TITLE 24 MECHANICAL & PLUMBING REQUIREMENTS (CODE REFERENCES ARE TO 2019 BUILDING ENERGY EFFICIENCY STANDARDS):

1. All air cooled HVAC units shall have minimum efficiencies per Table 110.2-A.
2. All furnaces shall have minimum efficiencies per Table 110.2-J.
3. All furnaces shall have stand by loss controls per section 110.2 (d).
4. All thermostats shall comply with 110 (b) or (c), as applicable.
5. All HVAC systems shall have outside (ventilation) air per 120.1 (b) 2. Also see mechanical plans for minimum outside air settings. Refer to table on plan.
6. When CO2 ventilation demand controls are specified, provide in accordance with 120.1 C. 4.
7. Minimum ventilation rates shall be initiated one hour prior to scheduled occupancy per 120.1 (c) 2.
8. Each HVAC system shall have shut-off and reset controls complying with 120.2 (e).
9. All outside and exhaust dampers shall automatically close per 120.2 (f).
10. All systems greater than a nominal 54 MBH cooling capacity shall have economizers equipped with fault detection and diagnostics per 120.2 (i).
11. All ductwork insulation shall comply with 120.4.
12. Set up all thermostats with a dead band of no less than three degrees to prevent cycling between heating and cooling.
13. Acceptance tests required prior to granting occupancy. NA refers to Non Residential appendices:
    - Outdoor air ventilation systems per NA 7.5.1.
    - Constant volume single zone system controls per NA 7.5.2.
    - Air economizers per NA 7.5.4.
    - Demand control (CO2) controls, when required, per NA 7.5.5.
    - Fault Detection & diagnostics (FDD) per NA 7.5.11.

Equipment Anchorage Notes:

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 Chapters 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 a flexible cable.
3. Temporary, moveable or mobile equipment which is heavier than 400 pounds or has a center 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 between 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 distributed 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 above requirements.

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 7-16 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):

Option 1: Detailed on the approved drawings with project specific notes and details

Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM#)
#_OPM 0052-13 B-LINE/TOLCO SYSTEM________.

Air Conditioning Legend

SYMBOL	ABBR.	ITEM	SYMBOL	ABBR.	ITEM
	A.C.	Air Conditioning		H.W.R.	Heating Water Return
	A.D.	Access Door		H.W.S.	Heating Water Supply
	A.F.F.	Above Finished Floor		INT.	Internal
	A.H.	Air Handler		LOC.	Location
	B.A.S,	Building Automation System		M.O.	Motor Operated
	B.V.	Butterfly Valve		(N)	New
	C.D.	Condensate Drain		N.C.	Normally Closed
	C.E.	Ceiling Exhaust Register		N.I.C.	Not in Contract
	C.W.R.	Condensor Water Return		N.O.	Normally Open
	C.W.S.	Condensor Water Supply		O.S.A.	Outside Air
	C.H.W.R.	Chilled/Hot Water Return		O.B.D.	Opposed Blade Damper
	C.H.W.S.	Chilled/Hot Water Supply		P.O.C.	Point of Connection
	COMB.	Combustion		P.P	Petes Plug
	CONN.	Connection		PROV.	Provide
	CONT.	Continuation		P.R.V.	Pressure Reducing Valve
	C.R.	Ceiling Return Register		SIM.	Similar
	CLG.	Ceiling	S.F.D.	S.F.D.	Smoke / Fire Damper w/ access panel
	C.S.	Ceiling Supply Register		S.M. or S/M	Sheet Metal
	C.V.	Check Valve		S.O.V.	Shut Off Valve
	D.C.W.	Domestic Cold Water		S.P.S.T.	Single Pole Single Throw
	DIA.	Diameter	(T)	STAT	Thermostat or Room Sensor
	D.L.	Door Louver		SURF.	Surface
	DN.	Down		(TYP)	Typical
	D.P.D.T.	Double Pole Double Throw		U.G.	Underground
	D.T.R.	Duct Thru Roof		U.N.O.	Unless Noted Otherwise
	(E)	Existing		V.D.	Volume Damper
	E.F.	Exhaust Fan		V.D.	Vol. Damper w/ Remote Operator
	E.M.S.	Energy Management System		W/	With
	EX.	Exhaust		W.R.	Wall Return Register
F.D.	F.D.	Fire Damper w/ acc. panel		W.S.	Wall Supply Register
	Flex. Conn	Flexible Connection			Duct w/ Acoustic Lining
	FLR.	Floor		T.V.	Turning Vanes
	F.T.R.	Flue Thru Roof			Extractor
	Furn.	Furnace	(C)		CO2 SENSOR
	GA.	Gauge			Union
	GAL.	Gallon			Reducer or Increaser
	GALV.	Galvanized			
	G.P.M.	Gallons per Minute			
	GRD.	Grade			
	G.V.	Gate Valve			

EQUIPMENT SCHEDULE

HP-1 (A / M1.2)

Carrier 50GCQM06 Rooftop Heat Pump, 1,800 CFM @ 0.60 E.S.P., 0.66 BHP direct drive supply fan drive vane-axial fan with electrically commutated motor, 1,200 CFM low speed (staged air volume), 61,300 BTUH total / 46,320 sensible gross cooling / 54,860 heating capacity / 16.2 SEER / 11.7 EER / 8.3 HSPF at ARI conditions. Two stage cooling, 5 year compressor warranty, high and low pressure switches, adjustable defrost timer, and anti-short cycle timer. (4) 16" x 16" x 2" MERV 8 return air filters, 10.6 kW electric strip heater factory mounted and wired, single point power connection for heat pump and strip heater. Integrated modulating economizer with dry bulb control, fault diagnostics and detection per T24 regulations, power exhaust fan module, demand control ventilation package with wall mounted CO2 sensor set to 1000 ppm. Adjust outside airflow to modulate between hi-low settings per O.A. schedule on plans. Include information on both settings in air balance report. Provide sperate power feed and disconnect for economizer power exhaust fan. Sloped roof curb with seismic hold down clips, internal high and low compressor protection.

Electrical: 34 MCA / 40 MOCP @ 460v-3ph. (HP Unit) Operating Weight: 816 Lbs.

1.9 MCA / 3.4 MOCP @ 460v-3ph. (Power Exhaust) Curb: 107 lbs.

HP-2 (A / M1.2)

Carrier 50VT-C24 Rooftop Heat Pump, 700 CFM @ 0.40 E.S.P., 0.38 BHP direct drive supply fan motor, 22,620 BTUH total / 16,730 sensible net cooling / 22,380 heating capacity / 14.5 SEER / 8.2 HSPF at ARI conditions. Single stage cooling, 5 year compressor warranty, high and low pressure switches, adjustable defrost timer, and anti-short cycle timer. 2" Deep MERV 13 return air filters in factory filter rack, 5.4 kW electric strip heater, factory mounted and wired, single point power connection for heat pump and strip heater. Motorized two-position outside air damper. Sloped roof curb with seismic hold down clips internal high and low compressor protection.

Electrical: 53.7 MCA / 60 MOCP @ 208v-1ph. (HP Unit) Operating Weight: Unit 326 Lbs.

Curb 65 Lbs.

HP-3 (A / M1.2)

Carrier 50FCQM07 Rooftop Heat Pump, 2,100 CFM @ 0.60 E.S.P., 0.83 direct drive supply fan drive vane-axial fan with electrically commutated motor, 1,400 CFM low speed (staged air volume), 73,450 BTUH total / 55,300 sensible gross cooling / 63,550 heating capacity / 11.2 EER / 15.0 IEER / 3.6 COP at ARI conditions. Two stage cooling, 5 year compressor warranty, high and low pressure switches, adjustable defrost timer, and anti-short cycle timer. (4) 16" x 16" x 2" MERV 8 return air filters, 10.6 kW electric strip heater factory mounted and wired, single point power connection for heat pump and strip heater. Integrated modulating economizer with dry bulb control, fault diagnostics and detection per T24 regulations, power exhaust fan module, demand control ventilation package with wall mounted CO2 sensor set to 1000 ppm. Adjust outside airflow to modulate between hi-low settings per O.A. schedule on plans. Include information on both settings in air balance report. Provide sperate power feed and disconnect for economizer power exhaust fan. Sloped roof curb with seismic hold down clips, internal high and low compressor protection.

Electrical: 31 MCA / 35 MOCP @ 460v-3ph. (HP Unit) Operating Weight: 809 Lbs.

3.5 MCA / 6.3 MOCP @ 460v-3ph. (Power Exhaust) Curb: 107 lbs.

EF-1

Greenheck SPA-50-90-VG Ceiling Mounted Exhaust Fan. 90 CFM @ 0.20" E.S.P., 887 RPM, 6 watts ECM motor, 0.7 sones. Provide with backdraft damper, full size discharge to roof cap, and NEMA-1 toggle switch. Interlock fan operation with light circuit. Dial on fan speed control with time delay set to fifteen minutes.

Electrical: 6 Watts @ 115v-1ph. Operating Weight: 12 Lbs.

Codes:

California Code of Regulations (C.C.R)

Part 1 - 2022 California Standards Administrative Code, Title 24, C.C.R.
Part 2 - 2019 California Building Code (C.B.C.), Title 24, C.C.R. Volumes 1-3.
Part 3 - 2019 California Electrical Code, Title 24, C.C.R.
Part 4 - 2019 California Mechanical Code (C.M.C.), Title 24, C.C.R.
Part 5 - 2019 California Plumbing Code (C.P.C.), Title 24, C.C.R.
Part 6 - 2019 California Energy Code, Title 24, C.C.R.
Part 9 - 2019 California Fire Code, Title 24, C.C.R.
Part 11 - 2019 California Green Code, Title 24, C.C.R.

Standards and Guides:

ADAAG - American with Disabilities Act, Accessibility Guidelines.
Fixtures - Plumbing fixtures to comply with table 5.303.6 of the California Green Building Standards - 2019 Edition.

General Project Note:

1. Coordination of work: Layout of materials, equipment and systems is generally diagrammatic unless specifically dimensioned. Some work may be shown offset for clarity. The actual location of all materials, piping, ductwork, fixtures, equipment, supports, etc. shall be carefully planned, prior to installation of any work to avoid all interferences with each other, or with structural, electrical, architectural or other elements. Verify the proper voltage and phase of all equipment with the electrical plans. All conflicts shall be called to the attention of the architect and the engineer prior to the installation of any work or the ordering of any equipment.
2. Cutting, boring, saw cutting or drilling through the new or existing structural elements to be done only when so detailed in the drawings or accepted by the Architect and Structural engineer with the approval of DSA representative.

GRILLE SCHEDULE

CD-1

Titus Model TDC Louvered Face Diffuser with T-Bar mount frame and O.B.D. See diffuser sizing chart for neck sizes.

CD-2

Titus Model TDC Louvered Face Diffuser with flat surface mount frame and O.B.D. See diffuser sizing chart for neck size.

CR-1

Titus Model 50F eggcrate T-Bar mount return grille.

Note: Paint all visible surfaces behind diffusers and grilles flat black.

DIFFUSER SIZING CHART

CFM	TITUS MCD, SQUARE NECK	CFM	TITUS TDC, SQUARE NECK
0 - 200	6" x 6"	0 - 150	6" x 6"
201 - 325	8" x 8"	151 - 275	9" x 9"
326 - 450	10" x 10"	276 - 475	12" x 12"
451 - 600	12" x 12"	476 - 700	15" x 15"
601 - 700	14" x 14"	701 - 950	18" x 18"
701 - 850	16" x 16"	951 - 1250	21" x 21"
851 - 950	18" x 18"	1251 - 1700	24" x 24"
951 - 1150	20" x 20"	1701 - 2500	30" x 30"

The California Energy Code Section 10-103 requires Acceptance Testing on all newly installed lighting controls, mechanical systems, envelopes, and process equipment after installation and before project completion. An Acceptance Test is a functional performance test to help ensure that newly installed equipment is operating and in compliance with the Energy Code.

Lighting controls acceptance tests must be performed by a certified lighting controls Acceptance Test Technician (ATT).

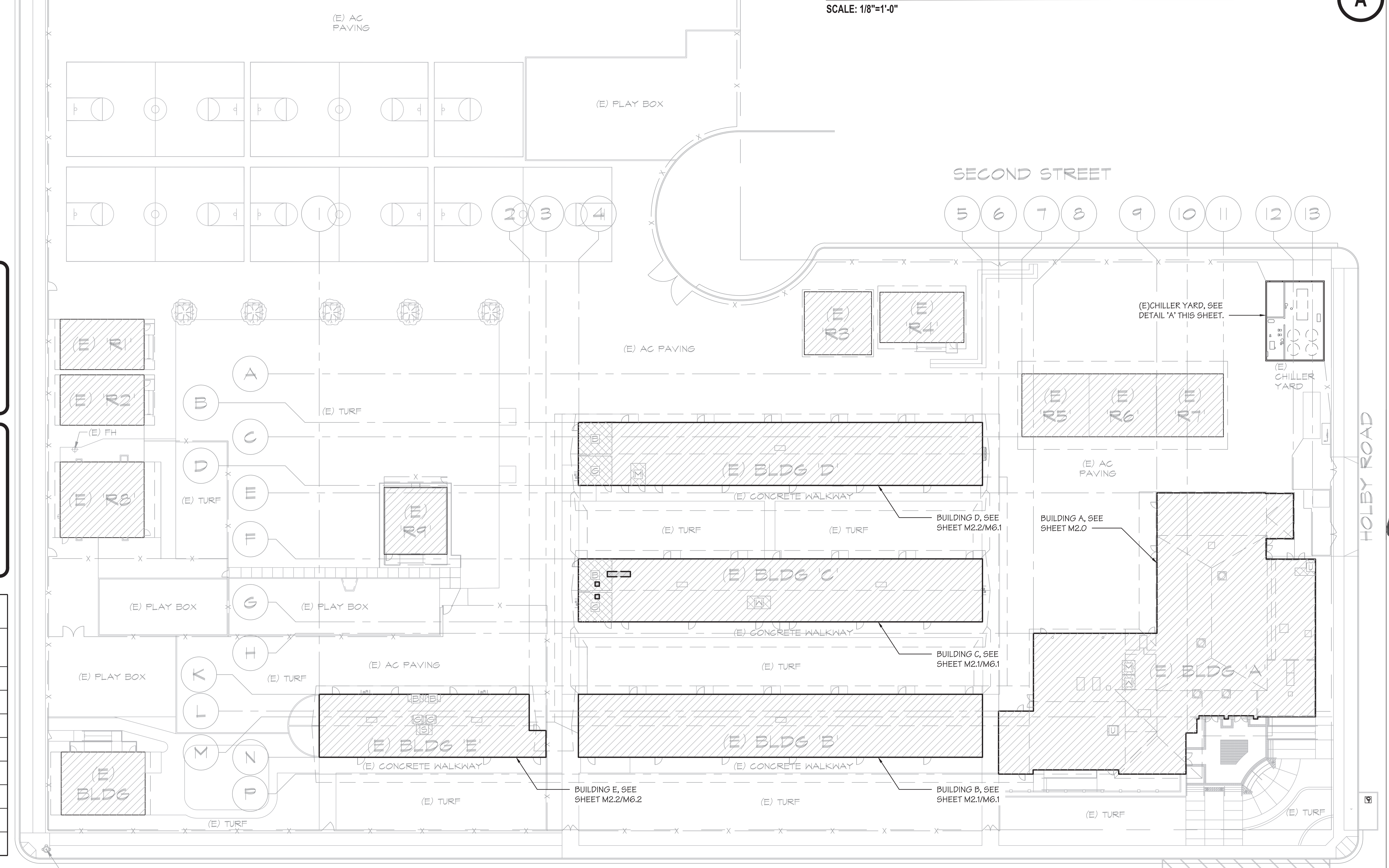
Mechanical system acceptance tests must be performed by a certified mechanical ATT for projects submitted on or after October 1, 2021.

Envelope and process equipment acceptance tests shall be performed by the installing contractor, engineer/architect of record or the owner's agent.

A listing of certified ATT can be found at:
https://www.energy.ca.gov/programs-and-topics/programs/acceptance-test-technician-certification-provider-program/acceptance.

The Acceptance Testing procedures must be repeated, and deficiencies must be corrected by the builder or installing contractor until the construction/installation of the specified systems conform and pass the required acceptance criteria.

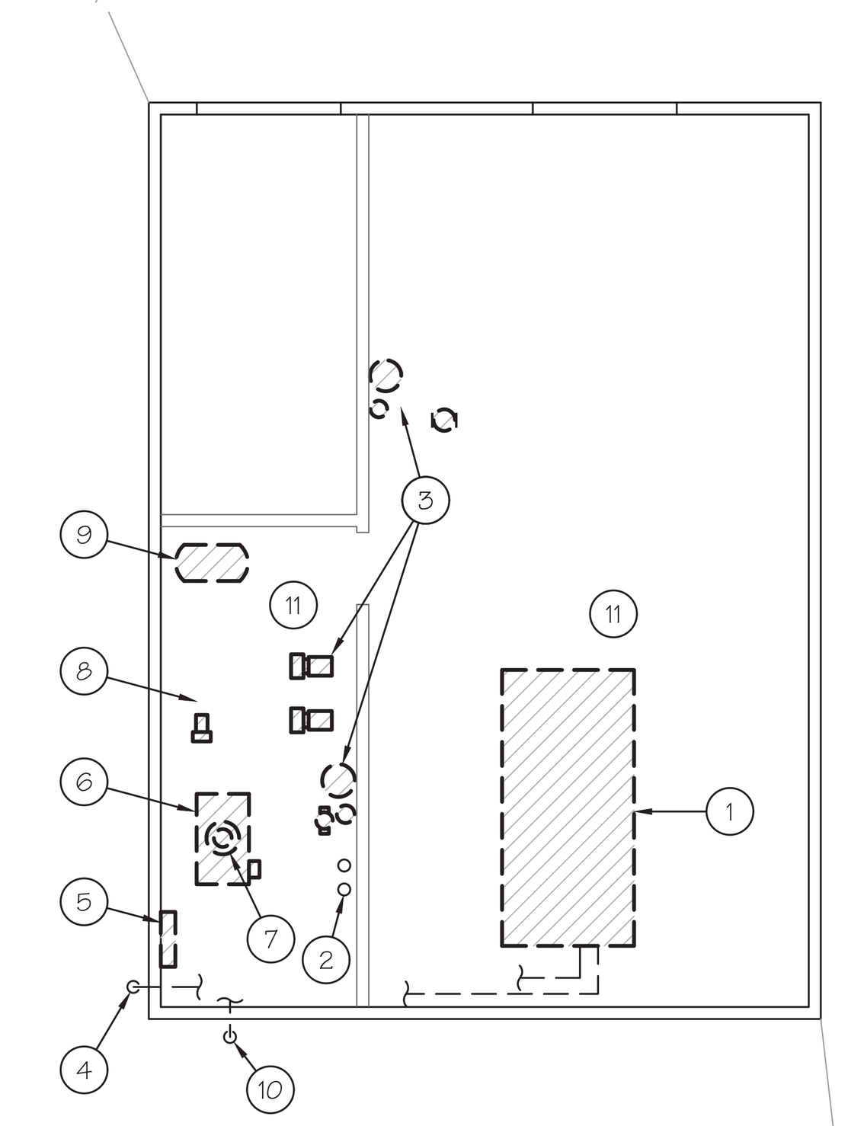
Project inspectors will collect the forms to confirm that the required Acceptance Tests have been completed.



MECHANICAL SITE PLAN
SCALE: 1"=30'-0"

Central Plant Demo Keynotes:

1. Remove existing chiller, all chilled water piping, hangers, supports, etc.
2. Cap mechanical piping at 6" above grade. Abandon existing below grade chilled / hot water loop piping.
3. Remove all existing pumps, expansion tanks, pot feeder, supports, controls, accessories, etc.
4. Demo back domestic CW pipe back to entry into chiller yard and cap.
5. Remove existing EMS and / or analog control panel, all related conduits, wiring, controls, etc.
6. Remove existing boiler, all hot water piping, supports, etc.
7. Remove existing flue thru roof, roof jack, etc.
8. Cap and patch / weatherproof openings in boiler building walls and roof to match existing.
9. Remove existing control air compressor all piping, controls, etc.
10. Demo gas pipe back to 6" inside Boiler Room and cap.
11. Note: Entire central plant chiller yard and boiler room shall be made free of all mechanical, plumbing, electrical, and control items related to items being removed. Confirm exact details based on field conditions.



CHILLER YARD AND BOILER ROOM DEMO PLAN (A)
SCALE: 1/8"=1'-0"

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CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT. ALL CONSTRUCTION SHALL CONFORM TO THE C.B.C.

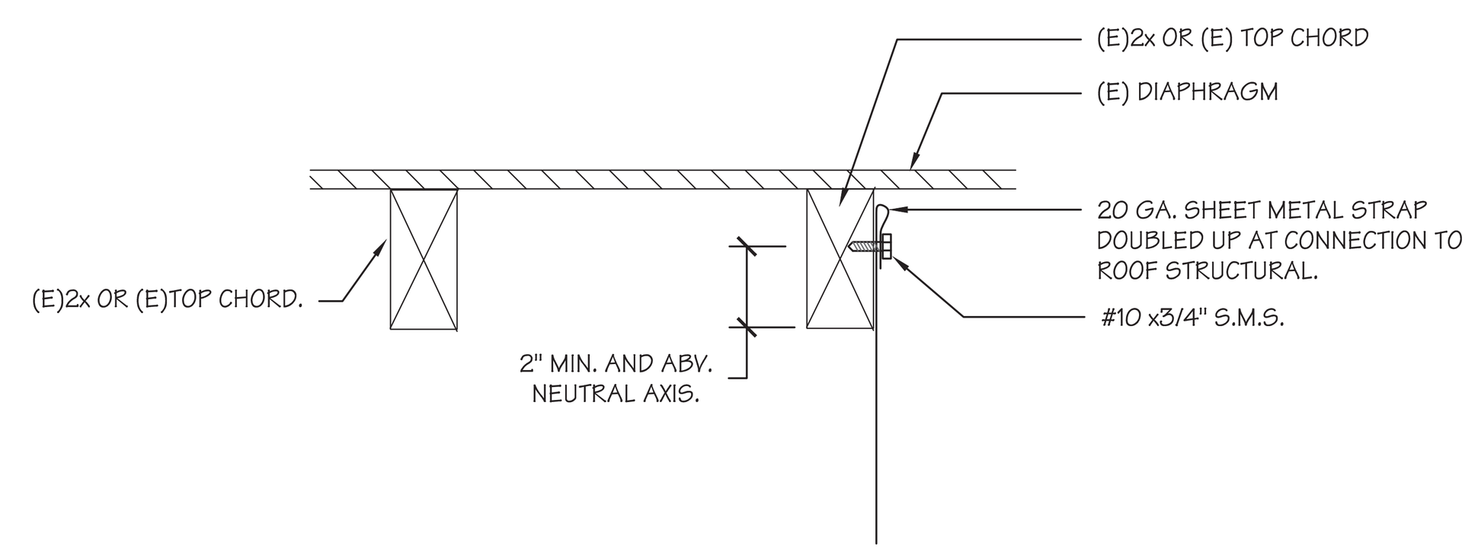
MECHANICAL SITE PLAN

MARK	DATE	REVISIONS
1		
2		
3		

BASKIN MECHANICAL ENGINEERS
175 Fulton Street
Fresno, CA 93721
Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22

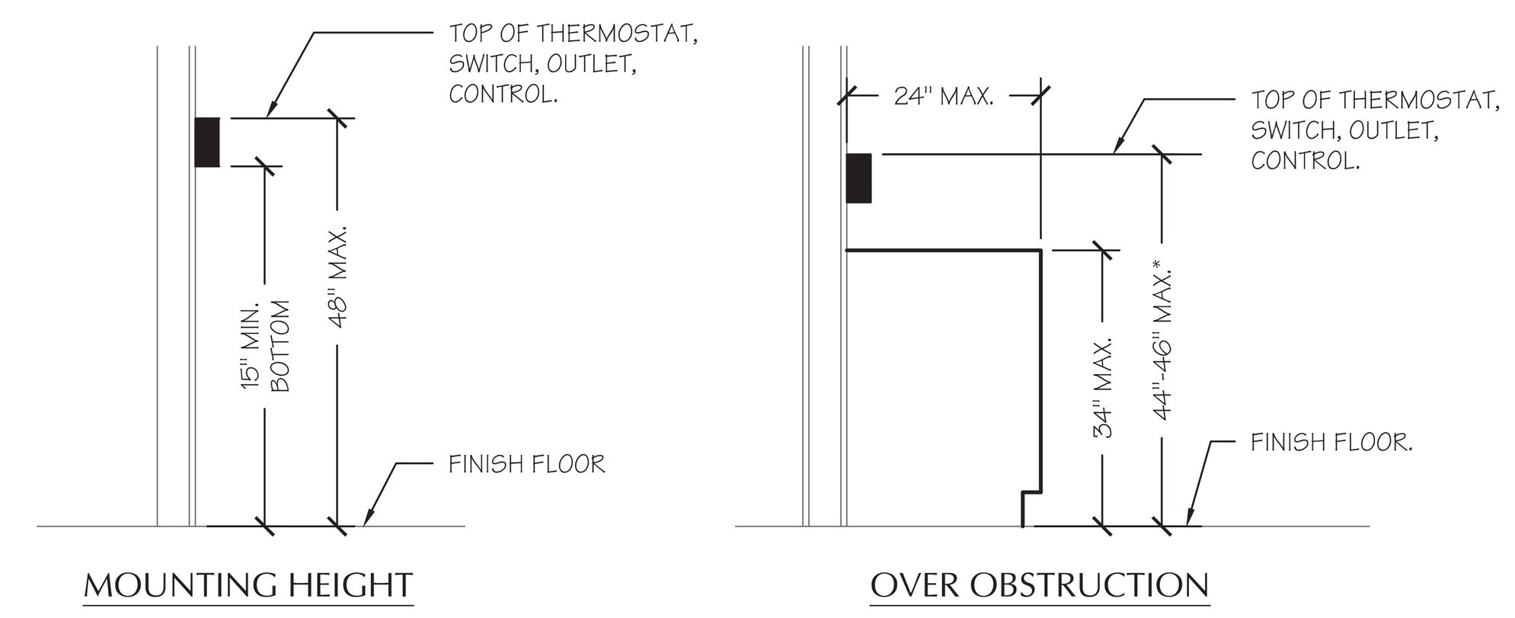
JOB NO. 1317
DRAWN : B.S.
CHECKED : M.B.
DATE : 8/5/21

M 1.0



DUCT HANGER UPPER ATTACHMENT (G)

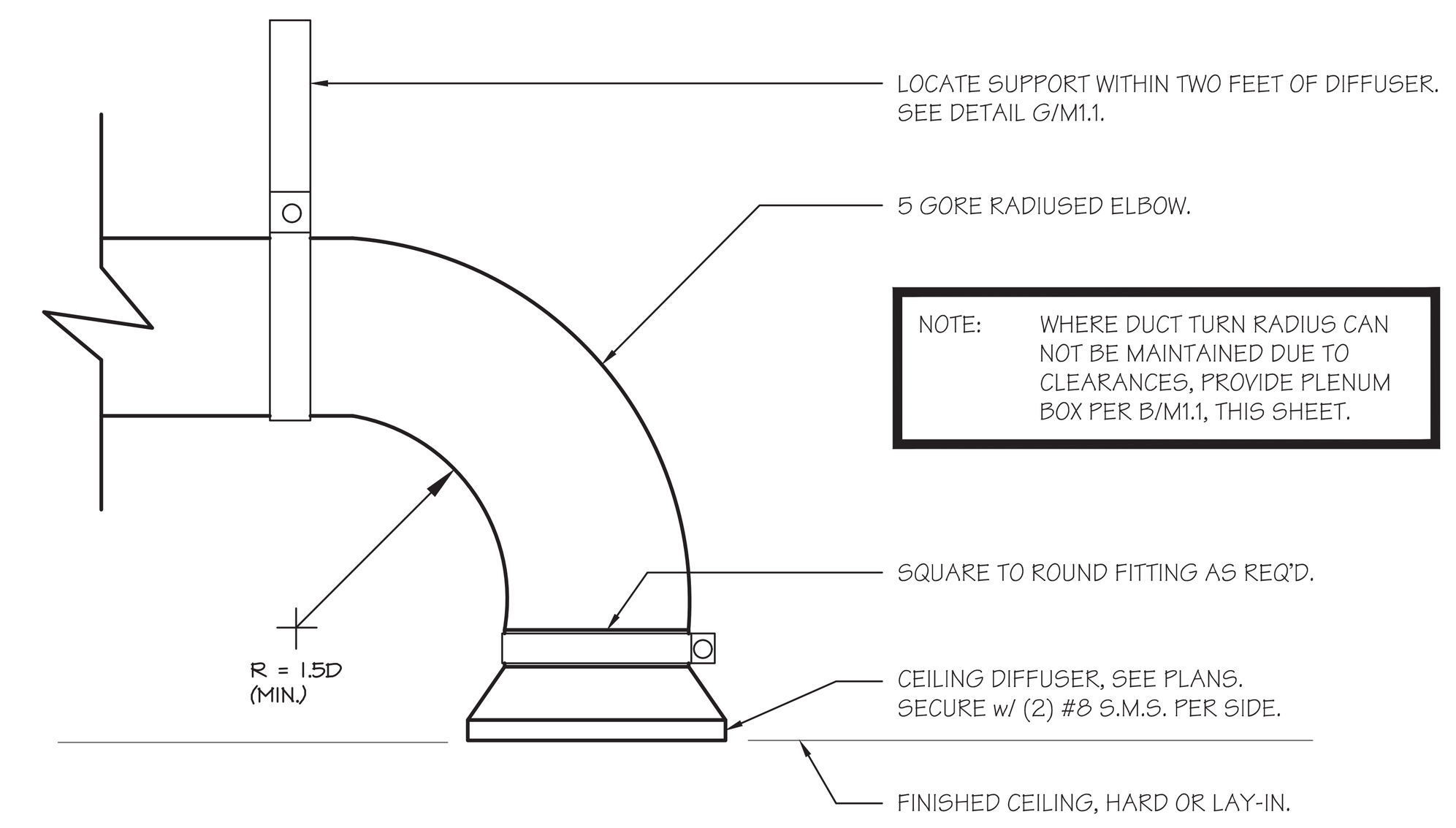
SCALE: N.T.S.



* 44" MAX. FOR WHEEL CHAIR FORWARD APPROACH AND 46" MAX. FOR SIDE APPROACH PER CBC FIGURE 11B-308.2.2 & 11B-308.3.2.

THERMOSTAT MOUNTING LOCATION (D)

SCALE: N.T.S.

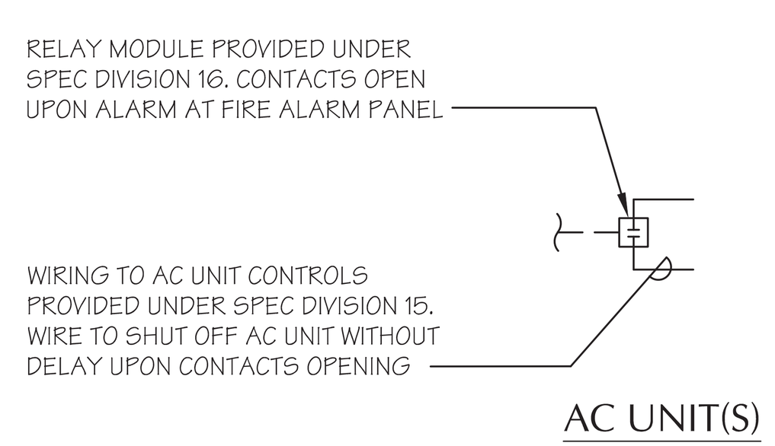


NOTE: WHERE DUCT TURN RADIUS CAN NOT BE MAINTAINED DUE TO CLEARANCES, PROVIDE PLENUM BOX PER B/M1.1, THIS SHEET.

CEILING DIFFUSER/REGISTER CONNECTION (A)

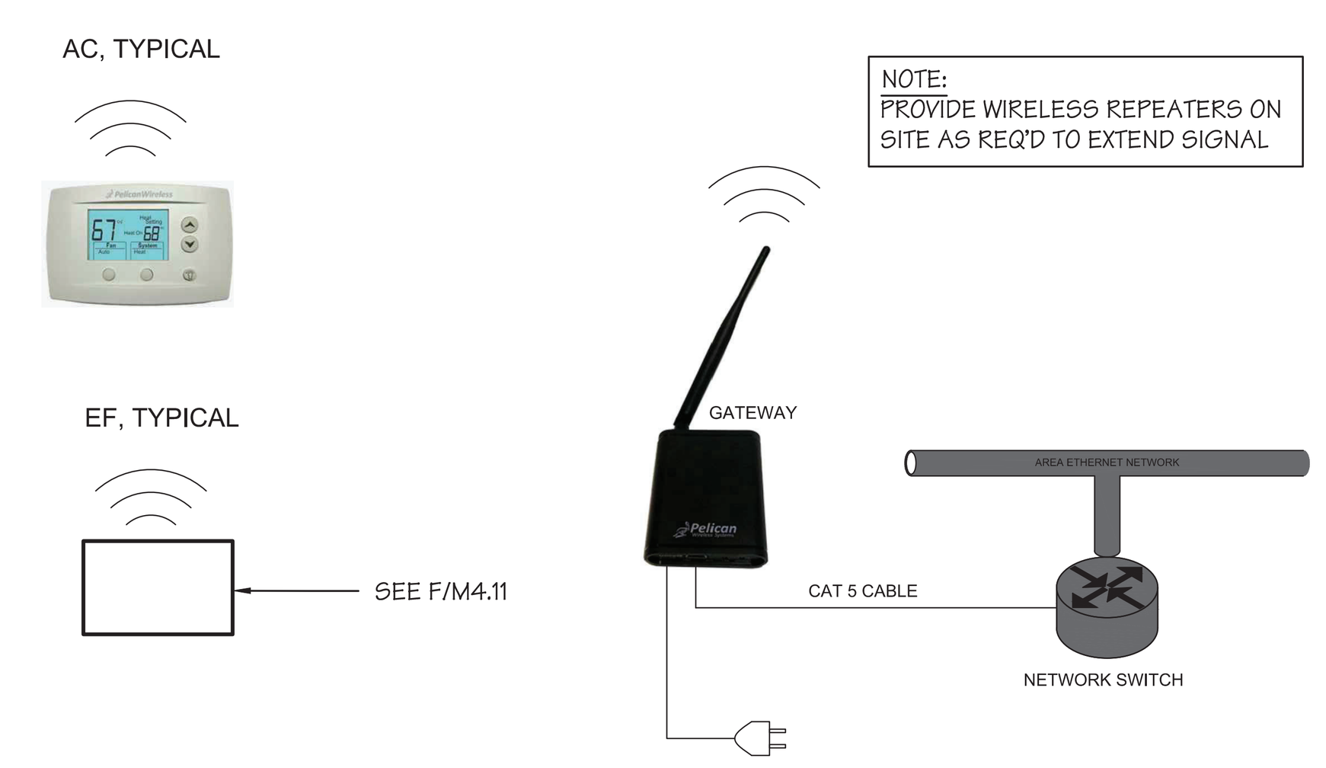
SCALE: N.T.S.

NOTE: RELAY MODULE AT AC UNIT APPLICABLE TO HP-3 ONLY



HP UNIT INTERLOCKS WITH FIRE ALARM PANEL (H)

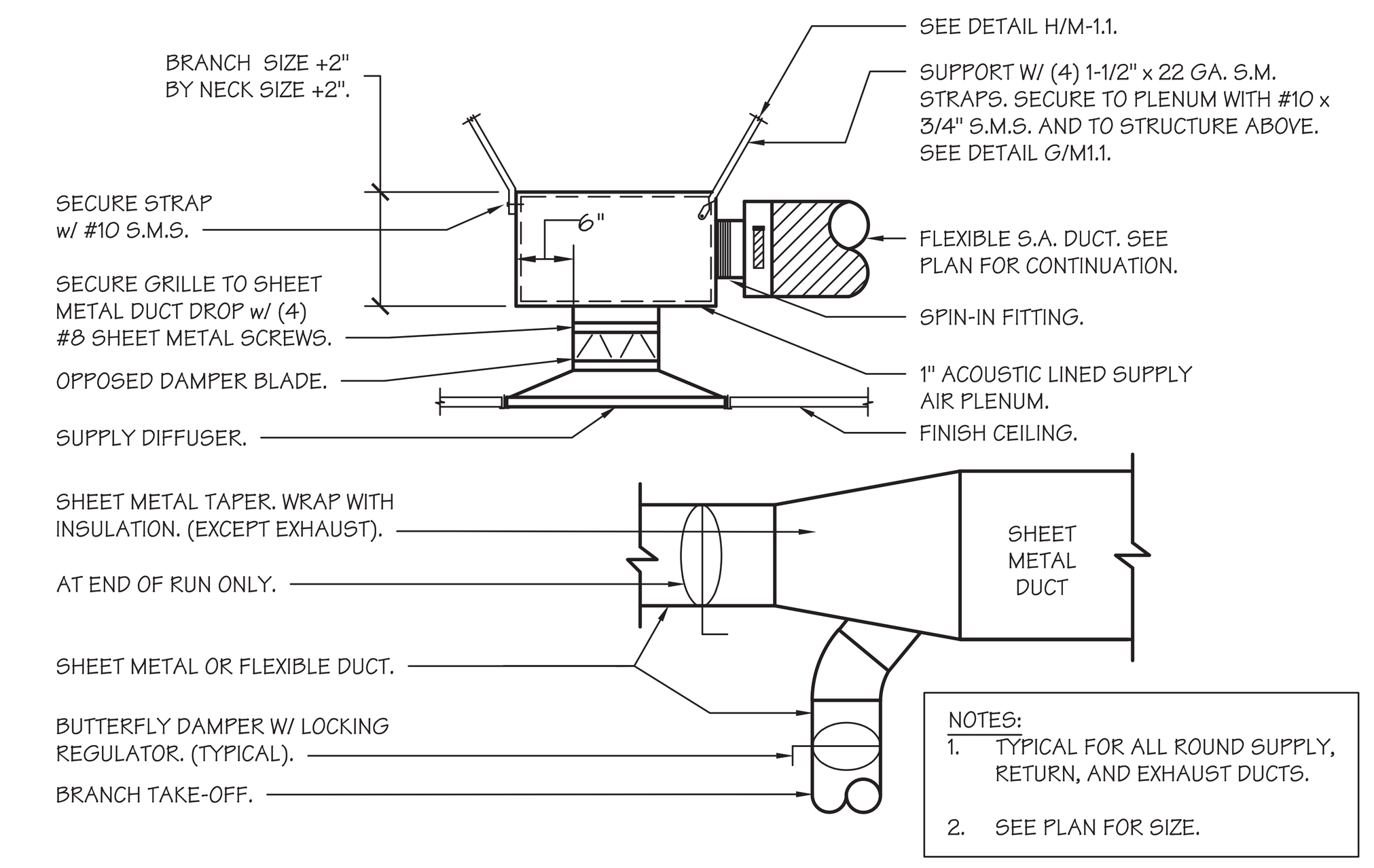
SCALE: N.T.S.



NOTE: PROVIDE WIRELESS REPEATERS ON SITE AS REQ'D TO EXTEND SIGNAL

LAN ARCHITECTURE (E)

SCALE: N.T.S.



NOTES:
1. TYPICAL FOR ALL ROUND SUPPLY, RETURN, AND EXHAUST DUCTS.
2. SEE PLAN FOR SIZE.

SUPPLY AIR PLENUM & BRANCH TAKE-OFFS (B)

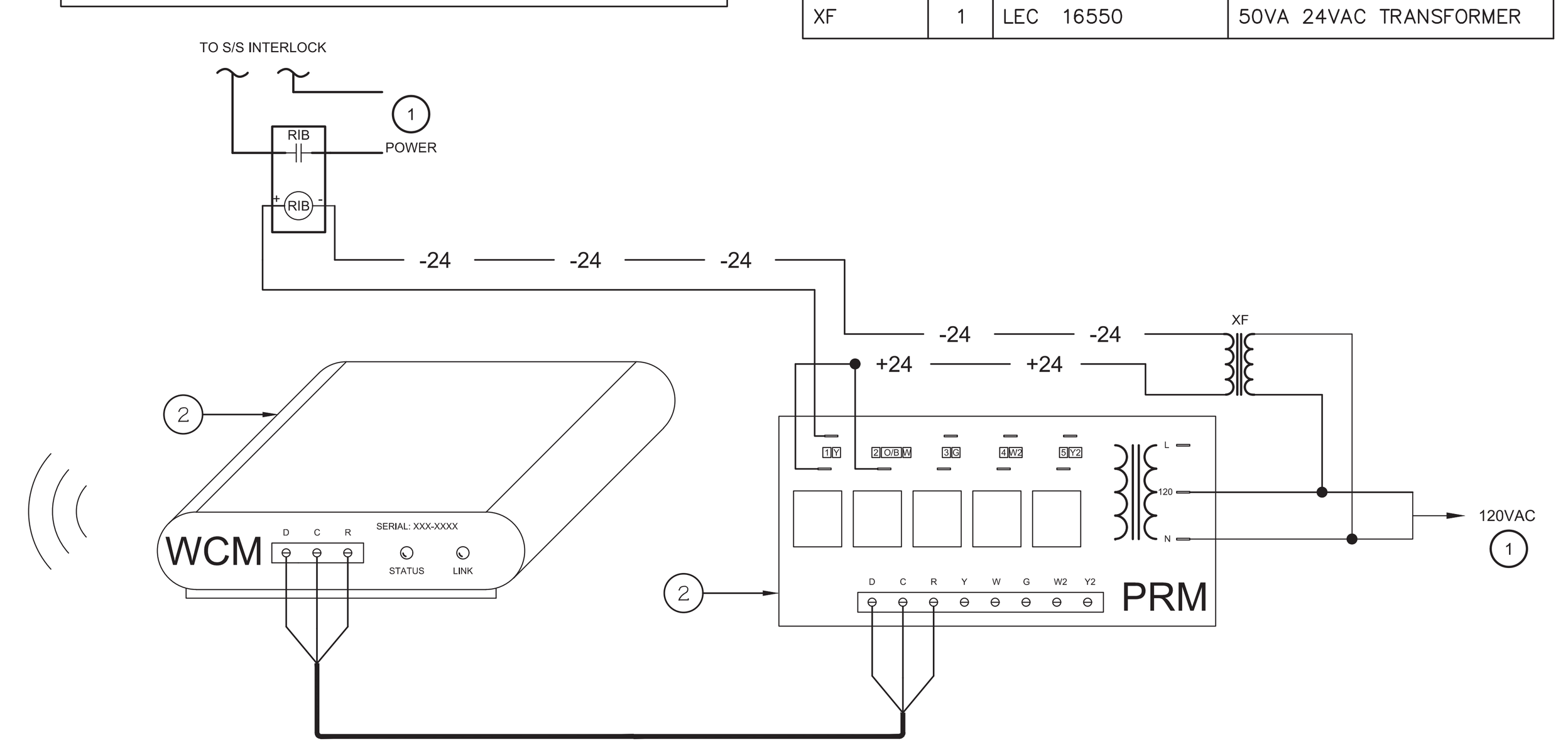
SCALE: N.T.S.

Sheet Notes

1. LINE VOLTAGE & CONDUIT BY DIVISION 26. ELEC. CONTRACTOR
2. INSTALL ABOVE T-BAR CEILING IN CLASSROOM NEAR EX. FAN LOCATION.

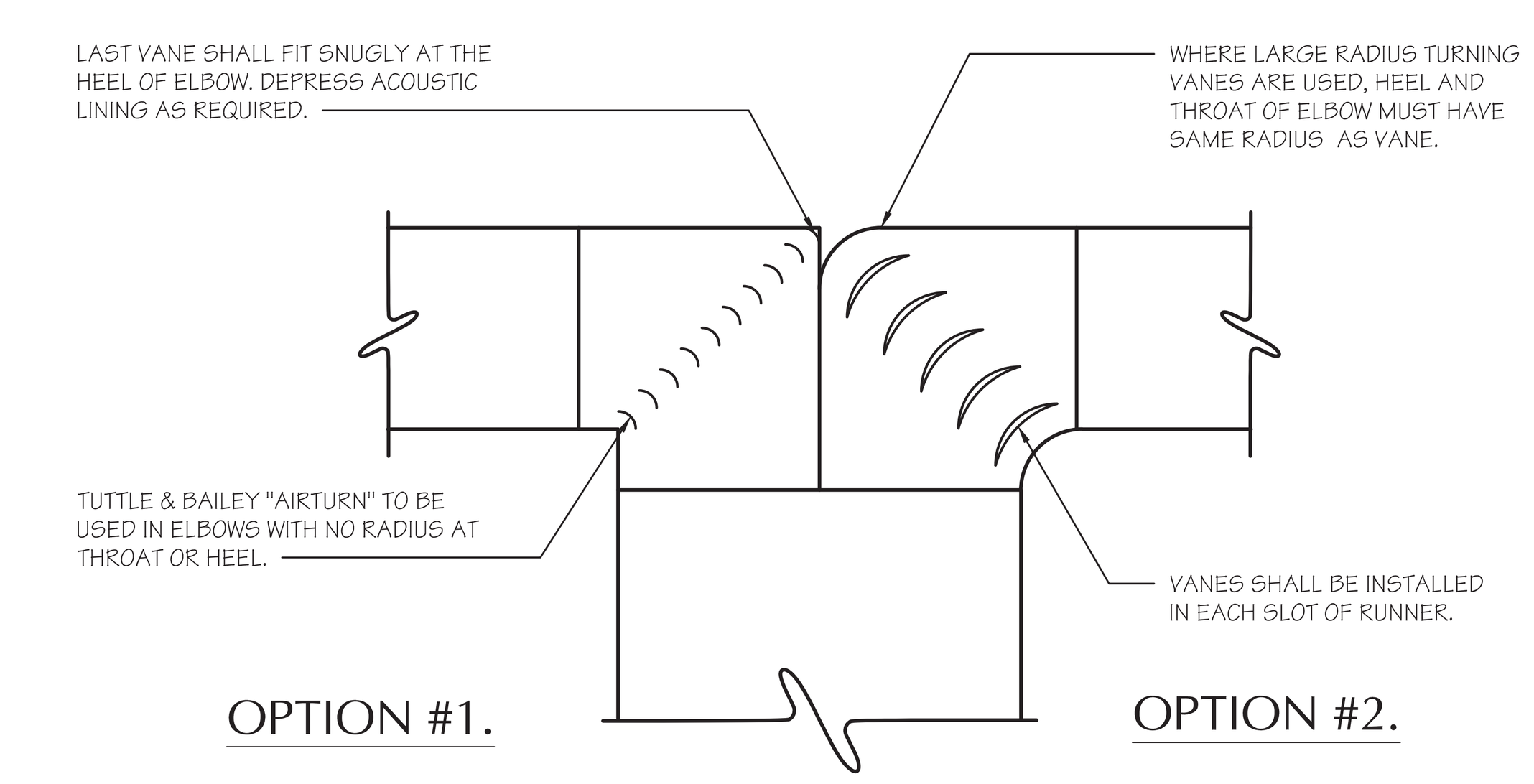
Control Components

TAG	QTY	PART NUMBER	DESCRIPTION
WCM+PRM	1	PEL PM5	WIRELESS RELAY MODULE KIT
RIB	2	FUN RUBU1C	RELAY IN A BOX
XF	1	LEC 16550	50VA 24VAC TRANSFORMER



EX. FAN CONTROL DETAIL (F)

SCALE: N.T.S.



NOTE:
1. TYPICAL FOR ALL RECTANGULAR SUPPLY AND RETURN DUCTS.
2. REFER TO SMACNA FIG. 2-1 & 2-2, TYPICAL.

NINETY DEGREE ELBOW (C)

SCALE: N.T.S.

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MECHANICAL DETAILS

MARK	DATE	REVISIONS
1		
2		
3		

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Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22

JOB NO. 1317
DRAWN: B.S.
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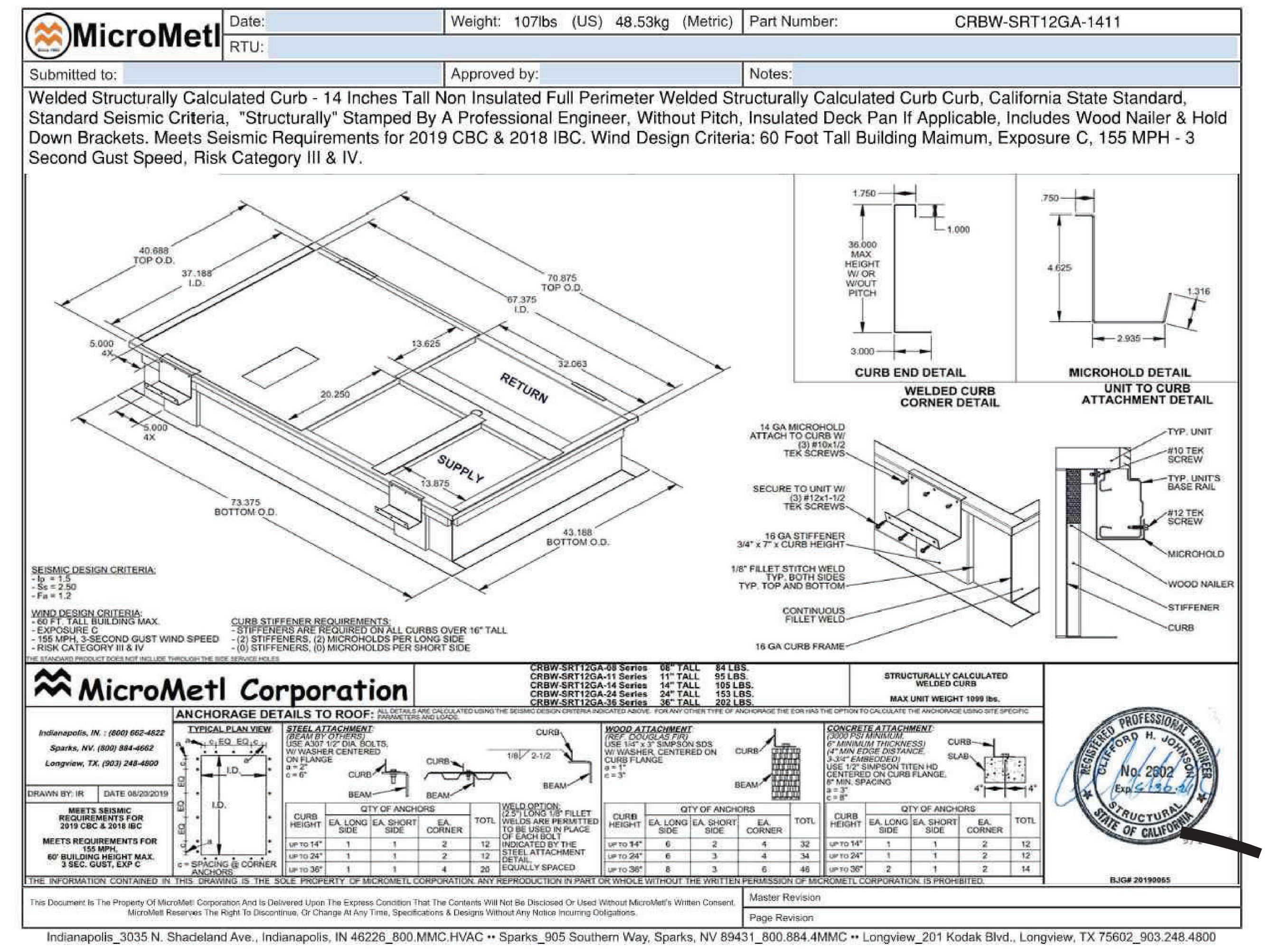
DATE: 8/5/21

M 1.1

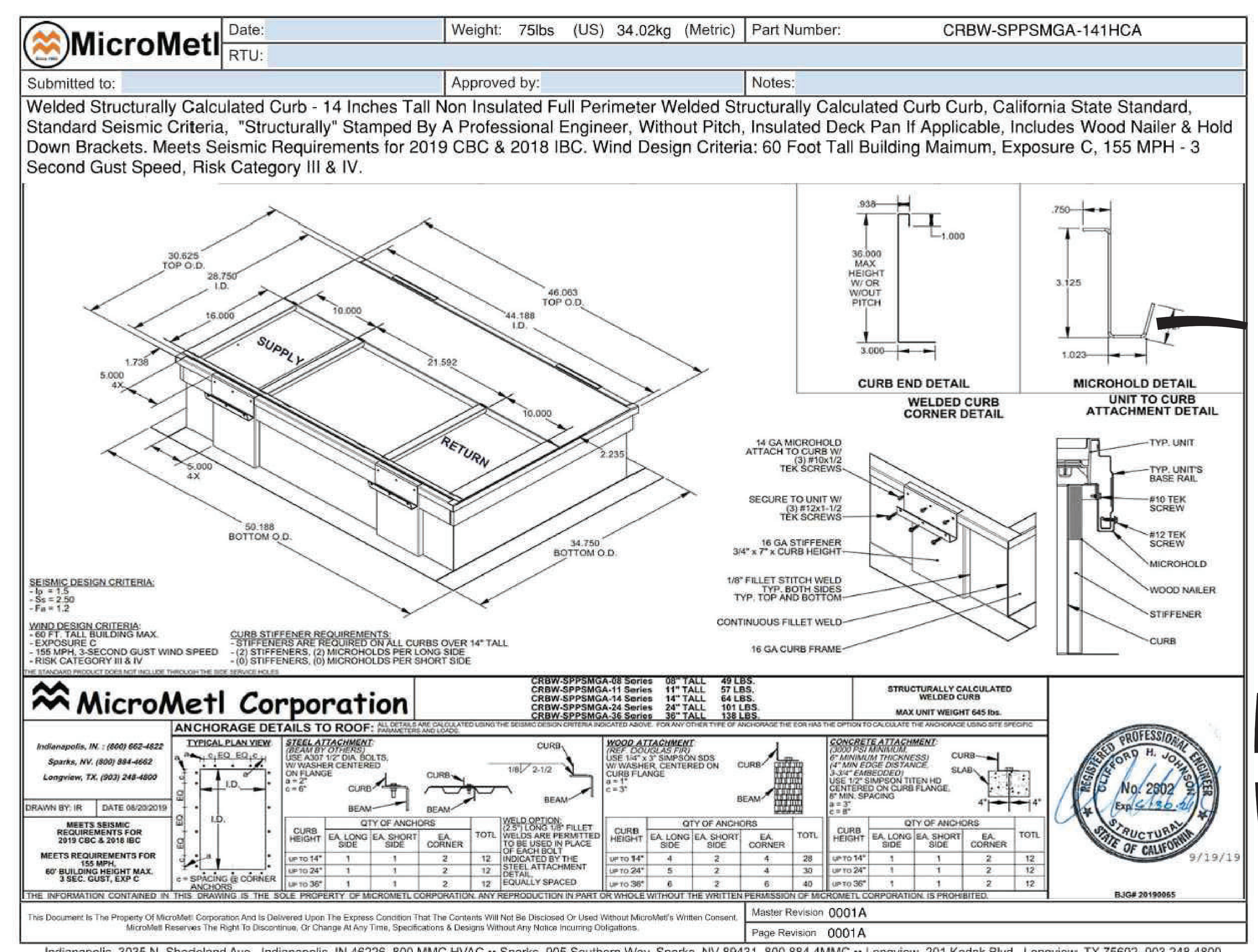


MicroMetl

Date:	Weight: 107lbs (US) 48.53kg (Metric)	Part Number: CRBW-SRT12GA-1411
RTU:		
Submitted to:	Approved by:	Notes:

Welded Structurally Calculated Curb - 14 Inches Tall Non Insulated Full Perimeter Welded Structurally Calculated Curb Curb, California State Standard, Standard Seismic Criteria, "Structurally" Stamped By A Professional Engineer, Without Pitch, Insulated Deck Pan If Applicable, Includes Wood Nailer & Hold Down Brackets. Meets Seismic Requirements for 2019 CBC & 2018 IBC. Wind Design Criteria: 60 Foot Tall Building Maimum, Exposure C, 155 MPH - 3 Second Gust Speed, Risk Category III & IV.

(HP-1,HP-3) UNIT CURB 816 lb. MAX UNIT WT.

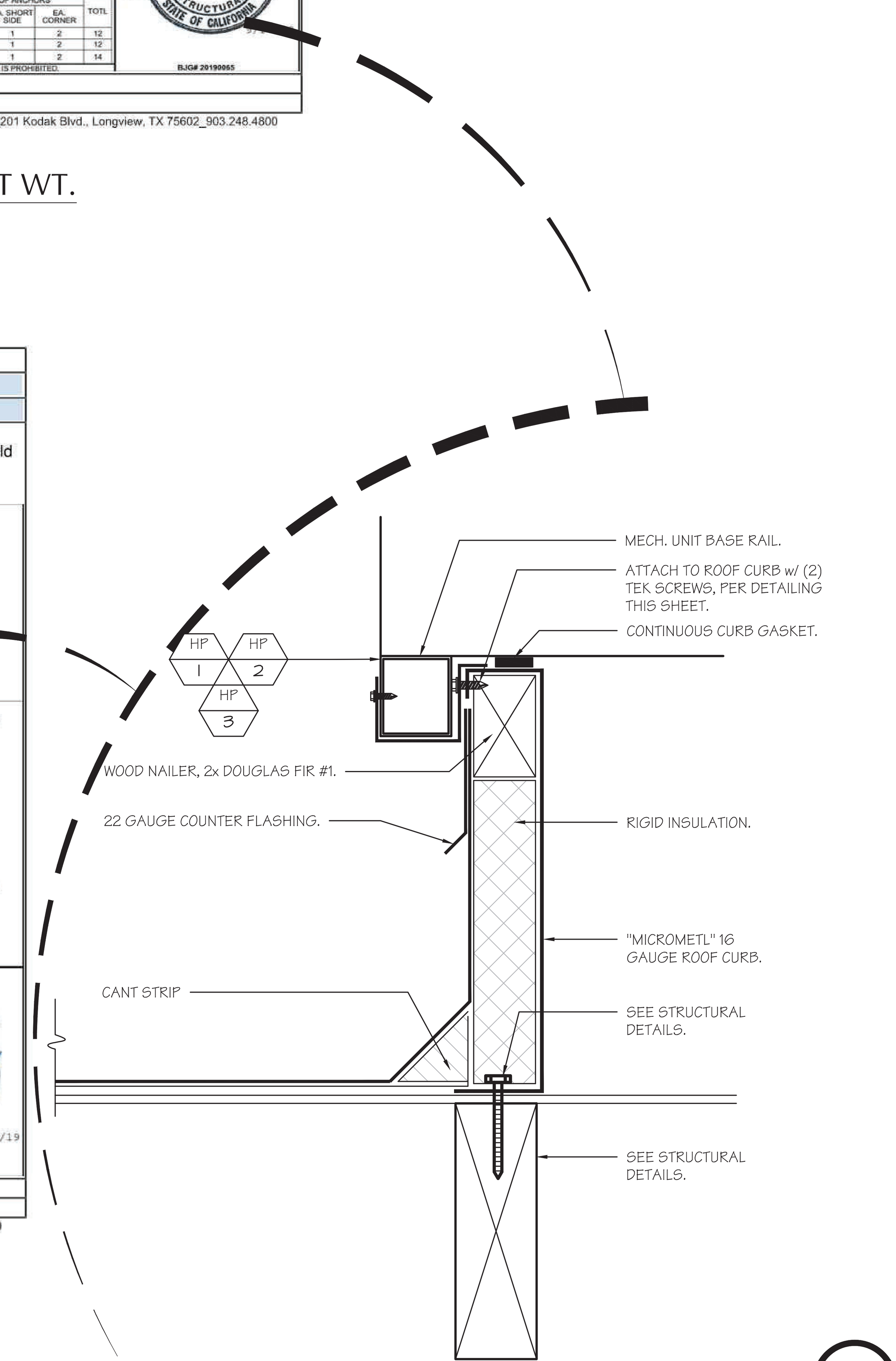


MicroMetl

Date:	Weight: 75lbs (US) 34.02kg (Metric)	Part Number: CRBW-SPPSMGA-141HCA
RTU:		
Submitted to:	Approved by:	Notes:

Welded Structurally Calculated Curb - 14 Inches Tall Non Insulated Full Perimeter Welded Structurally Calculated Curb Curb, California State Standard, Standard Seismic Criteria, "Structurally" Stamped By A Professional Engineer, Without Pitch, Insulated Deck Pan If Applicable, Includes Wood Nailer & Hold Down Brackets. Meets Seismic Requirements for 2019 CBC & 2018 IBC. Wind Design Criteria: 60 Foot Tall Building Maimum, Exposure C, 155 MPH - 3 Second Gust Speed, Risk Category III & IV.

(HP-2) UNIT CURB 326 lb. MAX UNIT WT.



UNIT ANCHORAGE

SCALE: N.T.S.

A

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MECHANICAL DETAILS

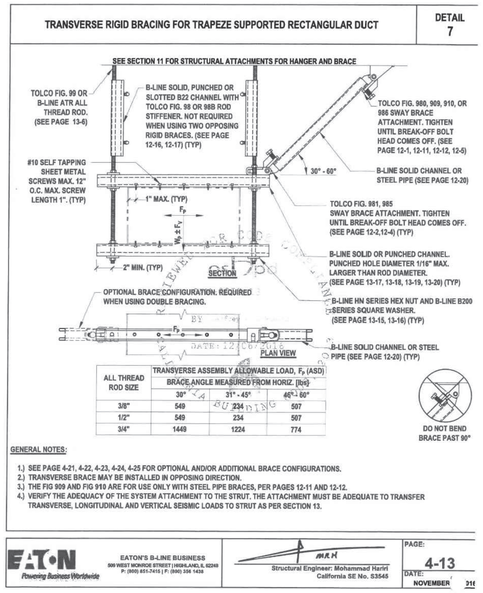
MARK	DATE	REVISIONS
1		
2		
3		

REGISTERED PROFESSIONAL ENGINEER
No. M26579
Exp. 9-30-24
MECHANICAL
STATE OF CALIFORNIA

bme BASKIN MECHANICAL ENGINEERS
175 Fulton Street
Fresno, CA 93721
Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22

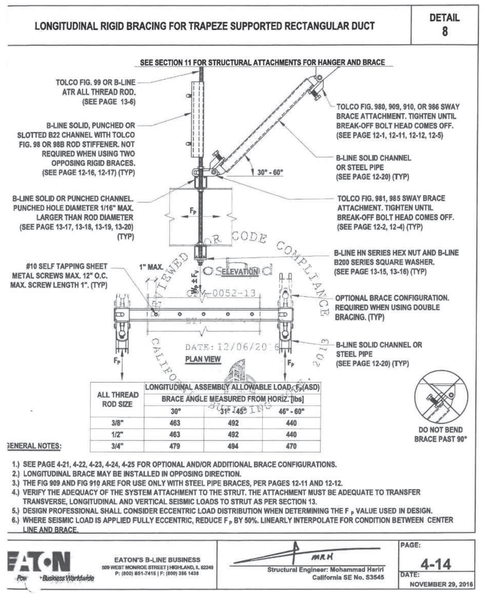
JOB NO. 1317
DRAWN: B.S.
CHECKED: M.B.
DATE: 8/5/21

M 1.2



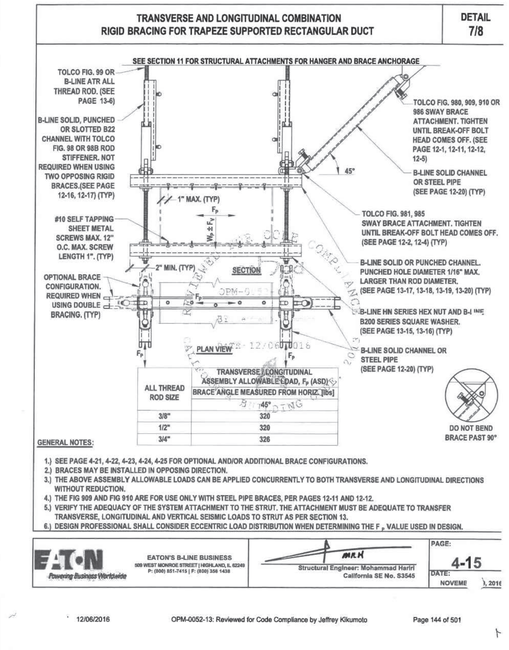
TRANSVERSE RIGID BRACING FOR TRAPEZE SUPPORTED RECTANGULAR DUCT (A)

SCALE: N.T.S.



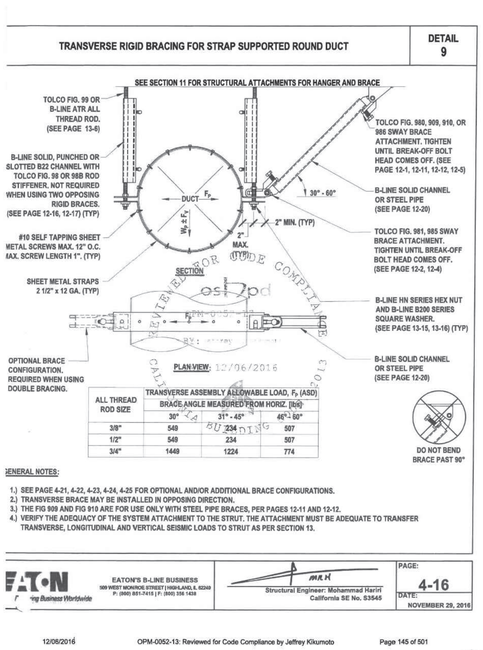
LONGITUDINAL RIGID BRACING FOR TRAPEZE SUPPORTED RECTANGULAR DUCT (B)

SCALE: N.T.S.



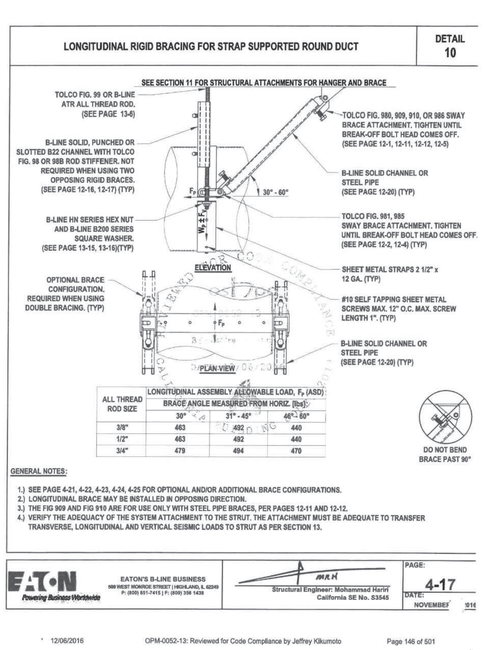
TRANSVERSE & LONGITUDINAL COMBINATION RIGID BRACING FOR TRAPEZE SUPPORTED RECTANGULAR DUCT (C)

SCALE: N.T.S.



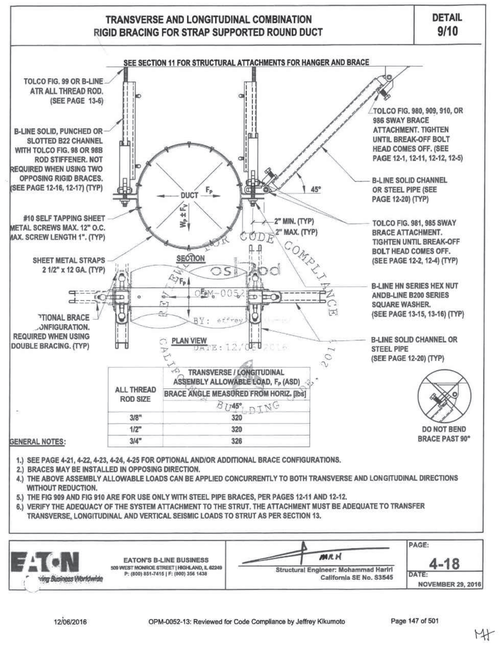
TRANSVERSE RIGID BRACING FOR STRAP SUPPORTED ROUND DUCT (D)

SCALE: N.T.S.



LONGITUDINAL RIGID BRACING FOR STRAP SUPPORTED ROUND DUCT (E)

SCALE: N.T.S.



TRANSVERSE & LONGITUDINAL COMBINATION RIGID BRACING FOR STRAP SUPPORTED ROUND DUCT (F)

SCALE: N.T.S.

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SS ☑ FLS ☑ ACS ☑
DATE: 07/05/2023

PTN : 63321- FILE: 15-6

ROOSEVELT ELEMENTARY SCHOOL
MODERNIZATION
2324 VERDE STREET
FOR
BAKERSFIELD CITY SCHOOL DISTRICT
BAKERSFIELD, KERN COUNTY, CALIFORNIA

ARCHITECT S.C. inc.
1601 NEW STINE ROAD, SUITE 280
BAKERSFIELD, CA 93309
PH: (661) 397-4377
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LICENSED ARCHITECT STEPHEN C. CARR No. 18788 STATE OF CALIFORNIA
STEPHEN C. CARR, AIA, LEED ® AP

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT. ALL CONSTRUCTION SHALL CONFORM TO THE C.B.C.

MECHANICAL DETAILS

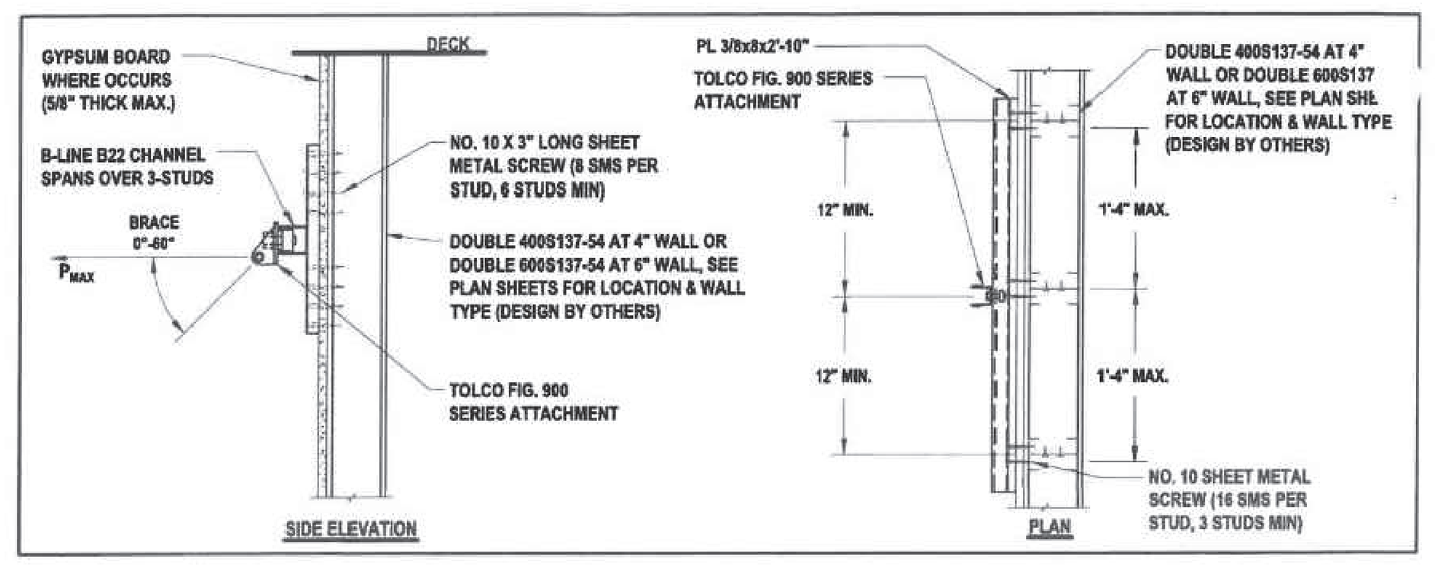
MARK	DATE	REVISIONS
1		
2		
3		

REGISTERED PROFESSIONAL ENGINEER MARK JAMES BASKIN No. M26578 Exp. 06-30-24 MECHANICAL STATE OF CALIFORNIA
BASKIN MECHANICAL ENGINEERS
175 Fulton Street
Fresno, CA 93721
Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22

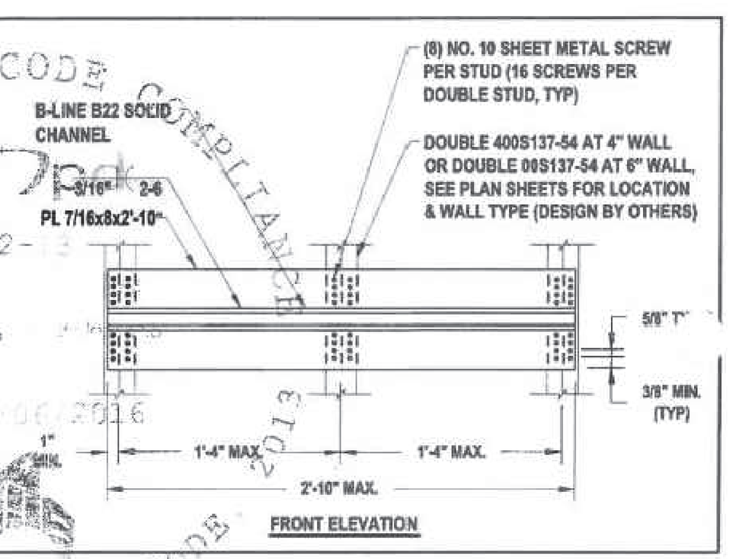
JOB NO. 1317
DRAWN : B.S.
CHECKED : M.B.
DATE : 8/5/21

M
1.3

BRACE ATTACHMENT TO STUD WALL



P_{MAX} MAXIMUM HORIZONTAL ALLOWABLE LOAD (LB)(ASD) (TOTAL OF ALL APPLIED INDIVIDUAL LOADS SHALL NOT EXCEED P_{MAX})
500



NOTES:

1.) STRUCTURAL ENGINEER OF RECORD SHALL VERIFY ADEQUACY OF STRUCTURE TO RESIST ALL BRACE LOADS.
2.) ALLOWABLE HORIZONTAL SEISMIC LOAD = 500 LBS AT 0°-60° ANGLE MEASURED FROM HORIZONTAL.
3.) LOADS ARE BASED ON ALLOWABLE STRENGTH DESIGN.

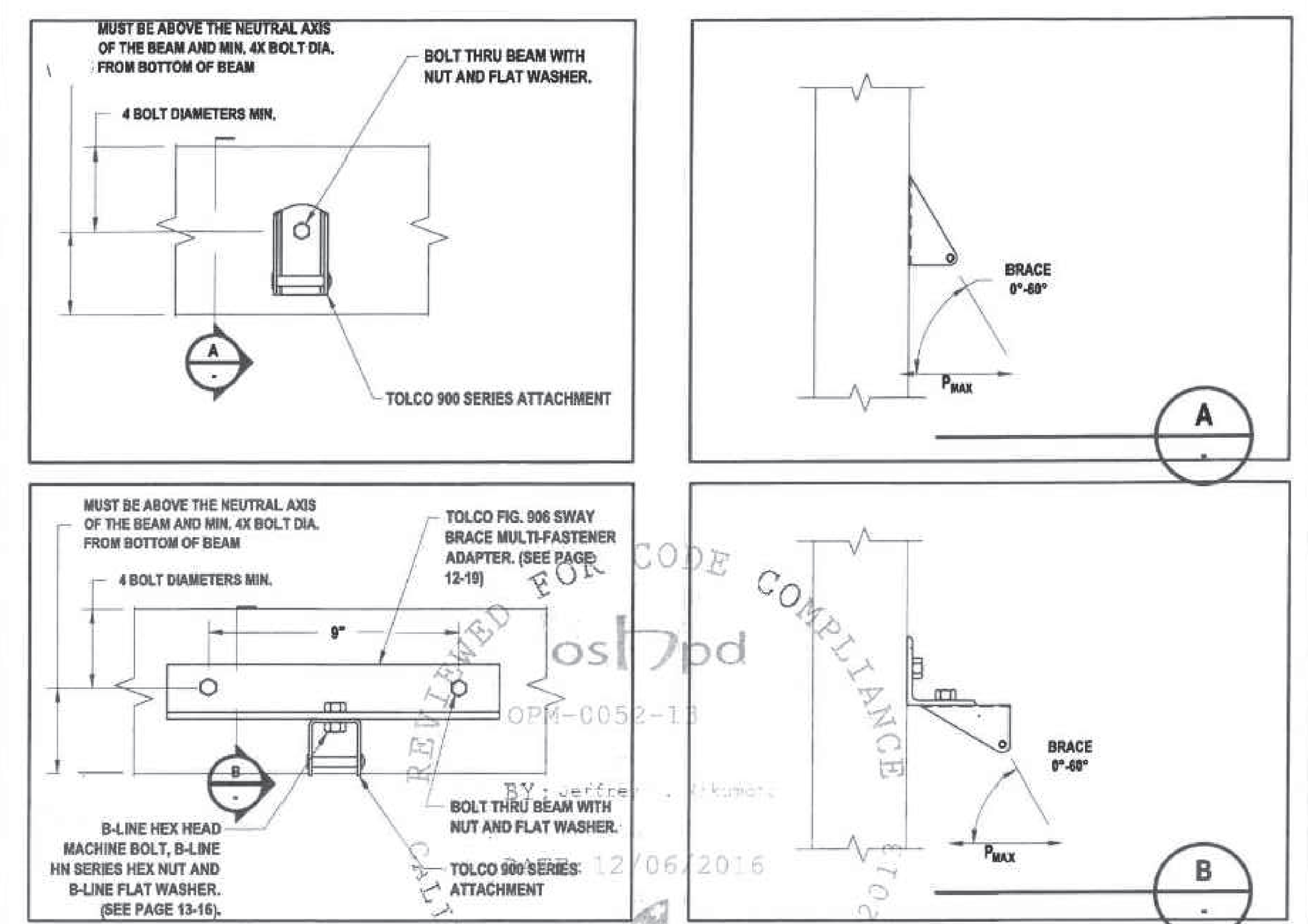
EATON Powering Business Worldwide — EATON'S B-LINE BUSINESS, 509 WEST MONROE STREET | HIGHLAND, IL 62249, P: (800) 851-7415 | F: (800) 356 1438 — Structural Engineer: Mohammad Hariri, California SE No. S3545 — PAGE: 11-61 — DATE: NOVEMBER ...016

12/06/2016 OPM-0052-13: Reviewed for Code Compliance by Jeffrey Kikumoto Page 404 of 501

BRACE ATTACHMENT TO STUD WALL (A)

SCALE: N.T.S.

THRU-BOLT STRUCTURAL ATTACHMENTS PERPENDICULAR TO WOOD BEAM



BOLT DIAMETER	ALLOWABLE STRENGTH DESIGN (ASD) MAX. HORIZONTAL LOAD (P_{MAX}) BRACE ANGLE MEASURED FROM HORIZONTAL (LB)					
	1 BOLT			2 BOLT		
	0° - 30°	31° - 45°	46° - 60°	0° - 30°	31° - 45°	46° - 60°
1/2"	300	300	300	600	600	460
5/8"	360	360	360	720	720	460
3/4"	400	400	400	800	800	460

NOTES:

1.) BOLT HOLES SHALL BE BORED 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER.
2.) LOADS FOR THRU-BOLT ATTACHMENTS WERE DERIVED FROM CCR TITLE 24, PART 2, HOLDING POWER OF BOLTS FOR DOUGLAS FIR, LARCH, CALIFORNIA REDWOOD (CLOSE GRAIN) AND SOUTHERN PINE.
3.) MINIMUM BEAM SIZE = 4x
4.) STRUCTURAL ENGINEER OF RECORD SHALL VERIFY ADEQUACY OF THE STRUCTURE FOR THE TABULATED ALLOWABLE LOADS, INCLUDING BUT NOT LIMITED TO ANY BLOCKING REQUIREMENTS.

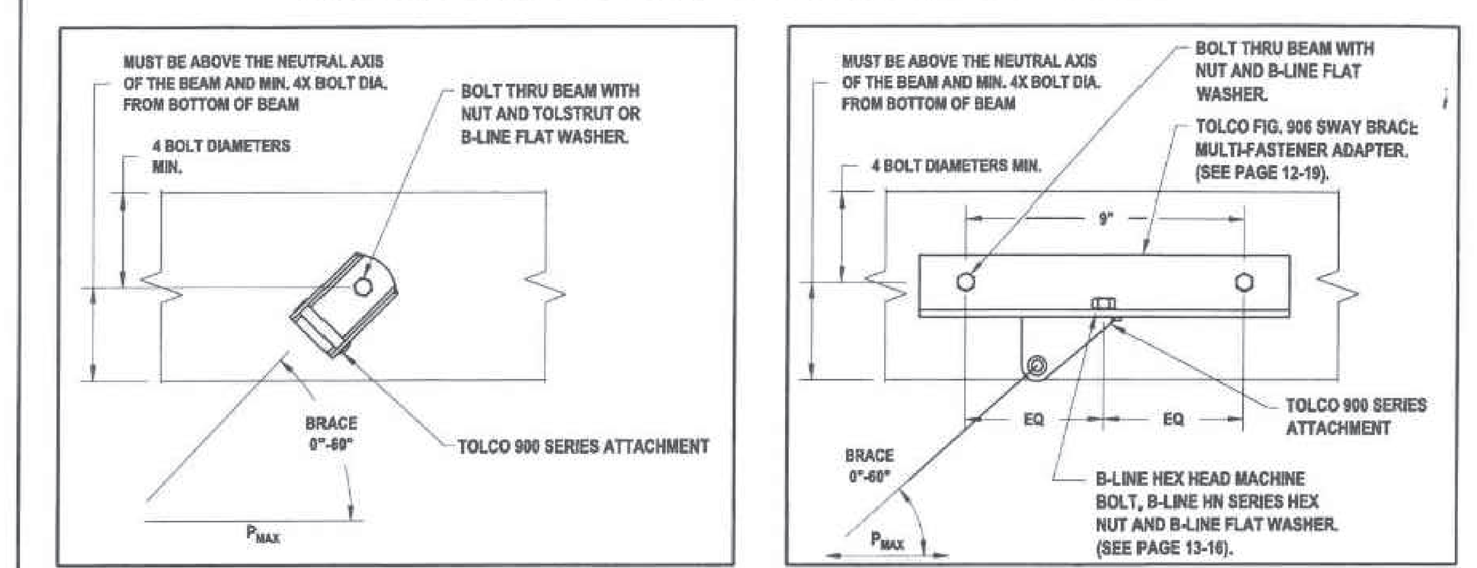
EATON Powering Business Worldwide — EATON'S B-LINE BUSINESS, 509 WEST MONROE STREET | HIGHLAND, IL 62249, P: (800) 851-7415 | F: (800) 356 1438 — Structural Engineer: Mohammad Hariri, California SE No. S3545 — PAGE: 11-62 — DATE: NOVEMBER 29, 2016

12/06/2016 OPM-0052-13: Reviewed for Code Compliance by Jeffrey Kikumoto Page 405 of 501

THRU-BOLT STRUCTURAL ATTACHMENTS PERPENDICULAR TO WOOD BEAM (B)

SCALE: N.T.S.

THRU-BOLT STRUCTURAL ATTACHMENTS PARALLEL TO WOOD BEAM



BOLT DIAMETER	ALLOWABLE STRENGTH DESIGN (ASD) MAX. HORIZONTAL LOAD (P_{MAX}) BRACE ANGLE MEASURED FROM HORIZONTAL (LB)					
	1 BOLT			2 BOLT		
	0° - 30°	31° - 45°	46° - 60°	0° - 30°	31° - 45°	46° - 60°
1/2"	260	260	260	440	440	440
5/8"	320	320	320	540	540	460
3/4"	380	380	380	600	600	460

NOTES:

1.) BOLT HOLES SHALL BE BORED 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER.
2.) LOADS FOR THRU-BOLT ATTACHMENTS WERE DERIVED FROM CBC 2013 AND NDS 2005 FOR DOUGLAS FIR-LARCH [S.G. = 0.50], CALIFORNIA REDWOOD (CLOSE GRAIN) [S.G. = 0.44] AND SOUTHERN PINE [S.G. = 0.55].
3.) MINIMUM BEAM SIZE = 4x
4.) STRUCTURAL ENGINEER OF RECORD SHALL VERIFY ADEQUACY OF THE STRUCTURE FOR THE TABULATED ALLOWABLE LOADS, INCLUDING BUT NOT LIMITED TO ANY BLOCKING REQUIREMENTS.
5.) FASTENERS SHALL BE A307 BOLTS OR BETTER.

EATON Powering Business Worldwide — EATON'S B-LINE BUSINESS, 509 WEST MONROE STREET | HIGHLAND, IL 62249, P: (800) 851-7415 | F: (800) 356 1438 — Structural Engineer: Mohammad Hariri, California SE No. S3545 — PAGE: 11-63 — DATE: NOVEMBE... 2016

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THRU-BOLT STRUCTURAL ATTACHMENTS PARALLEL TO WOOD BEAM (C)

SCALE: N.T.S.

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ROOSEVELT ELEMENTARY SCHOOL
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2324 VERDE STREET
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BAKERSFIELD, KERN COUNTY, CALIFORNIA

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STEPHEN ... AIA, LEED AP

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MECHANICAL DETAILS

MARK	DATE	REVISIONS
1		
2		
3		

bme BASKIN MECHANICAL ENGINEERS
175 Fulton Street
Fresno, CA 93721
Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22

JOB NO. 1317
DRAWN: B.S.
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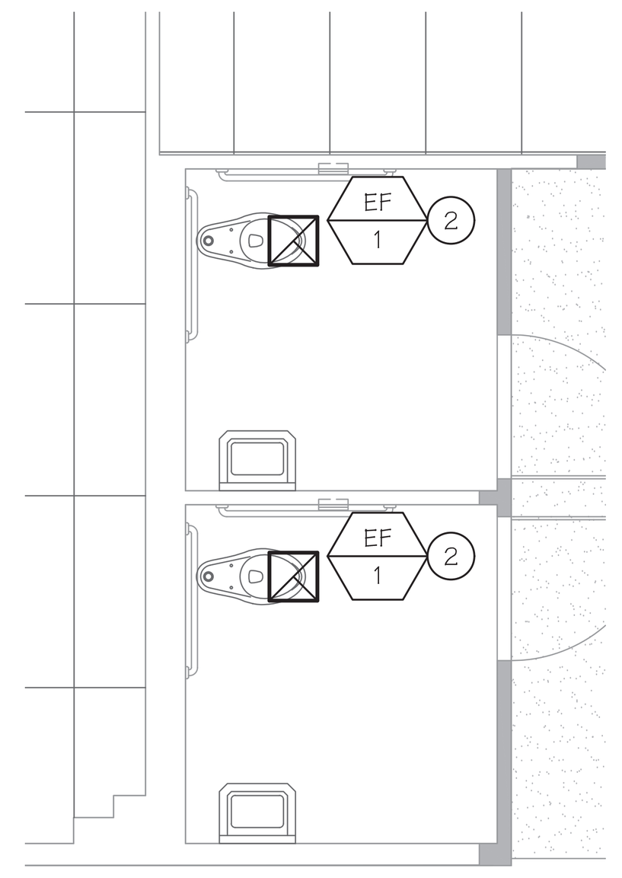
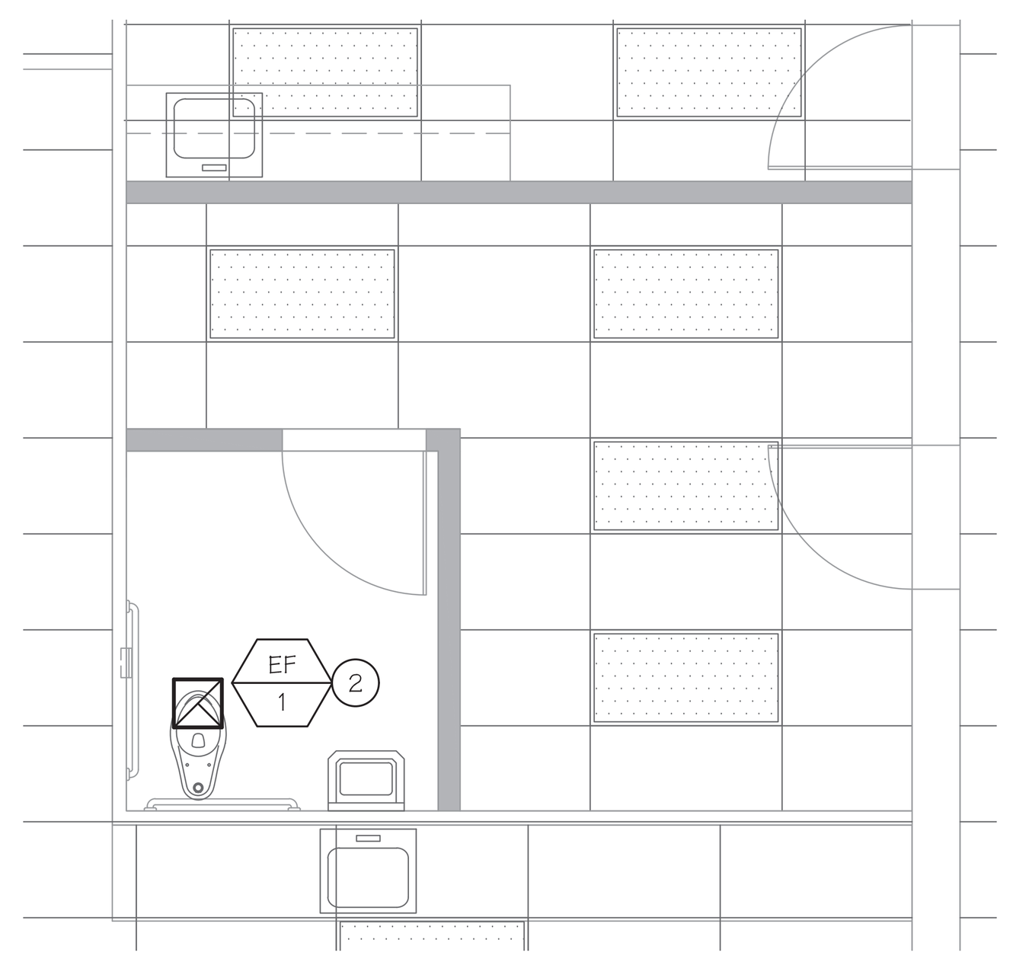
DATE: 8/5/21

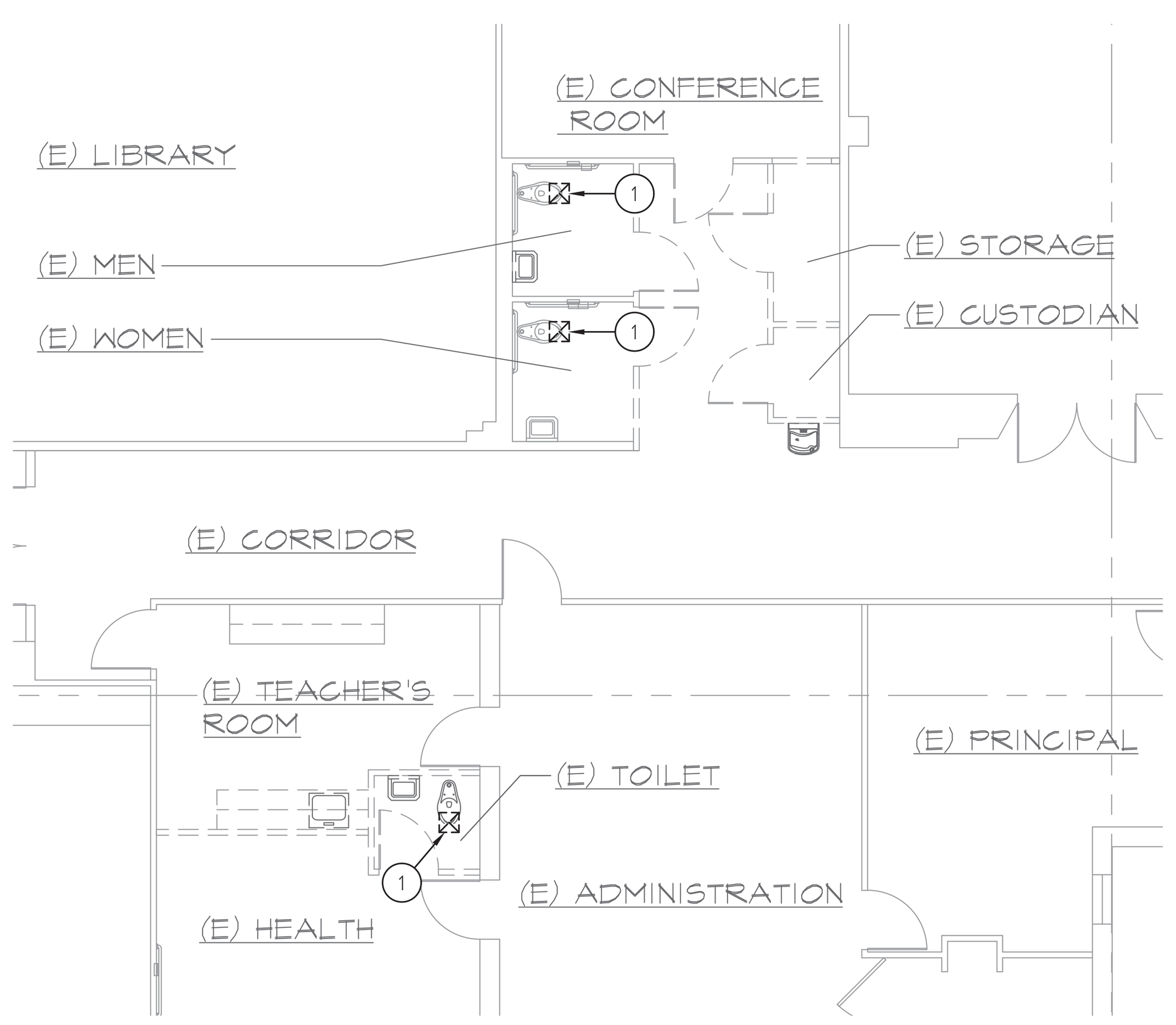
M 1.4



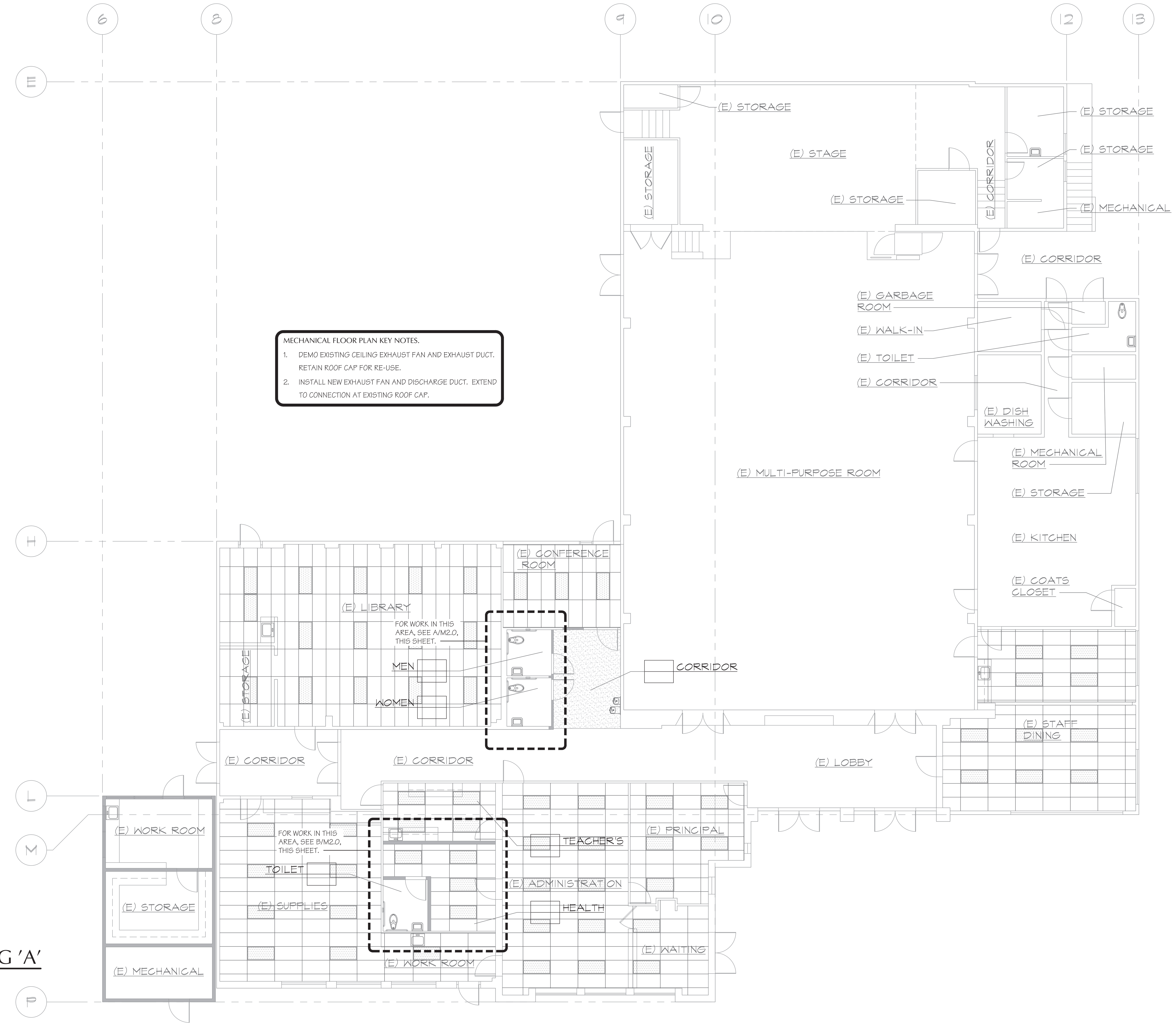
PARTIAL MECHANICAL PLAN (A)
SCALE: 1/4"=1'-0"



PARTIAL MECHANICAL PLAN (B)
SCALE: 1/4"=1'-0"



PARTIAL MECHANICAL DEMOLITION PLAN BUILDING 'A'
SCALE: 1/8"=1'-0"



MECHANICAL FLOOR PLAN KEY NOTES.

1. DEMO EXISTING CEILING EXHAUST FAN AND EXHAUST DUCT. RETAIN ROOF CAP FOR RE-USE.
2. INSTALL NEW EXHAUST FAN AND DISCHARGE DUCT. EXTEND TO CONNECTION AT EXISTING ROOF CAP.

MECHANICAL PLAN BUILDING 'A'
SCALE: 1/8"=1'-0"

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ROOSEVELT ELEMENTARY SCHOOL
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FOR
BAKERSFIELD CITY SCHOOL DISTRICT
BAKERSFIELD, KERN COUNTY, CALIFORNIA

ARCHITECT SC inc.
1601 NEW STINE ROAD, SUITE 280
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WWW.SCARCHITECT.COM

STEPHEN ... CARB, AIA, LEED ®AP

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MECHANICAL PLAN BUILDING 'A'

MARK	DATE	REVISIONS
1		
2		
3		

JOB NO. 1317
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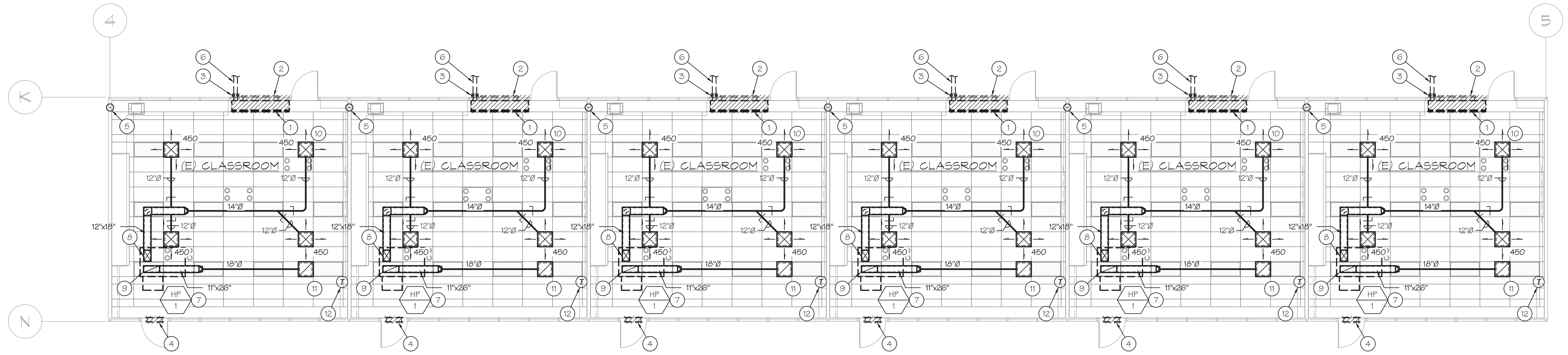
M 2.0

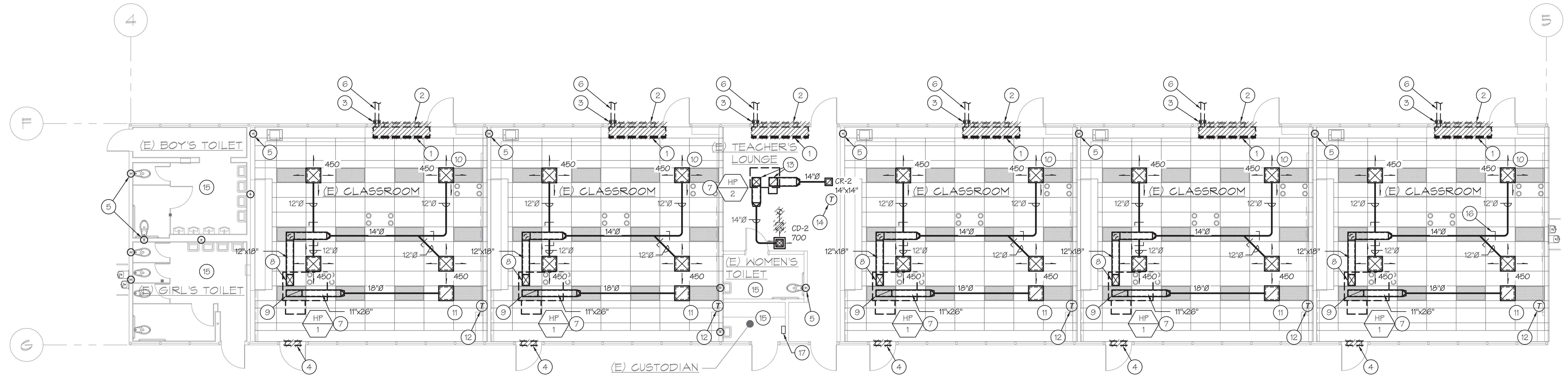
bme BASKIN MECHANICAL ENGINEERS
175 Fulton Street
Fresno, CA 93721
Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22

REGISTERED PROFESSIONAL ENGINEER MARK JAMES BASKIN No. M28578 Exp. 9-30-24 MECHANICAL STATE OF CALIFORNIA



MECHANICAL PLAN BUILDING 'B'

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



MECHANICAL PLAN BUILDING 'C'

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

MECHANICAL FLOOR PLAN KEY NOTES

1. REMOVE EXISTING FLOOR MOUNTED UNIT VENTILATOR, ALL RELATED MECHANICAL PIPING, CONDENSATE PIPING, CONTROLS, SUPPORTS, ANCHORAGE, ETC. PATCH EXISTING SURFACES TO MATCH EXISTING.
2. REMOVE EXISTING OUTSIDE AIR LOUVERS. INFILL / PATCH WALL TO MATCH EXISTING.
3. REMOVE EXISTING HYDRONIC AND CONDENSATE PIPING AND EXTERIOR CHASE. REMOVE PIPING TO 12" BELOW GRADE. CAP PIPING AND ABANDON IN PLACE.
4. REMOVE EXISTING GRAVITY RELIEF VENT, DUCTWORK, RELIEF GRILLE, ETC. INFILL TO MATCH SURROUNDING CONSTRUCTION.
5. EXISTING WASTE VENT, TYPICAL. CONFIRM EXACT LOCATION IN FIELD.
6. ABANDON IN PLACE BELOW GRADE SITE HYDRONIC PIPING.
7. ROOF MOUNTED HEAT PUMP UNIT. SEE MECHANICAL ROOF PLAN.
8. 12" X 18" SUPPLY AIR DROP WITH 1" LINER, 14" X 20" NET. PROVIDE MITERED ELBOW AT BOTTOM OF RISER. SEE DETAIL C/M1.1.
9. 26" X 11" RETURN AIR RISER WITH 1" LINER, 28" X 13" NET. PROVIDE MITERED ELBOW AT BOTTOM OF RISER. SEE DETAIL C/M1.1.
10. CD-1, TYPICAL. SEE DETAIL A/M1.1.
11. CR-1 TYPICAL.
12. T-STAT LOCATION TYPICAL. CLASSROOMS USE PELICAN TS250 WITH CO2 SENSOR AND DEMAND CONTROL VENTILATION.
13. 12" X 12" SUPPLY AND RETURN AIR DROPS WITH 1" LINER, 14" X 14" NET. PROVIDE MITERED ELBOW AT BOTTOM OF RISER. SEE DETAIL C/M1.1.
14. THIS THERMOSTAT TO BE A PELICAN TS200.
15. NO MECHANICAL WORK IN THIS ROOM.
16. SEE TYP. BRANCH DUCT DETAIL B/M1.1.
17. PELICAN WIRELESS GATEWAY w/ 115V PLUG CONNECTED TO WALL OUTLET AND CONNECTION TO LOCAL ROUTER. PROVIDE WALL MTD. BRACKET FOR MOUNTING. SEE DETAILS E&F/M1.1.

BASKIN MECHANICAL ENGINEERS
175 Fulton Street
Fresno, CA 93721
Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22

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ROOSEVELT ELEMENTARY SCHOOL

MODERNIZATION
2324 VERDE STREET
FOR
BAKERSFIELD CITY SCHOOL DISTRICT
BAKERSFIELD, KERN COUNTY, CALIFORNIA

ARCHITECT SC inc.
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WWW.SCARCHITECT.COM

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MECHANICAL PLAN BUILDING 'B' AND BUILDING 'C'

MARK	DATE	REVISIONS
1		
2		
3		

JOB NO. 1317
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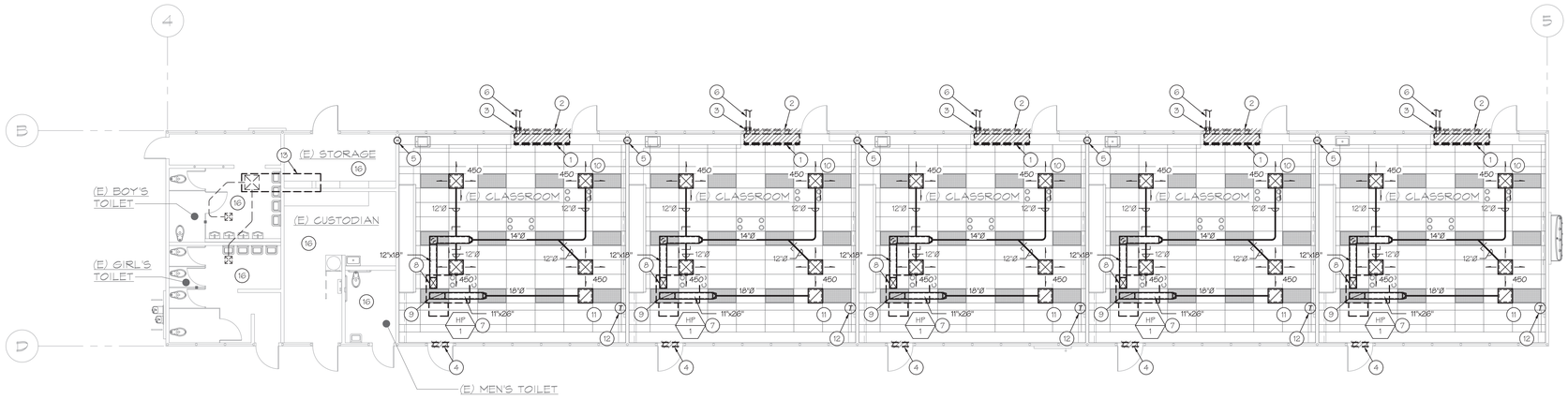
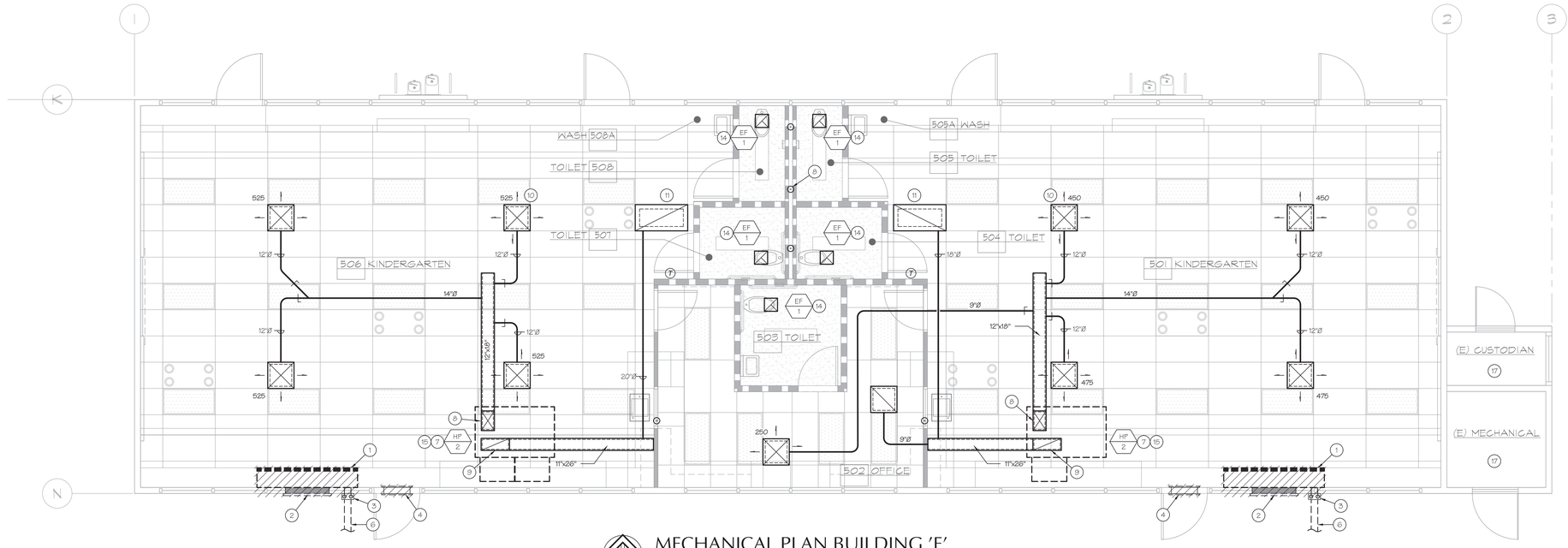
DATE: 8/5/21

M 2.1



MECHANICAL PLAN BUILDING 'D'

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



MECHANICAL PLAN BUILDING 'E'

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

MECHANICAL FLOOR PLAN KEY NOTES.

1. REMOVE EXISTING FLOOR MOUNTED UNIT VENTILATOR, ALL RELATED MECHANICAL PIPING, CONDENSATE PIPING, CONTROLS, SUPPORTS, ANCHORAGE, ETC. PATCH EXISTING SURFACES TO MATCH EXISTING.
2. REMOVE EXISTING OUTSIDE AIR LOUVERS. INFILL / PATCH WALL TO MATCH EXISTING.
3. REMOVE EXISTING HYDRONIC AND CONDENSATE PIPING AND EXTERIOR CHASE. REMOVE PIPING TO 12" BELOW GRADE. CAP PIPING AND ABANDON IN PLACE.
4. REMOVE EXISTING GRAVITY RELIEF VENT, DUCTWORK, RELIEF GRILLE, ETC. INFILL TO MATCH SURROUNDING CONSTRUCTION.
5. EXISTING WASTE VENT, TYPICAL. CONFIRM EXACT LOCATION IN FIELD.
6. ABANDON IN PLACE BELOW GRADE SITE HYDRONIC PIPING.
7. ROOF MOUNTED HEAT PUMP UNIT. SEE MECHANICAL ROOF PLAN.
8. 12" X 18" SUPPLY AIR DROP WITH 1" LINER, 14" X 20" NET. PROVIDE MITERED ELBOW AT BOTTOM OF RISER. SEE DETAIL C/M1.1.
9. 26" X 11" RETURN AIR RISER WITH 1" LINER, 28" X 13" NET. PROVIDE MITERED ELBOW AT BOTTOM OF RISER. SEE DETAIL C/M1.1.
10. CD-1, TYPICAL. SEE DETAIL A/M1.1.
11. CR-1 TYPICAL.
12. T-STAT LOCATION TYPICAL. CLASSROOMS USE PELICAN TS250 WITH CO2 SENSOR AND DEMAND CONTROL VENTILATION. SEE TYP. DETAIL D/M1.1.
13. EXISTING MAKE-UP-AIR UNIT SERVING TOILET ROOMS TO REMAIN. NO WORK.
14. DEMO EXISTING EXHAUST FAN AND INSTALL NEW EXHAUST FAN AND DISCHARGE DUCT. EXTEND TO CONNECTION AT EXISTING ROOF CAP.
15. THIS HP UNIT TO HAVE INTERLOCK WITH FIRE ALARM PANEL FOR AUTOMATIC SHUT-DOWN. SEE DETAIL H/M1.1.
16. NO MECHANICAL WORK IN THIS ROOM.

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REGISTERED ARCHITECT STEPHEN CRAIG MILLARS No. C-16788 EXP. JUNE 30, 2024 STATE OF CALIFORNIA

STEPHEN CRAIG MILLARS, AIA, LEED ® -AP

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT. ALL CONSTRUCTION SHALL CONFORM TO THE C.B.C.

MECHANICAL PLAN BUILDING 'D' AND BUILDING 'E'

MARK	DATE	REVISIONS
1		
2		
3		

REGISTERED PROFESSIONAL ENGINEER MARK JAMES BASKIN No. M26572 Exp. 06-30-24 MECHANICAL STATE OF CALIFORNIA

BASKIN MECHANICAL ENGINEERS
175 Fulton Street
Fresno, CA 93721
Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22

JOB NO. 1317
DRAWN : B.S.
CHECKED : M.B.
DATE : 8/5/21

M
2.2

MECHANICAL ROOF PLAN KEY NOTES:

1. NEW HP UNIT ON SLOPED ROOF CURB. SEE DETAIL A/M1.2. TYPICAL.
2. 12" X 18" SUPPLY DUCT DROP THRU ROOF WITH 1" LINER, 14" X 20" NET. TYPICAL.
3. 26" X 11" RETURN DUCT RISER THRU ROOF WITH 1" LINER, 28" X 13" NET. TYPICAL.
4. ECONOMIZER WITH POWER EXHAUST MODULE. SET MINIMUM OUTSIDE EQUAL TO 150 CFM WITH DEMAND CONTROL VENTILATION OVERRIDE TO 400 CFM. TYPICAL.
5. 10" X 12" SUPPLY AND RETURN DUCTS THRU ROOF WITH 1" LINER, 14" X 16" NET.
6. MOTORIZED OUTSIDE AIR DAMPER. SET TO 100 CFM.
7. EXISTING FURNACE ON ROOF. INTERLOCK START / STOP WITH PELICAN WIRELESS SYSTEM.
8. EXISTING EXHAUST FAN ON ROOF. INTERLOCK START / STOP WITH PELICAN WIRELESS SYSTEM.

MECHANICAL PARTIAL ROOF BUILDING 'B', 'C' &'D'

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

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ROOSEVELT ELEMENTARY SCHOOL

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2324 VERDE STREET
FOR
BAKERSFIELD CITY SCHOOL DISTRICT
BAKERSFIELD, KERN COUNTY, CALIFORNIA

SC ARCHITECT inc.
1601 NEW STINE ROAD, SUITE 280
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PH: (661) 397-4377
FAX: (661) 397-4378
WWW.SCARCHITECT.COM

LICENSED ARCHITECT STEPHEN J. CORBIN No. C-16788 REN 11/30/23 STATE OF CALIFORNIA

STEPHEN J. CORBIN, NCARB, AIA, LEED ®-AP

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT. ALL CONSTRUCTION SHALL CONFORM TO THE C.B.C.

MECHANICAL PARTIAL ROOF BUILDING 'B', 'C' & 'D'

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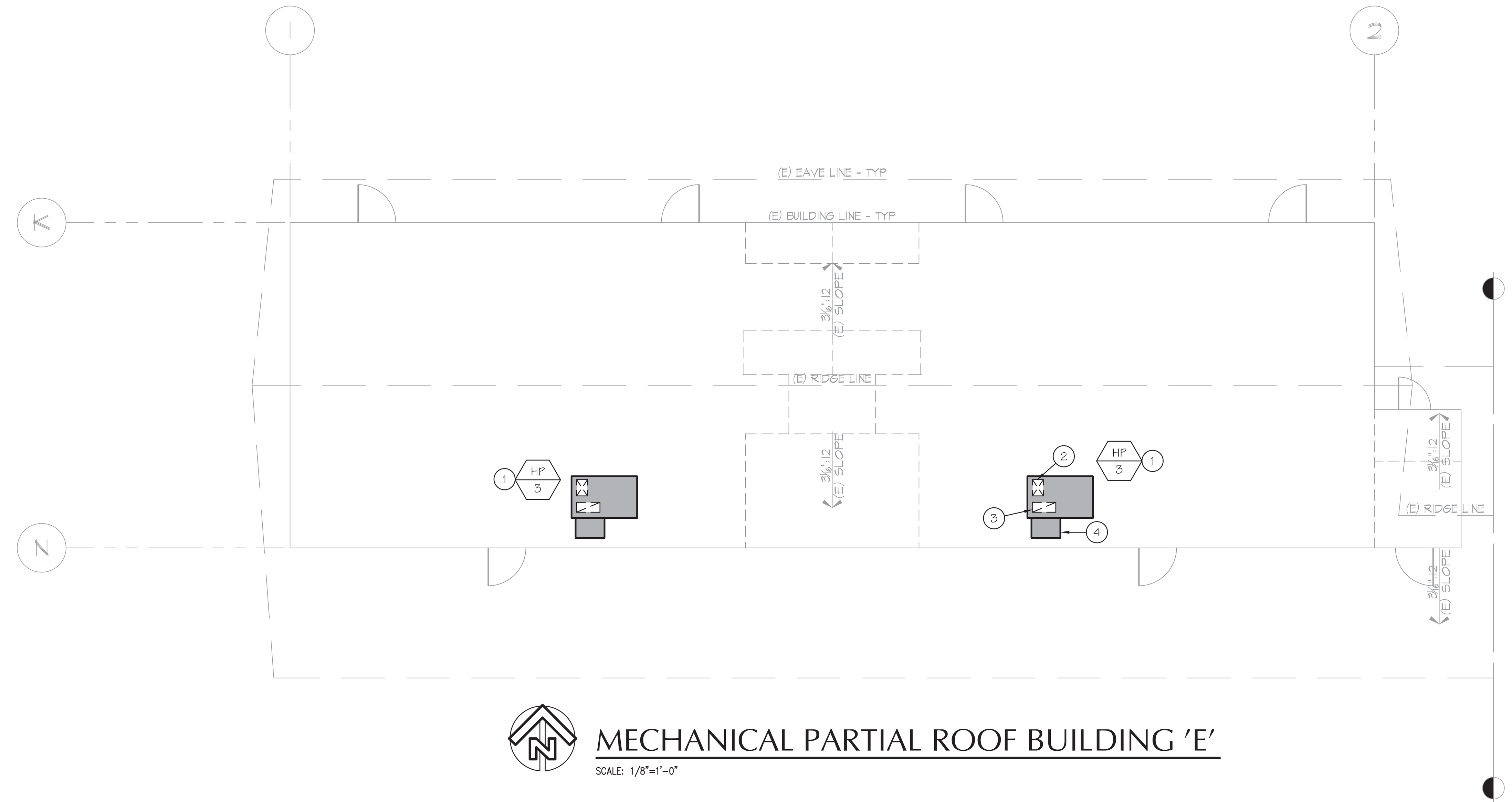
3		

JOB NO. 1317
DRAWN: B.S.
CHECKED: M.B.
DATE: 8/5/21

M 6.1

BASKIN MECHANICAL ENGINEERS
175 Fulton Street
Fresno, CA 93721
Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22



MECHANICAL PARTIAL ROOF BUILDING 'E'

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

MECHANICAL ROOF PLAN KEY NOTES:

1. NEW HP UNIT ON SLOPED ROOF CURB. SEE DETAIL A/M1.2. TYPICAL.
2. 14" X 19" SUPPLY DUCT DROP THRU ROOF WITH 1" LINER, 16" X 21" NET. TYPICAL.
3. 26" X 11" RETURN DUCT RISER THRU ROOF WITH 1" LINER, 28" X 13" NET. TYPICAL.
4. ECONOMIZER WITH POWER EXHAUST MODULE. SET MINIMUM OUTSIDE EQUAL TO 200 CFM WITH DEMAND CONTROL VENTILATION OVERRIDE TO 500 CFM. TYPICAL.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-122920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/05/2023

PTN : 63321- FILE: 15-6

ROOSEVELT ELEMENTARY SCHOOL
MODERNIZATION
2324 VERDE STREET
FOR
BAKERSFIELD CITY SCHOOL DISTRICT
BAKERSFIELD, KERN COUNTY, CALIFORNIA

SC ARCHITECT inc.
1601 NEW STINE ROAD, SUITE 280
BAKERSFIELD, CA 93309
PH: (661) 397-4377
FAX: (661) 397-4378
WWW.SCARCHITECT.COM

STEPHEN ... AIA, LEED ®-AP

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT. ALL CONSTRUCTION SHALL CONFORM TO THE C.B.C.

MECHANICAL PARTIAL ROOF BUILDING 'E'

MARK	DATE	REVISIONS
1		
2		
3		

BASKIN MECHANICAL ENGINEERS
175 Fulton Street
Fresno, CA 93721
Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22

JOB NO. 1317
DRAWN: B.S.
CHECKED: M.B.
DATE: 8/5/21

M 6.2

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
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.			
Project Name:	Roosevelt Elementary HVAC Upgrades Bld B	**Report Page:**	**(Page 1 of 16)**
Project Address:	2324 Verde Street	**Date Prepared:**	12/9/2022

A. GENERAL INFORMATION

01	Project Location (city)	Bakersfield	04	Total Conditioned Floor Area	4800
02	Climate Zone	13	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

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades Bld B	**Report Page:**	**(Page 2 of 16)**
Project Address:	2324 Verde Street	**Date Prepared:**	12/9/2022

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.

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades Bld B	**Report Page:**	**(Page 3 of 16)**
Project Address:	2324 Verde Street	**Date Prepared:**	12/9/2022

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)
HP-1 / B-1	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	70.44	54.86	36.18	55.65	46.32	59.29	62.08
HP-1 / B-2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	70.44	54.86	36.18	53.92	46.32	56.45	59.57
HP-1 / B-3	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	49	49	0	52.26	44.73	56.19	59.79
HP-1 / B4	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	49	49	0	52.26	44.73	56.19	59.79
HP-1 / B-5	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	49	49	0	52.29	44.73	59.04	61.39

[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).*

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades Bld B	**Report Page:**	**(Page 4 of 16)**
Project Address:	2324 Verde Street	**Date Prepared:**	12/9/2022

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
HP-1 / B-1	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-1 / B-2	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-1 / B-3	<65,000		AFUE	0.80	0.81	SEER	13.0	16.1
HP-1 / B4	<65,000		AFUE	0.80	0.81	SEER	13.0	16.1
HP-1 / B-5	<65,000		AFUE	0.80	0.81	SEER	13.0	16.1

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:	HP-1 / B-1	**Economizer:**[1]	Fixed Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)	**System Fan Type:**	Variable Air 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	0.66	NA	NA
Total System Design Supply Airflow (CFM):			1800	Total System Design (B)HP:	0.66	**Maximum System Fan Power (B)HP:**	

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades Bld B	**Report Page:**	**(Page 5 of 16)**
Project Address:	2324 Verde Street	**Date Prepared:**	12/9/2022

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	HP-1 / B-2	**Economizer:**[1]	Fixed Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)	**System Fan Type:**	Variable Air 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	0.66	NA	NA
Total System Design Supply Airflow (CFM):			1800	Total System Design (B)HP:	0.66	**Maximum System Fan Power (B)HP:**	

System Name:	HP-1 / B-3	**Economizer:**[1]	Fixed Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)	**System Fan Type:**	Variable Air 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	0.72	NA	NA
Total System Design Supply Airflow (CFM):			1800	Total System Design (B)HP:	0.72	**Maximum System Fan Power (B)HP:**	

System Name:	HP-1 / B4	**Economizer:**[1]	Fixed Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)	**System Fan Type:**	Variable Air 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	0.72	NA	NA
Total System Design Supply Airflow (CFM):			1800	Total System Design (B)HP:	0.72	**Maximum System Fan Power (B)HP:**	

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades Bld B	**Report Page:**	**(Page 6 of 16)**
Project Address:	2324 Verde Street	**Date Prepared:**	12/9/2022

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	HP-1 / B-5	**Economizer:**[1]	Fixed Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)	**System Fan Type:**	Variable Air 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	0.72	NA	NA
Total System Design Supply Airflow (CFM):			1800	Total System Design (B)HP:	0.72	**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 (ft^2)	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)
HP-1 / B-1	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / B-2	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / B-3	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / B4	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / B-5	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades Bld B	**Report Page:**	**(Page 7 of 16)**
Project Address:	2324 Verde Street	**Date Prepared:**	12/9/2022

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 ventialtion 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	HP-1 / B-1	System Design OA CFM Airflow[1]	365	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 (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Classroom B1	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				365	18	Ventilation for this System Complies?		Yes

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades Bld B	**Report Page:**	**(Page 8 of 16)**
Project Address:	2324 Verde Street	**Date Prepared:**	12/9/2022

J. VENTILATION AND INDOOR AIR QUALITY

04		05		06		07	
System Name	HP-1 / B-2	System Design OA CFM Airflow[1]	365	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 (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Classroom B2	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				365	18	Ventilation for this System Complies?		Yes

04		05		06		07	
System Name	HP-1 / B-3	System Design OA CFM Airflow[1]	365	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 (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Classroom B3	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				365	18	Ventilation for this System Complies?		Yes

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades Bld B	**Report Page:**	**(Page 9 of 16)**
Project Address:	2324 Verde Street	**Date Prepared:**	12/9/2022

J. VENTILATION AND INDOOR AIR QUALITY

04		05		06		07	
System Name	HP-1 / B4	System Design OA CFM Airflow[1]	365	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 (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Classroom B4	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				365	18	Ventilation for this System Complies?		Yes

04		05		06		07	
System Name	HP-1 / B-5	System Design OA CFM Airflow[1]	365	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 (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Classroom B5	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				365	18	Ventilation for this System Complies?		Yes

[1] *FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system*

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-122920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/05/2023

PTN : 63321- FILE: 15-6

ROOSEVELT ELEMENTARY SCHOOL
MODERNIZATION
2324 VERDE STREET
FOR
BAKERSFIELD CITY SCHOOL DISTRICT
BAKERSFIELD, KERN COUNTY, CALIFORNIA

ARCHITECT SC inc.
1601 NEW STINE ROAD, SUITE 280
BAKERSFIELD, CA 93309
PH: (661) 397-4377
FAX: (661) 397-4378
WWW.SCARCHITECT.COM

LICENSED ARCHITECT STEPHEN J. COBRIN No. C-16788 REN 11-30-23 STATE OF CALIFORNIA
STEPHEN J. COBRIN, NCARB, AIA, LEED ®-AP

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT. ALL CONSTRUCTION SHALL CONFORM TO THE C.B.C.

BUILDING 'B'
TITLE-24

MARK	DATE	REVISIONS
1		
2		
3		

REGISTERED PROFESSIONAL ENGINEER MARK JAMES BASKIN No. M26578 Exp. 9-30-24 MECHANICAL STATE OF CALIFORNIA

bme BASKIN MECHANICAL ENGINEERS
175 Fulton Street
Fresno, CA 93721
Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22

JOB NO. 1317
DRAWN : B.S.
CHECKED : M.B.
DATE : 8/5/21

M 7.0

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Roosevelt Elementary HVAC Upgrades Bld B	**Report Page:**	**(Page 10 of 16)**
Project Address:	2324 Verde Street	**Date Prepared:**	12/9/2022

J. VENTILATION AND INDOOR AIR QUALITY

[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

The answers to the questions below apply to the following duct systems:	HP-1 / B-1	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

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L. DISTRIBUTION (DUCTWORK and PIPING)

		☐	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:	HP-1 / B-2	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:	HP-1 / B-3	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

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L. DISTRIBUTION (DUCTWORK and PIPING)

		☐	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:	HP-1 / B4	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:	HP-1 / B-5	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

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L. DISTRIBUTION (DUCTWORK and PIPING)

		☐	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	☐	☐

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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.	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;	☐	☐
NRCA-MCH-05-A - Air Economizer Controls	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;	☐	☐
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.	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;	☐	☐
NRCA-MCH-11-A Automatic Demand Shed Controls	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;	☐	☐
NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;	☐	☐

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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-16-A Supply Air Temperature Reset Controls	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;	☐	☐
NRCA-MCH-18-A Energy Management Control Systems	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;	☐	☐

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

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Mark Baskin	Documentation Author Signature: Mark Baskin, P.E. Mark Baskin, P.E. 2022.12.09 14:59:17-08'00'
Company: Baskin Mechanical Engineers	Signature Date: 2022-12-09
Address: 175 Fulton St.	CEA/ HERS Certification Identification (if applicable): M26578
City/State/Zip: Fresno CA 93721	Phone: 5592370376

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: Mark Baskin, P.E.	Responsible Designer Signature: Mark Baskin, P.E. Mark Baskin, P.E. 2022.12.09 14:59:34-08'00'
Company: Baskin Mechanical Engineers	Date Signed: 2022-12-09
Address: 175 Fulton	License: M26578
City/State/Zip: Fresno CA 93721	Phone: (559) 237-0376

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-122920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/05/2023

PTN : 63321- FILE: 15-6

ROOSEVELT ELEMENTARY SCHOOL
MODERNIZATION
2324 VERDE STREET
FOR
BAKERSFIELD CITY SCHOOL DISTRICT
BAKERSFIELD, KERN COUNTY, CALIFORNIA

ARCHITECT SC inc.
1601 NEW STINE ROAD, SUITE 280
BAKERSFIELD, CA 93309
PH: (661) 397-4377
FAX: (661) 397-4378
WWW.SCARCHITECT.COM

LICENSED ARCHITECT STEPHEN ... C-18788 ... 11/30/23 STATE OF CALIFORNIA

STEPHEN ... CARR, AIA, LEED ®-AP

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT. ALL CONSTRUCTION SHALL CONFORM TO THE C.B.C.

BUILDING 'B'
TITLE-24

MARK	DATE	REVISIONS
1		
2		
3		

REGISTERED PROFESSIONAL ENGINEER MARK JAMES BASKIN No. M26578 Exp. 9-30-24 MECHANICAL STATE OF CALIFORNIA

BASKIN MECHANICAL ENGINEERS
175 Fulton Street
Fresno, CA 93721
Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22

JOB NO. 1317
DRAWN : B.S.
CHECKED : M.B.
DATE : 8/5/21

M 7.1

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CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
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.			
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A. GENERAL INFORMATION

01	Project Location (city)	Bakersfield	04	Total Conditioned Floor Area	6210
02	Climate Zone	13	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

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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.

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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)
HP-1 / C-1	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	70.44	54.86	36.18	55.65	46.32	59.29	62.08
HP-1 / C-2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	70.44	54.86	36.18	53.92	46.32	56.45	59.57
HP-1 / C-3	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	49	49	0	52.26	44.73	56.19	59.79
HP-1 / C4	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	49	49	0	52.26	44.73	56.19	59.79
HP-1 / C-5	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	49	49	0	52.29	44.73	59.04	61.39
HP-2 / Work room	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	32.41	22.38	18.43	22.31	17.63	48.54	55.29

[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).

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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
HP-1 / C-1	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-1 / C-2	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-1 / C-3	<65,000		AFUE	0.80	0.81	SEER	13.0	16.1
HP-1 / C4	<65,000		AFUE	0.80	0.81	SEER	13.0	16.1
HP-1 / C-5	<65,000		AFUE	0.80	0.81	SEER	13.0	16.1
HP-2 / Work room	<65,000		HSPF	7.7	8.2	SEER	13.0	14.5

G. PUMPS

This section does not apply to this project.

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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:	HP-1 / C-1	**Economizer:**[1]	Fixed Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)	**System Fan Type:**	Variable Air 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	0.66	NA	NA
Total System Design Supply Airflow (CFM):			1800	Total System Design (B)HP:	0.66	**Maximum System Fan Power (B)HP:**	
System Name:	HP-1 / C-2	**Economizer:**[1]	Fixed Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)	**System Fan Type:**	Variable Air 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	0.66	NA	NA
Total System Design Supply Airflow (CFM):			1800	Total System Design (B)HP:	0.66	**Maximum System Fan Power (B)HP:**	
System Name:	HP-1 / C-3	**Economizer:**[1]	Fixed Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)	**System Fan Type:**	Variable Air 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	0.72	NA	NA
Total System Design Supply Airflow (CFM):			1800	Total System Design (B)HP:	0.72	**Maximum System Fan Power (B)HP:**	

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	HP-1 / C4	**Economizer:**[1]	Fixed Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)	**System Fan Type:**	Variable Air 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	0.72	NA	NA
Total System Design Supply Airflow (CFM):			1800	Total System Design (B)HP:	0.72	**Maximum System Fan Power (B)HP:**	
System Name:	HP-1 / C-5	**Economizer:**[1]	Fixed Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)	**System Fan Type:**	Variable Air 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	0.72	NA	NA
Total System Design Supply Airflow (CFM):			1800	Total System Design (B)HP:	0.72	**Maximum System Fan Power (B)HP:**	
System Name:	HP-2 / Work room	**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	700	BHP	0.38	NA	NA
Total System Design Supply Airflow (CFM):			700	Total System Design (B)HP:	0.38	**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.

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Mechanical Systems

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CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
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Project Address:	2324 Verde Street	**Date Prepared:**	12/9/2022

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 (ft^2)	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)
HP-1 / C-1	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / C-2	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / C-3	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / C4	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / C-5	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-2 / Work room	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided

[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)

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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 ventialtion 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	HP-1 / C-1	System Design OA CFM Airflow[1]		365	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 (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Classroom C1	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				365	18	Ventilation for this System Complies?		Yes
04		05			06			07	
System Name	HP-1 / C-2	System Design OA CFM Airflow[1]		365	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	

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J. VENTILATION AND INDOOR AIR QUALITY

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 (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Classroom C2	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				365	18	Ventilation for this System Complies?		Yes
04		05			06			07	
System Name	HP-1 / C-3	System Design OA CFM Airflow[1]		365	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 (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Classroom C3	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				365	18	Ventilation for this System Complies?		Yes
04		05			06			07	
System Name	HP-1 / C4	System Design OA CFM Airflow[1]		365	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	

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-122920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/05/2023

PTN : 63321- FILE: 15-6

ROOSEVELT ELEMENTARY SCHOOL
MODERNIZATION
2324 VERDE STREET
FOR
BAKERSFIELD CITY SCHOOL DISTRICT
BAKERSFIELD, KERN COUNTY, CALIFORNIA

ARCHITECT SC inc.
1601 NEW STINE ROAD, SUITE 280
BAKERSFIELD, CA 93309
PH: (661) 397-4377
FAX: (661) 397-4378
WWW.SCARCHITECT.COM

LICENSED ARCHITECT STEPHEN J. CORBIN C-18788 11/30/23 STATE OF CALIFORNIA
STEPHEN J. CORBIN, NCARB, AIA, LEED ®-AP

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT. ALL CONSTRUCTION SHALL CONFORM TO THE C.B.C.

BUILDING 'C'
TITLE-24

MARK	DATE	REVISIONS
1		
2		
3		

REGISTERED PROFESSIONAL ENGINEER MARK JAMES BASKIN No. M26575 Exp. 9-30-24 MECHANICAL STATE OF CALIFORNIA

bme BASKIN MECHANICAL ENGINEERS
175 Fulton Street
Fresno, CA 93721
Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22

JOB NO. 1317
DRAWN : B.S.
CHECKED : M.B.
DATE : 8/5/21

M 7.2

STATE OF CALIFORNIA

Mechanical Systems

NRCC-MCH-E

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
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J. VENTILATION AND INDOOR AIR QUALITY

Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]: Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Exh. Vent per §120.1(c)4: Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Classroom C4	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				365	18	Ventilation for this System Complies?		Yes
	04	05			06			07	
System Name	HP-1 / C-5	System Design OA CFM Airflow[1]		365	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	

Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]: Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Exh. Vent per §120.1(c)4: Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Classroom C5	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				365	18	Ventilation for this System Complies?		Yes
	04	05			06			07	
System Name	HP-2 / Work room	System Design OA CFM Airflow[1]		432	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	

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J. VENTILATION AND INDOOR AIR QUALITY

Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]: Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Exh. Vent per §120.1(c)4: Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Classroom C1	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
Work room	Office space	450			67.5	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				432	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

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L. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems:	HP-1 / C-1	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:	HP-1 / C-2	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	

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L. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems:	HP-1 / C-3	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:	HP-1 / C4	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	

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L. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems:	HP-1 / C-5	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:	HP-2 / Work room	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	

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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	☐	☐

STATE OF CALIFORNIA

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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.	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 50VT-C24;	☐	☐
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".	Carrier 50VT-C24;	☐	☐
NRCA-MCH-05-A - Air Economizer Controls	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;	☐	☐
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.	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 50VT-C24;	☐	☐
NRCA-MCH-11-A Automatic Demand Shed Controls	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 50VT-C24;	☐	☐

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CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
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Project Address:	2324 Verde Street	**Date Prepared:**	12/9/2022

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-12-A FDD for Packaged Direct Expansion Units	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;	☐	☐
NRCA-MCH-16-A Supply Air Temperature Reset Controls	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 50VT-C24;	☐	☐
NRCA-MCH-18-A Energy Management Control Systems	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 50VT-C24;	☐	☐

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

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Mark Baskin	Documentation Author Signature: Mark Baskin, P.E. Mark Baskin, P.E. 2022.12.09 15:19:19-08'00'
Company: Baskin Mechanical Engineers	Signature Date: 2022-12-09
Address: 175 Fulton St.	CEA/ HERS Certification Identification (if applicable): M26578
City/State/Zip: Fresno CA 93721	Phone: 5592370376

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: Mark Baskin, P.E.	Responsible Designer Signature: Mark Baskin, P.E. Mark Baskin, P.E. 2022.12.09 15:19:33-08'00'
Company: Baskin Mechanical Engineers	Date Signed: 2022-12-09
Address: 175 Fulton	License: M26578
City/State/Zip: Fresno CA 93721	Phone: (559) 237-0376

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-122920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/05/2023

PTN: 63321- FILE: 15-6

ROOSEVELT ELEMENTARY SCHOOL
MODERNIZATION
2324 VERDE STREET
FOR
BAKERSFIELD CITY SCHOOL DISTRICT
BAKERSFIELD, KERN COUNTY, CALIFORNIA

ARCHITECT SC inc.
1601 NEW STINE ROAD, SUITE 280
BAKERSFIELD, CA 93309
PH: (661) 397-4377
FAX: (661) 397-4378
WWW.SCARCHITECT.COM

LICENSED ARCHITECT STEPHEN J. CORBIN C-16788 REN 11/30/23 STATE OF CALIFORNIA

STEPHEN J. CORBIN, NCARB, AIA, LEED ®-AP

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT. ALL CONSTRUCTION SHALL CONFORM TO THE C.B.C.

BUILDING 'C'
TITLE-24

MARK	DATE	REVISIONS
1		
2		
3		

REGISTERED PROFESSIONAL ENGINEER MARK JAMES BASKIN No. M26578 Exp. 9-30-24 MECHANICAL STATE OF CALIFORNIA

bme BASKIN MECHANICAL ENGINEERS
175 Fulton Street
Fresno, CA 93721
Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22

JOB NO. 1317
DRAWN: B.S.
CHECKED: M.B.
DATE: 8/5/21

M
7.3

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
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.			
Project Name:	Roosevelt Elementary HVAC Upgrades Bld D	Report Page:	(Page 1 of 16)
Project Address:	2324 Verde Street	Date Prepared:	12/9/2022

A. GENERAL INFORMATION

01	Project Location (city)	Bakersfield	04	Total Conditioned Floor Area	4800
02	Climate Zone	13	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

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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.

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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
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)	Equipment Sizing per Mechanical Schedule (kBtu/h) §140.4 (a&b)						
				Heating Output[2,3]			Cooling Output[2,3]		Load Calculations[3,4]	
				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)
HP-1 / D-1	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	70.44	54.86	36.18	55.65	46.32	59.29	62.08
HP-1 / D-2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	70.44	54.86	36.18	53.92	46.32	56.45	59.57
HP-1 / D-3	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	49	49	0	52.26	44.73	56.19	59.79
HP-1 / D-4	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	49	49	0	52.26	44.73	56.19	59.79
HP-1 / D-5	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	49	49	0	52.29	44.73	59.04	61.39

[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).*

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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
Name or Item Tag	Size Category (Btu/h)	Heating Mode				Cooling Mode		
		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
HP-1 / D-1	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-1 / D-2	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-1 / D-3	<65,000		AFUE	0.80	0.81	SEER	13.0	16.1
HP-1 / D-4	<65,000		AFUE	0.80	0.81	SEER	13.0	16.1
HP-1 / D-5	<65,000		AFUE	0.80	0.81	SEER	13.0	16.1

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:	HP-1 / D-1	Economizer:[1]	Fixed Temperature	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Variable Air Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	1800	BHP	0.66	NA	NA
Total System Design Supply Airflow (CFM):			1800	Total System Design (B)HP:	0.66	Maximum System Fan Power (B)HP:	

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	HP-1 / D-2	Economizer:[1]	Fixed Temperature	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Variable Air Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	1800	BHP	0.66	NA	NA
Total System Design Supply Airflow (CFM):			1800	Total System Design (B)HP:	0.66	Maximum System Fan Power (B)HP:	
System Name:	HP-1 / D-3	Economizer:[1]	Fixed Temperature	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Variable Air Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	1800	BHP	0.72	NA	NA
Total System Design Supply Airflow (CFM):			1800	Total System Design (B)HP:	0.72	Maximum System Fan Power (B)HP:	
System Name:	HP-1 / D-4	Economizer:[1]	Fixed Temperature	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Variable Air Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	1800	BHP	0.72	NA	NA
Total System Design Supply Airflow (CFM):			1800	Total System Design (B)HP:	0.72	Maximum System Fan Power (B)HP:	

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	HP-1 / D-5	Economizer:[1]	Fixed Temperature	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Variable Air Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	1800	BHP	0.72	NA	NA
Total System Design Supply Airflow (CFM):			1800	Total System Design (B)HP:	0.72	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 (ft^2)	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)
HP-1 / D-1	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / D-2	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / D-3	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / D-4	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / D-5	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided

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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 ventialtion 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	HP-1 / D-1	System Design OA CFM Airflow[1]		365	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	
Space Name ot item Tag	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]	
	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Classroom D1	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				365	18	Ventilation for this System Complies?		Yes

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J. VENTILATION AND INDOOR AIR QUALITY

04		05			06			07	
System Name	HP-1 / D-2	System Design OA CFM Airflow[1]		365	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	
Space Name ot item Tag	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]	
	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Classroom D2	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				365	18	Ventilation for this System Complies?		Yes
04		05			06			07	
System Name	HP-1 / D-3	System Design OA CFM Airflow[1]		365	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	
Space Name ot item Tag	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]	
	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Classroom D3	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				365	18	Ventilation for this System Complies?		Yes

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J. VENTILATION AND INDOOR AIR QUALITY

04		05			06			07	
System Name	HP-1 / D-4	System Design OA CFM Airflow[1]		365	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	
Space Name ot item Tag	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]	
	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Classroom D4	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				365	18	Ventilation for this System Complies?		Yes
04		05			06			07	
System Name	HP-1 / D-5	System Design OA CFM Airflow[1]		365	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	
Space Name ot item Tag	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]	
	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Classroom D5	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				365	18	Ventilation for this System Complies?		Yes

[1] *FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system*

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-122920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/05/2023

PTN : 63321- FILE: 15-6

ROOSEVELT ELEMENTARY SCHOOL
MODERNIZATION
2324 VERDE STREET
FOR
BAKERSFIELD CITY SCHOOL DISTRICT
BAKERSFIELD, KERN COUNTY, CALIFORNIA

SC ARCHITECT inc.
1601 NEW STINE ROAD, SUITE 280
BAKERSFIELD, CA 93309
PH: (661) 397-4377
FAX: (661) 397-4378
WWW.SCARCHITECT.COM

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT. ALL CONSTRUCTION SHALL CONFORM TO THE C.B.C.

BUILDING 'D'
TITLE-24

MARK	DATE	REVISIONS
1		
2		
3		

BASKIN MECHANICAL ENGINEERS
175 Fulton Street
Fresno, CA 93721
Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22

JOB NO. 1317
DRAWN : B.S.
CHECKED : M.B.
DATE : 8/5/21

M 7.4

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades Bld D	Report Page:	(Page 10 of 16)
Project Address:	2324 Verde Street	Date Prepared:	12/9/2022

J. VENTILATION AND INDOOR AIR QUALITY

[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

The answers to the questions below apply to the following duct systems:	HP-1 / D-1	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	

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CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
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Project Address:	2324 Verde Street	Date Prepared:	12/9/2022

L. DISTRIBUTION (DUCTWORK and PIPING)

	☐	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:	HP-1 / D-2	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:	HP-1 / D-3	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	

STATE OF CALIFORNIA
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CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades Bld D	Report Page:	(Page 12 of 16)
Project Address:	2324 Verde Street	Date Prepared:	12/9/2022

L. DISTRIBUTION (DUCTWORK and PIPING)

	☐	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:	HP-1 / D-4	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:	HP-1 / D-5	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	

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades Bld D	Report Page:	(Page 13 of 16)
Project Address:	2324 Verde Street	Date Prepared:	12/9/2022

L. DISTRIBUTION (DUCTWORK and PIPING)

	☐	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	☐	☐

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades Bld D	Report Page:	(Page 14 of 16)
Project Address:	2324 Verde Street	Date Prepared:	12/9/2022

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.	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;	☐	☐
NRCA-MCH-05-A - Air Economizer Controls	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;	☐	☐
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.	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;	☐	☐
NRCA-MCH-11-A Automatic Demand Shed Controls	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;	☐	☐
NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;	☐	☐

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Mechanical Systems
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CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades Bld D	Report Page:	(Page 15 of 16)
Project Address:	2324 Verde Street	Date Prepared:	12/9/2022

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-16-A Supply Air Temperature Reset Controls	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;	☐	☐
NRCA-MCH-18-A Energy Management Control Systems	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;	☐	☐

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

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades Bld D	Report Page:	(Page 16 of 16)
Project Address:	2324 Verde Street	Date Prepared:	12/9/2022

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Mark Baskin	Documentation Author Signature: Mark Baskin, P.E. Mark Baskin, P.E. 2022.12.09 15:22:58-08'00'
Company: Baskin Mechanical Engineers	Signature Date: 2022-12-09
Address: 175 Fulton St.	CEA/ HERS Certification Identification (if applicable): M26578
City/State/Zip: Fresno CA 93721	Phone: 5592370376

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: Mark Baskin, P.E.	Responsible Designer Signature: Mark Baskin, P.E. Mark Baskin, P.E. 2022.12.09 15:23:12-08'00'
Company: Baskin Mechanical Engineers	Date Signed: 2022-12-09
Address: 175 Fulton	License: M26578
City/State/Zip: Fresno CA 93721	Phone: (559) 237-0376

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-122920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/05/2023

PTN : 63321- FILE: 15-6

ROOSEVELT ELEMENTARY SCHOOL
MODERNIZATION
2324 VERDE STREET
FOR
BAKERSFIELD CITY SCHOOL DISTRICT
BAKERSFIELD, KERN COUNTY, CALIFORNIA

ARCHITECT SC inc.
1601 NEW STINE ROAD, SUITE 280
BAKERSFIELD, CA 93309
PH: (661) 397-4377
FAX: (661) 397-4378
WWW.SCARCHITECT.COM

LICENSED ARCHITECT STEPHEN J. CORBIN C-16788 REN 11/30/23 STATE OF CALIFORNIA
STEPHEN J. CORBIN, NCARB, AIA, LEED ®-AP

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT. ALL CONSTRUCTION SHALL CONFORM TO THE C.B.C.

BUILDING 'D'
TITLE-24

MARK	DATE	REVISIONS
1		
2		
3		

REGISTERED PROFESSIONAL ENGINEER MARK JAMES BASKIN No. M26578 Exp. 9-30-24 MECHANICAL STATE OF CALIFORNIA

BASKIN MECHANICAL ENGINEERS
175 Fulton Street
Fresno, CA 93721
Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22

JOB NO. 1317
DRAWN : B.S.
CHECKED : M.B.
DATE : 8/5/21

M
7.5

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
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.			
Project Name:	Roosevelt Elementary HVAC Upgrades Bld E	**Report Page:**	**(Page 1 of 11)**
Project Address:	2324 Verde Street	**Date Prepared:**	12/9/2022

A. GENERAL INFORMATION

01	Project Location (city)	Bakersfield	04	Total Conditioned Floor Area	2696
02	Climate Zone	13	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

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades Bld E	**Report Page:**	**(Page 2 of 11)**
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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.

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades Bld E	**Report Page:**	**(Page 3 of 11)**
Project Address:	2324 Verde Street	**Date Prepared:**	12/9/2022

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)
HP-1 / E-1	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	75.87	63.55	36.18	66.92	55.3	76.17	80.52
HP-2 / E-2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	75.87	63.55	36.18	67.31	55.3	86.81	89.88

[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).*

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades Bld E	**Report Page:**	**(Page 4 of 11)**
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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
HP-1 / E-1	>=65,000 and <135,000		COP	3.3	3.6	EER IEER	11 12.2	11.2 15
HP-2 / E-2	>=65,000 and <135,000		COP	3.3	3.6	EER IEER	11 12.2	11.2 15

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:	HP-1 / E-1	**Economizer:**[1]	Fixed Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)	**System Fan Type:**	Variable Air 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	2100	BHP	0.83	NA	NA
Total System Design Supply Airflow (CFM):			2100	Total System Design (B)HP:	0.83	**Maximum System Fan Power (B)HP:**	

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	HP-2 / E-2	**Economizer:**[1]	Fixed Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)	**System Fan Type:**	Variable Air 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	2100	BHP	0.83	NA	NA
Total System Design Supply Airflow (CFM):			2100	Total System Design (B)HP:	0.83	**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 (ft^2)	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)
HP-1 / E-1	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-2 / E-2	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided

[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)

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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 ventialtion 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	HP-1 / E-1	System Design OA CFM Airflow[1]		468	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			
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Classroom E1	Lecture/ postsecondary classroom	1230			467.4	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				467	18	Ventilation for this System Complies?		Yes
04		05			06			07	
System Name	HP-2 / E-2	System Design OA CFM Airflow[1]		503	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	

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J. VENTILATION AND INDOOR AIR QUALITY

Space Name ot item Tag	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]	
	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Classroom E2	Lecture/ postsecondary classroom	1230			467.4	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
Work Room	Office space	236			35.4	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				503	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 250ft^2 or smaller, multipurpose rooms less than 1,000 ft^2, 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

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L. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems:	HP-1 / E-1	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 ft^2 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:	HP-2 / E-2	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 ft^2 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	

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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.	Carrier 50GCQM07; Carrier 50GCQM07;	☐	☐
NRCA-MCH-05-A - Air Economizer Controls	Carrier 50GCQM07; Carrier 50GCQM07;	☐	☐
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.	Carrier 50GCQM07; Carrier 50GCQM07;	☐	☐
NRCA-MCH-11-A Automatic Demand Shed Controls	Carrier 50GCQM07; Carrier 50GCQM07;	☐	☐
NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	Carrier 50GCQM07; Carrier 50GCQM07;	☐	☐
NRCA-MCH-16-A Supply Air Temperature Reset Controls	Carrier 50GCQM07; Carrier 50GCQM07;	☐	☐
NRCA-MCH-18-A Energy Management Control Systems	Carrier 50GCQM07; Carrier 50GCQM07;	☐	☐

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-122920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/05/2023

PTN : 63321- FILE: 15-6

ROOSEVELT ELEMENTARY SCHOOL
MODERNIZATION
2324 VERDE STREET
FOR
BAKERSFIELD CITY SCHOOL DISTRICT
BAKERSFIELD, KERN COUNTY, CALIFORNIA

ARCHITECT inc.
1601 NEW STINE ROAD, SUITE 280
BAKERSFIELD, CA 93309
PH: (661) 397-4377
FAX: (661) 397-4378
WWW.SCARCHITECT.COM

STEPHEN [illegible] CARR, AIA, LEED ® AP

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT. ALL CONSTRUCTION SHALL CONFORM TO THE C.B.C.

BUILDING 'E'
TITLE-24

MARK	DATE	REVISIONS
1		
2		
3		

REGISTERED PROFESSIONAL ENGINEER
No. M[illegible]
Exp. 6-30-24
MECHANICAL
STATE OF CALIFORNIA

bme BASKIN MECHANICAL ENGINEERS
175 Fulton Street
Fresno, CA 93721
Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22

JOB NO. 1317
DRAWN : B.S.
CHECKED : M.B.
DATE : 8/5/21

M
7.6

STATE OF CALIFORNIA

Mechanical Systems

NRCC-MCH-E

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
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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.

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

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time:

Report Version: 2019.1.003
Schema Version: rev 20200601

Registration Provider: Energysoft

Report Generated: 2022-12-09 16:07:50

STATE OF CALIFORNIA

Mechanical Systems

NRCC-MCH-E

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
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Project Address:	2324 Verde Street	**Date Prepared:**	12/9/2022

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Mark Baskin	Documentation Author Signature: Mark Baskin, P.E. 2022.12.09 16:08:52-08'00'
Company: Baskin Mechanical Engineers	Signature Date: 2022-12-09
Address: 175 Fulton St.	CEA/ HERS Certification Identification (if applicable): M26578
City/State/Zip: Fresno CA 93721	Phone: 5592370376

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: Mark Baskin, P.E.	Responsible Designer Signature: Mark Baskin, P.E. 2022.12.09 16:17:55-08'00'
Company: Baskin Mechanical Engineers	Date Signed: 2022-12-09
Address: 175 Fulton	License: M26578
City/State/Zip: Fresno CA 93721	Phone: (559) 237-0376

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time:

Report Version: 2019.1.003
Schema Version: rev 20200601

Registration Provider: Energysoft

Report Generated: 2022-12-09 16:07:50

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-122920 INC:
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PTN : 63321- FILE: 15-6

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LICENSED ARCHITECT STATE OF CALIFORNIA C-16788 EXP. 08/31/23

STEPHEN A. CARS, AIA, LEED ® AP

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT. ALL CONSTRUCTION SHALL CONFORM TO THE C.B.C.

BUILDING 'E'
TITLE-24

MARK	DATE	REVISIONS
1		
2		
3		

REGISTERED PROFESSIONAL ENGINEER — MARK BASKIN — No. M26578 — Exp. 09-30-24 — MECHANICAL — STATE OF CALIFORNIA

BASKIN MECHANICAL ENGINEERS
175 Fulton Street
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M

7.7