1" = 50'-0" 150 100 50 0 50

1" = 40'-0" 120 80 40 0 40

1" = 30'-0" 90 60 30 0 30

1" = 20'-0" 60 40 20 0 20

1/8" = 1'-0" 24 16 8 0 8

1/4" = 1'-0" 12 8 4 0 4

INDOOR UNIT SCHEDULE

MARK	IDU A1	IDU C1	IDU D1
CFM (LOW / MED / HIGH)	290 / 350 / 420	290 / 350 / 420	290 / 350 / 420
ESP (IN WC)			
MINIMUM OSA (CFM)	45	45	45
HP / BHP / WATTS			
VOLTAGE/PHASE	(1)	(1)	(1)
MCA / MOCP	0.2 /	0.2 /	0.2 /
RPM			
DRIVE	DIRECT	DIRECT	DIRECT
MOUNTING	CEILING	CEILING	CEILING
COOLING:			
TOTAL (MBH)	16	16	16
SENSIBLE (MBH)			
EADB / EAWB (°F)	80 / 67	80 / 67	80 / 67
AMBIENT DB (°F)	95	95	95
REFRIGERANT	R410A	R410A	R410A
LIQUID LINE SIZE	1/4"	1/4"	1/4"
SUCTION LINE SIZE	1/2"	1/2"	1/2"
CONDENSATE CONN	1"	1"	1"
SEER / EER AT AHRI	20 / 12.5	20 / 12.5	20 / 12.5
HEATING:			
CAPACITY (MBH)	18	18	18
EADB (°F)	70	70	70
AMBIENT DB (°F)	47	47	47
HSPF / COP	10.3 / 2.88	10.3 / 2.88	10.3 / 2.88
FILTERS:			
QUANTITY / SIZE			
TYPE	WASHABLE	WASHABLE	WASHABLE
PD, CLEAN (IN WC)			
MANUFACTURER	CARRIER	CARRIER	CARRIER
TYPE	HEAT PUMP	HEAT PUMP	HEAT PUMP
MODEL NUMBER	40MBCQ18	40MBCQ18	40MBCQ18
CONTROL	TSTAT (3)	TSTAT (3)	TSTAT (3)
SERVICE	SEE PLANS	SEE PLANS	SEE PLANS
OP WEIGHT (LBS)	45	45	45
ACCESSORIES	(2)	(2)	(2)

NOTES:
(1) INDOOR UNIT RECEIVE POWER FROM OUTDOOR UNIT
(2) BUILT-IN CONDENSATE PUMP
(3) CONTROLLER INTERFACE FOR COMMUNICATION TO PELICAN WIRELESS THERMOSTAT

OUTDOOR UNIT SCHED

MARK	ODU A1	ODU C1	ODU D1
MCA / MOCP	16 / 25	16 / 25	16 / 25
FUSE SIZE	20	20	20
VOLTAGE/PHASE	208-230/1	208-230/1	208-230/1
COOLING:			
TOTAL (MBH)	16	16	16
AMBIENT DB (°F)	95	95	95
SEER / EER AT AHRI	20 / 12.5	20 / 12.5	20 / 12.5
HEATING:			
CAPACITY (MBH)	18	18	18
AMBIENT DB (°F)	47	47	47
HSPF / COP	10.3 / 2.88	10.3 / 2.88	10.3 / 2.88
REFRIGERANT	R410A	R410A	R410A
LIQUID LINE SIZE	1/4"	1/4"	1/4"
SUCTION LINE SIZE	1/2"	1/2"	1/2"
MANUFACTURER	CARRIER	CARRIER	CARRIER
TYPE	HEAT PUMP	HEAT PUMP	HEAT PUMP
MODEL NUMBER	38MARBQ18	38MARBQ18	38MARBQ18
SERVICE	IDU-A1	IDU-C1	IDU-D1
OP WEIGHT (LBS)	105	105	105
ACCESSORIES	(1),(2),(3),(4)	(1),(2),(3),(4)	(1),(2),(3),(4)

NOTES:
(1) INDOOR UNIT RECEIVE POWER FROM OUTDOOR UNIT
(2) CRANKCASE HEATER
(3) LOW AMBIENT COOLING OPERATION TO 40°F
(4) DISCONNECT BY DIV 26 ELECTRICAL

PACKAGE AIR CONDITIONING UNIT SCHEDULE

MARK	AC A1	AC A2	AC A3	AC A4	AC A5
VOLTS/PHASE	460/3	460/3	460/3	460/3	460/3
MCA / MOCP	27 / 30	27 / 30	27 / 30	27 / 30	27 / 30
FLA / LRA	25 / 65	25 / 65	25 / 65	25 / 65	25 / 65
FUSE SIZE	30	30	30	30	30
BLOWER:					
CFM	2000	2000	2000	2000	2000
DUCT SP (IN WC)	0.8	0.8	0.8	0.8	0.8
MINIMUM OSA (CFM)	150	150	150	150	150
HP / BHP	1.5 / 1.19	1.5 / 1.19	1.5 / 1.19	1.5 / 1.19	1.5 / 1.19
DRIVE	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT
COOLING:	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES
TOTAL (MBH)	58.6	58.6	58.6	58.6	58.6
SENSIBLE (MBH)	47.5	47.5	47.5	47.5	47.5
EADB / EAWB (°F)	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67
AMBIENT DB (°F)	105	105	105	105	105
REFRIGERANT	R410A	R410A	R410A	R410A	R410A
CONDENSATE CONN	3/4"	3/4"	3/4"	3/4"	3/4"
SEER / EER AT AHRI	16.2 / 12.2	16.2 / 12.2	16.2 / 12.2	16.2 / 12.2	16.2 / 12.2
HEATING:					
CAPACITY (MBH)	55.9	55.9	55.9	55.9	55.9
EADB (°F)	70	70	70	70	70
AMBIENT DB (°F)	47	47	47	47	47
STRIP HEATER (KW)	5.5	5.5	5.5	5.5	5.5
HSPF/COP	8.3/3.9	8.3/3.9	8.3/3.9	8.3/3.9	8.3/3.9
FILTERS:					
RA: QUANTITY / SIZE	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2
TYPE	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13
PD, CLEAN (IN WC)	0.3	0.3	0.3	0.3	0.3
OSA: QUANTITY / SIZE	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1
TYPE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE
MANUFACTURER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER
TYPE	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP
MODEL NUMBER	50GCQM06	50GCQM06	50GCQM06	50GCQM06	50GCQM06
CONTROL	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)
SERVICE	MPR	MPR	MPR	MPR	KITCHEN
OP WEIGHT (LBS)	800	800	800	800	800
ACCESSORIES	(1),(2),(3),(4),(5),(7),(8)	(1),(2),(3),(4),(5),(7),(8)	(1),(2),(3),(4),(5),(7),(8)	(1),(2),(3),(4),(5),(7),(8)	(1),(2),(3)(5),(7),(8),(9)

NOTES:
(1) INSULATED ROOF CURB TO MATCH ROOF SLOPE
(2) HEAVY DUTY CONDENSER COIL GUARD
(3) HINGED ACCESS PANELS
(4) CA COMPLIANT ECONOMIZER WITH FDD, FULLY MODULATING DAMPERS, BAROMETRIC RELIEF, AND DEMAND CONTROL VENTILATION
(5) DISCONNECT BY DIV 26 ELECTRICAL
(6) CONTROLLER INTERFACE FOR COMMUNICATION TO PELICAN WIRELESS THERMOSTAT
(7) SMOKE DETECTOR IN SUPPLY AIR DUCT TO SIGNAL FAN SHUT DOWN AND FIRE ALARM SYSTEM
(8) UL 867 AND 2998 LISTED NPBI TYPE ION GENERATOR POWERED BY UNIT, iWAVE-C
(9) CA COMPLIANT ECONOMIZER WITH FDD, FULLY MODULATING DAMPERS, AND BAROMETRIC RELIEF

PACKAGE AIR CONDITIONING UNIT SCHEDULE

MARK	AC C1	AC C2	AC C3	AC C4	AC C5	AC D1	AC D2	AC D3	AC D4	AC D5	AC E1	AC E2	AC E3	AC E4	AC E5
VOLTS/PHASE	460/3	460/3	460/3	460/3	460/3	460/3	460/3	460/3	460/3	460/3	460/3	460/3	460/3	460/3	460/3
MCA / MOCP	23/25	23/25	23/25	23/25	23/25	23/25	23/25	23/25	23/25	23/25	23/25	23/25	23/25	23/25	23/25
FLA / LRA	21 / 53	21 / 53	21 / 53	21 / 53	21 / 53	21 / 53	21 / 53	21 / 53	21 / 53	21 / 53	21 / 53	21 / 53	21 / 53	21 / 53	21 / 53
FUSE SIZE	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
BLOWER:															
CFM	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
DUCT SP (IN WC)	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
MINIMUM OSA (CFM)	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
HP / BHP	1 / 0.79	1 / 0.79	1 / 0.79	1 / 0.79	1 / 0.79	1 / 0.79	1 / 0.79	1 / 0.79	1 / 0.79	1 / 0.79	1 / 0.79	1 / 0.79	1 / 0.79	1 / 0.79	1 / 0.79
DRIVE	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT
COOLING:	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES
TOTAL (MBH)	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5
SENSIBLE (MBH)	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
EADB / EAWB (°F)	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67
AMBIENT DB (°F)	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
REFRIGERANT	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
CONDENSATE CONN	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
SEER / EER AT AHRI	16.2 / 12.2	16.2 / 12.2	16.2 / 12.2	16.2 / 12.2	16.2 / 12.2	16.2 / 12.2	16.2 / 12.2	16.2 / 12.2	16.2 / 12.2	16.2 / 12.2	16.2 / 12.2	16.2 / 12.2	16.2 / 12.2	16.2 / 12.2	16.2 / 12.2
HEATING:															
CAPACITY (MBH)	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6
EADB (°F)	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
AMBIENT DB (°F)	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
STRIP HEATER (KW)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
HSPF/COP	8.3/3.7	8.3/3.7	8.3/3.7	8.3/3.7	8.3/3.7	8.3/3.7	8.3/3.7	8.3/3.7	8.3/3.7	8.3/3.7	8.3/3.7	8.3/3.7	8.3/3.7	8.3/3.7	8.3/3.7
FILTERS:															
RA: QUANTITY / SIZE	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2
TYPE	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13
PD, CLEAN (IN WC)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
OSA: QUANTITY / SIZE	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1
TYPE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE
MANUFACTURER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER
TYPE	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP
MODEL NUMBER	50GCQM05	50GCQM05	50GCQM05	50GCQM05	50GCQM05	50GCQM05	50GCQM05	50GCQM05	50GCQM05	50GCQM05	50GCQM05	50GCQM05	50GCQM05	50GCQM05	50GCQM05
CONTROL	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)
SERVICE	CLASSROOM C-1	CLASSROOM C-2	CLASSROOM C-3	CLASSROOM C-5	CLASSROOM C-6	CLASSROOM D-1	CLASSROOM D-2	CLASSROOM D-3	CLASSROOM D-5	CLASSROOM D-6	CLASSROOM E-1	CLASSROOM E-2	CLASSROOM E-3	CLASSROOM E-4	CLASSROOM E-5
OP WEIGHT (LBS)	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800
ACCESSORIES	(1),(2),(3),(4),(5)	(1),(2),(3),(4),(5)	(1),(2),(3),(4),(5)	(1),(2),(3),(4),(5)	(1),(2),(3),(4),(5)	(1),(2),(3),(4),(5)	(1),(2),(3),(4),(5)	(1),(2),(3),(4),(5)	(1),(2),(3),(4),(5)	(1),(2),(3),(4),(5)	(1),(2),(3),(4),(5)	(1),(2),(3),(4),(5)	(1),(2),(3),(4),(5)	(1),(2),(3),(4),(5)	(1),(2),(3),(4),(5)

NOTES:
(1) INSULATED ROOF CURB TO MATCH ROOF SLOPE
(2) HEAVY DUTY CONDENSER COIL GUARD
(3) HINGED ACCESS PANELS
(4) CA COMPLIANT ECONOMIZER WITH FDD, FULLY MODULATING DAMPERS, BAROMETRIC RELIEF, AND DEMAND CONTROL VENTILATION
(5) DISCONNECT BY DIV 26 ELECTRICAL
(6) CONTROLLER INTERFACE FOR COMMUNICATION TO PELICAN WIRELESS THERMOSTAT

GRILLE SCHEDULE

MARK	LOCATION	DESCRIPTION
A	CEILING SUPPLY	TITUS TDC-AA ALUMINUM FULL LOUVER FACE WITH SQUARE OR RECTANGULAR NECK, TYPE 3 BORDER FOR LAY-IN CEILING, STANDARD #26 WHITE FINISH.
B	CEILING RETURN	TITUS 50F ALUMINUM EGGCRATE WITH 1/2x1/2x1/2 GRID, TYPE 3 BORDER FOR LAY-IN CEILING, STANDARD #26 WHITE FINISH.
C	DUCT SUPPLY	TITUS 300RL-HD HEAVY DUTY STEEL SUPPLY GRILLE, 1/2" FRONT BLADE SPACING AND 3/4" REAR BLADE SPACING, 14 GAUGE FRONT BLADES PARALLEL TO LONG DIMENSION, ADJUST FRONT BLADES TO 5 DEGREE UPWARD DEFLECTION, OPPOSED BLADE DAMPER, STANDARD #26 WHITE FINISH.
D	CEILING RETURN	TITUS 33RL HEAVY DUTY STEEL RETURN GRILLE, 1/2" BLADE SPACING, 38 DEGREE DEFLECTION, 14 GAUGE BLADES PARALLEL TO LONG DIMENSION, OPPOSED BLADE DAMPER, STANDARD #26 WHITE FINISH.
E	DUCT SUPPLY	TITUS 272RL STEEL DOUBLE DEFLECTION SUPPLY GRILLE, 3/4" BLADE SPACING, 20 GAUGE BLADES PARALLEL TO LONG DIMENSION, SET ADJUSTABLE BLADES TO 0 DEGREE DEFLECTION, OPPOSED BLADE DAMPER, STANDARD #26 WHITE FINISH.
F	CEILING RETURN	TITUS 350FL ALUMINUM RETURN GRILLE, 3/4" BLADE SPACING, 35 DEGREE DEFLECTION, BLADES PARALLEL TO LONG DIMENSION, OPPOSED BLADE DAMPER, STANDARD #26 WHITE FINISH.

NOTE: ALL INTERIOR COMPONENTS, EVERYTHING BEHIND THE FACE PLATE, SHALL BE PAINTED FLAT BLACK.

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 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, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS 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 THE 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 SECTIONS 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 PREAPPROVED INSTALLATION GUIDE (e.g., OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

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

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

MP☐ MD☐ PP☐ E☐ OPTION 2: SHALL COMPLY WITH THE APPLICABLE HCAI PRE-APPROVAL (OPM #) #OPM-0043 MASON WEST SEISMIC RESTRAINT GUIDELINES FOR SUSPENDED DISTRIBUTION SYSTEMS.

GENERAL NOTES

A. THE PLANS AND SPECIFICATIONS DESCRIBE THE PLUMBING WORK AND HVAC WORK OF THIS PROJECT. ANY ITEMS MENTIONED IN ONE PART SHALL BE AS BINDING AS THOUGH MENTIONED IN BOTH. PROVIDE THE NECESSARY LABOR, MATERIALS, EQUIPMENT, TOOLS AND SERVICES FOR A COMPLETE FUNCTIONING SYSTEM.

B. ALL LOCATIONS OF EXISTING UTILITIES, DUCTWORK, AND EQUIPMENT SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL CONDITIONS PRIOR TO PROCEEDING WITH ANY WORK, INCLUDING EXACT LOCATION, SIZE, SERVICE, AND ROUTING OF EXISTING UTILITIES AND DUCTWORK. CONTRACTOR SHALL IMMEDIATELY NOTIFY ARCHITECT/ENGINEER OF ANY EXISTING CONDITIONS WHICH MAY CONFLICT WITH INFORMATION PROVIDED IN CONSTRUCTION DOCUMENTS.

C. PLUMBING AND HVAC LAYOUTS INDICATED ON PLANS ARE DIAGRAMMATIC ONLY. SOME WORK MAY BE SHOWN OFFSET FOR CLARITY. EXACT LOCATION OF EQUIPMENT, DUCTWORK, AND PIPES SHALL BE COORDINATED WITH OTHER TRADES.

D. PROVIDE CLEANOUTS PER CPC SECTIONS 707, 719 AND 1101.13.

E. PROVIDE PLUMBING VENT TERMINATION PER CPC SECTION 906. PLUMBING VENTS SHALL TERMINATE NOT LESS THAN TEN FEET FROM, OR NOT LESS THAN THREE FEET ABOVE, AIR INTAKE OR VENT SHAFT. COORDINATE EXACT LOCATION WITH OTHER TRADES.

F. PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE PER CBC SECTIONS 714 AND 717. FIRE STOP MATERIAL SHALL BE A TESTED ASSEMBLY APPROVED BY THE FIRE MARSHAL. SEE ARCHITECTURAL PLANS FOR LOCATION OF FIRE RATED ASSEMBLIES.

G. THE SEISMIC RESTRAINT OF MECHANICAL EQUIPMENT, DUCTWORK, AND PIPES SHALL CONFORM TO CBC CHAPTER 16A.

H. PROVIDE FRESH AIR INTAKE SEPARATION FROM EXHAUST TERMINATION AND PLUMBING VENT TERMINATION PER CMC SECTIONS 502, 510.9 AND 519.5, AND CPC SECTION 906. COORDINATE WITH OTHER TRADES.

I. DUCTWORK SIZES INDICATED ARE INSIDE DIMENSIONS. WHERE ACOUSTIC LINING IS SHOWN, MAINTAIN THE INSIDE CLEAR DIMENSIONS BY INCREASING THE SHEET METAL SIZE TO ACCOMMODATE LINING THICKNESS.

J. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATIONS OF CEILING DIFFUSERS, REGISTERS, AND GRILLES.

MECHANICAL LEGEND

SYMBOL	ABBR	DESCRIPTION	SYMBOL	DESCRIPTION	ABBR
	S. W. D.	SOIL, WASTE OR DRAIN	AC 1	EQUIPMENT DESIGNATION UNIT ABBREVIATION NUMBER	AC-1
— V —	V	VENT			
— CW —	CW	DOMESTIC COLD WATER	A 10x10-3 120	GRILLE DESIGNATION NECK SIZE & BLOW CFM	
— HW —	HW	DOMESTIC HOT WATER			
— HWR —	HWR	DOMESTIC HOT WATER RETURN		SUPPLY AIR	SA
GAS		GAS MAIN BY GAS UTILITY COMPANY		RETURN AIR	RA
— G —	G	LOW PRESSURE NATURAL GAS		EXHAUST AIR	EXH
— RWL —	RWL	RAIN WATER LEADER		ACOUSTIC LINED DUCT	(L)
— OL —	OL	OVERFLOW LEADER		DUCT RISER	
— CD —	CD	CONDENSATE DRAIN		DUCT DROP	
— D —	D	DRAIN		SQUARE TO ROUND FITTING	
— IW —	IW	INDIRECT WASTE		FIRE DAMPER	FD
	FCO	FLOOR CLEANOUT		FIRE/SMOKE DAMPER	FSD
	COTG	CLEANOUT TO GRADE	SD	DUCT SMOKE DETECTOR	SD
	WCO	WALL CLEANOUT		VOLUME CONTROL DAMPER	VCD
	VTR	VENT THROUGH ROOF	T	THERMOSTAT AT 48" MAXIMUM TO TOP OF BOX	T'STAT
	GV OR SOV	GATE OR SHUT - OFF VALVE	2000	CARBON DIOXIDE SENSOR	
	BV	BALL VALVE	— CHWR —	CHILLED/HOT WATER RETURN	CHWR
	CV	CHECK VALVE	— CHWS —	CHILLED/HOT WATER SUPPLY	CHWS
	STR	STRAINER	— RL —	REFRIGERANT LIQUID	RL
		UNION	— RS —	REFRIGERANT SUCTION	RS
		ELBOW UP		ABOVE FINISH FLOOR	AFF
		ELBOW DOWN		EXISTING	(E)
	RED	REDUCER		(E) TO BE REMOVED	DEMO
	HB	HOSE BIBB		NEW	(N)
	PP	PETES PLUG		OUTSIDE AIR	OSA
	PRV	PRESSURE RELIEF VALVE		POINT OF CONNECTION	POC
	CAP			TYPICAL	TYP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-122489 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 07/27/2023

Owner:

BAKERSFIELD CITY SCHOOL DISTRICT
1300 BAKER STREET
FRESNO, CA. 93706

Project Name:

HVAC REPLACEMENT

Project Address:

MUNSEY ELEMENTARY SCHOOL
3801 BRAVE AVENUE
BAKERSFIELD, CA 93309

integrated designs
by SOMAM, Inc.

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Sheet Title:

GENERAL NOTES - LEGEND

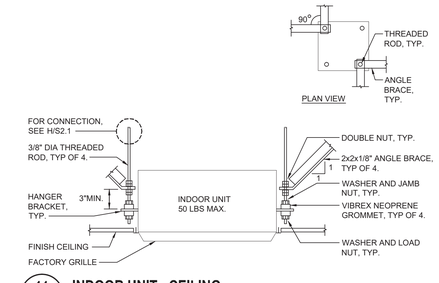
Job No.:

5524

Sheet No.:

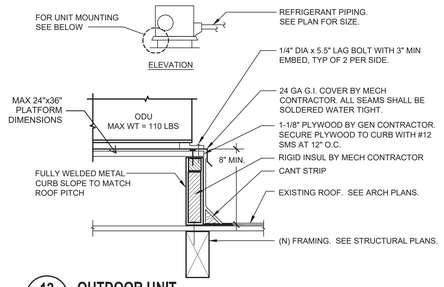
M0.01

Release: DSA SUBMITTAL 11/28/22



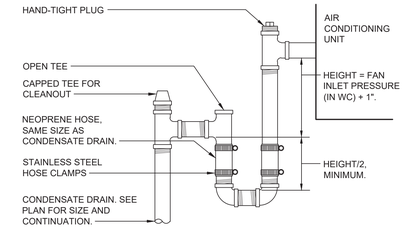
11 M0.11 INDOOR UNIT - CEILING

SCALE: N.T.S.



12 M0.11 OUTDOOR UNIT

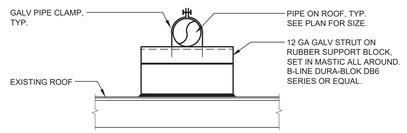
SCALE: N.T.S.



6 M0.11 CONDENSATE DRAIN CONNECTION - DRAW THRU

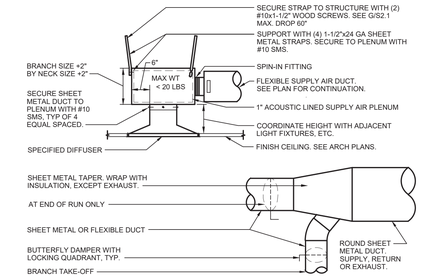
SCALE: N.T.S.

NOTES:
1. FOR CONDENSATE DRAIN PIPING, SIZES 1" OR SMALLER:
   A. COPPER PIPING - 6'-0" SPACING MAXIMUM
   B. GALV STEEL PIPING - 7'-0" SPACING MAXIMUM



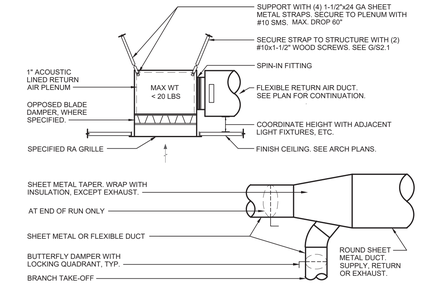
7 M0.11 PIPE SUPPORT - ROOF

SCALE: N.T.S.



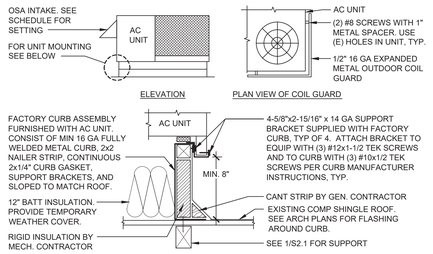
1 M0.11 TYPICAL SUPPLY AIR DEVICE - BRANCH DUCT

SCALE: N.T.S.



2 M0.11 TYPICAL RETURN/EXHAUST AIR DEVICE - BRANCH DUCT

SCALE: N.T.S.

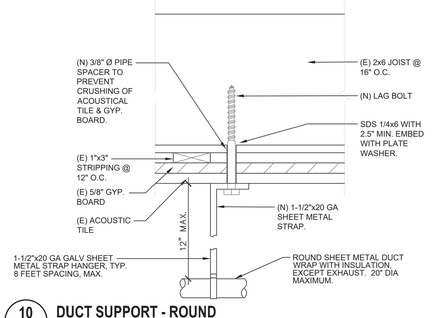


3 M0.11 AC UNIT MOUNTING

SCALE: N.T.S.

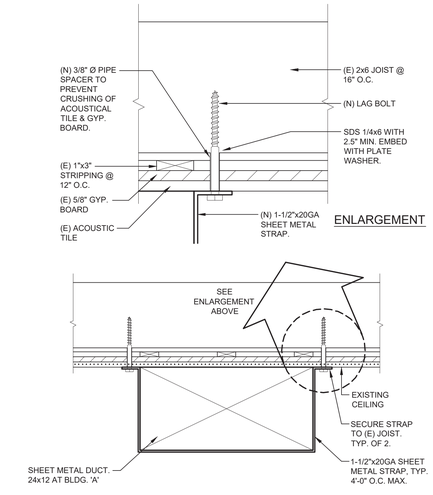
8 M0.11 DUCT SUPPORT - ROUND

SCALE: N.T.S.



10 M0.11 DUCT SUPPORT - ROUND

SCALE: N.T.S.



5 M0.11 RECTANGULAR DUCT SUPPORT

SCALE: N.T.S.

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Owner:

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Project Name:

HVAC REPLACEMENT

Project Address:

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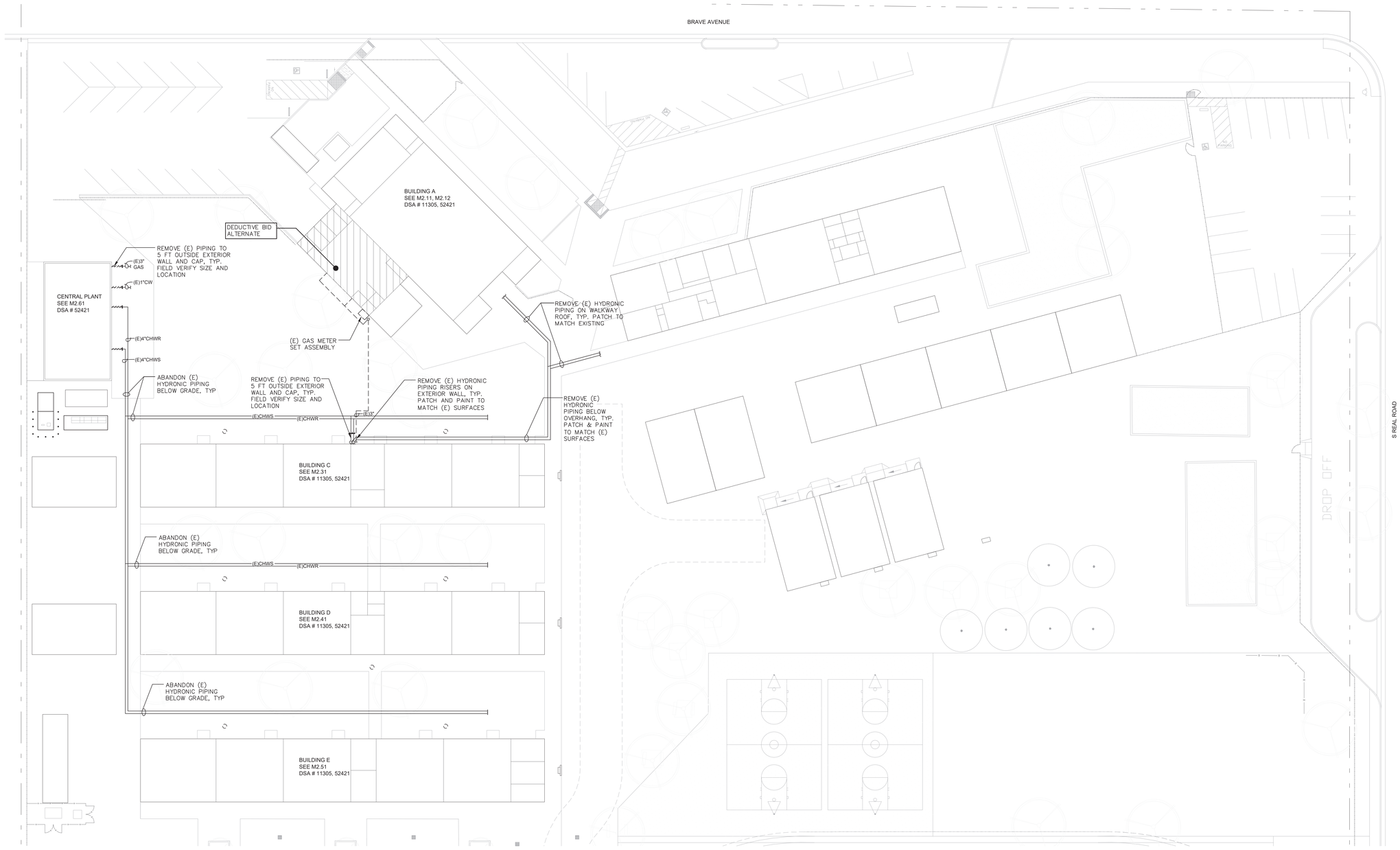
DETAILS

Job No.: **5524**

Sheet No.: **M0.11**

Release: DSA SUBMITTAL 11/28/22



1" = 50'-0" 150 100 50 0 50

1" = 40'-0" 120 80 40 0 40

1" = 30'-0" 90 60 30 0 30

1" = 20'-0" 60 40 20 0 20

1/8" = 1'-0" 24 16 8 0 8

1/4" = 1'-0" 12 8 4 0 4

MECHANICAL SITE PLAN

HVAC REPLACEMENT

SCALE: 1" = 20'

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DIV. OF THE STATE ARCHITECT
APP: 03-122489 INC:
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Project Name:

HVAC REPLACEMENT

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Sheet Title:

MECHANICAL SITE PLAN

Job No.: **5524**

Sheet No.: **M1.11**

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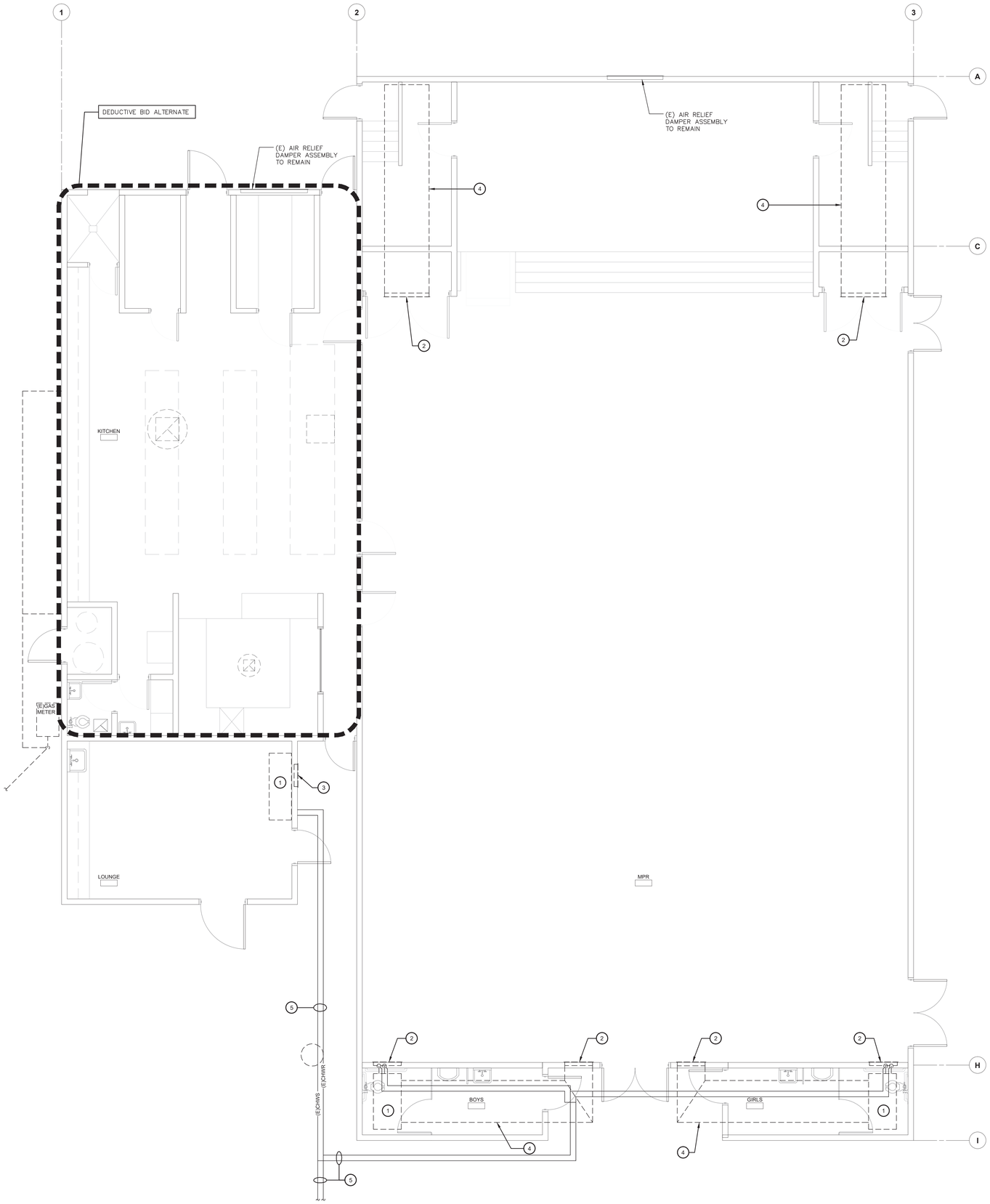

1/4" = 1'-0"
1/8" = 1'-0"
1" = 20'-0"
1" = 30'-0"
1" = 40'-0"
1" = 50'-0"

MECHANICAL PLAN - BLDG A - DEMO

HVAC REPLACEMENT

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

KEY NOTES

1. REMOVE EXISTING FAN COIL AND ALL RELATED COMPONENTS, DUCTWORK, PIPING, ETC, TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER.
2. REMOVE EXISTING WALL GRILLE AND DUCTWORK. PATCH OPENING TO MATCH EXISTING, TYP.
3. REMOVE EXISTING OSA LOUVER AND DUCT THRU WALL. PATCH OPENING TO MATCH EXISTING, TYP.
4. REMOVE EXISTING DUCTWORK. PATCH OPENING TO MATCH EXISTING, TYP.
5. REMOVE EXISTING HYDRONIC PIPING ON ROOF AND ALL RELATED COMPONENTS, TYP. PATCH TO MATCH EXISTING, TYP.

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BAKERSFIELD CITY SCHOOL DISTRICT
1300 BAKER STREET
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Project Name:

HVAC REPLACEMENT

Project Address:

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Sheet Title:

MECHANICAL PLAN - BLDG A

Job No.:

5524

Sheet No.:

M2.11

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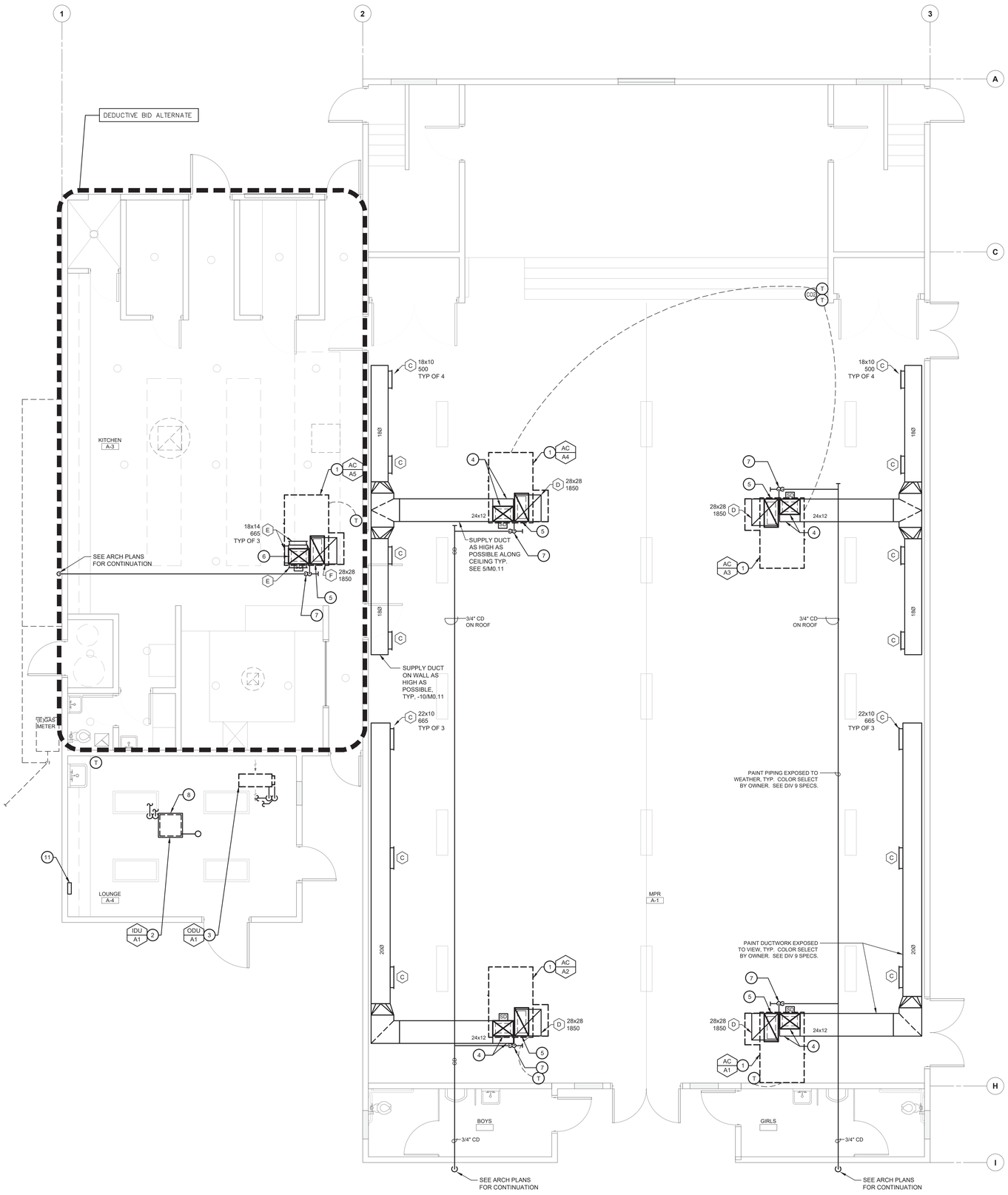

MECHANICAL PLAN - BLDG A - IMPROVEMENTS

HVAC REPLACEMENT

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

KEY NOTES

1. AC UNIT ON ROOF WITH 18x14(L) SA PLENUM AND 26x12(L) RA PLENUM DROP. PROVIDE TRANSITIONS AS NEEDED. SEE 3/M0.11
2. INDOOR UNIT RECESSED IN CEILING SUSPENDED FROM STRUCTURE. PROVIDE 6" ROUND OSA DUCT THRU ROOF. TURNED DOWN WITH 1/4" ALUMINUM MESH. EXTEND REFRIGERANT PIPING TO OUTDOOR UNIT. SEE 11/M0.11
3. OUTDOOR UNIT ON ROOF. EXTEND REFRIGERANT PIPING TO INDOOR UNIT. SEE 12/M0.11
4. TRANSITION TO 24x12 SUPPLY DUCT BELOW CEILING
5. TRANSITION TO 28x28 RETURN DUCT AND CONNECT TO CEILING RETURN GRILLE.
6. TRANSITION TO 20x20 SUPPLY DUCT BELOW CEILING. BOTTOM OF DUCT AT 18" BELOW CEILING.
7. CONNECT 3/4"CD TO AC UNIT ON ROOF WITH TRAP PER 6/M0.11
8. INDOOR UNIT WITH INTEGRAL CONDENSATE PUMP. CONNECT 1" DRAIN TO INDOOR UNIT AND DISCHARGE TO TAILPIECE OF SINK. PATCH OPENINGS TO MATCH EXISTING.
9. NOT USED
10. NOT USED
11. HVAC WIRELESS GATEWAY. COORDINATE EXACT LOCATION WITH OWNER. PROVIDE 120/1 WALL OUTLET AND ETHERNET CONNECTION.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-122489 INC:
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SS ☑ FLS ☑ ACS ☐
DATE: 07/27/2023

Owner:

BAKERSFIELD CITY SCHOOL DISTRICT
1300 BAKER STREET
FRESNO, CA. 93706

Project Name:
HVAC REPLACEMENT

Project Address:
MUNSEY ELEMENTARY SCHOOL
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Sheet Title:
MECHANICAL PLAN - BLDG A

Job No.: **5524**

Sheet No.: **M2.12**

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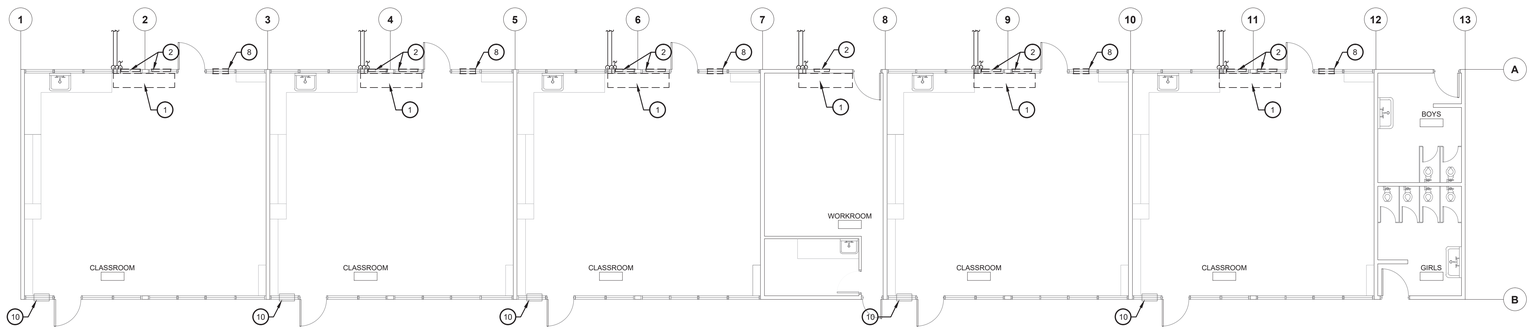
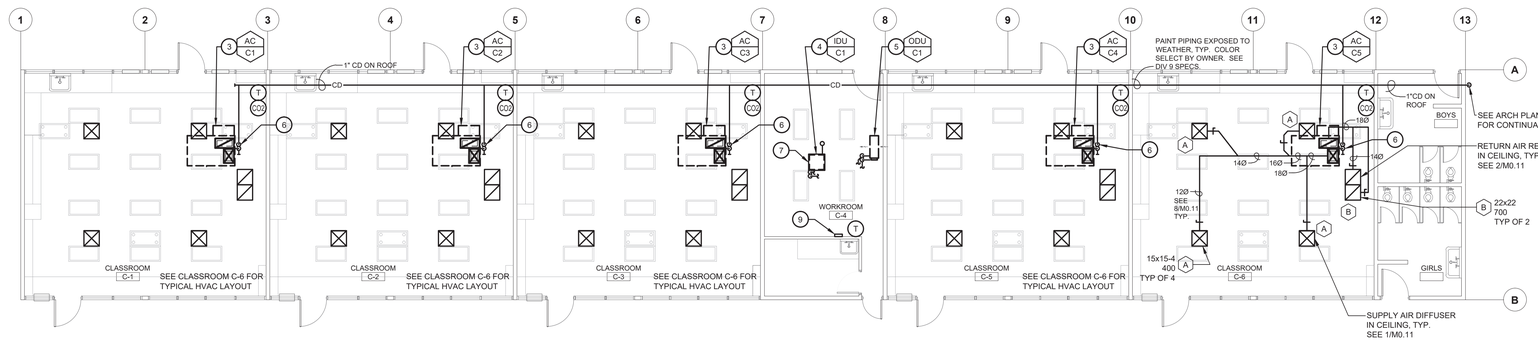


MECHANICAL PLAN - BLDG C - DEMO

HVAC REPLACEMENT

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



MECHANICAL PLAN - BLDG C - IMPROVEMENTS

HVAC REPLACEMENT

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

KEY NOTES

1. REMOVE EXISTING UNIT VENTILATOR AND ALL RELATED COMPONENTS, ETC. TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER. REMOVE (E) PIPING TO 5 FEET OUTSIDE EXTERIOR WALL AND CAP, TYP.
2. REMOVE EXISTING OSA LOUVER AND DUCT THRU WALL. PATCH OPENINGS TO MATCH EXISTING, TYP.
3. AC UNIT ON ROOF WITH 18x14(L) SA PLENUM AND 26x12(L) RA PLENUM DROP THRU ROOF, BETWEEN EXISTING STRUCTURAL MEMBERS, TYP. PROVIDE TRANSITIONS AS NEEDED. FIELD VERIFY EXACT LOCATION. SEE 3/M0.11
4. INDOOR UNIT RECESSED IN CEILING SUSPENDED FROM STRUCTURE. PROVIDE 6" ROUND OSA DUCT THRU ROOF, TURNED DOWN WITH 1/4" ALUMINUM MESH. EXTEND REFRIGERANT PIPING TO OUTDOOR UNIT. SEE 11/M0.11
5. OUTDOOR UNIT ON ROOF. EXTEND REFRIGERANT PIPING TO INDOOR UNIT. SEE 12/M0.11
6. CONNECT 3/4" CD TO AC UNIT ON ROOF WITH TRAP PER 6/M0.11
7. INDOOR UNIT WITH INTEGRAL CONDENSATE PUMP. CONNECT 1" DRAIN TO INDOOR UNIT AND DISCHARGE TO TAILPIECE OF SINK. PATCH OPENINGS TO MATCH EXISTING.
8. REMOVE EXISTING RELIEF DAMPER LOUVER AT EXTERIOR WALL, PATCH OPENING TO MATCH EXISTING, TYP.
9. HVAC WIRELESS REPEATER. COORDINATE EXACT LOCATION WITH OWNER. PROVIDE 120/1 WALL OUTLET.
10. EXISTING BAROMETRIC RELIEF ASSEMBY TO REMAIN, TYP. PROTECT FROM DAMAGE.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-122489 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 07/27/2023

Owner:

BAKERSFIELD CITY SCHOOL DISTRICT
1300 BAKER STREET
BAKERSFIELD, CA 93305

Project Name:
HVAC REPLACEMENT

Project Address:
MUNSEY ELEMENTARY SCHOOL
3801 BRAVE AVENUE
BAKERSFIELD, CA 93309

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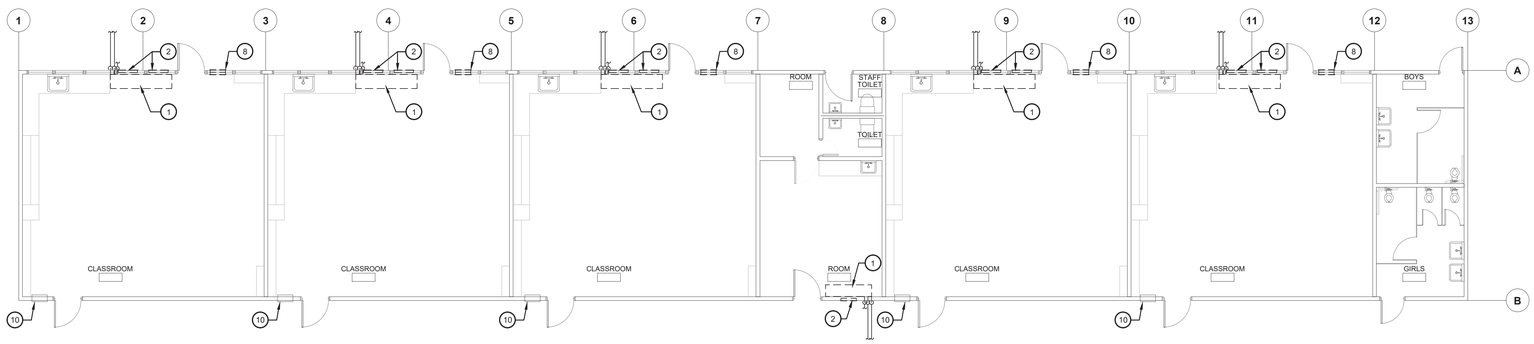
Sheet Title:
MECHANICAL PLAN - BLDG C

Job No.: **5524**

Sheet No.: **M2.31**

Release: DSA SUBMITTAL 11/28/22

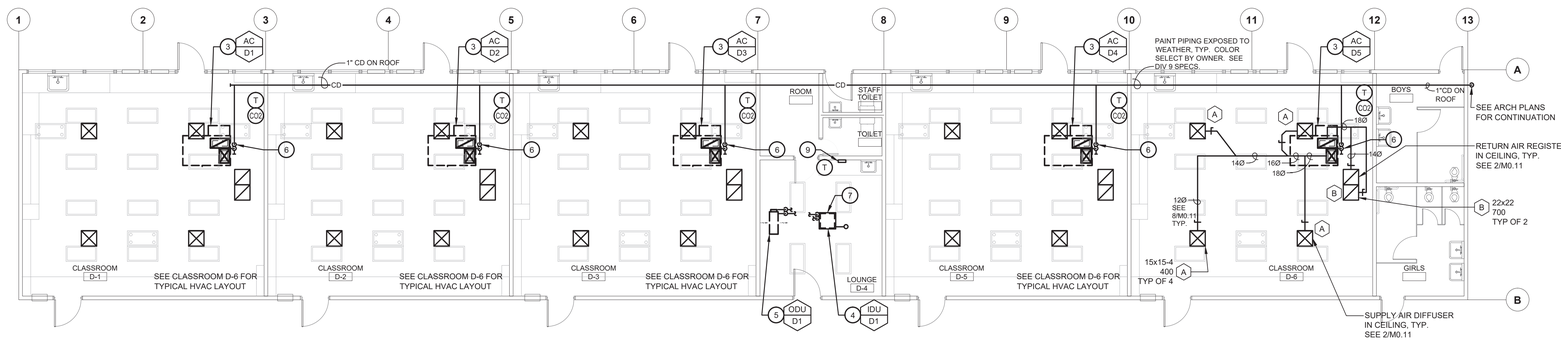
G:\2022frs\22-5524 BCSD Munsey ES\Sheets\5524-M2.31 MECHANICAL PLAN - BLDG C.dwg LISA LUM 6/9/23



MECHANICAL PLAN - BLDG D - DEMO

HVAC REPLACEMENT

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



MECHANICAL PLAN - BLDG D - IMPROVEMENTS

HVAC REPLACEMENT

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

KEY NOTES

1. REMOVE EXISTING UNIT VENTILATOR AND ALL RELATED COMPONENTS, ETC, TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER. REMOVE (E) PIPING TO 5 FEET OUTSIDE EXTERIOR WALL AND CAP, TYP.
2. REMOVE EXISTING OSA LOUVER AND DUCT THRU WALL. PATCH OPENINGS TO MATCH EXISTING, TYP.
3. AC UNIT ON ROOF WITH 18x14(L) SA PLENUM AND 26x11(L) RA PLENUM DROP THRU ROOF, BETWEEN EXISTING STRUCTURAL MEMBERS, TYP. PROVIDE TRANSITIONS AS NEEDED. FIELD VERIFY EXACT LOCATION. SEE 3/M0.11
4. INDOOR UNIT RECESSED IN CEILING SUSPENDED FROM STRUCTURE. PROVIDE 6" ROUND OSA DUCT THRU ROOF, TURNED DOWN WITH 1/4" ALUMINUM MESH. EXTEND REFRIGERANT PIPING TO OUTDOOR UNIT. SEE 11/M0.11
5. OUTDOOR UNIT ON ROOF. EXTEND REFRIGERANT PIPING TO INDOOR UNIT. SEE 12/M0.11
6. CONNECT 3/4" CD TO AC UNIT ON ROOF WITH TRAP PER 6/M0.11
7. INDOOR UNIT WITH INTEGRAL CONDENSATE PUMP. CONNECT 1" DRAIN TO INDOOR UNIT AND DISCHARGE TO TAILPIECE OF SINK. PATCH OPENINGS TO MATCH EXISTING.
8. REMOVE EXISTING RELIEF DAMPER LOUVER AT EXTERIOR WALL, PATCH OPENING TO MATCH EXISTING, TYP.
9. HVAC WIRELESS REPEATER. COORDINATE EXACT LOCATION WITH OWNER. PROVIDE 120/1 WALL OUTLET.
10. EXISTING BAROMETRIC RELIEF ASSEMBLY TO REMAIN, TYP. PROTECT FROM DAMAGE.

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1300 BAKER STREET
BAKERSFIELD, CA 93305

Project Name:
HVAC REPLACEMENT

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Sheet Title:
MECHANICAL PLAN - BLDG D

Job No.: **5524**

Sheet No.: **M2.41**

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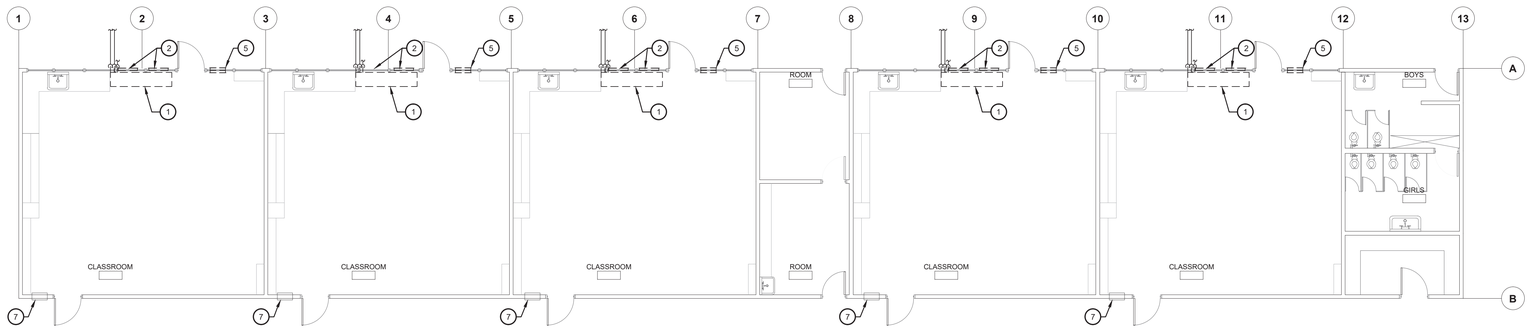
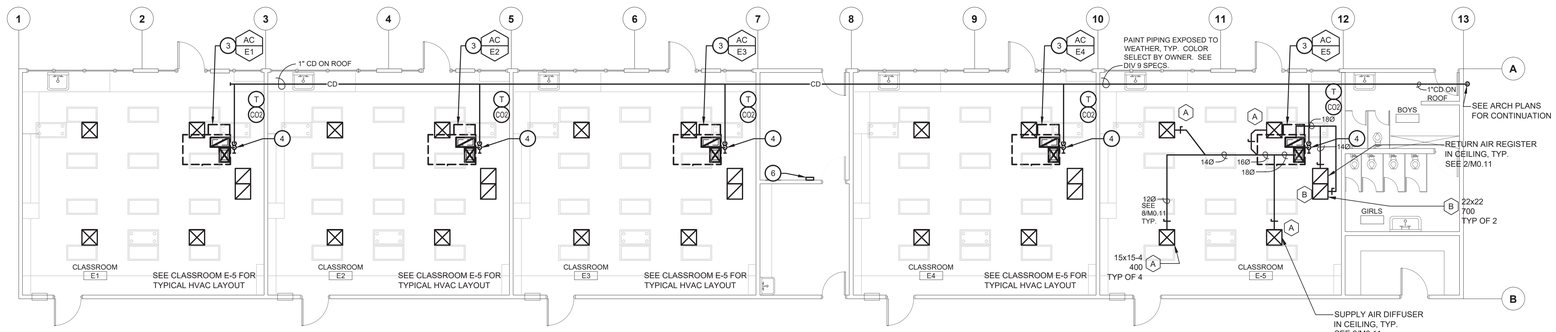


MECHANICAL PLAN - BLDG E - DEMO

HVAC REPLACEMENT

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



MECHANICAL PLAN - BLDG E - IMPROVEMENTS

HVAC REPLACEMENT

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

KEY NOTES

1. REMOVE EXISTING UNIT VENTILATOR AND ALL RELATED COMPONENTS, ETC, TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER. REMOVE (E) PIPING TO 5 FEET OUTSIDE EXTERIOR WALL AND CAP, TYP.
2. REMOVE EXISTING OSA LOUVER AND DUCT THRU WALL. PATCH OPENINGS TO MATCH EXISTING, TYP.
3. AC UNIT ON ROOF WITH 18x14(L) SA PLENUM AND 26x12(L) RA PLENUM DROP THRU ROOF, BETWEEN EXISTING STRUCTURAL MEMBERS, TYP. PROVIDE TRANSITIONS AS NEEDED. FIELD VERIFY EXACT LOCATION. SEE 3/M0.11
4. CONNECT 3/4" CD TO AC UNIT ON ROOF WITH TRAP PER 6/M0.11
5. REMOVE EXISTING RELIEF DAMPER LOUVER AT EXTERIOR WALL, PATCH OPENING TO MATCH EXISTING, TYP.
6. HVAC WIRELESS REPEATER. COORDINATE EXACT LOCATION WITH OWNER. PROVIDE 120/1 WALL OUTLET.
7. EXISTING BAROMETRIC RELIEF ASSEMBLY TO REMAIN, TYP. PROTECT FROM DAMAGE.

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Project Name:
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BAKERSFIELD, CA 93309

integrated designs
by SOMAM, Inc.

**ARCHITECTURE
ENGINEERING
INTERIOR DESIGN**

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Stamp:
REGISTERED PROFESSIONAL ENGINEER
LISA LUM
32712
6-30-24
MECHANICAL
STATE OF CALIFORNIA

Sheet Title:
MECHANICAL PLAN - BLDG E

Job No.:
5524

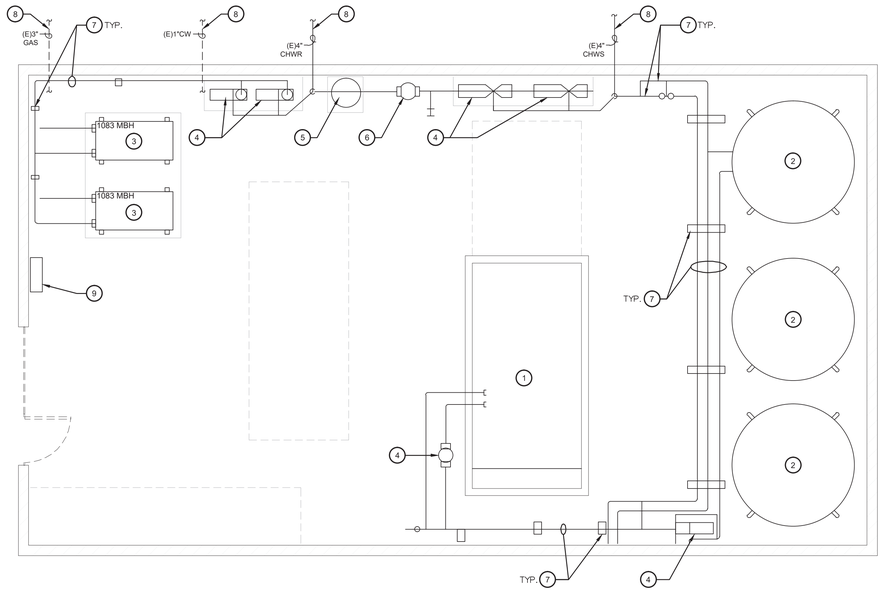
Sheet No.:
M2.51

Release: DSA SUBMITTAL 11/28/22

1" = 50'-0"
1" = 40'-0"
1" = 30'-0"
1" = 20'-0"
1/8" = 1'-0"
1/4" = 1'-0"

NOTE:

CENTRAL PLANT SHALL REMAIN IN OPERATION UNTIL ALL ASSOCIATED AIR HANDLING UNITS HAVE BEEN REMOVED



MECHANICAL PLAN - CENTRAL PLANT

HVAC REPLACEMENT

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

KEY NOTES

1. REMOVE EXISTING AIR COOLED CHILLER AND ALL RELATED COMPONENTS, PIPING, ETC, TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER.
2. REMOVE EXISTING ICE STORAGE TANK AND ALL RELATED COMPONENTS, PIPING, ETC, TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER.
3. REMOVE EXISTING HYDRONIC BOILER AND ALL RELATED COMPONENTS, PIPING, ETC, TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER.
4. REMOVE EXISTING PUMP AND ALL RELATED COMPONENTS, PIPING, CONTROLS, ETC, TYP.
5. REMOVE EXISTING EXPANSION TANK AND ALL RELATED COMPONENTS, PIPING, ETC, TYP.
6. REMOVE EXISTING AIR SEPARATOR AND ALL RELATED COMPONENTS, PIPING, ETC, TYP.
7. REMOVE EXISTING PIPING AND SUPPORT, TYP.
8. REMOVE EXISTING PIPING BELOW GRADE TO 5 FEET OUTSIDE EXTERIOR WALL AND CAP, TYP. FIELD VERIFY SIZE AND LOCATION. SAWCUT AND PATCH TO MATCH EXISTING.
9. SALVAGE EXISTING HVAC CONTROL PANEL AND DELIVER TO OWNER

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-122489 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 07/27/2023

Owner:

BAKERSFIELD CITY SCHOOL DISTRICT
1300 BAKER STREET
FRESNO, CA. 93706

Project Name:

HVAC REPLACEMENT

Project Address:

MUNSEY ELEMENTARY SCHOOL
3801 BRAVE AVENUE
BAKERSFIELD, CA 93309

integrated designs
by SOMAM, Inc.

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ENGINEERING
INTERIOR DESIGN

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LISA LUM
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CIVIL
STATE OF CALIFORNIA

Drawing Title:

MECHANICAL PLAN - CENTRAL PLANT

Job No.: **5524**

Sheet No.: **M2.61**

Release: DSA SUBMITTAL 11/28/22

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

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name:	Munsey Elementary School	Report Page: (Page 11 of 42)
Project Address:	3801 Brave Avenue	Date Prepared: 10/18/2022

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 (ft²)	Thermostats §110.2(b) & (c)1, §120.2(a)or §141.0(b)2E	Shut-Off Controls §120.2(e)	Isolation Zone Controls §120.2(e)	Demand Response §110.12 and §120.2(b)	Supply Air Temp. Reset §140.4(f)	Window Interlocks per §140.4(n)
AC-A1 to AC-A4	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors
AC-A5	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors
IDU-ODU-A1	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors
AC-C1	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors
AC-C2	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors
AC-C3	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors
IDU-ODU-C1	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors
AC-C4	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors
AC-C5	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors
AC-D1	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors
AC-D2	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors
AC-D3	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors

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CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name:	Munsey Elementary School	Report Page: (Page 14 of 42)
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I. SYSTEM CONTROLS

IDU-ODU-D1	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors
AC-D4	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors
AC-D5	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors
AC-E1	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors
AC-E2	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors
AC-E3	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors
AC-E4	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors
AC-E5	Single zone	<= 25,000 ft²	Setback	4 Hour Timer	NA: Single Zone	NA: Serves temp. sensitive process	NA: Single Zone	NA: Auto-closing doors

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

J. VENTILATION AND INDOOR AIR QUALITY

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

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

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STATE OF CALIFORNIA
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CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name:	Munsey Elementary School	Report Page: (Page 16 of 42)
Project Address:	3801 Brave Avenue	Date Prepared: 10/18/2022

J. VENTILATION AND INDOOR AIR QUALITY

04		05			06		07	
System Name	IDU-ODU-A1	System Design OA CFM Airflow[1]		42	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 [4]
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min EFM	Provided per Design CFM	
Lounge	All others	281			42.2	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				42	18	Ventilation for this System Complies?	Yes
04		05			06		07	
System Name	AC-C1	System Design OA CFM Airflow[1]		450	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 [4]
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min EFM	Provided per Design CFM	
Classroom	Lecture/ postsecondary classroom	914			347.3	0	0	DCV: Provided per §120.1(d)4
								Occ Sensor: NA: Not required space type
17	Total System Required Min OA CFM				347	18	Ventilation for this System Complies?	Yes

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	AC-C5	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 Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.79	-	-
Total System Design Supply Airflow (CFM):		1600	Total System Design (BHP):		0.79	Maximum System Fan Power (BHP):	

System Name:	AC-D1	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 Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.79	-	-
Total System Design Supply Airflow (CFM):		1600	Total System Design (BHP):		0.79	Maximum System Fan Power (BHP):	

System Name:	AC-D2	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 Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.79	-	-
Total System Design Supply Airflow (CFM):		1600	Total System Design (BHP):		0.79	Maximum System Fan Power (BHP):	

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	AC-D3	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 Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.79	-	-
Total System Design Supply Airflow (CFM):		1600	Total System Design (BHP):		0.79	Maximum System Fan Power (BHP):	

System Name:	IDU-ODU-D1	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 Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.79	-	-
Total System Design Supply Airflow (CFM):		1600	Total System Design (BHP):		0.79	Maximum System Fan Power (BHP):	

System Name:	AC-D4	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 Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	420	BHP	0.05	-	-
Total System Design Supply Airflow (CFM):		420	Total System Design (BHP):		0.05	Maximum System Fan Power (BHP):	

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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
AC-A1 to AC-A4	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
AC-A5	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
IDU-ODU-A1	<65,000		HSPF	8.2	10.3	SEER	14.0	20
AC-C1	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
AC-C2	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
AC-C3	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
IDU-ODU-C1	<65,000		HSPF	8.2	10.3	SEER	14.0	20
AC-C4	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
AC-C5	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
AC-D1	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
AC-D2	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
AC-D3	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
IDU-ODU-D1	<65,000		HSPF	8.2	10.3	SEER	14.0	20
AC-D4	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
AC-D5	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
AC-E1	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
AC-E2	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
AC-E3	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
AC-E4	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
AC-E5	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2

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G. PUMPS

This section does not apply to this project.

H. FAN SYSTEMS & AIR ECONOMIZERS

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

System Name:	AC-A1 to AC-A4	Economizer:[1]	Fixed Temperature	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	4	8000	BHP	1.19	-	-
Total System Design Supply Airflow (CFM):		8000	Total System Design (BHP):		4.76	Maximum System Fan Power (BHP):	

System Name:	AC-A5	Economizer:[1]	Fixed Temperature	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	2000	BHP	1.19	-	-
Total System Design Supply Airflow (CFM):		2000	Total System Design (BHP):		1.19	Maximum System Fan Power (BHP):	

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

A. GENERAL INFORMATION

01	Project Location (city)	Bakersfield	04	Total Conditioned Floor Area	19724
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)1 §140.4(b) and §140.4(k) or §141.0(b)2 for alterations.

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

01	02	03	04	05	06	07	08	09	10	11
				Equipment Sizing per Mechanical Schedule (kBtu/h) §140.4 (a&b)						
				Heating Output[2,3]		Cooling Output[2,3]		Load Calculations[3,4]		
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 / Title 20	Smallest Size Available[1] §140.4(a)	Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
AC-A1 to AC-A4	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Altered per §141.0(b)2E	138.66	55.5	0	225.94	49.1	263.53	264.75
AC-A5	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Altered per §141.0(b)2E	34.66	55.5	0	53.33	49.1	42.92	61.81
IDU-ODU-A1	Unitary Heat Pumps	Air-cooled, split (1phase)	NA: Altered per §141.0(b)2E	11.24	18	0	13.63	11.2	36.84	33.31
AC-C1	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Altered per §141.0(b)2E	28.42	45.5	0	42.58	36.9	92.38	85.07
AC-C2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Altered per §141.0(b)2E	28.42	45.5	0	42.43	36.9	73.72	70.41
AC-C3	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Altered per §141.0(b)2E	28.42	45.5	0	42.43	36.9	73.72	70.41
IDU-ODU-C1	Unitary Heat Pumps	Air-cooled, split (1phase)	NA: Altered per §141.0(b)2E	11.24	18	0	13.65	11.2	16.01	14.12
AC-C4	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Altered per §141.0(b)2E	28.42	45.5	0	42.43	36.9	73.72	70.41
AC-C5	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Altered per §141.0(b)2E	28.42	45.5	0	42.43	36.9	73.72	70.41

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	AC-E3	Economizer:[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.79	-	-
Total System Design Supply Airflow (CFM):		1600	Total System Design (BHP):		0.79	Maximum System Fan Power (BHP):	

System Name:	AC-E4	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 Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.79	-	-
Total System Design Supply Airflow (CFM):		1600	Total System Design (BHP):		0.79	Maximum System Fan Power (BHP):	

System Name:	AC-E5	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 Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.79	-	-
Total System Design Supply Airflow (CFM):		1600	Total System Design (BHP):		0.79	Maximum System Fan Power (BHP):	

[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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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	AC-C3	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 Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.79	-	-
Total System Design Supply Airflow (CFM):		1600	Total System Design (BHP):		0.79	Maximum System Fan Power (BHP):	

System Name:	IDU-ODU-C1	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 Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	420	BHP	0.05	-	-
Total System Design Supply Airflow (CFM):		420	Total System Design (BHP):		0.05	Maximum System Fan Power (BHP):	

System Name:	AC-C4	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 Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.79	-	-
Total System Design Supply Airflow (CFM):		1600	Total System Design (BHP):		0.79	Maximum System Fan Power (BHP):	

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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 accordance with the California Mechanical Code	
The answers to the questions below apply to the following duct systems:		AC-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 accordance with the California Mechanical Code	
The answers to the questions below apply to the following duct systems:		AC-C5	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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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:		AC-A1 to AC-A4	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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J. VENTILATION AND INDOOR AIR QUALITY

04		05			06		07
System Name	IDU-ODU-D1	System Design OA CFM Airflow[2]	42	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/(Motel))	

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV	NA: Not required space type
Lounge	All others	283			42.4	0	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				42	18	Ventilation for this System Complies?		Yes

04		05			06		07
System Name	AC-D4	System Design OA CFM Airflow[2]	450	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/(Motel))	

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV	Provided per §120.1(d)4
Classroom	Lecture/ postsecondary classroom	921			350	0	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				350	18	Ventilation for this System Complies?		Yes

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J. VENTILATION AND INDOOR AIR QUALITY

04		05			06		07
System Name	AC-C2	System Design OA CFM Airflow[2]	450	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/(Motel))	

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV	Provided per §120.1(d)4
Classroom	Lecture/ postsecondary classroom	921			350	0	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				350	18	Ventilation for this System Complies?		Yes

04		05			06		07
System Name	AC-C3	System Design OA CFM Airflow[2]	450	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/(Motel))	

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV	Provided per §120.1(d)4
Classroom	Lecture/ postsecondary classroom	921			350	0	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				350	18	Ventilation for this System Complies?		Yes

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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 accordance with the California Mechanical Code	
The answers to the questions below apply to the following duct systems:		AC-D1	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 accordance with the California Mechanical Code	
The answers to the questions below apply to the following duct systems:		AC-D2	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 accordance with the California Mechanical Code	
The answers to the questions below apply to the following duct systems:		AC-C1	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 accordance with the California Mechanical Code	
The answers to the questions below apply to the following duct systems:		AC-C2	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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J. VENTILATION AND INDOOR AIR QUALITY

04		05			06		07
System Name	AC-E2	System Design OA CFM Airflow[2]	450	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/(Motel))	

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV	Provided per §120.1(d)4
Classroom	Lecture/ postsecondary classroom	921			350	0	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				350	18	Ventilation for this System Complies?		Yes

04		05			06		07
System Name	AC-E3	System Design OA CFM Airflow[2]	450	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/(Motel))	

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV	Provided per §120.1(d)4
Classroom	Lecture/ postsecondary classroom	921			350	0	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				350	18	Ventilation for this System Complies?		Yes

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name:	Munsey Elementary School	Report Page: (Page 19 of 42)
Project Address:	3801 Brave Avenue	Date Prepared: 10/18/2022

J. VENTILATION AND INDOOR AIR QUALITY

04		05			06		07
System Name	AC-C5	System Design OA CFM Airflow[2]	450	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/(Motel))	

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV	Provided per §120.1(d)4
Classroom	Lecture/ postsecondary classroom	921			350	0	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				350	18	Ventilation for this System Complies?		Yes

04		05			06		07
System Name	AC-D1	System Design OA CFM Airflow[2]	450	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/(Motel))	

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV	Provided per §120.1(d)4
Classroom	Lecture/ postsecondary classroom	914			347.3	0	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				347	18	Ventilation for this System Complies?		Yes

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-10-18 15:23:50

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

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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 accordance with the California Mechanical Code	
The answers to the questions below apply to the following duct systems:		AC-D3	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 accordance with the California Mechanical Code	
The answers to the questions below apply to the following duct systems:		AC-D4	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

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
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J. VENTILATION AND INDOOR AIR QUALITY

04		05			06		07
System Name	AC-E4	System Design OA CFM Airflow[2]	450	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/(Motel))	

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV	Provided per §120.1(d)4
Classroom	Lecture/ postsecondary classroom	921			350	0	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				350	18	Ventilation for this System Complies?		Yes

04		05			06		07
System Name	AC-E5	System Design OA CFM Airflow[2]	450	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/(Motel))	

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV	Provided per §120.1(d)4
Classroom	Lecture/ postsecondary classroom	921			350	0	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				350	18	Ventilation for this System Complies?		Yes

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

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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

04		05			06		07
System Name	AC-D2	System Design OA CFM Airflow[2]	450	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/(Motel))	

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV	Provided per §120.1(d)4
Classroom	Lecture/ postsecondary classroom	921			350	0	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				350	18	Ventilation for this System Complies?		Yes

04		05			06		07
System Name	AC-D3	System Design OA CFM Airflow[2]	450	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/(Motel))	

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV	Provided per §120.1(d)4
Classroom	Lecture/ postsecondary classroom	921			350	0	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				350	18	Ventilation for this System Complies?		Yes

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
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IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-122489 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 07/27/2023

Owner:

BAKERSFIELD CITY SCHOOL DISTRICT
1300 BAKER STREET
FRESNO, CA. 93706

Project Name:

HVAC REPLACEMENT

Project Address:

MUNSEY ELEMENTARY SCHOOL
3801 BRAVE AVENUE
BAKERSFIELD, CA 93309

integrated designs
by SOMAM, Inc.

ARCHITECTURE ENGINEERING INTERIOR DESIGN

6011 N. FRESNO STREET, SUITE 130
FRESNO CALIFORNIA 93710
P:(559) 436-0881 F:(559) 436-0887
E: design@somam.com
integrateddesigns.com

Stamp:

REGISTERED PROFESSIONAL ENGINEER
LISA LUM
32712
6-30-24
MECHANICAL
STATE OF CALIFORNIA

Sheet Title:

TITLE 24 DOCS

Job No.:

5524

Sheet No.:

M3.02

Release: DSA SUBMITTAL 11/28/22

G:\2022\fns\22-5524 BCSD Munsey ES\Sheets\5524-M3.02 TITLE 24 DOCS.dwg LISA LUM 6/9/23

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
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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: Lisa Lum	Documentation Author Signature: Lisa Lum
Company: Integrated Designs by SOMAM, Inc.	Signature Date: 2022-10-18
Address: 6011 North Fresno Street, Suite 130	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Fresno CA 93710	Phone: 559-436-0881

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: Lisa Lum, PE	Responsible Designer Signature: Lisa Lum
Company: Integrated Designs by SOMAM, Inc.	Date Signed: 2022-10-18
Address: 6011 North Fresno Street, Suite 130	License: M32712
City/State/Zip: Fresno CA 93710	Phone: 559-436-0881

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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	Field Inspector Fail
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 50GCQM06; Carrier 50GCQM06; Carrier 40MBCQ118+38MARBQ18; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 40MBCQ118+38MARBQ18; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 40MBCQ118+38MARBQ18; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05;	☐	☐

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
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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	Field Inspector Fail
NRCA-MCH-05-A - Air Economizer Controls	Carrier 50GCQM06; Carrier 50GCQM06; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05;	☐	☐

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
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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	Field Inspector Fail
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 (CO2) concentration setpoints.	Carrier 50GCQM06; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05;	☐	☐

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
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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	Field Inspector Fail
NRCA-MCH-11-A Automatic Demand Shed Controls	Carrier 50GCQM06; Carrier 506GCQM06; Carrier 40MBCQ118+38MARBQ18; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 40MBCQ118+38MARBQ18; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 40MBCQ118+38MARBQ18; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05;	☐	☐
NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	Carrier 50GCQM06; Carrier 50GCQM06;	☐	☐

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no NRCV forms required for this project.

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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 accordance with the California Mechanical Code	

The answers to the questions below apply to the following duct systems:	AC-E1	Duct leakage testing triggered for these systems?	No

11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
		☐	Outdoors
		☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1ii 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 accordance with the California Mechanical Code	

The answers to the questions below apply to the following duct systems:	AC-E2	Duct leakage testing triggered for these systems?	No

11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
		☐	Outdoors
		☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1ii 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 accordance with the California Mechanical Code	

The answers to the questions below apply to the following duct systems:	AC-E3	Duct leakage testing triggered for these systems?	No

11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
		☐	Outdoors
		☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1ii 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 accordance with the California Mechanical Code	

The answers to the questions below apply to the following duct systems:	AC-E4	Duct leakage testing triggered for these systems?	No

11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
		☐	Outdoors
		☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1ii 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 accordance with the California Mechanical Code	

The answers to the questions below apply to the following duct systems:	AC-E5	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)1ii 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 accordance with the California Mechanical Code	

M. COOLING TOWERS

This section does not apply to this project.

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Munsey Elementary School	**Report Page:**	(Page 36 of 42)
Project Address:	3801 Brave Avenue	**Date Prepared:**	10/18/2022

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	Field Inspector 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	Field Inspector 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 506GCQM06; Carrier 40MBCQ118+38MARBQ18; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 40MBCQ18+38MARBQ18; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 40MBCQ118+38MARBQ18; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05; Carrier 50GCQM05;	☐	☐

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-122489 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 07/27/2023

Owner:

BAKERSFIELD CITY SCHOOL DISTRICT
1300 BAKER STREET
FRESNO, CA. 93706

Project Name:

HVAC REPLACEMENT

Project Address:

MUNSEY ELEMENTARY SCHOOL
3801 BRAVE AVENUE
BAKERSFIELD, CA 93309

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by SOMAM, Inc.

ARCHITECTURE ENGINEERING INTERIOR DESIGN

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REGISTERED PROFESSIONAL ENGINEER
LISA LUM
32712
Exp. 6-30-24
MECHANICAL
STATE OF CALIFORNIA

Sheet Title:

TITLE 24 DOCS

Job No.:

5524

Sheet No.:

M3.03

Release: DSA SUBMITTAL 11/28/22

6/9/23

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1" = 30'-0" 1" = 20'-0" 1" = 50'-0" 1" = 40'-0" 1/8" = 1'-0" 1/4" = 1'-0"