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ONE-HALF INCH = ONE FOOT
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ONE INCH = TWENTY FEET

AIR CONDITIONING UNIT SCHEDULE

UNIT	SERVES	"CARRIER" MODEL NO. U.N.O.	NOM. TONS	CFM	MIN. O.A. (CFM)	ESP (IN. W.G.)	DX COOLING LOW CFM (66%)	DX COOLING SENSIBLE CAPACITY (MBH)	DX COOLING TOTAL CAPACITY (MBH)	DX COOLING EVAP. EDB (°F)	DX COOLING EVAP. EWB (°F)	GAS HEATING INPUT (MBH)	GAS HEATING OUTPUT (MBH)	GAS HEATING HX EDB (°F)	AC UNIT ELECTRICAL DATA VOLT/PH	SUPPLY FAN BHP	SUPPLY FAN FLA	COMPRESSOR QTY	COMPRESSOR RLA	COMPRESSOR LRA	COND. FAN QTY	COND. FAN FLA	COMB. FAN FLA	MCA	MOCP	PWR. EXH. ECON. ELECTRICAL DATA VOLT/PH	EXHAUST FAN HP	EXHAUST FAN FLA	MCA	MOCP	EFFICIENCY COOLING SEER	EER	IEER	HEATING AFUE	TE	OPERATING WEIGHT (LBS.) AC UNIT	PWR. EXH. ECON.	ROOF CURB	TOTAL	MOUNTING DETAIL	CONTROL DIAGRAM	NOTES
AC E1	BLDG E CLASSROOM 25B	48GCLM05	4	1800	UPPER 530 / LOWER 180	0.8	N/A	42.0	42.8	83.1	65.2	60.0	49.0	58.2	460/3	1.03	1.7	1	6.4	41	1	0.8	0.25	11.0	15	460/3	0.5	1.5	1.9	3.4	16.0	12.0	N/A	N/A	81%	610	195	110	915	1/M511	1/M612	1 2 3 4 5 6
AC E2	BLDG E CLASSROOM 25A	48GCLM05	4	1600	UPPER 420 / LOWER 170	0.8	N/A	38.3	42.2	82.1	65.0	60.0	49.0	59.5	460/3	0.85	1.7	1	6.4	41	1	0.8	0.25	11.0	15	460/3	0.5	1.5	1.9	3.4	16.0	12.0	N/A	N/A	81%	610	195	110	915	1/M511	1/M612	1 2 3 4 5 6
AC E3	BLDG E COMPUTER LAB 26	48GCLM06	5	2000	UPPER 450 / LOWER 190	0.8	N/A	48.9	53.8	81.0	64.7	60.0	49.0	61.0	460/3	1.05	2.1	1	7.6	52	1	0.8	0.25	13.0	20	460/3	0.5	1.5	1.9	3.4	16.0	12.5	N/A	N/A	81%	660	195	110	965	1/M511	1/M612	1 2 3 4 5 6 7 8
AC E4	BLDG E COMPUTER LAB 26	48GCLM06	5	2140	UPPER 500 / LOWER 220	0.8	N/A	50.6	54.2	81.2	64.7	60.0	49.0	60.7	460/3	1.17	2.1	1	7.6	52	1	0.8	0.25	13.0	20	460/3	0.5	1.5	1.9	3.4	16.0	12.5	N/A	N/A	81%	660	195	110	965	1/M511	1/M612	1 2 3 4 5 6 7

NOTES:

1. UNITS SELECTED AT 105 F DB / 70 F WB SUMMER AMBIENT, 30 F DB WINTER AMBIENT AIR TEMPERATURES. THE COOLING CAPACITIES SCHEDULED ARE NET SENSIBLE & NET TOTAL CAPACITIES.
2. PROVIDE UNIT WITH LOW NOX HEATING, CONDENSER COIL GUARDS, HINGED ACCESS DOORS, FACTORY OPTIONAL 4" FILTER RACK, AND 4" THICK MERV 13 DISPOSABLE PLEATED MEDIA FILTER(S). THE ESP SCHEDULED ABOVE INCLUDES AIR PRESSURE DROP THRU FILTER(S).
3. PROVIDE UNIT WITH "MICROMETL" 100% MODULATING POWER EXHAUST ECONOMIZER WITH VFD, DIFFERENTIAL PRESSURE TRANSDUCER, ROOM PRESSURE TUBING, AND "BELIMO" LF SERIES ACTUATORS. NOTE THAT SEPARATE POWER CONNECTIONS ARE REQUIRED TO THE AC UNIT AND TO THE MODULATING POWER EXHAUST ECONOMIZER. ELECTRICAL LOADS OF EACH DEVICE ARE SCHEDULED, ELECTRICAL ENGINEER SHALL PROVIDE SEPARATE POWER CONNECTIONS, APPROPRIATE CIRCUIT BREAKER(S), FEEDER(S), AND DISCONNECT(S) AS REQUIRED BY CODE.
4. PROVIDE "MICROMETL" STRUCTURALLY CALC'D 14" TALL STANDARD ROOF CURB.
5. LOW SPEED SUPPLY FAN SETTING SHALL BE LOCKED OUT, UNIT SHALL OPERATE AS SINGLE ZONE CONSTANT VOLUME AT ALL TIMES. CONTRACTOR SHALL COORDINATE WITH AC UNIT FACTORY REP TO ACCOMPLISH SINGLE ZONE CONSTANT VOLUME OPERATION.
6. LOWER OUTSIDE AIR POSITION INDICATED IS BASED ON 0.15 CFM/SQ.FT., ALLOWABLE FOR CO2 DEMAND CONTROL VENTILATION SYSTEMS AT MINIMUM OCCUPANCY. UPPER OUTSIDE AIR POSITION INDICATED IS BASED ON 15 CFM/OCCUPANT WHEN SPACE IS AT MAXIMUM OCCUPANCY, UNLESS SYSTEM IS IN ECONOMIZER MODE. SEE CONTROLS FOR SEQUENCE OF OPERATION. FOR THESE UNITS WITH DEMAND CONTROL VENTILATION, ENTERING TEMPERATURES SCHEDULED REPRESENT CONDITIONS AT UPPER OSA POSITION.
7. INSTALL DUCT SMOKE DETECTOR IN SUPPLY AIR DUCT FOR AUTOMATIC SHUTDOWN OF HVAC SYSTEM UPON SENSING SMOKE. PROVIDED, POWERED & INTERLOCKED WITH FIRE ALARM SYSTEM BY DIV. 26/28, INSTALLED & CONNECTED TO AC UNIT BY DIV. 23.
8. AUTOMATIC SHUTDOWN IS REQUIRED FOR THIS AC UNIT BECAUSE MULTIPLE AC UNITS ARE SERVING A COMMON SPACE, AND THE SUM OF THE MULTIPLE AC UNITS' SUPPLY AIRFLOW IS IN EXCESS OF 2000 CFM, AND THE DIRECT EXIT EXCEPTION DOES NOT APPLY.

DIFFUSER, REGISTER & GRILLE SCHEDULE

SYMBOL	DESCRIPTION	KRUEGER	METALAIRE	NAILOR	TITUS	TUTTLE & BAILEY
CDL ☒	MODULAR CORE LAY-IN CEILING DIFFUSER FOR T-BAR CEILING 24x24 PANEL	1240 FRAME 23	9000-6P	7500-L	MCD BORDER TYPE 3	SQD-LT
CRL ⧄	CEILING RETURN, TRANSFER OR EXHAUST WITH 1/2" EGG CRATE CORE IN 24x24 PANEL FOR T-BAR CEILING	EGC-5TB	CC5D-TBD	61 EC-L	MODEL 50 F BORDER TYPE 3	CRE500-LT
S* ☒	SIDEWALL DOUBLE DEFLECTION SUPPLY GRILLE WITH VERTICAL FRONT BARS, 3/4" SPACING	880 V	V 4004 S	61 DV	300 RS	T54
R* ⧄	CEILING OR SIDEWALL RETURN, TRANSFER OR EXHAUST GRILLE WITH 35° OR 45° HORIZONTAL BARS.	S 80 H	SRH	7145 H	350 RL	T70D

NOTES:

1. ALL SYMBOLS NOTED MAY NOT BE USED. REFER TO PLANS FOR SIZE AND QUANTITY.
2. ALL SUPPLY AIR DIFFUSERS ARE 4 WAY BLOW UNLESS SHOWN OTHERWISE.
3. FURNISH ALL PRODUCTS OF A SINGLE MANUFACTURER.
4. COORDINATE DIFFUSER TYPE WITH ARCHITECTURAL REFLECTED CEILING PLAN.
5. OPPOSED BLADE DAMPERS ARE NOT REQUIRED AT DIFFUSERS, REGISTERS OR GRILLES.
6. PROVIDE MANUAL AIR DAMPERS AT EACH BRANCH DUCT TO A SINGLE DIFFUSER, REGISTER OR GRILLE.

* ALUMINUM REGISTERS FOR SHOWERS AND DAMP AREAS

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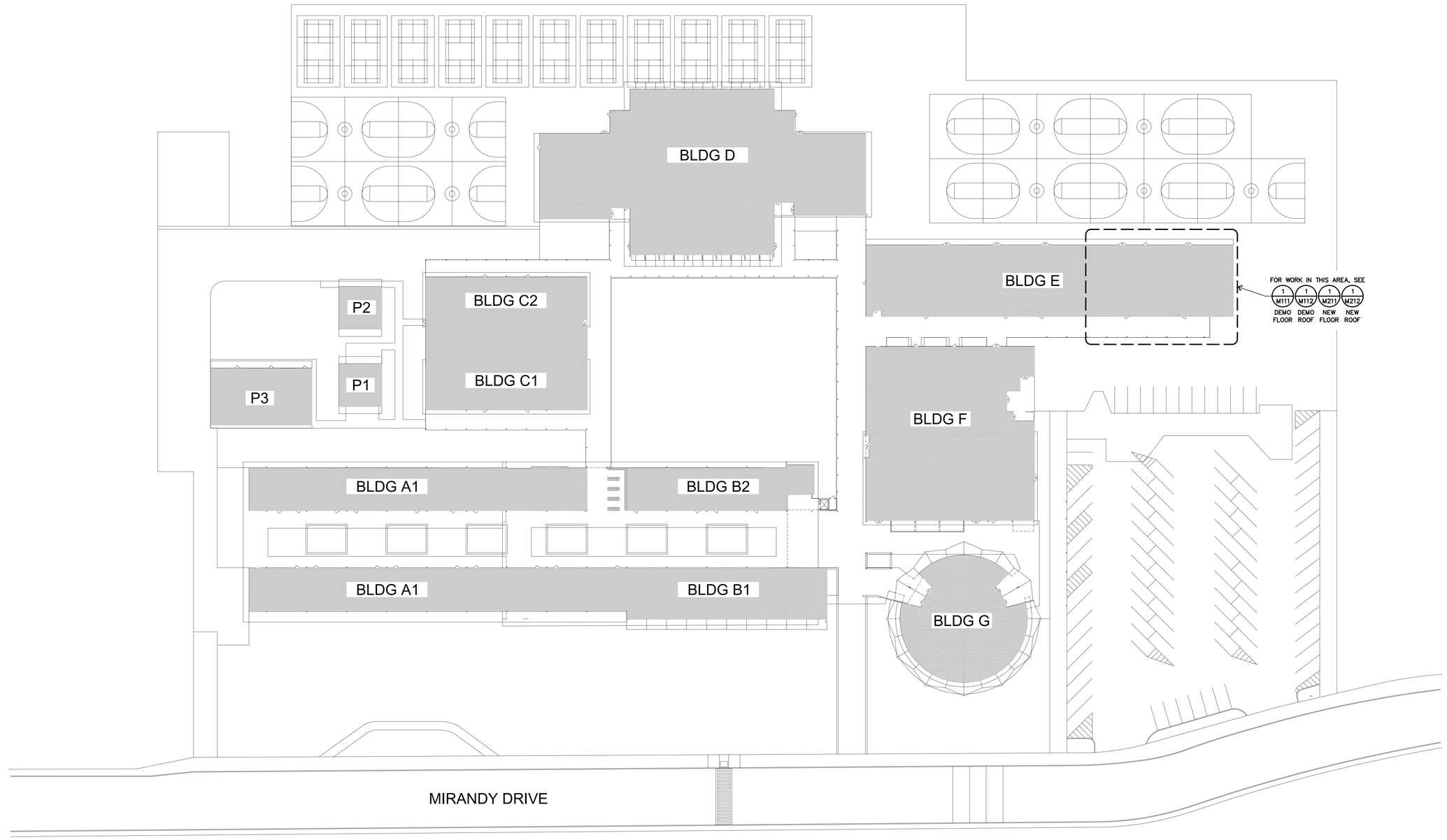
ARCHITECT

CONSTRUCTION DOCUMENTS

REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023
3	DSA BACKCHECK SET V3	07/17/2023

DATE: 07/17/2023
JOB NO.: Y2243.00
SHEET TITLE
HVAC SCHEDULES
SHEET NO.
M002



HVAC SITE PLAN

SCALE : 1" = 30'-0"

1 / M100

SHEET NOTES:

1. THIS SHEET IS FOR REFERENCE ONLY. REFER TO REFERENCED ENLARGED PLANS FOR MORE INFO.

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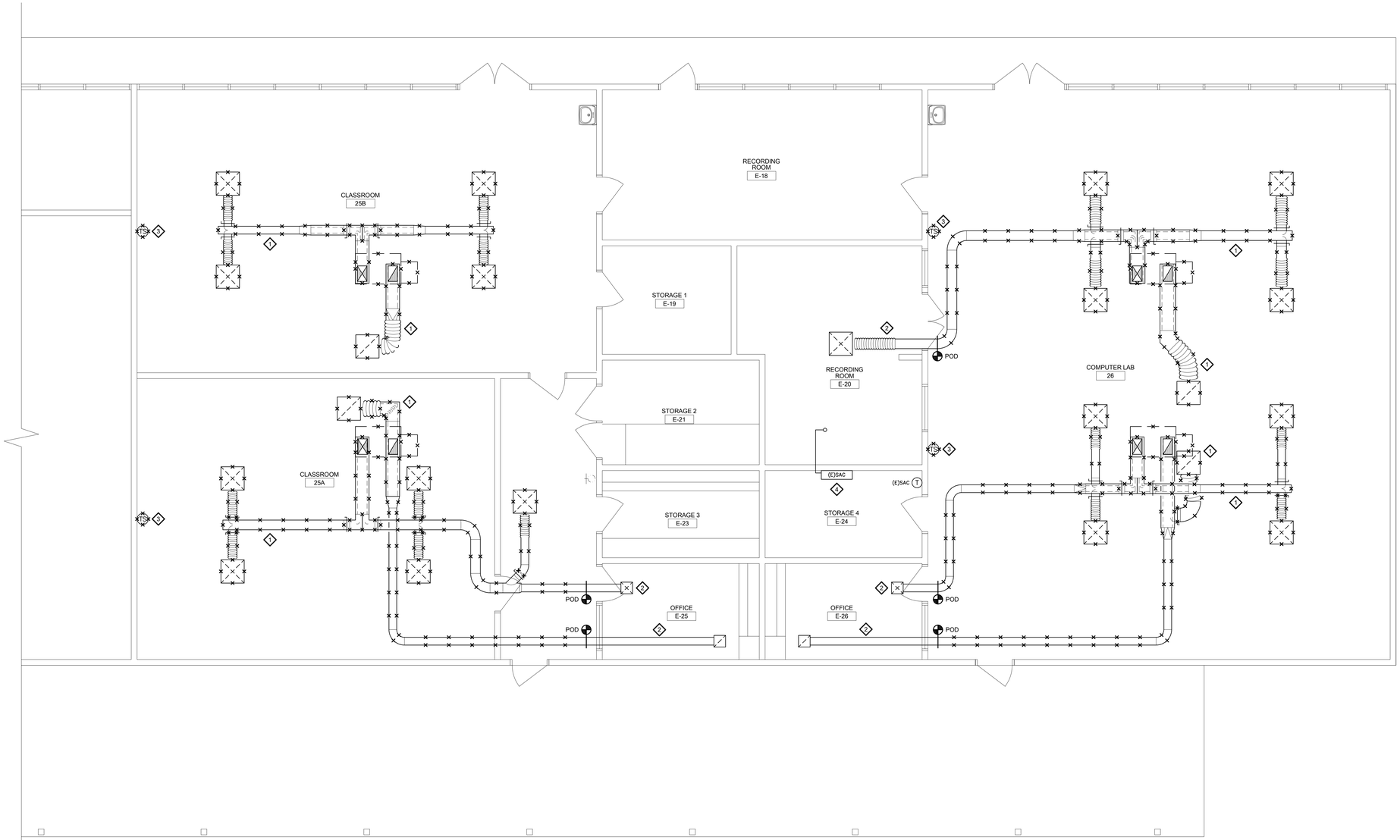
JOB NO.: Y2243.00

SHEET TITLE

HVAC
SITE PLAN

SHEET NO.

M100



HVAC ENLARGED DEMO FLOOR PLAN

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

1 / M111

N

KEYNOTES:

1. REMOVE EXISTING DUCTWORK, DIFFUSERS, GRILLES, AND ALL ASSOCIATED SUPPORTS IN THEIR ENTIRETY, UNLESS NOTED OTHERWISE.
2. EXISTING BRANCH DUCT & DIFFUSER / GRILLE TO REMAIN IN PLACE, FOR RE-USE. THOROUGHLY CLEAN EXISTING DUCTWORK & DIFFUSERS / GRILLES TO BE REUSED.
3. REMOVE EXISTING HVAC CONTROLS ZONE TEMP SENSOR AND WIRING IN THEIR ENTIRETY. EXISTING HVAC CONTROLS PATHWAY / CONDUIT IN WALL AND ABOVE CEILING TO REMAIN IN PLACE, FOR RE-USE. PREPARE FOR INSTALLATION OF NEW ZONE TEMP SENSOR AT EXISTING LOCATION, AND ADJUST MOUNTING HEIGHT AS REQUIRED FOR TOP OF NEW DEVICE AT MAX. 46" AFF. PATCH AND REPAIR AFFECTED ARCHITECTURAL FINISHES TO MATCH ADJACENT CONSTRUCTION.
4. EXISTING COOLING ONLY MINI SPLIT INDOOR FAN COIL UNIT HIGH ON WALL AND ASSOCIATED WIRELESS THERMOSTAT CONTROLLER TO REMAIN IN PLACE, FOR RE-USE.

SHEET NOTES:

1. EXISTING HVAC SYSTEMS SHOWN ON THE PLANS ARE DIAGRAMATIC IN NATURE, BASED ON RECORD DRAWINGS AND SITE OBSERVATIONS OF EXPOSED FEATURES. CONTRACTOR SHALL INCLUDE IN THEIR BID THE FIELD VERIFICATION OF EXACT LOCATION AND ROUTING FOR ALL EXISTING HVAC SYSTEMS PRIOR TO COMMENCEMENT OF WORK, AND SHALL NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPENCIES THAT MAY AFFECT THE PROPOSED SCOPE OF WORK / DESIGN INTENT AS SHOWN ON THESE PLANS.
2. FOR MECHANICAL GENERAL NOTES, REFER TO SHEET M001.

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1	DSA SUBMITTAL SET	12/22/2022
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3	DSA BACKCHECK SET V3	07/17/2023

DATE: 07/17/2023

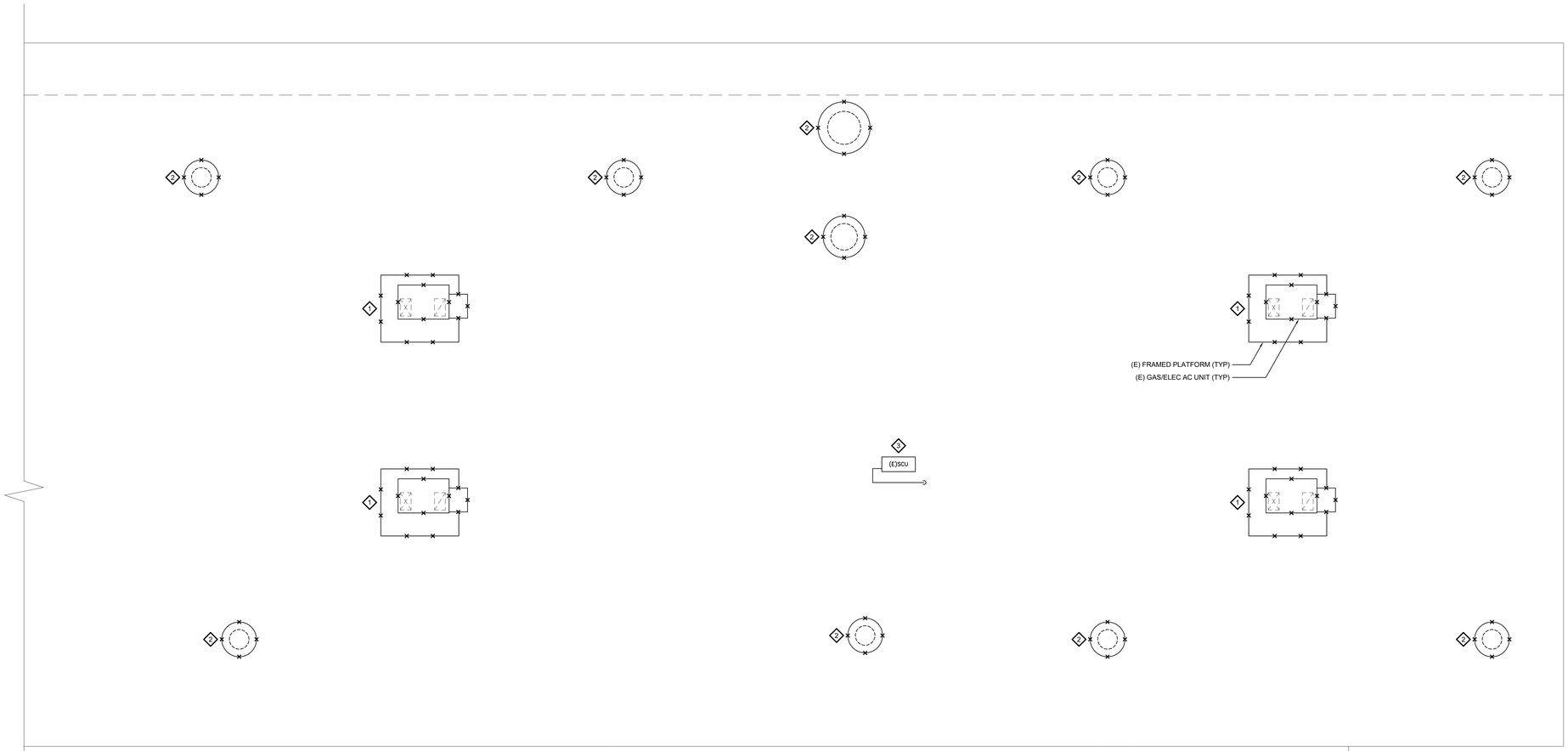
JOB NO.: Y2243.00

SHEET TITLE

HVAC ENLARGED DEMO FLOOR PLAN

SHEET NO.

M111



HVAC ENLARGED DEMO ROOF PLAN

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

1 / M112

N

KEYNOTES:

1. REMOVE EXISTING PACKAGED GAS/ELEC AC UNIT, DUCT DROPS THRU ROOF, ROOF CURB, AND FRAMED MOUNTING PLATFORM IN THEIR ENTIRETY. PATCH & REPAIR AFFECTED STRUCTURE AND ARCHITECTURAL FINISHES TO MATCH ADJACENT CONSTRUCTION.
2. REMOVE EXISTING ABANDONED ROOF EXHAUST FAN / INTAKE HOOD / RELIEF HOOD, DUCT DROPS THRU ROOF, AND ROOF CURB IN THEIR ENTIRETY. PATCH & REPAIR AFFECTED STRUCTURE AND ARCHITECTURAL FINISHES TO MATCH ADJACENT CONSTRUCTION.
3. EXISTING COOLING ONLY MINI SPLIT OUTDOOR CONDENSING UNIT ON ROOF TO BE REMOVED DURING RE-ROOFING, AND RE-INSTALLED AT EXISTING LOCATION FOR RE-USE, ONCE RE-ROOFING IS COMPLETE. COORDINATE WITH ELECTRICAL CONTRACTOR FOR TEMPORARY POWER DISCONNECTION, AND RE-CONNECTION.

SHEET NOTES:

1. EXISTING HVAC SYSTEMS SHOWN ON THE PLANS ARE DIAGRAMATIC IN NATURE, BASED ON RECORD DRAWINGS AND SITE OBSERVATIONS OF EXPOSED FEATURES. CONTRACTOR SHALL INCLUDE IN THEIR BID THE FIELD VERIFICATION OF EXACT LOCATION AND ROUTING FOR ALL EXISTING HVAC SYSTEMS PRIOR TO COMMENCEMENT OF WORK, AND SHALL NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPENCIES THAT MAY AFFECT THE PROPOSED SCOPE OF WORK / DESIGN INTENT AS SHOWN ON THESE PLANS.
2. FOR MECHANICAL GENERAL NOTES, REFER TO SHEET M001.

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REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023
3	DSA BACKCHECK SET V.3	07/17/2023

DATE: 07/17/2023

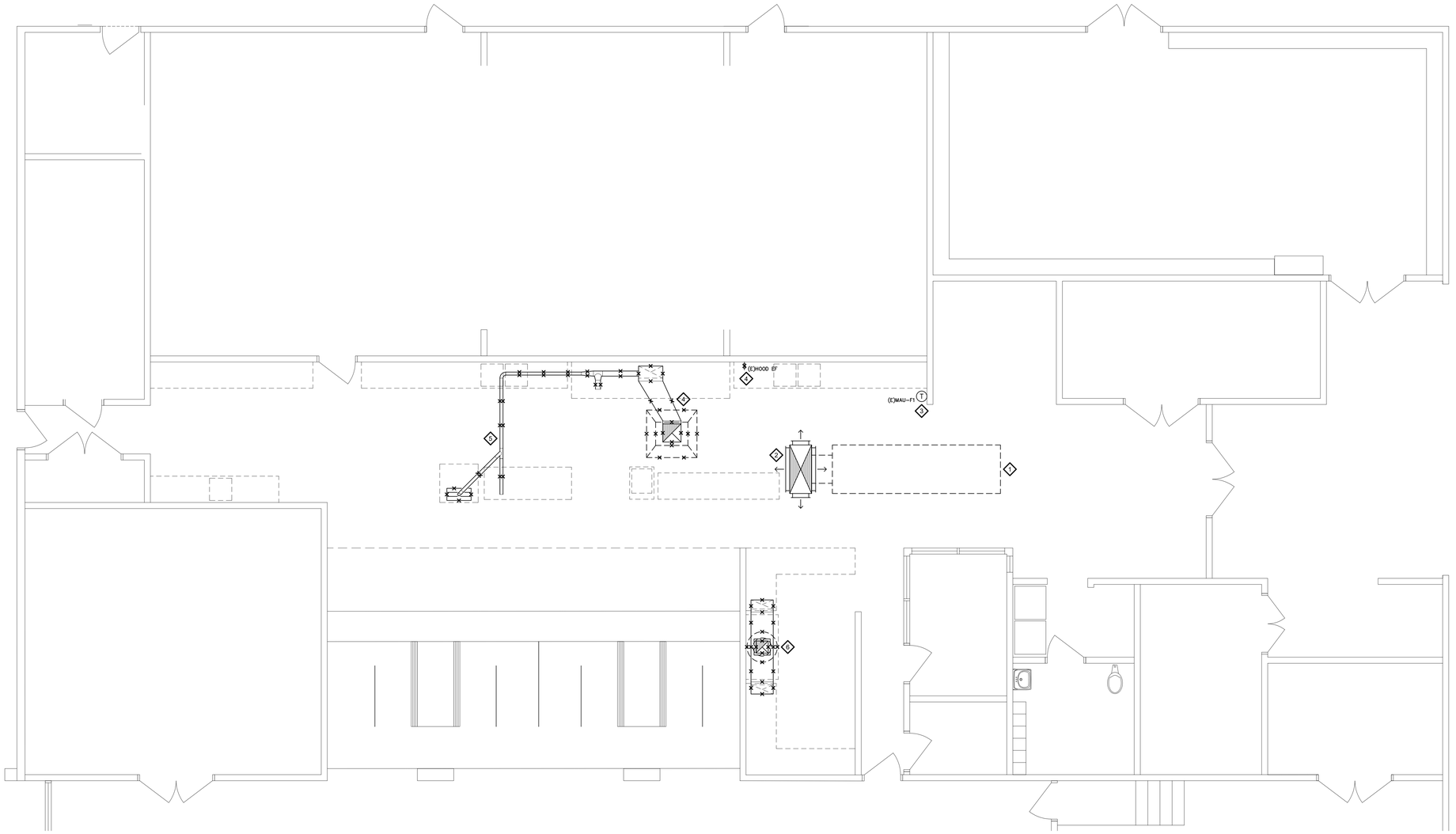
JOB NO.: Y2243.00

SHEET TITLE

HVAC ENLARGED DEMO ROOF PLAN

SHEET NO.

M112



HVAC ENLARGED KITCHEN DEMOLITION PLAN

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

1 / M113

N

KEYNOTES:

1. EXISTING MAKE-UP AIR UNIT AND ASSOCIATED DUCTWORK ON ROOF TO REMAIN IN PLACE, FOR RE-USE.
2. EXISTING EXPOSED MAKE-UP AIR DUCTWORK AND DIFFUSERS BELOW FINISHED CEILING TO REMAIN IN PLACE, FOR RE-USE.
3. EXISTING MAKE-UP AIR UNIT'S ROOM TEMPERATURE SENSOR TO REMAIN IN PLACE, FOR RE-USE.
4. REMOVE EXISTING KITCHEN HOOD EXHAUST FAN ON ROOF, AND ASSOCIATED ROOF CURB, DUCT DROP THRU ROOF, DUCTWORK ABOVE FINISHED CEILING, AND CONTROLS IN THEIR ENTIRETY. PREPARE ROOF FOR NEW KITCHEN HOOD EXHAUST FAN, AT EXISTING LOCATION.
5. REMOVE EXISTING EXPOSED EXHAUST DUCTWORK BELOW FINISHED CEILING AND HOOD IN THEIR ENTIRETY.
6. REMOVE EXISTING DISHWASHER HOOD EXHAUST FAN ON ROOF, AND ASSOCIATED ROOF CURB, DUCT DROP THRU ROOF, EXPOSED DUCTWORK BELOW FINISHED CEILING, AND CONTROLS IN THEIR ENTIRETY. PATCH AND REPAIR ROOF TO MATCH ADJACENT CONSTRUCTION.

SHEET NOTES:

1. EXISTING HVAC SYSTEMS SHOWN ON THE PLANS ARE DIAGRAMATIC IN NATURE, BASED ON RECORD DRAWINGS AND SITE OBSERVATIONS OF EXPOSED FEATURES. CONTRACTOR SHALL INCLUDE IN THEIR BID THE FIELD VERIFICATION OF EXACT LOCATION AND ROUTING FOR ALL EXISTING HVAC SYSTEMS PRIOR TO COMMENCEMENT OF WORK, AND SHALL NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPENCIES THAT MAY AFFECT THE PROPOSED SCOPE OF WORK / DESIGN INTENT AS SHOWN ON THESE PLANS.
2. FOR MECHANICAL GENERAL NOTES, REFER TO SHEET M001.

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NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023

DATE: 06/19/2023

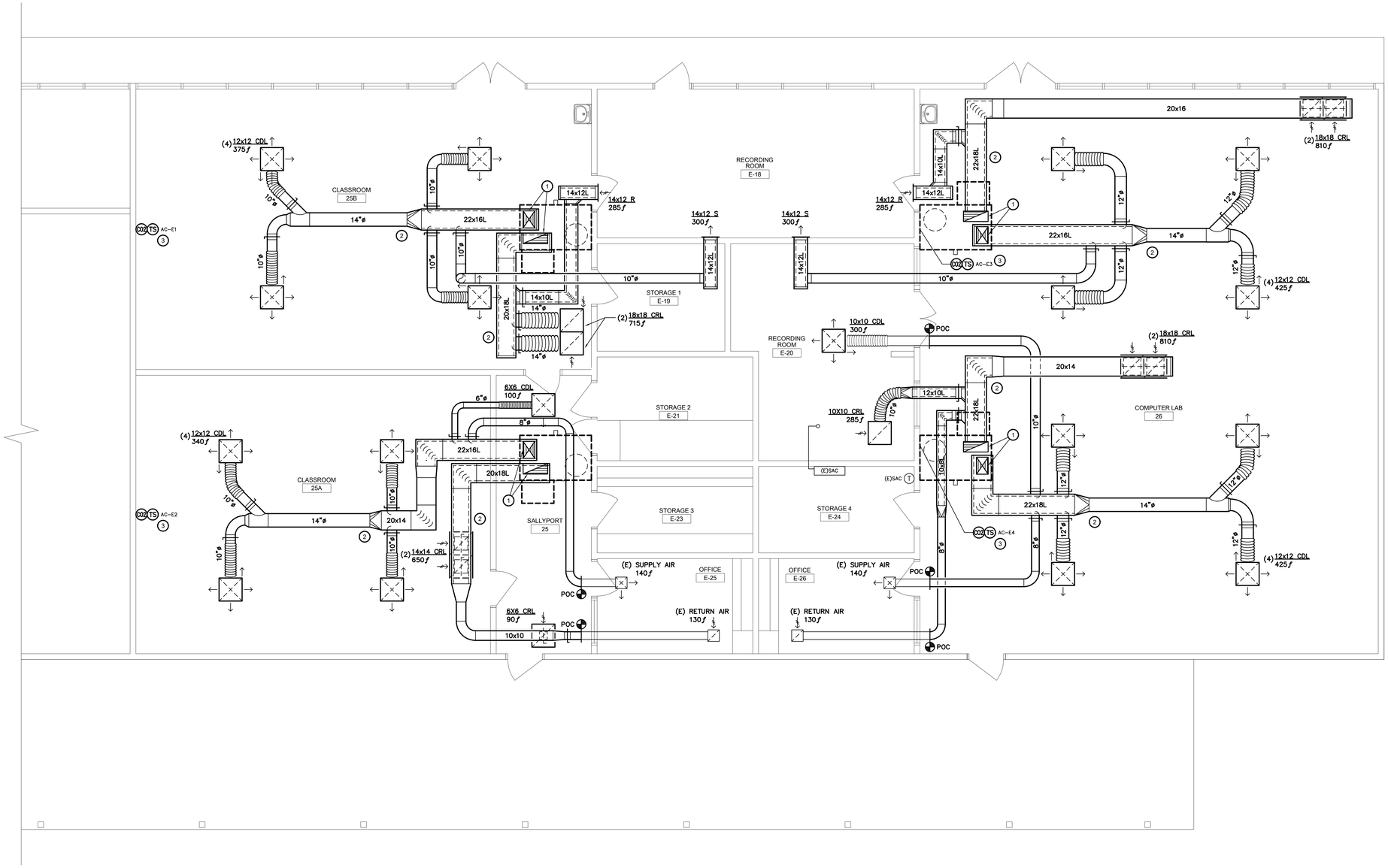
JOB NO.: Y2243.00

SHEET TITLE

HVAC ENLARGED KITCHEN DEMOLITION PLAN

SHEET NO.

M113



HVAC ENLARGED NEW FLOOR PLAN

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

1 / M211

N

KEYNOTES:

1. SUPPLY & RETURN AIR DUCTS RISE UP THRU ROOF.
2. DUCTWORK ABOVE FINISHED CEILING, TYP.
3. INSTALL NEW HVAC CONTROLS ZONE TEMP SENSOR & CO2 SENSOR AT EXISTING LOCATION. ADJUST MOUNTING HEIGHT PER KEYNOTE #3 ON SHEET M111. PULL NEW WIRING THRU EXISTING HVAC CONTROLS PATHWAY / CONDUIT IN WALL AND ABOVE CEILING. EXTEND EXISTING HVAC CONTROLS PATHWAY / CONDUIT ABOVE CEILING AS REQUIRED FOR NEW AC UNIT LOCATIONS.

SHEET NOTES:

1. FOR TYPICAL LAY-IN DIFFUSER / GRILLE MOUNTING, REFER TO DETAIL 4 / M511.
2. FOR TYPICAL CONCEALED DUCT SUPPORT, REFER TO DETAIL 5 / M511.
3. FOR MECHANICAL GENERAL NOTES, REFER TO SHEET M001.

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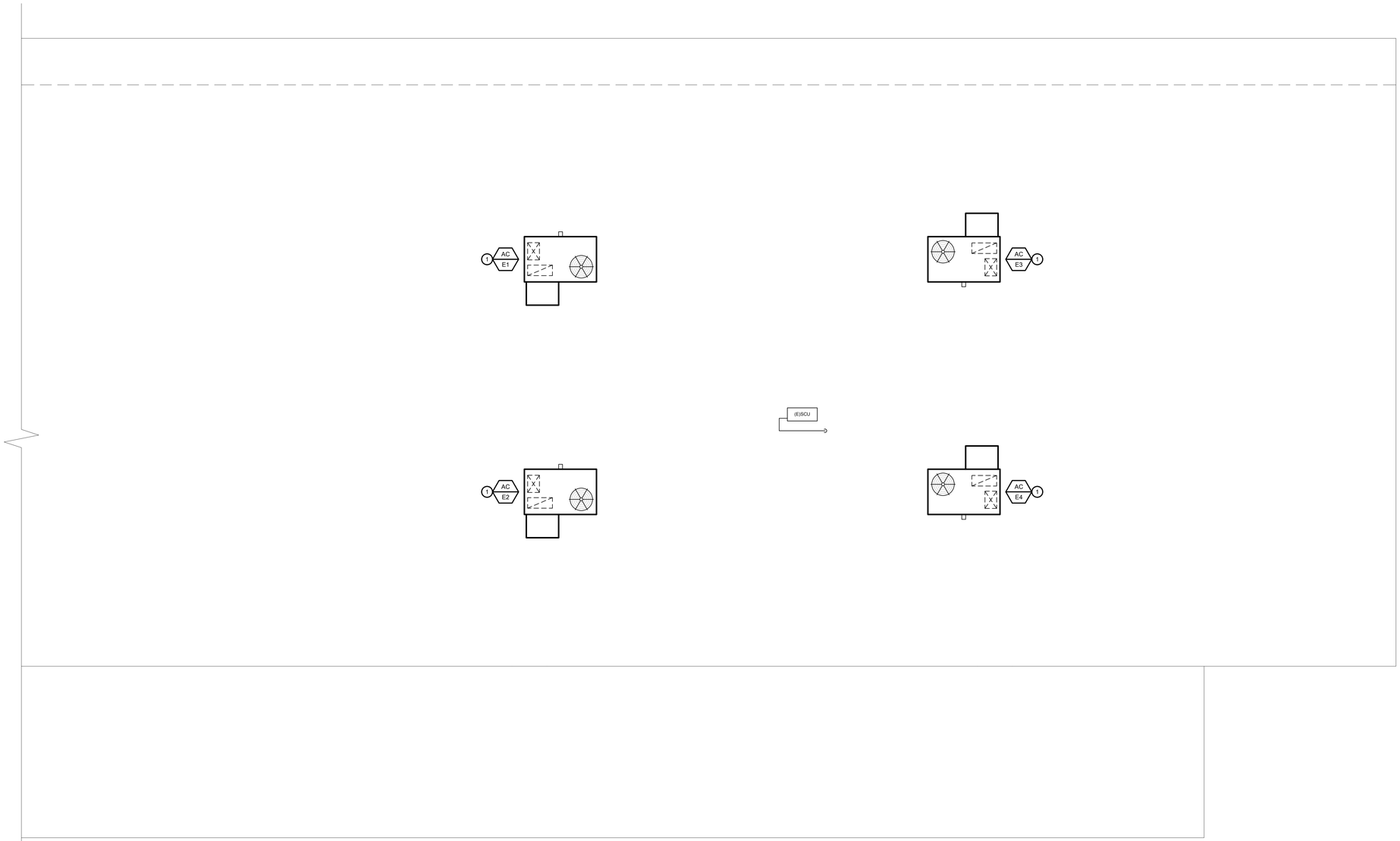
JOB NO.: Y2243.00

SHEET TITLE

HVAC ENLARGED NEW FLOOR PLAN

SHEET NO.

M211



HVAC ENLARGED NEW ROOF PLAN

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

1 / M112

N

KEYNOTES:

1. INSTALL NEW AC UNIT ON NEW ROOF CURB, AT NEW LOCATION.

SHEET NOTES:

1. COORDINATE ROOFTOP AC UNITS OUTSIDE AIR INTAKE LOCATIONS WITH PLUMBING VENTS THRU ROOF, EXHAUST FAN DISCHARGES, ETC. TO MAINTAIN A MIN. 10'-0" CLEARANCE. (TYP)
2. ROOFTOP AC UNITS SHALL BE INSTALLED WITH A MINIMUM DISTANCE OF 10'-0" FROM UNIT CABINET TO EDGE OF ROOF / PARAPETS LESS THAN 42" TALL. (TYP)
3. REFER TO PLUMBING DRAWINGS FOR ROOFTOP AC UNITS CONDENSATE DRAIN PIPE ROUTING AND TERMINATION. (TYP)
4. FOR MECHANICAL GENERAL NOTES, REFER TO SHEET M001.

QC
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ONE AND ONE-HALF INCH = ONE FOOT
ONE INCH = ONE FOOT
THREE-QUARTERS INCH = ONE FOOT
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IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120824 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 08/30/2023

BID PACKAGE A

AGENCY APPROVAL

ALBERT EINSTEIN MIDDLE SCHOOL
HVAC REPLACEMENT

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SACRAMENTO, CA 95826

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capital engineering
RANCHO CORDOVA, CALIFORNIA
MB - MAB/JV & NH/DY — PIM - DESIGN TEAM
220921.00 — PROJECT NO.

Exp. 9/30/24
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LICENSED ARCHITECT
BRYAN J. ALLEN
No. C-26867
RENEWAL DATE: 1/31/25
STATE OF CALIFORNIA

ARCHITECT

CONSTRUCTION DOCUMENTS

REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023
3	DSA BACKCHECK SET V.3	07/17/2023

DATE: 07/17/2023

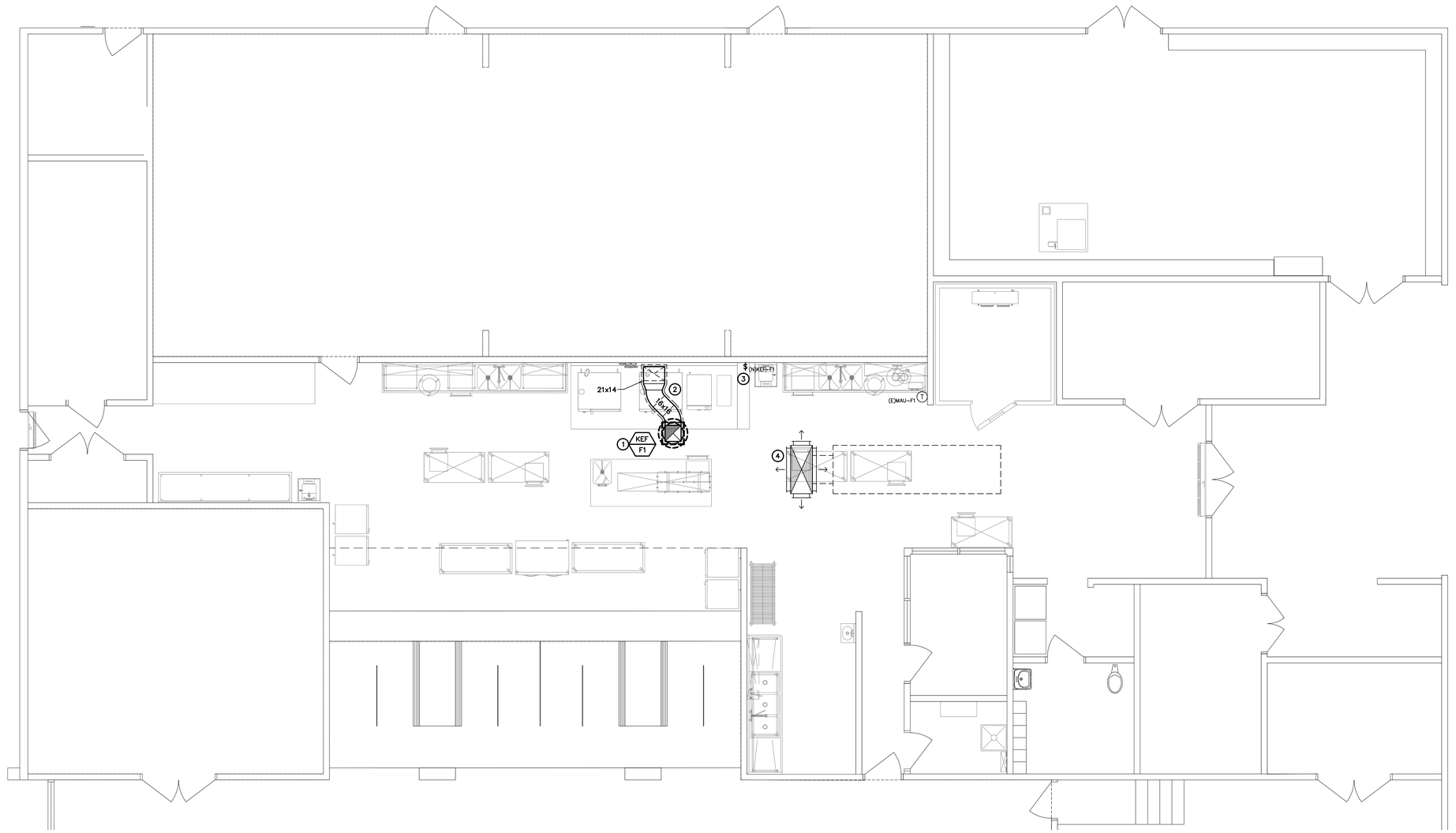
JOB NO.: Y2243.00

SHEET TITLE

HVAC ENLARGED NEW ROOF PLAN

SHEET NO.

M212



HVAC ENLARGED KITCHEN NEW PLAN

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

1 / M213

N

KEYNOTES:

1. INSTALL NEW KITCHEN HOOD EXHAUST FAN ON ROOF, ON NEW ROOF CURB, AT EXISTING LOCATION.
2. INSTALL NEW EXHAUST DUCTWORK ABOVE FINISHED CEILING, AND UP THRU ROOF TO NEW KEF-F1. WRAP ENTIRE LENGTH OF DUCT WITH 2-HR FIRE WRAP PER SPECS.
3. INSTALL NEW WALL SWITCH FOR KEF-F1, AT EXISTING LOCATION.
4. RE-BALANCE EXISTING MAU-F1 FOR 2890 CFM OF MAKE-UP AIR SUPPLY.

SHEET NOTES:

1. FOR TYPICAL CONCEALED DUCT SUPPORT, REFER TO DETAIL 5 / M511.
2. FOR MECHANICAL GENERAL NOTES, REFER TO SHEET M001.

EXHAUST FAN SCHEDULE

UNIT	SERVES	"GREENHECK" MODEL NO.	CFM	ESP (IN. W.G.)	ROOF OPENING SIZE (IN.)	STYLE	RPM	HP	VOLT/PH	OPER. WT. (LBS.)	INTERLOCK WITH UNIT	MOUNTING DETAIL	CONTROL DIAGRAM	NOTES
KEF F1	BLDG F KITCHEN HOOD	CUE-160-VG	2890	1.2	18.5x18.5	REU	1401	2.0	460/3	170	(E) MAU-F1	1 / M512	2 / M512	1 2 3 4 5 6

STYLE: RED- ROOF EXHAUST DOWNBLAST, REU- ROOF EXHAUST UPBLAST, CAB- IN LINE CABINET, CE- CEILING, UT- UTILITY SET, WE- WALL EXHAUST

NOTES:

1. PROVIDE WITH FACTORY 12" TALL ROOF CURB.
2. PROVIDE WITH THERMAL OVERLOAD PROTECTED MOTOR.
3. PROVIDE WITH FACTORY SOLID STATE SPEED CONTROLLER.
4. CONTROL FAN WITH WALL SWITCH, BY DIV. 23.
5. PROVIDE WITH FACTORY CURB EXTENSION, GREASE TRAP W/ DRAIN CONNECTION, AND HINGED CURB CAP.
6. DIV. 23 TO PROVIDE & INSTALL MOTOR STARTER, DIV. 26 TO PROVIDE LINE VOLTAGE POWER TO MOTOR STARTER LOCATION AND INSTALL DIV. 23 PROVIDED WALL SWITCH.

BID PACKAGE A

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JOB NO.: Y2243.00

SHEET TITLE

HVAC ENLARGED KITCHEN NEW PLAN

SHEET NO.

M213

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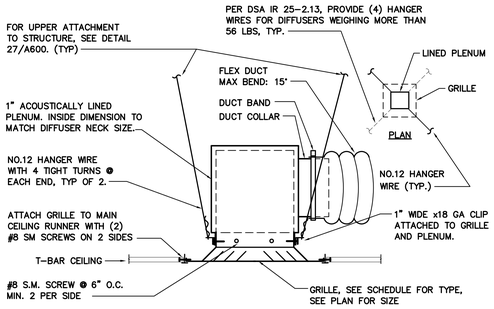
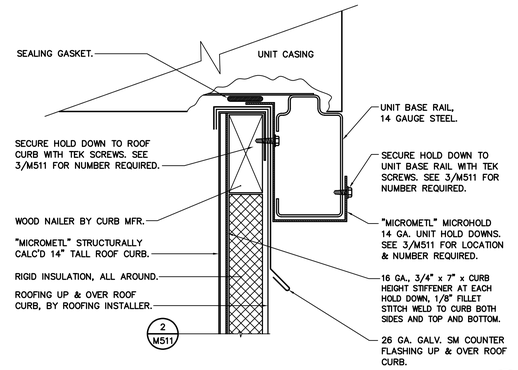


TYP. LAY-IN DIFFUSER/GRILLE MOUNTING

SCALE : NONE

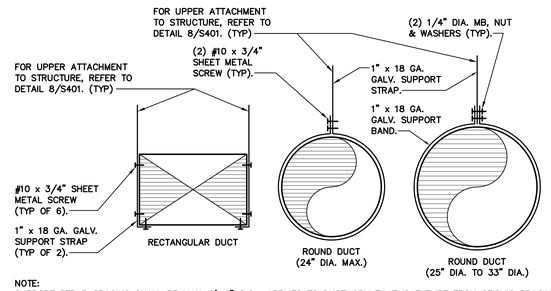
4 / M511



AC UNIT TO CURB MOUNTING

SCALE : NONE

1 / M511

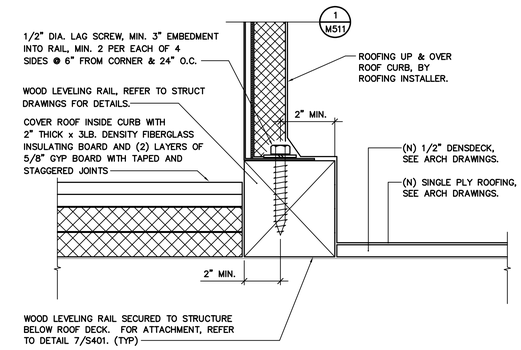


NOTE:
SUPPORT STRAP SPACING SHALL BE MAX. 8'-0" O.C. APPLIES TO DUCTWORK THAT IS EXEMPT FROM SEISMIC BRACING REQUIREMENTS PER 2019 CBC 1617A.1.25, EXCEPTION 2 (CROSS-SECTIONAL AREA LESS THAN 6 SQFT AND WEIGHT OF 20 LBS/FT OR LESS).

TYPICAL CONCEALED DUCT SUPPORT

SCALE : NONE

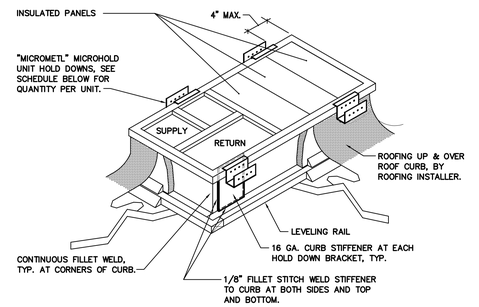
5 / M511



CURB TO STRUCTURE MOUNTING

SCALE : NONE

2 / M511



AC UNIT HOLD DOWN SCHEDULE

UNIT	NUMBER OF HOLD DOWNS REQUIRED		TEK SCREWS REQUIRED FOR ATTACHMENT OF EACH HOLD DOWN TO ROOF CURB	TEK SCREWS REQUIRED FOR ATTACHMENT OF EACH HOLD DOWN TO UNIT BASE RAIL
	AT EACH LONG SIDE	AT EACH SHORT SIDE		
AC/E1-E4	2	2	(3) #12 x 1/2"	(3) #12 x 1-1/2"

NOTE:
REFER TO DETAIL 1/M511 FOR LOCATIONS OF TEK SCREWS IN HOLD DOWNS.

HOLD DOWN SCHEDULE

SCALE : NONE

3 / M511

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capital engineering
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MB - MAB/JV & NH/DY — PM - DESIGN TEAM
220921.00 — PROJECT NO.

LICENSED PROFESSIONAL ENGINEER — KEITH D. STACY — MECHANICAL — STATE OF CALIFORNIA
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LICENSED ARCHITECT — KEITH J. NACHT — No. C-26867 — RENEWAL DATE: 1/31/25 — STATE OF CALIFORNIA

ARCHITECT

CONSTRUCTION DOCUMENTS

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DATE: 07/17/2023

JOB NO.: Y2243.00

SHEET TITLE

HVAC DETAILS

SHEET NO.

M511

QC
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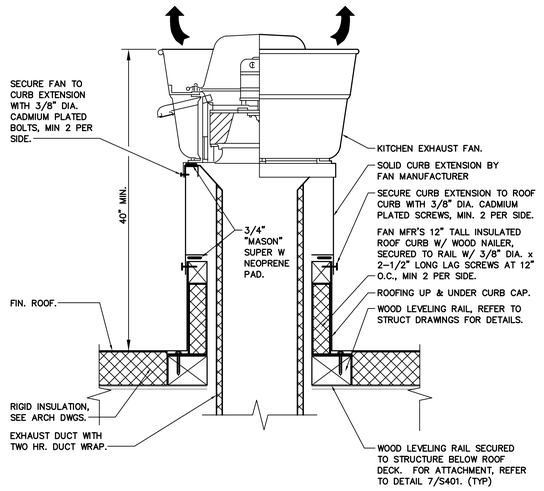
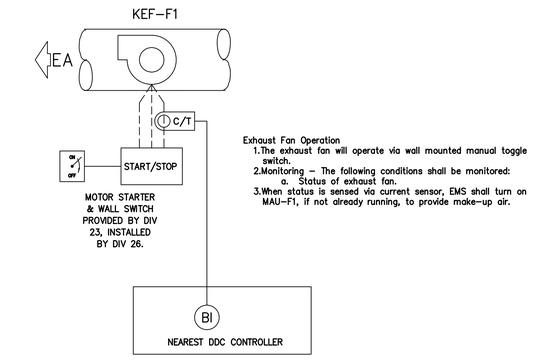


KEF MOUNTING

SCALE : NONE

1 / M512



KEF CONTROL DIAGRAM

SCALE : NONE

2 / M512

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ALBERT EINSTEIN MIDDLE SCHOOL HVAC REPLACEMENT

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MB - MAB/JV & NH/DY 220921.00
PIM - DESIGN TEAM PROJECT NO.

REGISTERED PROFESSIONAL ENGINEER — BRYAN J. MARSH — No. M 27150 — MECHANICAL — STATE OF CALIFORNIA

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DATE: 06/19/2023

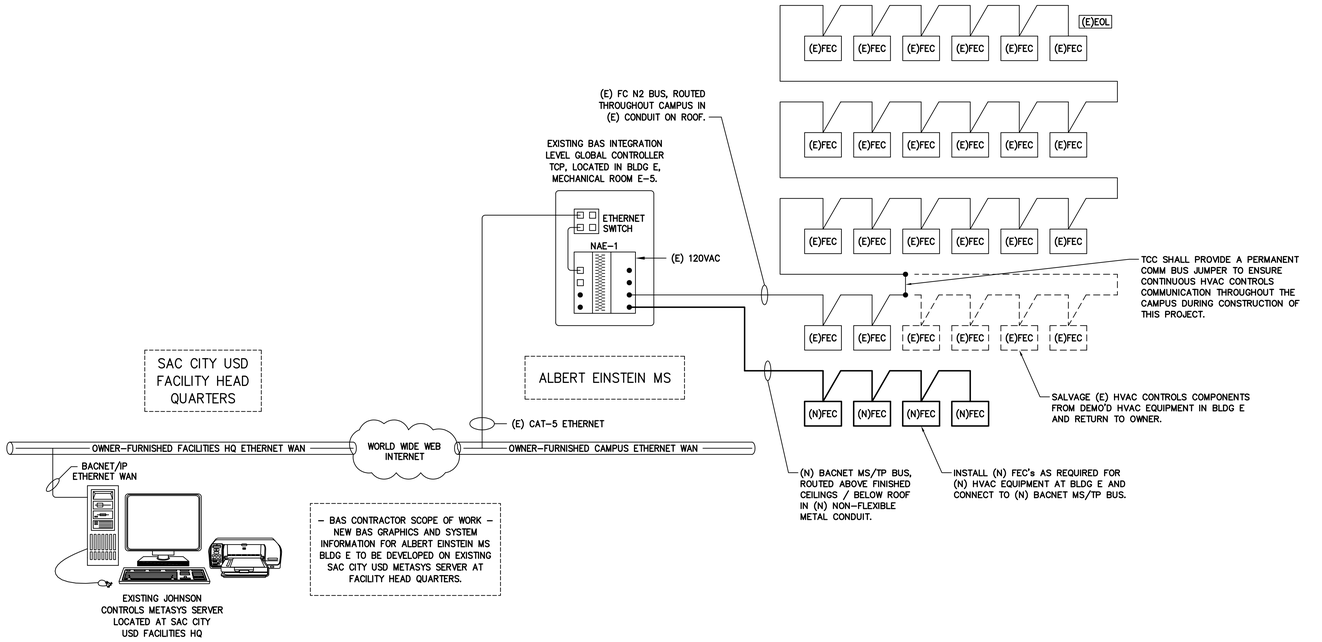
JOB NO.: Y2243.00

SHEET TITLE

HVAC DETAILS

SHEET NO.

M512



EXISTING SYSTEM ARCHITECTURE

SCALE : NONE

1
M611

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DATE: 07/17/2023

JOB NO.: Y2243.00

SHEET TITLE

HVAC CONTROL DIAGRAMS

SHEET NO.

M611

Single Zone Constant Volume Packaged AC Unit with Economizer & FDD, Duct Smoke Detector, Modulating Power Exhaust & Demand Control Ventilation.

Sequence of Operation

1. System Overview:
   a. AC Unit factory certified technician shall wire the supply fan for constant volume (single supply fan speed) operation, prior to unit start-up.
   b. Each AC unit will be directly controlled by its own dedicated EMS (Energy Management System) unitary controller.
   c. EMS unitary controller will be connected to a wall mounted electronic zone temperature sensor (Johnson Controls #NSB8BTN140-0, warmer/cooler interface, white color), and a wall mounted CO2 sensor (Veris #CWE, white color).
   d. Electronic zone temperature sensor shall include:
      - Digital pushbuttons for warmer/cooler setpoint control.
      - Digital pushbutton for "after-hours" override timer control, with user adjustable duration. The after-hours duration shall have the ability to be limited from the EMS front-end.

2. Scheduling (adjustable):
   a. Scheduled occupied and unoccupied hours shall be programmed thru the EMS Operator Workstation/Graphical User Interface. Occupant manual override to provide after-hours system operation shall occur at the local zone temperature sensor. Duration of manual override shall be programmed thru the EMS Operator Workstation/Graphical User Interface (4 hours max.).
   b. Scheduled pre-occupancy purge: Monday thru Friday, 6:30am thru 7:29am.
   c. Scheduled occupied hours: Monday thru Friday, 7:30am thru 3:00pm.
   d. Scheduled unoccupied hours: Monday thru Friday, 3:01pm thru 6:29am, and all-day Saturday and Sunday.
   e. Programmed manual override duration: 1 hour.

3. Room Temperature Setpoints (adjustable):
   a. Room temperature setpoints for scheduled occupied and unoccupied hours shall be programmed thru the EMS Operator Workstation/Graphical User Interface. Occupant override of room temperature setpoint shall occur at the local zone temperature sensor, and shall be limited to 3 degF higher/lower than programmed setpoints.
   b. Occupied room heating setpoint: 66 degF.
   c. Unoccupied room heating setpoint: 50 degF.
   d. Occupied room cooling setpoint: 76 degF.
   e. Unoccupied room cooling setpoint: 90 degF.

4. Unit Supply Fan Operation:
   a. When the zone is in Occupied Mode or in After-Hours Mode, the fan shall run continuously.
   b. During the Unoccupied Mode as determined by EMS time schedule, the unit fan cycles with demand and the temperature is controlled by the unoccupied space temperature heating and cooling setpoints.

5. Minimum Outdoor Air Ventilation:
   a. During Occupied Mode or After-Hours Mode, the economizer damper shall be commanded by the EMS unitary controller to maintain positions which satisfy the Minimum Outdoor Air ventilation requirements for the zone. TAB and EMS contractors shall work in concert to determine the minimum outside air damper position settings, as scheduled in the Air Conditioning Unit Schedule on sheet M002:
      - Lower OSA cfm.
      - Upper OSA cfm.
   b. The outside air damper shall be commanded fully closed by the EMS unitary controller whenever the AC Unit is off.

6. Demand Control Ventilation (adjustable):
   a. EMS unitary controller will be connected to a wall mounted CO2 sensor to monitor zone CO2 concentration during occupied hours and manual override (after hours) operation. When zone CO2 level is below 1000 ppm, outside air damper shall be set to "Lower Min." position, as scheduled in Air Conditioning Unit Schedule on sheet M002. When zone CO2 level exceeds 1000 ppm, outside air damper shall be set up "Upper Min." position, as scheduled. Outside air damper shall remain at "Upper Min." position until CO2 level has dropped below 900 ppm, and will then return to "Lower Min." position.

7. Automatic Demand Reduction Controls:
   a. EMS shall be programmed with the capability to implement centralized demand shed for all non-critical zones upon call for Automatic Demand Reduction. Critical zones shall not be impacted by demand shed conservation measures.
   b. Critical zones served by this system:
      - None.

8. Pre-Occupancy Purge:
   a. The EMS shall schedule the zone to be in Occupied Mode one hour prior to the actual time of anticipated occupancy, to provide design ventilation rates during this one-hour period.

9. Heating Operation:
   a. The EMS unitary controller compares the room heating setpoint with the room temperature and determines a need-heating control signal.
   b. On a call for heating, the economizer shall be commanded to Min. CFM setpoint and the staged gas valve shall be enabled to maintain room heating setpoint.
   c. Mechanical cooling to be locked out during heating mode.

10. Cooling Operation:
    a. The EMS unitary controller compares the room cooling setpoint with the room temperature and determines a need-cooling control signal.
    b. On a call for cooling, the economizer shall be enabled (if the outside air temperature is below the economizer lockout temperature of 75 degF) to provide free cooling for as long as possible.
    c. If the economizer cannot maintain the room cooling setpoint, or if the outside air temperature is equal to or above the economizer lockout temperature of 75 degF, the compressor shall be enabled in conjunction with the economizer (integrated cooling) to maintain room cooling setpoint.
    d. If the room cooling setpoint still cannot be maintained, the economizer shall be commanded to Min. CFM setpoint and the staged dx compressor shall be enabled (mechanical cooling) to maintain room cooling setpoint.
    e. Heating to be locked out during cooling mode.

11. Duct Smoke Detector/Automatic Shut-Off (AC-E3 & AC-E4 only):
    a. When particles of combustion are detected in the supply air stream by the AC Unit duct smoke detector, the AC Unit shall shut down via hardwire interlock.

12. Modulating Power Exhaust:
    a. Power Exhaust fan VFD shall be enabled/disabled with respective AC Unit scheduling via EMS unitary controller.
    b. All other Power Exhaust fan operations shall be controlled by separate non-EMS external devices as provided by the AC Unit Manufacturer. EMS contractor shall install all differential pressure transmitter tubing, and terminate in room with appropriate pressure pickup fitting at ceiling.
    c. Commission Power Exhaust to maintain a space pressure of 0.01" to 0.03" positive during all modes of operation.

13. Economizer Fault Detection & Diagnostics (FDD):
    a. The EMS unitary controller shall monitor the following economizer actuator Fault Detection Diagnostic conditions and broadcast/display results via EMS network:
       - Temperature Sensor Failure/Fault.
       - Economizer not economizing when enabled.
       - Economizer economizing when disabled.
       - Economizer damper modulation failure.
       - Excess outdoor air.

14. Monitoring:
    a. The following conditions shall be monitored and displayed at EMS Operator Workstation/ Graphical User Interface:
       - Supply air temperature.
       - Room temperature.
       - Room CO2 concentration (ppm).
       - Outside air temperature (via existing campus OSA sensor).
       - Current mode (heating/cooling/fan).
       - Current command status of fan, economizer, compressor and gas valve.
       - Run time meters on fan, compressor, and heat.
       - Supply fan status via current switch.
       - Economizer actuator feedback status.

AC UNIT CONTROL DIAGRAM

SCALE : NONE

1
M612

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SHEET TITLE

HVAC CONTROL DIAGRAMS

SHEET NO.

M612

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This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)2 for alterations.

A. GENERAL INFORMATION

01 Project Location (city)	City	04 Total Conditioned Floor Area	4958
02 Climate Zone	12	05 Total Unconditioned Floor Area	0
03 Occupancy Types Within Project:		06 # of Stories (Habitable Above Grade)	1
☒ Office (B)	☐ Retail (M)	☐ Non-refrigerated Warehouse (S)	
☐ Hotel/ Motel Guest Rooms (R-1)	☐ School (E)	☐ Healthcare Facility (I)	
☐ High-Rise Residential (R-2/R-3)	☐ Relocatable Class Bldg (E)	☒ Other (write in)	See Table J

B. PROJECT SCOPE

This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)2 for alterations.

01		02		03	
Air System(s)		Wet System Components		Dry System Components	
☒	Heating Air System	☐	Water Economizer	☒	Air Economizer
☒	Cooling Air System	☐	Pumps	☐	Electric Resistance Heat
	Mechanical Controls	☐	System Piping	☒	Fan Systems
☒	Mechanical Controls (existing to remain, altered or new)	☐	Cooling Towers	☒	Ductwork (existing to remain, altered or new)
		☐	Chillers	☒	Ventilation
		☐	Boilers	☐	Zonal Systems/ Terminal Boxes

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D., or the table indicated as not compliant for guidance.

01		02		03		04		05		06		07		08	09
System Summary §110.1, §110.2, §140.4	AND	Pumps §140.4(k)	AND	Fans/ Economizers §140.4(c), §140.4(e)	AND	System Controls §110.2, §120.2, §140.4(f)	AND	Ventilation §120.1	AND	Terminal Box Controls §140.4(d)	AND	Distribution §120.3, §140.4(l)	AND	Cooling Towers §110.2(e)2	Compliance Results
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)	
Yes	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND	Yes	AND		COMPLIES
Mandatory Measures Compliance (See Table Q for Details)															COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

This table is used to demonstrate compliance for mechanical equipment with mandatory requirements found in §110.1 and §110.2(a) and prescriptive requirements found in §140.4(a), §140.4(b) and §140.4(k) or §141.0(b)2 for alterations.

Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters)

01	02	03	04	05	06	07	08	09	10	11
				Equipment Sizing per Mechanical Schedule (kBtu/h) §140.4 (a&b)						
				Heating Output[2,3]			Cooling Output[2,3]		Load Calculations[3,4]	
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 / Title 20	Smallest Size Available[1] §140.4(a)	Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
AC-E1	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	54	54	0	38.65	42	52.39	70.23
AC-E2	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	54	54	0	38.02	38.3	34.08	45.76
AC-E3	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	54	54	0	47.88	48.9	51.69	85.59
AC-E4	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	54	54	0	48.32	50.6	42.59	74.6

[1]FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per §140.4(a). Healthcare facilities are excepted.
[2]It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.
[3] If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.
[4] Authority Having Jurisdiction may ask for load calculations used for compliance per §140.4(b).

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))

01	02	03	04	05	06	07	08	09
		Heating Mode				Cooling Mode		
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
AC-E1	<65,000		AFUE	0.80	0.8	SEER	13.0	16
AC-E2	<65,000		AFUE	0.80	0.8	SEER	13.0	16
AC-E3	<65,000		AFUE	0.80	0.8	SEER	13.0	16
AC-E4	<65,000		AFUE	0.80	0.8	SEER	13.0	16

G. PUMPS

This section does not apply to this project.

H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in §140.4(c), §140.4(e) and §140.4(m) for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name:	AC-E1	Economizer:[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
						Fan Power Pressure Drop Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	1800	BHP	1.03	NA	NA
RF	Return	1	0	BHP	0	NA	NA
Total System Design Supply Airflow (CFM):			1800	Total System Design (B)HP:	1.03	Maximum System Fan Power (B)HP:	

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	AC-E2	Economizer:[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
						Fan Power Pressure Drop Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.85	NA	NA
RF	Return	1	0	BHP	0	NA	NA
Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:	0.85	Maximum System Fan Power (B)HP:	
System Name:	AC-E3	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)	**System Fan Type:**	Constant Volume
01	02	03	04	05	06	07	08
						Fan Power Pressure Drop Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	2000	BHP	1.05	NA	NA
RF	Return	1	0	BHP	0	NA	NA
Total System Design Supply Airflow (CFM):			2000	Total System Design (B)HP:	1.05	Maximum System Fan Power (B)HP:	

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	AC-E4	Economizer:[1]	Differential Temperature	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
						Fan Power Pressure Drop Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	2140	BHP	1.05	NA	NA
RF	Return	1	0	BHP	0	NA	NA
Total System Design Supply Airflow (CFM):			2140	Total System Design (B)HP:	1.05	Maximum System Fan Power (B)HP:	

[1] FOOTNOTES: Computer room economizers must meet requirements of §140.9(a) and will be documented on the NRCC-PRC-E document.
[2] The unit used for HP must be consistent for all fans within a system.

I. SYSTEM CONTROLS

This table is used to demonstrate compliance with mandatory controls in §110.2 and §120.2 and prescriptive controls in §140.4(f) and (n) or requirements in §141.0(b)2E for altered space conditioning systems.

01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft²)	Thermostats §110.2(b) & (c)[1], §120.2(a)or §141.0(b)2E	Shut-Off Controls §120.2(e)	Isolation Zone Controls §120.2(g)	Demand Response §110.12 and §120.2(b)	Supply Air Temp. Reset §140.4(f)	Window Interlocks per §140.4(n)
AC-E1	Single zone	<= 25,000 ft²	Setback	Auto Timer Switch	NA: Serves < 25k ft²	EMCS	NA: Single Zone	NA: No operable windows
AC-E2	Single zone	<= 25,000 ft²	Setback	Auto Timer Switch	NA: Serves < 25k ft²	EMCS	NA: Single Zone	NA: No operable windows
AC-E3	Single zone	<= 25,000 ft²	Setback	Auto Timer Switch	NA: Serves < 25k ft²	EMCS	NA: Single Zone	NA: No operable windows
AC-E4	Single zone	<= 25,000 ft²	Setback	Auto Timer Switch	NA: Serves < 25k ft²	EMCS	NA: Single Zone	NA: No operable windows

I. SYSTEM CONTROLS

[1]FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.
*Notes: Controls with a * require a note in the space below explaining how compliance is achieved. EX: system 1: SA Temp Reset: Exempt because zones compliant with §140.4(d) ; EXCEPTION 1 to §140.4(f)

J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in §120.1 and §120.2(e)3B for all nonresidential, high-rise residential and hotel/motel occupancies. For alterations, only ventilation systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required outdoor ventilation rates and airflows may be shown on the plans or the calculations can be presented in a spreadsheet.

01	☐	Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.
02	☒	Check this box if the project included Nonresidential or Hotel/Motel spaces
	☐	Check this box if the project included new or altered high-rise residential dwelling units.
03	☐	Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per §120.1(c)2.

Nonresidential and Hotel/ Motel Ventilation Systems

04		05		06			07	
System Name	AC-E1	System Design OA CFM Airflow[1]	528	System Design Transfer Air CFM	0		Air Filtration per §120.1(c) and §141.0(b)2 [2] / Provided per §120.1(c) (NR and Hotel/Motel))	

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per §120.1(c)3 [3]					Exh. Vent per §120.1(c)4		DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Classroom 25B	Lecture/ postsecondary classroom	1004			381.5	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type

J. VENTILATION AND INDOOR AIR QUALITY

Recording Room E-18 (W)	Office space	192			28.8	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				410	18	Ventilation for this System Complies?		Yes

04		05		06		07
System Name	AC-E2	System Design OA CFM Airflow[1]	417	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] / Provided per §120.1(c) (NR and Hotel/Motel))

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per §120.1(c)3 [3]					Exh. Vent per §120.1(c)4		DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Classroom 25A	Lecture/ postsecondary classroom	779			296	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
Sallyport 25	Corridor	218			32.7	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
Office E-25	Office space	126			18.9	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				348	18	Ventilation for this System Complies?		Yes

J. VENTILATION AND INDOOR AIR QUALITY

04		05		06		07
System Name	AC-E3	System Design OA CFM Airflow[1]	442	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] / Provided per §120.1(c) (NR and Hotel/Motel))

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per §120.1(c)3 [3]					Exh. Vent per §120.1(c)4		DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Computer Lab 26 (N)	Lecture/ postsecondary classroom	1013			384.9	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
Recording Room E-18 (F)	Office space	192			28.8	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				414	18	Ventilation for this System Complies?		Yes

04		05		06		07
System Name	AC-E4	System Design OA CFM Airflow[1]	492	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] / Provided per §120.1(c) (NR and Hotel/Motel))

08	09	10	11	12	13	14	15	16
	Mechanical Ventilation Required per §120.1(c)3 [3]					Exh. Vent per §120.1(c)4		DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	

J. VENTILATION AND INDOOR AIR QUALITY

Computer Lab 26 (S)	Lecture/ postsecondary classroom	1013			384.9	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
Recording Room E-20	Office space	295			44.2	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
Office E-26	Office space	126			18.9	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				448	18	Ventilation for this System Complies?		Yes

[1] FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system
[2] Air filtration requirements apply to the following three system types per §120.1(c)1A : space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.
[3] Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.
[4] See Standards Tables 120.1-A and 120.1-B.
[5] For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code.
[6] §120.2(e)3 requires systems serving rooms that are required by §130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by §130.1(c).

K. TERMINAL BOX CONTROLS

This section does not apply to this project.

L. DISTRIBUTION (DUCTWORK and PIPING)

This table is used to show compliance with mandatory pipe insulation requirements found in §120.3 and prescriptive requirements found in §140.4(l) for duct leakage testing.

Duct Leakage Sealing

L. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems: AC-E1		Duct leakage testing triggered for these systems? No
11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code
The answers to the questions below apply to the following duct systems: AC-E2		Duct leakage testing triggered for these systems? No
11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code

L. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems: AC-E3		Duct leakage testing triggered for these systems? No
11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code
The answers to the questions below apply to the following duct systems: AC-E4		Duct leakage testing triggered for these systems? No
11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code

M. COOLING TOWERS

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Form/Title	Field Inspector	
	Pass	Fail
NRCI-MCH-01-E - Must be submitted for all buildings	☐	☐

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Form/Title	Systems/Spaces To Be Field Verified	Field Inspector	
		Pass	Fail
NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.	AC-E1; AC-E2; AC-E3; AC-E4;	☐	☐
NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically move to "Yes". If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".	AC-E1; AC-E2; AC-E3; AC-E4;	☐	☐
NRCA-MCH-05-A - Air Economizer Controls	AC-E1; AC-E2; AC-E3; AC-E4;	☐	☐
NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)3) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO_2) concentration setpoints.	AC-E1; AC-E2; AC-E3; AC-E4;	☐	☐
NRCA-MCH-11-A Automatic Demand Shed Controls	AC-E1; AC-E2; AC-E3; AC-E4;	☐	☐
NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	AC-E4;	☐	☐
NRCA-MCH-18-A Energy Management Control Systems	AC-E1; AC-E2; AC-E3; AC-E4;	☐	☐

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no NRCV forms required for this project.

Q. MANDATORY MEASURES DOCUMENTATION LOCATION

This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

01		02
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	Yes	M-Sheets

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Aaron Wintersmith	Documentation Author Signature: [signature]
Company: Capital Engineering Consultants Inc.	Signature Date: 06/14/2023
Address: 11020 Sun Center DR #100	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Rancho Cordova CA 95670	Phone: 916-851-3500

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Kevin Stillman	Responsible Designer Signature: [signature]
Company: Capital Engineering Consultants, Inc	Date Signed: 06/14/2023
Address: 11020 Sun Center Dr., Suite 100	License: M33498
City/State/Zip: Rancho Cordova CA 95670	Phone: 916-851-3500

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120824 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 08/30/2023

BID PACKAGE A

AGENCY APPROVAL

ALBERT EINSTEIN MIDDLE SCHOOL HVAC REPLACEMENT

9325 MIRANDY DR
SACRAMENTO, CA 95826

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

capital engineering
RANCHO CORDOVA, CALIFORNIA
MB - MAB/JV & NH/DY | 220921.00
PM - DESIGN TEAM | PROJECT NO.

Exp. 9/30/24
MECHANICAL
STATE OF CALIFORNIA
DATE SIGNED: 6/15/23

CONSULTANT

nacht&lewis
600 Q Street, Suite 100
Sacramento, CA 95811
www.nachtlewis.com
916.329.4000

LICENSED ARCHITECT
BRIAN J.
No. C-26867
RENEWAL DATE: 1/31/25
STATE OF CALIFORNIA

ARCHITECT

CONSTRUCTION DOCUMENTS

REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023
3	DSA BACKCHECK SET V3	07/17/2023

DATE: 07/17/2023
JOB NO.: Y2243.00
SHEET TITLE
TITLE 24 DOCUMENTS

SHEET NO.
M711

L:\2022\220921.00\1200 Drawings\1205 AutoCAD Project Files\M711.dwg - June 15, 2023 03:33 PM - Matt Brooks

QC
INI | %

ONE AND ONE-HALF INCH = ONE FOOT
ONE INCH = ONE FOOT
THREE-QUARTERS INCH = ONE FOOT
ONE-HALF INCH = ONE FOOT
ONE-QUARTER INCH = ONE FOOT
ONE-EIGHTH INCH = ONE FOOT
ONE-SIXTEENTH INCH = ONE FOOT
ONE INCH = TWENTY FEET

PLUMBING LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
	ABC	ABOVE CEILING
	AFF	ABOVE FINISHED FLOOR
	AF , BF	ABOVE FLOOR , BELOW FLOOR
AD	AD , AP	ACCESS DOOR , ACCESS PANEL
	BV	BALL VALVE
	BFF	BELOW FINISHED FLOOR
		BRANCH - TOP CONNECTION
or		BRANCH - BOTTOM CONNECTION
		BRANCH - SIDE CONNECTION
	COP	CAP ON END OF PIPE
		CENTER LINE
	CKV	CHECK VALVE
	CW	COLD WATER
CD	CD	CONDENSATE DRAIN LINE
CO CO	CO	CLEANOUT
	DN	DOWN
	DFU	DRAIN FIXTURE UNIT
PCD	PCD	PUMPED CONDENSATE DRAIN
°F		DEGREES FAHRENHEIT
– , —		DIAMETER , SQUARE (FEET)
		EXISTING TO BE REMOVED
	(E)	EXISTING TO REMAIN
	(E)	EXISTING TO BE ABANDONED, CAP WHERE SHOWN
FF=		FINISHED FLOOR ELEVATION
FU	FU	FIXTURE UNIT
	FCO	FLOOR CLEANOUT
	FD	FLOOR DRAIN
		FLOW IN DIRECTION OF ARROW
FV , FT		FLUSH VALVE , FLUSH TANK
(FA) , (TA)	(FA) , (TA)	FROM ABOVE , TO ABOVE
(FB) , (TB)	(FB) , (TB)	FROM BELOW , TO BELOW
	GSCK , PC	GAS COCK , PLUG COCK
G	G	GAS - LOW PRESSURE
R	GPR	GAS PRESSURE REGULATOR
	GM	GAS METER
		GAS SEISMIC VALVE
	GV	GATE VALVE
	GPM	GALLONS PER MINUTE
	GLV	GLOBE VALVE
	GCO	GRADE CLEANOUT, EXTERIOR
GW	GW	GREASE WASTE PIPING
	HB	HOSE BIBB
	HW	HOT WATER PIPING
	HWR	HOT WATER RETURN
IE or INV		INVERT ELEVATION
	L	LAVATORY SINK
	LL	LONGEST LENGTH (GAS)
MG	MG	MEDIUM PRESSURE GAS
	(N) , (E)	NEW , EXISTING
	(NTS)	NOT TO SCALE
	OH	OVERHEAD
		PIPE ANCHOR
		PIPE GUIDE
		PIPE IN SLEEVE
		PITCH DOWN IN DIRECTION OF FLOW
	PT	PLUGGED TEE
	POC	POINT OF CONNECTION, NEW TO EXISTING
	PG	PRESSURE GAUGE
P & TRV	P & TRV	PRESSURE & TEMPERATURE RELIEF VALVE PIPING
	PRV	PRESSURE REDUCING VALVE
	WH	RECESSED BOX HOSE BIBB OR WALL HYDRANT
	RV or P&TRV	RELIEF VALVE OR PRESSURE & TEMPERATURE RELIEF VALVE
	(R) , (D)	RISE , DROP
		RISER DOWN (ELBOW)
		RISER UP (ELBOW)
	RD	ROOF DRAIN
		SOLENOID VALVE WITH MOTOR ACTUATOR
SD	SD	STORM DRAIN
	S or SK	SINK
	SOV	SHUT OFF VALVE
	TP	TRAP PRIMER
TP		TRAP PRIMER PIPING
	TYP	TYPICAL
	UN	UNION OR FLANGE
	UG	UNDERGROUND
	UR	URINAL
		VALVE IN RISER (TYPE AS INDICATED OR NOTED)
	VB	VALVE IN VALVE BOX
	V	VENT PIPING
V , VR , VTR		VENT , VENT RISER , VENT THRU ROOF
	WCO	WALL CLEANOUT
	WC	WATER CLOSET
	WH	WALL HYDRANT
	W OR SS	SOIL, WASTE OR SANITARY SEWER
	WHA	WATER HAMMER ARRESTER
&		CW & HW FIXTURE CONNECTION STUB OR ANGLE STOP
	WSFU	WATER SUPPLY FIXTURE UNIT

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26 AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT ARE REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BEWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS.

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTION SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

PIPING, DUCTWORK & ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2019 CBC, SECTIONS 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON PRE-APPROVED INSTALLATION GUIDE (e.g., OSHPD OPM FOR 2013 CBC OR LATER). COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP☐ MD☐ PP☐ E☐ OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS

MP☐ MD☐ PP☒ E☐ OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVED (OPM #) #0043-13

GAS PRESSURE REGULATOR SCHEDULE

UNIT	LOCATION	"MFR" MODEL NO. SIZE	REQUIRED LOAD (MBH)	MAX INDIVIDUAL LOAD (MBH)	MIN & MAX INLET PRESSURE	OUTLET PRESSURE	NOTES
GPR D1	BLDG D ROOFTOP	MAXITROL 325-5L 1" x 1"	240<410	<325	1 PSI MIN 2 PSI MAX	7"WC	1 2 3 4 5 6 7 8

NOTES:

1. FOR OUTDOOR INSTALLATION, PROVIDE MAXITROL VENT PROTECTOR ACCESSORY. PROVIDE MODEL WITH SUFFIX "B" IMBLUE TECHNOLOGY FOR INCREASED CORROSION RESISTANCE IF LOCATED OUTDOORS OR IN CORROSIVE ENVIRONMENTS. VENT LIMITER AND VENT PROTECTION FOR MAXITROL 325-L SERIES ARE AVAILABLE FOR MODELS 325-3 THRU 325-9 ONLY.
2. VERIFY MINIMUM AND MAXIMUM PRESSURE REQUIRED BY APPLIANCES TO BE SERVED PRIOR TO PROCUREMENT.
3. PROVIDE SOV ON BOTH SIDES OF GPR. GPR INLET & OUTLET SIZE SHALL BE EQUAL TO THE LARGER OF THE CONNECTING UPSTREAM OR DOWNSTREAM PIPE. SEE SITE PLAN/FLOOR PLANS FOR MORE INFORMATION.
4. PROVIDE PIPE LENGTH OF 10 TIMES THE PIPE DIAMETER BEFORE CHANGING DIRECTION DOWNSTREAM OF GPR. SEE GPR INSTALLATION INSTRUCTIONS FOR MORE INFORMATION.
5. PROVIDE ¼" GAUGE PORT WITH SOV AT THE OUTLET SIDE OF THE GAS REGULATOR. PROVIDE CAP AND SEAL AIR TIGHT.
6. MINIMUM MBH CAPACITY ABOVE IS THE TOTAL MBH REQUIREMENT OF THE SYSTEM DOWNSTREAM OF THE GPR. ANY SUBSTITUTED PRODUCT SHALL BE ANSI Z21.80 CERTIFIED, AND SHALL BE WITHIN PARAMETERS SET FORTH ABV. SIZE OF SUBSTITUTED REGULATOR SHALL BE SIMILAR TO SIZE OF THE OUTLET PIPE, UNLESS SHOWN OTHERWISE.
7. REGULATOR VENT SHALL TERMINATE AT LEAST 3FT FROM ANY SOURCE OF IGNITION. CPC 1208.8.4 (3)

PLUMBING SHEET INDEX

PLUMBING GENERAL NOTES

1. SEE ARCHITECTURAL DRAWINGS FOR BUILDING DIMENSIONS AND EXACT LOCATIONS OF PLUMBING FIXTURES.
2. COORDINATE LOCATION OF PIPING WITH OTHER TRADES ON THIS PROJECT.
3. CONCEAL ALL PIPING IN WALL FURRING, PARTITIONS, ETC., EXCEPT AT MECHANICAL ROOMS.
4. PROVIDE BALL VALVES ON WATER PIPE BRANCHES TO EQUIPMENT AND PLUMBING FIXTURES. PROVIDE ACCESS PANELS WHEN LOCATED IN FURRED SPACES OR ABOVE NON-REMOVABLE CEILINGS. ALL VALVES SHALL BE FULL LINE SIZE.
5. SEAL ALL PIPE PENETRATIONS THRU FLOORS WATERTIGHT.
6. PROVIDE GAS SHUT-OFF VALVE, UNION AND DIRT LEG AT EACH GAS CONNECTION TO MECHANICAL EQUIPMENT.
7. PENETRATIONS OF RATED ASSEMBLIES SHALL BE FIRE-STOPPED. FIRE STOPPING SHALL BE AN APPROVED MATERIAL OF THE ENFORCING AGENCY.
8. OFFSET VENTS THRU ROOF 10 FEET MINIMUM FROM AIR INTAKES AND 4 FEET FROM OUTSIDE WALLS.
9. CONDENSATE DRAIN LINE CONNECTIONS TO MECHANICAL UNITS SHALL INCLUDE MINIMUM 4" DEEP "P" TRAP AND CLEANOUTS AT ALL OFFSETS.
10. ALL MECHANICAL UNITS ARE SHOWN FOR REFERENCE AND COORDINATION ONLY. SEE "M" SHEETS.
11. OFFSET ALL RISERS AND DROPS TO AVOID PENETRATIONS AT TOP PLATES.
12. FIELD VERIFY EXACT SIZES, LOCATIONS AND ELEVATIONS OF ALL PIPING CONNECTIONS, OTHER WORK, ETC., PRIOR TO TRENCHING OR INSTALLING OF ANY NEW WORK.
13. BUILDING SEWER, WATER AND STORM DRAIN RUN APPROXIMATELY 5' MIN. FROM BUILDING SHALL BE PER SPECIFICATIONS DIVISION 22 AND APPLIES TO UTILITIES IN THE BUILDING, UNDER THE BUILDING AND TO 5' OUTSIDE THE BUILDING. FOR PIPING BEYOND 5' OUTSIDE OF THE BUILDING, SPECIFICATIONS DIVISION 33 SHALL GOVERN.
14. ALL QUANTITIES SHOWN ON CALCULATION TABLES ARE STRICTLY INTENDED FOR DESIGN CALCULATIONS ONLY, IT SHALL NOT BE CONSTRUED THAT SUCH QUANTITIES CAN BE USED FOR BIDDING/ESTIMATION PURPOSES.
15. PROVIDE INSULATION ON ALL CONDENSATE DRAINS INSIDE BUILDING.

FIRESTOPPING

1. PACK THE ANNULAR SPACE BETWEEN THE PIPE SLEEVES AND THE PIPE THROUGH ALL FLOORS AND WALLS WITH UL LISTED FIRE STOP, AND SEALED AT THE ENDS. ALL PIPE PENETRATIONS SHALL BE UL LISTED, HILTI, 3M PRO-SET, OR EQUAL.
   A. INSTALL FIRE CAULKING BEHIND MECHANICAL SERVICES INSTALLED WITHIN FIRE RATED WALLS, TO MAINTAIN CONTINUOUS RATING OF WALL CONSTRUCTION.
2. PROVIDE SPECSEAL SYSTEMS UL FIRE RATED SLEEVE/COUPLING PENETRATORS FOR EACH PIPE PENETRATION OR FIXTURE OPENING PASSING THROUGH FLOORS, WALLS, PARTITIONS OR FLOOR/CEILING ASSEMBLIES. ALL PENETRATORS SHALL COMPLY WITH UL FIRE RESISTANCE DIRECTORY (LATEST EDITION), AND IN ACCORDANCE WITH CHAPTER 7, CBC REQUIREMENTS.
3. SLEEVE PENETRATORS SHALL HAVE A BUILT IN ANCHOR RING FOR WATERPROOFING AND ANCHORING INTO CONCRETE POURS OR USE THE SPECIAL FIT CORED HOLE PENETRATOR FOR CORED HOLES.
4. COPPER AND STEEL PIPING SHALL HAVE SPECSEAL PLUGS ON BOTH SIDES OF THE PENETRATOR TO REDUCE NOISE AND TO PROVIDE WATERPROOFING.
5. ALL ABOVE SYSTEMS TO BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
6. ALTERNATE FIRESTOPPING SYSTEMS ARE ACCEPTABLE IF APPROVED EQUAL. HOWEVER, ANY DEVIATION FROM THE ABOVE SPECIFICATION REQUIRES THE CONTRACTOR TO BE RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE PROPOSED PRODUCTS AND THEIR INTENDED USE, AND THE CONTRACTOR SHALL ASSUME ALL RISKS AND LIABILITIES WHATSOEVER IN CONNECTION THEREWITH.

PLUMBING FIXTURE SPECIFICATION & CONNECTION SCHEDULE

ADA	SYMBOL	FIXTURE	FIXTURE MANUFACTURER AND MODEL No.	FAUCET OR VALVE MANUFACTURER AND MODEL No.	TRIM MANUFACTURER AND MODEL No.	REMARKS	VENT	WASTE		COLD WATER		HOT WATER	
								BRANCH	OUTLET	BRANCH	OUTLET	BRANCH	OUTLET
	WC-1	WATER CLOSET WALL MOUNTED FLUSH VALVE ACCESSIBLE	"KOHLER" KINGSTON 1.28, NO. K4325-0, WALL HUNG, VITREOUS CHINA, ELONGATED, SIPHON JET ACTION, 1-1/2" TOP SPUD. 1.28 GPF REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS AT EACH FIXTURE LOCATION.	"SLOAN" WES-111 DUAL FLUSH VALVE 1.6/1.1 1.28GPF EFFECTIVE, POLISHED CHROME FINISH, EXPOSED MANUAL FLUSHOMETER	SEAT: "CHURCH" MODEL 295SSCT OR "BEMIS" MODEL 1955SSCT. PROVIDE WITH SELF- SUSTAINING CONCEALED CHECK HINGES, ONE PIECE STAINLESS STEEL POST HINGES, WHITE COLOR. CARRIER: "JAY R. SMITH" 100 OR 200 SERIES OR 500# RATED "ZURN" Z1201 AND Z1202 SERIES PROVIDE REAR SUPPORT LUG AND ANCHOR FOOT ASSEMBLY.	MOUNT AT HEIGHT INDICATED ON ARCHITECTURAL DRAWINGS. WHERE USED FOR CBC ACCESSIBLE WATER CLOSETS, THE FLUSH VALVE HANDLE SHALL BE MOUNTED ON THE WIDE SIDE OF THE WATER CLOSET ENCLOSURE.	2"	4"	4"	2"	1"	--	--

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120824 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 08/30/2023

BID PACKAGE A

AGENCY APPROVAL

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capital engineering
RANCHO CORDOVA, CALIFORNIA
MB - MABUV & NH/DY — PM - DESIGN TEAM
220921.00 — PROJECT NO.

LICENSED PROFESSIONAL ENGINEER — KEVIN D. STRAND — No. M 27444 — MECHANICAL — STATE OF CALIFORNIA
DATE SIGNED: 8/15/23

CONSULTANT

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LICENSED ARCHITECT — BRYAN J. [illegible] — No. C-26867 — RENEWAL DATE: 1/31/25 — STATE OF CALIFORNIA

ARCHITECT

CONSTRUCTION DOCUMENTS

REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023
3	DSA BACKCHECK SET V3	07/17/2023

DATE: 07/17/2023

JOB NO.: Y2243.00

SHEET TITLE

PLUMBING GENERAL NOTES & LEGENDS

SHEET NO.

P001

PLUMBING FIXTURE SPECIFICATION & CONNECTION SCHEDULE (cont'd)

ADA	SYMBOL	FIXTURE	FIXTURE MANUFACTURER AND MODEL No.	FAUCET OR VALVE MANUFACTURER AND MODEL No.	TRIM MANUFACTURER AND MODEL No.	REMARKS	VENT	WASTE		COLD WATER		HOT WATER	
								BRANCH	OUTLET	BRANCH	OUTLET	BRANCH	OUTLET
	WC-2	WATER CLOSET WALL MOUNTED FLUSH VALVE ACCESSIBLE	"KOHLER" KINGSTON 1.28, NO. K84325-SS-0, WALL HUNG, VITREOUS CHINA, ELONGATED, SIPHON JET ACTION, 1-1/2" TOP SPUD. 1.28 GPF, ANTIMICROBIAL SURFACE REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS AT EACH FIXTURE LOCATION.	"SLOAN" ROYAL 111-1.28SG, ADA COMPLIANT, 1.28 GPF (MANUAL)	SEAT: "CHURCH" MODEL 295SSCT OR "BEMIS" MODEL 1955SSCT. PROVIDE WITH SELF- SUSTAINING CONCEALED CHECK HINGES, ONE PIECE STAINLESS STEEL POST HINGES, WHITE COLOR. CARRIER: "JAY R. SMITH" 100 OR 200 SERIES OR 500# RATED "ZURN" Z1201 AND Z1202 SERIES PROVIDE REAR SUPPORT LUG AND ANCHOR FOOT ASSEMBLY.	MOUNT AT HEIGHT INDICATED ON ARCHITECTURAL DRAWINGS. WHERE USED FOR CBC ACCESSIBLE WATER CLOSETS, THE FLUSH VALVE HANDLE SHALL BE MOUNTED ON THE WIDE SIDE OF THE WATER CLOSET ENCLOSURE.	2"	4"	4"	2"	1"	--	--
	WC-3	WATER CLOSET WALL MOUNTED FLUSH VALVE STANDARD	"KOHLER" KINGSTON 1.28, NO. K84325-SS-0, WALL HUNG, VITREOUS CHINA, ELONGATED, SIPHON JET ACTION, 1-1/2" TOP SPUD. 1.28 GPF, ANTIMICROBIAL SURFACE REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS AT EACH FIXTURE LOCATION.	"SLOAN" ROYAL 111-1.28SG, ADA COMPLIANT, 1.28 GPF (MANUAL)	SEAT: "CHURCH" MODEL 295SSCT OR "BEMIS" MODEL 1955SSCT. PROVIDE WITH SELF- SUSTAINING CONCEALED CHECK HINGES, ONE PIECE STAINLESS STEEL POST HINGES, WHITE COLOR. CARRIER: "JAY R. SMITH" 100 OR 200 SERIES OR 500# RATED "ZURN" Z1201 AND Z1202 SERIES PROVIDE REAR SUPPORT LUG AND ANCHOR FOOT ASSEMBLY.	MOUNT AT HEIGHT INDICATED ON ARCHITECTURAL DRAWINGS. WHERE USED FOR CBC ACCESSIBLE WATER CLOSETS, THE FLUSH VALVE HANDLE SHALL BE MOUNTED ON THE WIDE SIDE OF THE WATER CLOSET ENCLOSURE.	2"	4"	4"	2"	1"	--	--
	UR-1	URINAL WALL MOUNTED FLUSH VALVE ACCESSIBLE	"KOHLER" BARDON 1/8 GPF NO. K-4991-ETSS WALL HUNG, VITREOUS CHINA, SIPHON JET ACTION, 3/4" TOP SPUD, 2" THREADED OUTLET. 0.125 GPF, ANTIMICROBIAL FINISH. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT	"SLOAN" ROYAL 186-0.125-DBP-SG 0.125GPF DUAL FILTERED BYPASS, POLISHED CHROME FINISH, SINGLE FLUSH, SANIGARD HANDLE, ROYAL EXPOSED MANUAL URINAL FLUSHOMETER VALVE.	CARRIER: "JAY R. SMITH" 637 SERIES OR "ZURN" Z1222	MOUNT AT HEIGHT INDICATED ON ARCHITECTURAL DRAWINGS.	1-1/2"	2"	2"	2"	3/4"	--	--
	L-1	LAVATORY WALL MOUNTED HOT AND COLD WATER STD/ACCESSIBLE	"KOHLER" KINGSTON NO. K-2005 WALL HUNG, VITREOUS CHINA WITH CONTOURED BACK AND SIDE SPLASH SHIELDS, FRONT OVERFLOW, CONCEALED ARM RECESS, 4" CENTERS, 21-1/4" x 18-1/8" D SHAPED BOWL.	"CHICAGO" 3600-E2805AB FAUCET, PUSH LEVER WITH AERATOR WITH 0.5 GPM FLOW RATE. WITH VANDAL RESISTANT ECONO-FLO SPRAY OUTLET. WITH IPS CONNECTIONS, ADA COMPLIANT.	ADA COMPLIANT. LAVATORY GRID DRAIN WITH 1-1/4" OFFSET TAILPIECE, INTEGRAL PERFORATED GRID NO. 7723.018, CHROME FINISH. MOUNT P-TRAP FLUSH TO WALL. CARRIER: "JAY R. SMITH" 0700 OR ZURN Z1231	MOUNT AT HEIGHT INDICATED ON ARCHITECTURAL DRAWINGS. PROVIDE CONCEALED ARMS AND FLOOR SUPPORT, WITH FEET OF SUPPORT SECURELY ANCHORED TO FLOOR. IN ADDITION ANCHOR TOP OF SUPPORT TO WALL CONSTRUCTION.	1-1/2"	2"	1-1/2"	3/4"	1/2"	3/4"	1/2"
	L-2	LAVATORY WALL MOUNTED COLD WATER ONLY STD/ACCESSIBLE	"KOHLER" KINGSTON NO. K-2005 WALL HUNG, VITREOUS CHINA WITH CONTOURED BACK AND SIDE SPLASH SHIELDS, FRONT OVERFLOW, CONCEALED ARM RECESS, 4" CENTERS, 21-1/4" x 18-1/8" D SHAPED BOWL.	"CHICAGO" 857-E2805-665PSHAB TAPERED HANDLE FAUCET, PUSH-BUTTON TYPE, MODEL E2805 VANDAL RESISTANT ECONO-FLO SPRAY OUTLET, 0.5 GPM FLOW RESTRICTOR. ADA COMPLIANT	ADA COMPLIANT. LAVATORY GRID DRAIN WITH 1-1/4" OFFSET TAILPIECE, INTEGRAL PERFORATED GRID NO. 7723.018, CHROME FINISH. MOUNT P-TRAP FLUSH TO WALL. CARRIER: "JAY R. SMITH" 0700 OR ZURN Z1231	MOUNT AT HEIGHT INDICATED ON ARCHITECTURAL DRAWINGS. PROVIDE CONCEALED ARMS AND FLOOR SUPPORT, WITH FEET OF SUPPORT SECURELY ANCHORED TO FLOOR. IN ADDITION ANCHOR TOP OF SUPPORT TO WALL CONSTRUCTION.	1-1/2"	2"	1-1/2"	3/4"	1/2"	-	-
	DF-1	DRINKING FOUNTAIN WALL MOUNTED STD/ACCESSIBLE DUAL HEIGHT W/BOTTLE FILLER INDOOR	"HAWS" 1117L-1920 ADA ADJUSTABLE VANDAL RESISTANT FOUNTAIN WITH BOTTLE FILLER, DUAL WALL-MOUNT, 14 GAUGE STAINLESS STEEL TYPE 304 WITH SATIN FINISH, BARRIER FREE, PUSH BUTTON VALVE OPERATION, INTEGRATED TRAP. PROVIDE WITH HAWS BP32 BOTTLE FILLER BACKPANEL, & HAWS 6608 ACCESS PANEL. INSTALL SOV IN WALL BELOW DF ACCESSIBLE FROM HAWS 6608 ACCESS PANEL. PROVIDE CUSTOM FRAME TO ACCOMMODATE ACCESS PANEL. COORDINATE DIMENSIONS WITH FRAMERS PRIOR TO FRAMING WALL AND PIPE INSTALLATION.	INTEGRAL	PROVIDE P-TRAP & HAWS BTL1107 BOTTLE STAND OPTION.	SURPORT SYSTEM: MODEL 6717 MOUNTING PLATE AND 6800 SUPPORT CARRIER. PROVIDE MANUFACTURER'S INTERNAL SUPPORT SYSTEM. WHERE INSTALLED ON CONCRETE OR CMU WALL, PROVIDE TWO MODEL 6700 MOUNTING PLATES AND INSTALL WITH ONE PLATE ON EACH SIDE OF WALL. SET AT HEIGHT INDICATED ON ARCH DRAWINGS.	1-1/2"	2"	1-1/2"	3/4"	1/2"	-	-
	FS	FLOOR SINK	MECHANICAL SPACES - ZURN MODEL ZN-1901-KC-2, OR EQUAL, 12 INCH x 12 INCH x 8 INCH DEEP, A.R.E. INTERIOR WITH NICKEL BRONZE RIM, HALF GRATE AND DOME STRAINER. OTHER APPROVED EQUAL MANUFACTURERS INCLUDE: JAY R. SMITH, WATTS & MIFAB.	PROVIDE SEEPAGE PAN WITH CLAMPING COLLAR.		COORDINATE & PROVIDE GRATES AS REQUIRED PER KITCHEN DRAWINGS	2" 3"	2" 3"	2" 3"	- -	- -	- -	- -
	FD	FLOOR DRAIN	GENERAL SERVICE FD - ZURN MODEL Z-415, OR EQUAL, WITH TYPE "B" STRAINER FOR EXPOSED CONCRETE AND TYPE "S" STRAINER FOR TILE FLOOR. PROVIDE BRONZE TRIM. FD IN COMPOSITION TYPE FLOORS - ZURN MODEL Z-415, OR EQUAL, WITH TYPE SL STRAINER. FD IN RESINOUS/EPOXY TYPE FLOORS - ZURN MODEL Z-415BL, OR EQUAL, NICKEL BRONZE WITH ADJUSTABLE STRAINER.				2"	2"	2"	-	-	-	-
	TP TP-2	TRAP PRIMER ELEC TRAP PRIMER	MIFAB "M-500" SERIES, REQUIRES 3PSI DROP TO ACTIVATE. SIOUX CHIEF 695-ES01 ELECTRONIC TRAP PRIMER, PROVIDE DISTRIBUTION SPLITTER TO PRIME UP TO 8 DRAINS. PROVIDE 120VAC 9.2WATTS 60HZ POWER SUPPLY.			PROVIDE ACCESS PANEL SEE DETAIL 1/P512.	-	-	-	1/2"	1/2"	-	-
	HB	HOSE BIBB	INTERIOR WALL MOUNTED - ACORN MODEL 8121CP-LF WOODFORD MODEL 24PC, OR EQUAL.	WITH INTEGRAL VACUUM BREAKER PROTECTED, CARTRIDGE OPERATED HOSE VALVE WITH LOCK SHIELD BONNET AND REMOVABLE KEY HANDLE.		SET HEIGHT AT 18" ABOVE FINISHED FLOOR OR AS INDICATED ON ARCHITECTURAL DRAWINGS	-	-	-	1"	3/4"	-	-
	WHA	WATER HAMMER ARRESTOR	SEE SPECIFICATIONS 22 10 00										
	WM	WASHMACHINE WASHER BOX	"ACORN" MODEL 8186 WASH MACHINE BOX.	INTEGRAL	INTEGRAL	WITH HOT AND COLD WATER HOSE BIBBS AND DRAIN CONNECTION	1-1/2"	2"	2"	3/4"	1/2"	3/4"	1/2"

BID PACKAGE A

AGENCY APPROVAL

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SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

capital engineering
RANCHO CORDOVA, CALIFORNIA

MB - MAB/JV & NH/DY — PM - DESIGN TEAM
220921.00 — PROJECT NO.

REGISTERED PROFESSIONAL ENGINEER — BRIAN J. STINCH — No. M 27424 — MECHANICAL — STATE OF CALIFORNIA

DATE SIGNED: 6/15/23

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LICENSED ARCHITECT — BRIAN J. [illegible] — No. C-26867 — RENEWAL DATE: 1/31/25 — STATE OF CALIFORNIA

ARCHITECT

CONSTRUCTION DOCUMENTS

REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023

DATE: 06/19/2023

JOB NO.: Y2243.00

SHEET TITLE

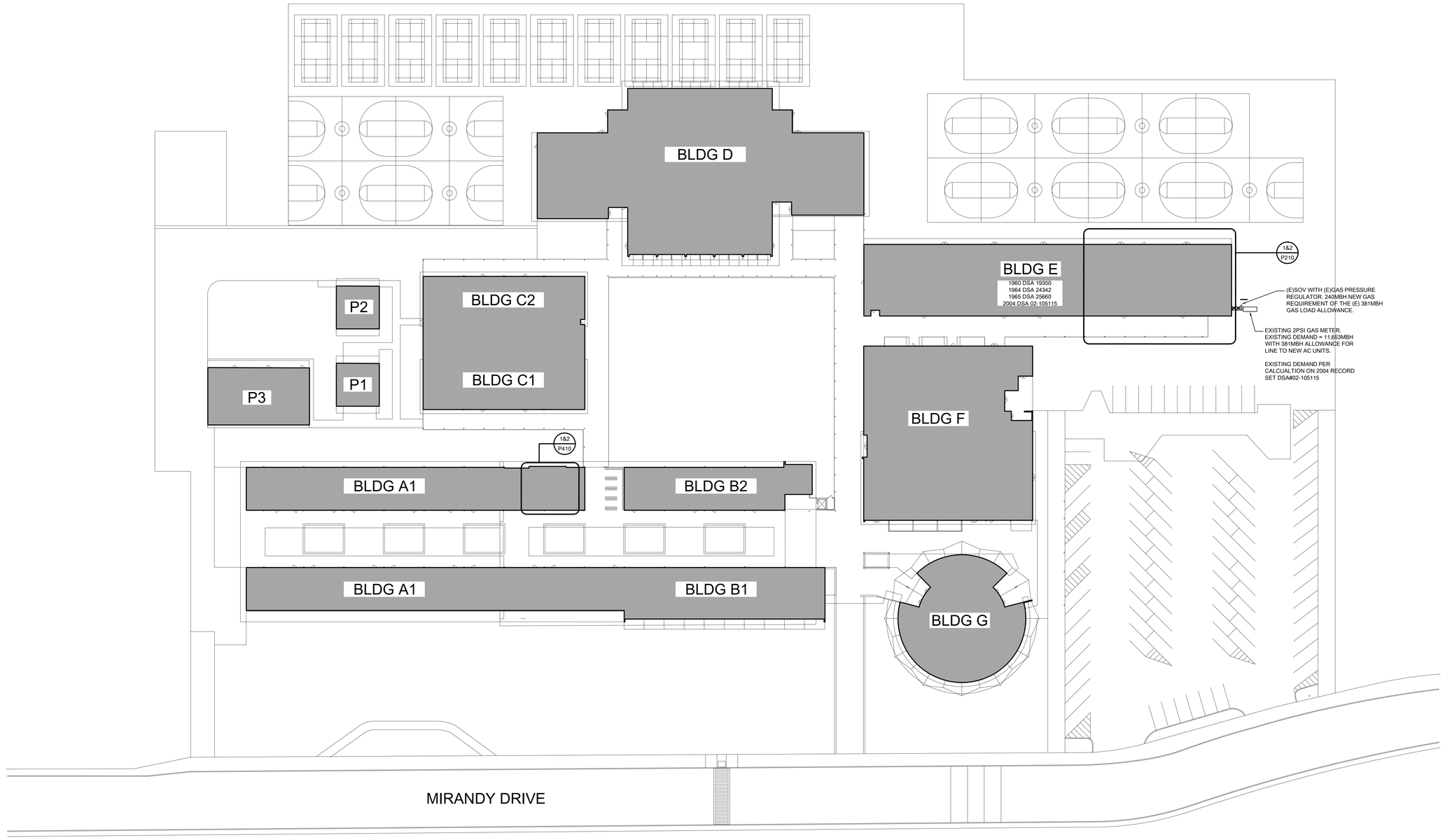
PLUMBING FIXTURE CONNECTION SCHEDULE

SHEET NO.

P002

QC
INI | %

ONE AND ONE-HALF INCH = ONE FOOT
ONE INCH = ONE FOOT
THREE-QUARTERS INCH = ONE FOOT
ONE-HALF INCH = ONE FOOT
ONE-QUARTER INCH = ONE FOOT
ONE-EIGHTH INCH = ONE FOOT
ONE-SIXTEENTH INCH = ONE FOOT
ONE INCH = TWENTY FEET



PLUMBING SITE PLAN — 1 / P100

SCALE : 1" = 30'-0"

N

BID PACKAGE A

AGENCY APPROVAL

ALBERT EINSTEIN MIDDLE SCHOOL
HVAC REPLACEMENT

9325 MIRANDY DR
SACRAMENTO, CA 95826

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

capital engineering
RANCHO CORDOVA, CALIFORNIA
MB - MAB/JV & NH/DY 220921.00
PM - DESIGN TEAM PROJECT NO.

DATE SIGNED: 8/15/23

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ARCHITECT

CONSTRUCTION DOCUMENTS

REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023
3	DSA BACKCHECK SET V3	07/17/2023

DATE: 07/17/2023

JOB NO.: Y2243.00

SHEET TITLE

PLUMBING SITE PLAN

SHEET NO.

P100

QC
INI | %

ONE AND ONE-HALF INCH = ONE FOOT
ONE INCH = ONE FOOT
THREE-QUARTERS INCH = ONE FOOT
ONE-HALF INCH = ONE FOOT
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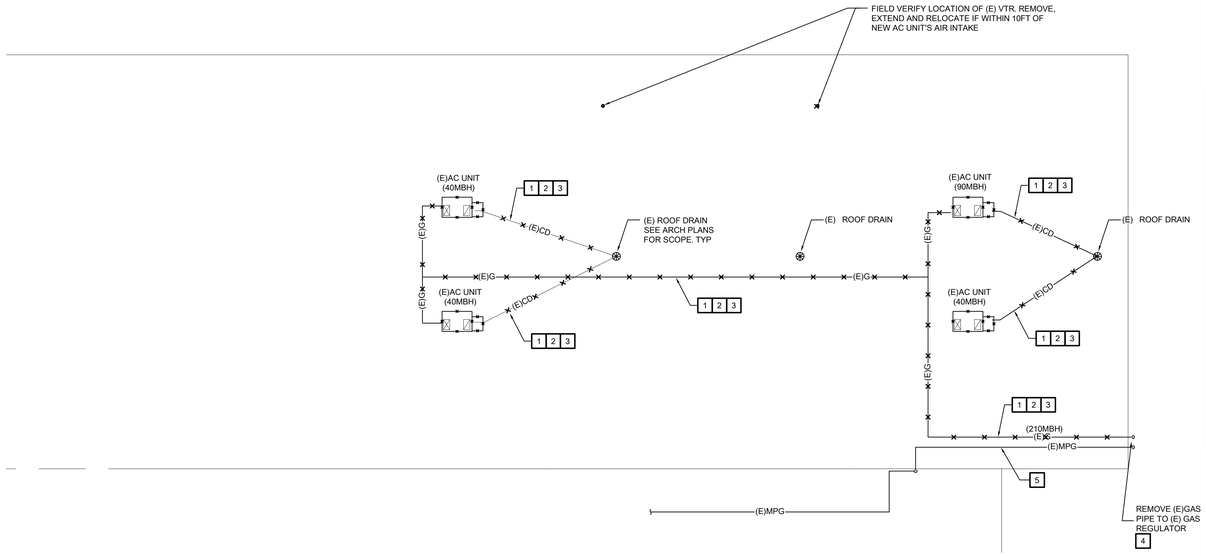
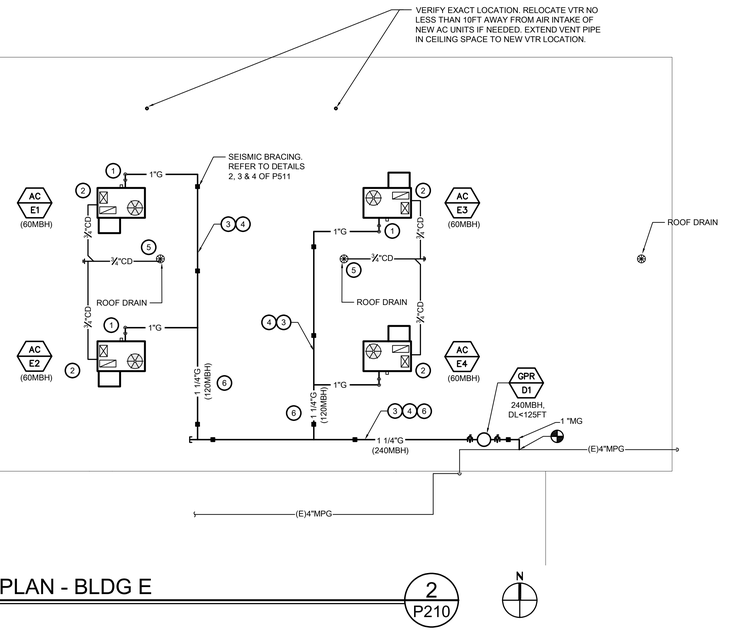


PLUMBING - DEMO ROOF PLAN - BLDG E

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

1 / P210



PLUMBING - ROOF PLAN - BLDG E

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

2 / P210

SHEET NOTES

1. EXISTING PLUMBING LAYOUT BASED FROM AVAILABLE RECORD DRAWINGS OF UNKNOWN ACCURACY. EXISTING PIPING ESPECIALLY THOSE CONCEALED AND/OR UNDERGROUND MAY HAVE BEEN INSTALLED DIFFERENTLY FROM SHOWN HEREWITH. CONTRACTOR SHALL INVESTIGATE EXISTING PIPE ROUTE, ELEVATION, SIZE AND CONDITION, THRU VISUAL OBSERVATIONS, POT-HOLING, RADAR INSPECTION OR OTHER MEANS NECESSARY TO COMPLETE WORK, PRIOR TO ANY NEW PIPE INSTALLATION. REFLECT ALL FINDINGS ON SHOP DRAWINGS FOR COORDINATION AMONGST TRADES. REFLECT EXISTING ROUTE, ELEVATION AND OTHER OBSERVATIONS ON AS-BUILT DRAWING IF DIFFERENT FROM SHOWN HEREWITH.
2. PROVIDE TEMPORARY UTILITIES TO ALL FIXTURES/EQUIPMENT TO REMAIN IN SERVICE DURING CONSTRUCTION PERIOD. COORDINATE ALL SERVICE INTERRUPTIONS WITH SCHOOL DISTRICT.
3. CONTRACTOR SHALL PREPARE AND MAINTAIN AS-BUILT DRAWINGS OF ALL PLUMBING SYSTEMS AS INSTALLED AT THE JOB SITE, DRAWN BY CONTRACTOR OVER THE DESIGN PLANS. THEY SHALL BE READILY AVAILABLE TO VIEW & INSPECT UPON REQUEST BY PROJECT INSPECTOR, ENGINEER OR OWNER. AS-BUILTS SHALL CLEARLY SHOW CHANGES, REVISIONS, CLARIFICATIONS & SUBSTITUTIONS INSTALLED IN THE PROJECT INCLUDING BUT NOT LIMITED TO: EXACT PIPE ROUTE ESPECIALLY THOSE CONCEALED AND/OR UNDERGROUND, UNDERGROUND PIPE ELEVATIONS, PIPE SIZES, DIMENSIONS FROM WALLS/GRID LINES OF ANY REROUTED PIPE, RFI/CCD/ASI TAG AS REFERENCE TO WHERE CHANGES OCCURRED FROM IF ANY, AND ANY INFORMATION THAT MAY CLARIFY HOW SYSTEMS & COMPONENTS HAD BEEN INSTALLED OR HOW IT DIFFERS FROM ORIGINAL DESIGN PLANS. REFERENCE TO AN RFI/CCD/ASI ALONE SHALL NOT CONSTITUTE COMPLETE AS-BUILT DRAWINGS. AS-BUILT DRAWINGS SHALL BE IN HARD COPY AND DIGITAL (PDF) FORMAT. AS-BUILTS ARE CRITICAL REQUIREMENTS FOR MAINTENANCE UPKEEP AND FOR USE AS BASIS FOR POSSIBLE FUTURE CONSTRUCTION IMPROVEMENTS. CONTRACTOR SHALL PROVIDE "AS-BUILT" TAG AND CONTRACTOR INFORMATION ON ALL AS-BUILT SHEETS.
4. HORIZONTAL DRAINAGE PIPING SHALL BE RUN IN PRACTICAL ALIGNMENT AND A UNIFORM SLOPE OF NOT LESS THAN 2% TOWARD THE POINT OF DISPOSAL UNLESS IMPRACTICAL DUE TO BUILDING'S STRUCTURAL FEATURES, OR IF CONNECTING TO EXISTING PIPE AT ITS EXISTING UPSTREAM/DOWNSTREAM DEPTH IS IMPOSSIBLE WITHOUT SLOPING LESS THAN 2%. IN SUCH CONDITIONS, PIPE CAN BE SLOPED AT NO LESS THAN 1%. COORDINATE AMONGST TRADES AND REFLECT ALL CHANGES ON THE AS-BUILT DRAWINGS.
5. ADJUST ALL PIPE ELEVATIONS IF NECESSARY. COORDINATE BETWEEN TRADES AT SITE THROUGH SHOP DRAWINGS.
6. COORDINATE ALL CONNECTION POINTS AMONGST TRADES AT SITE PRIOR TO INSTALLATION.
7. PRIME AND PAINT ALL EXPOSED PIPING TO MATCH ARCHITECTURAL FINISH.
8. NO EXPOSED PIPING SHALL BE LEFT TO RUST OR SUBJECTED TO CONDITIONS DETRIMENTAL TO THE PIPE WITHOUT PROVIDING PROTECTION, TEMPORARY OR OTHERWISE, SUITABLE TO THE TYPE OF PIPE BEING PROTECTED.
9. CLOSELY COORDINATE ALL PENETRATIONS THRU STRUCTURAL MEMBERS AT SITE THRU SHOP DRAWINGS PRIOR TO ANY INSTALLATION. ALL NOTCHES AND HOLES SHALL BE NEATLY BORED. SEE STRUCTURAL DRAWINGS FOR MORE INFORMATION.
10. ALL GAS PIPING ON ROOF GREATER THAN 1" IN SIZE SHALL BE PROVIDED WITH SEISMIC BRACING PER CBC CH16.

PLUMBING DEMO KEYNOTES:

1. VERIFY EXACT LOCATION OF EXISTING PIPE. REFLECT VERIFIED INFORMATION ON SHOP DRAWINGS FOR COORDINATION AMONGST TRADES PRIOR TO ANY PIPE INSTALLATION. REFLECT ON AS-BUILT DRAWING IF DIFFERENT FROM HEREWITH.
2. VERIFY EXACT LOCATION OF ALL BUILDING COMPONENTS THAT MAY OBSTRUCT PATH OF NEW PIPING. REFLECT VERIFIED INFORMATION ON SHOP DRAWINGS FOR COORDINATION AMONGST TRADES PRIOR TO ANY PIPE INSTALLATION. PREPARE AREA FOR NEW WORK ONCE PATH FOR NEW PIPE IS ESTABLISHED.
3. REMOVE & DISPOSE OF EXISTING PLUMBING PIPING, AND RELATED SUPPORTS & APPURTENANCES.
4. PROVIDE PERMANENT CAP DOWNSTREAM OF SOV & REGULATOR.
5. VERIFY EXACT LOCATION OF EXISTING PIPE. REFLECT VERIFIED INFORMATION ON SHOP DRAWINGS FOR COORDINATION AMONGST TRADES PRIOR TO ANY PIPE INSTALLATION. REFLECT ON AS-BUILT DRAWING IF DIFFERENT FROM HEREWITH. PREPARE AREA FOR NEW PIPE CONNECTION

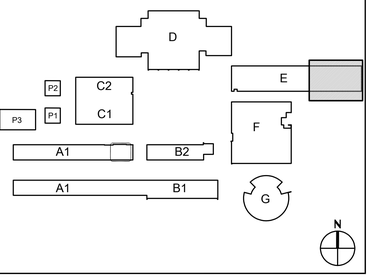
PLUMBING CONSTRUCTION KEYNOTES:

1. PROVIDE GAS PIPE WITH SOV AND DIRT LEG FOR MECHANICAL UNIT. COORDINATE EXACT PIPE INLET LOCATION ON TO MECHANICAL UNIT PRIOR TO PIPE INSTALLATION. SEE DETAIL 1/P511 FOR MORE INFORMATION. PROVIDE FLEX CONNECTION IF MECH UNIT IS ON SPRING CURB.
2. PROVIDE CONDENSATE LINE WITH P-TRAP, VENT AND CLEANOUT FOR MECHANICAL UNIT. COORDINATE EXACT INLET LOCATION ON TO MECHANICAL UNIT PRIOR TO PIPE INSTALLATION. SEE DETAIL 1/P511 FOR MORE INFORMATION. PROVIDE FLEX CONNECTION IF MECH UNIT IS ON SPRING CURB.
3. VERIFY EXACT LOCATION OF ALL BUILDING COMPONENTS THAT MAY OBSTRUCT PATH OF NEW PIPING. REFLECT VERIFIED INFORMATION ON SHOP DRAWINGS FOR COORDINATION AMONGST TRADES PRIOR TO ANY PIPE INSTALLATION. PREPARE AREA FOR NEW WORK ONCE PATH FOR NEW PIPE IS ESTABLISHED.
4. PRIME AND PAINT ALL EXPOSED PIPING ON ROOF.
5. ¾"CD TERMINATE DOWNWARD ABOVE ROOF DRAIN
6. PROVIDE SEISMIC BRACING ON ALL GAS PIPING LARGER THAN 1" IN DIAMETER. SEE DETAILS 2, 3 & 4 ON SHEET P511.

GAS PIPE TABLE 1215.2(1)
INLET PRESSURE<2PSI, 0.5WATER COLUMN DROP, SPGR 0.6

PIPE SIZE	DL<120FT (MBH)
½"	44
¾"	92
1"	173
1¼"	355
1½"	532
2"	1020

KEYPLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120824 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 08/30/2023

BID PACKAGE A

AGENCY APPROVAL

ALBERT EINSTEIN MIDDLE SCHOOL HVAC REPLACEMENT

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SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

capital engineering
RANCHO CORDOVA, CALIFORNIA
MB - MAB/JV & NH/DY 220921.00
PM - DESIGN TEAM PROJECT NO.

LICENSED PROFESSIONAL ENGINEER
BRYAN J. STINCH
No. M 31443
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STATE OF CALIFORNIA
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LICENSED ARCHITECT
BRYAN J. MURPHY
No. C-26867
RENEWAL DATE: 1/31/25
STATE OF CALIFORNIA

ARCHITECT

CONSTRUCTION DOCUMENTS

REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023
3	DSA BACKCHECK SET V.3	07/17/2023

DATE: 07/17/2023

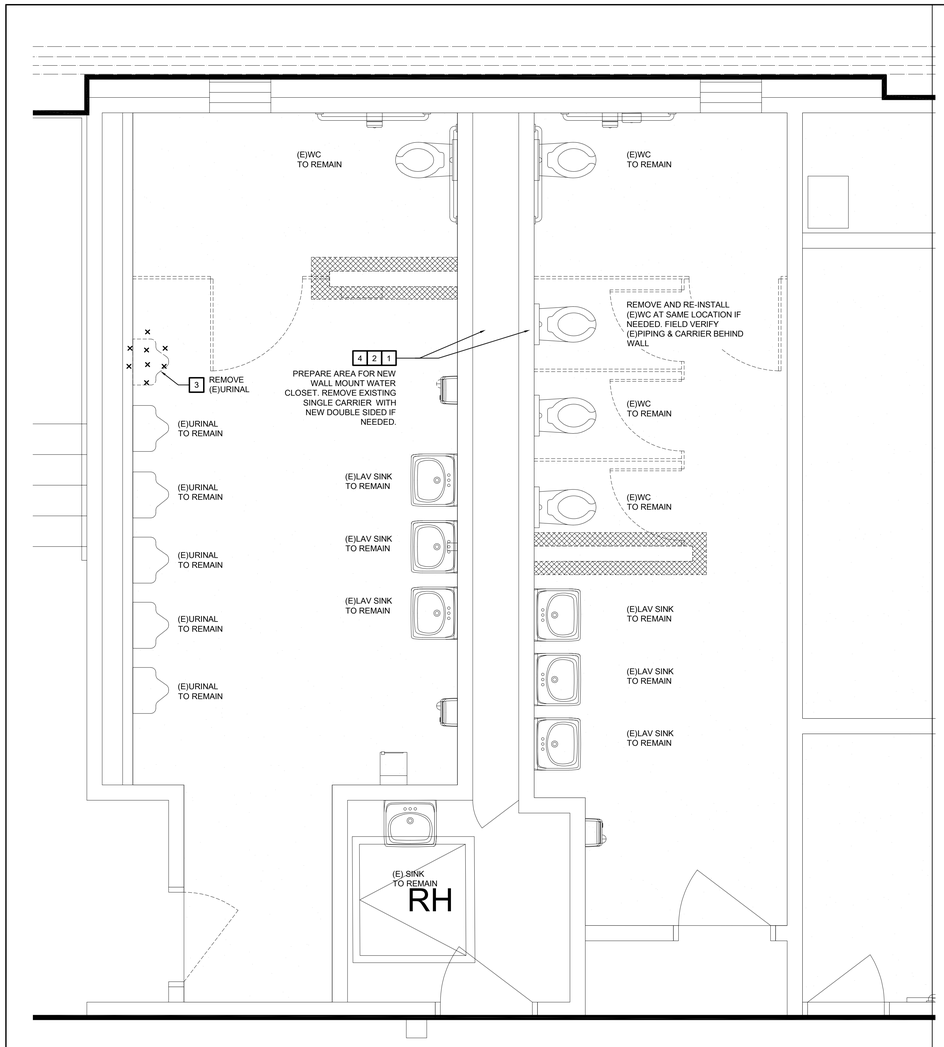
JOB NO.: Y2243.00

SHEET TITLE

PLUMBING ROOF PLAN

SHEET NO.

P210

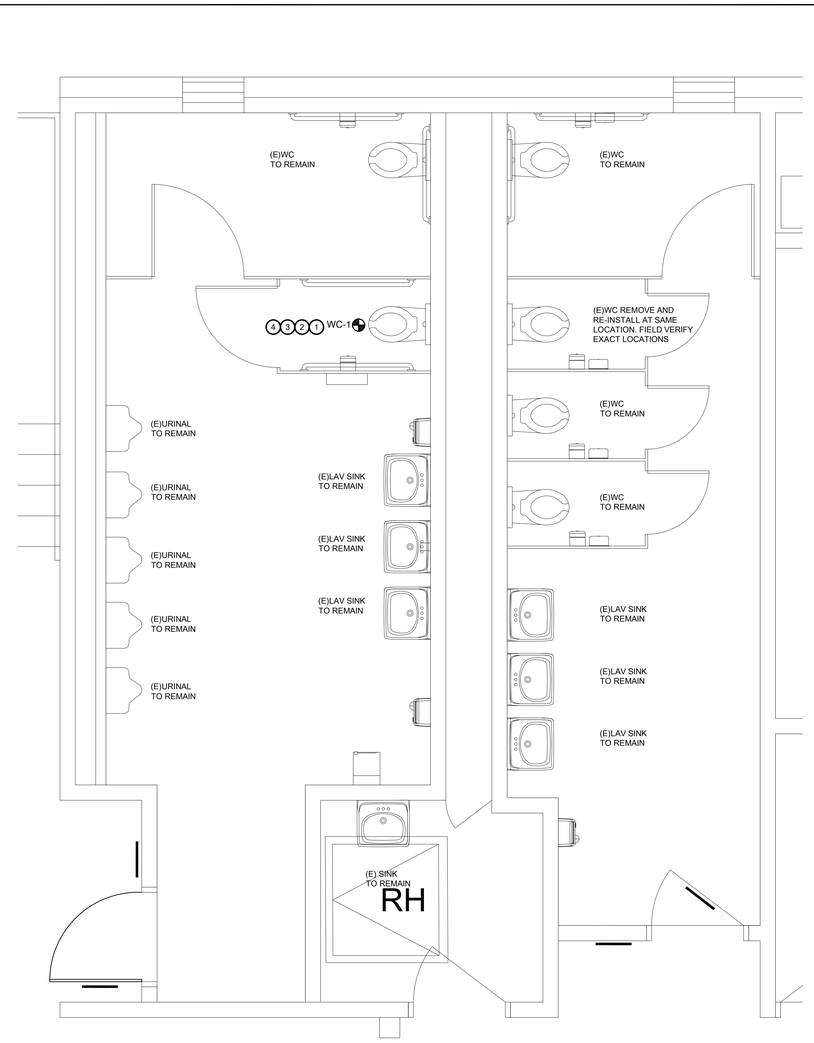


28

ENLARGED PLUMBING DEMO PLAN - BLDG A1 RESTROOMS

1 / P410

SCALE : 1/2" = 1'-0"



ENLARGED PLUMBING PLAN - BLDG A1 RESTROOMS

2 / P410

SCALE : 1/2" = 1'-0"

SHEET NOTES

1. EXISTING PLUMBING LAYOUT BASED FROM AVAILABLE RECORD DRAWINGS OF UNKNOWN ACCURACY. EXISTING PIPING ESPECIALLY THOSE CONCEALED AND/OR UNDERGROUND MAY HAVE BEEN INSTALLED DIFFERENTLY FROM SHOWN HEREWITH. CONTRACTOR SHALL INVESTIGATE EXISTING PIPE ROUTE, ELEVATION, SIZE AND CONDITION, THRU VISUAL OBSERVATIONS, POT-HOLING, RADAR INSPECTION OR OTHER MEANS NECESSARY TO COMPLETE WORK. PRIOR TO ANY NEW PIPE INSTALLATION, REFLECT ALL FINDINGS ON SHOP DRAWINGS FOR COORDINATION AMONGST TRADES. REFLECT EXISTING ROUTE, ELEVATION AND OTHER OBSERVATIONS ON AS-BUILT DRAWING IF DIFFERENT FROM SHOWN HEREWITH.
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7. PRIME AND PAINT ALL EXPOSED PIPING TO MATCH ARCHITECTURAL FINISH.
8. NO EXPOSED PIPING SHALL BE LEFT TO RUST OR SUBJECTED TO CONDITIONS DETRIMENTAL TO THE PIPE WITHOUT PROVIDING PROTECTION, TEMPORARY OR OTHERWISE, SUITABLE TO THE TYPE OF PIPE BEING PROTECTED.
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10. ALL GAS PIPING ON ROOF GREATER THAN 1" IN SIZE SHALL BE PROVIDED WITH SEISMIC BRACING PER CBC CH16.

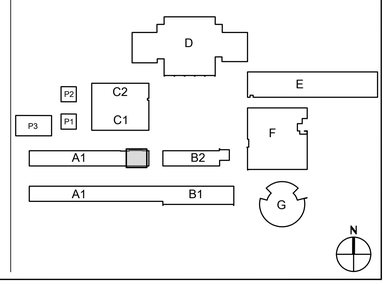
PLUMBING DEMO KEYNOTES:

1. VERIFY EXACT SIZE AND LOCATION OF EXISTING PIPE. REFLECT VERIFIED INFORMATION ON SHOP DRAWINGS FOR COORDINATION AMONGST TRADES PRIOR TO ANY PIPE INSTALLATION. REFLECT ON AS-BUILT DRAWING IF DIFFERENT FROM HEREWITH.
2. VERIFY EXACT LOCATION OF ALL BUILDING COMPONENTS THAT MAY OBSTRUCT PATH OF NEW PIPING. REFLECT VERIFIED INFORMATION ON SHOP DRAWINGS FOR COORDINATION AMONGST TRADES PRIOR TO ANY PIPE INSTALLATION. PREPARE AREA FOR NEW WORK ONCE PATH FOR NEW PIPE IS ESTABLISHED.
3. REMOVE & DISPOSE OF EXISTING PLUMBING FIXTURE OR DRAIN, AND RELATED SUPPORTS & APPURTENANCES. UNLESS SHOWN OTHERWISE, CAP UNUSED PIPING ABOVE, BELOW OR BEHIND ARCHITECTURAL FINISHES. SEE ARCHITECTURAL DEMO SHEETS FOR MORE INFORMATION.
4. CLEAN AND FLUSH EXISTING SEWER LINES FROM POC TO BUILDING SEWER OUTSIDE THE BUILDING.

PLUMBING CONSTRUCTION KEYNOTES:

1. VERIFY EXACT SIZE AND LOCATION OF EXISTING PIPE. REFLECT VERIFIED INFORMATION ON SHOP DRAWINGS FOR COORDINATION AMONGST TRADES PRIOR TO ANY PIPE INSTALLATION. REFLECT ON AS-BUILT DRAWING IF DIFFERENT FROM HEREWITH.
2. VERIFY EXACT LOCATION OF ALL BUILDING COMPONENTS THAT MAY OBSTRUCT PATH OF NEW PIPING. REFLECT VERIFIED INFORMATION ON SHOP DRAWINGS AND COORDINATE AMONGST TRADES PRIOR TO ANY PIPE INSTALLATION. REROUTE PIPING IF REQUIRED, REFLECT ON AS-BUILT DRAWINGS IF DIFFERENT FROM HEREWITH.
3. CONNECT NEW PLUMBING FIXTURE TO EXISTING SEWER, VENT & WATER PIPE. SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS, CLEARANCES AND OTHER INFORMATION. SEE PLUMBING FIXTURE SCHEDULE FOR BRANCH PIPE SIZES.
4. CLEAN AND FLUSH EXISTING SEWER LINES FROM POC TO BUILDING SEWER OUTSIDE THE BUILDING.

KEYPLAN:



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120824 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 08/30/2023

BID PACKAGE A

AGENCY APPROVAL

ALBERT EINSTEIN MIDDLE SCHOOL HVAC REPLACEMENT

9325 MIRANDY DR
SACRAMENTO, CA 95826

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

capital engineering
RANCHO CORDOVA, CALIFORNIA

MB - MAB/JV & NH/DY — 220921.00
PM - DESIGN TEAM — PROJECT NO.

LICENSED PROFESSIONAL ENGINEER
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No. 27142
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LICENSED ARCHITECT
BRYAN J. [illegible]
No. C-26867
RENEWAL DATE: 1/31/25
STATE OF CALIFORNIA

ARCHITECT

CONSTRUCTION DOCUMENTS

REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023
3	DSA BACKCHECK SET V3	07/17/2023

DATE: 07/17/2023

JOB NO.: Y2243.00

SHEET TITLE

ENLARGED
PLUMBING
FLOOR PLAN

SHEET NO.

P410

QC
INI %

ONE AND ONE-HALF INCH = ONE FOOT
ONE INCH = ONE FOOT
THREE-QUARTERS INCH = ONE FOOT
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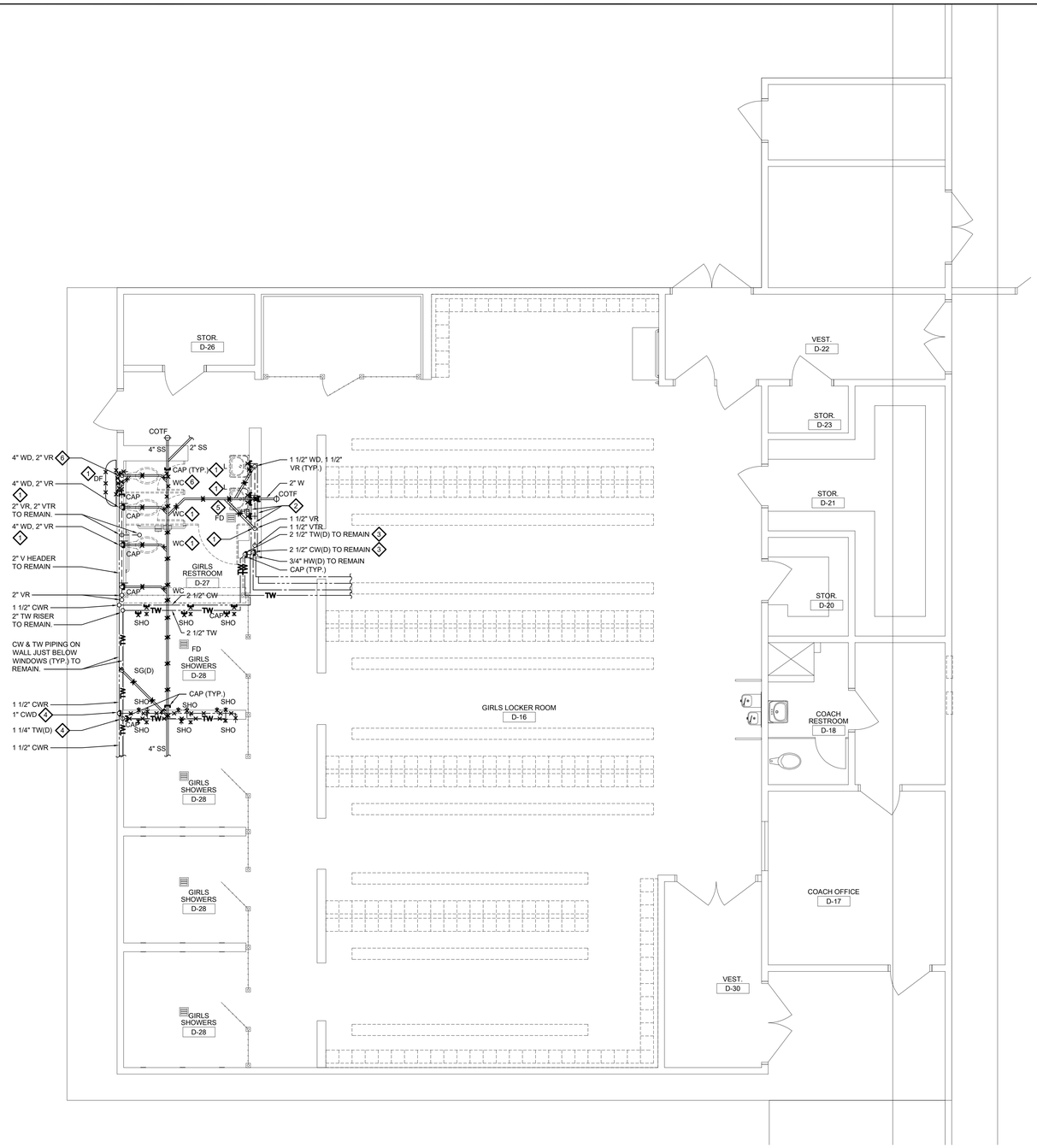

PLUMBING ENLARGED GIRLS LOCKER ROOM DEMOLITION PLAN

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

1 / P420

N

KEYNOTES:

1. CUT AND CAP, REMOVE PIPING TO BEHIND ARCHITECTURAL SURFACES.
2. CUT AND CAP CW, TW, W PIPING SERVING FIXTURES ALONG WALL TO BEHIND ARCHITECTURAL SURFACES.
3. CUT AND CAP CW, TW PIPING SERVING FIXTURES TO BEHIND ARCHITECTURAL SURFACES.
4. CUT AND CAP CW, TW PIPING SERVING SHOWER (SHO) FIXTURES BACK TO BRANCH TAKE OFF.
5. CUT AND CAP W AND V PIPING SERVING FD TO BELOW FINISHED SURFACES.
6. REMOVE WC AND SUPPORTS IN WALL. PREPARE BASIC LOCATION FOR NEW WC SUPPORT AND FIXTURE IN SIMILAR LOCATION.

SHEET NOTES:

1. XXX

BID PACKAGE A

AGENCY APPROVAL

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9325 MIRANDY DR
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capital engineering
Rancho Cordova, California

MB - MAB/JV & NH/DY — PM - DESIGN TEAM
220921.00 — PROJECT NO.

DATE SIGNED: 9/19/23
Date Signed: 7/22/24

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LICENSED ARCHITECT — BRIAN J. [illegible] — No. C-26867 — RENEWAL DATE: 1/31/25 — STATE OF CALIFORNIA

ARCHITECT

CONSTRUCTION DOCUMENTS

REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023

DATE: 06/19/2023

JOB NO.: Y2243.00

SHEET TITLE

PLUMBING ENLARGED GIRLS LOCKER ROOM DEMOLITION PLAN

SHEET NO.

P420

QC INI

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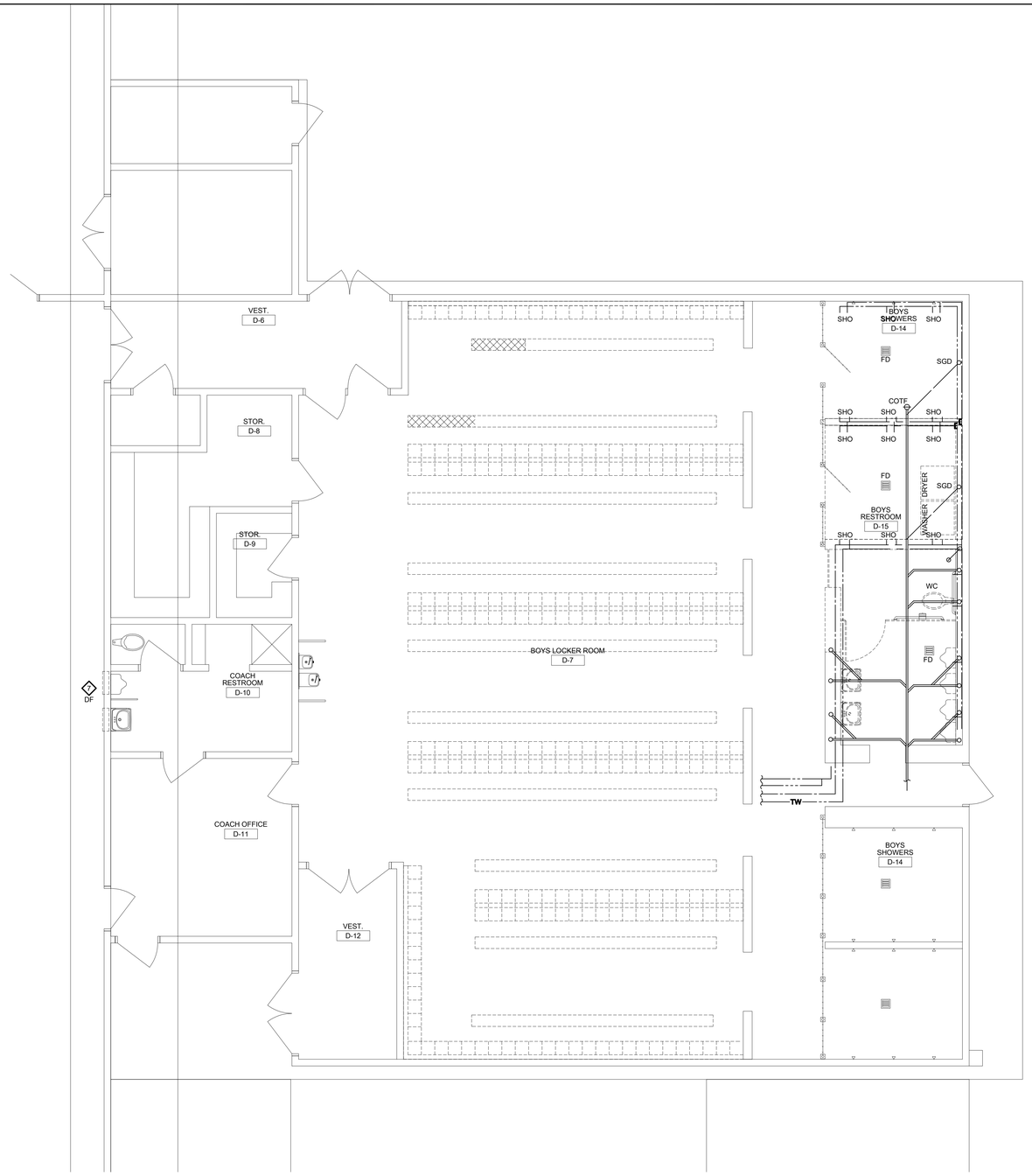

PLUMBING ENLARGED BOYS LOCKER ROOM DEMOLITION PLAN

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

1 / P421

N

KEYNOTES:

1. CUT AND CAP, REMOVE PIPING TO BEHIND ARCHITECTURAL SURFACES.
2. CUT AND CAP CW, TW, W PIPING SERVING FIXTURES ALONG WALL TO BEHIND ARCHITECTURAL SURFACES.
3. CUT AND CAP CW, TW PIPING SERVING FIXTURES TO BEHIND ARCHITECTURAL SURFACES.
4. CUT AND CAP CW, TW PIPING SERVING SHOWER (SHO) FIXTURES BACK TO BRANCH TAKE OFF.
5. CUT AND CAP W AND V PIPING SERVING FD TO BELOW FINISHED SURFACES.
6. REMOVE WC AND SUPPORTS IN WALL. PREPARE BASIC LOCATION FOR NEW WC SUPPORT AND FIXTURE IN SIMILAR LOCATION.
7. CUT AND CAP, REMOVE PIPING TO BEHIND ARCHITECTURAL SURFACES.

SHEET NOTES:

1. XXX

BID PACKAGE A

AGENCY APPROVAL

ALBERT EINSTEIN MIDDLE SCHOOL
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9325 MIRANDY DR
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SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

capital engineering
Rancho Cordova, California

MB - MAB/V & NH/DY | 220921.00
PM - DESIGN TEAM | PROJECT NO.

REGISTERED PROFESSIONAL ENGINEER
JOHN D. STANLEY
No. M 37417
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED: 6/21/23
Date Signed: 12/22/24

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BRYAN A. NACHT
No. C-26867
RENEWAL DATE: 1/31/25
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CONSTRUCTION DOCUMENTS

REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
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DATE: 06/19/2023

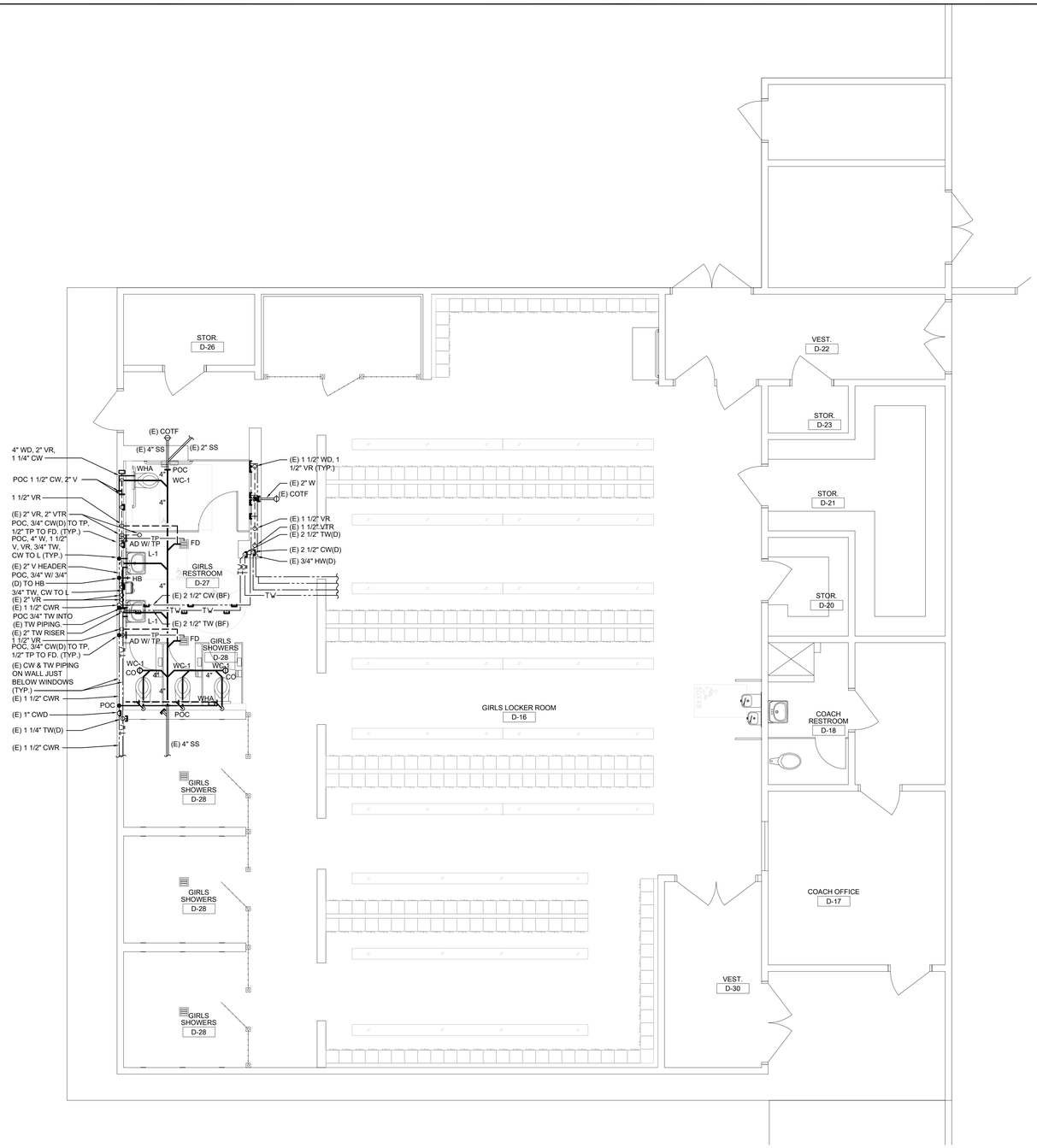
JOB NO.: Y2243.00

SHEET TITLE

PLUMBING
ENLARGED BOYS
LOCKER ROOM
DEMOLITION PLAN

SHEET NO.

P421



PLUMBING ENLARGED GIRLS LOCKER ROOM ALTERATION PLAN

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

1 / P422

N

KEYNOTES:

1 xxx

SHEET NOTES:

1. PROVIDE SOV AT ALL PIPING BRANCH TAKE-OFF LOCATIONS.

BID PACKAGE A

AGENCY APPROVAL

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RANCHO CORDOVA, CALIFORNIA

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220921.00 — PROJECT NO.

LICENSED PROFESSIONAL ENGINEER — BRIAN D. STAHL — No. M 27424 — MECHANICAL — STATE OF CALIFORNIA
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LICENSED ARCHITECT — BRYAN [illegible] — No. C-26867 — RENEWAL DATE: 1/31/25 — STATE OF CALIFORNIA

ARCHITECT

CONSTRUCTION DOCUMENTS

REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023

DATE: 06/19/2023

JOB NO.: Y2243.00

SHEET TITLE

PLUMBING ENLARGED GIRLS LOCKER ROOM ALTERATION PLAN

SHEET NO.

P422

QC
INI

ONE AND ONE-HALF INCH = ONE FOOT
ONE INCH = ONE FOOT
THREE-QUARTERS INCH = ONE FOOT
ONE-HALF INCH = ONE FOOT
ONE-QUARTER INCH = ONE FOOT
ONE-EIGHTH INCH = ONE FOOT
ONE-SIXTEENTH INCH = ONE FOOT
ONE INCH = TWENTY FEET

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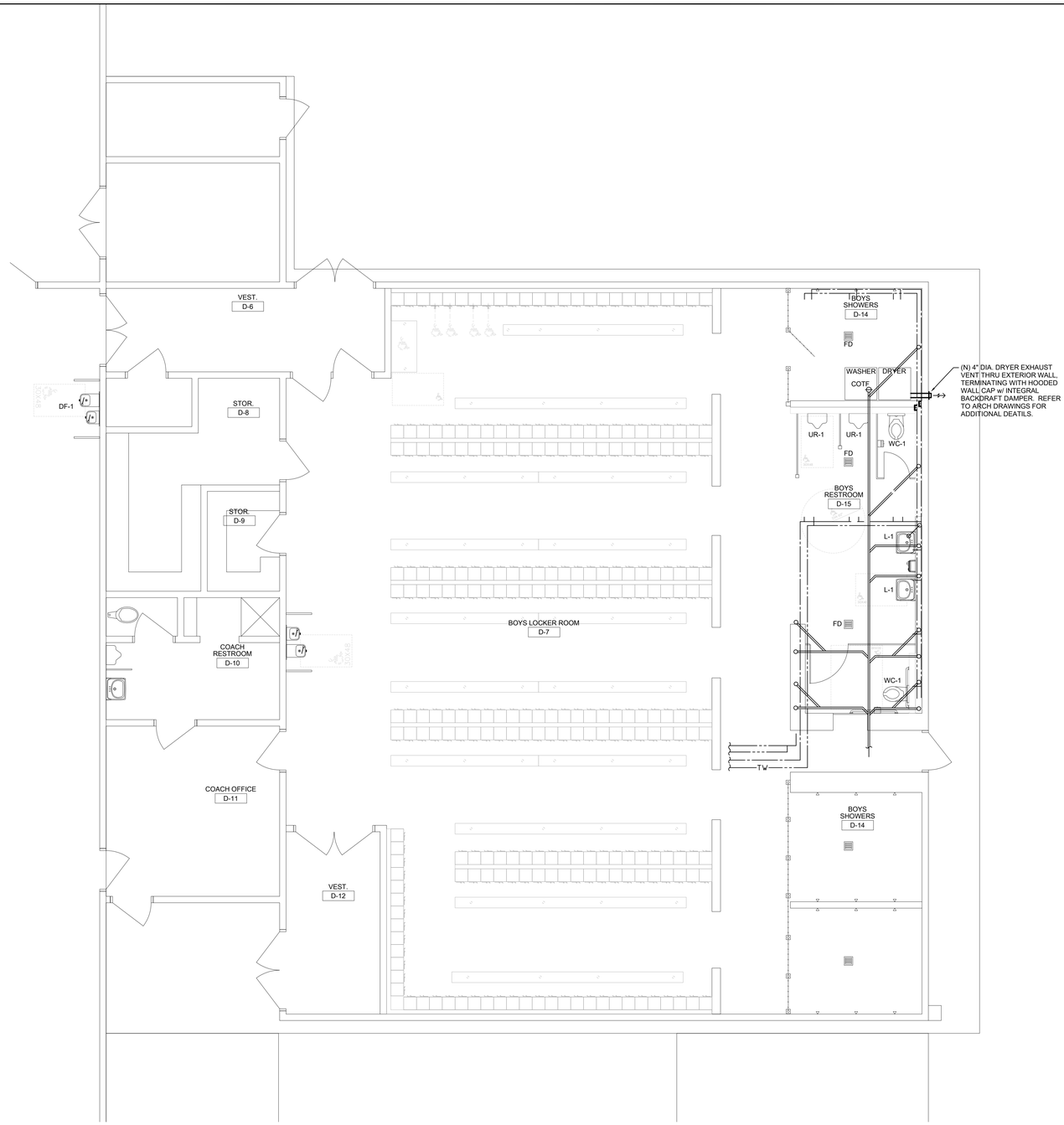

PLUMBING ENLARGED BOYS LOCKER ROOM ALTERATION PLAN

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

1 / P423

N

KEYNOTES:

1 XXX

SHEET NOTES:

1. PROVIDE SOV AT ALL PIPING BRANCH TAKE-OFF LOCATIONS.

BID PACKAGE A

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STATE OF CALIFORNIA

ARCHITECT

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SHEET TITLE

PLUMBING ENLARGED BOYS LOCKER ROOM ALTERATION PLAN

SHEET NO.

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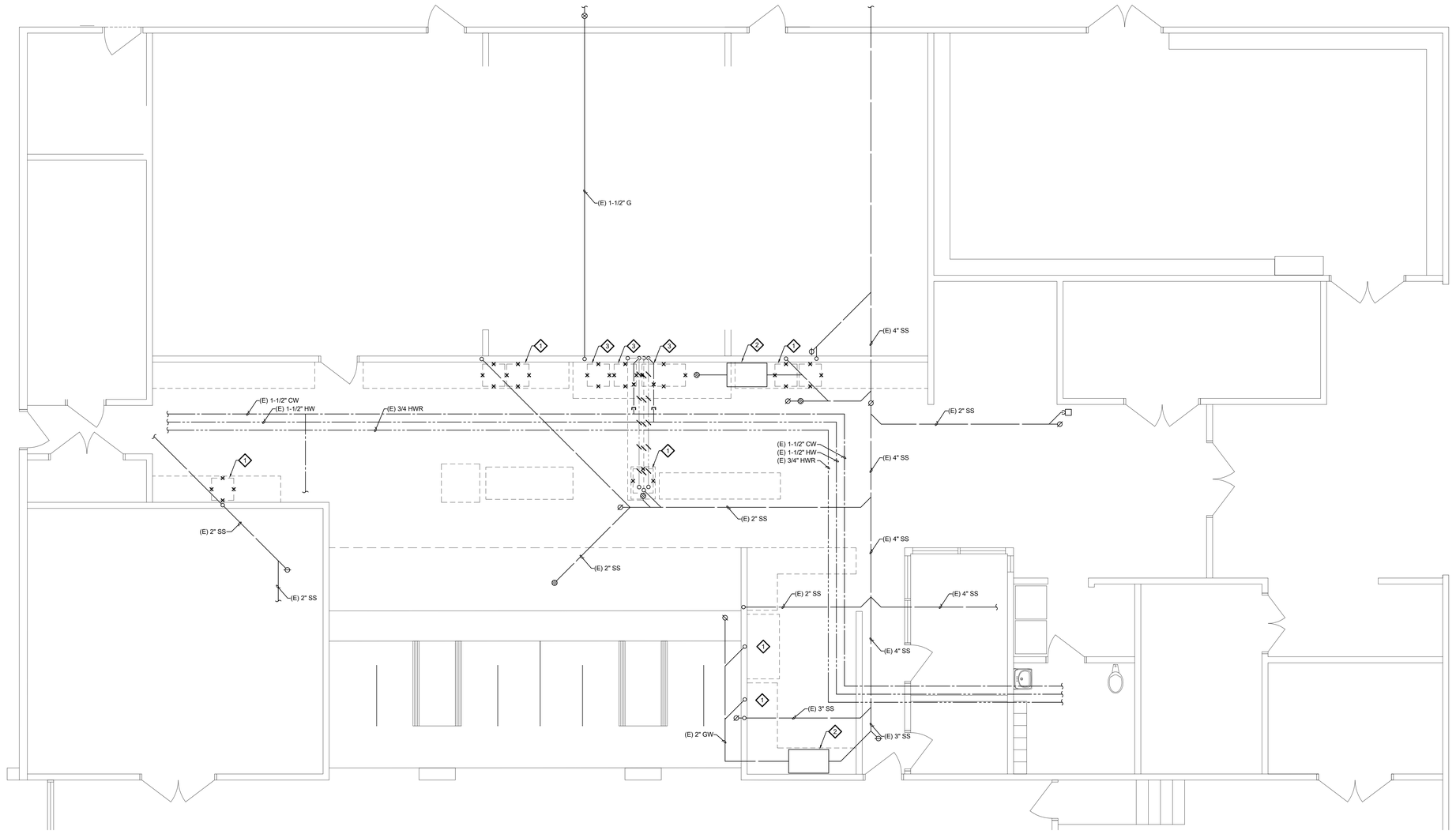

PLUMBING ENLARGED KITCHEN DEMOLITION PLAN

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

1 / P430

N

KEYNOTES:

1. EXISTING PLUMBING FIXTURE TO BE REMOVED. CAP WASTE, VENT, AND DOMESTIC PIPING ABOVE, BEHIND, OR BELOW ARCHITECTURAL FINISHES.
2. EXISTING GREASE INTERCEPTOR TO REMAIN. REMOVE ANY EFFLUENT FROM INTERCEPTOR PRIOR TO CONSTRUCTION.
3. EXISTING COOKING EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW. REMOVE GAS LINE BACK TO HEADER AND CAP.
4.

SHEET NOTES:

1. EXISTING HVAC SYSTEMS SHOWN ON THE PLANS ARE DIAGRAMATIC IN NATURE, BASED ON RECORD DRAWINGS AND SITE OBSERVATIONS OF EXPOSED FEATURES. CONTRACTOR SHALL INCLUDE IN THEIR BID THE FIELD VERIFICATION OF EXACT LOCATION AND ROUTING FOR ALL EXISTING HVAC SYSTEMS PRIOR TO COMMENCEMENT OF WORK, AND SHALL NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPENCIES THAT MAY AFFECT THE PROPOSED SCOPE OF WORK / DESIGN INTENT AS SHOWN ON THESE PLANS.
2. FOR MECHANICAL GENERAL NOTES, REFER TO SHEET M001.

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ARCHITECT

CONSTRUCTION DOCUMENTS

REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023

DATE: 06/19/2023

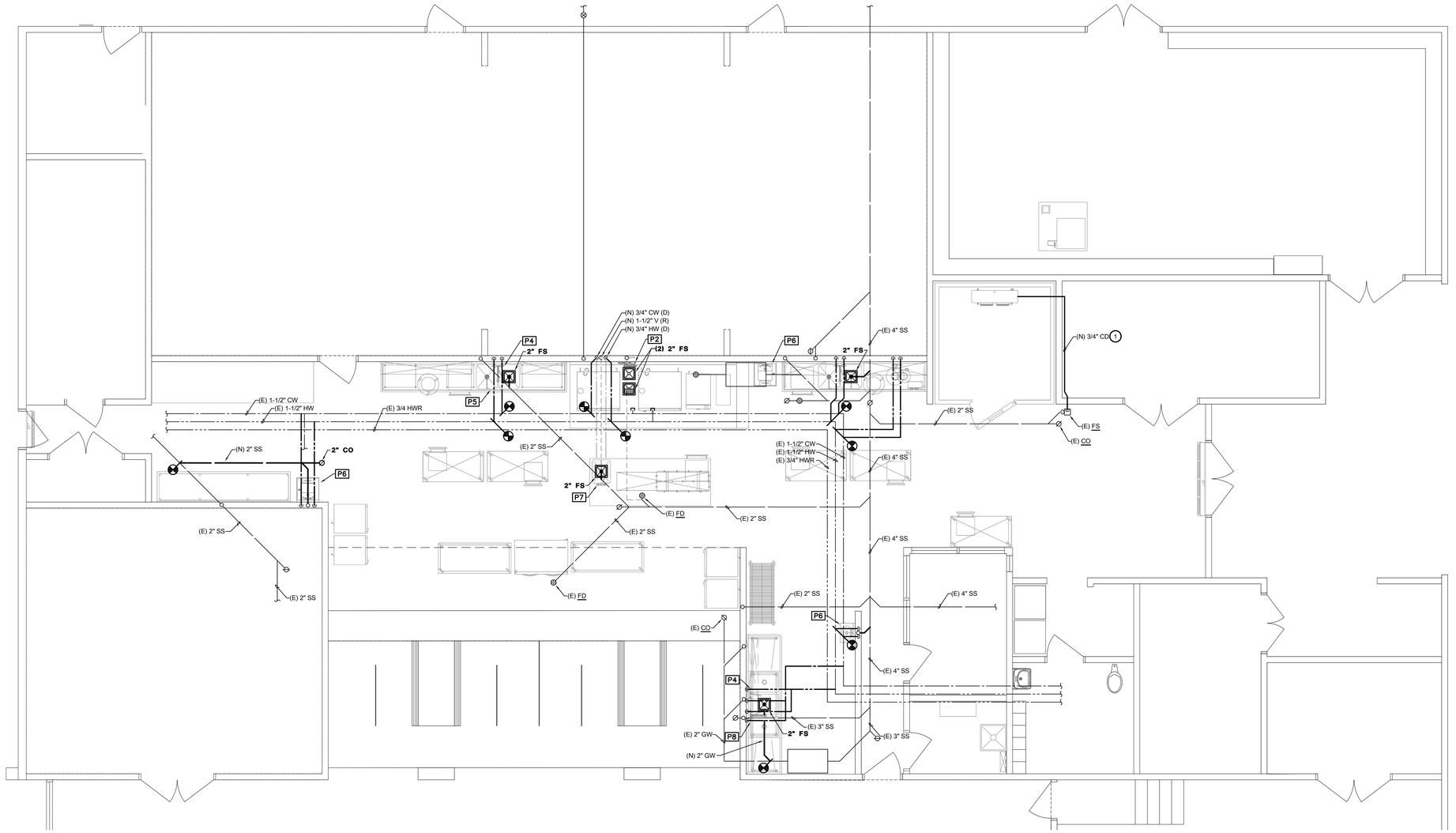
JOB NO.: Y2243.00

SHEET TITLE

PLUMBING ENLARGED KITCHEN DEMOLITION PLAN

SHEET NO.

P430



PLUMBING ENLARGED KITCHEN NEW PLAN

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

1 / P431

N

KEYNOTES:

1. PROVIDE NEW HEAT TRACE CABLE ON CONDENSATE DRAIN LINE. ROUTE TO AND TERMINATE AT EXISTING FLOOR SINK.

SHEET NOTES:

1. --

KITCHEN EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	VENT	WASTE	CW	HW	GAS	MBH	NOTE
P2	COMBI OVEN	–	2"	3/4"	–	–	–	–
P4	PRE-RINSE FAUCET	–	–	–	–	–	–	–
P5	PREP SINK	1-1/2"	2"	3/4"	3/4"	–	–	–
P6	WALL MOUNTED HAND SINK	1-1/2"	2"	3/4"	3/4"	–	–	–
P7	CHEFS SINK	1-1/2"	2"	3/4"	3/4"	–	–	–
P8	POT FILLER FAUCET	1-1/2"	2"	3/4"	3/4"	–	–	–

QC
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BID PACKAGE A

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CONSTRUCTION DOCUMENTS

REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/15/2023

DATE: 06/19/2023

JOB NO.: Y2243.00

SHEET TITLE

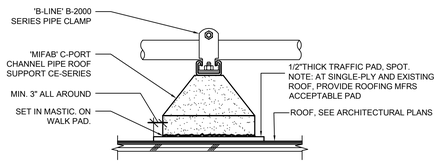
PLUMBING ENLARGED KITCHEN NEW PLAN

SHEET NO.

P431

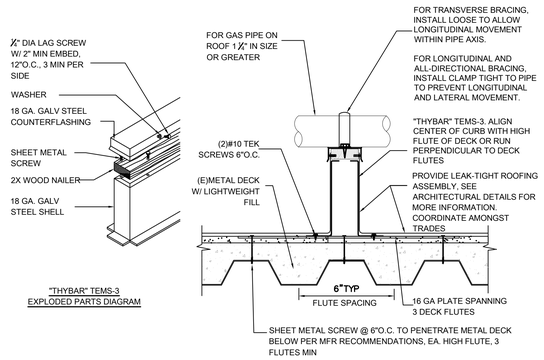
CPC 2019 TABLE 1210.2.4.1
SPACING OF SUPPORTS IN GAS PIPING

STEEL PIPE, NOMINAL SIZE OF PIPE (IN.)	SPACING OF SUPPORTS (FT.)	NOMINAL SIZE OF TUBING SMOOTH-WALL (IN. O.D.)	SPACING OF SUPPORTS (FT.)
1/2	6	1/2	4
3/4 OR 1	8	5/8 OR 3/4	6
1 1/4 OR LARGER (HORZ.)	10	7/8 OR 1 (HORZ.)	8
1 1/4 OR LARGER (VERT.)	EVERY FLOOR LEVEL	1 OR LAGER (VERT.)	EVERY FLOOR LEVEL



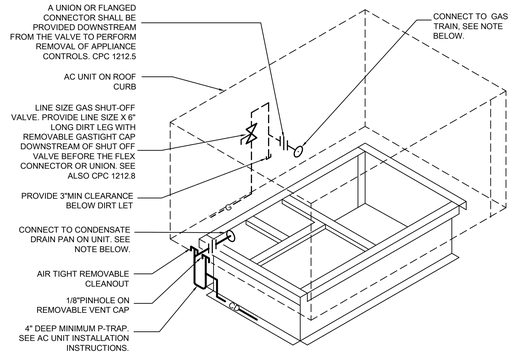
NON-SEISMIC PIPE SUPPORT ON ROOF — 3/P511

SCALE : NONE



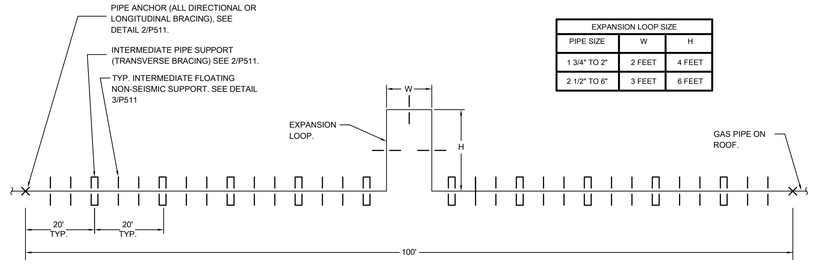
SEISMIC PIPE SUPPORT ON ROOF — 2/P511

SCALE : NONE



AC UNIT PIPING — 1/P511

SCALE : NONE



EXPANSION LOOP SIZE		
PIPE SIZE	W	H
1 3/4" TO 2"	2 FEET	4 FEET
2 1/2" TO 6"	3 FEET	6 FEET

NOTES:

1. UNLESS NOTED OTHERWISE, PROVIDE SEISMIC BRACING ON ALL GAS PIPING LARGER THAN 1" IN DIAMETER. FOR COMPLETE INFORMATION, SEE 2019 CBC SECTION 1617A.1.26.
2. GAS PIPING INTERMEDIATE (TRANSVERSE) PIPE SUPPORTS SHALL BE SPACED AT 20' ON CENTER.
3. INTERMEDIATE FLOATING (NON-SEISMIC) SUPPORTS SHALL BE SPACED BETWEEN INTERMEDIATE PIPE SUPPORTS WITH SPACING AS REQUIRED TO MEET THE MINIMUM PIPE SPACING REQUIREMENTS OF SPECIFICATION SECTION 220050.
4. INTERMEDIATE SUPPORTS AND INTERMEDIATE FLOATING SUPPORTS SHALL HAVE PIPE CLAMPS INSTALLED LOOSE AROUND PIPE TO ALLOW LONGITUDINAL MOVEMENT OF THE PIPE. PIPE ANCHORS (LONGITUDINAL & ALL-DIRECTIONAL SEISMIC SUPPORTS) SHALL HAVE PIPE CLAMPS INSTALLED TIGHT AROUND PIPE TO PROVIDE SECURE ANCHORAGE.
5. EACH SPAN OR RUN SHALL BE PROVIDED WITH 1 ANCHOR SUPPORT (ALL-DIRECTIONAL OR LONGITUDINAL BRACING) UNLESS NOTED OTHERWISE.

GAS PIPE ON ROOF SUPPORT/ANCHORAGE DETAIL — 4/P511

SCALE : NONE

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120824 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 08/30/2023

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CONSTRUCTION DOCUMENTS

REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023
3	DSA BACKCHECK SET V3	07/17/2023

DATE: 07/17/2023

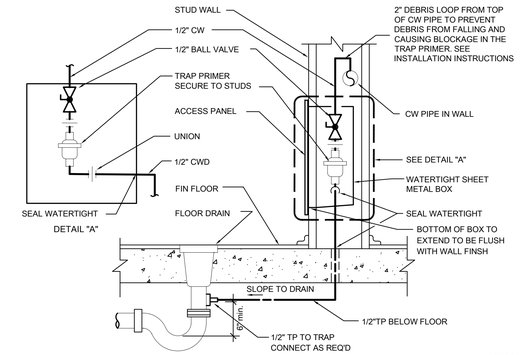
JOB NO.: Y2243.00

SHEET TITLE

PLUMBING DETAILS

SHEET NO.

P511



TRAP PRIMER TO FLOOR DRAIN — 1 / P512

SCALE : NONE

BID PACKAGE A

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SHEET TITLE

PLUMBING DETAILS

SHEET NO.

P512

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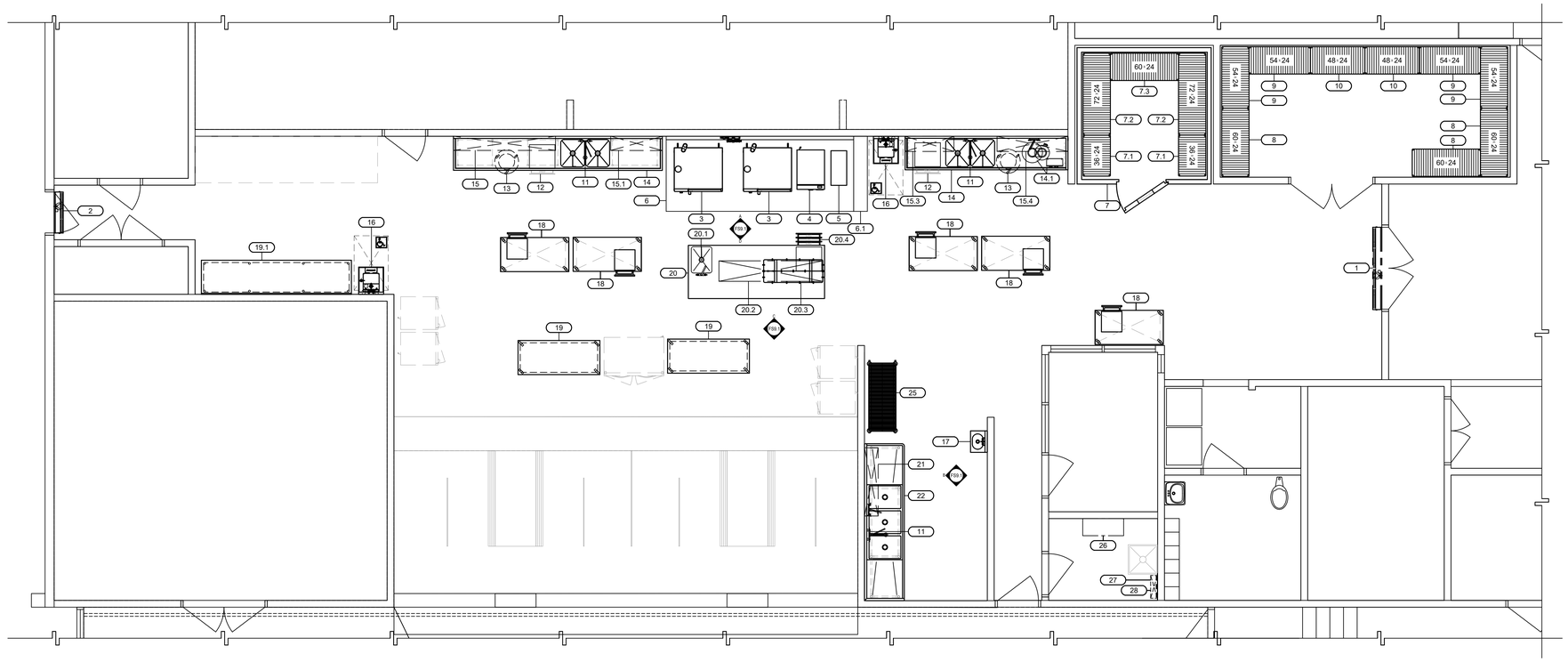
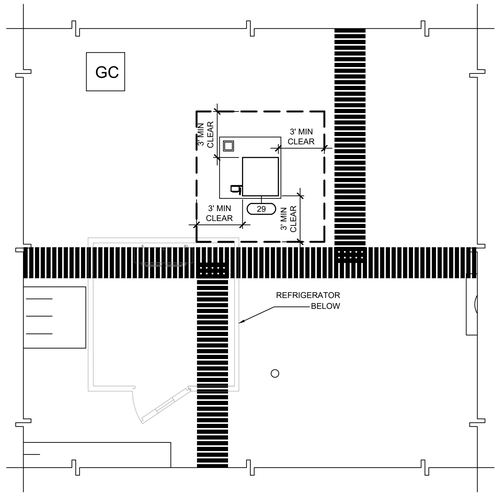


FOODSERVICE EQUIPMENT FLOOR PLAN

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

1 / FS1.1



FOODSERVICE EQUIPMENT ROOF PLAN

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

2 / FS1.1

EQUIPMENT SCHEDULE

ITEM NO	QTY	EQUIPMENT CATEGORY	MANUFACTURER	MODEL NUMBER	NOTE	WEIGHTS	ANCHORAGE DETAILS
1	1	AIR CURTAIN, UNHEATED	BERNER	SLC07-1072A		72	C/FS8.2
2	1	AIR CURTAIN, UNHEATED	BERNER	SLC07-1036A		45	C/FS8.2
3	2	OVEN-STEAMER, COMBINATION, ELECTRIC (DOUBLE STACK)	RATIONAL USA	ICP PRO 6-FULL SIZE E/6-FS E 480V 3PH	W/MARINE STAND	155	G/FS8.1
4	1	GRIDDLE, ELECTRIC W/ STAND	ACCUTEMP PRODUCTS	EGF4803A2450-S2		200	A/FS8.2
5	1	INDUCTION RANGE, COUNTERTOP,W/ STAND	COOKTEK	620701		45	L/FS8.1
6	1	EXHAUST HOOD, TYPE 1	STREIVOR	WCBD 1656322.5		1542	A/FS8.3
6.1	1	FIRE SYSTEM CABINET	STREIVOR	R-102		150	
7	1	WALK-IN REFRIGERATOR	RMI	FABRICATED ITEM		8.5lb PER SQ.FT FOR 4" PANELS	A/FS4.1
7.1	2	COLD STORAGE SHELVING	METRO	A2436NK3		17	K/FS8.2
7.2	2	COLD STORAGE SHELVING	METRO	A2472NK3		29.71	K/FS8.2
7.3	1	COLD STORAGE SHELVING	METRO	A2460NK3		24.71	K/FS8.2
8	3	SHELVING, METAL	DRY STORAGE SHELVING	A2460NC		27.4	D/FS8.2
9	4	SHELVING, METAL	DRY STORAGE SHELVING	A2454NC		24.5	D/FS8.2
10	2	SHELVING, METAL	DRY STORAGE SHELVING	A2448NC		22.4	D/FS8.2
11	3	PRE-RINSE FAUCET, WALL MOUNT	T & S BRASS	B-0133-A12-B08		16.5	
12	2	THREE STACK UTENSIL DRAWER UNIT	CUSTOM	FABRICATED ITEM		150	L/FS8.1
13	2	TRASH CAN W/DOLLIE	RUBBERMAID	FG262000GRAY		12.8	MOBILE
14	2	PREPERATION SINK	CUSTOM	FABRICATED ITEM		410	B/FS8.1
14.1	1	GARBAGE DISPOSER & CONE	SALVAJOR	200-SA-ARSS-2		123	
15	1	WALL SHELF	CUSTOM	FABRICATED ITEM		20	D/FS8.2
15.1	1	WALL SHELF	CUSTOM	FABRICATED ITEM		20	D/FS8.2
15.3	1	WALL SHELF	CUSTOM	FABRICATED ITEM		20	D/FS8.2
15.4	1	WALL SHELF	CUSTOM	FABRICATED ITEM		20	D/FS8.2
16	2	SINK, HAND, WALL MOUNT	EAGLE GROUP/METAL MASTERS	HSAP-14-ADA-FW		57	B/FS8.2
17	1	SINK, HAND, WALL MOUNT	EAGLE GROUP/METAL MASTERS	HSA-10-F-DS		13.7	B/FS8.2
18	5	MOBILE WORKTABLE WITH UTENSIL DRAWER	CUSTOM	FABRICATED ITEM		150	MOBILE
19	2	TABLE, WORK	EAGLE GROUP/METAL MASTERS	T3072SEB		111.5	MOBILE
19.1	1	TABLE, WORK	EAGLE GROUP/METAL MASTERS	T30132SE-BS		225	MOBILE
20	1	CHEFS COUNTER	CUSTOM	FABRICATED ITEM		886	L/FS8.1
20.1	1	CHEFS SINK	CUSTOM	FABRICATED ITEM			
20.2	1	DOUBLE TABLE MOUNTED OVERSHELF	CUSTOM	FABRICATED ITEM			
20.3	1	TABLE MOUNTED POT RACK	EAGLE GROUP/METAL MASTERS	TM60PR		64.2	
20.4	1	THREE STACK UTENSIL DRAWER UNIT	CUSTOM	FABRICATED ITEM		150	L/FS8.1
21	1	DISHTABLE SORTING SHELF	ADVANCED TABCO	DT-6R-60		39	D/FS8.1
22	1	(3) COMPARTMENT POT SINK	EAGLE GROUP/METAL MASTERS	FN2860-3-36-14/3	W/ LEFT SPLASH	200	A/FS8.1
23		SPARE					
24		SPARE					
25	1	MOBILE STEM CART	METRO	N566BBR		114	MOBILE
26	1	UPPER STORAGE CABINET FOR CLEANING SUPPLIES	ADVANCE TABCO	WCH-15-36		130	L/FS8.1
27	1	MOP DRAINAGE TRAY	ADVANCE TABCO	K-243		13	
28	1	MOP RACK	ADVANCE TABCO	K-242		2	
29	1	REMOTE REFRIGERATION (LOCATED ON ROOF)	COOLTEC	PPL-1		210	2/FS4.1

HEALTH DEPARTMENT NOTES:

1. PROVIDE THERMOMETER IN ALL REFRIGERATION UNITS CONTAINING PERISHABLE FOODS.
2. PROVIDE PROBE THERMOMETER FOR CHECKING HOT AND COLD FOODS.
3. FOOD STORAGE SHELVES SHALL BE MINIMUM SIZE (6) INCHES ABOVE FLOOR.
4. ALL EQUIPMENT SHALL MEET OR BE EQUIVALENT TO "NSF" STANDARDS.
5. PROVIDE GARMENT STORAGE AREA: LOCKER, CABINET OR HANGERS FOR EMPLOYEE GARMENTS.
6. RODENT AND INSECT-PROOF ALL EXTERIOR DOORS AND WINDOWS. PROVIDE HEAVY-DUTY SELF-CLOSERS ON ALL EXTERIOR DOORS AND RESTROOM DOORS. SEAL ALL HOLES OR GAPS AROUND PIPES ENTERING BUILDING.
7. EXTERIOR DOORS SHALL BE RODENT PROOF WITH NO OPENINGS GREATER THAN 1/4 INCH.
8. PROVIDE HARDWOOD, METAL, FORMICA OR OTHER APPROVED MATERIALS; SMOOTH WITH SEALER ON ALL TABLE, COUNTERS, SHELVES, AND OTHER FOOD CONTACT SURFACES.
9. PROVIDE HAZARDOUS SUBSTANCE LOCATION: SEPARATE CABINET, ROOM OR DESIGNATED AREA FOR STORAGE OF PESTICIDE AND CLEANING COMPOUNDS.
10. INSTALL EQUIPMENT TO FACILITATE CLEANING. PLACE FLOOR MOUNTED UNITS ON CASTERS, MINIMUM SIX (6) INCHES HIGH, ROUND, METAL LEGS, OR SEAL IN POSITION ON MINIMUM FOUR (4) INCH CURB.
11. UNPACKAGED PROCESSED FOODS ON DISPLAY SHALL BE EFFECTIVELY SHIELDED OR COVERED.
12. PROVIDE SOAP AND TOWEL DISPENSERS AT ALL HAND WASHING SINKS.
13. FLOOR SINKS SHALL BE INSTALLED FLUSH WITH FLOOR AND READILY ACCESSIBLE FOR CLEANING.
14. GREASE INTERCEPTORS SHALL BE INSTALLED READILY ACCESSIBLE FOR CLEANING.
15. PROVIDE PROTECTIVE COVERS ON ALL LIGHTS IN FOOD PREPARATION, OPENED FOOD STORAGE ROOM(S), UTENSIL WASH AREAS, OR USE SHATTERPROOF BULBS.
16. LIGHTING REQUIREMENTS:
    -MINIMUM 50FT. CANDLES REQUIRED IN FOOD PREP AREA
    -MINIMUM 20FT. CANDLES REQUIRED IN RESTROOMS AND BARS
    -MINIMUM 10FT. CANDLES REQUIRED IN REFRIGERATORS
    -MINIMUM 10FT. CANDLES REQUIRED IN STORAGE AREAS
    -LIGHTING SHALL BE SHATTERPROOF OR SHIELDED
17. EXISTING FIXTURES, FINISHES, AND EQUIPMENT SHALL BE IN OPERABLE CONDITION AND SUBJECT TO FIELD APPROVAL.
18. WALLS & CEILING IN THE RESTROOMS, PREPARATION, STORAGE, AND JANITORIAL AREAS SHALL BE CONSTRUCTED OF APPROVED MATERIALS SO AS TO BE SMOOTH, WASHABLE, AND EASY TO CLEAN.

KITCHEN EQUIPMENT HOOD AND FIRE SYSTEM

1. THE KITCHEN HOOD FIRE SUPPRESSION SYSTEM SHALL CONFORM TO THE REQUIREMENTS OF THE 2021 EDITION OF THE NFPA 17A. (UL 300 SYSTEM)
2. INSTALLATION OF THE FIRE SUPPRESSION SYSTEM SHALL NOT BE STARTED UNTIL COMPLETE PLANS AND SPECIFICATIONS HAVE BEEN APPROVED BY DEPT. OF STATE ARCHITECT.
3. UPON COMPLETION OF THE SYSTEM IT SHALL BE TESTED IN THE PRESENCE OF THE STATE FIRE MARSHAL.

FOODSERVICE DRAWINGS SHEET LIST

APPLICABLE CODE 2022 CBC

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-17 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2022 CBS, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTIONS SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE-APPROVED INSTALLATION GUIDE (E.G., HCAI OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP☒ MD☒ PP☒ E☒ Option 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

MP☐ MD☐ PP☐ E☐ Option 2: SHALL COMPLY WITH HCAI (OSHPD) PREAPPROVED (OPM #)_____ AS INCLUDED IN THESE DRAWINGS WITH PROJECT-SPECIFIC NOTES AND DETAILS.

FLOOR LEGEND

SYMBOL/ABBREVIATION	DESCRIPTION
OFCI	OWNER FURNISH / CONTRACTOR INSTALLED
OFOI	OWNER FURNISH / OWNER INSTALLED
FSEC	FOODSERVICE EQUIPMENT CONTRACTOR
VFVI	VENDER FURNISH / VENDER INSTALLED
(E), EXIST	EXISTING FOODSERVICE EQUIPMENT
(F)	FUTURE FOODSERVICE EQUIPMENT
	BUILDING WALLS (SEE ARCH. DWGS.)
	WALK-IN COOLER/ FREEZER INSULATED WALLS
1 / 1	KEY / SHEET NOTE
1	ITEM NUMBER SYMBOL (SEE EQUIPMENT SCHEDULE FOR DESCRIPTION)
KITCHEN 1	ROOM/ AREA NAME AND ROOM NUMBER
C	COLUMN GRIDS WITH COLUMN INDICATORS
48(W)10	STORAGE SHELVING SIZES (Width x Length)

SYMBOL	DESCRIPTION
30" CLR. / 48" CLR.	ACCESSIBLE CLEARANCES AND SYMBOL 30"x48" MIN CLEARANCE
	OUTLINE OF FOODSERVICE EQUIPMENT
	EXISTING EQUIPMENT SHOWN FOR REFERENCE ONLY
	FOODSERVICE EQUIPMENT ABOVE EQUIPMENT TOP
	MOBILE FOODSERVICE EQUIPMENT
F.E.	FIRE EXTINGUISHER & CABINET REFER TO ARCH. DRAWINGS FOR FIRE EXTINGUISHER LOCATIONS
FS.1	SHEET NUMBER
W.H.	WATER HEATER (SEE PLUMBING ENG. DWG.)
A FS0.1 B	ELEVATION INDICATOR SYMBOL

BID PACKAGE A

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No. C-26367
RENEWAL DATE 1/31/25
STATE OF CALIFORNIA

ARCHITECT

BID SET

REVISIONS

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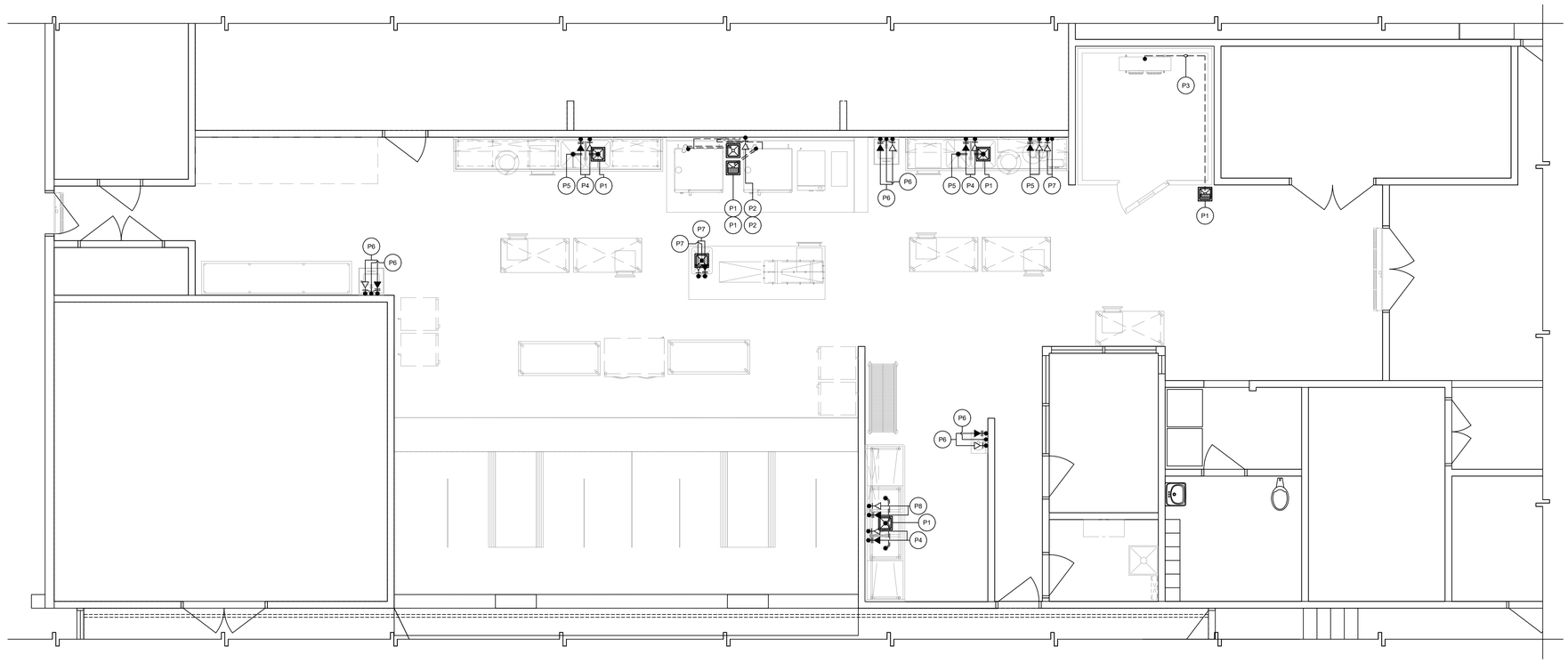
SHEET TITLE

FOODSERVICE EQUIPMENT FLOOR PLAN

SHEET NO.

FS1.1



FOODSERVICE EQUIPMENT PLUMBING PLAN

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

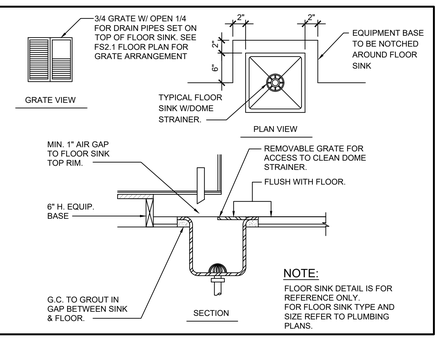
1 / FS2.1

PLUMBING SCHEDULE

PLUM. NO.	ITEM. NO.	DESCRIPTION	QTY.	WATER CONN. SIZE C.W.	WATER CONN. SIZE H.W.	WATER HGT.@ WALL	WASTE CONN. SIZE DIR.	WASTE CONN. SIZE INDIR.	WASTE HGT.@ WALL	GAS BTU/HR (x1,000)	GAS CONN. SIZE	GAS HGT. @ WALL	REMARKS	NOTE(S)
P1	-	FLOOR SINK	6EA.	-	-	-	-	-	0"	-	-	-	INSTALL FLUSH WITH FINISH FLOOR, PROVIDE GRATE COVER W/ DOME STRAINER, REFER TO PLUMBING PLANS FOR TYPE AND SIZE.	3
P2	3	COMBI OVEN FILTER CONNECTION	2EA.	1/2"	-	64" / 36"	-	2"	-	-	-	-	PROVIDE S.O.V., RUN PIPING TO UNIT CONNECTION. PROVIDE 2" INDIRECT DRAIN TO F.S. P1. (CHROME OR PAINT SILVER)	1 2
P3	7	WALK-IN REFRIGERATOR CONN. DRAIN FROM COIL CONN. + 70"	1EA.	-	-	-	-	1"	-	-	-	-	1" INDIRECT DRAIN TO F.S. P1. SLOPE 1/2" PER FOOT. PROVIDE 1" MIN AIR GAP AT F.S. WITH 'P' TRAP. VERIFY FLOOR SINK LOCATION WITH ON SITE CONDITIONS.	3
P4	11	PRE-RINSE FAUCET, SPLASH MOUNT FAUCET W/ 1/2" INLET 8" CENTER	3EA.	1/2"	1/2"	16"	-	-	-	-	-	-	PROVIDE S.O.V., RUN PIPING TO UNIT CONNECTION.	
P5	14	PREP SINK FAUCET W/ 8" CENTER SPLASH MOUNT	2EA.	-	-	-	-	2"	-	-	-	-	PROVIDE 2" INDIRECT DRAIN TO F.S. P1. (CHROME OR PAINT SILVER)	
P6	16,17	WALL MOUNTED HAND SINK FAUCET W/ 1/2" INLET 4" CENTER	3EA.	1/2"	1/2"	18"	1 1/2"	"	24"	-	-	-	PROVIDE S.O.V., RUN PIPING TO UNIT CONNECTION. RUN DIRECT WASTE WITH P-TRAP.	
P7	20,1	CHEFS SINK FAUCET W/ 1/2" INLET 8" CENTER	1EA.	1/2"	1/2"	16"	-	2"	-	-	-	-	PROVIDE S.O.V., RUN PIPING TO UNIT CONNECTION. PROVIDE 2" INDIRECT DRAIN TO F.S. P1. (CHROME OR PAINT SILVER)	
P8	21	POT FILLER FAUCET FAUCET W/ 3/4" INLET 8" CENTER	1EA.	3/4"	3/4"	48"	-	-	-	-	-	-	PROVIDE S.O.V., RUN PIPING TO UNIT CONNECTION.	

PLUMBING KEY NOTE(S):

1. ONE CONNECTION REQUIRED PER FILTER. 1 FILTER FEEDS 1 DOUBLE STACK UNIT/ PLUMBED WITH Y CONNECTION FROM THE OUTLET SIDE OF FILTER TO THE INLET SIDE OF COMBI OVEN. 1 ARM GOES TO TOP UNIT 1 TO BOTTOM UNIT.
2. VERIFY WATER QUALITY MEETS MANUFACTURERS STANDARD MINIMUM REQUIREMENTS
3. CONTRACTOR TO VERIFY ON SITE CONDITIONS WITH FLOOR SINK AND DRAINAGE LOCATIONS AND EQUIPMENT DRAINAGE REQUIREMENTS

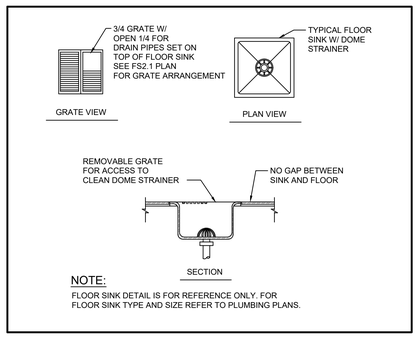


NOTE:
FLOOR SINK DETAIL IS FOR REFERENCE ONLY. FOR FLOOR SINK TYPE AND SIZE REFER TO PLUMBING PLANS.

FLUSH FLOOR SINK DETAIL

SCALE : NONE LOCATED UNDER WORK COUNTERS

2 / FS2.1



NOTE:
FLOOR SINK DETAIL IS FOR REFERENCE ONLY. FOR FLOOR SINK TYPE AND SIZE REFER TO PLUMBING PLANS.

FLUSH FLOOR SINK DETAIL

SCALE : NONE

3 / FS2.1

PLUMBING NOTES

1. PLUMBING CONTRACTOR TO VERIFY ALL INCOMING SERVICE AND MAKE FINAL HOOK-UPS TO ALL APPLICABLE EQUIPMENT AND TO PROVIDE ALL PIPING, TEES, ELLS, TRAPS, FILTERS, REGULATORS, FAUCETS, ETC., UNLESS SPECIFICALLY STATED OTHERWISE.
2. ALL HORIZONTAL DIMENSIONS SHOWN ON PLAN ARE FROM FINISHED FACE OF WALL TO CENTERLINE OF STUB-OUT OR FROM CENTERLINE OF STUB-OUT TO CENTERLINE OF STUB-OUT, UNLESS NOTED OTHERWISE ON PLAN OR DETAILS.
3. (VERIFY ALL DIMENSIONS)
4. SYMBOLS NOTED +24", +48", ETC., INDICATES TO STUB-OUT OF WALL AT HEIGHT INDICATED. HEIGHT IS GIVEN FROM FINISHED FLOOR (NOT FINISHED CURB) TO CENTERLINE OF STUB-OUT. SYMBOLS INDICATED "STUB-UP" AND "STUB-DOWN" ARE TO EXTEND ABOVE FINISHED FLOOR AND/OR BELOW FINISHED CEILING AT LOCATION SHOWN.
5. PLUMBING STUBS AND CONNECTIONS SHOWN ON PLANS ARE FOR EQUIPMENT FURNISHED BY THE FOOD SERVICE EQUIPMENT CONTRACTOR.
6. FLOOR SINKS SHOWN ARE TO BE SET FLUSHED WITH TOP OF FINISHED FLOOR. FLOOR SINKS INDICATED HALF-IN AND HALF-OUT OF EQUIPMENT TO BE SET FLUSHED WITH TOP OF FINISHED FLOOR. FLOOR SINKS LOCATED COMPLETELY WITHIN EQUIPMENT AREA TO BE SET FLUSHED WITH TOP OF FINISHED FLOOR.
7. PLUMBING CONTRACTOR TO PROVIDE AND INSTALL REMOVABLE COVERS OR GRATES FOR ALL FULLY OR PARTIALLY EXPOSED FLOOR SINKS. GRATES TO HAVE 1/2" MAX OPENINGS WHERE DRAIN IS EXPOSED TO P.O.T OR TO PEDESTRIAN WAYS TYP.
8. PLUMBING CONTRACTOR SHALL SEAL ALL PLUMBING PENETRATIONS THROUGH WALLS, FLOORS, AND CEILINGS. WATERTIGHT AND VERMIN-PROOF.
9. PLUMBING CONTRACTOR TO PROVIDE AND INSTALL SHUT-OFF VALVES ON ALL WATER AND GAS LINES, INCLUDING VALVES IN FIXTURES, LOCATED IN SUCH A WAY AS TO BE ACCESSIBLE WITHOUT USE OF TOOLS.
10. PLUMBING CONTRACTOR TO PROVIDE AND INSTALL FOR ALL APPLICABLE EQUIPMENT, A TRAPPED FLOOR SINK WITH A LEGAL AIR GAP DRAIN LINE (INDIRECT WASTE) TO FLOOR SINK. INSULATE ALL DRAIN LINES FROM ICE BINS, ICE MACHINES, REFRIG. EQUIP., ETC..

FOODSERVICE PLUMBING LEGEND

ABREV./SYMB.	DESCRIPTION
C.W.	COLD WATER
H.W.	HOT WATER
DIR.	WASTE (DIRECT CONNECTION)
INDIR.	INDIRECT WASTE (AIR GAP)
LAV.	LAVATORY
W.C.	WATER CLOSET
F.S.	FLOOR SINK
P.C.	PLUMBING CONTRACTOR
G.C.	GENERAL CONTRACTOR
K.E.C.	KITCHEN EQUIPMENT CONTRACTOR
S.O.V.	SHUT OFF VALVE
GPH	GALLONS PER HOUR
PSI	POUNDS PER SQUARE INCH
(F)	DEGREES FAHRENHEIT
CONN.	CONNECT
LOC.	LOCATE

SYMBOL	DESCRIPTION
P1	PLUMBING SCHEDULE REFERENCE, REFER TO FS2.1 FOR SCHEDULE
1 1	SHEET AND/OR KEY NOTE
	COLD WATER INLET
	HOT WATER INLET
	WATER CONNECTION TO EQUIPMENT
	SHUT OFF VALVE (S.O.V.)
	COLD WATER SHUT OFF VALVE
	GAS SHUT-OFF VALVE
	FLOOR SINK
	FLOOR DRAIN
	WASTE DOWN
	GAS INLET
	WALK-IN DRAIN LINE
	I.D. DRAIN LINE

ONE AND ONE-HALF INCH = ONE FOOT
ONE INCH = ONE FOOT
THREE-QUARTERS INCH = ONE FOOT
ONE-HALF INCH = ONE FOOT
ONE-QUARTER INCH = ONE FOOT
ONE-EIGHTH INCH = ONE FOOT
ONE-SIXTEENTH INCH = ONE FOOT
ONE INCH = TWENTY FEET

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LICENSED ARCHITECT BRYAN J. MCKAY No. C-26867 RENEWAL DATE: 1/31/25 STATE OF CALIFORNIA

ARCHITECT

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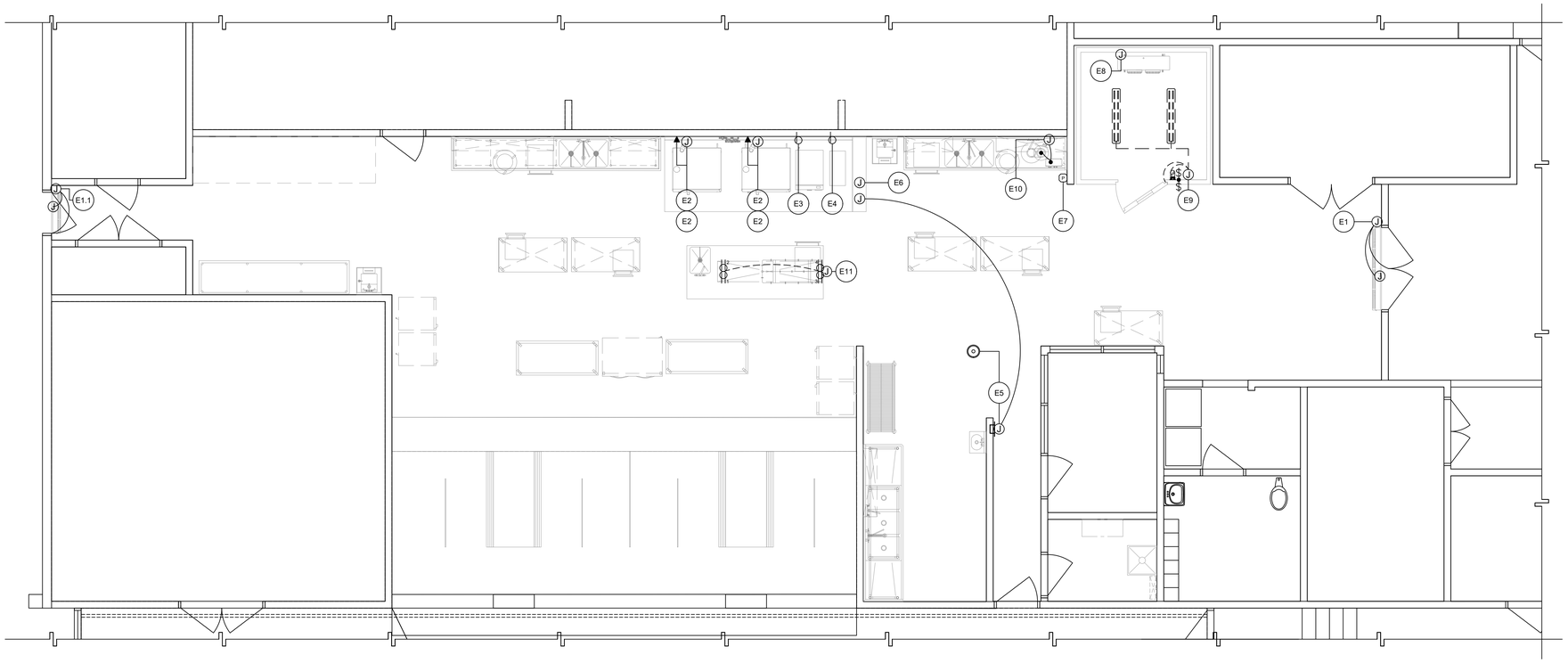
FOODSERVICE EQUIPMENT PLUMBING PLAN

SHEET NO.

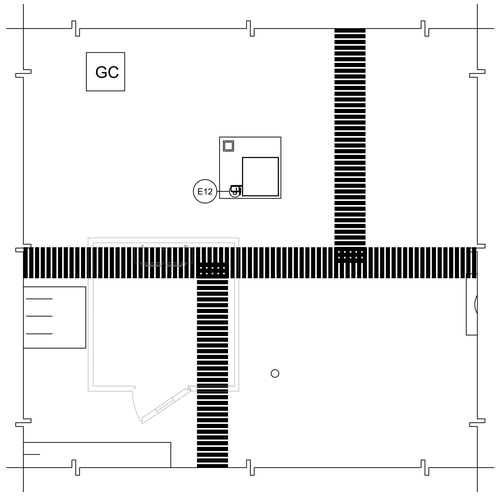
FS2.1



FOODSERVICE EQUIPMENT ELECTRICAL PLAN

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

1 / FS3.1



FOODSERVICE ELECTRICAL ROOF PLAN

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

2 / FS3.1

ELECTRICAL SCHEDULE

ELEC. NO.	ITEM NO.	DESCRIPTION	QTY.	VOLT.	PH	DIRECT	PLUG	NEMA	LOAD WATT	LOAD AMPS. DRAW	LOAD HP	OUTLET HEIGHT	REMARKS	NOTE(S)
E1	1	AIR CURTAIN, UNHEATED	1EA.	120	1	X	-	-	-	3.4	-	+86"	PROVIDE J-BOX IN WALL INSTALL DOOR LIMIT SWITCH FOR INSTANT ON/OFF SWITCH REFER TO C/FS8.2	
E1.1	2	AIR CURTAIN, UNHEATED	1EA.	120	1	X	-	-	-	3.4	-	+86"	PROVIDE J-BOX IN WALL INSTALL DOOR LIMIT SWITCH FOR INSTANT ON/OFF SWITCH REFER TO C/FS8.2	
E2	3	DOUBLE STACK COMBI OVEN ELECTRIC POWER AND DATA	4EA.	480	3	X	-	-	-	26.9	-	+48" +24"	PROVIDE J-BOX CONNECT TO UNIT ELECTRICAL CONN. (1 CONN. PER DECK) PROVIDE DATA PLUG IN WALL 1-PER DECK FOR A TOTAL OF 4	3, 6
E3	4	ELECTRIC GRIDDLE	1EA.	480	3	-	X	L16-20P	-	16	-	+24"	PROVIDE SIMPLEX RECEPTACLE UNIT PROVIDED WITH CORD AND PLUG SET	3
E4	5	INDUCTION COOK TOP	1EA.	240	1	-	X	6-50P	6,000	32	-	+48"	PROVIDE SIMPLEX RECEPTACLE UNIT PROVIDED WITH CORD AND PLUG SET	3
E5	6	EXHAUST HOOD CONTROL POWER AND ROOM TEMPERATURE SENSOR	1EA.	120	1	X	-	-	-	20	-	+48"	CONNECT TO DEMANDAIRE CONTROL PANEL RECESS IN WALL REFER TO FS5.2	5
E6	6.1	EXHAUST HOOD FIRE SYSTEM CONTROL POWER	1EA.	120	1	X	-	-	-	20	-	+104"	PROVIDE J-BOX CONNECT TO UNIT ELECTRICAL CONNECTION REFER TO FS5.3 INTERCONNECTION REQUIREMENTS	2
E7	6.1	FIRE SYSTEM (REMOTE PULL STATION)	1EA.	-	-	X	-	-	-	-	-	+48"	EMPTY FLUSH MT'D. OCTAGONAL BOX (REMOTE PULL) SEE FS5.3	4
E8	7	WALK-IN REFRIGERATOR (COIL)	1EA.	120	1	X	-	-	-	1.8	-	+74"	CONNECT TO UNIT ELECTRICAL CONNECTION AT COIL INSIDE WALK-IN REFRIGERATOR.	1
E9	7	WALK-IN REFRIGERATOR (BOX)	1EA.	120	1	X	-	-	-	4.0	-	+88"	(2) 39W LED CLG. MT'D. LIGHT FIXTURES (1) 11.5W LED LIGHT FIXTURE AT DOOR. CONTRACTOR TO PROVIDE ALL INTERCONNECTIONS.	
E10	14.1	GARBAGE DISPOSER	1EA.	208	3	X		-	-	6.6	-	+18"	PROVIDE J-BOX IN WALL CONNECT TO UNIT POWER CONNECTION	
E11	20	CHEFS COUNTER	4EA.	120	1	X	-	-	-	15EA.	-	+52"	(COMPONENT HARDWARE NO. R58-1020)(R71-0721) (TOTAL OF 4 DCO OUTLETS) PROVIDE DOUBLE FACED PEDISTAL DUPLEX RECEPTACLE MT'D. UNDER SHELF	7, 8
E12	29	REMOTE REFRIGERATION LOCATED ON ROOF	1EA.	208	3	X	-	-	-	8	-	+8"	CONNECT TO DISCONNECT LOCATED ON REFRIGERATION RACK REFER TO FS7.1 REMOTE REFRIGERATION LOCATED ON BUILDING ROOF	

WALK-IN REFRIGERATION ELECTRICAL (MINIMUM REQUIREMENTS UNLESS NOTED OTHERWISE)

1. - INTER WIRE THE TIME CLOCK ON THE CONDENSING UNIT TO THE DEFROST RELAY ON THE UNIT EVAPORATOR LOCATED IN THE FREEZER COMPARTMENT.
2. - PROVIDE ALL CONDUIT AND WIRING NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM WITH ALL CONDUIT IN SO FAR AS POSSIBLE MOUNTED ON THE EXTERIOR CEILING OF THE WALK-IN ASSEMBLY. PENETRATIONS AND ESCUTCHEON PLATES SHALL BE FURNISHED AND INSTALLED. SEAL THE INSIDE OF CONDUITS WHICH PENETRATE THE CEILING OR WALL OF THE WALK-IN REFRIG. AND FREEZER

ELECTRICAL KEYNOTES:

1. INTERCONNECT REMOTE REFRIGERATION SYSTEM ITEM NO. 29 TO BLOWER COIL
2. INTERCONNECT TO HMI TOUCH SCREEN SEE FS5.2
3. PROVIDE INTERLOCK WIRING FROM FIRE PROTECTION SYSTEMS TO ELEC. SHUNT TRIP BREAKERS
4. PROVIDE EMPTY FLUSH MT'D. OCTAGONAL BOX @ +48" AFF. W/ EMPTY CONDUIT TO +2" ABOVE CEILING.
5. ELECTRICAL CONTRACTOR TO PROVIDE J-BOX W/ EMPTY CONDUIT FROM +2" ABOVE CEILING IN WALL TO AMBIENT TEMPERATURE MONITOR AND HMI TOUCH SCREEN.
6. AMP'S SHOWN ARE PER DECK. BOTTOM DECK CONNECTION @ 24" AFF TOP DECK @ 48"AFF. FOUR CONNECTIONS IN TOTAL.
7. MANUFACTURER OF CHEFS COUNTER TO PROVIDE CONDUIT FROM J-BOX LOCATION TO PEDESTAL OUTLETS LOCATED UNDER SHELF
8. INCOMING POWER FOR PEDESTAL OUTLETS TO BE SUPPLIED BY J-BOX @ END OF CHEFS COUNTER

ELECTRICAL NOTES

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL ROUGH-INS, FINAL CONNECTIONS AND INTER-CONNECTIONS TO THE FOOD SERVICE EQUIPMENT
2. CONNECTIONS SHOWN ARE FOR THE FOOD SERVICE EQUIPMENT ONLY. REFER TO ELECTRICAL DRAWINGS FOR CONVENIENCE OUTLETS AND ADDITIONAL REQUIREMENTS.
3. RECEPTACLES, JUNCTION/HANDY BOXES INDICATED AT WALLS SHALL BE CONCEALED IN THE WALL AND STUBBED OUT OF THE WALL AT THE HEIGHT INDICATED.
4. RECEPTACLES, JUNCTION/HANDY BOXES INDICATED AT WALLS SHALL BE CONCEALED IN THE WALL AT THE HEIGHT INDICATED.
5. VERTICAL DIMENSIONS ARE GIVEN FROM FINISHED FLOOR TO CENTER LINE OF ROUGH-IN LOCATION.
6. UTILITIES WHEREVER POSSIBLE SHALL BE BROUGHT IN FROM ABOVE
7. VERIFY THE UTILITY REQUIREMENTS OF OWNER FURNISHED AND/OR EXISTING EQUIPMENT.
8. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND/OR INSTALL ALL JUNCTION/HANDY BOXES, EXTENSION RINGS, DISCONNECT WITCHES AS SHOWN, CONVENIENCE OUTLETS WITH STAINLESS STEEL OVERS, SWITCHES, CONNECTORS, CONTROLS AND OTHER ACCESSORIES THAT ARE NOT AN INTEGRAL PART OF THE FOOD SERVICE EQUIPMENT AS REQUIRED TO MAKE FINAL CONNECTIONS TO THE EQUIPMENT FOR A COMPLETE AND OPERABLE OPERATION MEETING ALL APPLICABLE CODES AND ORDINANCES.
9. JUNCTION/HANDY BOXES, CONVENIENCE OUTLETS AND SPECIAL PURPOSE OUTLETS SHOWN IN FABRICATED WORK TABLES AND COUNTERS SHALL BE FURNISHED BY FABRICATOR. ELECTRICAL CONTRACTOR TO PROVED ALL WIRING & RECEPTACLES.

ELECTRICAL CONNECTION ACCESS

1. - WHERE ITEMS CONNECT TO UTILITY UNDER COUNTER, CONTRACTOR TO VERIFY THAT A GROMMET HOLE IS PROVIDED FOR NECESSARY ACCESS TO CONNECT EQUIPMENT TO UTILITY.

EXHAUST HOOD ELECTRICAL NOTES

1. - ELECTRICAL CONTRACTOR TO PROVIDE ALL HIGH/LOW VOLTAGE CONNECTIONS REQUIRED BY EXHAUST HOOD MANUFACTURER. SEE FOODSERVICE EXHAUST HOOD MANUFACTURER SHEETS FOR DETAILS.
2. - ALL ELECTRICAL CONDUIT THAT IS PROVIDED BY E.C. TO BE RECESSED IN WALL (NO SURFACE MOUNT CONDUIT)
3. - VERIFY ALL EXHAUST HOOD AND EXHAUST HOOD COMPONENTS ELECTRICAL REQUIREMENTS WITH MANUFACTURER DRAWINGS.

ELECTRICAL PLAN LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	J	JUNCTION BOX
CLG.	CEILING	▲	DATA OUTLET
CONN.	CONNECT	P	EMPTY OCTAGONAL BOX W/ CONDUIT TO +2" ABOVE CEILING BY E.C
E.C.	ELECTRICAL CONTRACTOR		
FSEC	FOOD SERVICE EQUIPMENT CONTRACTOR		
G.C.	GENERAL CONTRACTOR		VAPOR-PROOF LIGHT FIXTURE AT EXHAUST HOOD (PROVIDED BY F.S.E.C. INSTALLED BY E.C.)
P.R.P.	PRESSURE RELIEF PORT		
S.F.	STAINLESS STEEL FABRICATOR	J	STUBBED-UP JUNCTION BOX
M.C.	MECHANICAL CONTRACTOR		STUBBED-UP CONVENIENCE OUTLET
LOC.	LOCATE		
E1	ELECTRICAL SCHEDULE REFERENCE, REFER TO FS3.1 FOR SCHEDULE		STUBBED-UP SIMPLEX OUTLET
1 1	SHEET AND/OR KEY NOTE	▲	STUBBED-UP DATA OUTLET
	DUPLEX CONVENIENCE OUTLET 115V/1Ø UNLESS OTHERWISE NOTED	$	WALL MOUNTED SWITCH BY E.C
	SIMPLEX OUTLET SEE SCHEDULE FOR VOLTAGE		ROOM TEMPERTURE SENSOR
	CEILING MOUNTED, VAPOR-PROOF LIGHT FIXTURE W/ JUNCTION BOX, 115V/1Ø UNLESS OTHERWISE NOTED (WALK-IN REFRIGERATOR)		

BID PACKAGE A

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LICENSED ARCHITECT BRIAN J. LEWIS No. C-26867 RENEWAL DATE: 1/31/25 STATE OF CALIFORNIA

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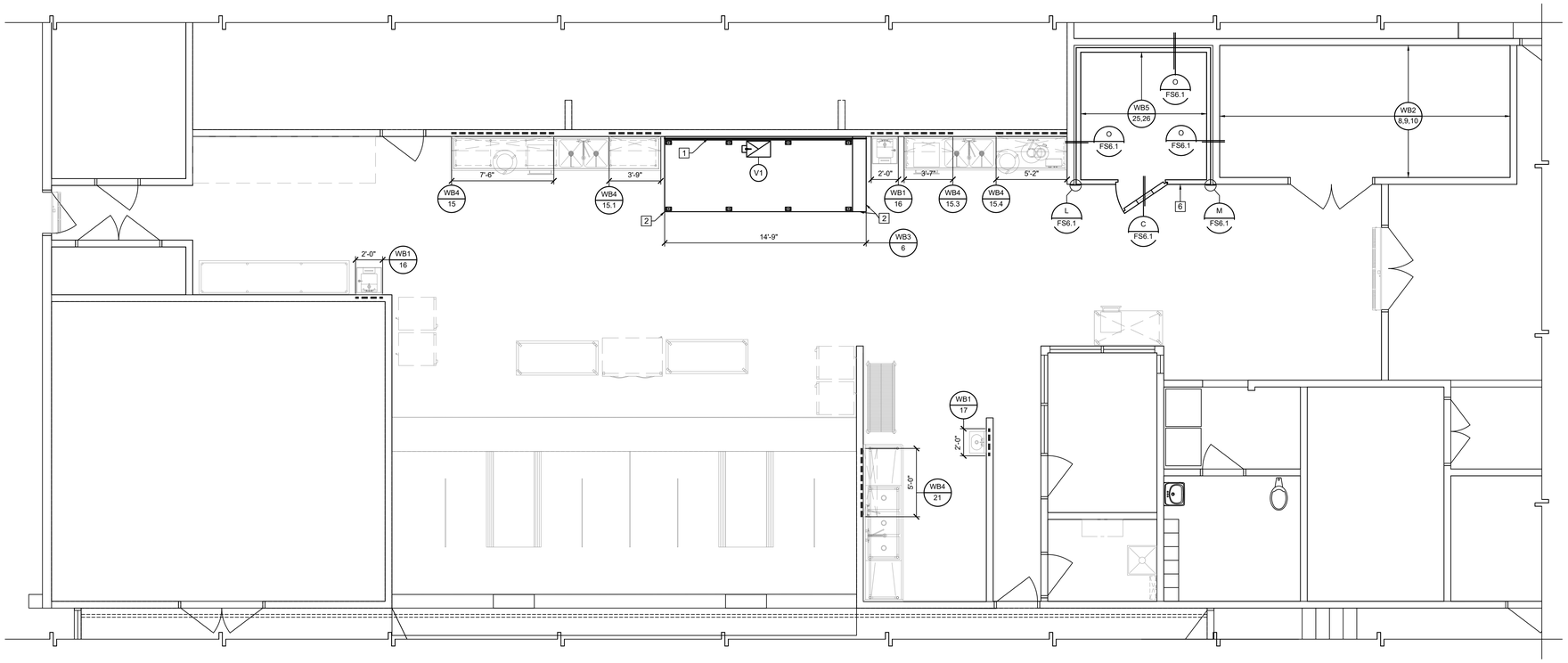
SHEET TITLE

FOODSERVICE EQUIPMENT ELECTRICAL PLAN

SHEET NO.

FS3.1

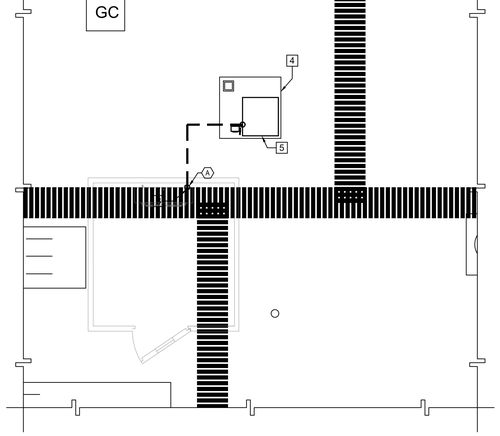
ONE AND ONE-HALF INCH = ONE FOOT
ONE INCH = ONE FOOT
THREE-QUARTERS INCH = ONE FOOT
ONE-HALF INCH = ONE FOOT
ONE-QUARTER INCH = ONE FOOT
ONE-EIGHTH INCH = ONE FOOT
ONE-SIXTEENTH INCH = ONE FOOT
ONE INCH = TWENTY FEET



FOODSERVICE EQUIPMENT MECHANICAL PLAN

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

1 FS4.1



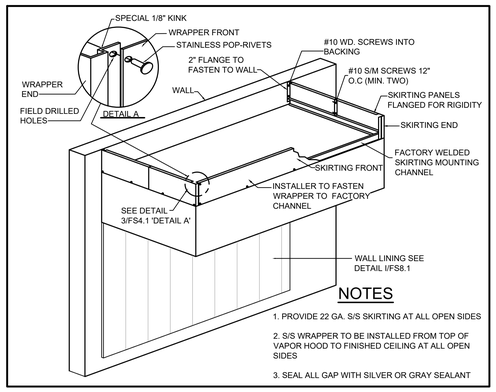
FOODSERVICE ELECTRICAL ROOF PLAN

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

2 FS4.1

VENTILATING REQUIREMENTS

DUCT NO.	ITEM NO.	DESCRIPTION	ITEM QTY.	RISER SIZE					OUTLET HEIGHT	REMARKS
				HEIGHT	WIDTH	LENG.	CFM	S.P.-WC"		
V1	6	EXHAUST DUCT EXHAUST HOOD	1EA.	8"	21"	14"	2888	.63	108"	MAKE DUCT CONNECTION AT HOOD COLLAR REFER TO FS5.1 FOR EXHAUST HOOD DETAILS



NOTES

1. PROVIDE 22 GA. S/S SKIRTING AT ALL OPEN SIDES
2. S/S WRAPPER TO BE INSTALLED FROM TOP OF VAPOR HOOD TO FINISHED CEILING AT ALL OPEN SIDES
3. SEAL ALL GAP WITH SILVER OR GRAY SEALANT

CLOSURE SKIRTING AT HOOD

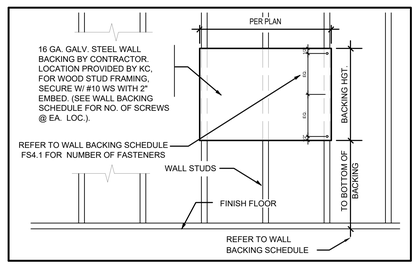
SCALE : NONE

3 FS4.1

WALL BACKING SCHEDULE

	APPLICATION	BOTTOM OF BACKING	BACKING HGT.	FASTENERS PER STUD	ANCHORAGE DETAIL
WB1 16,17	HAND SINK	+16" AFF	26" HIGH	4	B/FS8.2
WB2 8,9,10	DRY STO. SHELVING	+69"AFF	12" HIGH	2	D/FS8.2
WB3 6	INSULATED WALL LINING	+76"AFF +53"AFF +29"AFF +6"AFF	4" HIGH	2	I/FS8.1
WB4 15,15.1 15.3,15.4,21	WALL SHELF	+50" AFF	12" HIGH	3	H/FS8.1
WB5 7,1,7,2 7,7,3"	COLD STO. SHELVING	+69"AFF / +16"AFF	12" HIGH	2 PER POST BRACKET	K/FS8.2

NOTES:
1. BACKING TO BE 16 GA. G.I. or C.R.S.
2. REFER TO 1/FS4.1 FOR WALL BACKING LOCATIONS
3. DRY STO. SHELVING, FASTEN SHELVING TO BACKING WITH #14 SMS.



WALL BACKING DETAIL

SCALE : NONE

4 FS4.1

COOKING EXHAUST HOOD NOTES

1. - EACH AREA CONTAINING COOKING EXHAUST HOOD(S) WILL HAVE 80% MECHANICAL MAKE-UP AIR PROVIDED IN THE VOLUME OF THE AIR BEING EXHAUSTED.
2. - MAKE-UP AIR SHALL BE DELIVERED IN THE PROXIMITY OF THE EXHAUST HOOD(S) IN A MANNER NOT TO CREATE UNDUE AIR TURBULENCE IN THE WORKING AREAS.
3. - COOKING HOOD(S) EXHAUST AND MAKE-UP AIR SYSTEM(S) WILL BE CONNECTED BY AN ELECTRICAL INTER-LOCKING SWITCH.
4. - MAKE-UP AIR INTAKE MUST CLEAR AIR EXHAUST DISCHARGE BY A MINIMUM OF TEN (10) FEET, OR AS REQUIRED BY CODE(S).
5. - LOCATION OF COOKING HOOD EXHAUST DUCT(S) AND MAKE-UP AIR SYSTEM DUCT(S) ARE TO BE VERIFIED AT THE JOB SITE.
6. - IF REQUIRED BY LOCAL CODE(S), MAKE-UP AIR SYSTEM(S) SHALL BE CAPABLE OF DELIVERING TEMPERED AIR AT 70 DEGREES F..
7. -CONNECTING DUCTS FROM THE EXHAUST VENTILATORS TO THE EXHAUST AND/OR MAKE-UP AIR FANS SHALL BE SUPPLIED AND INSTALLED WITH ALL FINAL CONNECTIONS.
8. -PERFORMANCE TESTING FOR THE OPERATION OF THE TYPE 1 EXHAUST HOOD PER C.M.C. IS REQUIRED
9. -EXTRACTOR HOODS SHALL COMPLY TO THE C.M.C 2022, NFPA-2020, U.L, N.S.F, AND ALL LOCAL CODES AN ORDINANCES.

WALL BACKING NOTES

1. - WALL BACKING TO BE 16 GAUGE GALV. STEEL IN LENGTH AND HEIGHT AS SHOWN ON DRAWINGS.
2. - ALL WALL BACKING TO BE IN FURNISHED AND INSTALLED BY CONTRACTOR
3. - FOOD SERVICE EQUIPMENT CONTRACTOR IS TO FURNISH CONTRACTOR WITH DETAILED DRAWINGS SHOWING ALL WALL BACKING LOCATION AND SIZE.
4. - WALL BACKING AS SHOWN IS MINIMUM, EXTEND BACKING TO NEXT STUD EACH DIRECTION AS NECESSARY

REFRIGERATION LINE NOTES

CONTRACTOR TO VERIFY REMOTE REFRIGERATION LINE RUN LENGTH IF LINES EXCEED 150FT THEN OIL SEPARATORS TO BE ADDED PER MANUFACTURER RECOMMENDATIONS

MECHANICAL SHEET NOTES

1. 18 GA. STAINLESS STEEL WALL LINING PANELS (MINIMUM WIDTH TO BE 36") WITH 1" MINERAL WOOL BLANKET AND WIRE MESH BACKING OR CERAMIC FIBER BLANKET AND WIRE MESH BACKING SPACES OUT 1" ON NON-COMBUSTIBLE SPACERS WALL LINING TO MEET THE REQUIREMENTS OF NFPA-96 AND LOCAL CODES. WALL LINING SHALL BE FABRICATED WITH VERTICAL FLUTES EVERY 6" AS SHOWN, AND THE WIDTH OF THE EXHAUST HOOD INCLUDING FIRE SYSTEM CABINET
2. PROVIDE STAINLESS STEEL CLOSURE SKIRTING, REFER TO 3/FS4.1
3. REFRIGERATION LINES STUB-DOWN FROM ABOVE, PENETRATE CEILING OF WALK-IN TO EVAP COIL SEE DETAIL E/FS8.2
4. REMOTE REFRIGERATION SYSTEM REFER TO A/FS7.1
5. REMOTE REFRIGERATION SYSTEM PLATFORM REFER C/FS7.1
6. PROVIDE STAINLESS STEEL CLOUSER SKIRTING REFER TO DETAIL E/FS6.1

FOODSERVICE MECHANICAL LEGEND

ABREV./SYMB.	DESCRIPTION	ABREV./SYMB.	DESCRIPTION
F.S.E.C	FOODSERVICE EQUIPMENT CONTRACTOR	V#	VENTILATING SCHEDULE REFERENCE REFER TO FS4.1 FOR SCHEDULE
M.C.	MECHANICAL CONTRACTOR		
S.F.	STAINLESS STEEL FABRICATOR	1	KEYNOTE SYMBOL (SEE SHEET NOTES FS4.1)
G.C.	GENERAL CONTRACTOR		
E.C.	ELECTRICAL CONTRACTOR	# TYPE / # ITEM	BLOCKING TYPE REFER TO FS4.1
CFM	CUBIC FEET PER MINUTE		
SP	STATIC PRESSURE	A	REFRIGERATION SYSTEM (SEE SCHEDULE ON SHEETS FS7.1)
	REMOTE COMPRESSOR (ON REFRIGERATION RACK)		
	INSULATED S/S WALL LINING 1/FS4.1 FOR LOC.		EXHAUST DUCT CONNECTION
	WALL BACKING		SUPPLY DUCT CONNECTION
	REFRIGERATION LINE (RUN FROM REFRIGERATION RACK)		

BID PACKAGE A

ALBERT EINSTEIN MIDDLE SCHOOL
RE-ROOF AND BEAUTIFICATION PROJECT

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SACRAMENTO, CA 95826

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

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LICENSED ARCHITECT
BRIAN J. [illegible]
No. C-26867
RENEWAL DATE: 1/31/25
STATE OF CALIFORNIA

ARCHITECT

BID SET

REVISIONS

NO.	DESCRIPTION	DATE

DATE: 01/30/2023

JOB NO.: Y2243.00

SHEET TITLE

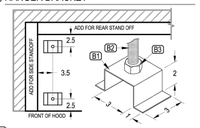
FOODSERVICE EQUIPMENT MECHANICAL PLAN

SHEET NO.

FS4.1

ONE AND ONE-HALF INCH = ONE FOOT
ONE INCH = ONE FOOT
THREE-QUARTERS INCH = ONE FOOT
ONE-HALF INCH = ONE FOOT
ONE-QUARTER INCH = ONE FOOT
ONE-EIGHTH INCH = ONE FOOT
ONE-SIXTEENTH INCH = ONE FOOT
ONE INCH = TWENTY FEET

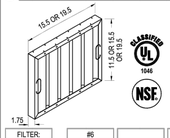
A1 HANGER BRACKET



B1 STAINLESS STEEL HANGER BRACKET
B2 ⅜" THREADED ROD
B3 ⅜" HEAVY DUTY LOCK NUTS, (1) ABOVE (1) BELOW
(THREADED ROD & LOCK NUTS NOT PROVIDED)

A2 BAFFLE FILTER

STAINLESS STEEL



FILTER:		#6					
H x L	EFF AREA	QTY	AREA	QTY	AREA	QTY	AREA
1616	1.36	X 0	0.00				
1620	1.75	X 8	14.00				
TOTAL EFF AREA =		14.00		=		=	

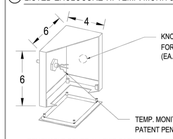
HOOD EX. CFM ÷ TOTAL EFF AREA = FPM
OPERATING RANGE OF THE FILTER (200 TO 400 FPM)

A3 HOOD CANOPY LIGHTING FIXTURE

- LED WARM - 2800K-3500K
- ONLY UL LISTED LED EDISON-STYLE BULB RATED TO 75°C (167°F)
- MEETS NFPA CODE 96 & NEC 410
- SPECIFICALLY DESIGNED FOR CANOPY HOODS
- VOLTAGE - UL LISTED AT 120V
- 12 WATTS - 960 LUMENS

LISTED

A4 LISTED ENCLOSURE W/ TEMP. MONITOR



REMOVABLE COVER ALLOWS EASY ACCESS FOR INSTALLATION, ADJUSTMENTS AND SERVICE OF MONITORING EQUIPMENT FROM UNDER THE HOOD.

*FOR TEMPERATURE MONITOR WIRING SEE DETAIL E2

A5 DUCT CONNECTION DETAIL

EXHAUST DUCT COLLAR DETAIL

1" FLANGE AT TOP AND BOTTOM OF COLLAR ALLOWS FOR DUCT CONNECTIONS

BALANCEAIRE NOT INCLUDED

INTERNALLY ADJUSTABLE VARIABLE VOLUME DAMPER

NO DAMPERS

PATENT# D634,419 S

THE BALANCEAIRE'S CROSSED BLADES CAN BE ADJUSTED TO VARYING POSITIONS FROM 100% OPEN TO 95% CLOSED TO INCREASE OR DECREASE THE AMOUNT OF RESISTANCE IN THE HOOD'S EXHAUST COLLAR. THE EXHAUST FAN MUST BE SIZED TO ACCOUNT FOR THE BALANCEAIRE'S ADDED RESISTANCE.

EXHAUST COLLAR APPROVAL

OPTIONS

☐ SHIP COLLAR LOOSE (THE PURCHASER ACCEPTS THE OBLIGATION AND COST OF CUTTING/WELDING COLLAR)

☐ WELD COLLAR TO HOOD (DIMENSIONS REQUIRED)

DRAWING APPROVAL

THIS DRAWING MUST BE REVIEWED, SIGNED & RETURNED TO STREIVOR AIR SYSTEMS PRIOR TO THE START OF FABRICATION.

VERIFY THE FOLLOWING:

1. ALL DIMENSIONAL INFORMATION, MOUNTING LOCATIONS & CLEARANCES.
2. THE LOCATION & TYPE OF COOKING EQUIPMENT.

APPROVED FOR FABRICATION

☐ APPROVED ☐ APPROVED AS NOTED

☐ REVISE & RESUBMIT

APPROVED BY _____ DATE _____

NOTE TO REVIEWER:

ANY CHANGES IN COOKING EQUIPMENT SUCH AS EQUIPMENT POSITION, TYPE AND/OR INCREASE IN ENERGY OUTPUT MAY AFFECT EXHAUST AIRFLOW. STREIVOR AIR SYSTEMS MUST BE NOTIFIED OF ANY CHANGES THAT OCCUR PRIOR TO FABRICATION, A RE-ENGINEERING OF THE EXHAUST AIRFLOW MAY BE REQUIRED.

HOOD SCHEDULE

						EXHAUST			DIST. FROM COOKING SURFACE TO LOWER EDGE OF HOOD.		MINIMUM OVERHANG OPEN SIDES		EQUIP. DUTY TEMPERATURE
									(OH1)		(OH2)	(OH3)	
NO.	MODEL	L	W	H	WEIGHT	SPEC. CFM	SP	CFM/FT	MIN.	MAX.	SIDE	FRONT	MAX.
6	WCBD 1656322.5	165	63	22.5	1439	2888	0.63	210	36	48	6	6	450

1. GREATER EXHAUST AND/OR LESSER SUPPLY AIR FLOW RATES MAY BE REQUIRED FOR COMPLETE VAPOR AND GREASE REMOVAL IN SPECIFIC INSTALLATION(S).
2. THE EXHAUST FAN MUST BE OPERATED WHENEVER THE COOKING EQUIPMENT IS TURNED ON. (NFPA SECTION 11.1.1)

HOOD CANOPY MATERIAL: ALL 304 SERIES STAINLESS STEEL

HOOD LEGEND

1. ALL WELDED ENCLOSURE
2. 16 GA. SIDES, REMAINDER OF HOOD TO BE NO LESS THAN 18 GA.
3. PITCHED GREASE DRIP TRAY
4. ENCLOSED METAL CONTAINER
5. CONTAINMENT PANEL: LIGHT DUTY
6. ENCLOSURE PANEL
7. UTILITY CABINET (REQUIRES 36" OF OPEN SPACE IN FRONT OF THE DOOR)
8. 12" HOOD OVERHANG IS RECOMMENDED FOR ALL HEAVY DUTY COOKING APPLIANCES
14. SEE ELECTRICAL SCHEDULE - CONSULT FACTORY FOR ALTERNATE INPUT POWER LOCATION(S)

ELECTRICAL SCHEDULE

CIRCUIT	DESCRIPTION	DETAILED	FED FROM
CB:	CIRCUIT	CHECK	PANEL

SEE DEMANDAIRE DRAWINGS

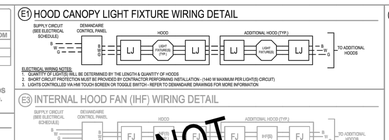
IF AN ELECTRICAL PANEL IS SHOWN ON THIS SCHEDULE FOR THE HOODS IS INCLUDED, THIS ELECTRICAL SCHEDULE IS NOT VALID. REFER TO DEMANDAIRE DRAWINGS.

ELECTRICAL LEGEND

- STREIVOR FACTORY WIRING
- FIELD WIRING BY OTHERS
- LJ HOOD CANOPY LIGHT(S)
- JUNCTION BOX
- TJ TEMPERATURE MONITOR(S) JUNCTION BOX

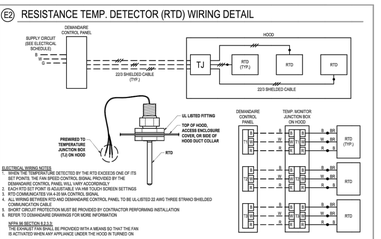
NOTE: FACTORY INSTALLATION OF JUNCTION BOXES MAY DIFFER FROM LOCATION ON DRAWINGS

E1 HOOD CANOPY LIGHT FIXTURE WIRING DETAIL



ELECTRICAL WIRING NOTES:
1. QUANTITY OF CONTROL WILL BE DETERMINED BY THE LENGTH & QUANTITY OF HOODS
2. SHORT CIRCUIT PROTECTION MUST BE PROVIDED BY CONTRACTOR PERFORMING INSTALLATION - (1440 W MAXIMUM PER LIGHT/LED CIRCUIT)
3. LIGHTS CONTROLLED VIA HMI TOUCH SCREEN OR TOGGLE SWITCH - REFER TO DEMANDAIRE DRAWINGS FOR MORE INFORMATION

E2 RESISTANCE TEMP. DETECTOR (RTD) WIRING DETAIL



ELECTRICAL WIRING NOTES:
1. QUANTITY OF CONTROL WILL BE DETERMINED BY THE RTD EXCEEDS ONE OF ITS SET POINTS, THE HMI SPEED CONTROL SIGNAL FOR EXHAUST BY THE DEMANDAIRE CONTROL PANEL WILL VARY ACCORDINGLY
2. EACH RTD SET POINT IS ADJUSTABLE VIA HMI TOUCH SCREEN SETTINGS
3. SHORT CIRCUIT PROTECTION MUST BE PROVIDED BY CONTRACTOR
4. ALL WIRING BETWEEN RTD AND DEMANDAIRE CONTROL PANEL TO BE UL-LISTED 22 AWG THREE STRAND SHIELDED COMMUNICATION CABLE
5. SHORT CIRCUIT PROTECTION MUST BE PROVIDED BY CONTRACTOR PERFORMING INSTALLATION
6. REFER TO DEMANDAIRE DRAWINGS FOR MORE INFORMATION

NOTE ON SECTION 6.2.1.3:
THE EXHAUST FAN SHALL BE PROVIDED WITH A WIRING SO THAT THE FAN IS ACTIVATED WHEN ANY APPLIANCE UNDER THE HOOD IS TURNED ON

E3 INTERNAL HOOD FAN (IHF) WIRING DETAIL

ELECTRICAL WIRING NOTES:
1. QUANTITY OF INTERNAL HOOD FANS WILL BE DETERMINED BY THE LENGTH & QUANTITY OF HOODS
2. DEMANDAIRE CONTROL PANEL TO ELECTRICALLY INTERLOCK WITH EXHAUST FAN
3. SHORT CIRCUIT PROTECTION MUST BE PROVIDED BY CONTRACTOR PERFORMING INSTALLATION
4. REFER TO DEMANDAIRE DRAWINGS FOR MORE INFORMATION
5. DEMANDAIRE CONTROL PANEL CONTROLS INTERNAL HOOD FANS

NFPA 96 SECTION 6.2.1.3:
WHEN IHF'S FIRE-EXTINGUISHING SYSTEM DISCHARGES, MAKEUP AIR SUPPLIED IN TOTALITY TO A HOOD SHALL BE SHUT OFF.

NOT INCLUDED

GENERAL NOTES:

NOTES TO ARCHITECT AND/OR CONTRACTOR: STREIVOR, INC. (STREIVOR AIR SYSTEMS, STREIVOR STAINLESS) IS A SPECIALIST IN THE LAYOUT AND DESIGN OF KITCHEN VENTILATION SYSTEMS, AND IN NO WAY PURPORTS TO BE ARCHITECTS OR ENGINEERS.

THIS PLAN IS SUBMITTED FOR THE CONVENIENCE OF THE ARCHITECT AND/OR CONTRACTOR AND IS DONE FROM AVAILABLE ARCHITECTURAL INFORMATION. ALL MEASUREMENTS ARE SUBJECT TO PHYSICAL VERIFICATION AND ANY DEVIATIONS OR DISCREPANCIES SHALL BE DIRECTED TO THE ATTENTION OF STREIVOR, INC. IN WRITING.

STREIVOR, INC. ACCEPTS NO RESPONSIBILITY FOR WORK DONE BY SAID ARCHITECT OR GENERAL CONTRACTOR OR THEIR REPRESENTATIVES OR SUBCONTRACTORS, AND WILL NOT STAND ANY EXPENSE FOR CHANGES MADE NECESSARY DUE TO LOCAL BUILDING CODES, ORDINANCES, STRUCTURAL CONDITIONS, OR BY ANY SUBSTITUTIONS OR CHANGES IN EQUIPMENT SHOWN ON THIS PLAN.

ANY ERRORS, AMBIGUITIES OR OMISSIONS IN THIS PLAN OR SPECIFICATIONS SHALL BE REPORTED TO STREIVOR, INC. FOR CORRECTIONS BEFORE ANY OF THE WORK IS STARTED. UNLESS EXPRESSLY STIPULATED, NO ADDITIONAL ALLOWANCE WILL BE MADE IN FAVOR OF THE OWNER OR CONTRACTOR, BY VIRTUE OF ERROR, AMBIGUITY OR OMISSION WHICH SHOULD HAVE BEEN DISCOVERED DURING THE PREPARATION OF BID ESTIMATES, AND DIRECTED TO THE ATTENTION OF STREIVOR, INC. IN A TIMELY MANNER.

PRE - INSTALLATION

OBTAIN, READ AND UNDERSTAND STREIVOR'S HOOD INSTALLATION, OPERATION AND MAINTENANCE MANUAL PRIOR TO INSTALLATION, STARTUP OR BALANCING.

INSTALLATION

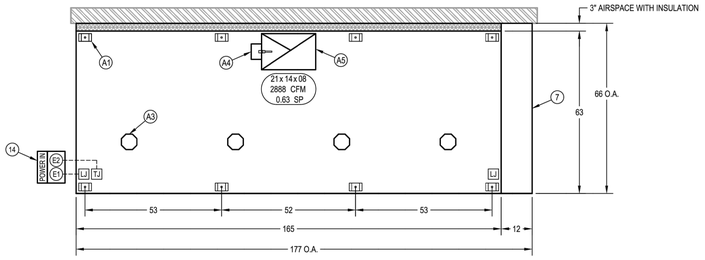
ALL INSTALLATION, STARTUP AND BALANCING MUST BE PERFORMED BY QUALIFIED PERSONS AND IN ACCORDANCE WITH ALL APPLICABLE PREVAILING CODES AND STANDARDS.

STANDARD NFPA 96 HOOD CLEARANCES
0" TO NON-COMBUSTIBLE MATERIALS
3" TO LIMITED-COMBUSTIBLE MATERIALS
18" TO COMBUSTIBLE MATERIAL

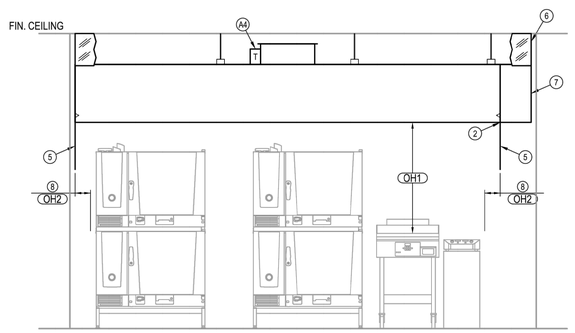
OVERHEAD CLEARANCES
10" CLEARANCE IS REQUIRED ABOVE THE HOOD

REDUCED CLEARANCES
REDUCED CLEARANCES MAY BE AVAILABLE. CONSULT FACTORY FOR REDUCED CLEARANCE OPTIONS.

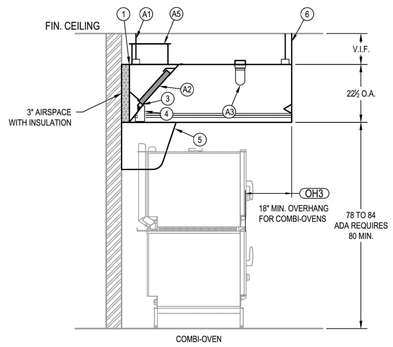
TEST AND BALANCE
THE SPECIFIED EXHAUST CFMS LISTED ON THIS DRAWING MUST BE MET DURING TEST AND BALANCE OF THE HOOD SYSTEM(S).
VARIANCE EXHAUST = -0% +10%
VARIANCE SUPPLY= -10% +0%



HOOD #6
PLAN VIEW



HOOD #6
ELEVATION VIEW



HOOD #6
SECTION VIEW

STREIVOR™ AIR SYSTEMS
"STRIVING FOR EXCELLENCE"
2150 KITTY HAWK ROAD, LIVERMORE, CA 94551
PHONE: (925) 960-9090 FAX:(925) 960-9055
WWW.STREIVOR.COM

PROJECT:

ALICE ES

---,-- -----

AMD FOODSERVICE DESIGN

HOOD #:	6
DATE:	12/12/2023
DRAWN BY:	KCS
CHECKED BY:	JWS
CONSULTANT:	AMD FOODSERVICE DESIGN
SCALE: (UNLESS OTHERWISE NOTED)	1/2" = 1'-0"

IF BAR DOES NOT MEASURE 1" THIS DRAWING IS NOT PLOTTED TO SCALE

	DESCRIPTION	DATE	INT
1	EXHAUST COLLAR QUANTITY	12/13/23	KCS
2	---	-/-/-	---
3	---	-/-/-	---
4	---	-/-/-	---
5	---	-/-/-	---

DRAWING:

H-01

SHEET 01 OF 01

BID PACKAGE A

ALBERT EINSTEIN MIDDLE SCHOOL
RE-ROOF AND BEAUTIFICATION PROJECT

9325 MIRANDY DR
SACRAMENTO, CA 95826

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

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916.329.4000

LICENSED ARCHITECT
BRIAN J. LEWIS
No. C-26967
RENEWAL DATE: 1/31/25
STATE OF CALIFORNIA

ARCHITECT

BID SET

REVISIONS

NO.	DESCRIPTION	DATE

DATE: 01/30/2023

JOB NO.: Y2243.00

SHEET TITLE

FOODSERVICE EXHAUST HOOD DETAILS

SHEET NO.

FS5.1

ONE AND ONE-HALF INCH = ONE FOOT
ONE INCH = ONE FOOT
THREE-QUARTERS INCH = ONE FOOT
ONE-HALF INCH = ONE FOOT
ONE-QUARTER INCH = ONE FOOT
ONE-EIGHTH INCH = ONE FOOT
ONE-SIXTEENTH INCH = ONE FOOT
ONE INCH = TWENTY FEET

LISTINGS & STANDARDS

THIS WET CHEMICAL EXTINGUISHING SYSTEM IS ENGINEERED TO PROVIDE FIRE PROTECTION FOR RESTAURANT HOODS, DUCTS AND COOKING APPLIANCES, IS **UL 300** LISTED AND IS TO BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS:

- NFPA 17A 2017 EDITION
- NFPA 10 2018 EDITION
- NFPA 96 2017 EDITION

SECTIONS & CODES

NFPA 10 2018 EDITION

(6.6.2) MAXIMUM TRAVEL DISTANCE SHALL NOT EXCEED 30 FT (9.1 M) FROM THE HAZARD TO THE EXTINGUISHER(S)

NFPA 17A 2017 EDITION

(5.2.1.10.1) EACH MANUAL ACTUATION DEVICE SHALL BE INSTALLED NO MORE THAN 48 IN. (1200 MM) AND NO LESS THAN 42 IN. (1067 MM) ABOVE THE FLOOR.

NFPA 96 2017 EDITION

(8.2.3.1) A HOOD EXHAUST FAN(S) SHALL CONTINUE TO OPERATE AFTER THE EXTINGUISHING SYSTEM HAS BEEN ACTIVATED UNLESS FAN SHUTDOWN IS REQUIRED BY A LISTED COMPONENT OF THE VENTILATION SYSTEM OR BY THE DESIGN OF THE EXTINGUISHING SYSTEM.

(8.2.3.2) THE HOOD EXHAUST FAN SHALL START UPON ACTIVATION OF THE EXTINGUISHING SYSTEM IF THE EXHAUST FAN AND ALL COOKING EQUIPMENT SERVED BY THE FAN HAVE BEEN SHUT DOWN, UNLESS FAN SHUTDOWN IS REQUIRED BY A LISTED COMPONENT OF THE VENTILATION SYSTEM OR BY THE LISTING OF THE EXTINGUISHING SYSTEM.

(8.3.2) WHEN THE FIRE-EXTINGUISHING SYSTEM ACTIVATES, MAKEUP AIR SUPPLIED INTERNALLY TO A HOOD SHALL BE SHUT OFF.

(10.4.1) UPON ACTIVATION OF ANY FIRE EXTINGUISHING SYSTEM FOR A COOKING OPERATION, ALL SOURCES OF FUEL AND ELECTRICAL POWER THAT PRODUCE HEAT TO ALL EQUIPMENT REQUIRING PROTECTION BY THAT SYSTEM SHALL AUTOMATICALLY SHUT OFF.

(10.4.3) ANY GAS APPLIANCE NOT REQUIRING PROTECTION BUT LOCATED UNDER VENTILATING EQUIPMENT WHERE PROTECTED APPLIANCES ARE LOCATED SHALL BE AUTOMATICALLY SHUT OFF UPON ACTIVATION OF THE EXTINGUISHING SYSTEM

(10.4.4) SHUTOFF DEVICE SHALL REQUIRE MANUAL RESET.

(10.5.1.1) AT LEAST ONE MANUAL ACTUATION DEVICE SHALL BE LOCATED IN A MEANS OF EGRESS OR AT A LOCATION ACCEPTABLE TO THE AHJ.

(10.5.1.2) THE MANUAL ACTUATION DEVICE SHALL CLEARLY IDENTIFY THE HAZARD PROTECTED.

CMC 2019 EDITION

(913.5) MANUAL ACTIVATION SHALL BE ACCESSIBLE IN THE EVENT OF A FIRE. NOT LESS THAN ONE MANUAL ACTUATION DEVICE SHALL BE LOCATED NOT LESS THAN 10 FEET (3048 MM) AND NOT MORE THAN 20 FEET (6096 MM) FROM THE PROTECTED EXHAUST SYSTEM(S). [BC 2018: 904.12.1]

INSTALLATION REQUIREMENTS

1. ALL PIPE SHALL BE SCHEDULE 40 BLACK IRON. CHROME PLATED/SLEEVED WHERE EXPOSED.
2. ALL CYLINDER SYSTEMS SHALL HAVE 3/8" SUPPLY LINES AND 3/8" BRANCH LINES.
3. ALL WIRE ROPE SHALL BE 1/16" STAINLESS STEEL AND RUN THROUGH 1/2" EMT CONDUIT.
4. U.L. LISTED CORNER PULLEYS REQUIRED WHENEVER THE STAINLESS STEEL CABLE DIRECTION CHANGES.
5. ALL EQUIPMENT WITH FIRE PROTECTION MUST BE SECURED TO FLOOR. (NOT BY STREIVOR)
6. SWIVEL ADAPTERS MAY BE ADDED TO NOZZLES FOR UP TO 30° ROTATION.

SYSTEM #1

PAGE NUMBERS REFERENCED FROM THE ANSUL R-102 FIRE SUPPRESSION SYSTEM TECHNICAL MANUAL

CABLE/LINE LIMITATIONS

		LENGTH	PULLEYS	BRACKETS
FUSIBLE LINK (pg. 4-71)	MAXIMUM	150.00 FT	20	15
	ALLOTTED	15.00 FT	3	3 *
PULL STATION(S) (pg. 4-73)	MAXIMUM	150.00 FT	20	N/A
	ALLOTTED	25.00 FT	2	N/A
GAS VALVE(S) (pg. 4-74)	MAXIMUM	150.00 FT	20	N/A
	ALLOTTED	--.-- FT	--	N/A
GAS CARTRIDGE(S) (pg. 4-61)	MODEL	LT-30-R	--	--
	PART NUMBER	423435	--	--

CYLINDER #1

ZONE COVERAGE	COVERAGE DESCRIPTION	NOZZLE	QTY.	FLOW POINTS	PAGE
■	DUCT	2W	1	2	4-1
■ ■	PLENUM	1N	2	2	4-5
■	RANGE	1F	2	2	4-17
■	GRIDDLE	2-60	1	2	4-19
		TOTAL FLOW POINTS		8	

PIPING LIMITATIONS

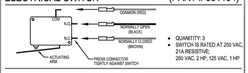
CYLINDER	FLOW POINTS		SUPPLY	DUCT	PLENUM	EQUIP.	FIRST TO LAST
3 GAL	MAXIMUM	11	40 FT	8 FT	4 FT	12 FT	24 FT
	ALLOTTED	8	13 FT	4 FT	1 FT	3 FT	11 FT

LEGEND

- PATH OF EGRESS
- DETECTION LINE ROUTE
- PIPING
- FIELD PIPING
- K-CLASS FIRE EXTINGUISHER (NOT SUPPLIED BY STREIVOR)
- PULL STATION
- AUTOMAN
- DETECTOR BRACKET (FRONT VIEW)
- DETECTOR BRACKET (PLAN VIEW)
- NOZZLE COVERAGE
- DUCT NOZZLE MAX PERIMETER
- PLENUM NOZZLE MAX PLENUM LENGTH
- APPLIANCE NOZZLE AND HEIGHT
- DOWNWARD FACING NOZZLE
- ANGLED NOZZLE AND TARGET LOCATION

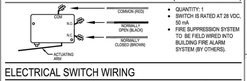
MECHANICAL AUTOMAN (PART #79493) & ELECTRICAL WIRING

ELECTRICAL SWITCH (PART # 551154)



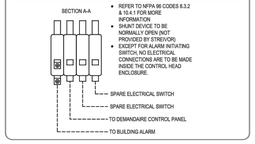
- QUANTITY: 3
- SWITCH IS RATED AT 250 VAC, 21A RESISTIVE; 250 VAC, 2 HP; 125 VAC, 1 HP

ALARM SWITCH (PART # 550077)

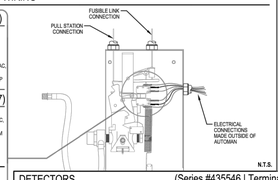


- QUANTITY: 1
- SWITCH IS RATED AT 28 VDC, 50 mA
- FIRE SUPPRESSION SYSTEM TO BE FIELD WIRED INTO BUILDING FIRE ALARM SYSTEM (BY OTHERS).

ELECTRICAL SWITCH WIRING



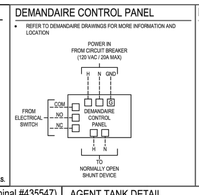
- REFER TO NFPA 96 CODES 8.3.2 & 10.4.1 FOR MORE INFORMATION
- SHUNT DEVICE TO BE NORMALLY OPEN (NOT PROVIDED BY STREIVOR)
- EXCEPT FOR ALARM INITIATING SWITCH, NO ELECTRICAL CONNECTIONS ARE TO BE MADE INSIDE THE CONTROL HEAD ENCLOSURE.



N.T.S.

DEMANDAIRE CONTROL PANEL

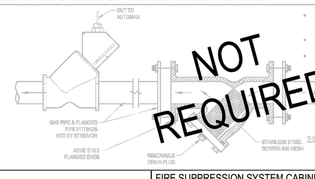
- REFER TO DEMANDAIRE DRAWINGS FOR MORE INFORMATION AND LOCATION



N.T.S.

MECHANICAL GAS SHUT-OFF VALVE & FLANGED Y-STRAINER

(SEE MEP DRAWINGS FOR LOCATION)



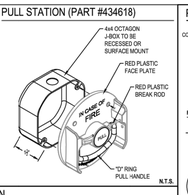
NOT REQUIRED

- GAS SHUT-OFF VALVE(S) TO BE SIZED AND LOCATED PER MEP DRAWINGS (MAXIMUM VALVE SIZE: 3" NPT)
- VALVE(S) AND STRAINERS TO BE INSTALLED BY DIVISION 22 (PLUMBING)
- Y-STRAINER REQUIRED FOR THE PROTECTION OF THE GAS VALVE. INSTALL A Y-STRAINER ON THE INLET SIDE OF THE GAS VALVE (AS CLOSE AS POSSIBLE).

Y-STRAINER NOT PROVIDED BY STREIVOR UNLESS SPECIFICALLY INCLUDED IN PURCHASE ORDER.

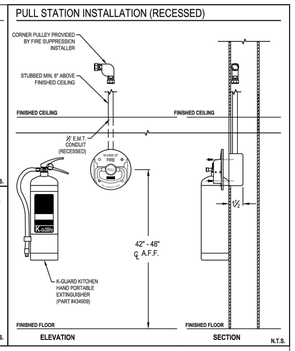
N.T.S.

PULL STATION (PART #434618)



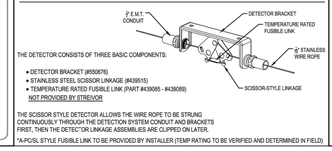
N.T.S.

PULL STATION INSTALLATION (RECESSED)



N.T.S.

DETECTORS (Series #435546 | Terminal #435547)



THE DETECTOR CONSISTS OF THREE BASIC COMPONENTS:

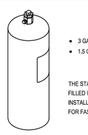
- DETECTOR BRACKET (#550878)
- STAINLESS STEEL SCISSOR LINKAGE (#435515)
- TEMPERATURE RATED FUSIBLE LINK (PART #439085 - #439089)

NOT PROVIDED BY STREIVOR

THE SCISSOR STYLE DETECTOR ALLOWS THE WIRE ROPE TO BE STRUNG CONTINUOUSLY THROUGH THE DETECTION SYSTEM CONDUIT AND BRACKETS FIRST, THEN THE DETECTOR LINKAGE ASSEMBLIES ARE CLIPPED ON LATER.

*A-P/OSL STYLE FUSIBLE LINK TO BE PROVIDED BY INSTALLER (TEMP RATING TO BE VERIFIED AND DETERMINED IN FIELD)

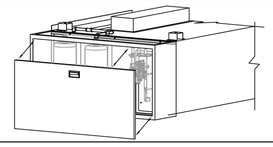
AGENT TANK DETAIL



- 3 GALLON SHIPPING WEIGHT 7 LB (3.2KG) - PART #429982
- 1.5 GALLON SHIPPING WEIGHT 5 LB (2.3KG) - PART #429984

THE STAINLESS STEEL TANK IS SHIPPED UNCHARGED AND MUST BE FILLED WITH ONLY ANSULEX LOW PH LIQUID FIRE SUPPRESSANT DURING INSTALLATION. ANSULEX IS A POTASSIUM-BASED SOLUTION DESIGNED FOR FAST KNOCK-DOWN AND SUPPRESSION OF GREASE-RELATED FIRES.

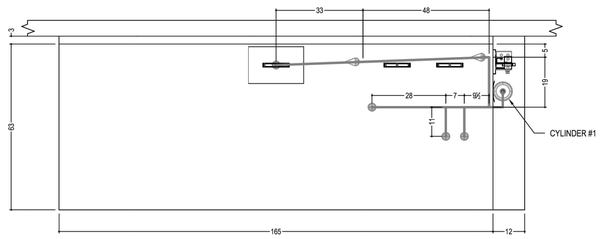
FIRE SUPPRESSION SYSTEM CABINET & REMOTE MOUNTED INSTALLATION

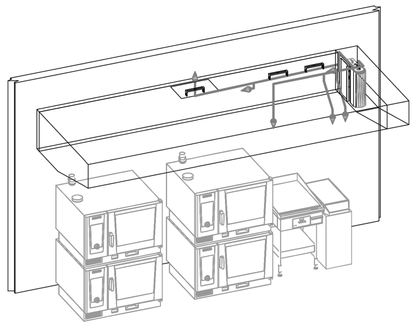


- 36" MINIMUM CLEARANCE REQUIRED IN FRONT OF THE REMOVABLE CABINET DOOR.
- SUPPORT BACKING REQUIRED IF CABINET MOUNTS TO WALL
- CABINET AND FIRE SUPPRESSION SYSTEM COMPONENTS APPROXIMATELY 100 LBS/FT. SEE PATH OF EGRESS DRAWING FOR CABINET DIMENSIONS)
- IMAGE MAY NOT REPRESENT EXACT HOOD OPTIONS. SEE HOOD DRAWINGS FOR FULL DETAILS

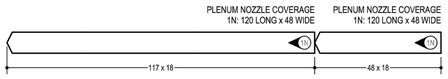
N.T.S.

SYSTEM #1 : HOOD #6

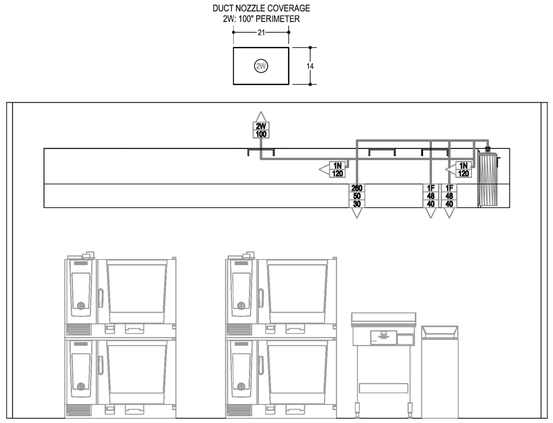


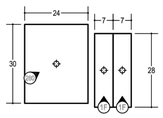


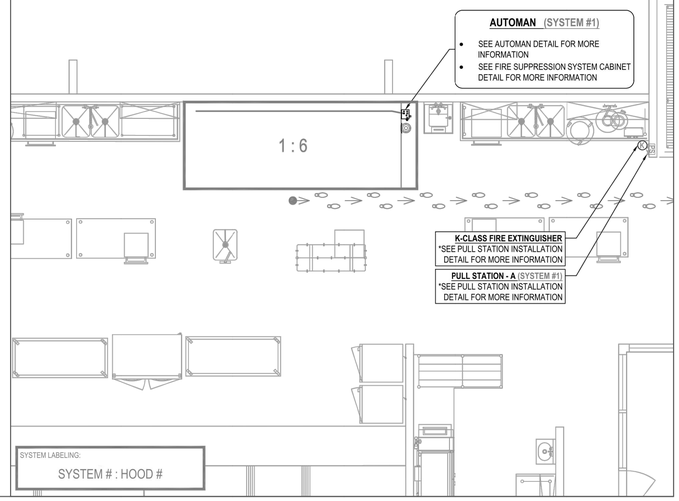
NOTE: FIELD PIPING TO BE INSTALLED BY A STREIVOR APPOINTED LICENSED FIRE SUPPRESSION INSTALLER



DUCT NOZZLE COVERAGE
2W: 100" PERIMETER







PATH OF EGRESS — SCALE: 1/4" = 1'-0"

INSTALLER:

GENERAL NOTES:

NOTES TO ARCHITECT AND/OR CONTRACTOR: STREIVOR, INC. (STREIVOR AIR SYSTEMS, STREIVOR STAINLESS) IS A SPECIALIST IN THE LAYOUT AND DESIGN OF KITCHEN VENTILATION SYSTEMS, AND IS NOT ANY PURPORTS TO BE ARCHITECTS OR ENGINEERS.

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STREIVOR, INC. ACCEPTS NO RESPONSIBILITY FOR WORK DONE BY SAID ARCHITECT OR GENERAL CONTRACTOR ON THEIR REPRESENTATIVES OR SUBCONTRACTORS, AND WILL NOT STAND ANY EXPENSE FOR CHANGES MADE NECESSARY DUE TO LOCAL BUILDING CODES, ORDINANCES, STRUCTURAL CONDITIONS, OR BY ANY SUBSTITUTIONS OR CHANGES IN EQUIPMENT SHOWN ON THIS PLAN.

ANY ERRORS, AMBIGUITIES OR OMISSIONS IN THIS PLAN OR SPECIFICATIONS SHALL BE DIRECTED TO THE ATTENTION OF STREIVOR, INC. IMMEDIATELY BEFORE ANY OF THE WORK IS STARTED. UNLESS EXPRESSLY STIPULATED, NO ADDITIONAL ALLOWANCE WILL BE MADE IN FAVOR OF THE OWNER OR CONTRACTOR, BY VIRTUE OF ERROR, AMBIGUITY OR OMISSION WHICH SHOULD HAVE BEEN DISCOVERED DURING THE PREPARATION OF BID ESTIMATES, AND DIRECTED TO THE ATTENTION OF STREIVOR, INC. IN A TIMELY MANNER.

STREIVOR™ AIR SYSTEMS

"STRIVING FOR EXCELLENCE"

2150 KITTY HAWK ROAD, LIVERMORE, CA 94551
PHONE: (925) 960-9090 FAX:(925) 960-9055
WWW.STREIVOR.COM

CUSTOMER APPROVAL

COOKING EQUIPMENT VERIFICATION

VERIFY THE FOLLOWING:

HIGH BACK SHELVES	YES ☐ NO ☐
RANGE COOKING SURFACE DEPTH GREATER THAN 28"	YES ☐ NO ☐
PULL STATION LOCATION(S)	YES ☐ NO ☐
UTILITY CABINET LOCATION(S)	YES ☐ NO ☐
AGENT DISTRIBUTION HOSE AND RESTRAINING CABLE KIT	YES ☐ NO ☐
CEILING HEIGHT	___'-___"

APPROVED BY DATE

NOTE TO REVIEWER:
ANY CHANGES IN COOKING EQUIPMENT SUCH AS EQUIPMENT POSITION, TYPE AND/OR INCREASE IN ENERGY OUTPUT MAY EFFECT EXHAUST AIRFLOW. STREIVOR AIR SYSTEMS MUST BE NOTIFIED OF ANY CHANGES THAT OCCUR PRIOR TO FABRICATION. A RE-ENGINEERING OF THE EXHAUST AIRFLOW MAY BE REQUIRED. ADDITIONAL SITE VISIT FOR FIRE SUPPRESSION PRE-TEST IS NOT INCLUDED UNLESS SPECIFICALLY LISTED IN QUOTE.

PROJECT:

ALBERT EINSTEIN MS

9325 MIRANDY DR
SACRAMENTO, CA 95826

AMD FOODSERVICE DESIGN

ITEM #:	6.1
SYSTEM #:	1
HOOD #:	6
DATE:	01/10/24
DRAWN BY:	KCS
CHECKED BY:	JML
CONSULTANT:	AMD FOODSERVICE DESIGN
SCALE: (UNLESS OTHERWISE NOTED)	1/2" = 1' - 0"

IF BAR DOES NOT MEASURE 1" - THIS DRAWING IS NOT PLOTTED TO SCALE.

	DESCRIPTION	DATE	INT
1	---	--/--/--	---
2	---	--/--/--	---
3	---	--/--/--	---
4	---	--/--/--	---
5	---	--/--/--	---

DRAWING:

F-01

SHEET 01 OF 01

ONE INCH = TWENTY FEET
ONE-EIGHTH INCH = ONE FOOT
ONE-QUARTER INCH = ONE FOOT
ONE-HALF INCH = ONE FOOT
THREE-QUARTERS INCH = ONE FOOT
ONE INCH = ONE FOOT
ONE AND ONE-HALF INCH = ONE FOOT

BID PACKAGE A

ALBERT EINSTEIN MIDDLE SCHOOL
RE-ROOF AND BEAUTIFICATION PROJECT

9325 MIRANDY DR
SACRAMENTO, CA 95826

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

CONSULTANT

nacht&lewis
600 Q Street, Suite 100
Sacramento, CA 95811
www.nachtlewis.com
916.329.4000

LICENSED ARCHITECT — BRYAN J. LEWIS — No. C-26867 — RENEWAL DATE: 1/31/25 — STATE OF CALIFORNIA

ARCHITECT

BID SET

REVISIONS

NO.	DESCRIPTION	DATE

DATE: 01/30/2023

JOB NO.: Y2243.00

SHEET TITLE

FOODSERVICE EXHAUST HOOD DETAILS

SHEET NO.

FS5.2

GENERAL NOTES

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PRE-INSTALLATION

OBTAIN, READ AND UNDERSTAND STREIVOR'S DEMANDAIRE INSTALLATION, OPERATION AND MAINTENANCE MANUAL PRIOR TO INSTALLATION, OR STARTUP OR BALANCING.

INSTALLATION

ALL INSTALLATION AND STARTUP MUST BE PERFORMED BY QUALIFIED PERSONS AND IN ACCORDANCE WITH ALL APPLICABLE PREVAILING CODES AND STANDARDS

WIRING NOTES

1. FIELD WIRING TERMINALS USE COPPER WIRE ONLY
2. WIRE MUST BE RATED UP TO 600V
3. WIRE TEMPERATURE RATING 60° C MIN
4. LARGE TERMINAL BLOCK TIGHTENING TORQUE 1.5 - 1.8 (NM)
5. SMALL TERMINAL BLOCK TIGHTENING TORQUE 0.6 - 0.8 (NM)
6. SHIELDS OF SHIELDED CABLES MUST BE GROUNDED ON ONE SIDE

COMMISSIONING NOTES

IF COMMISSIONING IS INCLUDED, STREIVOR'S DEMANDAIRE PRE-COMMISSIONING CHECKLIST MUST BE SIGNED AND RETURNED BY THE CUSTOMER A MINIMUM OF **15 CALENDAR DAYS** PRIOR TO THE REQUESTED COMMISSIONING DATE TO AVOID INCURRING ADDITIONAL TRAVEL AND/OR EXPEDITING COSTS

HOOD SCHEDULE

HOOD	GROUP	SUPPLY FAN	EXHAUST FAN	FSS#	CIRCUIT DESCRIPTION	HP	V/Ø	AMPS	FEED
6	---	SF-X	EF-X	1	CONTROL PANEL	---	120/1	20	CB
---	---	---	---	---	---	---	---	---	---
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REFER TO HOOD DRAWINGS FOR HOOD DETAILS

CB: CIRCUIT BREAKER BY ELECTRICAL CONTRACTOR

ELECTRICAL ROUGH-IN SCHEDULE

ITEM	DETAIL	ROUGH-IN REQUIREMENTS	ELECTRICAL CONDUIT
DEMANDAIRE CONTROL PANEL	DCP	14 1/4" X 16 1/4" I.D. FRAMED OPENING	120 VAC, 24 VDC, 4-20 mA
AMBIENT TEMPERATURE MONITOR	ARTD	2X4 J-BOX	4-20 mA
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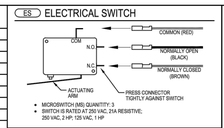
---	---	---	---

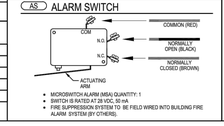
ELECTRICAL CONTRACTOR TO VERIFY ROUGH-IN LOCATION AND ELECTRICAL REQUIREMENTS

(ES) ELECTRICAL SWITCH



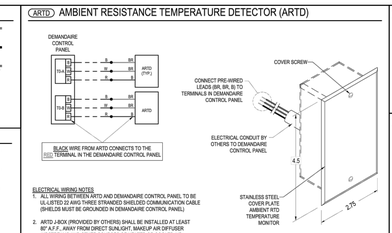
- MICROSWITCH (MS) QUANTITY: 3
- SWITCH IS RATED AT 250 VAC, 21A RESISTIVE; 250 VAC, 2 HP; 125 VAC, 1 HP

(AS) ALARM SWITCH



- MICROSWITCH ALARM (MSA) QUANTITY: 1
- SWITCH IS RATED AT 28 VDC, 50 mA
- FIRE SUPPRESSION SYSTEM TO BE FIELD WIRED INTO BUILDING FIRE ALARM SYSTEM (BY OTHERS).

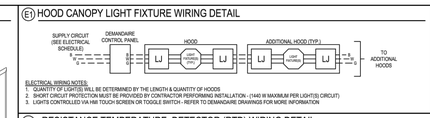
(ARTD) AMBIENT RESISTANCE TEMPERATURE DETECTOR (ARTD)



ELECTRICAL WIRING NOTES:

1. ALL WIRING BETWEEN ARTD AND DEMANDAIRE CONTROL PANEL TO BE UL-LISTED 22 AWG THREE STRANDED SHIELDED COMMUNICATION CABLE (SHIELDS MUST BE GROUNDED IN DEMANDAIRE CONTROL PANEL)
2. ARTD J-BOX (PROVIDED BY OTHERS) SHALL BE INSTALLED AT LEAST 80" A.F.F., AWAY FROM DIRECT SUNLIGHT, MAKEUP AIR DIFFUSER AIR/STREAMS AND OTHER SOURCES OF HEATED OR COOLED AIR

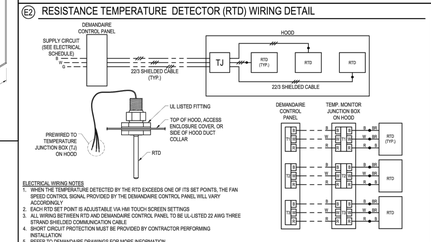
(E1) HOOD CANOPY LIGHT FIXTURE WIRING DETAIL



ELECTRICAL WIRING NOTES:

1. QUANTITY OF LIGHTS(S) WILL BE DETERMINED BY THE LENGTH & QUANTITY OF HOODS
2. SHORT CIRCUIT PROTECTION MUST BE PROVIDED BY CONTRACTOR PERFORMING INSTALLATION - (1440 W MAXIMUM PER LIGHT(S) CIRCUIT)
3. LIGHTS CONTROLLED VIA HMI TOUCH SCREEN OR TOGGLE SWITCH - REFER TO DEMANDAIRE DRAWINGS FOR MORE INFORMATION

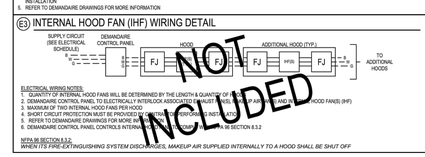
(E2) RESISTANCE TEMPERATURE DETECTOR (RTD) WIRING DETAIL



ELECTRICAL WIRING NOTES

1. WHEN THE TEMPERATURE DETECTED BY THE RTD EXCEEDS ONE OF ITS SET POINTS, THE FAN SPEED CONTROL SIGNAL PROVIDED BY THE DEMANDAIRE CONTROL PANEL WILL VARY ACCORDINGLY
2. EACH RTD SET POINT IS ADJUSTABLE VIA HMI TOUCH SCREEN SETTINGS
3. ALL WIRING BETWEEN RTD AND DEMANDAIRE CONTROL PANEL TO BE UL-LISTED 22 AWG THREE STRAND SHIELDED COMMUNICATION CABLE
4. SHORT CIRCUIT PROTECTION MUST BE PROVIDED BY CONTRACTOR PERFORMING INSTALLATION
5. REFER TO DEMANDAIRE DRAWINGS FOR MORE INFORMATION

(E3) INTERNAL HOOD FAN (IHF) WIRING DETAIL



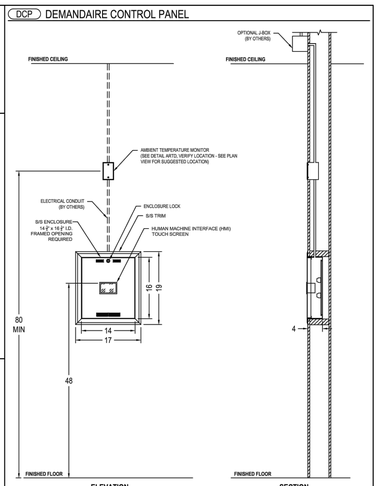
ELECTRICAL WIRING NOTES:

1. QUANTITY OF INTERNAL HOOD FANS WILL BE DETERMINED BY THE LENGTH & QUANTITY OF HOODS OR A MINIMUM OF TWO INTERNAL HOOD FANS (IHF)
2. DEMANDAIRE CONTROL PANEL TO ELECTRICALLY INTERLOCK ASSOCIATED EXHAUST FANS OR AIR SYSTEMS
3. MAXIMUM OF TWO INTERNAL HOOD FANS PER HOOD
4. SHORT CIRCUIT PROTECTION MUST BE PROVIDED BY CONTRACTOR PERFORMING INSTALLATION
5. REFER TO DEMANDAIRE DRAWINGS FOR MORE INFORMATION
6. DEMANDAIRE CONTROL PANEL CONTROLS INTERNAL HOOD FANS IN SEQUENCE WITH ASSOCIATED EXHAUST FANS IN SECTION 8.3.2

NFPA 96 SECTION 8.3.2:
WHEN IT'S FIRE-EXTINGUISHING SYSTEM DISCHARGES, MAKEUP AIR SUPPLIED INTERNALLY TO A HOOD SHALL BE SHUT OFF

NOT INCLUDED

(DCP) DEMANDAIRE CONTROL PANEL



DRAWING APPROVAL

THIS DRAWING MUST BE REVIEWED, SIGNED & RETURNED TO STREIVOR AIR SYSTEMS PRIOR TO THE START OF FABRICATION.

VERIFY THE FOLLOWING:

1. ALL DIMENSIONAL INFORMATION, MOUNTING LOCATIONS & CLEARANCES.
2. FAN HORSEPOWER, VOLTAGE & PHASE (IF VFDS OR MOTOR STARTERS ARE PROVIDED BY STREIVOR)

APPROVED FOR FABRICATION

- ☐ APPROVED
- ☐ APPROVED AS NOTED
- ☐ REVISE & RESUBMIT

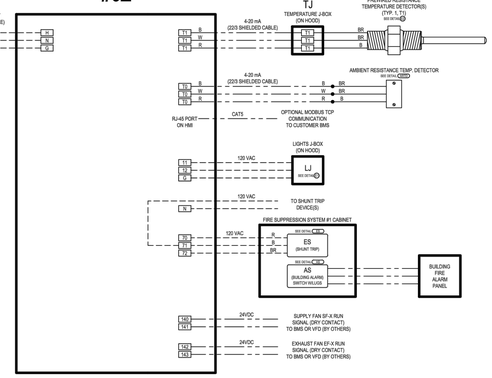
APPROVED BY _____ DATE _____

NOTE TO REVIEWER:
ANY CHANGES IN COOKING EQUIPMENT SUCH AS EQUIPMENT POSITION, TYPE AND/OR INCREASE IN ENERGY OUTPUT MAY AFFECT EXHAUST AIRFLOW. STREIVOR AIR SYSTEMS MUST BE NOTIFIED OF ANY CHANGES THAT OCCUR PRIOR TO FABRICATION, AS RE-ENGINEERING OF THE EXHAUST AIRFLOW MAY BE REQUIRED.

DEMANDAIRE BRONZE CONTROL PANEL WIRING DIAGRAM #6Z

UL LISTED STD 508A

NOTE:
MAIN DISCONNECT(S) AND BRANCH PROTECTION PROVIDED BY OTHERS FROM UL 489 LISTED CIRCUIT BREAKER(S)



NOTE:
DEMANDAIRE CONTROL PANEL ENCLOSURES REQUIRE
36 INCHES MININUM OF CLEAR SPACE IN FRONT OF THE DOOR

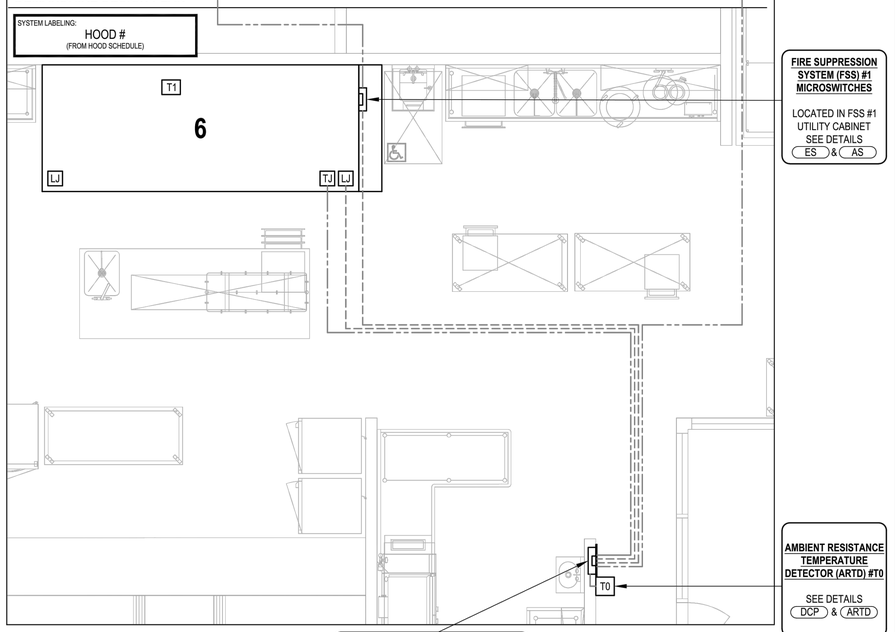
LEGEND

- STREIVOR FACTORY WIRING
- HIGH VOLTAGE FIELD WIRING BY OTHERS
- 120/1 VAC FIELD WIRING BY OTHERS
- LOW VOLTAGE FIELD WIRING BY OTHERS
- 120/1 VAC ELECTRICAL CONDUIT (ELECTRICAL CONTRACTOR TO VERIFY QUANTITY AND SIZE)
- LOW VOLTAGE ELECTRICAL CONDUIT (ELECTRICAL CONTRACTOR TO VERIFY QUANTITY AND SIZE)
- LJ — HOOD CANOPY LIGHT(S) JUNCTION BOX
- TJ — TEMP. MONITOR(S) JUNCTION BOX
- FJ — INTERNAL HOOD FAN(S) JUNCTION BOX
- T# — TEMPERATURE MONITOR
- VFD — VARIABLE FREQUENCY DRIVE
- BMS — BUILDING MANAGEMENT SYSTEM

BUILDING FIRE ALARM
NFPA 96 - 10.6.2: WHERE A FIRE ALARM SIGNALING SYSTEM IS SERVING THE OCCUPANCY WHERE THE EXTINGUISHING SYSTEM IS LOCATED, THE ACTIVATION OF THE AUTOMATIC FIRE-EXTINGUISHING SYSTEM SHALL ACTIVATE THE FIRE ALARM SIGNALING SYSTEM. SEE DETAIL (AS) — BUILDING ALARM

FAN MOTOR DRIVE(S)
FAN MOTOR DRIVE(S) TO BE SIZED/LOCATED PER MEP DRAWINGS
FAN MOTOR DRIVE(S) NOT PROVIDED BY STREIVOR
SEE DEMANDAIRE WIRING DIAGRAM FOR TERMINAL LABELS AND QUANTITY OF CONTROL SIGNALS/CONTACTS — FAN/BMS

DEMANDAIRE DESIGN PLAN



BID PACKAGE A

ALBERT EINSTEIN MIDDLE SCHOOL
RE-ROOF AND BEAUTIFICATION PROJECT
9325 MIRANDY DR
SACRAMENTO, CA 95826

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

STREIVOR™ AIR SYSTEMS
"STRIVING FOR EXCELLENCE"
2150 KITTY HAWK ROAD, LIVERMORE, CA 94551
PHONE: (925) 960-9090 FAX:(925) 960-9055
WWW.STREIVOR.COM

CONSULTANT

nacht&lewis
600 Q Street, Suite 100
Sacramento, CA 95811
www.nachtlewis.com
916.329.4000

LICENSED ARCHITECT — No. C-26967 — RENEWAL DATE: 1/31/25 — STATE OF CALIFORNIA

ARCHITECT

BID SET

REVISIONS

NO.	DESCRIPTION	DATE

DATE: 01/30/2023

JOB NO.: Y2243.00

SHEET TITLE

FOODSERVICE EXHAUST HOOD DETAILS

SHEET NO.

FS5.3

PROJECT:
ALBERT EINSTEIN MS
9325 MIRANDY DR.
SACRAMENTO, CA 95826
AMD FOODSERVICE DESIGN

SHORT CIRCUIT CURRENT RATING - 5KA RMS, 120V MAX. **VERIFY JOB SITE REQUIREMENTS**

SERIAL NO.	DA------
CONTROL PANEL NO.	---
C.P. ENCLOSURE NO.	---
HMI ENCLOSURE NO.	---
ITEM #:	6Z
MODEL:	BRONZE
DATE:	01/15/24
DRAWN BY:	AVB
CHECKED BY:	JWS
CONSULTANT:	AMD FOODSERVICE DESIGN
SCALE:	N.T.S.

△	DESCRIPTION	DATE	INT
△	---	-/-/--	---
△	---	-/-/--	---
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△	---	-/-/--	---
△	---	-/-/--	---
△	---	-/-/--	---

DRAWING:

DA-01

SHEET 01 OF 01

ONE AND ONE-HALF INCH = ONE FOOT
ONE INCH = ONE FOOT
THREE-QUARTERS INCH = ONE FOOT
ONE-HALF INCH = ONE FOOT
ONE-QUARTER INCH = ONE FOOT
ONE-EIGHTH INCH = ONE FOOT
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ONE INCH = TWENTY FEET

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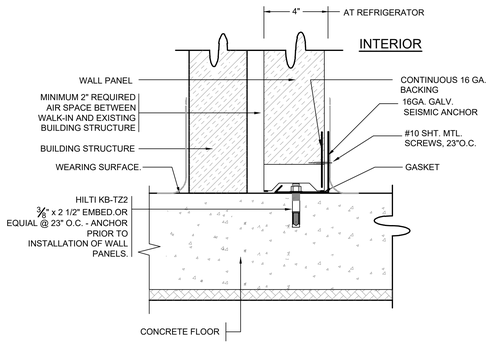
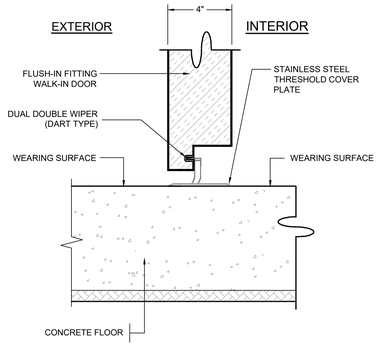


A | WALL PANEL TO CONCRETE FLOOR

SPARE

B | SPARE



REFER TO FS4.1 FOR LOCATION

C | THRESHOLD DETAIL FOR REFRIGERATOR DOOR

APPLICATION - WALK-IN COOLER

4" HARD NOSE TONGUE & GROOVE HIGH DENSITY URETHANE PERIMETER (CFC FREE) W/ SHT. MTL. FACING FLANGED 1/2" TO 3/4" PERIMETER OF EACH SHEET. CORNERS & T-PANELS ONE-PIECE CONSTRUCTION W/ 1/2" RADIUS AT ALL INSIDE VERTICAL CORNERS, JOINTS SEALED W/ PVC GASKET AT INT. & EXT. PERIMETER OF PANELS. PANELS RIGID CONNECTION W/ CAM-LOCK FASTENERS (WALL TO WALL: 48" O.C MAX: WALL TO CEILING: 24" O.C. MAX: WALL TO FLOOR: 24" O.C. MAX., IF APPLY)

INSULATION - 4" THICK FOAMED IN PLACE HIGH DENSITY URETHANE (CFC FREE) FILLED, OVER 90 PERCENT CLOSED CELL CONTENT. LESS THAN 25 FLAME SPREAD IN ACCORD W/ UBC STD. 42-1 (BASED ON UL 723 WHICH IS SIMILAR TO ASTM E84 THE STEINER TUNNEL TEST) AND CLASS 'A' INTERIOR FINISH IN ACCORDANCE W/ NFPA 101, SECTION 6-2, AND NFPA 255. K-FACTOR NOT TO EXCEED 0.14 BTU/HOUR/SQ. FT./°F PER INCH THICKNESS IN ACCORDANCE W/ ASTM C177 AT 75 F MEAN TEMPERATURE. UL REPORT (BLBT.R13780) FOR: SURFACE BURNING CHARACTERISTICS

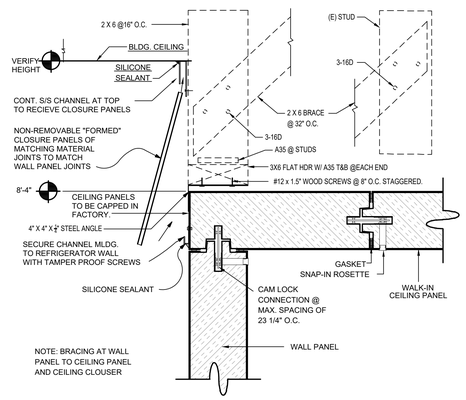
FINISH - WALL INTERIOR - .040 STUCCO EMBOSSED ALUMINUM WHITE FINISH
WALL EXTERIOR (EXPOSED) - 22GA. STAINLESS STEEL - TYPE 304, #4 FINISH
WALL EXTERIOR (UNEXPOSED) - 26GA. STUCCO EMBOSSED GALVANIZED STEEL
CEILING INTERIOR - .040 STUCCO EMBOSSED ALUMINUM WHITE FINISH
CEILING PANELS - MAX. CEIL. PANEL DEFLECTION: NOT TO EXCEED 1/240 OF THE SPAN UNDER A LOADING OF 20 LBS/SQ. FT.; W/ LATERAL FORCE CAPACITY IN ACCORDANCE W/ CBC SECTION 1630A.3
FLOOR INTERIOR - WEARING SURFACE TO BE SAME AS KITCHEN SEAMLESS THROUGHOUT COVED UP ALL INTERIOR WALLS TO A HT. OF 6"

DOOR(S) - 1EA. 42" X 80" COOLER, FLUSH IN-FITTING DOOR W/ MAGNETIC GASKET
INTERIOR - 22GA. STAINLESS STEEL - TYPE 304, #4 FINISH
EXTERIOR - 22GA. STAINLESS STEEL - TYPE 304, #4 FINISH
DEAD BOLT - NONE
HANDLE - K27 W/ INSIDE SAFETY RELEASE & DEAD BOLT LATCH
HINGES - (2) K1245 (1) K1248 -SPRING LOADED
CLOSER - RACK & PINION
HEATER CABLE - NONE
VISION PANEL - 14" x 24" (NON-HEATED)
INT KICKPLATES - 42" HIGH, DIAMOND TREAD PLATE ALUMINUM
EXT KICKPLATES - 42" HIGH, DIAMOND TREAD PLATE ALUMINUM
JAMB GUARDS - INT., 48" HIGH, DIAMOND TREAD PLATE ALUMINUM

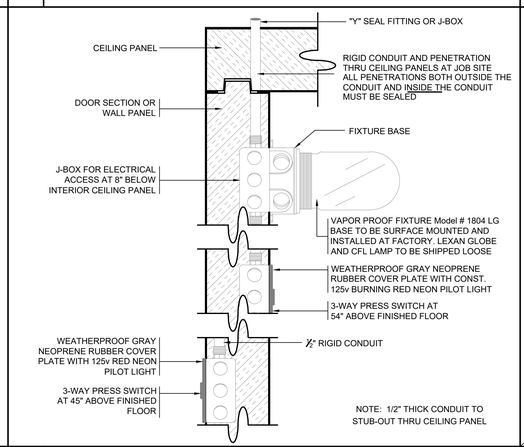
ACCESSORIES - 2 EA. INT, EXT 3-WAY PRESS SWITCH, WITH EXT. INDICATING RED LIGHT-FLUSH MTD
1 EA. TEMPERATURE ALARM SYSTEM W/ DIGITAL THERMOMETER (MODULARM #75LC) - FLUSH MOUNTED ON WALL FACING KITCHEN, PROVIDE SIGN AT EACH FOR COOLER
2 EA. VAPOR PROOF LED CEILING MOUNTED LIGHT FIXTURE - SHIPPED LOOSE
1 EA. LED LIGHT DOOR MOUNTED FIXTURE - SHIPPED LOOSE
1 EA. VINYL STRIP CURTAINS

CLOSURES - 1 LOT INT. COVED BASE - (TO MATCH INT. WALL PANEL FINISH)
1 LOT EXPOSED EXT. COVED BASE - (TO MATCH EXT. WALL PANEL FINISH)
1 LOT WALL CLOSURES - (TO MATCH EXT. WALL PANEL FINISH)
1 LOT CEILING ENCLOSURES - (TO MATCH EXT. WALL PANEL FINISH)

D | TYPICAL SPECIFICATIONS



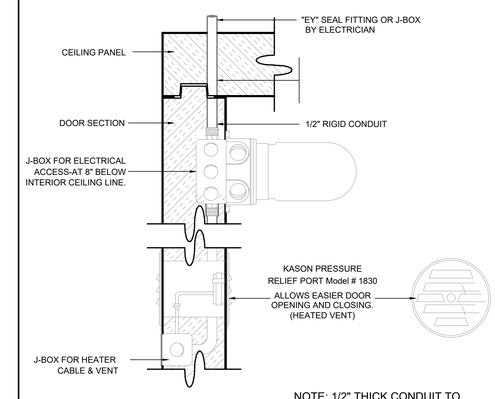
E | SUPPLEMENTAL LATERAL BRACING TO CEILING PANEL



F | 3-WAY INTERIOR & EXTERIOR PRESS SWITCH

SPARE

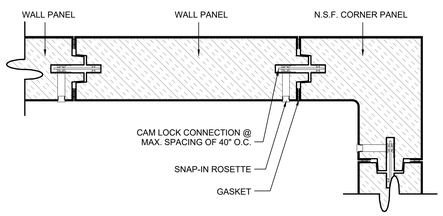
B | SPARE



NOTE: 1/2" THICK CONDUIT TO STUB-OUT THRU CEILING PANEL

H | PRESSURE RELIEF PORT MODEL # 1830 DETAIL

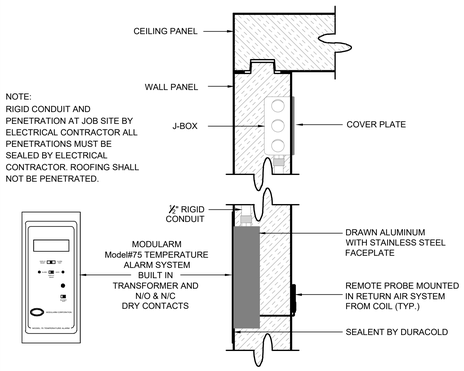
WALL CLOSURE ATTACHMENT DETAIL FOR SANITARY PURPOSES NON STRUCTURAL.



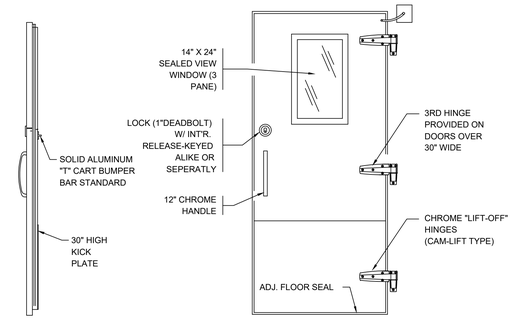
PLAN VIEW

NOTE: 2" MIN. AIR SPACE BETWEEN PRE-FAB PANELS AND BLDG. WALLS

I | TYPICAL CAM LOCK CONNECTION DETAIL

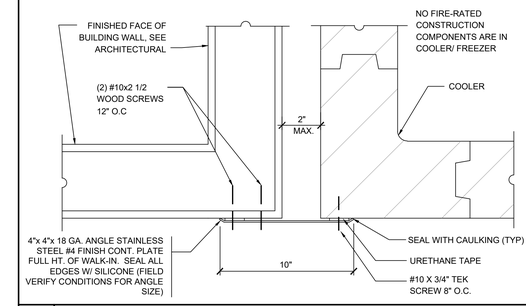


J | MODULARM CORP. MODEL 75 LC DETAIL

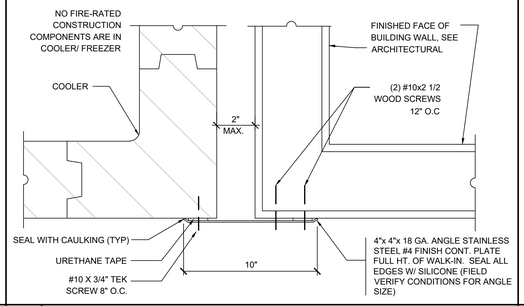


WALK-IN DOOR DETAIL FLUSH TYPE

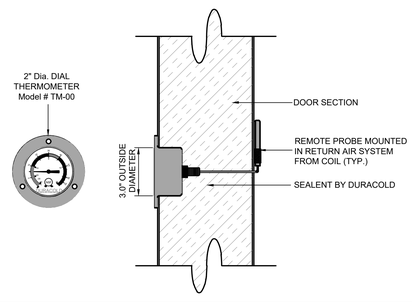
K | DOOR DETAIL



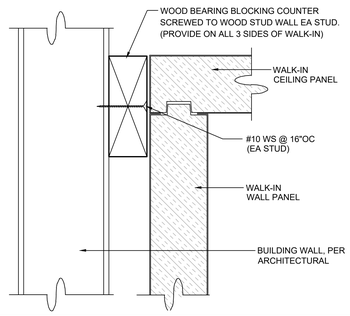
L | CLOSURE TRIM



M | CLOSURE TRIM



N | 2" DIA. DIAL THERMOMETER



O | WALK-IN RESTRAINT

BID PACKAGE A

ALBERT EINSTEIN MIDDLE SCHOOL
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SACRAMENTO, CA 95826
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

CONSULTANT
nacht&lewis
600 Q Street, Suite 100
Sacramento, CA 95811
www.nachtlewis.com
916.329.4000
LICENSED ARCHITECT BRYAN J. [illegible] No. C-26967 RENEWAL DATE: 1/31/25 STATE OF CALIFORNIA
ARCHITECT

BID SET

REVISIONS

NO.	DESCRIPTION	DATE

DATE: 01/30/2023
JOB NO.: Y2243.00
SHEET TITLE

FOODSERVICE EQUIPMENT WALK-IN DETAILS

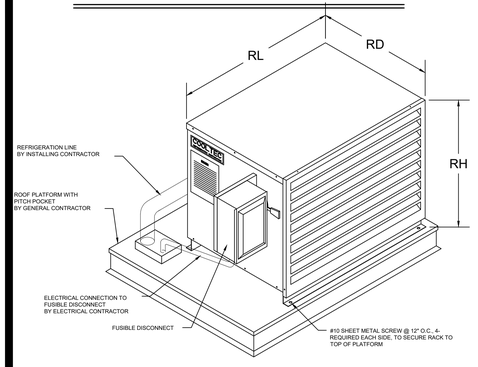
SHEET NO.

FS6.1

ONE AND ONE-HALF INCH = ONE FOOT
ONE INCH = ONE FOOT
THREE-QUARTERS INCH = ONE FOOT
ONE-HALF INCH = ONE FOOT
ONE-QUARTER INCH = ONE FOOT
ONE-EIGHTH INCH = ONE FOOT
ONE-SIXTEENTH INCH = ONE FOOT
ONE INCH = TWENTY FEET

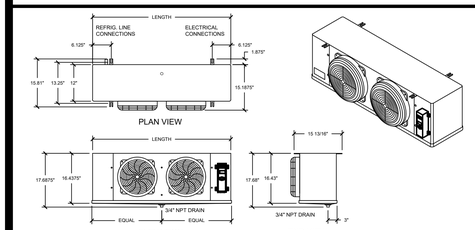
BID PACKAGE A

"POWER-PAK" SYSTEMS
ALLOW 36" CLEARANCE ALL AROUND



SYSTEM	ITEM #	HP	TEMP. RATING	QTY.	PP- HOUSING					PLATFORM	
					PP MODEL	DIMENSIONS			WEIGHT	DIMENSIONS	
						RL	RD	RH	LBS.	PL	PD
A	23	1.0	MED.	1	PP-1	28"	30"	33"	210#	48"	48"

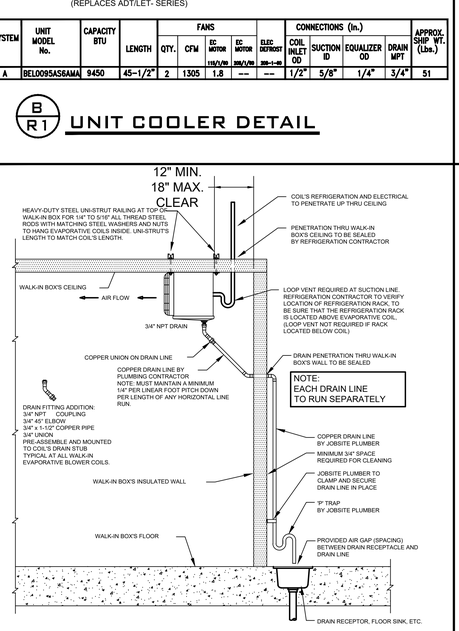
A R1 **POWER-PAK #PP-SERIES REFRIGERATION RACKS**



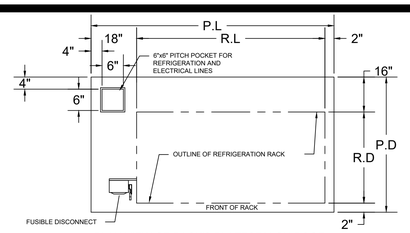
BEL-LOW PROFILE COOLERS
(REPLACES ADT/LET- SERIES)

SYSTEM	UNIT MODEL No.	CAPACITY BTU	LENGTH	FANS QTY.	FANS CFM	FANS EC MOTOR 115/1/60	FANS EC MOTOR 208/1/60	FANS ELEC DEFROST 208-1-60	CONNECTIONS (in.) COIL INLET OD	CONNECTIONS (in.) SUCTION ID	CONNECTIONS (in.) EQUALIZER OD	CONNECTIONS (in.) DRAIN MPT	APPROX. SHIP WT. (Lbs.)
A	BEL0095AS6AMA	9450	45-1/2"	2	1305	1.8	---	---	1/2"	5/8"	1/4"	3/4"	51

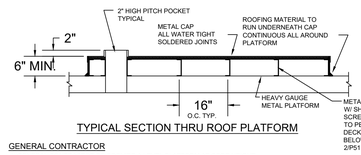
B R1 **UNIT COOLER DETAIL**



C R1 **TYPICAL DETAIL AT WALK-IN'S COIL MOUNT AND CONDENSATE DRAIN LINE**



PLAN VIEW OF RACK'S PLATFORM ON ROOF



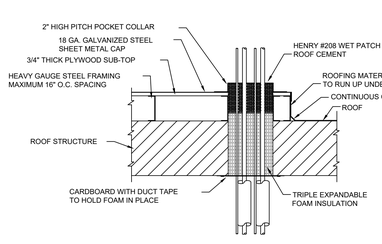
TYPICAL SECTION THRU ROOF PLATFORM

GENERAL CONTRACTOR
1. GENERAL CONTRACTOR TO PROVIDE A LEVEL PLATFORM AT CODE HEIGHT.
2. PROVIDE PITCH POCKETS IN THE PLATFORM AS LOCATED.
3. PROVIDE A SHEET METAL CAP WITH 2" HIGH POCKET COLLARS WITH WATER TIGHT SOLDERED JOINTS.

ELECTRICAL CONTRACTOR
1. ELECTRICAL CONTRACTOR TO MAKE FINAL CONNECTION TO FUSIBLE DISCONNECT.
2. RUN WIRING AND CONDUIT FROM CONTROL PANEL TO EVAP BLOWER COIL IN FREEZER'S WALK-IN BOX.

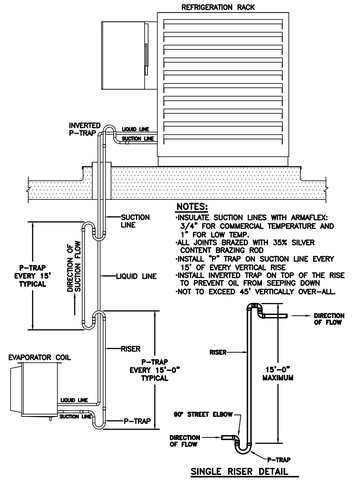
REFRIGERATION CONTRACTOR
1. BACK FILL EACH PICTH POCKET OPENING AT THE PLATFORM WITH EXPANDED FOAM AND ROOF SEALANT AFTER COMPLETION OF ELECTRICAL AND REFRIGERATION PIPING.

C R1 **OUTDOOR PLATFORM BY GENERAL CONTRACTOR**



INSTRUCTIONS FOR REFRIGERATION CONTRACTOR
A. TAPE CARDBOARD AT THE BOTTOM OF EACH PITCH POCKET OPENING AS SHOWN.
B. AT THE TOP OF THE PITCH POCKET OPENING, FILL IN WITH TRIPLE EXPANDABLE FOAM INSULATION (DOW CHEMICAL "GREAT STUFF INSULATING FOAM), AND LET FOAM CURE FOR ONE HOUR.
C. APPLY HENRY #208 WET PATCH ROOF CEMENT IN BETWEEN REFRIGERATION PIPING, ELECTRICAL LINES, AND FOAM. LET CURE FOR FOUR HOURS. THIS SHOULD SEAL ALL PIPING AND LINES IN THE PITCH POCKET, TO PREVENT RAIN WATER FROM PENETRATING THROUGH.

D R1 **RAIN TIGHT PITCH POCKET**



SINGLE RISER DETAIL

E R-1 **P-TRAP DETAILS AND SUCTION LINE RISER**

COOLTEC ENGINEERING SUMMARY

AMBIENT TEMPERATURE 95°F

POWER SUPPLY:208V/3PH/60HZ FUSE SIZE: 20 AMP
CONNECTED LOAD= 8.0 AMP MINIMUM AMPACITY= 11.4AMP

SYSTEM	ITEM #	FIXTURES DESCRIPTION	TEMP (F) FIXT.	TEMP (F) SST.	REFRIGERANT R-	REFRIGERANT LBS IN SYSTEM	COMPRESSORS MODEL	H.P.	RATING @ 60 Hz RLA	RATING @ 60 Hz V	RATING @ 60 Hz PH	MBH. (95°F)	DEFROST	UNIT COOLER ITEM #	UNIT COOLER QUANTITY	UNIT COOLER MODEL	RATING @ 60 Hz 1 ø FAN RLA	RATING @ 60 Hz 1 ø FAN V	RATING @ 60 Hz HEATER FLA	RATING @ 60 Hz HEATER V	RATING @ 60 Hz HEATER PH	100' LINE SIZE (O.D.) ROUTE	SUCTION	LIQUID	DISCH.	DRAIN	ACCESSORIES (SEE SUPPLY CODE *) HEAD PRESSURE CONTROL	CRANK CASE HEATER	SOLENOID VALVE LOCATION	THERMOSTAT	SOLENOID VALVE	THERMOSTATIC EXPANSION VALVE	TIME CLOCK	POWER REQUIREMENTS POWER SUPPLY	CONNECTED LOAD	MINIMUM AMPACITY	FUSE SIZE	REMARKS
A	–	WALK-IN COOLER	35	25	448A	16	RZM10-2T	1.0	8.0	208	3	9.95	D	24	1	BEL0095AS6AMA	1.8	115				S	7/8	3/8			F	F		F	F	F	KE2MED						

C UL US LISTED
CONDENSING UNIT
33SZ FILE SA32027

MODEL No.
PP-1

D DEMAND DEFROST (KE2)
E ELECTRIC (TIMED, DTSXB240)
G GRAVITY (TIMED, MIL72A)
H HOT GAS (TIMED)
O OFF CYCLE (TEMP.)

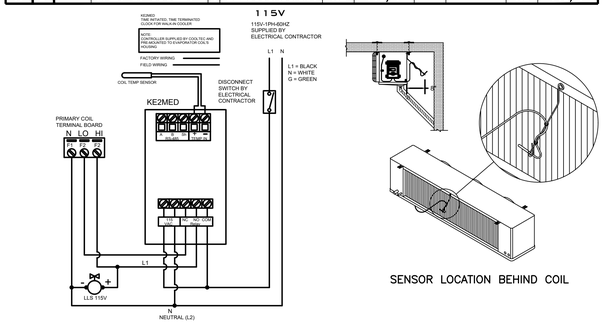
B BRANCH
M MAIN
S SINGLE

* SUPPLY CODES:
F – FACTORY INSTALLED
L – LOOSE (FIELD INSTALLED)
M – MANUFACTURER EQUIPPED
R – REFRIGERATION CONTRACTOR

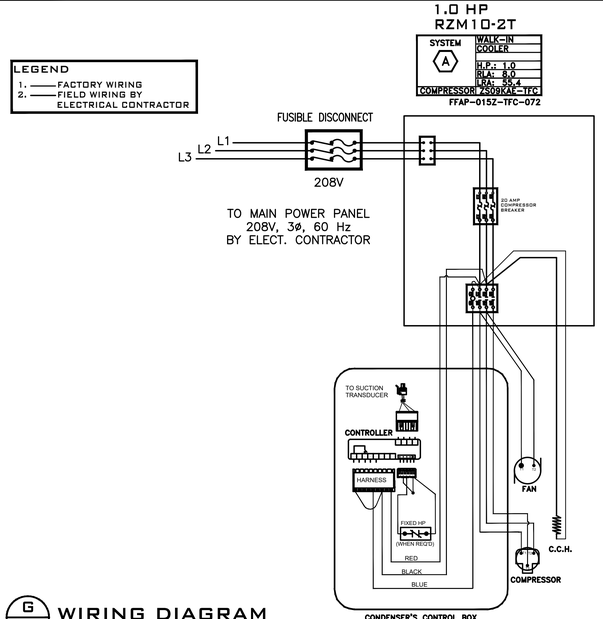
NOTE:
– ALL SYSTEMS ENGINEERED WITH R-448A REFRIGERANT. ANY BASES/COILS NOT SUPPLIED BY COOLTEC MUST BE EQUIPPED WITH R448A EXPANSION VALVE.
– CONNECTION LINE SIZES BASED ON 100' MAX LINE RUNS. IF LINE RUNS EXCEED 100', CONSULT FACTORY FOR PROPER LINE SIZES.
– "COMPRESSOR MOTOR PROTECTED UNDER PRIMARY SINGLE PHASE PROTECTION."
– EFFECTIVE JANUARY 1, 2009, ALL WALK-IN COOLER AND FREEZER EVAPORATOR COILS INSTALLED IN THE U.S.A. SHALL BE SUPPLIED WITH ENERGY EFFICIENT (EC) MOTORS BASED ON THE FEDERAL ENERGY INDEPENDENCE AND SECURITY ACT (HR–6).
– KITCHEN EQUIPMENT CONTRACTOR TO SUPPLY POWER FROM BUILDING AND CONNECT POWER TO WALK–IN EVAPORATIVE COIL'S DEMAND DEFROST CONTROL AN TO COIL'S DRAIN HEATER.

ELECTRICAL CONTRACTOR TO SUPPLY POWER FROM BUILDING AND CONNECT POWER TO WALK-IN COIL'S DEMAND DEFROST CONTROL AND TO DRAIN HEATER.

SYSTEM	DEFROST	UNIT COOLER ITEM #	DESCRIPTION	QUANTITY	MODEL	POWER FROM BUILDING BY ELECTRICAL CONTRACTOR EVAP. COIL RLA	EVAP. COIL VOLTAGE	DRAIN HEATER RLA	DRAIN HEATER VOLTAGE	TOTAL CONNECTED LOAD RLA	TOTAL CONNECTED LOAD VOLTAGE
A	D	–	WALK–IN COOLER	1	BEL0095AS6AMA	1.8	115/1	---	---	1.8	115/1



F R-1 **KE2 WIRING DIAGRAM FOR COOLER COIL**



G R-1 **WIRING DIAGRAM**

SPECIFICATION

ITEM NO. R-01 REMOTE REFRIGERATION PACKAGE

THE REFRIGERATION PACKAGE SHALL BE PRE–ENGINEERED AND FACTORY ASSEMBLED UNIT, TRADE NAME "POWER–PAK", AS MANUFACTURED BY COOLTEC REFRIGERATION CORP., 1250 E. FRANKLIN AVE., POMONA, CA 91766. PHONE: (909) 865–2229, FAX: (909) 868–0777.
E–MAIL ADDRESS: sales@cooltecrefrigeration.com

CONTRACTOR SHALL FURNISH AND INSTALL, WHERE SHOWN ON PLANS, (1) COOLTEC U.L. APPROVED "POWER–PAK" AIR COOLED REMOTE REFRIGERATION PACKAGE, MODEL PP–1 , WITH CONTROL PANEL, 208 VOLTS, 1 PHASE, 60 HERTZ. REFRIGERATION SYSTEM SHALL BE HOUSED IN A WEATHER PROTECTED ENCLOSURE. THE FRAME, ENCLOSURE, AND PANELS SHALL BE FABRICATED OF GALVANIZED STEEL.
THE ENTIRE FRAME SHALL BE PRE–ASSEMBLED, WELDED, CLEANED, AND PRIMED AND POWDER COATED EPOXY ENAMEL AND BAKED.
REMOVABLE LOUVERED ACCESS PANELS AT FRONT AND BACK FOR BETTER AIR MOVEMENT AND CIRCULATION.

A. ITEM No. R–01 MODEL No. RZM10–2ST , AMPS 8.0 , VOLTS 208 , PHASE 3 , Hz. 60 , FUSE 20

1. REFRIGERATION UNITS
   A. AIR–COOLED CONDENSING UNITS SHALL BE HERMATIC/GLACIER SCROLL TYPE (COPELAND). EACH UNIT SHALL BE EQUIPPED WITH HIGH–LOW PRESSURE CONTROL, LIQUID LINE DRIER, SIGHT GLASS, HEAD PRESSURE CONTROL, TIME CLOCKS AND PUMP DOWN SOLENOIDS.
   B. ALL COMPRESSOR UNITS SHALL BE NEW FACTORY ASSEMBLED TO OPERATE WITH THE REFRIGERANT SPECIFIED IN THE ENGINEERING SUMMARY SHEET. REFRIGERANT R–448A SHALL BE USED ON ALL COMMERCIAL TEMPERATURE UNITS AND LOW TEMPERATURE UNITS.
   C. THE CONDENSER SHALL BE SECTIONAL WITH RIFLED TUBE SLOTTED FINNED, AND SHALL BE DESIGNED FOR 20°FTD.
2. PRE–PIPING
   A. ALL REFRIGERANT LINES SHALL BE EXTENDED TO ONE SIDE OF THE PACKAGE IN A NEAT AND ORDERLY MANNER. SUCTION LINES MUST BE INSULATED WITH ARMAFLEX (1" THICK FOR LOW TEMP, 3/4" THICK FOR MEDIUM TEMP).
   B. ALL TUBING SHALL BE SECURELY SUPPORTED AND ANCHORED WITH CLAMPS.
   C. SILVER SOLDER AND/OR SIL–FOS SHALL BE USED FOR ALL REFRIGERANT PIPING. SOFT SOLDER IS NOT ACCEPTABLE.
   D. ALL PIPING TO BE PRESSURE TESTED WITH NITROGEN AT 200 PSI.
      AFTER THE CONDENSING UNIT AND COIL HAVE BEEN CONNECTED, THE BALANCE OF THE SYSTEM SHALL BE LEAKED TESTED WITH ALL VALVES OPENED.
3. CONTROL PANEL
   A. THE PACKEAGE SHALL HAVE A FACTORY MOUNTED AND PRE–WIRED CONTROL PANEL COMPLETE WITH MAIN FUSED DISCONNECT. COMPRESSOR CIRCUIT BREAKERS, FUSES, CONTACTORS AND THE TIME CLOCKS WIRED FOR SINGLE POINT CONNECTION.
   B. ELECTRICAL CONTRACTOR SHAL PROVIDE AND INSTALL MAIN POWER LINES TO PANEL AND PROVIDE WIRE HARNESS WIRING FOR CONTROL AND DEFROST HEATER BETWEEN AND THE DEFROST CLOCK AND THE REFRIGERATION FIXTURES, ALL IN ACCORDANCE WITH THE WIRING DIAGRAM AND PER LOCAL CODES.
4. SAFETY CAUTION
   A. EACH SYSTEM AND EVAPORATOR IS SHIPPED UNDER NITROGEN PRESSURE.
      USE CAUTION AND EXERCISE SAFETY AT ALL TIMES WHEN PREPARING FOR FINAL HOOK–UP.
5. EVAPORATIVE COIL
   A. EVAPORATIVE COILS SHALL BE DIRECT EXPANSION TYPE, FABRICATED OF COPPER TUBES WITH ALUMINUM FINS. ALL EVAPORATIVE COILS SHALL BE PROVIDED WITH SOLENOID VALVE, THERMOSTATIC EXPANSION VALVE, AND ELECTRONIC THERMOSTAT, PIPED AND WIRED TO THE JUNCTION BOX FOR POSITIVE PUMP DOWN.
   B. EVAPORATIVE COILS SHALL BE EQUIPPED WITH ENERGY SAVING "EC" MOTORS.

CONSTRUCTION NOTES FOR TRADES

1. GENERAL CONTRACTOR
   A. CONTRACTORS SHALL VERIFY ALL DIMENSIONS AND COORDINATE WITH OTHER TRADES.
   B. GENERAL CONTRACTOR TO VERIFY AND CO–ORDINATE LOCATION OF REFRIGERATION RACK WITH REFRIGERATION CONTRACTOR TO SATISFY LOCAL CODE REQUIREMENTS AND MAINTENANCE OF THE RACK.
   C. GENERAL CONTRACTOR TO VERIFY REFRIGERATION LINE RUNS THRU TO ROOF OR MULTI–STORY BUILDING PRIOR TO CONSTRUCTION WITH REFRIGERATION CONTRACTOR FOR ACCESSIBILITY.
   D. GENERAL CONTRACTOR TO VERIFY ACCESS OF CRANE OR MECHANICAL LIFT WITH REFRIGERATION CONTRACTOR PRIOR TO CONSTRUCTION (IF REQUIRED).
   E. GENERAL CONTRACTOR SHALL PREPARE AND WEATHER PROOF THE PLATFORM AND CURBED OPENINGS FOR REFRIGERATION PIPING AND ELECTRICAL CONDUIT. ROOF PAD TO BE CONSTRUCTED OF HEAVY DUTY STEEL FRAMING, AND THE FINISHED HEIGHT DICTATED PER LOCAL CODES.
   F. PROVIDE SHEET METAL CAP WITH 2" HIGH PITCH POCKET COLLAR AND WATER TIGHT SOLDERED JOINTS.
   G. GENERAL CONTRACTOR TO ALLOW 3'–0" (36") OF CLEAR SPACE AROUND ROOF PAD FOR MAINTENANCE.
   H. ALL CORE DRILLING REQUIRED FOR REMOTE REFRIGERATION PIPING WORK BY THE REFRIGERATION CONTRACTOR, IS IN THE GENERAL CONTRACTOR'S SCOOP OF WORK. COORDINATE EXACT LOCATION AND NUMBER OF PENETRATIONS WITH THE REFRIGERATION CONTRACTOR AND COMPLY WITH ALL LANDLORD REQUIREMENTS FOR X–RAY OF SLAB PRIOR TO WORK.
   I. ANY ATTACHMENT TO BUILDING STRUCTURE FOR LOAD BEARING WEIGHT TO BE PROVIDED AND CO–ORDINATED BY GENERAL CONTRACTOR.
   J. GENERAL CONTRACTOR TO BACKFILL ALL PITCH POCKETS TO TOP WITH TAR OR PITCH AFTER REFRIGERATION AND ELECTRICAL LINES HAVE BEEN RUN.
2. REFRIGERATION CONTRACTOR
   A. REFRIGERATION CONTRACTOR SHALL RUN ALL REFRIGERATION LINES WHICH EXTEND DOWN THRU WALL(S) BEFORE WALL(S) ARE CLOSED UP WHEN CONDUIT IS NOT PROVIDED.
   B. REFRIGERATION CONTRACTOR TO SEAL BOTH ENDS OF CONDUIT WITH FOMOFIL AFTER ALL LINES HAVE BEEN RUN.
      IF PULL BOX(ES) ARE SPECIFIED, THEY MUST BE A MINIMUM 12"x 12".
   C. REFRIGERATION CONTRACTOR SHALL INSULATE ALL REFRIGERATION SUCTION LINES.
   D. REFRIGERATION CONTRACTOR SHALL VERIFY LOCATION OF BLOWER COIL(S) AND COMPRESSOR(S) FOR ALL REFRIGERATED AREAS.
   E. REFRIGERATION CONTRACTOR SHALL VERIFY LOCATION OF PITCH POCKET(S) FOR REFRIGERATION LINE PENETRATION THRU ROOF WITH GENERAL CONTRACTOR. GENERAL CONTRACTOR TO INSTALL ALL PITCH POCKETS.
   F. CONTRACTOR SHALL USE ONLY CLEAN DEHYDRATED, SEALED REFRIGERATION GRADE A.C.R. COPPER TUBING OR TYPE "L".
      USE ONLY LONG RADIUS ELBOWS TO REDUCE FLOW RESISTANCE AND LINE BREAKAGE.
   G. SILVER SOLDER AND/OR SIL–FOS SHALL BE USED ON ALL REFRIGERANT PIPING. SOFT SOLDER IS NOT ACCEPTABLE.
      USE MINIMUM 35% SILVER SOLDER FOR DISSIMILAR METALS.
   H. ALL PIPING MUST BE SUPPORTED WITH HANGERS THAT CAN WITHSTAND THE COMBINED WEIGHT OF TUBING, INSULATION, VALVES, AND FLUID IN THE TUBING.
   I. USE NITROGEN IN THE COPPER TUBING DURING BRAZING TO PREVENT FORMATION OF COPPER OXIDES. LIQUID AND SUCTION LINES MUST BE FREE TO EXPAND INDEPENDENTLY OF EACH OTHER. DO NOT EXCEED 100 FEET WITHOUT A CHANGE IN DIRECTION OR AN OFFSET. PLAN PROPER PITCHING, EXPANSION ALLOWANCE, AND P–TRAPS AT THE BASE OF ALL SUCTION RISERS AND AT EVERY 15 FEET OF EVERY VERTICAL RISE. INSTALL SERVICE VALVES AT SEVERAL LOCATIONS FOR EASE OF MAINTENANCE. THESE VALVES MUST BE APPROVED FOR 450 PSI WORKING PRESSURE.
   J. ALL PIPING TO BE PRESSURE TESTED WITH NITROGEN AT 200 PSI WITH ALL VALVES OPEN AND HELD FOR 12 HOURS.
      ELECTRONIC LEAK DETECTORS SHALL BE USED TO LOCATE ALL LEAKS.
   K. COMPLETE SYSTEM SHALL BE EVACUATED TO 500 MICRONS WITH VACUUM PUMP BEFORE CHARGING THE SYSTEM.
   L. ONCE SYSTEM IS CHARGED AND RUNNING, ADJUST ALL CONTROLS _____ INCLUDING PRESSURE CONTROLS, EXPANSION VALVES, THERMOSTATS, AND TIME CLOCKS. RETURN AFTER 24 HOURS TO VERIFY PROPER OPERATION OF SYSTEMS.
   M. REFRIGERATION CONTRACTOR TO PROVIDE AND INSTALL DRAIN LINE HEATER WITH INSULATION IN FREEZER TO BE CONNECTED BY ELECTRICAL CONTRACTOR.
   N. REFRIGERANT SUCTION LINES OUTSIDE OF REFRIGERATED COMPARTMENTS, NOT RUN IN CONDUIT, SHALL BE INSULATED BACK TO COMPRESSOR WITH ARMSTRONG ARMA–FLEX AP–25/50 FOAMED PLASTIC INSULATION OR EQUAL IN ACCORD WITH DIRECTION OF THE MANUFACTURER. MINIMUM THICKNESS SHALL BE 3/4 INCH FOR COMMERCIAL TEMPERATURE AND 1.0 INCH FOR LOW TEMPERATURE.
   O. FILL ROOF REFRIGERATION AND ELECTRICAL PITCH POCKE LINE PENETRATIONS MADE THRU WALK–IN COOLERS/FREEZERS, AND REFRIGERATED BASE SECTIONS OF COUNTERS.
3. ELECTRICAL CONTRACTOR
   A. ELECTRICAL CONTRACTOR TO PROVIDE MAIN POWER FOR THE REFRIGERATION PACKAGE AND CONNECT CONTROL AND DEFROST SYSTEMS.
   B. ELECTRICAL CONTRACTOR TO PROVIDE 5–WIRE COLOR–CODED SERVICE FROM THE TIME CLOCK AT THE REFRIGERATION SYSTEM.
   C. ELECTRICAL CONTRACTOR TO CONNECT DRAIN–LINE HEATER IN THE FREEZER.
   D. ALL ELECTRICAL WIRING AND INSTALLATION SHALL BE ACCORDANCE WITH THE WIRING DIAGRAM AND PER LOCAL CODES.
   E. IF CONTRACTED, ELECTRICAL CONTRACTOR TO INSTALL ALL CONDUITS FOR REFRIGERATION LINES IN WALLS, PRIOR TO WALLS ARE CLOSED UP. ALL PULL BOXES MUST BE A MINIMUM OF 12"x 12".
4. PLUMBING CONTRACTOR
   A. PLUMBING CONTRACTOR TO PROVIDE TYPE "M" COPPER DRAIN LINES FOR WALK–IN REFRIGERATOR AND FREEZER, PITCHED 1/2 INCH PER FOOT OF RUN. IN FREEZER, HEATED DRAIN LINE MUST BE INSULATED TO PREVENT FREEZING. TRAP DRAIN LINES OUTSIDE OF REFRIGERATED SPACE TO AVOID ENTRANCE OF WARM AND MOIST AIR.
   B. CONTRACTOR TO PROVIDE INDIVIDUAL DRAIN LINE FOR EACH EVAPORATOR UNLESS OTHERWISE CALLED FOR IN THE PLANS.
   C. ALL PLUMBING INSTALLATION SHALL BE IN ACCORDANCE WITH LOCAL CODES.
   D. PLUMBING CONTRACTOR TO SUPPLY AND MOUNT A UNION FITTING BELOW EACH EVAPORATIVE BLOWER COIL'S DRAIN LINE FOR DISCONNECTING AND SERVICING PURPOSES.

ALBERT EINSTEIN MIDDLE SCHOOL
RE-ROOF AND BEAUTIFICATION PROJECT
9325 MIRANDY DR
SACRAMENTO, CA 95826
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

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LICENSED ARCHITECT
RUTAN
No. C-26867
RENEWAL DATE: 1/31/25
STATE OF CALIFORNIA

ARCHITECT

BID SET

REVISIONS

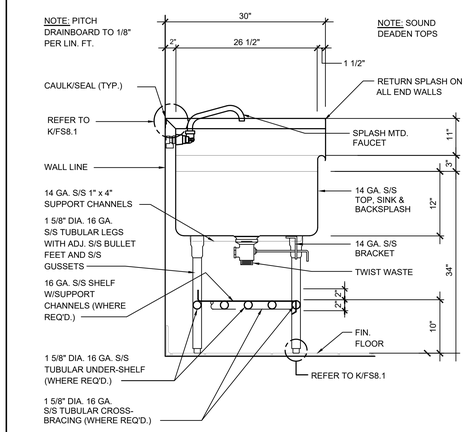
NO.	DESCRIPTION	DATE

DATE: 01/30/2023
JOB NO.: Y2243.00
SHEET TITLE

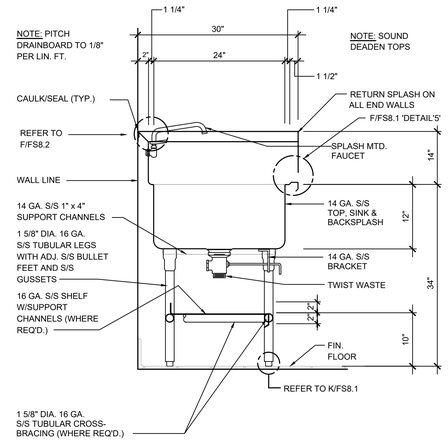
FOODSERVICE REFRIGERATION DETAILS

SHEET NO.

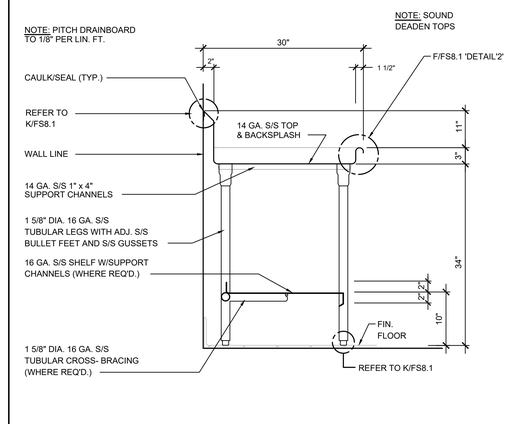
FS7.1



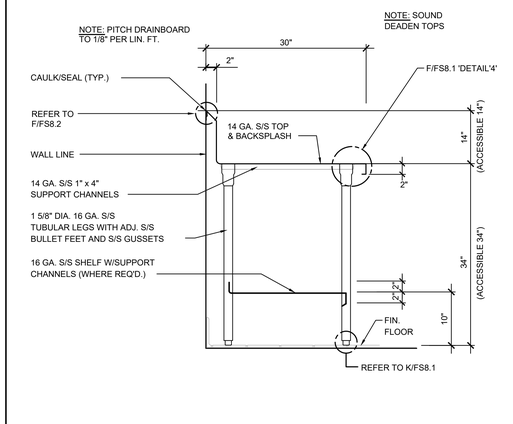
A SECTION AT POT SINK (INTEGRAL) NTS



B SECTION AT PREP SINK NTS

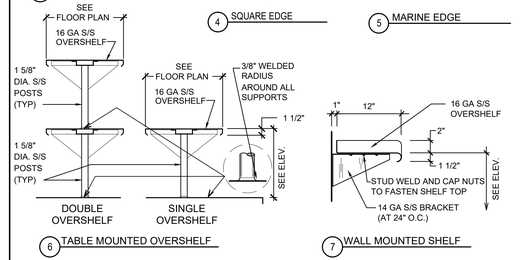


C SECTION AT DISHTABLE NTS



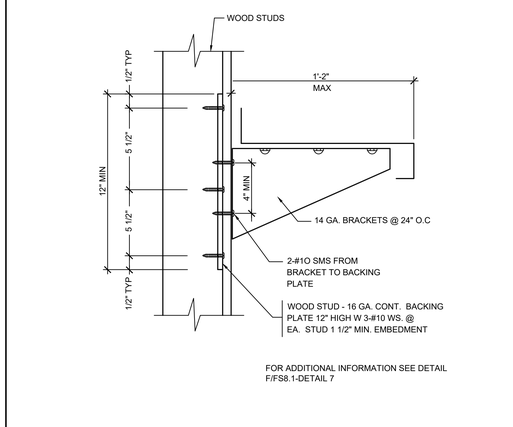
D SECTION AT WORKCOUNTER NTS

E NTS



F EDGE/SPLASH/SHELF DETAILS NTS

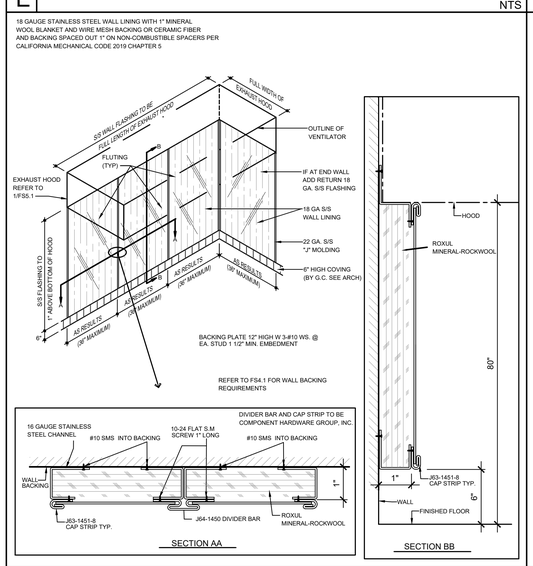
G COMBI OVEN NTS



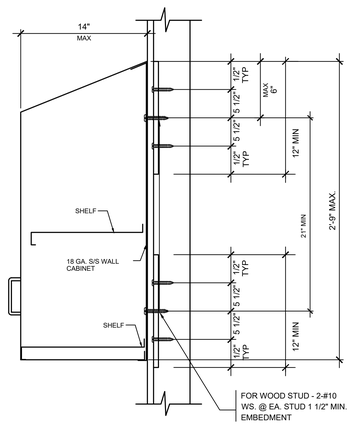
FOR ADDITIONAL INFORMATION SEE DETAIL F/FS8.1-DETAIL 7

NOTE: REFER TO 4/FS4.2 FOR ADDITIONAL BACKING DETAIL

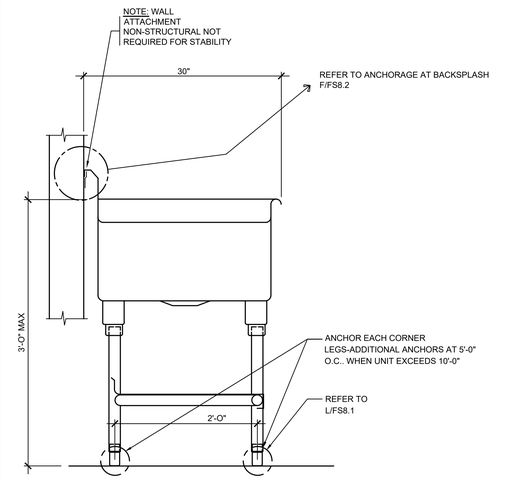
H WALL MOUNTED SHELF NTS



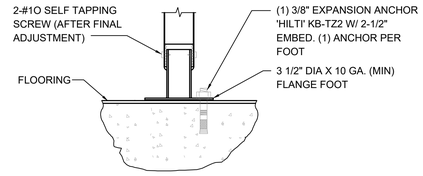
I S/S INSULATED WALL LINING DETAIL NTS



J WALL MOUNTED CABINET NTS



K FLOOR MOUNTED SINK @ WALL NTS



(FLANGED FOOT) SHEAR & UPLIFT

NOTE: INSTALL ANCHOR PER ICC-ES ESR-4266. TORQUE TEST =30 FT.LB

L FOOT ANCHORAGE DETAIL

BID PACKAGE A

ALBERT EINSTEIN MIDDLE SCHOOL
RE-ROOF AND BEAUTIFICATION PROJECT

9325 MIRANDY DR
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LICENSED ARCHITECT BRIAN J. LEWIS No. C-26867 RENEWAL DATE: 1/31/25 STATE OF CALIFORNIA

ARCHITECT

BID SET

REVISIONS

NO.	DESCRIPTION	DATE

DATE: 01/30/2023

JOB NO.: Y2243.00

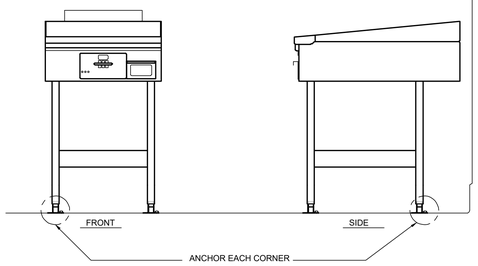
SHEET TITLE

FOODSERVICE ANCHORAGE DETAILS

SHEET NO.

FS8.1

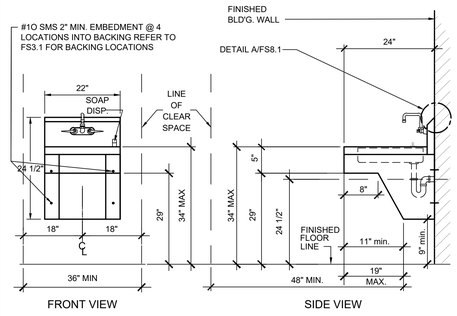
ONE AND ONE-HALF INCH = ONE FOOT
ONE INCH = ONE FOOT
THREE-QUARTERS INCH = ONE FOOT
ONE-HALF INCH = ONE FOOT
ONE-QUARTER INCH = ONE FOOT
ONE-EIGHTH INCH = ONE FOOT
ONE-SIXTEENTH INCH = ONE FOOT
ONE INCH = TWENTY FEET



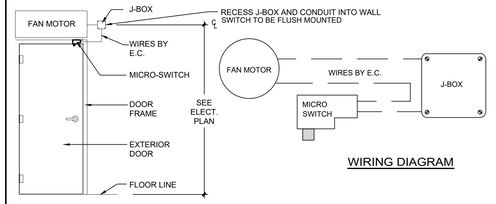
A | ELECTRIC GRIDDLE NTS

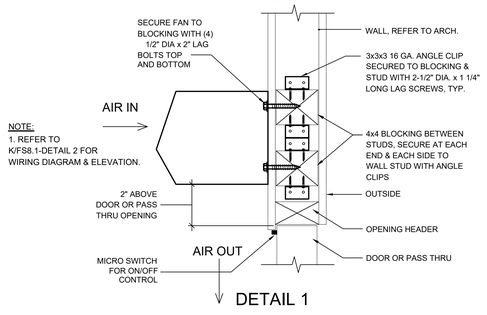
ACCESSIBLE HAND SINK REQUIREMENT NOTES

1. HOT WATER AND DRAIN PIPES UNDER ACCESSIBLE HAND SINKS SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE OBJECTS OR SURFACES UNDER HAND SINKS.
2. FAUCET CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 LBF. LEVER-OPERATED, PUSH-TYPE AND MECHANISMS ARE EXAMPLES OF ACCEPTABLE DESIGNS.
3. WHERE TOWEL, SANITARY NAPKINS, WASTE RECEPTACLES, SOAP DISPENSER AND OTHER SIMILAR DISPENSING AND DISPOSAL FIXTURES ARE PROVIDED, AT LEAST ONE OF EACH TYPE SHALL BE LOCATED WITH ALL OPERABLE PARTS WITHIN 40 INCHES FROM THE FINISHED FLOOR.
4. ALL DIMENSIONS SHOWN ARE MINIMUM CLEARANCES, UNLESS NOTED.
5. AREA BELOW HAND SINKS SHALL BE ACCESSIBLE AND CLEAR.

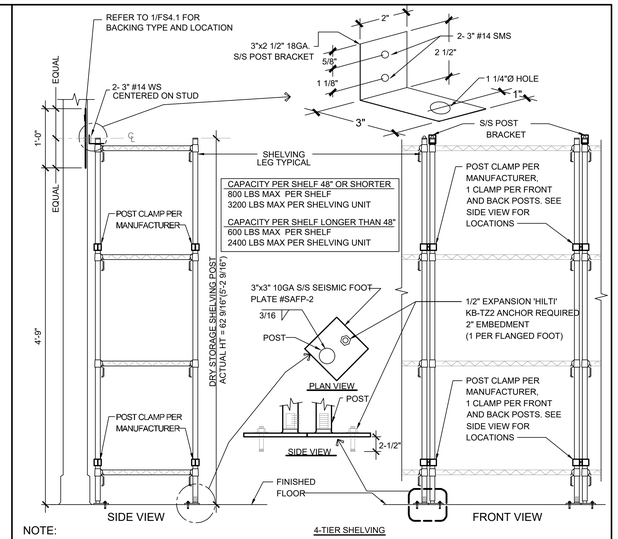


B | ACCESSIBLE HAND SINK DETAILS NTS



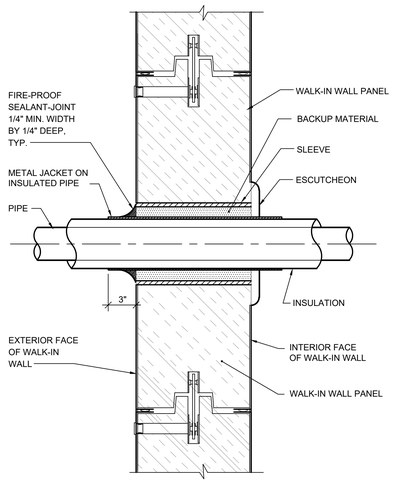


C | AIR CURTAIN MTG & MICRO SWITCH DTL NTS

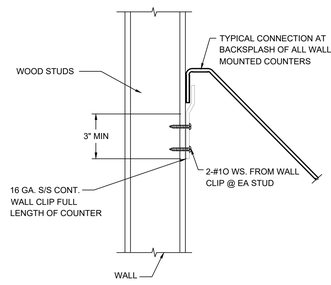


NOTE:
1. S/S POST BRACKET TO BE LOCATED ON TOP SHELF AT REAR POST AS SHOWN.
2. FOR SIZE AND LOCATION OF DRY STORAGE SHELVING, SEE 1/FS1.1

D | DRY STORAGE SHELVING ATTACHMENT NTS



E | PIPE THROUGH WALK-IN PANEL



F | ANCHORAGE AT BACKSPLASH NTS

G |

SPARE

H |

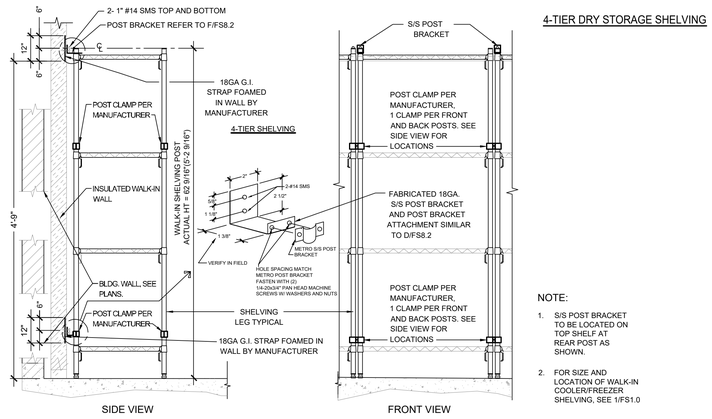
SPARE

I |

SPARE

J |

SPARE



4-TIER DRY STORAGE SHELVING

NOTE:
1. S/S POST BRACKET TO BE LOCATED ON TOP SHELF AT REAR POST AS SHOWN.
2. FOR SIZE AND LOCATION OF WALK-IN COOLER/FREEZER SHELVING, SEE 1/FS1.0

K | WALK-IN SHELVING ATTACHMENT

BID PACKAGE A

ALBERT EINSTEIN MIDDLE SCHOOL
RE-ROOF AND BEAUTIFICATION PROJECT
9325 MIRANDY DR
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REGISTERED ARCHITECT
No. C-26367
RENEWAL DATE: 1/31/25
STATE OF CALIFORNIA

ARCHITECT

BID SET

REVISIONS

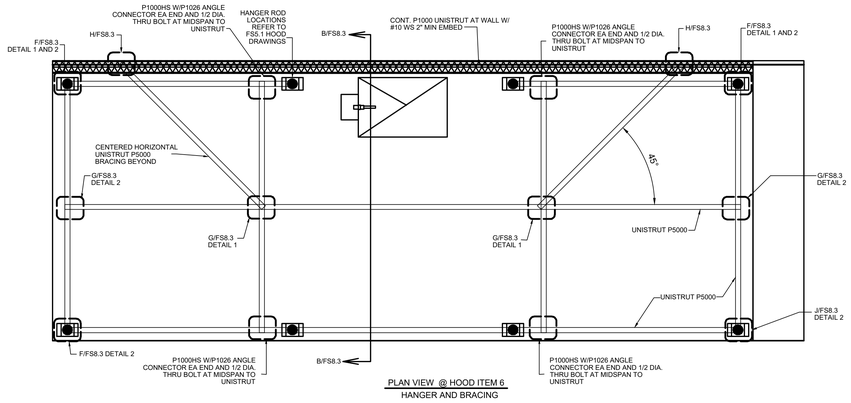
NO.	DESCRIPTION	DATE

DATE: 01/30/2023
JOB NO.: Y2243.00
SHEET TITLE

FOODSERVICE ANCHORAGE DETAILS

SHEET NO.

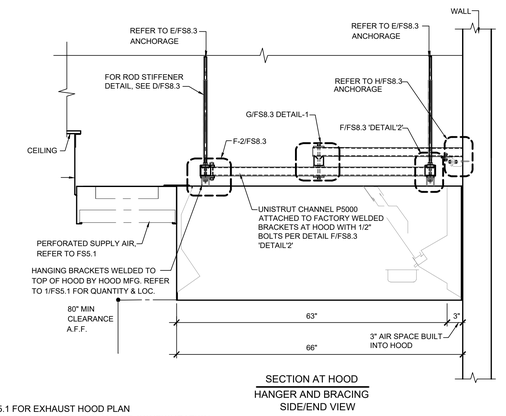
FS8.2



PLAN VIEW @ HOOD ITEM 6
HANGER AND BRACING

REFER TO FS5.1 FOR EXHAUST HOOD PLAN

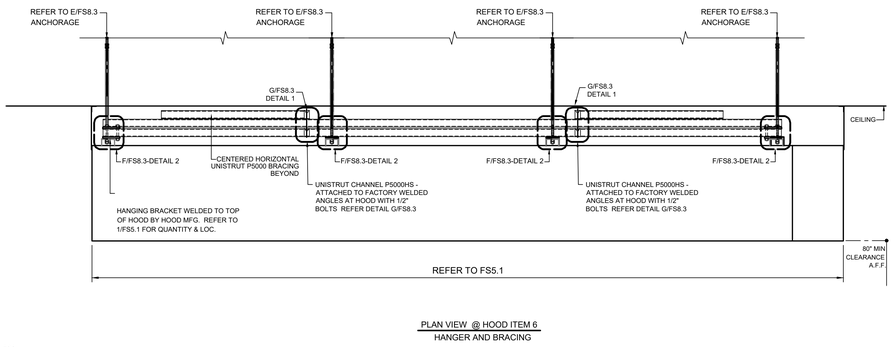
A | EXHAUST HOOD ANCHORAGE DETAIL PLAN VIEW



SECTION AT HOOD
HANGER AND BRACING
SIDE/END VIEW

REFER TO FS5.1 FOR EXHAUST HOOD PLAN
REFER TO A/FS8.3 FOR UNISTRUT PLAN AND CONFIGURATION

B | EXHAUST HOOD ATTACHMENT SECTION

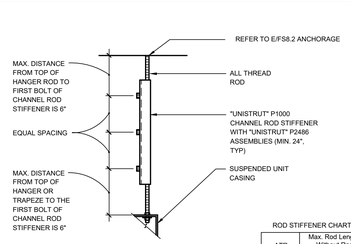


PLAN VIEW @ HOOD ITEM 6
HANGER AND BRACING

REFER TO FS5.1 FOR EXHAUST HOOD PLAN
REFER TO A/FS8.3 FOR UNISTRUT PLAN AND CONFIGURATION

C | EXHAUST HOOD ELEVATIONS

NOTE:
TYPICAL FOR ALL VERTICAL RODS



ROD STIFFENER CHART

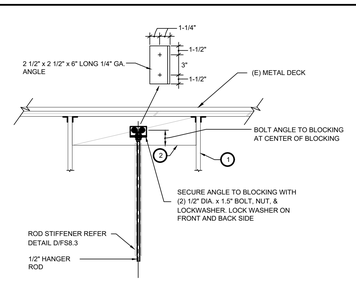
ATR Size	Max. Rod Length Without Rod Stiffener In.	(mm)
3/8"-16	19"	(482.6)
1/2"-13	25"	(635.0)
5/8"-11	31"	(787.4)
3/4"-10	37"	(939.8)
7/8"-9	43"	(1092.2)

Note: Minimum of (2)-P2486

FOR 3/8" THRU 5/8" ROD
(FOR 3/4" & 7/8" ROD USE SC-UB)

D | ROD STIFFENER DETAIL

NTS

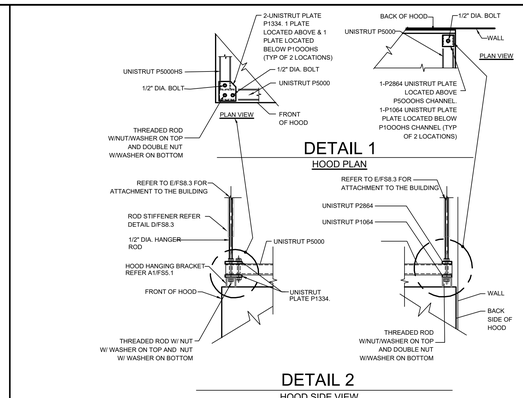


HOOD HANGER SUPPORT
REFER TO K/FS8.2 FOR HOOD DETAIL

1. EXISTING STEEL JOIST, REFER TO S101
2. L4X41/4 TO STEEL JOIST WITH CONN PER 6/S401

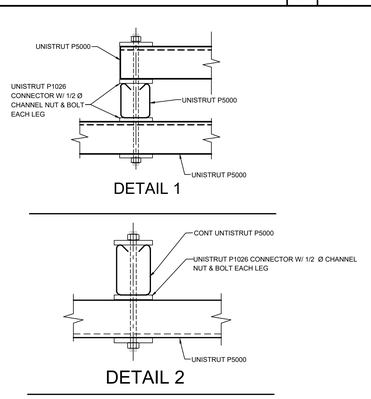
E | TYP. UPPER ATTACHMENT

NTS



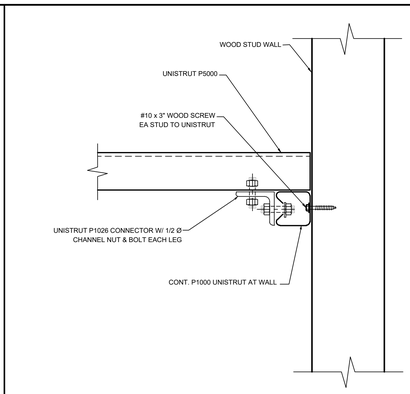
F | HOOD HANGING SUPPORT

NTS



G | UNISTRUT CONNECTION DETAIL

NTS



H | HOOD BRACING AT WALL DETAIL

NTS

SPARE

I

SPARE

J

SPARE

K

SPARE

L

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No. C-26867
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FOODSERVICE ANCHORAGE DETAILS

SHEET NO.

FS8.3

ONE AND ONE-HALF INCH = ONE FOOT
ONE INCH = ONE FOOT
THREE-QUARTERS INCH = ONE FOOT
ONE-HALF INCH = ONE FOOT
ONE-QUARTER INCH = ONE FOOT
ONE-EIGHTH INCH = ONE FOOT
ONE-SIXTEENTH INCH = ONE FOOT
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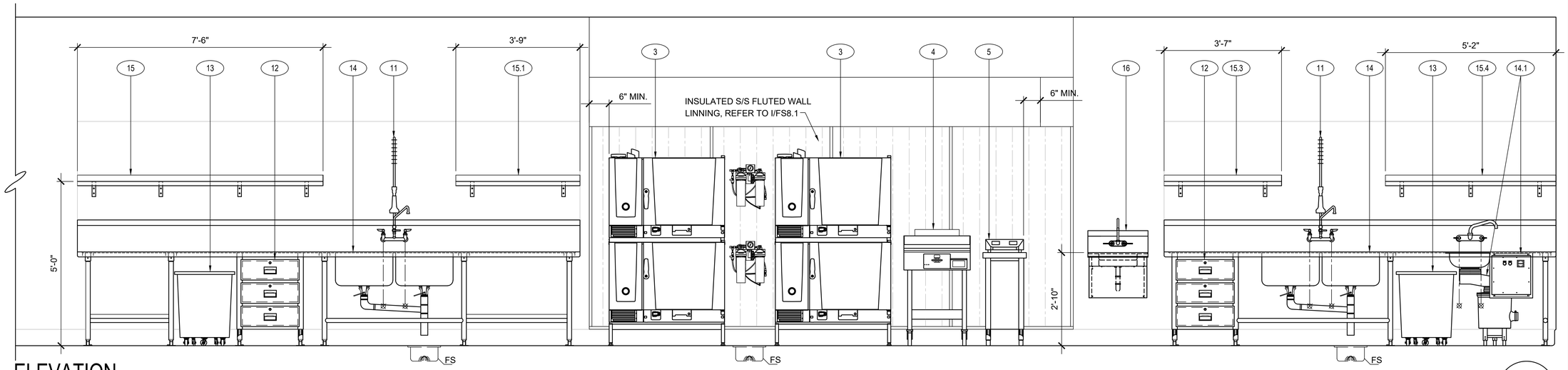
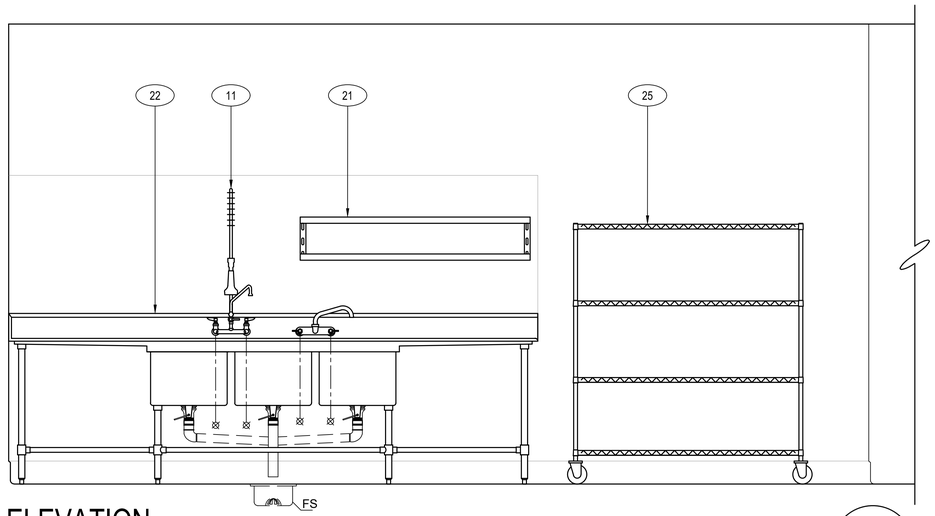


ELEVATION

SCALE : 3/4"=1'-0"

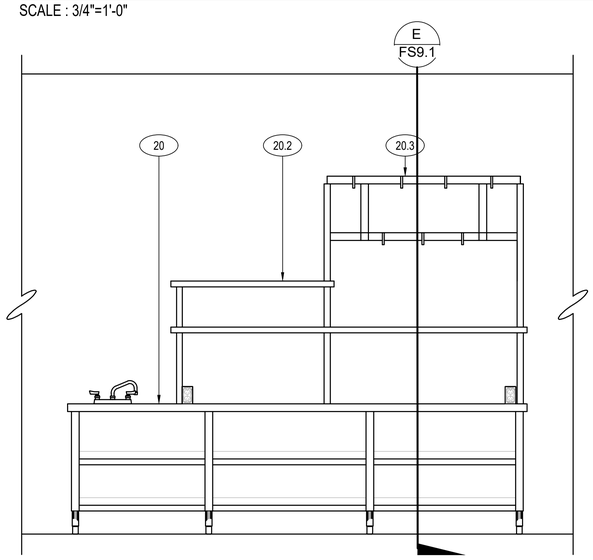
A FS9.1



ELEVATION

SCALE : 3/4"=1'-0"

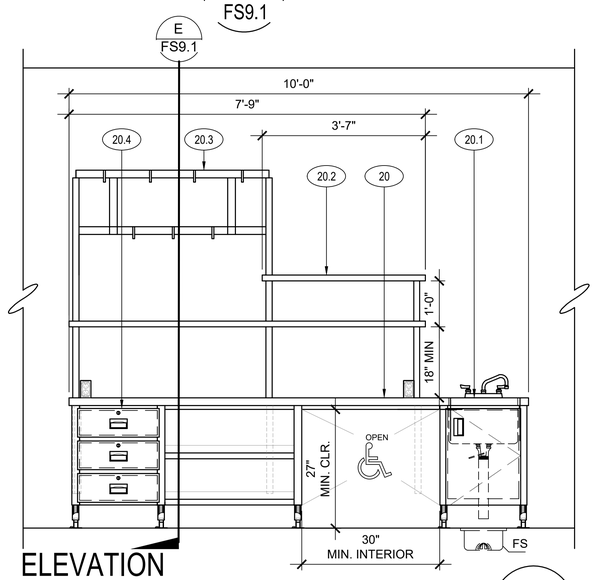
B FS9.1



ELEVATION

SCALE : 3/4"=1'-0"

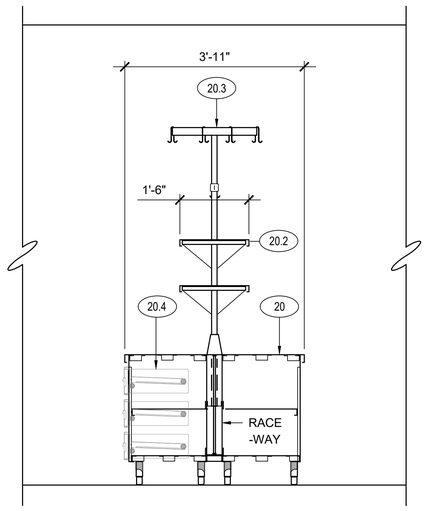
C FS9.1



ELEVATION

SCALE : 3/4"=1'-0"

D FS9.1



ELEVATION

SCALE : 3/4"=1'-0"

E FS9.1

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LICENSED ARCHITECT
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SHEET TITLE

FOODSERVICE EQUIPMENT ELEVATIONS

SHEET NO.

FS9.1

QC
INI | %

ONE AND ONE-HALF INCH = ONE FOOT
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ONE INCH = TWENTY FEET

GENERAL NOTES:

1. MOUNTING HEIGHT IS TO THE CENTER OF EQUIPMENT, U.O.N. MOUNTING HEIGHTS OF SUSPENDED LIGHT FIXTURES ARE TO THE BOTTOM OF THE FIXTURE. U.O.N.
2. RECEPTACLES AND DEVICES INSTALLED ABOVE COUNTER SHALL HAVE THE BOTTOM OF COVER PLATE AT APPROX 2-INCHES ABOVE COUNTER OR BACKSPLASH.
3. CAP ALL EMPTY CONDUITS FOR FUTURE USE WATERTIGHT WITH MANUFACTURERS END CAP, WITH PULL STRING ATTACHED.
4. SEAL ALL EXTERIOR WALL PENETRATIONS WATERTIGHT WITH SILICONE GROUT.
5. SEAL ALL WALL AND CEILING PENETRATIONS WITH GROUT. WHERE CONDUITS PENETRATE FIRE RATED BARRIERS, SEAL PENETRATIONS WITH FIRE RATED COMPOUND TO MATCH OR EXCEED BARRIER RATING.
6. PENETRATIONS OF FIRE RATED ASSEMBLIES SHALL BE SEALED AS REQUIRED BY CBC.
7. ALL CONDUITS AND BOXES ON THE EXTERIOR SHALL BE PAINTED TO MATCH THE ADJACENT FINISH.
8. WHERE FIRE RATED CONSTRUCTION IS REQUIRED (REFER TO ARCHITECTURAL DRAWINGS), DO NOT LOCATE ELECTRICAL OUTLET BOXES BACK-TO-BACK. PROVIDE MINIMUM 24" HORIZONTAL SEPARATION BETWEEN OUTLET BOXES PER CBC.
9. FIRE STOPPING SHALL BE PROVIDED WHERE PENETRATING ITEMS PASS ENTIRELY THROUGH BOTH PENETRATIVE MEMBRANES OF BEARING WALLS REQUIRED TO HAVE A FIRE-RESISTIVE RATING AND WALLS REQUIRING PROTECTED OPENINGS. FIRE STOPPING SHALL ALSO BE PROVIDED AT PENETRATIONS OF FIRE RESISTIVE FLOORS AND FLOORS WHICH ARE PART OF A CEILING-FLOOR ASSEMBLY. FIRE-STOPPING SHALL HAVE AN "F" AND/OR "T" RATING AS DETERMINED BY TESTS CONDUCTED IN ACCORDANCE WITH CBC STD. 43-6.
10. JUNCTION BOXES, CABINETS, EQUIPMENT ENCLOSURES, SWITCHES, PANELS, ETC. INSTALLED OUTDOORS, OR IN WET OR DAMP LOCATIONS, SHALL BE RATED NEMA-3R FOR OUTDOOR ENVIRONMENTS. PROVIDE MINIMUM 1/4" AIR GAP BETWEEN ENCLOSURE AND WALL SURFACE. PROVIDE GALVANIZED METAL CHANNELS FOR MOUNTING ENCLOSURE ONTO WALL AS REQUIRED.
11. ALL BOXES FOR LIGHT SWITCHES SHALL HAVE CIRCUIT ID HANDWRITTEN (WITH PERMANENT FELT PEN) ON THE BACK INSIDE OF THE BOX.
12. ALL RECEPTACLES SHALL HAVE CIRCUIT ID ON THE COVERPLATE. USE TYPEWRITTEN "CLEAR TAPE". CLEAN SURFACE BEFORE ADHESIVE TAPE IS APPLIED. SAMPLE, "HA-11". WRAP AROUND SIDES OF PLATE TO MITIGATE PEELING.
13. ALL WIRING SHALL BE IN CONDUIT, ALL CIRCUITS SHALL BE CONCEALED EXCEPT THAT ON EXISTING SURFACE AND IN DRY LOCATIONS WHERE NECESSARY AND ACCEPTABLE TO THE ARCHITECT, SURFACE METAL RACEWAY (SMR) CAN BE USED. WIREMOLD OR EQUAL. 1/2" CONDUIT WITH 5#12 AND LESS WIRES SHALL CORRESPOND TO A V500 RACEWAY, OTHERWISE USE V700 FOR MORE THAN 5#12 3/4" CONDUIT; 1" CONDUIT SHALL CORRESPOND TO A V2000; 1-1/4" CONDUIT SHALL CORRESPOND TO A V2400BC. SMR SHALL BE IVORY COLOR AND SHALL BE SECURED TO SURFACES WITH 2 HOLE STRAPS. PROVIDE ALL FITTINGS, ADAPTERS, COUPLINGS, BOXES, ETC. AS REQUIRED FOR A COMPLETE SYSTEM. PROVIDE MATCHING SURFACE OUTLET BOX. PAINT TO MATCH ADJACENT FINISH.
14. DEVICE AND EQUIPMENT HEIGHTS SHALL BE COORDINATED WITH ARCHITECTURAL PLANS AND ELEVATIONS. CONFLICTS SHALL BE ADDRESSED TO THE ARCHITECT PRIOR TO ROUGH-IN.

EXISTING CONDITIONS:

1. DEVICES / EQUIPMENT AND CIRCUITING SHOWN AS EXISTING AND/OR EXISTING TO BE REMOVED ARE BASED ON REVIEW OF EXISTING AVAILABLE DOCUMENTS AND VISUAL FIELD VERIFICATION. SUCH INFORMATION MAY NOT BE ACCURATE. PRIOR TO DEMOLITION AND CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS TO DETERMINE ACCURACY, WHERE EXISTING CONDITIONS DO NOT REFLECT THE INFORMATION SHOWN ON THE PLANS, AND WHERE CONTRACTOR'S INVESTIGATION CANNOT DETERMINE THE PROPER ADJUSTMENTS NEEDED TO MEET THE INTENT OF THE DESIGN, CONTRACTOR SHALL INFORM ARCHITECT.
2. EXISTING CIRCUITS AND HOMERUNS WERE BASED ON EXISTING DOCUMENTS.
3. REVISE EXISTING PANEL SCHEDULES TO REFLECT THE NEWLY CONNECTED LOADS AND SPARE CIRCUITS.
4. DO NOT REUSE ANY REMOVED MATERIALS SUCH AS CONDUIT, WIRE, BOXES, FITTINGS, ETC.

DEMOLITION NOTES:

1. ELECTRICAL EQUIPMENT AND DEVICES INDICATED TO BE REMOVED SHALL BE REMOVED INCLUDING OUTLET BOX, CONDUIT, AND WIRES. MAINTAIN CIRCUIT CONTINUITY TO EXISTING DEVICES. BOXES AND CONDUITS MAY BE ABANDONED WHERE CONCEALED IN WALLS OR CONCEALED ABOVE CEILINGS WHERE SUCH AREAS ARE NOT A PART OF THE OVERALL DEMOLITION OR NEW CONSTRUCTION. ALL WIRING IN ABANDONED CONDUITS AND BOXES SHALL BE REMOVED. ABANDONED BOXES IN WALLS SHALL BE PERMANENTLY COVERED OVER.
2. ELECTRICAL EQUIPMENT AND DEVICES INDICATED TO REMAIN SHALL REMAIN WITH CIRCUIT CONTINUITY MAINTAINED. FOR EQUIPMENT THAT FEEDS OTHER DEVICES/EQUIPMENT, MAINTAIN CIRCUIT CONTINUITY TO ALL SUCH DEVICES/EQUIPMENT THAT IT FEEDS THAT ARE TO REMAIN (NOT REMOVED).
3. ONCE REMOVED, EQUIPMENT, DEVICES, CONDUIT, WIRING, BOXES, ETC. SHALL NOT BE REUSED UNLESS SPECIFICALLY NOTED TO BE RELOCATED.

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26 AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTIACLES HAVING FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT ARE REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BEWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS.

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTION SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

PIPING, DUCTWORK & ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2019 CBC, SECTIONS 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE-APPROVED INSTALLATION GUIDE (e.g., OSHPD OPM FOR 2013 CBC OR LATER). COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP☐ MD☐ PP☐ E☒ OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS

MP☐ MD☐ PP☐ E☐ OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVED (OPM #) #0043-13

ABBREVIATIONS AND DESIGNATIONS

(D)	DEMOLITION, DEMOLISH
(E)	EXISTING.
FACP	FIRE ALARM CONTROL PANEL.
GFCI	GROUND FAULT CIRCUIT INTERRUPTER.
GFI	GROUND FAULT INTERRUPTER.
GND	GROUND.
LED	LIGHT EMITTING DIODE.
MT	EMPTY CONDIT WITH PULL CORD.
MTC	CONDUIT WITH WIRING AS INDICATED OR AS REQUIRED.
(N)	NEW.
NA	NOT APPLICABLE.
NIC	NOT IN CONTRACT.
NIES	NOT IN ELECTRICAL SECTION OF THESE PLANS & SPECIFICATIONS.
OS	OCCUPANCY SENSOR.
PB	PULL BOX.
PNL	PANEL.
SWBD	SWITCHBOARD.
TBB	TELEPHONE BACKBOARD.
U/G	UNDERGROUND
UON	UNLESS OTHERWISE NOTED.
UPS	UNINTERRUPTABLE POWER SUPPLY.
XMFR	TRANSFORMER.

ELECTRICAL SYMBOLS LIST

- EXISTING LIGHT FIXTURES TO BE REMOVED.
- EXISTING EXIT LIGHT TO BE REMOVED.
- EXISTING EMERGENCY LIGHTING FIXTURE TO BE REMOVED.
- EXISTING SWITCHES TO BE REMOVED.
- L.E.D. LIGHTING FIXTURE - RECESSED.
- EXIT LIGHT FIXTURE, CONNECTED AHEAD OF LIGHT SWITCH, PROVIDE DIRECTION ARROWS WHERE INDICATED.
- S SINGLE POLE TOGGLE SWITCH, +45".
- S_K KEYED SWITCH +45".
- S^{MC} MOMENTARY CONTACT SWITCH, +45".
- a,k,p SWITCH SUBSCRIPTS - a= DEVICE CONTROLLED, k= KEY, p= PILOT LIGHT.
- WALL MOUNTED SINGLE CIRCUIT MOTION SENSOR SWITCH, +45".
- $_D$ DIMMER SWITCH, SLIDE TYPE SIZE AS REQUIRED, +45".
- FUSED DISCONNECT SWITCH, SIZE AND TYPE AS REQUIRED. PROVIDE FUSES AS RECOMMENDED BY EQUIPMENT MANUFACTURER.
- LIGHTING CONTROL SWITCH, +45". SEE WIRING DIAGRAM A/E5.1.6.
- CEILING MOUNTED OCCUPANCY SENSOR SWITCH. SEE WIRING DIAGRAM A/E5.1.6.
- FLEX CONDUIT MUST ALLOW 6" OF MOVEMENT IN ANY HORIZONTAL DIRECTION.
- CONDUIT CONCEALED BELOW FLOOR OR GRADE.
- CONDUIT CONCEALED IN CEILING OR WALL.
- HOMERUN TO RESPECTIVE PANEL OR TERMINAL.
- INDICATES 1#12 (GREEN) GROUND WIRE; OTHER SIZES AS INDICATED.
- INDICATES END OF CIRCUIT INDICATED.
- EXISTING CONDUIT RUN TO REMAIN "AS-IS".
- EXISTING CONDUIT RUN TO BE REMOVED OR ABANDONED. REMOVE JUNCTION BOXES, PULL-BOXES, TERMINAL CABINETS, ETC.
- NOTE: BRANCH CIRCUIT WITHOUT FURTHER DESIGNATION IS A 2#12 WIRE CIRCUIT. FOR MORE THAN 2#12 WIRES AS FOLLOWS: 3#12, 4#12, ETC. FOR OTHER SIZES AS FOLLOWS: 3#10, 4#6, ETC.
- NUMBER CONSTRUCTION NOTES SPECIFIC TO THE SHEET.
- FIXTURE IDENTIFICATION - NUMBER INDICATES QUANTITY, LETTER INDICATES TYPE.
- PB PULL BOX, SIZE AS REQUIRED.
- JUNCTION BOXES, SIZE & TYPE AS REQUIRED.
- 15 AMP DUPLEX RECEPTACLE, +18".
- XX-XX SPECIAL PURPOSE RECEPTACLE. "XX-XX" DENOTES NEMA CONFIGURATION.
- PANELBOARD - SEE PANEL SCHEDULE ON SHEET E8.2.1 & E8.2.2.
- TERMINAL CABINET SEE PLAN FOR TYPE.
- T TRANSFORMER, FOR SIZE & TYPE SEE SCHEDULE, SHEET E4.1.2.
- EQUIPMENT IDENTIFICATION TAG. (N.I.E.S.) CONNECT AS REQUIRED, INCLUDING INSTALLATION AND CONNECTION OF REMOTE STARTERS.
  AC = AIR CONDITIONING

BID PACKAGE A

AGENCY APPROVAL

ALBERT EINSTEIN MIDDLE SCHOOL
HVAC REPLACEMENT
9325 MIRANDY DR
SACRAMENTO, CA 95826

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

capital engineering
RANCHO CORDOVA, CALIFORNIA
MB - MAB/JV & NH/DY 220921.00
PM - DESIGN TEAM PROJECT NO.

REGISTERED PROFESSIONAL ENGINEER
NATHAN A. HEARN
No. E 23927
3-31-2024
ELECTRICAL
STATE OF CALIFORNIA

Date Signed: 1/22/24

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LICENSED ARCHITECT
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No. C-26867
RENEWAL DATE: 1/31/25
STATE OF CALIFORNIA

ARCHITECT

CONSTRUCTION DOCUMENTS

REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023

DATE: 06/19/2023

JOB NO.: Y2243.00

SHEET TITLE

ELECTRICAL GENERAL NOTES & LEGENDS

SHEET NO.

E001

QC
INI | %

ONE AND ONE-HALF INCH = ONE FOOT
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ONE INCH = TWENTY FEET

FOR WORK IN THIS AREA, SEE 1/E131

FOR WORK IN THIS AREA, SEE 1/E100

FOR WORK IN THIS AREA, SEE 2/E111

FOR WORK IN THIS AREA, SEE 1/E003

BLDG A1
BLDG B1
BLDG B2
BLDG C1
BLDG C2
BLDG D
BLDG E
BLDG F
BLDG G
P1
P2

ELECTRICAL - OVERALL SITE PLAN

SCALE : 1" = 20'-0"

1/E002

N

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CONSTRUCTION DOCUMENTS

REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023

DATE: 06/19/2023

JOB NO.: Y2243.00

SHEET TITLE

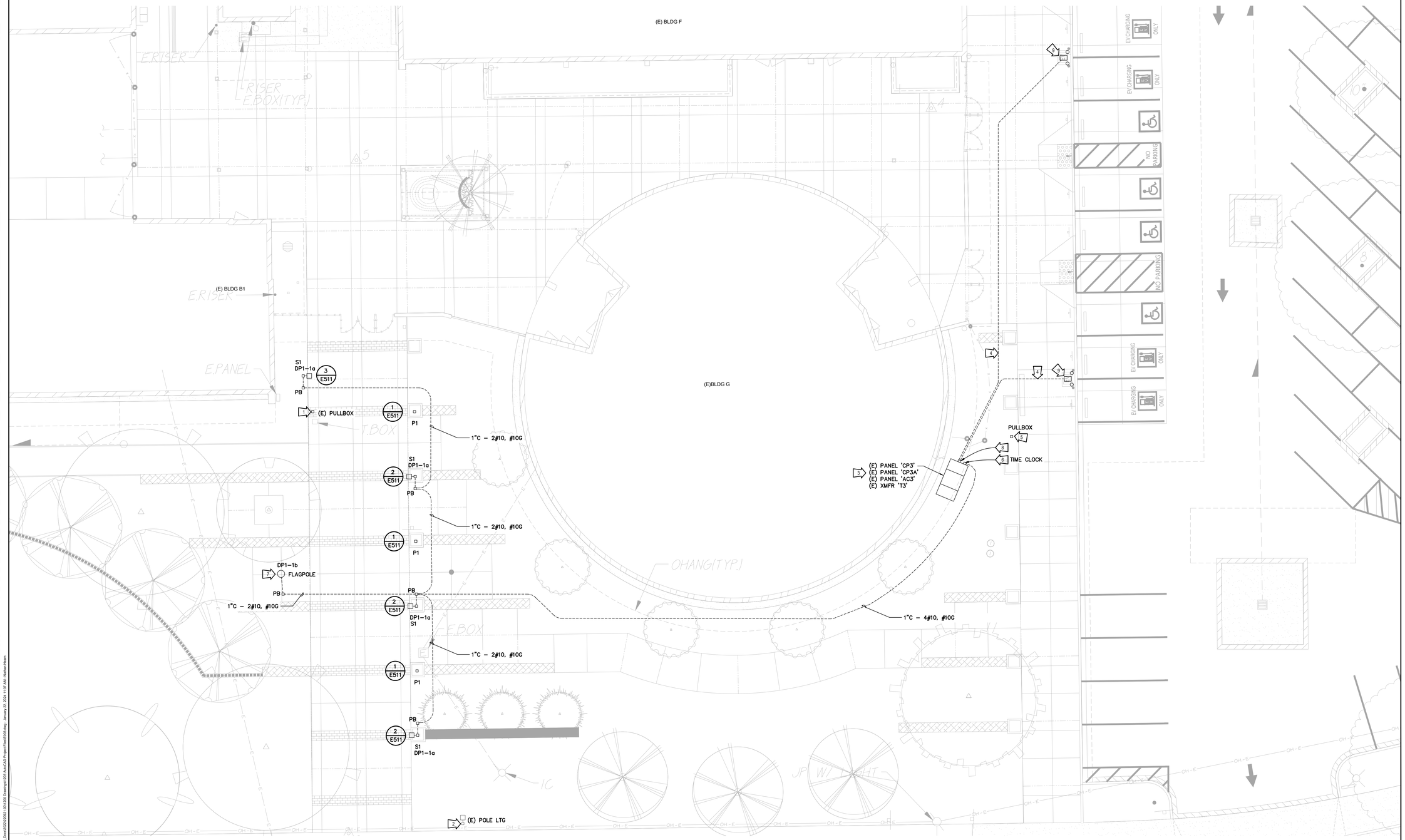
ELECTRICAL
OVERALL
SITE PLAN

SHEET NO.

E002

CONSTRUCTION NOTES:

1. (E) PULLBOX TO REMAIN. ADJUST HEIGHT FLUSH TO MATCH NEW GRADE.
2. REMOVE (E) POLE LTG. INCLUDING POLE BASE AND CONDUIT. ABANDON CONDUIT 24" BELOW FINISH GRADE. REMOVE UNUSED WIRES BACK TO SOURCE PANEL.
3. (E) PANEL 'CP3A'. USE A SPARE 20A/1P CIRCUIT BREAKER FOR THE PATHWAY LTG AND FLAGPOLE LTG. SEE KEYNOTE 6 FOR ADDITIONAL INFORMATION. REMOVE SIX (6) 20A/1P CIRCUIT BREAKERS AND PROVIDE TWO (2) (N) 40A/3P CIRCUIT BREAKERS FOR TWO (2) (N) ELECTRIC VEHICLE CHARGERS. SEE KEYNOTE 9 FOR ADDITIONAL INFORMATION.
4. 1"C., 3 #8, #10 GND.
5. CHRISTY B1324BOX WITH B1324-51JH COVER, B1324 X 12 EXTENSION AND B305L SLAB. PROVIDE LABEL "EV CHARGERS".
6. 2-RELAY ASTRONOMIC TIMER SWITCH - INTERMATIC ET90215CR. MOUNT ON SIDE OF THE DISTRIBUTION PANEL. ROUTE BRANCH CIRCUIT WIRING FOR PATHWAY LTG THROUGH RELAY 'A' AND FOR FLAGPOLE LTG THROUGH RELAY 'B'
7. FLAG POLE WITH LIGHT AT TOP PROVIDED BY OTHERS. COORDINATE WITH FLAG POLE INSTALLER FOR ADDITIONAL REQUIREMENT. CONNECT PER MANUFACTURER'S REQUIREMENTS. PROVIDE GROUND ROD BOX. SEE POLE LTG DETAIL.
8. "LB" INTO PANEL. SEAL PENETRATIONS WATER TIGHT.
9. (N) ELECTRIC VEHICLE CHARGER EQUAL TO OPCONNECT HCS-40R, 208V 3PH, WITH CABLE MANAGEMENT, PEDESTAL MOUNT, DUAL PORT, SINGLE CIRCUIT LOAD MANAGEMENT CONFIGURATION. COORDINATE ALL REQUIREMENTS WITH ARCHITECT, OWNER, AND EQUIPMENT MANUFACTURER.



ENLARGED ELECTRICAL SITE PLAN

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

1 / E003

N

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1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023

DATE: 06/19/2023

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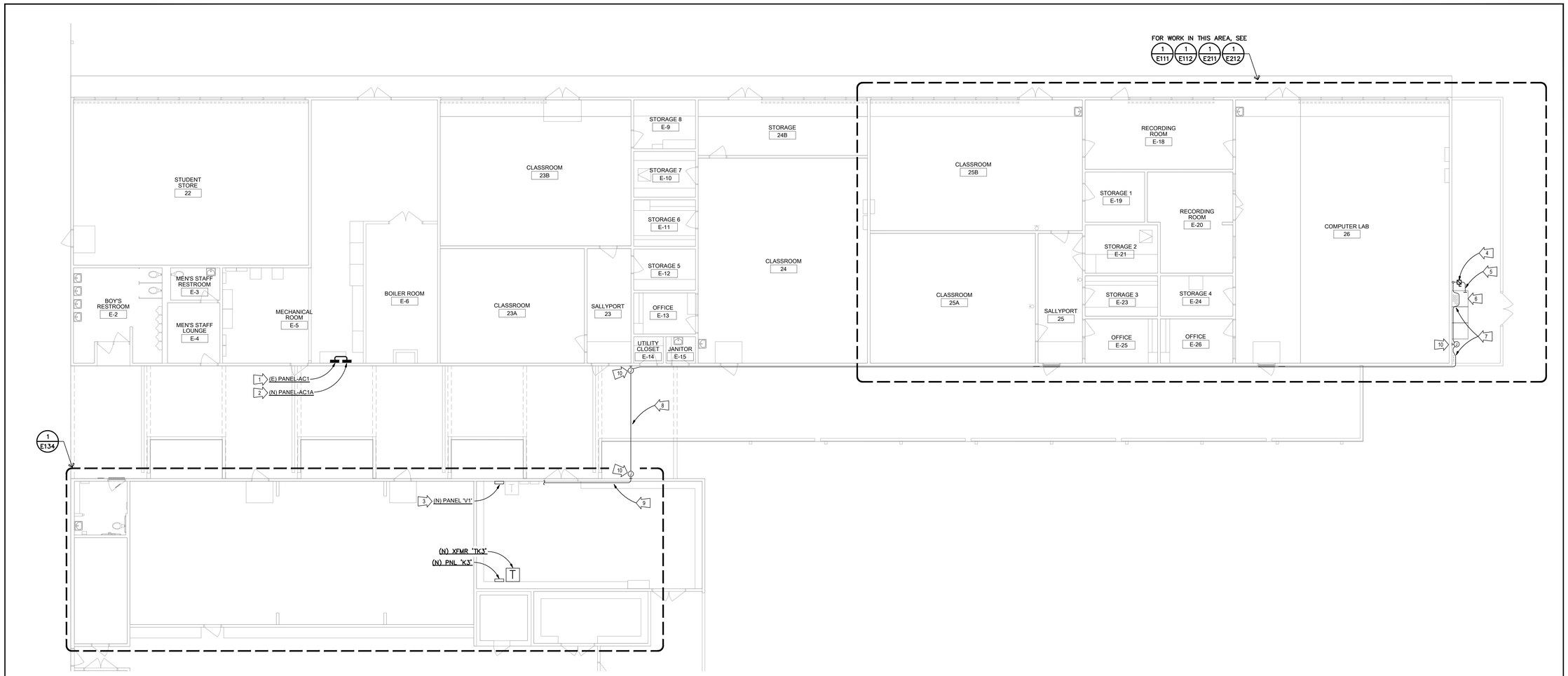
ENLARGED ELECTRICAL SITE PLAN

SHEET NO.

E003



ELECTRICAL - OVERALL FLOOR PLAN

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

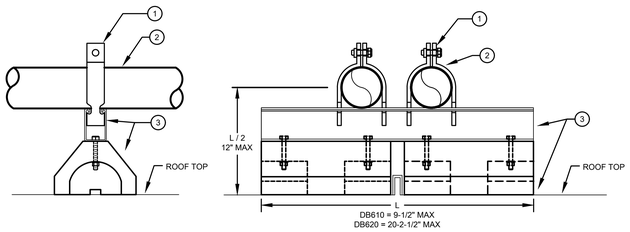
1 E100

N

KEYED NOTES

1. HOT-DIPPED GALVANIZED UNISTRUT CONDUIT CLAMP. SIZE AS REQUIRED.
2. RACEWAY AS NOTED ON DRAWINGS.
3. ROOFTOP SUPPORT BASE. B-LINE DB610 OR DB620 WITH HOT-DIPPED GALVANIZED B12 CHANNEL. SECURE TO ROOF WITH A FULL BED OF NON-HARDENING ADHESIVE TYPE MASTIC.

NOTE:
INSTALL SUPPORT BLOCK 8'-0" O.C. MAX, WITHIN 36" OF A BOX CONNECTION, AND AT EACH CHANGE OF DIRECTION.

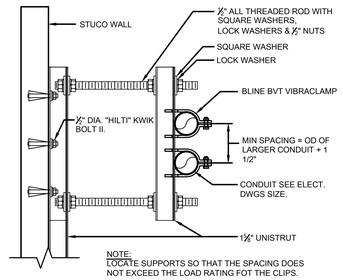


END VIEW SIDE VIEW

ROOF CONDUIT SEISMIC SUPPORT DETAIL

SCALE : NTS

2 E100

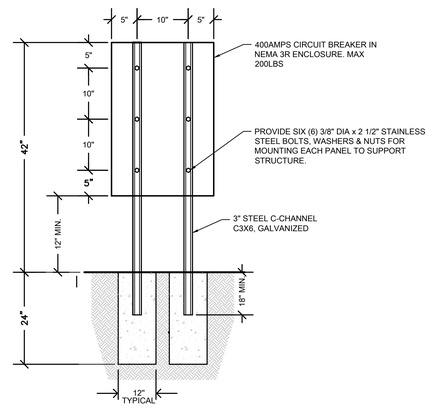


NOTE:
LOCATE SUPPORTS SO THAT THE SPACING DOES NOT EXCEED THE LOAD RATING FOT THE CLIPS.

CONDUIT WALL MOUNTING DETAIL

SCALE : NTS

3 E100



FRONT VIEW

400AMPS CIRCUIT BREAKER IN NEMA 3R ENCLOSURE

SCALE : NTS

4 E100

CONSTRUCTION NOTES:

1. PROVIDE 1-100/3 CIRCUIT BREAKER WITH HARDWARE IN EXISTING PANEL-AC1.
2. NEW PANEL-AC1A. PROVIDE 1 1/2"- 4#2 & 1#8 (GREEN) GND. CONNECT TO 1-100/3 CIRCUIT BREAKER IN EXISTING PANEL-AC1.
3. PROVIDE 400AMP 277/460V PANEL 'V1'. PANEL 'V1' DIMENSION SHALL MATCH EXISTING PANEL 'V' DIMENSION FOR CUTTING OVER THE EXISTING LOADS BEING SERVED BY PANEL 'V'.
4. PROVIDE NEW 400A ENCLOSED CIRCUIT BREAKER. SEE DETAIL 4/E100.
5. SEAL TIGHT CONDUIT PENETRATION TO THE SWITCHBOARD ENCLOSURE.
6. PROVIDE BUS TAP KIT TO CONNECT NEW 4#500KCMIL TO SERVE NEW PANEL 'V1'. SEE ONE-LINE DIAGRAM FOR MORE INFORMATION.
7. PROVIDE 4"C - 4#500KCMIL, #3G. BUILDING MOUNT NEW CONDUIT. BEND, ARRANGE AND PROVIDE SUPPORT FOR CONDUIT TO AVOID EXISTING CONDUITS.
8. PROVIDE 4"C - 4#500KCMIL, #3G. MOUNT NEW CONDUIT ON THE CANOPY ROOF. BEND, ARRANGE AND PROVIDE SUPPORT FOR THE CONDUIT TO AVOID EXISTING CONDUITS.
9. PROVIDE 4"C - 4#500KCMIL, #3G. SURFACE MOUNT NEW CONDUIT HIGH ON THE WALL. BEND, ARRANGE AND PROVIDE SUPPORT FOR THE CONDUIT TO AVOID EXISTING CONDUITS.
10. PROVIDE SURFACE MOUNTED J-BOX. MOUNT HIGH ON THE WALL. SIZE J-BOX PER 2022 CEC 314.28.

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REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
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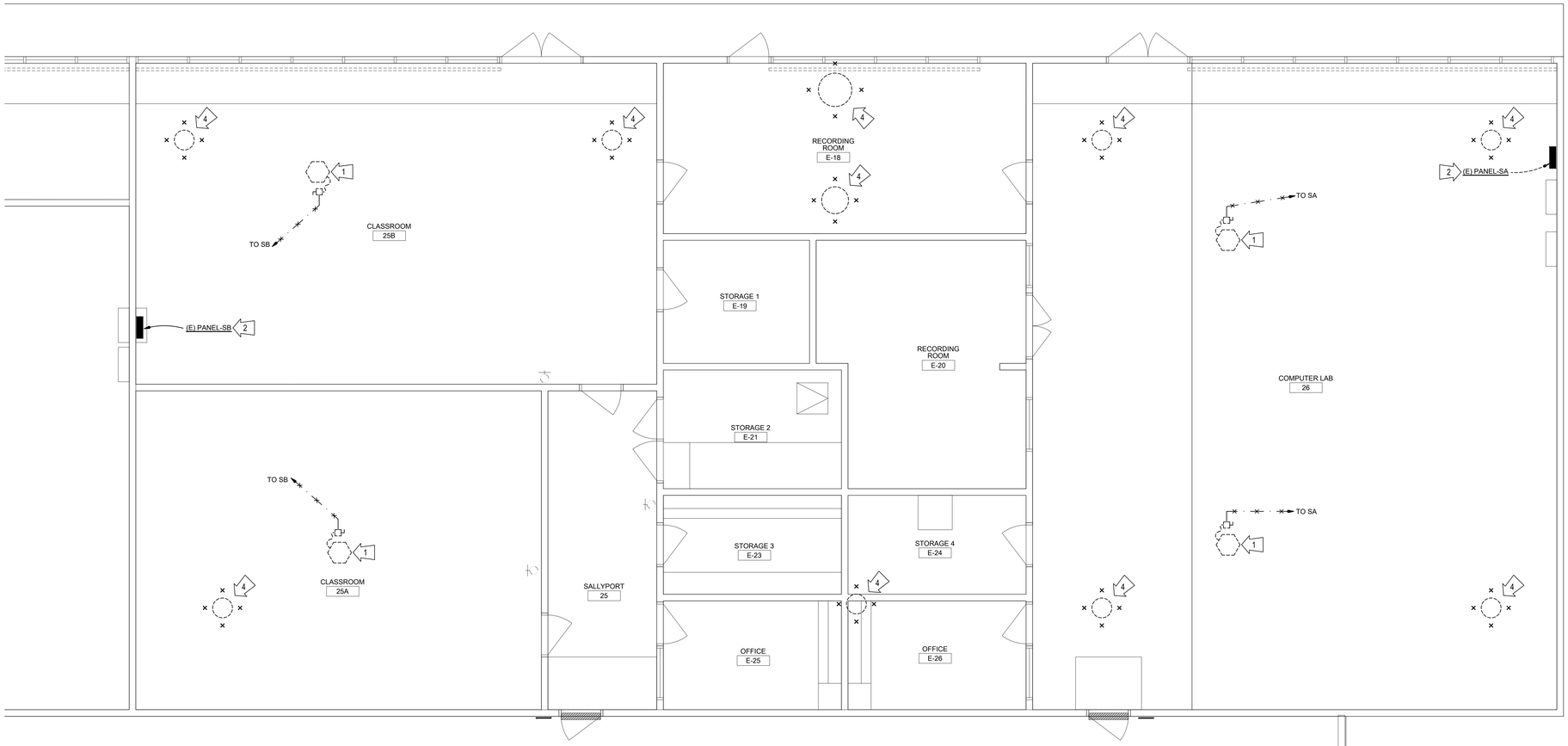
SHEET TITLE

ELECTRICAL OVERALL FLOOR PLAN

SHEET NO.

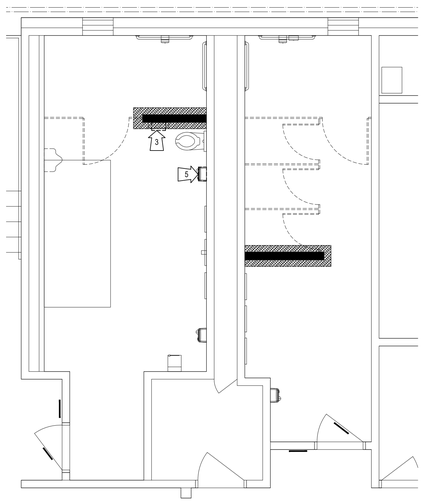
E100



DEMOLITION POWER FLOOR PLAN

1 / E111

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



DEMOLITION RESTROOM POWER FLOOR PLAN

2 / E111

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

DEMOLITION POWER FLOOR PLAN NOTES:

1. DISCONNECT AND REMOVE EXISTING DISCONNECT SWITCH INCLUDING UNUSED CONDUIT AND WIRES BACK TO SOURCE PANEL.
2. DISCONNECT WIRES TO EXISTING HVAC UNIT CIRCUIT BREAKER. CIRCUIT BREAKER TO REMAIN. LABEL "SPARE".
3. EXISTING ELECTRIC HAND DRYER TO BE REMOVED. REMOVE CONDUIT AND WIRE BACK TO NEAREST JUNCTION BOX. MAINTAIN ALL OTHER CONNECTIONS ON EXISTING CIRCUIT. FIELD VERIFY ALL REQUIREMENTS. PATCH WALL, MATCH EXISTING, REFER TO ARCHITECTURE PLANS.
4. EXISTING EXHAUST FAN TO BE REMOVED. REMOVE UNUSED CONDUIT AND WIRE BACK TO SOURCE PANEL. COORDINATE REQUIREMENTS WITH MECHANICAL.
5. EXISTING ELECTRIC HAND DRYER TO BE RELOCATED ONE BAY. PROTECT AND PRESERVE EXISTING CIRCUIT FOR RECONNECTION AT NEW LOCATION. FIELD VERIFY ALL REQUIREMENTS. REFER TO ARCHITECTURE PLANS.

BID PACKAGE A

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REVISIONS

NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023

DATE: 06/19/2023

JOB NO.: Y2243.00

SHEET TITLE

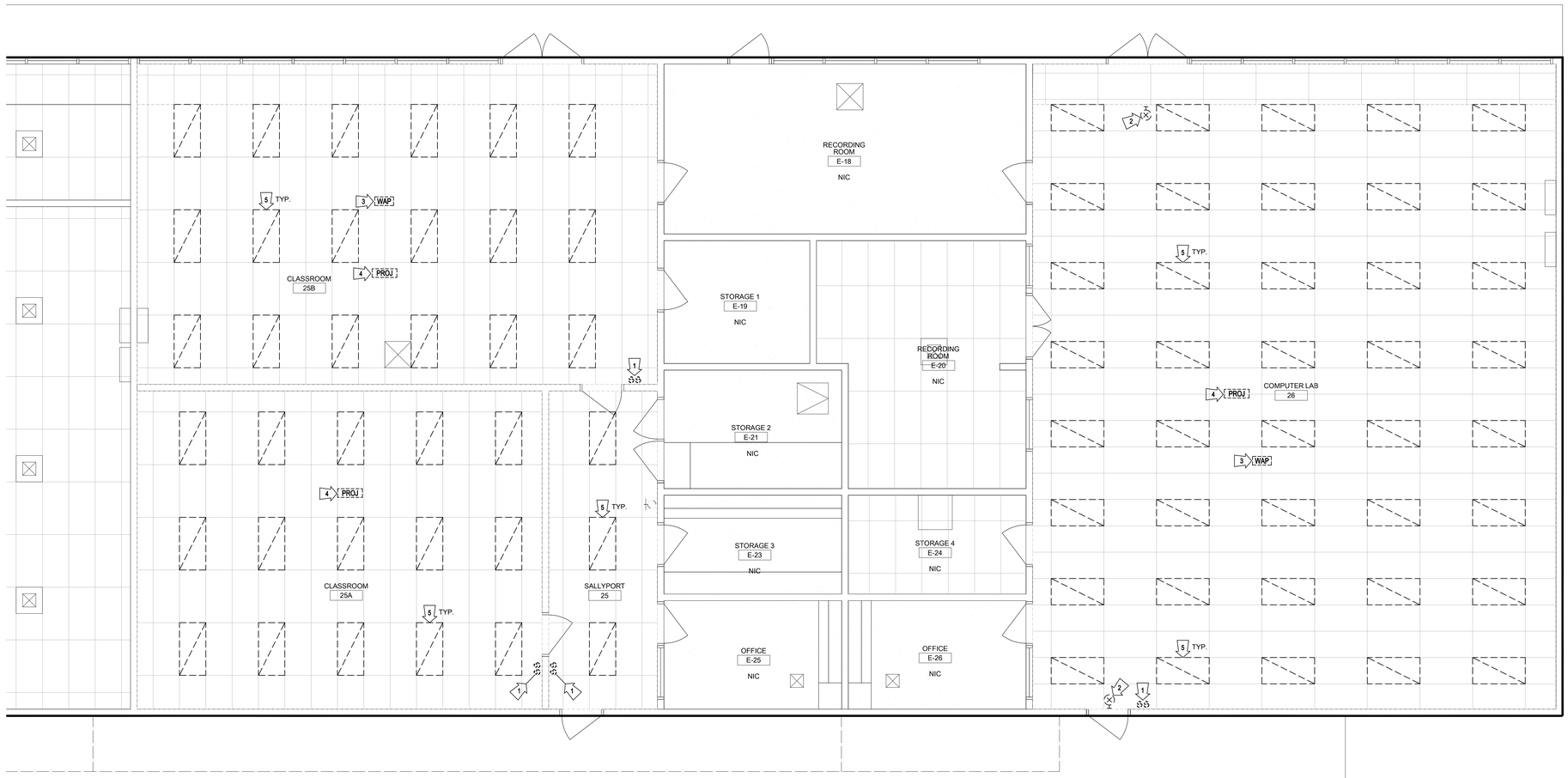
DEMOLITION POWER FLOOR PLAN

SHEET NO.

E111

QC
INI | %

ONE AND ONE-HALF INCH = ONE FOOT
ONE INCH = ONE FOOT
THREE-QUARTERS INCH = ONE FOOT
ONE-HALF INCH = ONE FOOT
ONE-QUARTER INCH = ONE FOOT
ONE-EIGHTH INCH = ONE FOOT
ONE-SIXTEENTH INCH = ONE FOOT
ONE INCH = TWENTY FEET



DEMOLITION LIGHTING & SIGNAL FLOOR PLAN

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

1 / E112

DEMOLITION LIGHTING AND SIGNAL FLOOR PLAN NOTES:

1. REMOVE EXISTING LIGHT SWITCHES. CUT WALL AND REMOVE OUTLET BOX AND WIRES. EXTEND CONDUIT TO TOP OF NEW OUTLET BOX AT +48" TO TOP OF BOX. VERIFY SIZE OF OUTLET BOX WITH LIGHTING CONTROLS.
2. DISCONNECT, REMOVE, AND RELOCATE EXISTING CEILING ILLUMINATED EXIT SIGN. OUTLET BOX, CONDUIT AND WIRES TO REMAIN.
3. DISCONNECT, REMOVE AND RELOCATE EXISTING WIRELESS ACCESS POINT (WAP). OUTLET BOX, DATA JACKS, CONDUIT AND WIRES TO REMAIN. SEE LIGHTING AND SIGNAL FLOOR PLAN FOR LOCATION.
4. DISCONNECT, REMOVE AND RELOCATE EXISTING CEILING PROJECTOR. OUTLET BOX, CONNECTORS, CONDUIT AND WIRES TO REMAIN. SEE LIGHTING AND SIGNAL FLOOR PLAN.
5. 2x4 LIGHT FIXTURE TO BE REMOVED AND REPLACED WITH NEW. EXISTING CIRCUIT TO BE REUSED FOR NEW LIGHTS.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120824 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 08/30/2023

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NO.	DESCRIPTION	DATE
1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023
3	DSA BACKCHECK SET V.3	07/17/2023

DATE: 07/17/2023

JOB NO.: Y2243.00

SHEET TITLE

DEMOLITION LIGHTING & SIGNAL FLOOR PLAN

SHEET NO.

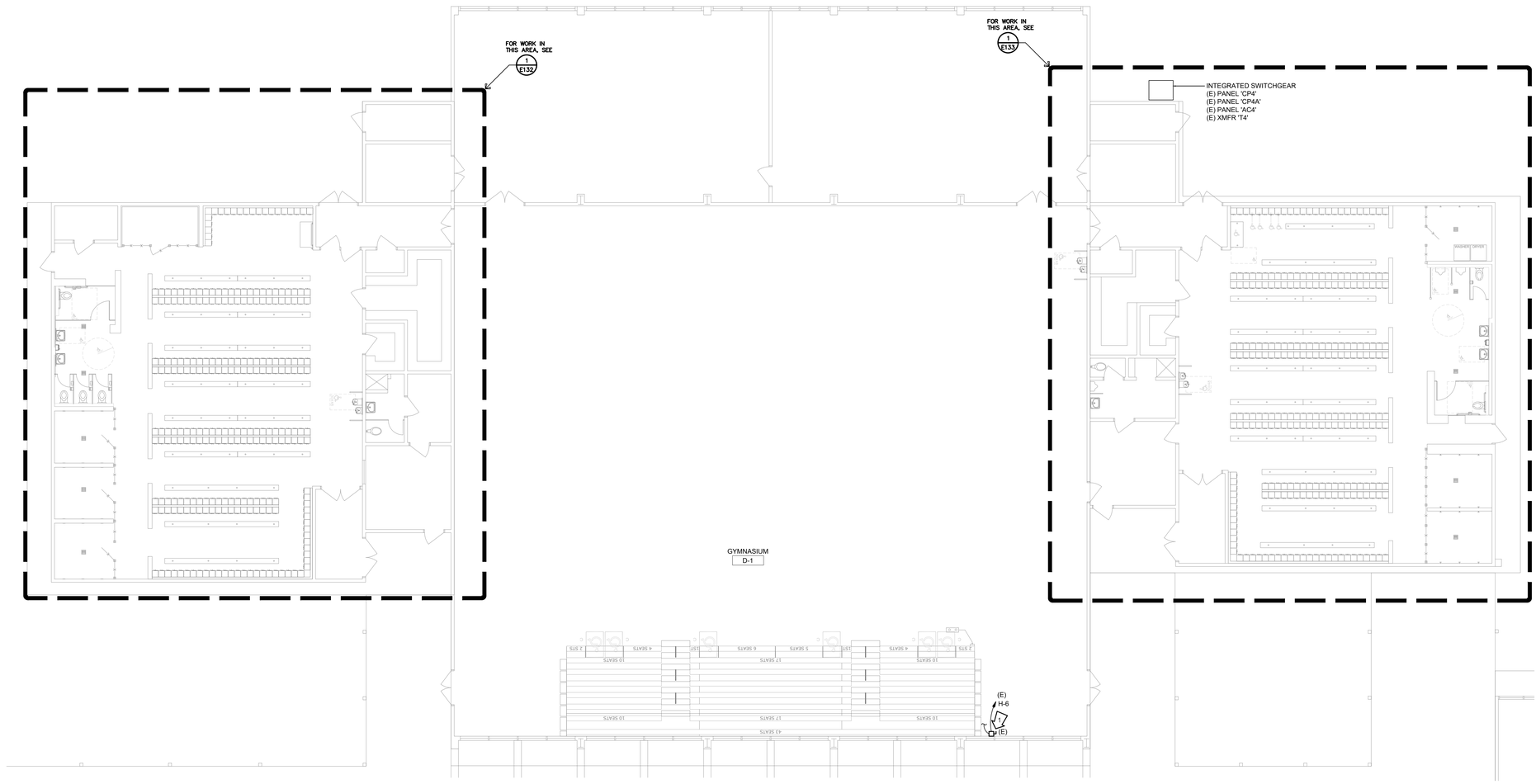
E112

QC
INI | %

ONE AND ONE-HALF INCH = ONE FOOT
ONE INCH = ONE FOOT
THREE-QUARTERS INCH = ONE FOOT
ONE-HALF INCH = ONE FOOT
ONE-QUARTER INCH = ONE FOOT
ONE-EIGHTH INCH = ONE FOOT
ONE-SIXTEENTH INCH = ONE FOOT
ONE INCH = TWENTY FEET

CONSTRUCTION NOTES:

(E) DISCONNECT SWITCH FOR BLEACHER CIRCUIT. REMOVE EXISTING ELECTRICAL CONNECTION TO EXISTING BLEACHER EQUIPMENT TO BE DEMOLISHED. REUSE DISCONNECT FOR (N) BLEACHERS. PROVIDE LOAD SIDE CONNECTION TO BLEACHER EQUIPMENT, 3/4"C., 2 #10, #10 GND. COORDINATE REQUIREMENTS WITH EQUIPMENT MANUFACTURER.



BUILDING D OVERALL FLOOR PLAN - ELECTRICAL

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

1 E131

N

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1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023

DATE: 06/19/2023

JOB NO.: Y2243.00

SHEET TITLE

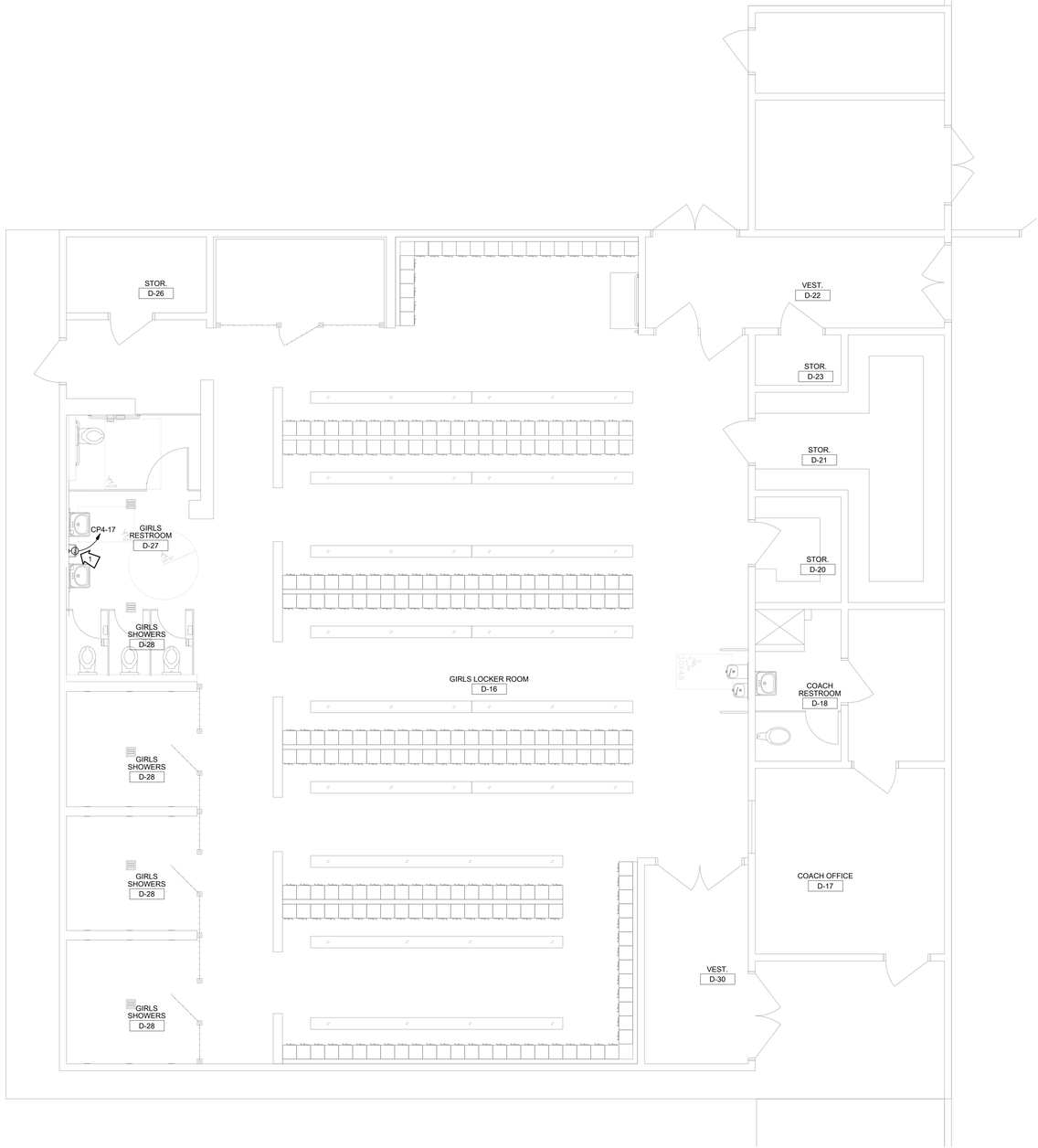
BUILDING D OVERALL FLOOR PLAN - ELECTRICAL

SHEET NO.

E131

CONSTRUCTION NOTES:

1 PROVIDE CIRCUIT FOR (N) ELECTRIC HAND DRYER. 3/4"C, 2 #10, #10GND. UTILIZE EXISTING SPARE CIRCUIT BREAKER. UPDATE PANEL DIRECTORY. FIELD VERIFY ALL REQUIREMENTS.



ELECTRICAL ENLARGED GIRLS LOCKER ROOM ALTERATION PLAN

1 / E132

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

N

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1	DSA SUBMITTAL SET	12/22/2022
2	DSA BACKCHECK SET	06/19/2023

DATE: 06/19/2023

JOB NO.: Y2243.00

SHEET TITLE

ELECTRICAL
ENLARGED GIRLS
LOCKER ROOM
ALTERATION PLAN

SHEET NO.

E132

CONSTRUCTION NOTES:

(E) RECEPTACLE TO BE RELOCATED. PROTECT AND PRESERVE (E) CONDUIT AND WIRE FOR RECONNECTION AT NEW LOCATION. REF. 1/E133.

ELECTRICAL ENLARGED BOYS LOCKER ROOM DEMOLITION PLAN

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

1 / E133D

N

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DATE: 06/19/2023

JOB NO.: Y2243.00

SHEET TITLE

ELECTRICAL ENLARGED BOYS LOCKER ROOM DEMOLITION PLAN

SHEET NO.

E133D