VENTURA COUNTY COMMUNITY COLLEGE DISTRICT VENTURA COLLEGE HVAC REPLACEMENT PROJECT **BUILDING E**





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NO SCALE

NORTH

PROJECT LOCATION

SCOPE OF WORK

DEMO EXISTING FURNACES, COILS AND CONDENSING UNITS. INSTALL NEW PACKAGED AC UNITS WITH NEW DUCTING AT MECHANICAL RM. INSTALL NEW THERMOSTATS AND CONTROLS. EXTEND (E) GAS PIPING TO NEW PACKAGED UNITS.

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CONSULTANT INFORMATION
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VENTURA COUNTY COMMUNITY COLLEGE DISTRICT VENTURA COLLEGE HVAC REPLACEMENT PROJECT BUILDING E 4667 TELEGRAPH ROAD - VENTURA, CALIFORNIA
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DRAWN: HM/JS CHECKED: HM DATE: 6-8-18
PROJECT NUMBER: AE201824 TITLE SHEET
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MECHANICAL NOTES

1. SCOPE OF WORK: WORK INCLUDES THE FOLLOWING: FURNISH AND INSTALL ALL EQUIPMENT AND CONTROLS SHOWN ON THE MECHANICAL DRAWINGS AND DESCRIBED IN THESE NOTES, AND THE CONTRACT DOCUMENTS. WORK INCLUDES BUT IS NOT LIMITED TO: DEMOLITION OF EXISTING MECHANICAL SYSTEMS; INSTALLATION OF NEW DUCTWORK, AND PACKAGE UNITS WITH NEW COMPLETE MECHANICAL AND CONTROL SYSTEMS AS DESCRIBED IN THE CONTRACT DOCUMENTS. INCLUDED ARE ALL DEVICES NEEDED TO MAKE COMPLETE AND FUNCTIONAL SPACE CONDITIONING SYSTEMS AND CONTROLS. CONTRACTOR SHALL FURNISH AND INSTALL, MAKE OPERABLE, AND TEST ALL SYSTEMS AND MECHANICAL EQUIPMENT SHOWN ON THE PLANS AND DESCRIBED IN THE SPECIFICATIONS AND CONTRACT DOCUMENTS. IN CONNECTION THEREWITH, CONTRACTOR SHALL ALSO FURNISH AND INSTALL ALL NECESSARY DEVICES, HARDWARE, AND SYSTEMS REQUIRED TO MAKE SAID EQUIPMENT PROPERLY AND SAFELY OPERABLE, INCLUDING BUT NOT LIMITED TO, MOUNTING HARDWARE, INSULATION, FILTERS, VIBRATION CONTROL DEVICES, DUCT SYSTEMS, CONTROL SYSTEMS, AND PATCHING AND PAINTING.

2. INTERPRETATION OF DRAWINGS, SPECIFICATIONS OR CONTRACT DOCUMENTS. IF ANY BIDDER IS IN DOUBT AS TO THE TRUE MEANING OF ANY PART OF THE DRAWINGS, THE SPECIFICATIONS OR OTHER PORTIONS OF THE CONTRACT DOCUMENTS; FINDS DISCREPANCIES, ERRORS OR OMISSIONS THEREIN; OR FINDS VARIANCES IN ANY OF THE CONTRACT DOCUMENTS WITH APPLICABLE RULES, REGULATIONS, ORDINANCES AND/OR LAWS, A WRITTEN REQUEST FOR AN INTERPRETATION OR CORRECTION THEREOF MAY BE SUBMITTED TO THE ENGINEER. IT IS THE SOLE AND EXCLUSIVE RESPONSIBILITY OF THE BIDDER TO SUBMIT SUCH REQUEST IN SUFFICIENT TIME FOR THE PREPARATION OF A RESPONSE THERETO AND DELIVERY OF SUCH RESPONSE TO ALL BIDDERS PRIOR TO THE SCHEDULED CLOSING FOR RECEIPT OF BID PROPOSALS. ANY REQUEST OF ANY BIDDER, PURSUANT TO THE FOREGOING SENTENCE THAT IS MADE LESS THAN SEVEN DAYS PRIOR TO THE SCHEDULED CLOSING DATE FOR THE RECEIPT OF BID PROPOSALS SHALL BE DEEMED UNTIMELY. ANY INTERPRETATION OR CORRECTION OF THE CONTRACT DOCUMENTS WILL BE MADE ONLY BY WRITTEN ADDENDUM DULY ISSUED BY THE OWNER OR THE ENGINEER. A COPY OF ANY SUCH ADDENDUM WILL BE MAILED OR OTHERWISE DELIVERED TO EACH BIDDER RECEIVING A SET OF THE CONTRACT DOCUMENTS. NO PERSON IS AUTHORIZED TO RENDER AN ORAL INTERPRETATION OR CORRECTION OF ANY PORTION OF THE CONTRACT DOCUMENTS TO ANY BIDDER, AND NO BIDDER IS AUTHORIZED TO RELY ON ANY SUCH ORAL INTERPRETATION OR CORRECTION. FAILURE TO REQUEST INTERPRETATION OR CLARIFICATION OF THE DRAWINGS, THE SPECIFICATIONS OR OTHER PORTIONS OF THE CONTRACT DOCUMENTS PURSUANT TO THE FOREGOING SHALL BE DEEMED TO BE A WAIVER OF ANY DISCREPANCY, DEFECT, OR CONFLICT THEREIN.

3. DIMENSIONS. ALL DIMENSIONS SHALL HAVE PREFERENCE OVER SCALE. ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD. ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN ARCHITECTURAL AND ENGINEERING DRAWINGS BEFORE PROCEEDING WITH WORK. IN NO CASE SHALL WORKING DIMENSIONS BE SCALED FROM PLANS, SECTIONS, OR DETAILS ON WORKING DRAWINGS. ALL SIZES OF EQUIPMENT AND MATERIALS SHALL BE VERIFIED WITH EQUIPMENT MANUFACTURER.

4. CODES AND STANDARDS: ALL WORK SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA), 2016 CALIFORNIA BUILDING CODE, THE 2016 CALIFORNIA MECHANICAL CODE, THE 2016 CALIFORNIA PLUMBING CODE, THE 2016 NATIONAL ELECTRIC CODE. THE STATE OF CALIFORNIA. EQUIPMENT MANUFACTURER'S RECOMMENDED PROCEDURES, AND STANDARD CONSTRUCTION PRACTICES. NOTE: WHERE TWO OR MORE CODES CONFLICT, THE MOST RESTRICTIVE SHALL APPLY. NOTHING IN THESE PLANS AND SPECIFICATIONS SHALL BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO APPLICABLE CODES.

5. SUBMITTALS REQUIRED: PRIOR TO ORDERING EQUIPMENT AND MATERIALS, CONTRACTOR SHALL FURNISH TO ENGINEER / OWNER SUBMITTALS AND SHOP DRAWINGS OF ALL EQUIPMENT AND MATERIALS PROPOSED FOR USE IN THIS PROJECT. ORDERING OF EQUIPMENT AND MATERIALS SHALL ONLY PROCEED AFTER SATISFACTORY REVIEW OF ALL SUBMITTALS BY CONTRACTOR / ENGINEER / OWNER. COPIES OF ALL OWNER'S MANUALS, WARRANTIES AND OTHER WRITTEN INFORMATION REGARDING SYSTEMS SHALL BE PRESENTED TO OWNER PRIOR TO THE COMPLETION OF THE PROJECT.

6. CONSTRUCTION OBSERVATION: IN ADDITION TO THE REQUIREMENT FOR OBTAINING INSPECTIONS BY THE LOCAL JURISDICTION. CONTRACTOR SHALL NOTIFY ENGINEER AT APPROPRIATE TIMES DURING THE CONSTRUCTION PROCESS SO THAT ENGINEER CAN VISIT SITE TO BECOME GENERALLY FAMILIAR WITH THE PROGRESS AND QUALITY OF CONTRACTOR'S WORK AND TO DETERMINE IF THE WORK IS PROCEEDING IN GENERAL ACCORDANCE WITH THE CONTRACT DOCUMENTS.

7. UNIT LOCATIONS: EQUIPMENT AND SYSTEM LOCATIONS SHOWN ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL STRUCTURAL MEMBERS AND EXISTING CONDITIONS IN THE FIELD, AND LOCATE UNITS AND DUCTWORK TO AVOID INTERFERENCE. ANY SIGNIFICANT DEVIATIONS FROM THE PLANS SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER. ALLOW CLEARANCE FOR DUCTWORK AND PIPING. ALL CLEARANCES REQUIRED BY UNIT MANUFACTURER SHALL BE MAINTAINED. ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH CODES AND THE RECOMMENDED INSTALLATION PROCEDURES PUBLISHED BY THE MANUFACTURER.

8. DUCTWORK: CONTRACTOR SHALL INSTALL NEW DUCTWORK IN THE APPROXIMATE LOCATIONS SHOWN ON THE DRAWINGS. ALL DUCTWORK SHALL BE SECURELY ANCHORED TO THE BUILDING IN AN APPROVED MANNER THAT WILL RENDER IT ABSOLUTELY FREE FROM VIBRATION AND LATERAL MOVEMENT. CONTRACTOR SHALL PROVIDE WITHOUT COST TO THE OWNER ALL REQUIRED TRANSITIONS AND OFFSETS TO AVOID CONFLICTS WITH STRUCTURE AND OTHER TRADES. ALL EXISTING DUCTWORK TO REMAIN SHALL BE THOROUGHLY CLEANED PER SPECIFICATION SECTION 15890.

9. MATERIALS - DUCTWORK: ALL NEW DUCTWORK FOR HVAC SYSTEMS SHALL BE GALVANIZED STEEL CONFORMING TO ASTM SPEC A525.

ALL CONCEALED ROUND DUCTWORK SHALL BE GALVANIZED CONSTRUCTION WITH GAUGES AND CONNECTIONS AS FOLLOWS: UP TO 12" DIAMETER (INCLUDING FITTINGS) - 26 GAUGE WITH 2" CRIMP JOINT. 13"-24" DIAMETER (INCLUDING FITTINGS) - 24 GAUGE WITH 2" CRIMP JOINT. WHERE NECESSARY TO MAKE FIELD CONNECTIONS BETWEEN PLAIN END DUCT, SLIP JOINT CONNECTORS SHALL BE PROVIDED. JOINT CONNECTION AND SEALING: SHEET METAL SCREW ALL FIELD MADE JOINTS WITH A MINIMUM OF THREE SCREWS. SPACING OF SCREWS NOT TO EXCEED TWELVE INCHES ON CENTER. SEAL ALL DUCTWORK JOINTS WITH HARDCAST "IRON-GRIP 601" PREMIUM FLEXIBLE WATER BASED DUCT SEALANT. FITTINGS AT RECTANGULAR DUCT TAKEOFF SHALL BE SPIN-IN TYPE, COMPLETE WITH LOCKING TYPE VOLUME DAMPERS AS INDICATED ON PLANS & SPECIFICATIONS.

RECTANGULAR DUCTWORK SHALL BE MADE FROM GALVANIZED STEEL SHEETS. DUCT CONSTRUCTION, AND REINFORCING SHALL BE PER TABLES 6-1, 6-2, AND 6-3 OF THE UNIFORM MECHANICAL CODE. DUCTWORK SHALL BE OF THE FOLLOWING GAUGES: UP TO 12" - 26 GAUGE. 13"-30" - 24 GAUGE. CURVED ELBOWS SHALL HAVE CENTRALIZE RADIUS NOT LESS THAN THE WIDTH OF THE DUCT. WHERE ABRUPT TURNS AND ELBOWS ARE USED, TURNING VANES SHALL BE PROVIDED. TAKE-OFFS FROM MAIN DUCTS SHALL BE MADE WITH 45 DEGREE ANGLES WITH VOLUME DAMPERS WHERE SHOWN. ALL PANELS SHALL BE CROSS BROKEN TO ENSURE RIGIDITY.

10. DUCT INSULATION: NEW SUPPLY AND RETURN DUCTWORK SHALL BE INSULATED WITH 2" THICK, THREE QUARTER POUND PER CUBIC FOOT FOIL SCRIMP VAPOR BARRIER FACED FIBERGLASS FLEXIBLE DUCT INSULATION. INSULATION SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INSULATION SHALL HAVE A MINIMUM INSULATION OF R-6. ALL SUPPLY & RETURN PLENUMS SHALL BE LINED WITH 2" DUCT LINER. SEE SPECIFICATIONS. UNLESS OTHERWISE NOTED DIMENSIONS SHOWN ARE INTERNAL CLEARANCES.

EXISTING DUCTING SHALL HAVE NEW 1-1/2" FOIL FACE FIBERGLASS INSULATION INSTALLED OVER EXISTING INSULATION TO THE GREATEST EXTENT POSSIBLE.

11. BALANCING: FOLLOWING INSTALLATION. CONTRACTOR SHALL START UP AND BALANCE ALL HVAC SYSTEMS TO CONFORM TO AIR VOLUMES INDICATED ON PLANS. COPIES OF BALANCING RECORDS SHALL BE FURNISHED TO BUILDING OWNER AND PROJECT ARCHITECT. SEE BOOK SPECIFICATIONS FOR FURTHER REQTS.

12. VIBRATION ISOLATION: INSTALL FLEXIBLE CONNECTIONS BETWEEN MECHANICAL EQUIPMENT AND DUCTWORK. ISOLATE PIPING & DUCTWORK FROM STRUCTURE TO PREVENT EXCESSIVE VIBRATION. AFTER START-UP VERIFY THAT NO VIBRATION IS TRANSMITTED. CORRECT ANY DEFICIENCIES. ALL MECHANICAL EQUIPMENT SHALL HAVE VIBRATION ISOLATION, SEE MECHANICAL DETAILS & SPECIFICATIONS FOR SPECIFIC TYPE.

13. DUCT SUPPORTS AND HANGERS: DUCT SUPPORTS SHALL BE PER TABLE 6-5 (PARTS I & II) OF THE 2016 CALIFORNIA MECHANICAL CODE. RECTANGULAR DUCTS WITH A MAXIMUM SIZE NOT EXCEEDING 30" AND ALL ROUND DUCTS SHALL BE SUPPORTED WITH ONE INCH WIDE 18 GAUGE HANGER STRAPS. SUPPORTS SHALL BE LOCATED ON TWO OPPOSITE SIDES OF THE DUCT, SHALL BE METAL SCREWED TO THE SIDES AND BOTTOM OF THE DUCT, SHALL BE SPACED AT NOT MORE THAN 7'-8" ON CENTERS AND SHALL BE LATERALLY BRACED. SECURE STRAPS TO STRUCTURAL FRAMING PER SMACNA STDS.

14. VOLUME DAMPERS: LOCKING SHEET METAL VOLUME DAMPERS SHALL BE INSTALLED AT THE POINT OF TAKE-OFF FROM MAIN DUCTING AT ALL LOCATIONS SHOWN ON PLANS AND ELSEWHERE AS NECESSARY FOR PROPER BALANCING OF THE SYSTEM. BALANCING AT DIFFUSERS OR RETURN AIR GRILLES ONLY WILL NOT BE PERMITTED.

15. EXHAUST FAN AND FLUE DISCHARGE: ALL EXHAUST FAN DUCTWORK AND FLUES SHALL BE RUN TO A POINT AT LEAST 10 FEET FROM AIR INTAKES OR OTHER OPENINGS TO THE BUILDING.

16. COORDINATION: MECHANICAL CONTRACTOR SHALL COORDINATE WORK WITH THE COLLEGE DISTRICT'S PROJECT MANAGER AND ALL RELATED TRADES.

17. CLEANUP: EVERY DAY, AND AFTER ALL WORK HAS BEEN COMPLETED, CONTRACTOR SHALL CLEAN ENTIRE JOB-SITE OF ALL DEBRIS ASSOCIATED WITH MECHANICAL SYSTEMS EXPOSED PARTS WHICH ARE TO BE PAINTED SHALL BE THOROUGHLY CLEANED READY FOR PAINTING.

18. WIRING: ALL WIRING SHALL BE PERFORMED IN ACCORDANCE WITH NEC REQTS. ALL WIRING SHALL BE IN CONDUIT. ALL INTERIOR LOW VOLTAGE AND CONTROL WIRING SHALL BE IN WIREMOLD AND IN FAN ROOMS SHALL BE IN CONDUIT. EXPOSED CONDUIT SHALL BE INSTALLED IN A SQUARE, PLUMB, AND LEVEL MANNER WITH THOUGHT GIVEN TO THE FINAL APPEARANCES. PROVIDE TO ENGINEER SHOP DRAWING FOR CONTROL TRANSFORMER CONFIGURATIONS DETAILING CIRCUITS TO BE USED, LOAD CALCULATIONS, WIRE SIZES, AND LOCATIONS. WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT NATIONAL ELECTRICAL CODE AND ELECTRICAL SPECIFICATIONS. ALL TRANSFORMERS SHALL BE PROTECTED BY PROPERLY SIZED CIRCUIT BREAKER OR FUSE(S). ALL TRANSFORMERS SHALL HAVE RESETABLE BREAKER ON THE LOAD SIDE. ALL LOW VOLTAGE CONTROL & COMMUNICATIONS WIRING SHALL BE DONE ACCORDING TO MANUFACTURERS INSTALLATION MANUAL. PROVIDE SUBMITTALS ON WIRE AND ENCLOSURES.

19. COORDINATION DURING CONSTRUCTION: THE CONTRACTOR SHALL COORDINATE ANY NECESSARY CHANGES IN WORK SCHEDULING WITH THE COLLEGE DISTRICT TO MINIMIZE THE DISRUPTION. THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY HIS WORK TO BUILDING(S) AND EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER.

20. CORRECTION OF WORK: THE CONTRACTOR SHALL PROMPTLY CORRECT ALL WORK THE COLLEGE DISTRICT FINDS DEFECTIVE OR FAILING TO CONFORM TO THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BEAR ALL COSTS REQUIRED BY THE CONTRACT DOCUMENTS, IF ANY OF THE WORK IS FOUND TO BE DEFECTIVE OR NOT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL CORRECT IT PROMPTLY AFTER RECEIPT OF A WRITTEN NOTICE FROM THE COLLEGE DISTRICT TO DO SO. 21. AS-BUILT DRAWINGS SHALL BE GIVEN TO THE COLLEGE DISTRICT PRIOR TO ACCEPTANCE

OF THE PROJECT. INCLUDED IN THE AS-BUILTS SHALL BE ON PRINTED SHEETS AND ON MAGNETIC MEDIA. 22. VENTURA COLLEGE OPERATES AN AUTOMATED LOGIC ENERGY MANAGEMENT CONTROL

SYSTEM, NO SUBSTITUTIONS ALLOWED, NEW MECHANICAL EQUIPMENT SHALL BE CONTROLLED BY ALC DEVICES.

23. CONCRETE: ALL CONCRETE SHALL BE HARDROCK CONFORMING TO ASTM C-94. ALL REINFORCING STEEL SHALL BE NEW STOCK DEFORMED BARS CONFORMING TO ASTM A-615. GRADE 40.

24. NATURAL GAS PIPING: ALL ABOVE GROUND NATURAL GAS PIPING SHALL BE U.S. MANUFACTURED BLACK (INTERIOR) OR SCH. 40 GALVANIZED (EXTERIOR) STEEL PIPE WITH 150 POUND BLACK OR GALVANIZED THREADED FITTINGS. ALL UNDERGROUND NATURAL GAS PIPING SHALL BE U.S. MANUFACTURED POLYETHYLENE PLASTIC APPROVED FOR NATURAL GAS SERVICE. INSTALL TRACER WIRES FOR UNDERGROUND PLASTIC PIPE. TRANSITIONS FROM UNDERGROUND PLASTIC TO ABOVE GROUND STEEL PIPE SHALL BE MADE WITH APPROVED LISTED PRE-BENT ANODELESS RISER. PROVIDE A CAPPED DIRT LEG IN EACH PIPE SERVING GAS BURNING EQUIPMENT. CONNECT GAS AT EQUIPMENT WITH DORMONT "BLUE HOSE" NSF / ANSI 169 LISTED PVC COATED FLEXIBLE STAINLESS STEEL HOSE WITH DORMONT QUICK DISCONNECT VALVE AND ANSI Z 21.69 APPROVED RESTRAINT DEVICE. PAINT ALL EXPOSED GAS PIPING WITH ANTI-CORROSIVE PAINT. GAS SHUTOFF VALVE FOR EACH APPLIANCE SHALL BE MCDONALD SERIES 10710. SUPPORT ON STRUT PER 2016 CPC.

25. CONDENSATE PIPE SHALL BE COPPER TYPE "L" US MANUFACTURED WITH SOLDERED WROT COPPER FITTINGS. SLOPE MIN 1/8"/FT TO DRYWELL. PROVIDE TEE W/ BRASS PLUG AT CHANGES OF DIRECTION.

26. INSTALL CHAINLINK ENCLOSURE WITH G-90 FENCING AND SCHEDULE 40 GALVANIZED STEEL POSTS AND RAILS. INSTALL WITH COMMERCIAL GRADE HOT DIPPED GALVANIZED HARDWARE. PROVIDE GATES FOR SERVICE ACCESS AS SHOWN ON PLANS. CHAINLINK SHALL BE 9 GA. WITH GREEN VINYL COVER. CONFORM TO CLFMI PRODUCT MANUAL.

27. CONCRETE SIDEWALK - CONCRETE SIDE WALK SHALL BE A MINIMUM 4" THICK 2500 PSI CONCRETE ASTM C 150 TYPE V GRAY. INSTALLATION SHALL COMPLY WITH ACI 117 AND 301. NATIVE SOIL SHALL BE CONSISTENTLY COMPACTED TO 95%. 2" OF CLEAN 3/8" GRAVEL SUBBASE SHALL SHALL BE PLACED AND COMPACTED AS A SUB-BASE. FORMS SHALL BE OF WOOD OR METAL AND BE STRAIGHT AND OF SUFFICIENT STRENGTH TO RESIST THE CONCRETE FORCES DURING PLACEMENT. ALL FORMS SHALL BE COATED TO ALLOW FOR CLEAN REMOVAL.

THE CONCRETE SHALL BE PLACED ON A MOIST FOUNDATION TO THE REQUIRED DEPTH AND CONSOLIDATED AND SPADED SUFFICIENTLY TO BRING THE MORTAR TO THE SURFACE AFTER WHICH IT SHALL BE STRUCK OFF AND FLOATED WITH A WOOD FLOAT. BEFORE THE MORTAR HAS SET, THE SURFACE SHALL BE STEEL TROWELED AND THEN FINISHED WITH A LIGHT BROOM FINISH.

SIDEWALK SHALL BE DIVIDED IN REGULAR INTERVALS WITH A CONTRACTION JOINT 1" DEEP AND 1/4" IN WIDTH. ONE HALF INCH WIDE TRANSVERSE EXPANSION JOINTS SHALL BE A PLACED AT APPROXIMATELY 45 FOOT INTERVALS AND FILLED WITH CONCRETE EXPANSION JOINT FILLER. THE EDGES OF THE SIDEWALK SHALL BE ROUNDED WITH A 1/4" RADIUS EDGER.

PROTECT CONCRETE FROM PRE-MATURE DRYING. CONCRETE SHALL CURED PER ACI 308.1 WITH EITHER THE WET BURLAP OR MOISTURE RETAINING COVER FOR SEVEN DAYS.

TRANSITIONS FROM EXISTING SHALL MATCH TRANSVERSE SLOPE AND SLOPES SHALL BE SMOOTH AND CONTINUOUS. ADJACENT SOIL SHALL HAVE A MAXIMUM SLOPE OF TWO UNITS HORIZONTAL TO ONE UNIT VERTICAL.

CONTRACTOR SHALL MOVE ANY EXCESS SOIL TO A LOCATION DESIGNATED BY COLLEGE'S PROJECT MANAGER

28. INSTALL PROTECTIVE FENCING OUTSIDE THE PERIMETER OF WORK AREA. REVIEW EXTENT OF FENCING WITH ENGINEER AND COLLEGE'S PROJECT MANAGER PRIOR TO INSTALLATION.

29. REMOVE TREE STUMPS FROM AREAS UNDER NEW CONCRETE.

MECHANICAL SCHEDULE

AC

PACKAGED UNIT. CARRIER MODEL 48LCD012A2D5-1A0A0. 10 TON. 4835 CFM @ 0.6"WC. HORIZONTAL FLOW. NATURAL GAS - TWO STAGE- INPUT 180,000/144,000, OUTPUT 118,000/146,000 BTUH. ELECTRICAL DATA- 208V-3-60HZ. 13.0 EER. 20.6 IEER. MCA 54 AMPS. AND MOCP 60 AMPS. W/ E-COATED EVAP AND CONDENSER COILS, FLUE EXTENSION AND ECONOMIZER W/ FAULT **DETECTION & DIAGNOSTICS. R-410A REFRIGERANT.** TOTAL OPERATING UNIT WEIGHT: 1820 LBS



TOTAL OPERATING UNIT WEIGHT: 2140 LBS

ABBREVIATIONS

ABBRV ABBREVIATIONS

PACKAGED UNIT. CARRIER MODEL 48LCD014A6D5-1A0A0. 12.5 TON. 6250 CFM @ 0.6"WC. HORIZONTAL FLOW. NATURAL GAS - TWO STAGE- INPUT 176,000/141,000, OUTPUT 143,000/114,000 BTUH. FLUE EXTENSION. ELECTRICAL DATA- 208V-3-60HZ, 12.4 EER, 19.1 IEER. MCA 64.1 AMPS, AND MOCP 80 AMPS, W/ E-COATED EVAP AND CONDENSER COILS, FLUE EXTENSION AND ECONOMIZER W/ FAULT DETECTION & DIAGNOSTICS. R-410 REFRIGERANT.

ABV ABOVE	NISHED ELOOR
AHU AIR HAND	LING UNIT
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BOT BOTTOM	
CD CEILING D	IFFUSER FT PER MINUTE
CL CENTERLI	NE
CLG CEILING	
COND CONDEN	
DIA DIAMETER	
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DWG DRAWING	ċ
EA EACH	
EL ELEVATION	N
EQ EQUIPMEN	NT
EQUIP EQUIPM	ENT
EXH EXHAUST	
FRM FROM	
FLR FLOOR	
G GAS	
MAX MAXIMUN	
MIN MINIMUM	
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Q	RETURN AIR REGISTER
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Ω	ΕΧΗΔΙΙΩΤ ΕΔΝ
Г	VOLUME DAMPER
	VOLUME DAMPER THERMOSTAT
	VOLUME DAMPER THERMOSTAT RETURN AIR PLENUM (LINED)
	VOLUME DAMPER THERMOSTAT RETURN AIR PLENUM (LINED)
	VOLUME DAMPER THERMOSTAT RETURN AIR PLENUM (LINED) SUPPLY AIR PLENUM (LINED)
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$\begin{bmatrix} \\ 1 \\ 1 \\ \hline 1 $	VOLUME DAMPER THERMOSTAT RETURN AIR PLENUM (LINED) SUPPLY AIR PLENUM (LINED) FIRE & SMOKE DAMPER EQUIPMENT TAG SEE MECH. SCHEDULE DETAIL TAG

WALL CLEAN OUT (WCO)

HOSE BIB (HB)

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SEISMIC RESTRAINT

PROVIDE COMPLETE SEISMIC ANCHORAGE AND BRACING DETAILS FOR LATERAL AND VERTICAL SUPPORT OF DUCTING/PIPING AND MECHANICAL EQUIPMENT, ETC. IN ACCORDANCE WITH THE CALIFORNIA BUILDING CODE, SECTION 1632A TABLE 16A-O.

THE SEISMIC BRACING AND ANCHORAGE OF PIPING AND DUCTS NOT DETAILED ON THESE DRAWINGS SHALL BE SUPPORTED AND BRACED PER THE SMACNA 1998 SEISMIC RESTRAINTS RESTRAINT SYSTEM. THE SEISMIC HAZARD LEVEL IS B. PER CBC CHAP. 16A MANUAL FOR MECHANICAL SYSTEMS

ALL BRACING OF DUCTS AND PIPINGS SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA 1998 GUIDELINES AS APPROVED BY DSA/ORS. SEISMIC HAZARD LEVEL IS B. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWINGS OR IN THE GUIDELINES. THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE MECHANICAL ENGINEER AND DSA FIELD ENGINEER. A COPY OF THE GUIDELINES PUBLISHED BY SMACNA AND APPROVED BY DSA SHALL BE PROVIDED BY THE CONTRACTOR AND KEPT ON THE JOB AT ALL TIMES.

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DRAWING NUMBER : M2





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	POINT OF DISCONNECTION
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3Y DESCRIPTION REVISIONS
DATE
DRAWN: HM/JS CHECKED: HM DATE: 6-8-18 SCALE: AS NOTED PROJECT NUMBER: AE201824
MECHANICAL DETAILS
drawing number : M5

CEDTIFIC					CEC-NRCC-MC
CERTIFIC	ATE OF CO			(Page 1 of 4)	CERTIFICAT
Project Name		Callege Duilding E HV/AC Dan	Poormant	ate Prepared: C/4 4/0040	Mechanical Project Name: N
	ventura	College Building E HVAC Rep	acement	6/14/2018	V
A. MECH	ANICAL CO	MPLIANCE DOCUMENTS & WOR	KSHEETS (check box if worksheet is included)		B. MECHAN
For detail	ed instruct	ions on the use of this and all Ene	rgy Efficiency Standards compliance forms, refer to the 2016 Nonresid	ential Manual	Test Perfor
Note: Th	e Enforcem	ent Agency may require all forms	to be incorporated onto the building plans.		Designer:
YES	NO	Comp. Doc./Worksheet #	Title		This complia
<u></u>		NRCC-MCH-01-E (Part 1 of 3)	Certificate of Compliance, Declaration. Required on plans for all sub	mittals.	boxes for all
		NRCC-MCH-01-E (Part 2 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-02-A to	11-A). Required on plans for all submittals.	Installing Cc
<u></u>		NRCC-MCH-01-E (Part 3 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-12-A to	18-A). Required on plans where applicable.	The contract
<u></u>		NKCC-MCH-02-E (Part 1 of 2)	Mechanical Wet Equipment Summary is required for all submittals w	/ith Central Air Systems. It is optional on plans.	responsibilit
U		NRCC-MCH-02-E (Part 2 of 2)	systems. It is optional on plans.	with chilled water, not water or condenser water	Enforcemen Plancheck –
Ď		NRCC-MCH-03-E	Mechanical Ventilation and Reheat is required for all submittals wit optional on plans.	h multiple zone heating and cooling systems. It is	Inspector - B Test D
		NRCC-MCH-07-E (Part 1 of 2)	Power Consumption of Fans. Required on plans where applicable		Equipme
	Ø	NRCC-MCH-07-E (Part 2 of 2)	Power Consumption of Fans, Declaration. Required on plans where	applicable	Requiring Te
					48LCD014

HVAC Dry & Wet System Requirements				NRCC-MCH-02-
				(Page 1 of 3
Project Name: Ventura College Building E HVA	C Replacement		Date Prepared: 6/14/2018	
A. Equipment Tags and System Description ¹	– Dry Systems	AC-1	AC-2	
MANDATORY MEASURES	T-24 Sections	Reference to th	e Requirements in the Co	ntract Documents
Heating Equipment Efficiency ³	110.1 or 110.2(a)	M1	M1	
Cooling Equipment Efficiency ³	110.1 or 110.2(a)	M1	M1	
HVAC or Heat Pump Thermostats	110.2(b), 110.2(c)	M1	M1	
Furnace Standby Loss Control	110.2(d)	M1	M1	
Low Leakage AHUs	110.2(f)	M1	M1	
Ventilation ⁴	120.1(b)	M1	M1	
Demand Control Ventilation ⁵	120.1(c)4	M1	M1	
Occupant Sensor Ventilation Control ⁶	120.1(c)5, 120.2(e)3	N1	N/1	
Shutoff and Reset Controls ⁷	120.2(e)	N11	N/1	
Outdoor Air and Exhaust Damper Control	120.2(f)		N/I	
solation Zones	120.2(g)		MI	
Automatic Demand Shed Controls	120.2(h)	MI	Mi	
Economizer FDD	120.2(i)	- MIT	M1	
Duct Insulation	120.4	M1	M1	
PRESCRIPTIVE MEASURES		M1	· M1	
Equipment is sized in conformance with 140.4(a & b)	140.4(a & b)	Y _{Y/N}	Y _{Y/N}	Y/N
Supply Fan Pressure Control	140.4(c)	M1	M1	
Simultaneous Heat/Cool ⁸	140.4(d)	M1	M1	
Economizer	140.4(e)	M1	M1	
Heat and Cool Air Supply Reset	140.4(f)	M1	M1	
Electric Resistance Heating ⁹	140.4(g)	M1	M1	
Duct Leakage Sealing and Testing ¹⁰	140.4(I)	M1	M1	
 Provide equipment tags (e.g. AHU 1 to with common requirements can be gro Provide references to plans (i.e. Drawin paragraphs) where each requirement is The referenced plans and specification capacity, Title 24 minimum efficiency r requirements are applicable (a.g. full) 	10) and system descriptio puped together. ng Sheet Numbers) and/or s specified. Enter "N/A" if s must include all of the fc equirements, and actual r and nart-load) include all	n (e.g. Single Duct specifications (in- the requirement is illowing informati- ated equipment e Where appliance s each central HVA s is naturally vent	VAV reheat) as appropria cluding Section name/nur s not applicable to this sys on: equipment tag, equip fficiencies. Where multipl standards apply (110.1), ic C system. Include referen ilated identify where this	ite. Multiple units nber and relevant item. nent nominal e efficiency lentify where
 equirements are applicable (e.g. fulle a equipment is required to be listed per 4. Identify where the ventilation requirem unit schedules and sequences of operations. Multiple z 5. If one or more spaces has demand com the sequence of operation. 6. If one or more space has occupant sem and the sequence of operation 7. If the system is DDC identify the sequence For all systems identify the specificatio 8. Identify where the heating, cooling and 	Title 20 1601 et seq. nents are documented for tion. If one or more space one central air systems m trolled ventilation identify sor ventilation control ide nces for the system start/ n for the thermostats and d deadband airflows are so	v where it is specif ntify where it is sp stop, optimal start time clocks (if app heduled for this s	MCH-03-E compliance do led including the sensor sp ecified including the sens , setback (if required) and plicable). ystem. Include a referenc	ces to both centra s documented in cument. pecifications and or specifications l setup (if required e to the

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	Required A	ccept
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CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance

May 2016

CERTIFICATE OF CON	MPLIANCE		NRCC-MCH-03-E
Mechanical Ventilati	ion & Reheat		(Page 2 of 2
Project Name: Ventura C	College Building E HVAC Replacement		Date Prepared: 6/14/2018
	THOD'S DECI ADATION STATEMENT		
1. I certify that this C	Certificate of Compliance documentation is accurate and compl	ete.	
Documentation Author Name	e: Jose Sanchez	Documentation Author Signature:	and the state of t
Company:	AE Group Mechanical Engineers, Inc.	Signature Date: 6/14/2018	
Address:	838 East Front Street	CEA/ HERS Certification Identification	(if applicable):
City/State/Zip:	Ventura, Ca 93003	Phone: 805-653-1722	
	I'S DECLADATION STATEMENT		
 I certify the following u The information p I am eligible unde designer). The energy featur conform to the re The building desig 	under penalty of perjury, under the laws of the State of Californ provided on this Certificate of Compliance is true and correct. er Division 3 of the Business and Professions Code to accept resp res and performance specifications, materials, components, and equirements of Title 24, Part 1 and Part 6 of the California Code gn features or system design features identified on this Certifica	ia: ponsibility for the building design or systen d manufactured devices for the building de of Regulations. ate of Compliance are consistent with the in	n design identified on this Certificate of Compliance (responsible esign or system design identified on this Certificate of Compliance information provided on other applicable compliance documents,
 RESPONSIBLE PERSON I certify the following t The information r I am eligible unde designer). The energy featur conform to the re The building desig worksheets, calcu I will ensure that : agency for all app building owner at Responsible Designer Name: 	under penalty of perjury, under the laws of the State of Californ provided on this Certificate of Compliance is true and correct. er Division 3 of the Business and Professions Code to accept res res and performance specifications, materials, components, an equirements of Title 24, Part 1 and Part 6 of the California Code gn features or system design features identified on this Certifica ulations, plans and specifications submitted to the enforcement a completed signed copy of this Certificate of Compliance shall blicable inspections. I understand that a completed signed copy t occupancy.	ia: ponsibility for the building design or system d manufactured devices for the building de of Regulations. ate of Compliance are consistent with the in agency for approval with this building permi be made available with the building permi of this Certificate of Compliance is require Responsible Designer Signature:	n design identified on this Certificate of Compliance (responsible esign or system design identified on this Certificate of Compliance information provided on other applicable compliance documents, mit application. t(s) issued for the building, and made available to the enforcement d to be included with the documentation the builder provides to the MMM
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 RESPONSIBLE PERSON I certify the following t 1. The information p 2. I am eligible unde designer). 3. The energy featur conform to the re 4. The building desig worksheets, calcu 5. I will ensure that a agency for all app building owner at Responsible Designer Name: Company : Address: City/State/Zip: 	under penalty of perjury, under the laws of the State of Californ provided on this Certificate of Compliance is true and correct. er Division 3 of the Business and Professions Code to accept resj res and performance specifications, materials, components, an equirements of Title 24, Part 1 and Part 6 of the California Code gn features or system design features identified on this Certifica ulations, plans and specifications submitted to the enforcement a completed signed copy of this Certificate of Compliance shall blicable inspections. I understand that a completed signed copy t occupancy. Hugh Mcternan AE Group Mechanical Engineers, Inc. 838 East Front Ventura, CA, 93001	ia: ponsibility for the building design or system d manufactured devices for the building de of Regulations. ate of Compliance are consistent with the in agency for approval with this building permit be made available with the building permit of this Certificate of Compliance is required Responsible Designer Signature: Date Signed: License: Phone:	n design identified on this Certificate of Compliance (responsible esign or system design identified on this Certificate of Compliance information provided on other applicable compliance documents, mit application. tt(s) issued for the building, and made available to the enforcement d to be included with the documentation the builder provides to the mathematical design of the building of the document of the forcement d to be included with the documentation the builder provides to the mathematical design of the documentation of the builder provides to the Mathematical design of the documentation of the builder provides to the Bathematical design of the documentation of the builder provides to the mathematical design of the documentation of the builder provides to the Bathematical design of the documentation of the builder provides to the Bathematical design of the documentation of the builder provides to the Bathematical design of the documentation of the builder provides to the Bathematical design of the documentation of the builder provides to the Bathematical design of the documentation of the builder provides to the Bathematical design of the documentation of the documentation of the builder provides to the Bathematical design of the documentation of the documentation of the documentation of the builder provides to the Bathematical design of the documentation of the doc

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance

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ng E I	HVAC Repla	acement				Date Prepared	6/14/2018		
	DMS (chock h	ov for roquiro	d compliance d	ocumonts)					
	RIVIS (CHECK L	Jox for require	u compliance u	ocuments)					
d by t y and	list all equipm	ent that require	s an acceptance t	elow are all the ac est. All equipmen	t of the same ty	or HVAC systems. be that requires a	test, list the equi	pment description	ne applicable I and the number
ment	is responsible	to either conduc	t the acceptance	test themselves	or have a qualifie	ed entity run the te	est for them. If m	ore than one pers	on has
g, eac	h person shall	sign and submit	the Certificate of	Acceptance appl	icable to the por	tion of the constru	iction or installat	ion for which they	are responsible
liance	document is i	not considered a	completed docu	ment and is not t	o be accepted by	the building depa	irtment unless th	e correct boxes ar	e checked.
grant	ed all newly in	stalled process s	ystems must be t	ested to ensure p	proper operation	S.			
2-A	MCH-03-A	MCH-04-A	MCH-05-A	MCH-06-A	MCH-07-A	MCH-08-A	MCH-09-A	MCH-10-A	MCH-11-A
or	Single Zone	Air	Economizer	Control	Supply Fan	Valve Leakage	Supply Water	System	Automatic
	Unitary	Distribution	Controls	Ventilation	VAV	Test	Temp. Reset	Variable Flow	Demand Shed Control
				(DCV)				Control	
		U							
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	OMPLIAN	1CE				
Mechanical Syster	ns					
Project Name: Ventura	a Colleg	e Building E HVAC I	Replacement			Date Prepared: 6/1
		CEPTANCE FORMS (ct	eck box for required (compliance document	s)	
Test Performed B	iviae ae		leck box for required t		3)	
Designer:						
This compliance do boxes for all accept of systems.	cument is ance tests	to be used by the design that apply and list all ec	ner and attached to the p quipment that requires a	plans. Listed below are a in acceptance test. All ec	all the acceptance tests f uipment of the same ty	for HVAC systems. The d pe that requires a test, l
Installing Contracto	or:					
The contractor who	installed	the equipment is respor	sible to either conduct t	he acceptance test then	nselves or have a qualifie	ed entity run the test for
responsibility for th	e accepta	nce testing, each person	shall sign and submit th	e Certificate of Acceptar	ice applicable to the poi	rtion of the construction
Plancheck – The NR	.cc-Mch-(01-E compliance docume	ent is not considered a co	ompleted document and	is not to be accepted by	y the building departme
Inspector - Before c	ccupancy	permit is granted all nev	wly installed process sys	tems must be tested to e	ensure proper operation	S
Test Descripti	on	MCH-12-A	MCH-13-A	MCH-14-A	MCH-15-A	MCH-16-A
Equipment		Fault Detection &	Automatic Fault	Distributed Energy	Thermal Energy	Supply Air
Requiring Testing	# of	Diagnostics for DX	Detection &	Storage DX AC	Storage (TES)	Temperature Reset
or Verification	Units	Units	Zone	Systems	Systems	Controls
48LCD012A2D5	1					
48LCD014A6D5	1					
					_	

eplacement et Systems 24 Sections 110.1 110.1, 140.4(i) 110.2(e) 1 110.2(e) 2 110.2(e) 3 110.2(e) 4	Reference to the R	Date Prepared: 6/14/2018 Requirements in the C	(Page 2 of 3)
Placement 24 Systems 24 Sections 110.1 110.1, 140.4(i) 110.2(e) 1 110.2(e) 2 110.2(e) 3 110.2(e) 4	Reference to the R	Bate Prepared: 6/14/2018 Requirements in the 0	Contract Documents ²
24 Sections 110.1 110.1, 140.4(i) 110.2(e) 1 110.2(e) 2 110.2(e) 3 110.2(e) 4	Reference to the R	equirements in the t	Contract Documents ²
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110.2(6) 2			
120.3			
		1	
40.4(h)2, 140.4(h)5	Y/N	Y/N	Y/N
140.4(h)3			
140.4(h)4			
140.4(j)			
140.4(k)			+
140.4(k)			+
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et Numbers) and/or ified. Enter "N/A" if t t include all of the fol ments, and actual ra rrt-load) include all. F ie efficiencies are Pat If towers use centri- th exceptions have b ad water plant. 66-E when open or clo	specifications (incluc he requirement is no lowing information: ted equipment effici or chillers operating h A or Path B. fugal fans document een used to comply osed circuit cooling to	ling Section name/nu ot applicable to this s equipment tag, equi encies. Where multip at non-standard effic which exception is u with 140.4(j) and the powers are specified to	Imber and relevant ystem. pment nominal ole efficiency ciencies provide the sed. total installed design o be installed,
	120.3 40.4(h)2, 140.4(h)5 140.4(h)3 140.4(h)4 140.4(j) 140.4(k) 14	120.3 40.4(h)2, 140.4(h)5 Y/N 140.4(h)3 140.4(h)4 140.4(j) 140.4(j) 140.4(k) 140.4(k) 150.4(k)	120.3 Image: state in the image: state i

EC-NRCC-MCH-	02-E (Revised 06/14)		CALIFORNIA ENERGY COMMISSION
CERTIFICATE	OF COMPLIANCE		NRCC-MCH-02-
HVAC Wet Sy	stem Requirements		(Page 3 of 3
Project Name: Vei	ntura College Building E HVAC Replacement		Date Prepared: 6/14/2018
DOCUMENTAT	ION AUTHOR'S DECLARATION STATEMENT		
1 L certify th	at this Certificate of Compliance documentation is accura	te and complete	
Documentation Au	thor Name: Jose Sanchez	Documentation Author Signature	" There
Company:	AE Group Mechanical Engineers, Inc.	Signature Date: 6/14/2018	
Address:	838 East Front Street	CEA/ HERS Certification Identifica	ation (if applicable):
City/State/Zip:	Ventura, Ca 93003	Phone: 805-653-1722	
RESPONSIBLE	PERSON'S DECLARATION STATEMENT		
 The infor I am eligil identified I am eligil identified The energy design idd Regulatio The build provided agency fc I will ensy building, Certificat 	nation provided on this Certificate of Compliance is true a ble under Division 3 of the Business and Professions Code i l on this Certificate of Compliance (responsible designer). gy features and performance specifications, materials, con entified on this Certificate of Compliance conform to the re- ns. ing design features or system design features identified or on other applicable compliance documents, worksheets, or re approval with this building permit application. ure that a completed signed copy of this Certificate of Com and made available to the enforcement agency for all appl e of Compliance is required to be included with the docum rer Name: Hugh Mcternan	to accept responsibility for f apponents, and manufacture equirements of Title 24, Par a this Certificate of Complian calculations, plans and speci apliance shall be made availi licable inspections. I unders nentation the builder provid Responsible Designer Signature:	the building design or system design d devices for the building design or system t 1 and Part 6 of the California Code of nce are consistent with the information ifications submitted to the enforcement able with the building permit(s) issued for the tand that a completed signed copy of this les to the building owner at occupancy.
Company :	AE Group Mechanical Engineers, Inc.	Date Signed:	6/14/2018
Address:	838 East Front	License:	M030626
City/State/Zip:	Ventura CA 93001	Phone:	805-653-1722

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance

January 2016

1	E OF COMI	PLIANCE		NRCC-MCH-04-E
A	cceptance	Tests		(Page 1 of 3)
١	/entura Co	ollege Building E HVAC Replace	cement	Date Prepared: 6/14/2018
			OPKSHEETS	
ií	f workshee	et is included)	ORRSHELTS	
e	d instructi	ons on the use of this and all Ene	ray Standards compliance documents, refer to the 2016 Nonre	sidential Manual
	Enforceme	ent Agency may require all compli	iance documents to be incorporated onto the building plans. Th	he NRCC-MCH-04-E and NRCC-MECH-05-E are alternative
	e documer	nts to NRCC-MCH-01-E, NRCC-MC	H-02-E and NRCC-MCH-03-E for projects using only single zone	packaged HVAC systems.
2	c uocumer			pacinagea i i i i i e e je center
	NO	Form	Title	Faculty 2.2
	NO	Form NRCC-MCH-04-E (1 of 2)	Title Certificate of Compliance. Required on plans when used	I.
	NO	Form NRCC-MCH-04-E (1 of 2) NRCC-MCH-04-E (2 of 2)	Title Certificate of Compliance. Required on plans when used Mechanical Acceptance Tests. Required on plans when	i. used.
	NO	Form NRCC-MCH-04-E (1 of 2) NRCC-MCH-04-E (2 of 2) NRCC-MCH-05-E (1 of 2)	Title Certificate of Compliance. Required on plans when used Mechanical Acceptance Tests. Required on plans when HVAC Prescriptive Requirements. It is required on plans	i. used. when used.

	F COMPLI	ANCE					
Required Accep	otance Te	sts					
Project Name: Ven	tura Colle	ege Building	g E HVAC F	Replacement			
Designer: This complian check the app equipment de the test. Since Enforcement Systems Acce for normal use Systems Acce The NRCC-MC The equipmer must be cond submitted to t	ce docurr licable bc scription e this com Agency: ptance . B e, all cont ptance . B H-04-E co nt requirir ucted. Th the buildi	tent is to be boxes by all ac and the num pliance docu rol devices s refore occup: compliance do ng testing, pe testing, pe testing, pe	used by the ceptance tes ober of syste ment will be ancy permit erving the b ancy permit bocument is n erson perfor checked-off ent that certi	designer and a sts that apply a ms. The NA n e part of the pl is granted for uilding or spac is granted. All ot considered ming the test (forms are requ fies plans, spe	attached to th and list all equ umber design lans, completi a newly const se shall be cer l newly install a completed ((Example: HV/ uired for ALL r cifications, in:	e plans. Liste iipment that ates the Sect ion of this sec ructed buildii tified as meet ed HVAC equi document an AC installer, T newly installe stallation cert	ed below are require an a ion in the Aj tion will allo ng or space, ting the Accu ipment mus d is not to b AB contract d and replac tificates, and
10-103(b) and	Title 24 I	Part 6. The b	uilding inspe	ctor must reco	eive the prope	erly filled out	and signed
Equipment Requiring Testing or Verification	# of Units	Outdoor Air	Single Zone Unitary	Air Distribution Ducts	Economizer Controls	Demand Control Ventilation (DCV)	Supply Fan VAV
48LCD012A	1	~	~				
401.000444	1	4	V				
48LCD014A							
48LCD014A							
48LCD014A							
48LCD014A							
48LCD014A							

January 2016

		NRCC-MCH-01-E
		(Page 3 of 4)
" 6/1	4/2018	
The d test, l	esigner is required to ch ist the equipment descri	eck the applicable ption and the number
st for iction	them. If more than one or installation for which	e person has they are responsible.
irtme	nt unless the correct box	es are checked.
	MCH-17-A	MCH-18-A
set	Condenser Water Reset Controls	ECMS

OMPLIANCE		NRCC-MCH-0
ms		(Page 4 o
a College Building E HVAC Replacement		Date Prepared: 6/14/2018
AUTHOR'S DECLARATION STATEMENT		
is Certificate of Compliance documentation is accurate and comp	lete.	
^{ame:} Jose Sanchez	Documentation Author Si	gnature:
AE Group Mechanical Engineers, Inc.	Signature Date: 6/14/2	2018
838 East Front Street	CEA/ HERS Certification Ic	entification (if applicable):
Ventura, Ca 93003	Phone: 805-653-17	722
ON'S DECLARATION STATEMENT		
activations, prans and specifications submitted to the enforcement iat a completed signed copy of this Certificate of Compliance shall applicable inspections. I understand that a completed signed copy r at occupancy.	be made available with this bu of this Certificate of Compliance Responsible Designer Sign	ng permit application. Ing permit(s) issued for the building, and made available to the enforcement is required to be included with the documentation the builder provides to the nature:
Hugh Mcternan		NEW Z
		0/4 4/0040
AE Group Mechanical Engineers, Inc.	Date Signed:	6/14/2018
AE Group Mechanical Engineers, Inc. 838 East Front	License:	6/14/2018 M030626
	ns College Building E HVAC Replacement College Building E HVAC Rep	ns College Building E HVAC Replacement Current Specification Statement Current Specification Specifications, materials, components, and manufactured devices for the bride specifications submitted to the enforcement agency for approval with this build at a completed signed copy of this Currificate of Compliance shall be made available with the build Current Specifications Specification

January 2016

CERTIFICATE OF C	OMPLI	ANCE														0, 1211 0		N	RCC-M	CH-03-
Mechanical Ventil	ation 8	Reheat																	(Page	e 1 of 2
Project Name: Ventura	a Colle	ge Build	ing E ⊦	IVAC I	Replac	ement								Date Pre	epared: 6/14/2	2018				
A. Mechanical Vent	ilation a	and Rehea	at																	
	INFO (FRC						ARFA BASI	5	00		ASIS	ROOM	MINI		VAV Reheate	d Primary M		VAV De	adband Air CEM	
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21
ZONE/ SYSTEM/ VAV BOX TAG	DESIGN PRIMARY COOLING AIRFLOW (CFM)	DESIGN PRIMARY DEADBAND AIRFLOW (CFM)	DESIGN PRIMARY HEATING AIRFLOW (CFM)	CNTRL TYPE DDC (Y/N)	TRANSFER AIRFLOW (CFM)	CONDITIONED AREA (ft²)	MIN CFM PER AREA	MIN CFM BY AREA	NUM. OF PEOPLE	CFM PER PERSON	MIN CFM BY OCCUPANT	MIN CFM BY ROOM	REQ'D VENT AIRFLOW (CFM)	COMPLIES?	PERCENTAGE BASED DESIGN PRIMARY COOLING AIR (CFM)	MAXIMUM REHEAT (CFM)	COMPLIES?	% BASED DESIGN PRMY COOLNG AIR (CFM)	MAX DEAD-BAND AIRFLOW (CFM)	COMPLIES?
Zone 1						4,659	0.15	699	93.2	15.0	1,398		1,398	⊠ Pass □ Fail			□ Pass □ Fail X N/A			□ Pas □ Fai X N//
											Total		1,398	Pass Fail			□ Pass □ Fail □ N/A			□ Pas □ Fai □ N/
ZONE 2						3,909	0.50	1,955	40.3	15.0	604		1,955	🗶 Pass			□ Pass □ Fail ⊠ N/A			□ Pa □ Fa Ⅹ N/
											Total		1,955	□ Pass □ Fail			Pass Fail N/A			□ Pa □ Fa □ N/
														Pass Fail			□ Pass □ Fail □ N/A			□ Pa □ Fa □ N/
														Pass Fail			□ Pass □ Fail □ N/A			Pa: Fai
														Pass Fail			Pass Fail			Pas Fai

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance

	CALIFORNIA ENEI			
NRCC-MCH-04-E				
(Page 2 of 3)	40	pared: C/4 4/00	Date Pres	
	18	6/14/20		
designer is required to iires a test, list the Aanual that describes ork appropriately.	al systems. The e ertain type requ e Appendices N the scope of wo	for mechanica ipment of a co ntial Reference to budget for	otance tests f st. If all equi e Nonresider nsible party f	e accep ance te ix of th respor
s or space is operated	erving a building iance.	ning system se r Code Compl	ce-conditior irements for	iew spa ce Requ
rect boxes are checked hat Acceptance test e documents shall be quirements of Section e final occupancy.	irements. : unless the corr project) and wh e of Acceptance on meet the rea ding can receive	eptance Requ g department E in charge of on a Certificat nce informati efore the buil	sing the Acce y the buildin ontractor, Pl nt. In additic nd maintena ocuments be	ested us epted b ntrols c juipmer rating a liance d
Test Performed By:	MCH-18-A	MCH-14-A	MCH-12-A	H-11-A
	Energy Management Control System	Distributed Energy Storage DX AC Systems	FDD for Packaged DX Units	omatic mand hed ntrol

EC-NRCC-MCH-04-E (Revis	sed 01/16)		CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COM	PLIANCE		NRCC-MCH-04-E
Required Acceptance	Tests		(Page 3 of 3
Project Name: Ventura Co	llege Building E HVAC Replacement		Date Prepared: 6/14/2018
DOCUMENTATION AUT	HOR'S DECLARATION STATEMENT		
1. I certify that this Ce	ertificate of Compliance documentation is accurate and complete.		
Documentation Author Name:	Jose Sanchez	Documentation Author Signature:	Lee
Company:	AE Group Mechanical Engineers, Inc.	Signature Date: 6/14/2018	
Address:	838 East Front Street	CEA/ HERS Certification Identification	ion (if applicable):
City/State/Zip:	Ventura, Ca 93003	Phone: 805-653-1722	
RESPONSIBLE PERSON'	S DECLARATION STATEMENT		
 The information pr I am eligible under designer). The energy feature conform to the rec The building design worksheets, calcul. I will ensure that a agency for all appli building owner at of Responsible Designer Name: 	ovided on this Certificate of Compliance is true and correct. Division 3 of the Business and Professions Code to accept responsibility as and performance specifications, materials, components, and manufac quirements of Title 24, Part 1 and Part 6 of the California Code of Regular in features or system design features identified on this Certificate of Com ations, plans and specifications submitted to the enforcement agency for completed signed copy of this Certificate of Compliance shall be made a icable inspections. I understand that a completed signed copy of this Cer- pocupancy.	for the building design or syst stured devices for the building tions. apliance are consistent with th or approval with this building per ravailable with the building per rtificate of Compliance is requi	tem design identified on this Certificate of Compliance (responsible design or system design identified on this Certificate of Compliance e information provided on other applicable compliance documents, remit application. mit(s) issued for the building, and made available to the enforcement ired to be included with the documentation the builder provides to the
	Hugh Mcternan		* plime
company :	AE Group Mechanical Engineers, Inc.	Date Signed:	6/14/2018
Address:	838 East Front	License:	M030626
		Phone:	005 050 1700

January 2016

AE Group Mechanical Engineers, Inc. 838 East Front Street Ventura, California 93001 (805) 653-1722 FAX: (805) 653-7260 email: cad@aegroupme.com
MECHANICAL ENGINEERS STAMP & SIGNATURE PROFESSION ACTENTION M030626 Ren. 6/30/18 MCCALFOR
CONSULTANT INFORMATION
CONSULTANT STAMP & SIGNATURE
VENTURA COUNTY COMMUNITY COLLEGE DISTRICT VENTURA COLLEGE HVAC REPLACEMENT PROJECT BUILDING E 4667 TELEGRAPH ROAD - VENTURA, CALIFORNIA
Image: Second state Image: Second state Imag
DRAWN: HM/JS CHECKED: HM
DATE: 6-8-18 SCALE: AS NOTED PROJECT NUMBER: AE201824
ENERGY NOTES
DRAWING NUMBER : EN1