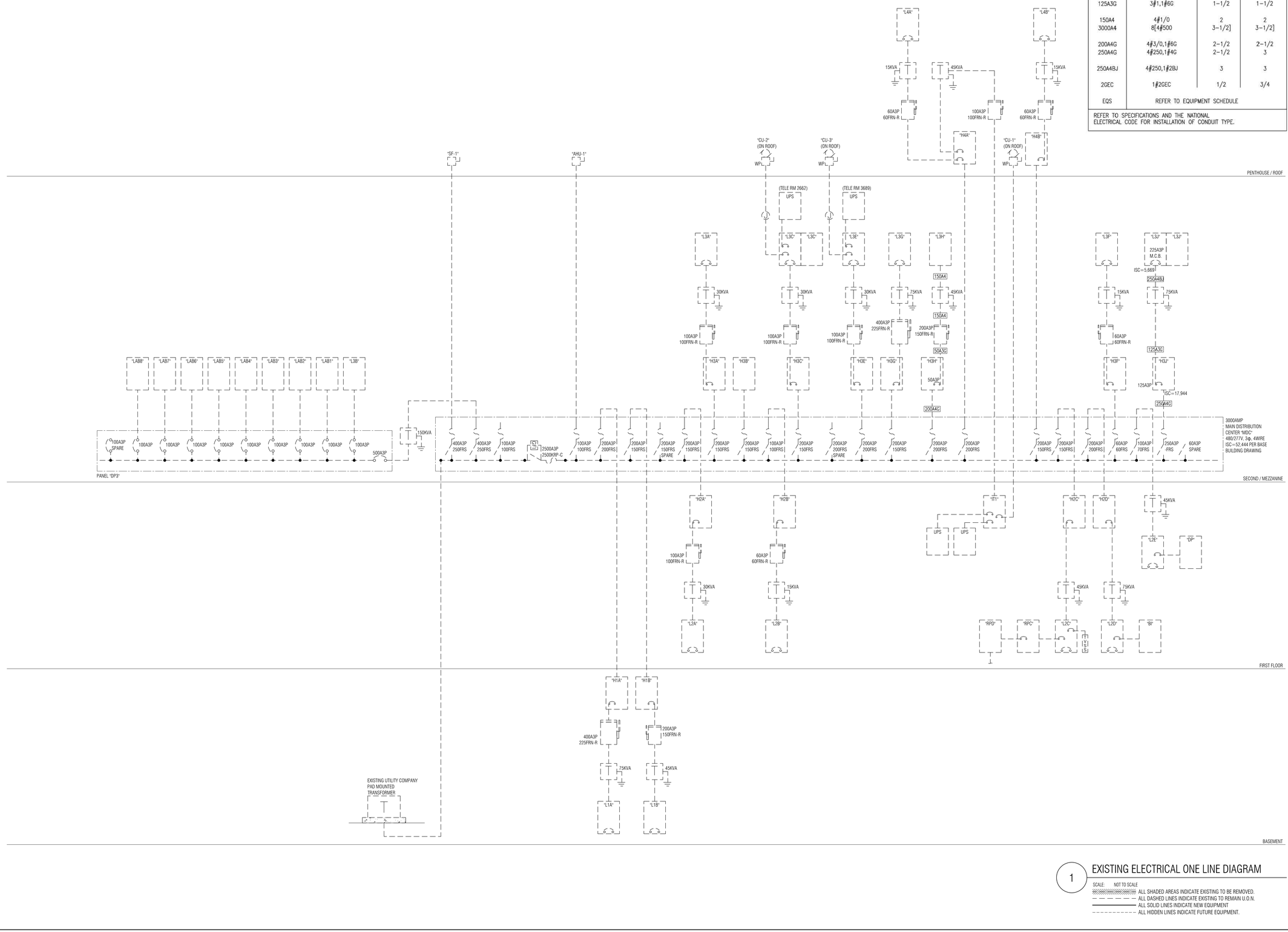
NOTE: ISC NUMBERS ARE BASE ON BASE BUILDING DRAWINGS

FROM BASE BUILDING DRAWINGS

FEEDER SCHEDULE

KEY	CONDUCTORS	METALLIC CONDUIT (IN)	NON-METALLIC CONDUIT (IN)
50A3G	3#6,1#10G	1	1
125A3G	3#1,1#6G	1-1/2	1-1/2
150A4	4#1/0	2	2
3000A4	8[4#500	3-1/2]	3-1/2]
200A4G	4#3/0,1#6G	2-1/2	2-1/2
250A4G	4#250,1#4G	2-1/2	3
250A4BJ	4#250,1#2BJ	3	3
2GEC	1#2GEC	1/2	3/4
EQS	REFER TO EQUIPMENT SCHEDULE		

REFER TO SPECIFICATIONS AND THE NATIONAL ELECTRICAL CODE FOR INSTALLATION OF CONDUIT TYPE.



1 EXISTING ELECTRICAL ONE LINE DIAGRAM

SCALE: NOT TO SCALE

- ALL SHADED AREAS INDICATE EXISTING TO BE REMOVED.
- ALL DASHED LINES INDICATE EXISTING TO REMAIN U.O.N.
- ALL SOLID LINES INDICATE NEW EQUIPMENT.
- ALL HIDDEN LINES INDICATE FUTURE EQUIPMENT.

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PROJECT TITLE:

FIRE SCIENCE RTU REPLACEMENT PROJECT

MARK	DATE	DESCRIPTION
	4/30/25	FOR CONST.

Project Number:	-
Drawn By:	MC+
Checked By:	MDC, JMM

SHEET TITLE:

ELECTRICAL ONE LINE DIAGRAM

E2.1

MC+ ENGINEERING, LLC
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480/277 VOLTS, 3 PHASE, 4 WIRE PANEL "H3G" 150 AMPS
SURFACE ☐ FLUSH ■ TYPE EATON AIC 14,000
■ EXISTING ☐ NEW ■ M.L.O. ☐ M.C.B. 150A3P MAX ALLOWED THIS PNL ____

DESCRIPTION	Ⓛ	VOLT AMPS	CCT BKR	A	B	C	CCT BKR	VOLT AMPS	Ⓛ	DESCRIPTION
CRANE HOIST		2768	20	1	•	2	100	1500		PANEL "L3G"
		2768		3	•	4		1500		75KVA TRANSFORMER
		2768	3	5	•	6	3	1500		
SPECIAL OUTLET		2076	15	7	•	8	60	8304		A/C: osha class room
CL19 C/MU-1		2076		9	•	10		8304		
CL18 C/SOUTH		2076	3	11	•	12	3	8304		
"MUA"		2076	15	13	•	14	50	**7750**		**"RTU-8"**
		2076		15	•	16		**7750**		**35.0MCA / 40MFS**
		2076	3	17	•	18	3	**7750**		
				19	•	20				
				21	•	22				
				23	•	24				
				25	•	26				
				27	•	28				
				29	•	30				
				31	•	32				
				33	•	34				
				35	•	36				
				37	•	38				
				39	•	40				
				41	•	42				

	CONNECTED KVA	NEC DEMAND %	AFTER DEMAND KVA
LIGHTING	0.0	125	0.0
RECEPT (UNDER 10 KVA)	0.0	100	0.0
RECEPT (EXCESS OF 10 KVA)	0.0	50	0.0
HEAT	0.0	100	0.0
MOTOR (LARGEST)	24.9	125	31.1
MOTORS	37.8	100	37.8
MISC. PANEL "L3G"	4.5	100	4.5
MISC.	0.0	100	0.0
MISC.	6.2	100	6.2

TOTAL AFTER DEMAND LOADS PER PHASE: TOTAL KVA 79.7
A 26.6 B 26.6 C 26.6 TOTAL AMPS 95.9

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480/277 VOLTS, 3 PHASE, 4 WIRE PANEL "H3H" 225 AMPS
SURFACE ■ FLUSH ☐ TYPE EATON AIC 14,000
■ EXISTING ☐ NEW ■ M.L.O. ☐ M.C.B. MAX ALLOWED THIS PNL ____

DESCRIPTION	Ⓛ	VOLT AMPS	CCT BKR	A	B	C	CCT BKR	VOLT AMPS	Ⓛ	DESCRIPTION
LIGHTING: hyd lab		1000	20	1	•	2	20	500		RECEPT: osha office
LIGHTING: osha		1200	20	3	•	4	20	500		RECEPT: osha classroom
LIGHTING: inject lab		1000	20	5	•	6	20	500		RECEPT: osha office
LIGHTING: inj.restroom		1100	20	7	•	8	20	1000		LIGHTING: heave equip shop
LIGHTING: diesel shop		1200	20	9	•	10	20	1000		LIGHTING: tool,storage crib
LIGHTING: heavy equip shop		1000	20	11	•	12	20	1000		LIGHTING: dynometer shop
LIGHTING: heavy equip shop		1000	20	13	•	14	20	1000		LIGHTING: heave equip shop
LIGHTING: office		1000	20	15	•	16	20	500		MULTI PV/VPOST
LIGHTING: restrooms		800	20	17	•	18	20	1000		LIGHTING: sheet metal shop
LIGHTING: housekeeping		800	20	19	•	20	20	1000		LIGHTING: outside north
LIGHTING: study lounge		1000	20	21	•	22	20	1000		LIGHTING: outside ctr e
EMG LIGHT: corr		1000	20	23	•	24	20	1000		LIGHTING: outside east
EMG LIGHT: corr 2683,2680		1000	20	25	•	26	20	1000		LIGHTING: outside west
EMG BATTERY		500	20	27	•	28	20	200		TIME CLOCK
SPARE			20	29	•	30	20			
PANEL "L3H"		9240	70	31	•	32	125			SPARE
45KVA TRANSFORMER		9360		33	•	34				
		8170	3	35	•	36	3			
"RTU-6"		**7750**	40	37	•	38	30	**4871**		**"RTU-7"**
35.0MCA / 40MFS		**7750**		39	•	40		**4871**		**22.0MCA / 25MFS**
		7750	3	41	•	42	3	**4871**		

	CONNECTED KVA	NEC DEMAND %	AFTER DEMAND KVA
LIGHTING	21.9	125	27.4
RECEPT (UNDER 10 KVA)	1.5	100	1.5
RECEPT (EXCESS OF 10 KVA)	0.0	50	0.0
HEAT	0.0	100	0.0
MOTOR (LARGEST)	23.3	125	29.1
MOTORS	14.6	100	14.6
MISC. PANEL "L3H"	26.8	100	26.8
MISC.	0.0	100	0.0
MISC.	1.2	100	1.2

TOTAL AFTER DEMAND LOADS PER PHASE: TOTAL KVA 100.5
A 35.4 B 33.6 C 31.5 TOTAL AMPS 121.0

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480/277 VOLTS, 3 PHASE, 4 WIRE PANEL "H3J" 250 AMPS
SURFACE ■ FLUSH ☐ TYPE GE AIC 42,000
■ EXISTING ☐ NEW ■ M.L.O. ☐ M.C.B. MAX ALLOWED THIS PNL ____

DESCRIPTION	Ⓛ	VOLT AMPS	CCT BKR	A	B	C	CCT BKR	VOLT AMPS	Ⓛ	DESCRIPTION
LIGHTING: 2740~2753		2000	20	1	•	2	20	2000		LIGHTING: 3746
LIGHTING: 2754~2756		2000	20	3	•	4	20	2000		LIGHTING: 3750,54,56
LIGHTING: exterior		2000	20	5	•	6	20	2000		LIGHTING: 3707~3719
SPARE			20	7	•	8	20			TVSS
SPARE			20	9	•	10	20			TVSS
SPARE			20	11	•	12	20			TVSS
SPARE			20	13	•	14	20			SPARE
SPARE			20	15	•	16	20			SPARE
SPARE			20	17	•	18	20			SPARE
SPACE				19	•	20				SPACE
SPACE				21	•	22				SPACE
SPACE				23	•	24				SPACE
"T-1"			125	25	•	26				SPACE
				27	•	28				SPACE
			3	29	•	30				SPACE
"RTU-1"		**4871**	30	31	•	32	30	**4650**		**"RTU-3"**
22MCA / 25MFS		**4871**		33	•	34		**4650**		**21.0MCA / 25MFS**
		4871	3	35	•	36	3	**4650**		
"RTU-2"		**4650**	30	37	•	38	30	**4871**		**"RTU-4"**
21.0MCA / 25MFS		**4650**		39	•	40		**4871**		**22.0MCA / 25MFS**
		4650	3	41	•	42	3	**4871**		

	CONNECTED KVA	NEC DEMAND %	AFTER DEMAND KVA
LIGHTING	12.0	125	15.0
RECEPT (UNDER 10 KVA)	0.0	100	0.0
RECEPT (EXCESS OF 10 KVA)	0.0	50	0.0
HEAT	0.0	100	0.0
MOTOR (LARGEST)	14.6	125	18.3
MOTORS	42.5	100	42.5
MISC.	0.0	100	0.0
MISC.	0.0	100	0.0
MISC.	0.0	100	0.0

TOTAL AFTER DEMAND LOADS PER PHASE: TOTAL KVA 75.8
A 25.3 B 25.3 C 25.3 TOTAL AMPS 91.3

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8421 STACY DRIVE, FEDERAL HEIGHTS, CO 80260
(P) 303.589.6202

208/120 VOLTS, 3 PHASE, 4 WIRE PANEL "L3H" 225 AMPS
SURFACE ■ FLUSH ☐ TYPE CUTLER-HAMMER AIC 10,000
■ EXISTING ☐ NEW ■ M.L.O. ☐ M.C.B. MAX ALLOWED THIS PANEL ____

DESCRIPTION	Ⓛ	VOLT AMPS	CCT BKR	A	B	C	CCT BKR	VOLT AMPS	Ⓛ	DESCRIPTION
RECEPT,TVSS: hyd,class		500	20	1	•	2	30	1000		RECEPT: classroom523
RECEPT,TVSS: study cubes		500	20	3	•	4	2	1000		RECEPT: office522
RECEPT,TVSS: housekeeping		500	20	5	•	6	20	540		RECEPT: study lounge
WIREMOLD: inject lab		500	20	7	•	8	20	540		RECEPTACLE
WIREMOLD: inject lab		500	20	9	•	10	20	540		RECEPT: 2712
WIREMOLD: inject lab		500	20	11	•	12	20	540		RECEPTACLE
FLOOR RECEPT: inject lab		500	30	13	•	14	20	540		RECEPTACLE
FLOOR RECEPT: inject lab		500		15	•	16	20	800		VENDING MACHINE
FLOOR RECEPT: inject lab		500	3	17	•	18	20	540		RECEPTACLE
EF: heavy eq		696	20	19	•	20	20	540		RECEPTACLE
EF: heavy eq		696	20	21	•	22	20	540		RECEPTACLE
EF: heavy eq		696	20	23	•	24	20	360		4-PLEX hall
2698 east wall		500	20	25	•	26	20	200		BPS PANELS: 2705
2698 east wall		500	20	27	•	28	20	180		RECEPT: mens bath closet
SPARE			20	29	•	30	20	180		RECEPT: mens bath closet
EF: study lounge		696	20	31	•	32	20	360		ROOF TOP RECEPTACLE
EF: restrooms		696	20	33	•	34	20	200		PHOTOCEVE: west end
EF: diesel shop		696	20	35	•	36	30	**2494**		**"RTU-5"**
EXISTING LOADS: stairs		500	20	37	•	38		**2494**		**26MCA / 30MFS**
SNOW MELT CONTROLS		200	20	39	•	40	3	**2494**		
RECEPT: under panel		540	20	41	•	42				SPACE

	CONNECTED KVA	NEC DEMAND %	AFTER DEMAND KVA
LIGHTING	0.0	125	0.0
RECEPT (UNDER 10 KVA)	10.0	100	10.0
RECEPT (EXCESS OF 10 KVA)	3.7	50	1.8
HEAT	0.0	100	0.0
MOTOR (LARGEST)	7.5	125	9.4
MOTORS	4.2	100	4.2
MISC.	0.0	100	0.0
MISC.	0.0	100	0.0
MISC.	1.4	100	1.4

TOTAL AFTER DEMAND LOADS PER PHASE: TOTAL KVA 26.8
A 9.2 B 9.4 C 8.2 TOTAL AMPS 74.4

+ PROVIDE NEW CIRCUIT BREAKER AND BRANCH CIRCUITRY

ELECTRICAL GENERAL NOTES:

1. BASE BUILDING SPECIFICATIONS, DRAWINGS, AND LATEST REVISION OF CONTRACT DOCUMENTS FOR ELECTRICAL WORK SHALL APPLY TO ELECTRICAL DRAWINGS.
2. ALL WORK SHALL BE DONE IN COMPLIANCE WITH THE TENANT FINISH SPECIFICATIONS, DRAWINGS, AND LATEST REVISIONS OF ALL NATIONAL CODES SUCH AS THE N.E.C., N.F.P.A., AND ALL APPLICABLE LOCAL CODES AND ORDINANCES.
3. ELECTRICAL CONTRACTOR SHALL VISIT SITE AND EXAMINE DRAWINGS OF OTHER TRADES ON THIS PROJECT, PARTICULARLY DEMOLITION, ARCHITECTURAL AND MECHANICAL TO DETERMINE ANY ADDITIONAL WORK THAT MAY BE REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL INSTALLATION.
4. ELECTRICAL ITEMS AFFECTED BY REMODEL WORK ARE SHOWN ON DRAWINGS. EXISTING ELECTRICAL SHOWN IS NOT NECESSARILY INCLUSIVE. PROVIDE CONTINUITY IN ALL CIRCUITS FOR ELECTRICAL FIXTURES, DEVICES, AND EQUIPMENT THAT IS TO REMAIN. SUCH EQUIPMENT SHALL BE RECONNECTED TO EXISTING CIRCUITS.
5. ELECTRICAL CONTRACTOR SHALL ENSURE CIRCUIT CONTINUITY FOR ALL CIRCUITS WHICH ARE OR MAY BE AFFECTED BY THIS REMODEL AS WELL AS TO PREVENT ANY SINGLE CIRCUIT OVER-LOADING. REMOVE ALL EXISTING BRANCH CIRCUIT CONDUCTORS OF CIRCUITS REUSED ELSEWHERE.
6. CONTRACTOR SHALL PROVIDE NEW CONDUIT AND WIRE TO REROUTE AND RECONNECT FEEDERS THAT ARE DAMAGED, DISTURBED OR AFFECTED BY THE DEMOLITION AND REMODEL WORK.
7. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR VERIFICATION OF EXISTING JOB CONDITIONS PRIOR TO BID. DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR ALTERNATIVE METHODS OF INSTALLATION THREE (3) DAYS MINIMUM PRIOR TO BIDDING THIS JOB TO ALLOW FOR ISSUANCE OF CLARIFICATIONS.
8. PROVIDE TYPEWRITTEN UPDATED PANEL DOOR DIRECTORIES FOR ALL AFFECTED PANELS REFLECTING ALL CIRCUITS WITH THEIR ACCURATE DESTINATIONS PER N.E.C. 408.4. CLEARLY MARK J-BOXES IN CEILING SPACE WITH REVISED CIRCUIT NUMBERS. THIS APPLIES TO BOTH SIDES OF THE TENANT DEMISING WALLS. FLIP ALL UNUSED AND SPARE BREAKERS TO THE "OFF" POSITION AND INDICATE "SPARE" IN PANEL INDEX.
9. PREPARE AND MAINTAIN AT JOB SITE ACCURATE UPDATED "AS-BUILT" DRAWINGS OF ALL MODIFIED WORK IN THIS CONTRACT. AT CONCLUSION OF WORK, SUBMIT ORIGINAL OR ADEQUATE LEGIBLE REPRODUCIBLE COPY TO ARCHITECT / ENGINEER FOR PREPARATION OF RECORD DOCUMENTS.
10. ALL ELECTRICAL DEVICES, CIRCUITING, ETC. SHOWN DIAGRAMMATICALLY. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ACTUAL LOCATION AND WIRING AVOIDING MECHANICAL AND OTHER EQUIPMENT.
11. ALL NEW AND RELOCATED MATERIALS INSTALLED IN CEILING PLENUM SHALL BE U.L. LISTING, CLASS 1 RATED.
12. SEE LEGEND, LIGHTING AND POWER NOTES, MECHANICAL, AND ARCHITECTURAL DRAWINGS FOR SUPPLEMENTAL INFORMATION ON LOCATIONS, MOUNTING HEIGHTS, ETC. DIMENSIONS ON ARCHITECTURAL DRAWINGS TAKE PRECEDENCE OVER THE ELECTRICAL DRAWINGS.
13. COORDINATE ALL POWER SHUT-DOWNS WITH BUILDING MANAGEMENT / LANDLORD, MUST BE AT LEAST A 24 HOUR NOTICE.
14. ELECTRICAL CONTRACTOR TO CIRCUIT TRACE ALL POWER CIRCUITRY PRIOR TO INSTALLATION. CONTRACTOR TO PROVIDE ELECTRICAL ENGINEER WITH AS-BUILT DRAWINGS.
15. DO NOT SCALE DRAWINGS. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, DISTANCES, AND EXISTING CONDITIONS PRIOR TO PRICING AND INSTALLATIONS.
16. E.C. SHALL LABEL ALL RECEPTACLE COVER PLATES WITH PANEL AND CIRCUITRY DESIGNATIONS.

DESIGN BUILD FIRE ALARM NOTE:
FIRE ALARM SHALL BE UNDER DESIGN BUILD CONTRACT. FIRE ALARM CONTRACTOR SHALL BE BUILDING MANAGEMENT APPROVED AND WILL SUBMIT FIRE ALARM DESIGN TO THE FIRE MARSHAL OF THE LOCAL FIRE DEPARTMENT HAVING JURISDICTION FOR APPROVAL.

GENERAL NOTE:
EQUIPMENT INTENDED TO INTERRUPT CURRENT AT FAULT LEVELS SHALL HAVE AN INTERRUPTING RATING AT NOMINAL CIRCUIT VOLTAGE AT LEAST EQUAL TO THE CURRENT THAT IS AVAILABLE AT THE LIVE TERMINALS OF THE EQUIPMENT.
EQUIPMENT INTENDED TO INTERRUPT CURRENT AT OTHER THAN FAULT LEVELS SHALL HAVE AN INTERRUPTING RATING AT NOMINAL CIRCUIT VOLTAGE AT LEAST EQUAL TO THE CURRENT THAT MUST BE INTERRUPTED.
EQUIPMENT OVER 10,000 AIC WITH DISCONNECTING MEANS MUST BE SUITABLE TO WITHSTAND THE INTERRUPTING RATING WITH CURRENT LIMITING FUSES AND REJECTION FEATURES.

ELECTRICAL CONTRACTOR- PANEL:

1. INFORMATION SHOWN IN BOLD PRINT INDICATES NEW LOADS ON EXISTING UNLESS OTHERWISE NOTED. ALL OTHER LOADS ARE EXISTING.
2. UPDATE PANEL INDEXES PRIOR TO CONCLUSION OF CONSTRUCTION PER NEC 408.4. INDICATE LOAD INFORMATION AND ACCURATE LOCATION WITHIN TENANT SUITE.
3. VERIFY BREAKERS FOR ALL MECHANICAL REQUIREMENTS WITH MANUFACTURER'S U.L. NAMEPLATE RATING AND CUTSHEETS PRIOR TO ROUGH-IN. CONTACT ELECTRICAL AND MECHANICAL ENGINEERS IF ANY DISCREPANCIES OR CHANGES TO THE SPECIFIED UNITS OCCUR.

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13300 W 6TH AVE
LAKEWOOD, CO 80228

PROJECT TITLE:

FIRE SCIENCE RTU REPLACEMENT PROJECT

MARK	DATE	DESCRIPTION
	4/30/25	FOR CONST.

Project Number: -
Drawn By: MC+
Checked By: MDC, JMM

SHEET TITLE:

ELECTRICAL PANEL SCHEDULES

E2.2