MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2016 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7-10 CHAPTER 13, 26 AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
3. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT THE ATTACHMENT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.

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.

FOR THOESE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.5.6, 13.6.7 13.6.8, AND 2016 CBC, SECTIONS 1616A.1.23, 1616A.1.24, 1616A.1.25 AND 1616A.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 PREPARED INSTALLATION GUIDE (E.G., SMACNA OR OSHPD OPM), 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.

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

MP☒ MD☐ PP☐ E☐ – OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPA#) #_0098__.

MP☐ MD☒ PP☐ – OPTION 3: SHALL COMPLY WITH THE SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION (2009), INCLUDING ANY ADDENDA. FASTENERS AND OTHER ATTACHMENTS NOT SPECIFICALLY IDENTIFIED IN THE SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION, ARE DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS. THE DETAILS SHALL ACCOUNT FOR THE APPLICABLE SEISMIC HAZARD LEVEL ____ AND CONNECTION LEVEL ____ FOR THE PROJECT AND CONDITIONS.

PROJECT DESCRIPTION;

REPLACEMENT OF EXISTING 30 YEARS OLD HVAC SYSTEM FOR BUILDING A, B & C.

SCOPE OF WORK;

BUILDING A, B & C (DEMOLITION WORK)

1. DEMOLISH EXISTING ROOFTOP PACKAGED GAS/ELETRIC AC UNITS, ASSOCIATED ROOF CURB, DUCTWORK, SUPPORTS, DIFFUSERS, GRILLES, CONTROLS.
   ALL EXISTING UTILITY PIPES SHALL BE CLEAN, PRESSURE TEST SO IT CAN BE REUSED FOR NEW A/C UNIT CONNECTIONS.

BUILDING A, B & C (NEW WORK)

1. PROVIDE NEW ULTRA HIGH EFFIENCY ROOFTOP PACKAGED GAS/ELETRIC AC UNITS, ASSOCIATED NEW VIBRATION ISOLATOR ROOF CURB, DUCT SILENCERS, MIN. 20 GAUGE DUCTWORK, SUPPORTS, DIFFUSERS, GRILLES, DDC CONTROLS.
   PROVIDE PARTIAL NEW UTILITY PIPES TO NEW A/C UNITS.
2. PROVIDE CAMPUS WIDE ENERGY MANAGEMENT SYSTEM OF THE DISTRICT'S PREFERENCE.

GENERAL NOTES

1. MOUNT WALL MOUNTED THERMOSTATS 4'-0" MAX TO TOP ABOVE FINISHED FLOOR.
2. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF DIFFUSERS, REGISTERS & ACCESS PANELS & OTHER CEILING MOUNTED DEVICES.
3. ARROWS AT CEILING DIFFUSERS INDICATE THE AIR THROW PATTERN.
4. INSTALLATION OF DUCTWORK AND PIPING SHALL BE COORDINATED WITH OTHER TRADES.
5. CONTRACTOR SHALL VISIT JOB SITE AND VERIFY CONDITIONS, LOCATIONS AND DIMENSIONS BEFORE STARTING ANY WORK.
6. DUCTS TO COMPLY WITH THE C.M.C 2016 REQUIREMENTS.
7. A/C INSTALLER TO PROVIDE SHOP DRAWINGS FOR EXACT SIZES AND LOCATIONS OF EQUIPMENT BASES, FRAMED OPENINGS, SLEEVED OPENINGS AND EQUIPMENT SUPPORTS OR HANGERS.
8. A/C INSTALLER SHALL BALANCE AIR SYSTEM TO THE CFM CAPACITY AS INDICATED ON FLOOR PLAN.
9. CONCEALED BUILDING SPACES USED AS RETURN AIR PLENUMS SHALL BE IN COMPLIANCE WITH THE C.M.C 2016 REQUIREMENTS.
10. APPLIANCES DESIGNED TO BE IN FIXED POSITION SHALL BE SECURELY FASTENED IN PLACE PER SMACNA GUIDE LINES AND GOVERNING CODES.
11. LINED DUCT AND PLENUM SIZES SHOWN ARE NET INSIDE DIMENSIONS. INCREASE OUTSIDE DIMENSIONS TO COMPENSATE FOR LINER.
12. POWER ON SITE SHALL BE VERIFIED BEFORE ORDERING EQUIPMENT.
13. PROVIDE IDENTIFICATION LABELS FOR ALL HVAC EQUIPMENT PER CODE & SPECIFICATIONS.
14. ALL SUPPLY & RETURN DUCTS SHALL BE LINED FOR A MINIMUM OF 15 FEET FROM THE A/C UNIT U.N.O. EXCEPT EVAPORATIVE COOLING UNITS WHERE NO LINING SHOULD BE PROVIDED.
15. AIR FILTERS SHALL BE A STATE FIRE MARSHAL APPROVED AND LISTED TYPE. PERFORMED FILTERS HAVING COMBUSTIBLE FRAMING SHALL BE TESTED AS A COMPLETE ASSEMBLY. AIR FILTERS IN ALL OCCUPANCIES SHALL BE CLASS 2 OR BETTER (AS SHOWN IN THE STATE FIRE MARSHAL LISTING). AIR FILTERS SHALL BE ACCESSIBLE FOR CLEANING OR REPLACEMENT.
16. DUCT ENCLOSURES SHALL BE OF TWO-HOUR FIRE-RESISTIVE CONSTRUCTION IN TYPES 1 AND 2 FIRE RATED BUILDINGS. THE DUCT ENCLOSURE SHALL BE SEALED AROUND THE DUCT AT THE POINT OF PENETRATION AND VENTED TO THE EXTERIOR THROUGH WEATHER-PROTECTED OPENINGS. THE ENCLOSURE SHALL BE SEPARATED FROM THE DUCT BY AT LEAST 3 AND NOT MORE THAN 12 INCHES AND SHALL SERVE A SINGLE GREASE EXHAUST DUCT SYSTEM (SEC. 507.2, CMC 2016). FIRE RATED DOORS SHALL BE PROVIDED IN RATED ENCLOSURE TO ACCESS DUCT CLEANOUTS.
17. VERIFY THAT PROPER ACCESS IS AVAILABLE FOR ALL CSFD'S FOR PERIODIC INSPECTION & MAINTENANCE. ALL COMBINATION SMOKE & FIRE DAMPERS SHALL BE MADE OPERABLE AFTER THE REQUIRED TESTING. REPLACE ALL PARTS OR UNITS DAMAGED DURING THE TESTING. COMPILE MANUFACTURER'S PERIODIC MAINTENANCE INSTRUCTION, VERIFY WITH THE LOCAL FIRE DEPARTMENT (INSPECTOR), ALL HIS/HER REQUIREMENTS & INCLUDE THE REQUIREMENTS IN THE PROJECT MAINTENANCE & OPERATION MANUAL.
18. FOR THE ROOMS WITH EXISTING EXPOSED DUCTWORK BELOW NEW INSTALLED CEILING, MECHANICAL CONTRACTOR SHALL COORDINATE THE DUCT SUPPORTS WITH GENERAL CONTRACTOR TO AVOID ANY CONFLICT. TEMPORARY REMOVE THE SUPPORTS IF IT'S REQUIRED. PROVIDE NEW SUPPORTS PER SMACNA DUCT CONSTRUCTIONS STANDARDS IF THE EXISTING SUPPORTS ARE NOT IN GOOD CONDITION.

PLUMBING LEGEND

ALL ITEMS SHOWN IN THIS LEGEND NOT NECESSARILY USED ON THE DRAWINGS

SYMBOL	ABBREVIATION	DESCRIPTION
		RELIEF VALVE
	TP	TRAP PRIMER
	P.G.	PRESSURE GAUGE
		THERMOMETER
		STRAINER
		INCREASER / DECREASER
	G.V./ S.O.V.	GATE VALVE / SHUTOFF VALVE
	C.V.	CHECK VALVE
	B.V.	BALANCING VALVE / GLOBE VALVE
	G.C.	GAS COCK
	U.	UNION
	SOV	SHUT-OFF VALVE
	CW	DOMESTIC COLD WATER
	V	VENT
G	G	GAS (8" WATER COLUMN)
	U.L.	UNDERWRITERS LABORATORIES
	U.O.S.	UNDER OTHER SECTION
	B.F.P.	BACK FLOW PREVENTER
	S.P.V.	SUMP PUMP VENT
COD		CONDENSATE OVER FLOW DRAIN
	U.T.R	UP TO ROOF

CONTROL LEGEND

1. ALL ITEMS INDICATED IN THIS LEGEND ARE NOT NECESSARILY USED ON THE DRAWINGS.
2. CONDUIT, LINE VOLTAGE WIRING & DEVICES TO BE PROVIDED UNDER DIVISION 16.
3. LOW VOLTAGE (LESS THAN 50 VOLTS) WIRING, CONDUIT & DEVICES TO BE PROVIDED UNDER DIVISION 15.

SYMBOL	DESCRIPTION	
⟨E⟩	ITEM TO BE FURNISHED AND INSTALLED UNDER ELECTRICAL DIVISION.	
MS	MAGNETIC STARTER	⟨E⟩
NO	NORMALLY OPEN ELECTRICAL CONTACT	⟨E⟩
NC	NORMALLY CLOSED ELECTRICAL CONTACT	⟨E⟩
CR	ELECTRICAL COIL RELAY	⟨E⟩
OVL	OVERLOAD PROTECTION	⟨E⟩
PL	PILOT LIGHT	⟨E⟩
	ON - OFF SWITCH	⟨E⟩
	HAND - OFF - AUTOMATIC SWITCH	⟨E⟩
DISC. S	DISCONNECT SWITCH (PROVIDE FUSED TYPE U.N.O.)	⟨E⟩
	ELECTRIC SWITCHING DEVICE	⟨E⟩
FS	FLOW SWITCH	
TS	TEMPERATURE SWITCH	
	FLOAT SWITCH	
TD	TIME DELAY SWITCH	
	SENSOR(TEMPERATURE, HUMIDITY ETC.)	
P	PRESSURE SENSOR	
SD.	SMOKE DETECTOR (SWITCH ACTIVATED BY)	⟨E⟩
OVL	SINGLE PHASE MOTOR W/BUILT-IN OVERLOAD PROTECTION	
EM	ON EMERGENCY POWER	⟨E⟩
MCC MCC	MOTOR CONTROL CENTER	⟨E⟩
CP CP	CONTROL PANEL	
	LINE VOLTAGE	⟨E⟩
	LOW VOLTAGE	
	SLASHES INDICATE NO. OF WIRES	
A	ACTUATOR FOR VALVE OR DAMPER	
A	CONTROL AIR	
CB	CIRCUIT BREAKER	⟨E⟩

CONTROL ABBREVIATIONS

ABBREV.	DESCRIPTION	
AO, AI	ANALOG OUTPUT, ANALOG INPUT	
DO, DI	DIGITAL OUTPUT, DIGITAL INPUT	
FMS	FACILITY MANAGEMENT SYSTEM	
NC.C.NO.	NORMALLY CLOSED. COMMON. NORMALLY OPEN	
PC	PROGRAMMABLE CONTROLLER	
U.P.S	UNINTERRUPTED POWER SUPPLY	⟨E⟩
U.O.N	UNLESS OTHERWISE NOTED	

HVAC SHEET INDEX

NO.	SHEET NO.	SHEET DESCRIPTION
1	M0.01	LEGENDS, NOTES & SHEET INDEX
2	M0.02	SCHEDULES
3	M0.03	TITLE-24
4	M0.04	TITLE-24
5	M0.05	TITLE-24
6	M0.06	TITLE-24
7	MAD101	MECHANICAL DEMOLITION FLOOR PLAN - BUILDING A
8	MA101	MECHANICAL NEW FLOOR PLAN - BUILDING A
9	MAD102	MECHANICAL DEMOLITION ROOF PLAN - BUILDING A
10	MA102	MECHANICAL NEW ROOF PLAN - BUILDING A
11	MBD101	MECHANICAL DEMOLITION PLANS - BUILDING B
12	MB101	MECHANICAL NEW PLANS - BUILDING B
13	MCD101	MECHANICAL DEMOLITION PLANS - BUILDING C
14	MC101	MECHANICAL NEW PLANS - BUILDING C
15	M2.00	DETAILS
16	M2.01	DETAILS
17	M2.02	DETAILS
18	M2.03	DETAILS
19	M3.00	CONTROLS
20	M3.01	CONTROLS
21	M3.02	CONTROLS
22	M3.03	CONTROLS

• EQUIPMENT TAGGING DESCRIPTOIN:

FC-4 / 1 — INDOOR FAN COIL UNIT
FC - INDOOR FAN COIL UNIT
4 - UNIT CAPACITY
1 - UNIT I.D. NO.

CU / 1 — SPLIT SYSTEM CONDENSING UNIT
CU - UNIT DESCRIPTION
1 - UNIT I.D. NO.

SHP / 1 — SPLIT HEAT PUMP
SHP - UNIT DESCRIPTION
1 - UNIT I.D. NO.

EF / 1 — ROOF EXHAUST
EF - UNIT DESCRIPTION
1 - UNIT I.D. NO.

FCU / 1 — SINGLE SPLIT INDOOR UNIT
FCU - UNIT DESCRIPTION
1 - UNIT I.D. NO.

AC / 1 — ROOFTOP PACKAGED GAS/ELECTRIC A/C UNIT
AC - UNIT DESCRIPTION
1 - UNIT I.D. NO.

MECHANICAL LEGEND

ALL ITEMS INDICATED IN THIS LEGEND ARE NOT NECESSARILY USED ON THE DRAWINGS.

SYMBOL	DESCRIPTION
	MATCH LINE
	EQUIPMENT DESIGNATION
	DETAIL REFERENCE
	NOTE REFERENCE
P.O.C	POINT OF CONNECTION
P.O.R	POINT OF REMOVAL
OA. SA. RA. EXH.	OUTSIDE AIR. SUPPLY. RETURN. EXHAUST
	SUPPLY AIR DUCT DOWN
	RETURN OR OUTSIDE AIR DUCT DOWN
	EXHAUST AIR DUCT DOWN
	SUPPLY AIR DUCT UP
	RETURN OR OUTSIDE AIR DUCT UP
	EXHAUST AIR DUCT UP
	LINED DUCT
	TURNING VANES
	TRANSITION
	FLEXIBLE DUCT
	FLEXIBLE DUCT CONNECTION
BD	BACKDRAFT DAMPER
MVD	MANUAL VOLUME DAMPER
ZD	ZONE CONTROL DAMPER (VVT SYSTEM)
FD	FIRE DAMPER
CSFD	COMBINATION SMOKE & FIRE DAMPER
SD	SMOKE DETECTOR
2.5 Ф	LOUVER (EX; 2.5 Ф)
U	UNDERCUT DOOR 3/4" ABOVE FINISHED FLOOR
AD. AP.	ACCESS DOOR. ACCESS PANEL.
12x12 CD. CR.CG.	12x12 CEILING DIFFUSER. REGISTER. GRILLE. . ARROWS INDICATE THROW PATTERN.
12x12 TR. TG.BR.BG.	12x12 TOP REGISTER. GRILLE. BOTTOM REGISTER. GRILLE.
CHS	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
BS	BRINE SUPPLY
BR	BRINE RETURN
CD	CONDENSATE DRAIN
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
HWS	HOT WATER SUPPLY FOR SPACE HEATING
HWR	HOT WATER RETURN FOR SPACE HEATING
D	CONDENSATE DRAIN (INDIRECT)
	UNION. FLANGE
	SHUT-OFF VALVE (GATE VALVE)
	BALANCING VALVE (GLOBE VALVE)
	FLOW LIMITING VALVE
	COCK
	STRAINER
	CHECK VALVE
	PRESSURE GAUGE
	BUTTERFLY VALVE
	GAUGE COCK
G	GAS (8" WATER COLUMN)
	THERMOMETER
MAV	MANUAL AIR VENT
PRV	PRESSURE REDUCING VALVE
	RELIEF VALVE
	3 WAY CONTROL VALVE
	2 WAY CONTROL VALVE
	PIPE ANCHOR
	PIPE GUIDE
	FLEXIBLE PIPE CONNECTION
T H S TS T.H.S.	ZONE TEMPERATURE SENSOR, HUMIDITY SENSOR, SWITCH, TEMPERATURE SENSOR
D D	DUCT DROP IN DIRECTION OF AIR FLOW
R R	DUCT RISE IN DIRECTION OF AIR FLOW
TM	MANUAL BYPASS TIMER
	EXISTING HVAC DUCTWORK/EQUIPTMENT TO REMAIN
	EXISTING HVAC DUCTWORK/EQUIPTMENT TO BE REMOVED

MECHANICAL ABBREVIATIONS

ABBREV.	DESCRIPTION
10'-0"x0'-6" LD.LG.	10 FT. LENGTH x 6 IN. WIDTH LINEAR DIFFUSER, LINEAR GRILLE.
ABV.	ABOVE
AFF	ABOVE FINISHED FLOOR
BEL.	BELOW
BHP	BRAKE HORSE POWER
CFM	CUBIC FEET PER MINUTE
CONT.	CONTINUED, CONTINUATION
DN.	DOWN
(E)	EXISTING
E.S.P	EXTERNAL STATIC PRESSURE
FPM	FEET PER MINUTE
FS	FLOOR SINK
HP	HORSE POWER
LVR.	LOUVER
N/A	NOT APPLICABLE
N/R	NOT REQUIRED
O.A.R.	OWNER'S AUTHORIZED REPRESENTATIVE
RPM	REVOLUTIONS PER MINUTE
TYP.	TYPICAL
U.O.N	UNLESS OTHERWISE NOTED
V-ø	VOLT-PHASE
W/	WITH
W/O	WITHOUT
%EFF	EFFICIENCY (%)

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 03-119485 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 8/14/2019

CANNONDESIGN | gkkworks

155 S. Fair Oaks, 2nd Floor,
Pasadena California 91105
t 626.666.6906
f 626.666.3940
www.cannondesign.com

LICENSED ARCHITECT JAVAN NABILI NO. C24035 REN.: 7.31.21 STATE OF CALIFORNIA

INGLEWOOD UNIFIED SCHOOL DISTRICT 1888

CORDOBA CORPORATION
SAN FRANCISCO • LOS ANGELES • SANTA ANA • SAN DIEGO

REGISTERED PROFESSIONAL ENGINEER JAMES H. SHWE No. 26903 Renewal: 9/30/20 MECHANICAL STATE OF CALIFORNIA

SOUND MITIGATION PROGRAM

OAK STREET ELEMENTARY SCHOOL
633 South Oak Street Inglewood, CA 90301

A PROJECT FOR:
INGLEWOOD UNIFIED SCHOOL DISTRICT

PROJECT NUMBER: **10292**

DRAWN: N.W, S.W.L, S.N
CHECKED: J.S, N.W

ISSUE/REVISION:

8/21/2018	30% - SCHEMATIC DESIGN
10/10/2018	50% CD SUBMITTAL
11/15/2018	100% CD - DSA SUBMITTAL
03/15/2019	DSA APPROVAL

LEGENDS, NOTES & SHEET INDEX

M0.01

DUCT SILENCER			
TAG		DS-1	DS-2
SPEC SECTION		23 0548	23 0548
SERVICE		AC UNITS	AC UNITS
LOCATION		INSIDE S.A DUCT & R.A DUCT	INSIDE S.A DUCT & R.A DUCT
DESIGN BASE MANUFACTURER & MODEL		IAC LFM	IAC LFM
DIMENSIONS (IN) W x H x L		36 x 24 x 60	24 x 18 x 36
CFM		4,000	2,000
SPD (IN WG)		0.11	0.19
DYNAMIC INSERTION LOSS / SELF NOISE POWER LEVEL (DECIBEL RE 10-12 WATTS)	63	8	8
	125	13	13
	250	23	23
	500	29	29
	1000	28	28
	2000	17	17
	4000	14	14
	8000	13	13
OPERATING WEIGHT (LBS)		136	106
REMARKS		• PROVIDE WEATHER-PROOF JACKET.	-

SINGLE PACKAGED ROOFTOP GAS HEATING ELECTRIC COOLING SINGLE ZONE VAV UNIT								
TAG		AC-10	AC-11	AC-8 & AC-9	AC-18 & AC-20	AC-5, 12, 13, 14, 16, 17, 19, 21, & 23	AC-1, 2, 3, 4, 6, 7, 15 & 22	AC-24 & 25
SPEC. SYMBOL & SECTION		2.02 / 238000	2.02 / 238000	2.02 / 238000	2.02 / 238000	2.02 / 238000	2.02 / 238000	2.02 / 238000
SERVICE		SEE FLOOR PLAN	SEE FLOOR PLAN	SEE FLOOR PLAN	SEE FLOOR PLAN	SEE FLOOR PLAN	SEE FLOOR PLAN	SEE FLOOR PLAN
LOCATION		BUILDING ROOF	BUILDING ROOF	BUILDING ROOF	BUILDING ROOF	BUILDING ROOF	BUILDING ROOF	BUILDING ROOF
TYPE		SINGLE ZONE VAV	SINGLE ZONE VAV	SINGLE ZONE VAV	SINGLE ZONE VAV	SINGLE ZONE VAV	SINGLE ZONE VAV	SINGLE ZONE VAV
DESIGN BASE MANUFACTURER & MODEL		CARRIER 48VLC240403	CARRIER 48VLC300603	CARRIER 48HCD04A2A6A1A4A0	CARRIER 48VLC420606	CARRIER 48HCD05A2A6A1A4A0	CARRIER 48HCD08A2A6A1A4A0	CARRIER 48HCD12A2A6A1A4A0
COOLING	CAPACITY (BTU/H) SENSIBLE	17,200	21,000	28,300	29,500	38,100	48,000	89,600
	CAPACITY (BTU/H) TOTAL	23,000	28,600	37,300	40,000	50,600	60,400	119,500
	AMBIENT TEMP.(°F)	95	95	95	95	95	95	95
	EWB (°F)	67	67	67	67	67	67	67
	EDB (°F)	80	80	80	80	80	80	80
	SEER	14	14	15	14	15.6	15.2	-
	EER	11.5	11.5	12.5	11.5	13	12.45	11.5
HEATING	INPUT (BTU/H)	40,000	60,000	56,000	60,000	56,000	56,000	148,000
	OUTPUT (BTU/H)	33,000	49,000	41,000	49,000	41,000	41,000	98,000
FAN	TOTAL UNIT CFM	800	1,000	1,200	1,350	1,600	2,000	4,000
	EXT. S.P. (IN. WG)	0.6	0.6	0.8	0.6	0.8	0.8	1
	MOTOR BHP	0.26	0.26	0.84	0.34	0.95	1.38	2.5
FILTER	MERV NO.	13	13	13	13	13	13	13
	QTY	2	2	2 / 1	2 / 1	1 / 1	4 / 1	2 / 2
	SIZE LxWxT (IN)	20x 12 x 2	20x 12 x 2	16 x 25 x 2 / 20 x 24 x 1	24 x 14 x 2 / 24 x 15 x 2	16 x 16 x 2 / 20 x 24 x 1	16 x 16 x 2 / 20 x 24 x 1	16 x 16 x 2 / 16 x 16 x 2
UNIT ELECTRICAL DATA	V	208	208	460	460	460	460	460
	ϕ	1	1	3	3	3	3	3
	Hz	60	60	60	60	60	60	60
	MCA	15.2	18.5	11	10.7	12	14	28
	MOCP	20	25	15	15	15	20	30
POWER EXHAUST	V	N/A	N/A	N/A	N/A	N/A	N/A	460
	ϕ	N/A	N/A	N/A	N/A	N/A	N/A	3
	Hz	N/A	N/A	N/A	N/A	N/A	N/A	60
	FLA	N/A	N/A	N/A	N/A	N/A	N/A	5.4
	HP	N/A	N/A	N/A	N/A	N/A	N/A	3
OPERATING WEIGHT (LBS)		450	500	850	600	950	960	1800
OUTDOOR AIR	CFM / % TOTAL DCV (MIN. O.A SETTING)	100 / 13%	60 / 6%	180 / 15% , 100 / 8.3%	140 / 10.4% , 150 / 11.1%	150 / 9.4%	180 / 9.0%	340 / 8.5%
	CFM / % TOTAL COIL (MAX. O.A SETTING)	150 / 19%	100 / 10%	300 / 25% , 200 / 17%	450 / 34% , 450 / 34%	450 / 28.1%	500 / 25%	950 / 23.75%
VIBRATION ISOLATORS	TYPE	VIBREX RMU-EQ-SH-1	VIBREX RMU-EQ-SH-1	VIBREX RMU-EQ-SH-1	VIBREX RMU-EQ-SH-1	VIBREX RMU-EQ-SH-1	VIBREX RMU-EQ-SH-1	VIBREX RMU-EQ-SH-1
	DEFLECTION (IN)	2	2	2	2	2	2	2
OUTDOOR SOUND DATA (HZ)	63	-	-	78.2	-	84.7	87.5	87
	125	54.3	58.1	78	54.4	83.6	82.5	85.2
	250	61.3	59.4	74.2	59	77.1	76.1	84.6
	500	55.2	61.2	73.3	61.2	74.6	73.6	84.9
	1000	54.8	64.1	70.6	62.1	72.3	71.3	82.2
	2000	57.1	59.2	66	58.9	68.3	67.1	78.4
	4000	53.6	56.8	62.4	53.5	64.7	64.1	75.3
	8000	43.1	50.9	56.9	46.7	60.9	60	72.9
PLBG. REQD		YES	YES	YES	YES	YES	YES	YES
REFERENCE ANCHORAGE DETAIL		#3, 4, 5/M2.02	#3, 4, 5/M2.02	#3, 4 /M2.01 & #5/M2.02	#1, 2/M2.03 & #5/M2.02	#3, 4 /M2.01 & #5/M2.02	#3, 4 /M2.01 & #5/M2.02	#6, 7 /M2.00 & #5/M2.02
REFERENCE CONTROL DETAIL		#1, 2 ,3/M3.01	#1, 2 ,3/M3.01	#1, 2 ,3/M3.02	#1, 2 ,3/M3.01	#1, 2 ,3/M3.01	#1, 2 ,3/M3.01	#1, 2 ,3/M3.03
REMARKS		• UNIT PERFORMANCE PER CATALOG STANDARD CONDITIONS. SEE FLOOR PLANS FOR PROJECT SPECIFIC REQUIREMENTS. • PROVIDE HIGH CAPACITY FILTERS W/CLOGGED FILTER SWITCH. • PROVIDE FACTORY INSTALLED UNIT MONITORING CONTROLLER W/INTERFACE DEVICE (IF REQUIRED). • PROVIDE M.W. SAUSSE SPRING ISOLATORS W/INTEGRAL SEISMIC RESTRAINTS INSIDE CURB, COMPRESSOR CYCLE DELAY TIMER, COIL GARDS, LOW NOX KIT, FLUE EXTENSION, INSULATION KIT AND MODULATING ECONOMIZER HOOD W/BAROMETRICDAMPER.	• UNIT PERFORMANCE PER CATALOG STANDARD CONDITIONS. SEE FLOOR PLANS FOR PROJECT SPECIFIC REQUIREMENTS. • PROVIDE HIGH CAPACITY FILTERS W/CLOGGED FILTER SWITCH. • PROVIDE FACTORY INSTALLED UNIT MONITORING CONTROLLER W/INTERFACE DEVICE (IF REQUIRED). • PROVIDE M.W. SAUSSE SPRING ISOLATORS W/INTEGRAL SEISMIC RESTRAINTS INSIDE CURB, COMPRESSOR CYCLE DELAY TIMER, COIL GARDS, LOW NOX KIT, FLUE EXTENSION, INSULATION KIT AND MODULATING ECONOMIZER HOOD W/BAROMETRICDAMPER.	• UNIT PERFORMANCE PER CATALOG STANDARD CONDITIONS. SEE FLOOR PLANS FOR PROJECT SPECIFIC REQUIREMENTS. • UNIT SHALL HAVE TWO STAGE HEATING CONTROLS. • PROVIDE HIGH CAPACITY FILTERS W/CLOGGED FILTER SWITCH. • PROVIDE FACTORY INSTALLED UNIT MONITORING CONTROLLER W/INTERFACE DEVICE (IF REQUIRED). • PROVIDE M.W. SAUSSE SPRING ISOLATORS W/INTEGRAL SEISMIC RESTRAINTS INSIDE CURB, COMPRESSOR CYCLE DELAY TIMER, COIL GARDS, LOW NOX KIT, FLUE EXTENSION, INSULATION KIT AND MODULATING ECONOMIZER HOOD W/BAROMETRICDAMPER.	• UNIT PERFORMANCE PER CATALOG STANDARD CONDITIONS. SEE FLOOR PLANS FOR PROJECT SPECIFIC REQUIREMENTS. • PROVIDE HIGH CAPACITY FILTERS W/CLOGGED FILTER SWITCH. • PROVIDE FACTORY INSTALLED UNIT MONITORING CONTROLLER W/INTERFACE DEVICE (IF REQUIRED). • PROVIDE M.W. SAUSSE SPRING ISOLATORS W/INTEGRAL SEISMIC RESTRAINTS INSIDE CURB, COMPRESSOR CYCLE DELAY TIMER, COIL GARDS, LOW NOX KIT, FLUE EXTENSION, INSULATION KIT AND MODULATING ECONOMIZER HOOD W/BAROMETRICDAMPER.	• UNIT PERFORMANCE PER CATALOG STANDARD CONDITIONS. SEE FLOOR PLANS FOR PROJECT SPECIFIC REQUIREMENTS. • UNIT SHALL HAVE TWO STAGE HEATING CONTROLS. • PROVIDE HIGH CAPACITY FILTERS W/CLOGGED FILTER SWITCH. • PROVIDE FACTORY INSTALLED UNIT MONITORING CONTROLLER W/INTERFACE DEVICE (IF REQUIRED). • PROVIDE M.W. SAUSSE SPRING ISOLATORS W/INTEGRAL SEISMIC RESTRAINTS INSIDE CURB, COMPRESSOR CYCLE DELAY TIMER, COIL GARDS, LOW NOX KIT, FLUE EXTENSION, INSULATION KIT AND MODULATING ECONOMIZER HOOD W/BAROMETRICDAMPER.	• UNIT PERFORMANCE PER CATALOG STANDARD CONDITIONS. SEE FLOOR PLANS FOR PROJECT SPECIFIC REQUIREMENTS. • UNIT SHALL HAVE TWO STAGE HEATING CONTROLS. • PROVIDE HIGH CAPACITY FILTERS W/CLOGGED FILTER SWITCH. • PROVIDE FACTORY INSTALLED UNIT MONITORING CONTROLLER W/INTERFACE DEVICE (IF REQUIRED). • PROVIDE M.W. SAUSSE SPRING ISOLATORS W/INTEGRAL SEISMIC RESTRAINTS INSIDE CURB, COMPRESSOR CYCLE DELAY TIMER, COIL GARDS, LOW NOX KIT, FLUE EXTENSION, INSULATION KIT AND MODULATING ECONOMIZER HOOD W/BAROMETRICDAMPER.	• UNIT PERFORMANCE PER CATALOG STANDARD CONDITIONS. SEE FLOOR PLANS FOR PROJECT SPECIFIC REQUIREMENTS. • PROVIDE FACTORY INSTALLED UNIT MONITORING CONTROLLER W/ INTERFACE DEVICE (IF REQUIRED) TO COMPATIBLE WITH EMS PROVIDED. • PROVIDE HIGH CAPACITY FILTERS W/CLOGGED FILTER SWITCH. • FLUE EXTENSION SHALL BE 3' ABOVE OUTSIDE AIR INTAKE HOOD OF ANY ADJACENT UNITS IN COMPLIANCE WITH CURRENT CMC CPC 906.2 VENT TERMINATION. • PROVIDE M.W. SAUSSE SPRING ISOLATORS W/INTEGRAL SEISMIC RESTRAINTS INSIDE CURB, COMPRESSOR CYCLE DELAY TIMER, COIL GARDS, LOW NOX KIT, FLUE EXTENSION, INSULATION KIT AND MODULATING ECONOMIZER AND POWER EXHAUSTER. • UNIT SHALL SHUT DOWN BY TOTAL COVERAGE SMOKE DETECTION SYSTEM PER 2016 CMC 608, EXCEPTION 1.

VARIABLE VOLUME AND TEMPERATURE (VVT) SYSTEM								
TAG	ZD-1	ZD-2	ZD-3	ZD-4	ZD-5	ZD-6	CD-1	CD-2
DESIGN BASE MANUFACTURER & MODEL	CARRIER VVT ZONE II, OPN-VVTZC-02	CARRIER VVT ZONE II, OPN-VVTZC-02	CARRIER VVT ZONE II, OPN-VVTZC-02	CARRIER VVT ZONE II, OPN-VVTZC-02	CARRIER VVT ZONE II, OPN-VVTZC-02	CARRIER VVT ZONE II, OPN-VVTZC-02	CARRIER VVT ZONE II, OPN-VVTZC-02	CARRIER VVT ZONE II, OPN-VVTZC-02
LOCATION	BUILDING-A	BUILDING-A	BUILDING-A	BUILDING-A	BUILDING-A	BUILDING-A	BUILDING-A	BUILDING-A
AREA SERVED	OFFICE A31	SUPPLIES WORKROOM A30	ENTRY A1	NURSE A32	VICE PRINCIPAL A28, MAIL ROOM A27	PRINCIPAL A29	N/A	N/A
UNIT SERVICE	AC-8	AC-8	AC-8	AC-8	AC-9	AC-9	AC-8	AC-9
CFM	250	400	150	400	600	600	900	900
REMARKS	SEE #1, 2, & 3/M3.02 FOR MORE INFORMATION. SEE FLOOR PLANS FOR DUCT SIZES. PROVIDE ONE ZONE CONTROLLER PER ZONE. CONTRACTOR TO PROVIDE STEP-DOWN TRANSFORMER TO THE CONTROLLER PER MANUFACTURER'S RECOMMENDATION.	SEE #1, 2, & 3/M3.02 FOR MORE INFORMATION. SEE FLOOR PLANS FOR DUCT SIZES. PROVIDE ONE ZONE CONTROLLER PER ZONE. CONTRACTOR TO PROVIDE STEP-DOWN TRANSFORMER TO THE CONTROLLER PER MANUFACTURER'S RECOMMENDATION.	SEE #1, 2, & 3/M3.02 FOR MORE INFORMATION. SEE FLOOR PLANS FOR DUCT SIZES. PROVIDE ONE ZONE CONTROLLER PER ZONE. CONTRACTOR TO PROVIDE STEP-DOWN TRANSFORMER TO THE CONTROLLER PER MANUFACTURER'S RECOMMENDATION.	SEE #1, 2, & 3/M3.02 FOR MORE INFORMATION. SEE FLOOR PLANS FOR DUCT SIZES. PROVIDE ONE ZONE CONTROLLER PER ZONE. CONTRACTOR TO PROVIDE STEP-DOWN TRANSFORMER TO THE CONTROLLER PER MANUFACTURER'S RECOMMENDATION.	SEE #1, 2, & 3/M3.02 FOR MORE INFORMATION. SEE FLOOR PLANS FOR DUCT SIZES. PROVIDE ONE ZONE CONTROLLER PER ZONE. CONTRACTOR TO PROVIDE STEP-DOWN TRANSFORMER TO THE CONTROLLER PER MANUFACTURER'S RECOMMENDATION.	SEE #1, 2, & 3/M3.02 FOR MORE INFORMATION. SEE FLOOR PLANS FOR DUCT SIZES. PROVIDE ONE ZONE CONTROLLER PER ZONE. CONTRACTOR TO PROVIDE STEP-DOWN TRANSFORMER TO THE CONTROLLER PER MANUFACTURER'S RECOMMENDATION.	SEE #1, 2, & 3/M3.02 FOR MORE INFORMATION. SEE FLOOR PLANS FOR DUCT SIZES. PROVIDE ONE BYPASS CONTROLLER PER SYSTEM. CONTRACTOR TO PROVIDE STEP-DOWN TRANSFORMER TO THE CONTROLLER PER MANUFACTURER'S RECOMMENDATION.	SEE #1, 2, & 3/M3.02 FOR MORE INFORMATION. SEE FLOOR PLANS FOR DUCT SIZES. PROVIDE ONE BYPASS CONTROLLER PER SYSTEM. CONTRACTOR TO PROVIDE STEP-DOWN TRANSFORMER TO THE CONTROLLER PER MANUFACTURER'S RECOMMENDATION.

EXHAUST FANS														
TAG		EF-1	EF-2	EF-3	EF-4	EF-5	EF-6	EF-7	EF-8	EF-9	EF-10	EF-11	EF-12	EF-13
SPEC. REF. & SECTION		23-8000	23-8000	23-8000	23-8000	23-8000	23-8000	23-8000	23-8000	23-8000	23-8000	23-8000	23-8000	23-8000
SERVICE		STORAGE A36, GIRLS A37	STORAGE ROOMS	TOILET A33	WOMEN A25, MEN A26	SUPPLY A34	CUSTODIAN A21	STORAGE A19, BOYS A20	TOILET B17, STOR. B18, STOR. B19, STOR. B20	STAFF B15, CUST. B16	BOYS B13, GIRLS B14	BOYS C5, GIRLS C6	MECHANICAL C2, STORAGE C3, CUSTODIAN C8	STORAGE C9, TOILET C11
LOCATION		BUILDING ROOF	BUILDING ROOF	BUILDING ROOF	BUILDING ROOF	BUILDING ROOF	BUILDING ROOF	BUILDING ROOF	BUILDING ROOF	BUILDING ROOF	BUILDING ROOF	BUILDING ROOF	SEE FLOOR PLAN	BUILDING ROOF
TYPE		UPBLAST CENTRIFUGAL ROOF EXHAUSTER	UPBLAST CENTRIFUGAL ROOF EXHAUSTER	UPBLAST CENTRIFUGAL ROOF EXHAUSTER	UPBLAST CENTRIFUGAL ROOF EXHAUSTER	UPBLAST CENTRIFUGAL ROOF EXHAUSTER	UPBLAST CENTRIFUGAL ROOF EXHAUSTER	UPBLAST CENTRIFUGAL ROOF EXHAUSTER	UPBLAST CENTRIFUGAL ROOF EXHAUSTER	UPBLAST CENTRIFUGAL ROOF EXHAUSTER	UPBLAST CENTRIFUGAL ROOF EXHAUSTER	UPBLAST CENTRIFUGAL ROOF EXHAUSTER	INLINE CABINET FAN	UPBLAST CENTRIFUGAL ROOF EXHAUSTER
DESIGN BASE MANUFACTURER & MODEL		GREENHECK CUE-090-VG	GREENHECK CUE-080-VG	GREENHECK CUE-060-VG	GREENHECK CUE-080-VG	GREENHECK CUE-060-VG	GREENHECK CUE-080-VG	GREENHECK CUE-090-VG	GREENHECK CUE-090-VG	GREENHECK CUE-070-VG	GREENHECK CUE-080-VG	GREENHECK CUE-080-VG	GREENHECK CSP-A700-VG	GREENHECK CUE-080-VG
CFM		480	200	100	200	150	200	480	400	150	420	300	250	300
EXT. SP (IN. WG)		0.5	0.5	0.25	0.5	0.25	0.5	0.5	0.5	0.35	0.5	0.5	0.5	0.5
DRIVE		DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT
MOTOR	HP	1/10	1/10	1/15	1/10	1/15	1/10	1/10	1/10	1/15	1/10	1/10	216 W (INPUT WATTS)	1/10
	VOLT	115	115	115	115	115	115	115	115	115	115	115	115	115
	ø	1	1	1	1	1	1	1	1	1	1	1	1	1
	Hz	60	60	60	60	60	60	60	60	60	60	60	60	60
	RPM	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1100 (FAN RPM)	1725
OPERATING WEIGHT (LBS)		46	49	38	49	38	49	46	46	38	46	49	39	49
VIBRATION ISOLATORS	TYPE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RMXA-1C-VLS	N/A
	DEFLECTION (IN)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A
PLBG. REQUIRED		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
REFERENCE ANCHORAGE DETAIL		#5/M2.03	#5/M2.03	#5/M2.03	#5/M2.03	#5/M2.03	#5/M2.03	#5/M2.03	#5/M2.03	#5/M2.03	#5/M2.03	#5/M2.03	#6/M2.03	#5/M2.03
REFERENCE CONTROL DETAIL		#4/M2.03	#4/M2.03	#4/M2.03	#4/M2.03	#4/M2.03	#4/M2.03	#4/M2.03	#4/M2.03	#4/M2.03	#4/M2.03	#4/M2.03	#4/M2.03	#4/M2.03
REMARKS		PROVIDE MANUFACTURER PITCH CURB AND BACKDRAFT DAMPER.	PROVIDE MANUFACTURER PITCH CURB AND BACKDRAFT DAMPER.	PROVIDE MANUFACTURER PITCH CURB AND BACKDRAFT DAMPER.	PROVIDE MANUFACTURER PITCH CURB AND BACKDRAFT DAMPER.	PROVIDE MANUFACTURER PITCH CURB AND BACKDRAFT DAMPER.	PROVIDE MANUFACTURER PITCH CURB AND BACKDRAFT DAMPER.	PROVIDE MANUFACTURER PITCH CURB AND BACKDRAFT DAMPER.	PROVIDE MANUFACTURER PITCH CURB AND BACKDRAFT DAMPER.	PROVIDE MANUFACTURER PITCH CURB AND BACKDRAFT DAMPER.	PROVIDE MANUFACTURER PITCH CURB AND BACKDRAFT DAMPER.	PROVIDE MANUFACTURER PITCH CURB AND BACKDRAFT DAMPER.	•PROVIDE BACKDRAFT DAMPER.	PROVIDE MANUFACTURER PITCH CURB AND BACKDRAFT DAMPER.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 03-119485 INC:
REVIEWED FOR
SS ☒ FLS ☒ ACS ☒
DATE: 8/14/2019

CANNONDESIGN | gkkworks
155 S. Fair Oaks, 2nd Floor,
Pasadena California 91105
t 626.666.6906
f 626.666.3940
www.cannondesign.com

LICENSED ARCHITECT
JAVAN NABILI
NO. C24035
REN: 7.31.21
STATE OF CALIFORNIA

INGLEWOOD UNIFIED SCHOOL DISTRICT

CORDOBA CORPORATION

REGISTERED PROFESSIONAL ENGINEER
JAMES H. SHWE
No. 26903
Renewal: 9/30/20
MECHANICAL
STATE OF CALIFORNIA

MAROKO & SHWE, INC.
Mechanical Engineers
1106-B W. MAGNOLIA BLVD.,
BURBANK, CA 91506
(818) 840-0280 FAX(818) 840-0284

SOUND MITIGATION PROGRAM

OAK STREET ELEMENTARY SCHOOL

633 South Oak Street Inglewood, CA 90301

A PROJECT FOR:
INGLEWOOD UNIFIED SCHOOL DISTRICT

PROJECT NUMBER:
10292
A# 03-119485

DRAWN: N.W, S.W.L, S.N
CHECKED: J.S, N.W

ISSUE/REVISION:

8/21/2018	30% - SCHEMATIC DESIGN
10/10/2018	50% CD SUBMITTAL
11/15/2018	100% CD - DSA SUBMITTAL
05/23/2019	DSA APPROVAL

SCHEDULES

M0.02

Project Name:	Oak Street Elementary School - LAWA Sound Mitigation	NRCC-PRF-01-E	Page 7 of 36
Project Address:	633 S Oak Street Inglewood 90301	Calculation Date/Time:	16:17, Tue, Nov 20, 2018
Compliance Scope:	ExistingAlteration	Input File Name:	Oak Street Elementary School - LAWA Sound Mitigation_NR T24_11-20-2018.cibd16x

H. CERTIFICATE OF INSTALLATION, CERTIFICATE OF ACCEPTANCE & CERTIFICATE OF VERIFICATION SUMMARY (NRCI/NRCA/NRCV) – Documentation Author to indicate which Certificates must be submitted for the features to be recognized for compliance (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify). See Tables G. and H. in MCH and LTI Details Sections for Acceptance Tests and forms by equipment.

Confirmed

Building Component	Compliance Forms *(required for submittal)*	Pass	Fail
Covered Process	☐ NRCI-PRC-01-E Refrigerated Warehouse	☐	☐
	☐ NRCA-PRC-01-F- Compressed Air Systems	☐	☐
	☐ NRCA-PRC-02-F- Kitchen Exhaust	☐	☐
	☐ NRCA-PRC-03-F- Garage Exhaust	☐	☐
	☐ NRCA-PRC-04-F- Refrigerated Warehouse- Evaporator Fan Motor Controls	☐	☐
	☐ NRCA-PRC-05-F- Refrigerated Warehouse- Evaporative Condenser Controls	☐	☐
	☐ NRCA-PRC-06-F- Refrigerated Warehouse- Air Cooled Condenser Controls	☐	☐
	☐ NRCA-PRC-07F- Refrigerated Warehouse- Variable Speed Compressor	☐	☐
	☐ NRCA-PRC-08-F- Electrical Resistance Underslab Heating System	☐	☐

I. ENVELOPE GENERAL INFORMATION (See NRCC-PRF-ENV-DETAILS for more information)

						Confirmed	
1.	Total Conditioned Floor Area	23,416 ft²	5.	Number of Floors Above Grade	1	Pass	Fail
2.	Total Unconditioned Floor Area	3,975 ft²	6.	Number of Floors Below Grade	0		
3.	Addition Conditioned Floor Area	0 ft²					
4.	Addition Unconditioned Floor Area	0 ft²					

7. Opaque Surfaces & Orientation	8. Total Gross Surface Area	9. Total Fenestration Area	10. Window to Wall Ratio	Pass	Fail
North Wall	3,350 ft²	378 ft²	11.3%	☐	☐
East Wall	5,112 ft²	744 ft²	14.6%	☐	☐
South Wall	3,795 ft²	378 ft²	09.9%	☐	☐
West Wall	4,011 ft²	705 ft²	17.6%	☐	☐
Total	**16,268 ft²**	**2,204 ft²**	**13.5%**	☐	☐
Roof	23,416 ft²	0 ft²	00.0%	☐	☐

Project Name:	Oak Street Elementary School - LAWA Sound Mitigation	NRCC-PRF-01-E	Page 4 of 36
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G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY

The following building components are only eligible for prescriptive compliance. Indicate which are relevant to the project.

Yes	NA	Prescriptive Requirement	Compliance Forms
☒	☐	Lighting (Indoor Unconditioned) §140.6	NRCC-LTI-01 / 02 / 03 / 04 / 05-E
☐	☒	Lighting (Outdoor) §140.7	NRCC-LTO-01 / 02 / 03-E
☐	☒	Lighting (Sign) §140.8	NRCC-LTS-01-E
☐	☒	Solar Thermal Water Heating: §140.5	NRCC-STH-01-E

The following building components may have mandatory requirements per Part 6. Indicate which are relevant to the project.

Yes	NA	Mandatory Requirement	Compliance Forms
☐	☒	Commissioning: §120.8	
☐	☒	Simple Systems	NRCC-CXR-01 / 02 / 03 / 05-E
☐	☒	Complex Systems	NRCC-CXR-01 / 02 / 04 / 05-E
☐	☒	Electrical: §130.5	NRCC-ELC-01-E
☐	☒	Solar Ready: §110.10	NRCC-SRA-01 / 02-E
☐	☒	Covered Process: §120.6	NRCC-PRC-01-E
☐	☒	Parking Garage	NRCC-PRC-02-E
☐	☒	Commercial Refrigeration	NRCC-PRC-05-E
☐	☒	Warehouse Refrigeration	NRCC-PRC-06/07/08-E
☐	☒	Compressed Air	NRCC-PRC-10-E
☐	☒	Process Boilers	NRCC-PRC-11-E

Project Name:	Oak Street Elementary School - LAWA Sound Mitigation	NRCC-PRF-01-E	Page 1 of 36
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Compliance Scope:	ExistingAlteration	Input File Name:	Oak Street Elementary School - LAWA Sound Mitigation_NR T24_11-20-2018.cibd16x

A. PROJECT GENERAL INFORMATION

1.	Project Location (city)	Inglewood	8.	Standards Version	Compliance2016
2.	CA Zip Code	90301	9.	Compliance Software (version)	EnergyPro 7.1
3.	Climate Zone	8	10.	Weather File	FULLERTON_722976_CZ2010.epw
4.	Total Conditioned Floor Area in Scope	23,416 ft²	11.	Building Orientation (deg)	(N) 0 deg
5.	Total Unconditioned Floor Area	3,975 ft²	12.	Permitted Scope of Work	ExistingAlteration
6.	Total # of Stories (Habitable Above Grade)	1	13	Building Type(s)	Nonresidential
7.	Total # of dwelling units	0	14	Gas Type	NaturalGas

B. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft ²-yr) **§ 140.1**

BUILDING COMPLIES

1. Energy Component	2. Standard Design (TDV)	3. Proposed Design (TDV)	4. Compliance Margin (TDV)	5. Percent Better than Standard
Space Heating	12.43	5.14	7.29	58.6%
Space Cooling	155.52	109.50	46.02	29.6%
Indoor Fans	46.08	15.51	30.57	66.3%
Heat Rejection	--	--	--	--
Pumps & Misc.	1.49	--	1.49	--
Domestic Hot Water	17.59	17.59	--	0.0%
Indoor Lighting	59.50	59.50	--	0.0%
COMPLIANCE TOTAL	**292.61**	**207.24**	**85.37**	**29.2%**
Receptacle	73.86	73.86	0.0	0.0%
Process	41.01	41.01	0.0	0.0%
Other Ltg	--	--	--	--
TOTAL	**407.48**	**322.11**	**85.4**	**21.0%**

Project Name:	Oak Street Elementary School - LAWA Sound Mitigation	NRCC-PRF-01-E	Page 8 of 36
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J. FENESTRATION ASSEMBLY SUMMARY **§ 110.6** **Confirmed**

1. Fenestration Assembly Name / Tag or Id.D.	2. Fenestration Type / Product Type / Frame Type	3. Certification Method[1]	4. Assembly Method	5. Area ft²	6. Overall U-factor	7. Overall SHGC	8. Overall VT	9. Status[2]	Pass	Fail
Double Metal Clear	VerticalFenestration FixedWindow MetalFraming	Default Performance	SiteBuilt	2204	0.71	0.73	0.77	E	☐	☐

[1] *Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Center of Glass (COG) values are for the glass-only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix NA6 and are used in the analysis.*
[2] *Status: N - New, A – Altered, E – Existing*

Taking compliance credit for fenestration shading devices? (If "Yes", see NRCC-PRF-ENV-DETAILS for more information) No

K. OPAQUE SURFACE ASSEMBLY SUMMARY **§ 120.7/ § 140.3** **Confirmed**

1. Surface Name	2. Surface Type	3. Area (ft²)	4. Framing Type	5. Cavity R-Value	6. Continuous R-Value	7. U-Factor / F-Factor / C-Factor	8. Status[1]	Pass	Fail
R-13 Wall6	ExteriorWall	17042	Wood	13	NA	U-Factor: 0.102	E	☐	☐
Slab On Grade22	UndergroundFloor	27391	NA	0	NA	F-Factor: 0.730	E	☐	☐
R-30 Roof Attic24	Roof	27391	Wood	30	NA	U-Factor: 0.040	E	☐	☐
R-0 Wall Metal Stud94	InteriorWall	397	NA	0	18	U-Factor: 0.048	E	☐	☐

[1] *Status: N - New, A – Altered, E – Existing*

L. ROOFING PRODUCT SUMMARY **§ 140.3** **Confirmed**

1. Product Type	2. Product Density (lb/ft³)	3. Aged Solar Reflectance	4. Thermal Emittance	5. SRI	6. Cool Roof Credit	7. Roofing Product Description	Pass	Fail
R-30 Roof Attic24	6.23854	0.08	0.75	NA	No	NA	☐	☐

Project Name:	Oak Street Elementary School - LAWA Sound Mitigation	NRCC-PRF-01-E	Page 5 of 36
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Compliance Scope:	ExistingAlteration	Input File Name:	Oak Street Elementary School - LAWA Sound Mitigation_NR T24_11-20-2018.cibd16x

H. CERTIFICATE OF INSTALLATION, CERTIFICATE OF ACCEPTANCE & CERTIFICATE OF VERIFICATION SUMMARY (NRCI/NRCA/NRCV) – Documentation Author to indicate which Certificates must be submitted for the features to be recognized for compliance (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify). See Tables G. and H. in MCH and LTI Details Sections for Acceptance Tests and forms by equipment.

Confirmed

Building Component	Compliance Forms *(required for submittal)*	Pass	Fail
Envelope	☒ NRCI-ENV-01-E - For all buildings	☐	☐
	☒ NRCA-ENV-02-F- NFRC label verification for fenestration	☐	☐
Mechanical	☒ NRCI-MCH-01-E - For all buildings with Mechanical Systems	☐	☐
	☒ NRCA-MCH-02-A- Outdoor Air	☐	☐
	☒ NRCA-MCH-03-A – Constant Volume Single Zone HVAC	☐	☐
	☐ NRCA-MCH-04-H- Air Distribution Duct Leakage	☐	☐
	☒ NRCA-MCH-05-A- Air Economizer Controls	☐	☐
	☒ NRCA-MCH-06-A- Demand Control Ventilation	☐	☐
	☐ NRCA-MCH-07-A – Supply Fan Variable Flow Controls	☐	☐
	☐ NRCA-MCH-08-A- Valve Leakage Test	☐	☐
	☐ NRCA-MCH-09-A – Supply Water Temp Reset Controls	☐	☐
	☐ NRCA-MCH-10-A- Hydronic System Variable Flow Controls	☐	☐
	☐ NRCA-MCH-11-A – Auto Demand Shed Controls	☐	☐
	☒ NRCA-MCH-12-A- Packaged Direct Expansion Units	☐	☐
	☐ NRCA-MCH-13-A- Air Handling Units and Zone Terminal Units	☐	☐
	☐ NRCA-MCH-14-A- Distributed Energy Storage	☐	☐
	☐ NRCA-MCH-15-A – Thermal Energy Storage	☐	☐
	☐ NRCA-MCH-16-A- Supply Air Temp Reset Controls	☐	☐
	☐ NRCA-MCH-17-A – Condensate Water Temp Reset Controls	☐	☐
	☐ NRCA-MCH-18-A- Energy Management Controls Systems	☐	☐
	☐ NRCV-MCH-04-H- Duct Leakage Test	☐	☐

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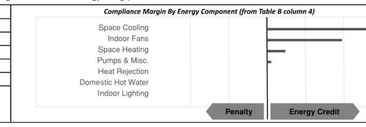
C. PRIORITY PLAN CHECK/ INSPECTION ITEMS (in order of highest to lowest TDV energy savings)

1st	Space Cooling: Check envelope and mechanical
2nd	Indoor Fans: Check envelope and mechanical
3rd	Space Heating: Check envelope and mechanical
4th	Pumps & Misc.: Check mechanical
5th	Heat Rejection: Check envelope and mechanical
6th	Domestic Hot Water: Check mechanical
7th	Indoor Lighting: Check lighting

Compliance Margin By Energy Component (from Table B column 4)



D. EXCEPTIONAL CONDITIONS

This project includes Domestic Hot Water in the analysis. Please verify that Domestic Hot Water is included in the design for the permitted scope of work.

E. HERS VERIFICATION

This Section Does Not Apply

F. ADDITIONAL REMARKS

None Provided

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M. HVAC SYSTEM SUMMARY (see NRCC-PRF-MCH-DETAILS for more information) **§ 110.1 / § 110.2**

Dry System Equipment [1] (Fan & Economizer info included below in Table N) **Confirmed**

1. Equip Name	2. Equip Type	3. System Type (Simple [2] or Complex [3])	4. Qty	5. Total Heating Output (kBtu/h)	6. Supp Heat Source (Y/N)	7. Supp Heat Output (kBtuh)	8. Total Cooling Output (kBtu/h)	9. Efficiency Cooling	9. Efficiency Heating	10. Acceptance Testing Required? (Y/N) [4]	11. Status[1]	Pass	Fail
AC-1 (Classroom 18)	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	58	SEER-15.2 / EER-12.4	AFUE-81.0	Yes	N	☐	☐
AC-2 (Classroom 19)	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	58	SEER-15.2 / EER-12.4	AFUE-81.0	Yes	N	☐	☐
AC-3 (Classroom 16)	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	58	SEER-15.2 / EER-12.4	AFUE-81.0	Yes	N	☐	☐
AC-4 (Classroom 17)	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	58	SEER-15.2 / EER-12.4	AFUE-81.0	Yes	N	☐	☐
AC-5 (Classroom 15)	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	49	SEER-15.6 / EER-13.0	AFUE-81.0	Yes	N	☐	☐
AC-6 (Library A19)	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	58	SEER-15.2 / EER-12.4	AFUE-81.0	Yes	N	☐	☐
AC-7 (Classroom 14 Couns	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	58	SEER-15.2 / EER-12.4	AFUE-81.0	Yes	N	☐	☐
AC-8 (Office Area)	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	36	SEER-15.0 / EER-12.5	AFUE-81.0	Yes	N	☐	☐
AC-9 (Office Area)	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	36	SEER-15.0 / EER-12.5	AFUE-81.0	Yes	N	☐	☐
AC-10 (Faculty Lounge A3)	SZVAVAC (Packaged3Phase)	Complex	1	33	No	0	22	SEER-14.0 / EER-11.5	AFUE-81.0	Yes	N	☐	☐
AC-11 (Consolidated Offic	SZVAVAC (Packaged3Phase)	Complex	1	49	No	0	27	SEER-14.0 / EER-11.5	AFUE-81.0	Yes	N	☐	☐
AC-12 (Classroom 12)	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	49	SEER-15.6 / EER-13.0	AFUE-81.0	Yes	N	☐	☐
AC-13 (Classroom 11)	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	49	SEER-15.6 / EER-13.0	AFUE-81.0	Yes	N	☐	☐

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H. CERTIFICATE OF INSTALLATION, CERTIFICATE OF ACCEPTANCE & CERTIFICATE OF VERIFICATION SUMMARY (NRCI/NRCA/NRCV) – Documentation Author to indicate which Certificates must be submitted for the features to be recognized for compliance (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify). See Tables G. and H. in MCH and LTI Details Sections for Acceptance Tests and forms by equipment.

Confirmed

Building Component	Compliance Forms *(required for submittal)*	Pass	Fail
Plumbing	☒ NRCI-PLB-01-E - For all buildings with Plumbing Systems	☐	☐
	☐ NRCI-PLB-02-E - required on central systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-PLB-03-E - Single dwelling unit systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-PLB-21-E - HERS verified central systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-PLB-22-E - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCV-PLB-21-H- HERS verified central systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCV-PLB-22-H - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-STH-01-E - Any solar water heating	☐	☐
Indoor Lighting	☒ NRCI-LTI-01-E - For all buildings	☐	☐
	☐ NRCI-LTI-02-E - Lighting control system, or for an Energy Management Control System (EMCS)	☐	☐
	☐ NRCI-LTI-03-E - Line-voltage track lighting integral current limiter, or for a supplementary overcurrent protection panel used to energize only line-voltage track lighting	☐	☐
	☐ NRCI-LTI-04-E - Two interlocked systems serving an auditorium, a convention center, a conference room, or a theater	☐	☐
	☐ NRCI-LTI-05-E - Lighting Control Credit Power Adjustment Factor (PAF)	☐	☐
	☐ NRCI-LTI-06-E - Additional wattage installed in a video conferencing studio	☐	☐
	☐ NRCA-LTI-02-A - Occupancy sensors and automatic time switch controls.	☐	☐
	☐ NRCA-LTI-03-A - Automatic daylighting controls	☐	☐
	☐ NRCA-LTI-04-A - Demand responsive lighting controls	☐	☐
Outdoor Lighting	☐ NRCI-LTO-01-E – Outdoor Lighting	☐	☐
	☐ NRCI-LTO-02-E- EMCS Lighting Control System	☐	☐
	☐ NRCA-LTO-02-A - Outdoor Lighting Control	☐	☐
Sign Lighting	☐ NRCI-LTS-01-E – Sign Lighting	☐	☐
Electrical	☐ NRCI-ELC-01-E - Electrical Power Distribution	☐	☐
Photovoltaic	☐ NRCI-SPV-01-E Photovoltaic Systems	☐	☐

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G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY

Identify which building components use the performance or prescriptive path for compliance. "NA"= not in project
For components that utilize the performance path, indicate the sheet number that includes mandatory notes on plans.

Building Component	Compliance Path	Compliance Forms *(required for submittal)*	Location of Mandatory Notes on Plans
Envelope	☒ Performance	NRCC-PRF-ENV-DETAILS (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-ENV-01 / 02 / 03 / 04 / 05 / 06-E	
	☐ NA		
Mechanical	☒ Performance	NRCC-PRF-MCH-DETAILS (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-MCH-01 / 02 / 03 / 04 / 05 / 06 / 07-E	
	☐ NA		
Domestic Hot Water	☒ Performance	NRCC-PRF-PLB-DETAILS (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-PLB-01-E	
	☐ NA		
Lighting (Indoor Conditioned)	☒ Performance	NRCC-PRF-LTI-DETAILS (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-LTI-01 / 02 / 03 / 04 / 05-E	
	☐ NA		
Covered Process: Commercial Kitchens	☐ Performance	S2 (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-PRC-01/ 03-E	
	☒ NA		
Covered Process: Computer Rooms	☐ Performance	S3 (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-PRC-01/ 04-E	
	☒ NA		
Covered Process: Laboratory Exhaust	☐ Performance	S4 (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-PRC-01/ 09-E	
	☒ NA		

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 03-119485 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 8/14/2019

CANNONDESIGN
gkkworks
155 S. Fair Oaks, 2nd Floor,
Pasadena California 91105
t 626.666.6906
f 626.666.3940
www.cannondesign.com

LICENSED ARCHITECT
JAVAN NABILI
NO. C24035
REN.: 7.31.21.
REGISTERED PROFESSIONAL ENGINEER OF CALIFORNIA

INGLEWOOD UNIFIED SCHOOL DISTRICT

CORDOBA CORPORATION
SAN FRANCISCO • LOS ANGELES • SANTA ANA • SAN DIEGO

REGISTERED PROFESSIONAL ENGINEER
CHARLES H. SWAN
No. 26903
Renewal: 9/30/20
MECHANICAL
STATE OF CALIFORNIA

SOUND MITIGATION PROGRAM

OAK STREET ELEMENTARY SCHOOL

633 South Oak Street Inglewood, CA 90301

A PROJECT FOR:
INGLEWOOD UNIFIED SCHOOL DISTRICT

PROJECT NUMBER:
10292

DRAWN: N.W, S.W.L, S.N

CHECKED: J.S, N.W

ISSUE/REVISION:

8/21/2018	30% - SCHEMATIC DESIGN
10/10/2018	50% CD SUBMITTAL
11/15/2018	100% CD - DSA SUBMITTAL
03/15/2019	DSA APPROVAL

TITLE - 24

M0.03

K:\08300.00 - Oak Street Elementary School - LAWA Sound Mitigation\2019-04-17

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O. EQUIPMENT CONTROLS § 120.2 — Confirmed

1. Equip Name	2. Equip Type	3. Controls	Pass	Fail
AC-18 (Classroom 8)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-19 (Classroom 3)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-20 (Classroom 7)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-21 (Classroom 4)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-22 (Classroom 5)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-23 (Classroom 6)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-24 & 25 (Mutli-Use C1	SZVAVAC	1 Zones With CO2Sensor Vent. Control Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐

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N. ECONOMIZER & FAN SYSTEMS SUMMARY[1] § 140.4 — Confirmed

1. Equip Name	2. Outside Air	3. Supply Fan					4. Return Fan					5. Economizer Type (if present)	Pass	Fail
	CFM	CFM	HP	BHP	TSP (inch WC)	Control	CFM	HP	BHP	TSP (inch WC)	Control			
AC-21 (Classroom 4)	699	1600	0.950	0.950	1.88	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-22 (Classroom 5)	714	2000	1.380	1.380	2.63	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-23 (Classroom 6)	710	1600	0.950	0.950	1.88	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-24 & 25 (Mutli-Use C1	816	4000	2.500	2.500	2.38	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐

[1] *Mechanical ventilation calculations and exhaust fans are included in the NRCC-PRF-MCH-DETAILS section*

O. EQUIPMENT CONTROLS § 120.2 — Confirmed

1. Equip Name	2. Equip Type	3. Controls	Pass	Fail
AC-1 (Classroom 18)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-2 (Classroom 19)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-3 (Classroom 16)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐

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M. HVAC SYSTEM SUMMARY (see NRCC-PRF-MCH-DETAILS for more information) § 110.1 / § 110.2

Dry System Equipment [1] (Fan & Economizer info included below in Table N)												Confirmed	
1. Equip Name	2. Equip Type	3. System Type (Simple [2] or Complex [3])	4. Qty	5. Total Heating Output (kBtu/h)	6. Supp Heat Source (Y/N)	7. Supp Heat Output (kBtuh)	8. Total Cooling Output (kBtu/h)	9. Efficiency		10. Acceptance Testing Required? (Y/N) [4]	11. Status[5]	Pass	Fail
								Cooling	Heating				
AC-14 (Classroom 10)	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	49	SEER-15.6 / EER-13.0	AFUE-81.0	Yes	N	☐	☐
AC-15 (Kindergarten 1)	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	58	SEER-15.2 / EER-12.4	AFUE-81.0	Yes	N	☐	☐
AC-16 (Kindergarten 9)	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	49	SEER-15.6 / EER-13.0	AFUE-81.0	Yes	N	☐	☐
AC-17 (Classroom 2)	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	49	SEER-15.6 / EER-13.0	AFUE-81.0	Yes	N	☐	☐
AC-18 (Classroom 8)	SZVAVAC (Packaged3Phase)	Complex	1	49	No	0	38	SEER-14.0 / EER-11.5	AFUE-81.0	Yes	N	☐	☐
AC-19 (Classroom 3)	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	49	SEER-15.6 / EER-13.0	AFUE-81.0	Yes	N	☐	☐
AC-20 (Classroom 7)	SZVAVAC (Packaged3Phase)	Complex	1	49	No	0	38	SEER-14.0 / EER-11.5	AFUE-81.0	Yes	N	☐	☐
AC-21 (Classroom 4)	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	49	SEER-15.6 / EER-13.0	AFUE-81.0	Yes	N	☐	☐
AC-22 (Classroom 5)	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	58	SEER-15.2 / EER-12.4	AFUE-81.0	Yes	N	☐	☐
AC-23 (Classroom 6)	SZVAVAC (Packaged3Phase)	Complex	1	41	No	0	49	SEER-15.6 / EER-13.0	AFUE-81.0	Yes	N	☐	☐
AC-24 & 25 (Mutli-Use C1	SZVAVAC (Packaged3Phase)	Complex	2	98	No	0	115	EER-12.7	AFUE-81.0	Yes	N	☐	☐

[1] *Dry System Equipment includes furnaces, air handling units, heat pumps, etc.*
[2] *Simple Systems must complete NRCC-CXR-03-E commissioning design review form*
[3] *Complex Systems must complete NRCC-CXR-04-E commissioning design review form*
[4] *A summary of which acceptance tests are applicable is provided in NRCC-PRF-MCH-DETAILS*
[5] *Status: N - New, A – Altered, E – Existing*

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O. EQUIPMENT CONTROLS § 120.2 — Confirmed

1. Equip Name	2. Equip Type	3. Controls	Pass	Fail
Oak Street Elementary Sch1 - SHW	Service Hot Water, Primary Only	Fixed Temperature Control, No DDC	☐	☐
Oak Street Elementary Sch191 - SHW	Service Hot Water, Primary Only	Fixed Temperature Control, No DDC	☐	☐
Oak Street Elementary Sch293 - SHW	Service Hot Water, Primary Only	Fixed Temperature Control, No DDC	☐	☐

P. SYSTEM DISTRIBUTION SUMMARY § 120.4/ § 140.4(l)

Dry System Distribution						Confirmed	
1. Equip Name	2. Equip Type	3. Duct Leakage and Sealing Required per 140.4(l)	4. Duct Leakage will be verified per NA1 and NA2	5. Ducts: Insulation R-Value	5. Ducts: Location	Pass	Fail
AC-1 (Classroom 18)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-2 (Classroom 19)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-3 (Classroom 16)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-4 (Classroom 17)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-5 (Classroom 15)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-6 (Library A19)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-7 (Classroom 14 Couns	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-8 (Office Area)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-9 (Office Area)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-10 (Faculty Lounge A3)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-11 (Consolidated Offic	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-12 (Classroom 12)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-13 (Classroom 11)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-14 (Classroom 10)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-15 (Kindergarten 1)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-16 (Kindergarten 9)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-17 (Classroom 2)	SZVAVAC	No	No	8	Unconditioned	☐	☐

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O. EQUIPMENT CONTROLS § 120.2 — Confirmed

1. Equip Name	2. Equip Type	3. Controls	Pass	Fail
AC-4 (Classroom 17)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-5 (Classroom 15)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-6 (Library A19)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-7 (Classroom 14 Couns	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-8 (Office Area)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-9 (Office Area)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-10 (Faculty Lounge A3)	SZVAVAC	1 Zones With CO2Sensor Vent. Control Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐

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Wet System Equipment [1]							*Pumps*				Confirmed	
12. Equip Name	13. Equip Type	14. Qty	15. Vol (gal)	16. Rated Capacity (kBtu/h)	17. Efficiency	18. Standby Loss	19. Tank Ext. R Value	20. Qty	21. GPM	22. HP	23. VSD (Y/N)	24. Status[2]	Pass	Fail
Standard Gas 50 gal or Le2	Storage	1	50	40	EF: 0.575	NA	NA	NA	NA	NA	No	E	☐	☐
Standard Gas 50 gal or Le2 2	Storage	1	50	40	EF: 0.575	NA	NA	NA	NA	NA	No	E	☐	☐
Standard Gas 50 gal or Le2 3	Storage	1	50	40	EF: 0.575	NA	NA	NA	NA	NA	No	E	☐	☐

[1] *Wet System Equipment includes boilers, chillers, cooling towers, water heaters, etc.*
[2] *Status: N - New, A – Altered, E – Existing*

Discrepancy between modeled and designed equipment sizing? (if "Yes", see Table F. "Additional Remarks" for an explanation)	No

N. ECONOMIZER & FAN SYSTEMS SUMMARY[1] § 140.4 — Confirmed

1. Equip Name	2. Outside Air	3. Supply Fan					4. Return Fan					5. Economizer Type (if present)	Pass	Fail
	CFM	CFM	HP	BHP	TSP (inch WC)	Control	CFM	HP	BHP	TSP (inch WC)	Control			
AC-1 (Classroom 18)	711	2000	1.380	1.380	2.63	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-2 (Classroom 19)	724	2000	1.380	1.380	2.63	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-3 (Classroom 16)	749	2000	1.380	1.380	2.63	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-4 (Classroom 17)	672	2000	1.380	1.380	2.63	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-5 (Classroom 15)	716	1600	0.950	0.950	1.88	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-6 (Library A19)	347	2000	1.380	1.380	2.63	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-7 (Classroom 14 Couns	755	2000	1.380	1.380	2.63	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐

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P. SYSTEM DISTRIBUTION SUMMARY § 120.4/ § 140.4(l)

Dry System Distribution						Confirmed	
1. Equip Name	2. Equip Type	3. Duct Leakage and Sealing Required per 140.4(l)	4. Duct Leakage will be verified per NA1 and NA2	5. Ducts: Insulation R-Value	5. Ducts: Location	Pass	Fail
AC-18 (Classroom 8)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-19 (Classroom 3)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-20 (Classroom 7)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-21 (Classroom 4)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-22 (Classroom 5)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-23 (Classroom 6)	SZVAVAC	No	No	8	Unconditioned	☐	☐
AC-24 & 25 (Mutli-Use C1	SZVAVAC	No	No	8	Unconditioned	☐	☐

Does the Project Include Zonal Systems? (if "Yes", see NRCC-PRF-MCH-DETAILS for system information)	No
Does the Project Include a Solar Hot Water System? (if "Yes", see NRCC-PRF-MCH-DETAILS for system information)	No
Multifamily or Hotel/ Motel Occupancy? (if "Yes", see NRCC-PRF-MCH-DETAILS for DHW system information)	No

Q. INDOOR CONDITIONED LIGHTING GENERAL INFO (see NRCC-PRF-LTI-DETAILS for more info)[3] § 140.6 — Confirmed

1. Occupancy Type [1,4]	2. Conditioned Floor Area [2] (ft²)	3. Installed Lighting Power (Watts)	4. Lighting Control Credits (Watts)	5. Additional (Custom) Allowance: Area Category Footnotes (Watts)	5. Additional (Custom) Allowance: Tailored Method (Watts)	Pass	Fail
Classrooms, Lecture, Training, Vocational Areas	18,420	22,104	0	0	0	☐	☐
Convention, Conference, Multipurpose and Meeting Center Areas	544	653	0	0	0	☐	☐
Kitchen, Commercial Food Preparation	332	398	0	0	0	☐	☐

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O. EQUIPMENT CONTROLS § 120.2 — Confirmed

1. Equip Name	2. Equip Type	3. Controls	Pass	Fail
AC-11 (Consolidated Offic	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-12 (Classroom 12)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-13 (Classroom 11)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-14 (Classroom 10)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-15 (Kindergarten 1)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-16 (Kindergarten 9)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
AC-17 (Classroom 2)	SZVAVAC	No DCV Controls Differential Drybulb Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐

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N. ECONOMIZER & FAN SYSTEMS SUMMARY[1] § 140.4 — Confirmed

1. Equip Name	2. Outside Air	3. Supply Fan					4. Return Fan					5. Economizer Type (if present)	Pass	Fail
	CFM	CFM	HP	BHP	TSP (inch WC)	Control	CFM	HP	BHP	TSP (inch WC)	Control			
AC-8 (Office Area)	177	1200	0.840	0.840	2.22	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-9 (Office Area)	93	1200	0.840	0.840	2.22	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-10 (Faculty Lounge A3)	633	800	0.260	0.260	1.03	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-11 (Consolidated Offic	54	1000	0.260	0.260	0.82	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-12 (Classroom 12)	677	1600	0.950	0.950	1.88	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-13 (Classroom 11)	711	1600	0.950	0.950	1.88	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-14 (Classroom 10)	724	1600	0.950	0.950	1.88	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-15 (Kindergarten 1)	708	2000	1.380	1.380	2.63	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-16 (Kindergarten 9)	708	1600	0.950	0.950	1.88	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-17 (Classroom 2)	698	1600	0.950	0.950	1.88	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-18 (Classroom 8)	698	1350	0.340	0.340	0.80	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-19 (Classroom 3)	707	1600	0.950	0.950	1.88	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
AC-20 (Classroom 7)	723	1350	0.340	0.340	0.80	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 03-119485 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 8/14/2019

CANNONDESIGN
gkkworks
155 S. Fair Oaks, 2nd Floor,
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LICENSED ARCHITECT
JAVAN NABILI
NO. C24035
REN.: 7.31.21
STATE OF CALIFORNIA

CORDOBA CORPORATION
SAN FRANCISCO • LOS ANGELES • SANTA ANA • SAN DIEGO

REGISTERED PROFESSIONAL ENGINEER
CHARLES H. [illegible]
No. 26903
Renewal: 9/30/20
MECHANICAL
STATE OF CALIFORNIA

SOUND MITIGATION PROGRAM
OAK STREET ELEMENTARY SCHOOL
633 South Oak Street Inglewood, CA 90301
A PROJECT FOR: INGLEWOOD UNIFIED SCHOOL DISTRICT

PROJECT NUMBER: 10292

DRAWN: N.W, S.W.L, S.N
CHECKED: J.S, N.W

ISSUE/REVISION:

8/21/2018	30% - SCHEMATIC DESIGN
10/10/2018	50% CD SUBMITTAL
11/15/2018	100% CD - DSA SUBMITTAL
03/15/2019	DSA APPROVAL

TITLE - 24

M0.04

K:\182830.00 - Oak Street Elementary School – LAWA Sound Mitigation\2019-04-17

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A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2016-NRCC-MCH-03-E)* — **Confirmed**

1. DESIGN AIR FLOWS								2. VENTILATION (§ 120.1)										Confirmed	
CONDITIONED ZONE NAME	HEATING/COOLING SYSTEM ID	DESIGN PRIMARY AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM FLOW FRACTION	MAXIMUM HEATING AIR FLOW (CFM)	MAXIMUM HEATING AIR FLOW FRACTION	DDC CONTROL (Y/N)	VENT SYSTEM ID	CONDITIONED AREA (ft2)	MIN. VENT PER AREA (CFM/ft2)	DESIGN NUM. OF PEOPLE	MIN. VENT PER PERSON (CFM/person)	REQ'D VENT AIR FLOW (CFM)	DESIGN VENT AIR FLOW (CFM)	TRANSFER AIRFLOW (CFM)	DCV (Y/N)	Operable Window Interlock § 140.4(n) (Y/N)	Pass	Fail
8-Counselor A20	AC-7 (Classroom 14 Couns	305	76	0.25	NA	NA	N	AC-7 (Classroom 14 Couns	175	NA	2	15.0	26	26	NA	N	NA	☐	☐
9-Supplies Workroom A8	AC-8 (Office Area)	411	171	0.42	NA	NA	N	AC-8 (Office Area)	404	NA	4	15.0	61	61	NA	N	NA	☐	☐
10-Office A10	AC-8 (Office Area)	496	207	0.42	NA	NA	N	AC-8 (Office Area)	487	NA	5	15.0	73	73	NA	N	NA	☐	☐
11-Nurse 13	AC-8 (Office Area)	293	122	0.42	NA	NA	N	AC-8 (Office Area)	288	NA	3	15.0	43	43	NA	N	NA	☐	☐
12-Mail Room A6	AC-9 (Office Area)	254	106	0.42	NA	NA	N	AC-9 (Office Area)	131	NA	1	15.0	20	20	NA	N	NA	☐	☐
13-Vice Principal A7	AC-9 (Office Area)	322	134	0.42	NA	NA	N	AC-9 (Office Area)	166	NA	2	15.0	25	25	NA	N	NA	☐	☐
14-Principal A9	AC-9 (Office Area)	623	260	0.42	NA	NA	N	AC-9 (Office Area)	321	NA	3	15.0	48	48	NA	N	NA	☐	☐
15-Faculty Lounge A3	AC-10 (Faculty Lounge A3)	800	500	0.63	NA	NA	N	AC-10 (Faculty Lounge A3)	633	NA	42	15.0	633	633	NA	Y	NA	☐	☐

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT — **§ 10-103**

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

Documentation Author Name:	Signature:	James H. Shwe
Company: Maroko & Shwe, Inc.		
Address: 1106 B. West Magnolia Blvd	Signature Date:	11/20/2018
City/State/Zip: Burbank CA 91506	CEA Identification (if applicable):	
Phone: (818) 840-0280		

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1	I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer, mechanical engineer, electrical engineer, or I am a licensed architect.
2	I affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code by section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.
3	I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5537, 5538 and 6737.1.

Responsible Envelope Designer Name:	**Signature:**	
Company:		
Address:	Date Signed:	
City/State/Zip:	Declaration Statement Type:	
Phone:	Title:	License #:
Responsible Lighting Designer Name:	**Signature:**	
Company:		
Address:	Date Signed:	
City/State/Zip:	Declaration Statement Type:	
Phone:	Title:	License #:
Responsible Mechanical Designer Name: James H. Shwe	**Signature:**	James H. Shwe
Company: Maroko & Shwe, Inc.		
Address: 1106 B. West Magnolia Blvd	Date Signed:	11/20/2018
City/State/Zip: Burbank CA 91506	Declaration Statement Type:	
Phone: (818) 840-0280	Title: MEOR	License #: M-26903

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Q. INDOOR CONDITIONED LIGHTING GENERAL INFO (see NRCC-PRF-LTI-DETAILS for more info)[3] — **§ 140.6**

1.	2.	3.	4.	5.		Confirmed Pass	Confirmed Fail
Occupancy Type [3,4]	Conditioned Floor Area [2] (ft²)	Installed Lighting Power (Watts)	Lighting Control Credits (Watts)	Additional (Custom) Allowance			
				Area Category Footnotes (Watts)	Tailored Method (Watts)	☐	☐
Library, Reading Areas	1,155	1,271	0	0	0	☐	☐
Lounge, Recreation	633	570	0	0	0	☐	☐
Office (Greater than 250 square feet in floor area)	1,860	1,395	0	0	0	☐	☐
Office (250 square feet in floor area or less)	472	472	0	0	0	☐	☐
Building Totals:	**23,416**	**26,863**	**0**	**0**	**0**		

[1] *See Table 140.6-C*
[2] *See NRCC-LTI-01-E for unconditioned spaces*
[3] *Lighting information for existing spaces modeled is not included in the table*
[4] *Multiple entries for an Occupancy Type may be listed in the table as these have been aggregated for Building Stories that have the same floor multiplier.*

R. INDOOR CONDITIONED LIGHTING SCHEDULE (Adapted from NRCC-LTI-01-E)[1] — **§ 130.0**

This Section Does Not Apply

[1] *If lighting power densities were used in the compliance model Building Departments will need to check prescriptive forms for Luminaire Schedule details.*

S1. COVERED PROCESS SUMMARY – ENCLOSED PARKING GARAGES — **§ 140.9**

This Section Does Not Apply

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A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2016-NRCC-MCH-03-E)* — **Confirmed**

1. DESIGN AIR FLOWS								2. VENTILATION (§ 120.1)										Confirmed	
CONDITIONED ZONE NAME	HEATING/COOLING SYSTEM ID	DESIGN PRIMARY AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM FLOW FRACTION	MAXIMUM HEATING AIR FLOW (CFM)	MAXIMUM HEATING AIR FLOW FRACTION	DDC CONTROL (Y/N)	VENT SYSTEM ID	CONDITIONED AREA (ft2)	MIN. VENT PER AREA (CFM/ft2)	DESIGN NUM. OF PEOPLE	MIN. VENT PER PERSON (CFM/person)	REQ'D VENT AIR FLOW (CFM)	DESIGN VENT AIR FLOW (CFM)	TRANSFER AIRFLOW (CFM)	DCV (Y/N)	Operable Window Interlock § 140.4(n) (Y/N)	Pass	Fail
16-Consolidated Office 13	AC-11 (Consolidated Offic	1,000	500	0.50	NA	NA	N	AC-11 (Consolidated Offic	360	NA	4	15.0	54	54	NA	N	NA	☐	☐
17-Classroom 12	AC-12 (Classroom 12)	1,600	500	0.31	NA	NA	N	AC-12 (Classroom 12)	902	NA	45	15.0	677	677	NA	N	NA	☐	☐
18-Classroom 11	AC-13 (Classroom 11)	2,370	741	0.31	NA	NA	N	AC-13 (Classroom 11)	948	NA	47	15.0	711	711	NA	N	NA	☐	☐
19-Classroom 10	AC-14 (Classroom 10)	1,600	500	0.31	NA	NA	N	AC-14 (Classroom 10)	965	NA	48	15.0	724	724	NA	N	NA	☐	☐
21-Kindergarten 1	AC-15 (Kindergarten 1)	2,000	500	0.25	NA	NA	N	AC-15 (Kindergarten 1)	944	NA	47	15.0	708	708	NA	N	NA	☐	☐
22-Kindergarten 9	AC-16 (Kindergarten 9)	1,600	500	0.31	NA	NA	N	AC-16 (Kindergarten 9)	944	NA	47	15.0	708	708	NA	N	NA	☐	☐
26-Classroom 2	AC-17 (Classroom 2)	1,600	500	0.31	NA	NA	N	AC-17 (Classroom 2)	930	NA	47	15.0	698	698	NA	N	NA	☐	☐
27-Classroom 8	AC-18 (Classroom 8)	1,350	500	0.37	NA	NA	N	AC-18 (Classroom 8)	931	NA	47	15.0	698	698	NA	N	NA	☐	☐

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NRCC-PRF-ENV-DETAILS -SECTION START-

A. OPAQUE SURFACE ASSEMBLY DETAILS — **Confirmed**

1. Surface Name	2. Surface Type	3. Description of Assembly Layers	4. Notes	Pass	Fail
R-13 Wall6	ExteriorWall	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Wood framed wall, 16in. OC, 3.5in., R-13 Gypsum Board - 1/2 in.		☐	☐
Slab On Grade22	UndergroundFloor	Slab Type = UnheatedSlabOnGrade Insulation Orientation = None Insulation R-Value = R0		☐	☐
R-30 Roof Attic24	Roof	Asphalt shingles - 1/4 in. Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Wood framed roof, 24in. OC, 3.5in., R-30 Gypsum Board - 1/2 in. Fiber cement board - 63 lb/ft3 - 1/3 in.		☐	☐
R-0 Wall Metal Stud94	InteriorWall	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Air - Wall - 3 1/2 in. Glass fiber batt - 5 1/2 in. R19 (CEC Default) Gypsum Board - 5/8 in.		☐	☐

B. OVERHANG DETAILS (Adapted from NRCC-ENV-02-E)

This Section Does Not Apply

C. OPAQUE DOOR SUMMARY — **Confirmed**

1. Opaque Door Assembly Name / Tag or I.D.	2. Door Type	3. Certification Method	4. Operation	5. Area	6. Overall U-factor	7. Status[1]	Pass	Fail
Metal Door11	MetalUninsulatedDoubleLayerDoor	DefaultPerformance	Swinging	777	0.700	E	☐	☐

[1] *Status: N - New, A – Altered, E – Existing*

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S2. COVERED PROCESS SUMMARY – COMMERCIAL KITCHENS — **§ 140.9**

Space Name	Exhaust Hood Style	Exhaust Hood Duty	Exhaust Length (ft)	Exhaust Flow Rate (cfm)	Confirmed Pass	Confirmed Fail
S-36-Kitchen C9		Light			☐	☐
		Light			☐	☐
		Light			☐	☐
		Light			☐	☐
		Light			☐	☐

S3. COVERED PROCESS SUMMARY – COMPUTER ROOMS — **§ 140.9**

This Section Does Not Apply

S4. COVERED PROCESS SUMMARY – LABORATORY EXHAUSTS — **§ 140.9**

This Section Does Not Apply

T. UNMET LOAD HOURS

Thermal Zone Name	Cooling Unmet Load Hour Limit for Thermal Zone	Proposed Cooling Unmet Load Hours	Heating Unmet Load Hour Limit for Thermal Zone	Proposed Heating Unmet Load Hours
8-Counselor A20	150	592.25	150	0.25
15-Faculty Lounge A3	150	306.25	150	0
34-Platform C2	150	1644.75	150	4.5
36-Kitchen C9	150	2925.5	150	9.25

U. ENERGY USE SUMMARY

Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Space Heating	0.0	--	--	175.6	70.7	104.9
Space Cooling	97.1	60.4	36.7	--	--	--
Indoor Fans	39.6	12.0	27.6	--	--	--
Heat Rejection	--	--	--	--	--	--
Pumps & Misc.	2.0	--	--	--	--	--

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A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2016-NRCC-MCH-03-E)* — **Confirmed**

1. DESIGN AIR FLOWS								2. VENTILATION (§ 120.1)										Confirmed	
CONDITIONED ZONE NAME	HEATING/COOLING SYSTEM ID	DESIGN PRIMARY AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM FLOW FRACTION	MAXIMUM HEATING AIR FLOW (CFM)	MAXIMUM HEATING AIR FLOW FRACTION	DDC CONTROL (Y/N)	VENT SYSTEM ID	CONDITIONED AREA (ft2)	MIN. VENT PER AREA (CFM/ft2)	DESIGN NUM. OF PEOPLE	MIN. VENT PER PERSON (CFM/person)	REQ'D VENT AIR FLOW (CFM)	DESIGN VENT AIR FLOW (CFM)	TRANSFER AIRFLOW (CFM)	DCV (Y/N)	Operable Window Interlock § 140.4(n) (Y/N)	Pass	Fail
28-Classroom 3	AC-19 (Classroom 3)	1,600	500	0.31	NA	NA	N	AC-19 (Classroom 3)	943	NA	47	15.0	707	707	NA	N	NA	☐	☐
29-Classroom 7	AC-20 (Classroom 7)	1,350	500	0.37	NA	NA	N	AC-20 (Classroom 7)	964	NA	48	15.0	723	723	NA	N	NA	☐	☐
30-Classroom 4	AC-21 (Classroom 4)	1,600	500	0.31	NA	NA	N	AC-21 (Classroom 4)	932	NA	47	15.0	699	699	NA	N	NA	☐	☐
31-Classroom 5	AC-22 (Classroom 5)	2,000	500	0.25	NA	NA	N	AC-22 (Classroom 5)	952	NA	48	15.0	714	714	NA	N	NA	☐	☐
32-Classroom 6	AC-23 (Classroom 6)	1,600	500	0.31	NA	NA	N	AC-23 (Classroom 6)	946	NA	47	15.0	710	710	NA	N	NA	☐	☐
33-Mutli-Use C1	AC-24 & 25 (Multi-Use C1	2,450	306	0.13	NA	NA	N	AC-24 & 25 (Multi-Use C1	1,385	NA	69	15.0	1,039	1,039	NA	N	NA	☐	☐
34-Platform C2	AC-24 & 25 (Multi-Use C1	962	120	0.13	NA	NA	N	AC-24 & 25 (Multi-Use C1	544	NA	36	15.0	544	544	NA	Y	NA	☐	☐
36-Kitchen C9	AC-24 & 25 (Multi-Use C1	587	73	0.13	NA	NA	N	AC-24 & 25 (Multi-Use C1	332	NA	2	30.0	50	50	NA	N	NA	☐	☐
								TOTAL	27,391		NA		NA	NA	NA			☐	☐

Project Name:	Oak Street Elementary School - LAWA Sound Mitigation	NRCC-PRF-01-E	Page 24 of 36
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NRCC-PRF-MCH-DETAILS -SECTION START-

A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2016-NRCC-MCH-03-E)* — **Confirmed**

1. DESIGN AIR FLOWS								2. VENTILATION (§ 120.1)										Confirmed	
CONDITIONED ZONE NAME	HEATING/COOLING SYSTEM ID	DESIGN PRIMARY AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM FLOW FRACTION	MAXIMUM HEATING AIR FLOW (CFM)	MAXIMUM HEATING AIR FLOW FRACTION	DDC CONTROL (Y/N)	VENT SYSTEM ID	CONDITIONED AREA (ft2)	MIN. VENT PER AREA (CFM/ft2)	DESIGN NUM. OF PEOPLE	MIN. VENT PER PERSON (CFM/person)	REQ'D VENT AIR FLOW (CFM)	DESIGN VENT AIR FLOW (CFM)	TRANSFER AIRFLOW (CFM)	DCV (Y/N)	Operable Window Interlock § 140.4(n) (Y/N)	Pass	Fail
1-Classroom 18	AC-1 (Classroom 18)	2,000	500	0.25	NA	NA	N	AC-1 (Classroom 18)	948	NA	47	15.0	711	711	NA	N	NA	☐	☐
2-Classroom 19	AC-2 (Classroom 19)	2,000	500	0.25	NA	NA	N	AC-2 (Classroom 19)	965	NA	48	15.0	724	724	NA	N	NA	☐	☐
3-Classroom 16	AC-3 (Classroom 16)	2,000	500	0.25	NA	NA	N	AC-3 (Classroom 16)	999	NA	50	15.0	749	749	NA	N	NA	☐	☐
4-Classroom 17	AC-4 (Classroom 17)	2,000	500	0.25	NA	NA	N	AC-4 (Classroom 17)	896	NA	45	15.0	672	672	NA	N	NA	☐	☐
5-Classroom 15	AC-5 (Classroom 15)	1,600	500	0.31	NA	NA	N	AC-5 (Classroom 15)	954	NA	48	15.0	716	716	NA	N	NA	☐	☐
6-Library A19	AC-6 (Library A19)	2,000	500	0.25	NA	NA	N	AC-6 (Library A19)	1,155	NA	23	15.0	347	347	NA	N	NA	☐	☐
7-Classroom 14	AC-7 (Classroom 14 Couns	1,695	424	0.25	NA	NA	N	AC-7 (Classroom 14 Couns	972	NA	49	15.0	729	729	NA	N	NA	☐	☐

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U. ENERGY USE SUMMARY

Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Domestic Hot Water	--	--	--	286.3	286.3	0.0
Indoor Lighting	57.4	57.4	0.0	--	--	--
COMPLIANCE TOTAL	**196.1**	**129.8**	**66.3**	**461.9**	**357.0**	**104.9**
Receptacle	69.8	69.8	0.0	--	--	--
Process	39.2	39.2	0.0	--	--	--
Other Ltg	--	--	--	--	--	--
TOTAL	**305.1**	**238.8**	**66.3**	**461.9**	**357.0**	**104.9**

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 03-119485 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 8/14/2019

CANNONDESIGN
gkkworks
155 S. Fair Oaks, 2nd Floor,
Pasadena California 91105
t 626.666.6906
f 626.666.3940
www.cannondesign.com

LICENSED ARCHITECT
JAVAN NABILI
NO. C24035
REN.: 7.31.21
STATE OF CALIFORNIA

CORDOBA CORPORATION
SAN FRANCISCO • LOS ANGELES • SANTA ANA • SAN DIEGO

REGISTERED PROFESSIONAL ENGINEER
JAMES H. SHWE
No. 26903
Renewal: 9/30/20
MECHANICAL
STATE OF CALIFORNIA

SOUND MITIGATION PROGRAM

OAK STREET ELEMENTARY SCHOOL

633 South Oak Street Inglewood, CA 90301

A PROJECT FOR:
INGLEWOOD UNIFIED SCHOOL DISTRICT

PROJECT NUMBER:
10292

DRAWN: N.W, S.W.L, S.N

CHECKED: J.S, N.W

ISSUE/REVISION:

8/21/2018	30% - SCHEMATIC DESIGN
10/10/2018	50% CD SUBMITTAL
11/15/2018	100% CD - DSA SUBMITTAL
03/15/2019	DSA APPROVAL

TITLE - 24

M0.05

K:\10292.10 - Oak Street Elementary School - LAWA Sound Mitigation\CAD\M-24-T

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C. TAILORED METHOD CONDITIONED LIGHTING POWER ALLOWANCE SUMMARY AND CHECKLIST (Adapted from NRCC-LTI-04-E) — **§ 140.6**

Total watts 0

D. GENERAL LIGHTING POWER (Adapted from NRCC-LTI-04-E) — **§ 140.6-D**

This Section Does Not Apply

E. GENERAL LIGHTING FROM SPECIAL FUNCTION AREAS (Adapted from NRCC-LTI-04-E) — **§ 140.6(c) 3H**

Room Number	Primary Function Area	Illuminance Value (LUX)	Room Cavity Ratio (Table G)	Allowed LPD	Floor Area (ft²)	Allowed Watts	Confirmed Pass	Confirmed Fail
NA	NA	NA	NA	NA	NA	NA	☐	☐

Note: Tailored Method for Special Function Areas is not currently implemented

F. ROOM CAVITY RATIO (Adapted from NRCC-LTI-04-E)

Rectangular Spaces

Room Number	Task/Activity Description	Room Length (ft)	Room Width (ft)	Room Cavity Height (ft)	RCR	Confirmed Pass	Confirmed Fail
NA	NA	NA	NA	NA	NA	☐	☐

Non-Rectangular Spaces

This Section Does Not Apply

Note: All applicable spaces are listed under the Non-Rectangular Spaces table

G. ADDITIONAL "USE IT OR LOSE IT" (Adapted from NRCC-LTI-04-E)

1. Wall Display	2. Combined Floor Display and Task Lighting	3. Combined Ornamental and Special Effects Lighting	4. Very Valuable Merchandise	Allowed Watts	Confirmed Pass	Confirmed Fail
0	0	0	0	**0**	☐	☐

5. Wall Display

This Section Does Not Apply

Project Name:	Oak Street Elementary School - LAWA Sound Mitigation	NRCC-PRF-01-E	Page 36 of 36
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6. Floor Display and Task Lighting

This Section Does Not Apply

7. Combined Ornamental and Special Effects Lighting

This Section Does Not Apply

8. Very Valuable Merchandise

This Section Does Not Apply

H. INDOOR & OUTDOOR LIGHTING ACCEPTANCE TESTS & FORMS (Adapted from NRCC-LTI-01-E and NRCC-LTO-01-E) — **§ 130.4**

Declaration of Required Acceptance Certificates (NRCA) –Acceptance Certificates that must be verified in the field. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

Test Description		Indoor			Outdoor	Confirmed	
		NRCA-LTI-02-A	NRCA-LTI-03-A	NRCA-LTI-04-A	NRCA-LTO-02-A	Pass	Fail
Equipment Requiring Testing or Verification	# of units	Occ Sensors / Auto Time Switch	Auto Daylight	Demand Responsive	Outdoor Controls		
Occupant Sensors	0	☐	☐	☐	☐	☐	☐
Automatic Time Switch	0	☐	☐	☐	☐	☐	☐
Automatic Daylighting	0	☐	☐	☐	☐	☐	☐
Demand Responsive	0	☐	☐	☐	☐	☐	☐
Outdoor Controls	0	☐	☐	☐	☐	☐	☐

ENVELOPE MANDATORY MEASURES: NONRESIDENTIAL — ENV-MM

Project Name	Date
Oak Street Elementary School - LAWA Sound Mitigation	*11/20/2018*

DESCRIPTION

Building Envelope Measures:

§110.8(a):	Installed insulating material shall have been certified by the manufacturer to comply with the California Quality Standards for insulating material, Title 20 Chapter 4, Article 3.
§110.8(c):	All Insulating Materials shall be installed in compliance with the flame spread rating and smoke density requirements of Sections 2602 and 707 of Title 24, Part 2.
§110.8(g):	Heated slab floors shall be insulated according to the requirements in Table 110.8-A.
§110.7(a):	All Exterior Joints and openings in the building that are observable sources of air leakage shall be caulked, gasketed, weatherstripped or otherwise sealed.
§110.6(a):	Manufactured fenestration products and exterior doors shall have air infiltration rates not exceeding 0.3 cfm/ft.² of window area, 0.3 cfm/ft.² of door area for residential doors, 0.3 cfm/ft.² of door area for nonresidential single doors (swinging and sliding), and 1.0 cfm/ft.² for nonresidential double doors (swinging).
§110.6(a):	Fenestration U-factor shall be rated in accordance with NFRC 100, or the applicable default U-factor.
§110.6(a) :	Fenestration SHGC shall be rated in accordance with NFRC 200, or NFRC 100 for site-built fenestration, or the applicable default SHGC.
§110.6(b):	Site Constructed Doors, Windows and Skylights shall be caulked between the unit and the building, and shall be weatherstripped (except for unframed glass doors and fire doors).
§120.7(a):	The opaque portions of the roof/ceiling that separates conditioned spaces from unconditioned spaces or ambient air shall meet the applicable U-Factor requirements as follows: **Metal Building**- The weighted average U-factor of the roof assembly shall not exceed 0.098. **Wood Framed and Others**- The weighted average U-factor of the roof assembly shall not exceed 0.075.
§120.7(b):	The opaque portions of walls that separate conditioned spaces from unconditioned spaces or ambient air shall meet the applicable U-factor as follows: **Metal Building**- The weighted average U-factor of the wall assembly shall not exceed 0.113. **Metal Framed**- The weighted average U-factor of the wall assembly shall not exceed 0.151. **Light Mass Walls**- A 6 inch or greater Hollow Core Concrete Masonry Unit shall have a U-factor not to exceed 0.440. **Heavy Mass Walls**- An 8 inch or greater Hollow Core Concrete Masonry Unit shall have a U-factor not to exceed 0.690. **Wood Framed and Others**- The weighted average U-factor of the wall assembly shall not exceed 0.116. **Spandrel Panels and Opaque Curtain Wall**- The weighted average U-factor of the spandrel panels and opaque curtain wall assembly shall not exceed 0.280. **Demising Walls**- The opaque portions of framed demising walls shall meet the requirements of Item A or B below: A. Wood framed walls shall be insulated to meet a U-factor not greater than 0.099. B. Metal Framed walls shall be insulated to meet a U-factor not greater than 0.151.
§120.7(c):	The opaque portions of floors and soffits that separate conditioned spaces from unconditioned spaces or ambient air shall meet the applicable U-Factor requirements as follows: **Raised Mass Floors**- Shall have a minimum of 3 inches of lightweight concrete over a metal deck or the weighted average U-factor of the floor assembly shall not exceed 0.269. **Other Floors**-The weighted average U-factor of the floor assembly shall not exceed 0.071.

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G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2016-NRCC-MCH-01-E)* — **§ RA4**

Declaration of Required Acceptance Certificates (NRCA) – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

Test Description		MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-08A	MCH-09A	MCH-10A	MCH-11A	MCH-12A	MCH-13A	MCH-14A	MCH-15A	MCH-16A	MCH-17A	MCH-18A	Confirmed Pass	Confirmed Fail
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Dist. Ducts	Economizer Controls	DCV	Supply Fan VAV	Valve leakage	Supply Water Temp. Reset	Hyd. Variable Flow Control	Auto Demand Shed Control	FDD for DX Units	Auto FDD for Air & Zone	Dist. Energy Storage DX AC	TES Systems	Supply Air Temp. Reset	Condenser Water Reset Controls	ECMS	Pass	Fail
AC-10 (Faculty Lounge A3)	1	X	X	--	X	X	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
AC-11 (Consolidated Offic	1	X	X	--	X	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
AC-12 (Classroom 12)	1	X	X	--	X	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
AC-13 (Classroom 11)	1	X	X	--	X	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
AC-14 (Classroom 10)	1	X	X	--	X	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
AC-15 (Kindergarten 1)	1	X	X	--	X	--	--	--	--	--	--	X	--	--	--	--	--	--	☐	☐
AC-16 (Kindergarten 9)	1	X	X	--	X	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐

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G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2016-NRCC-MCH-01-E)* — **§ RA4**

Declaration of Required Acceptance Certificates (NRCA) – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

Test Description		MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-08A	MCH-09A	MCH-10A	MCH-11A	MCH-12A	MCH-13A	MCH-14A	MCH-15A	MCH-16A	MCH-17A	MCH-18A	Confirmed Pass	Confirmed Fail
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Dist. Ducts	Economizer Controls	DCV	Supply Fan VAV	Valve leakage	Supply Water Temp. Reset	Hyd. Variable Flow Control	Auto Demand Shed Control	FDD for DX Units	Auto FDD for Air & Zone	Dist. Energy Storage DX AC	TES Systems	Supply Air Temp. Reset	Condenser Water Reset Controls	ECMS	Pass	Fail
AC-17 (Classroom 2)	1	X	X	--	X	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
AC-18 (Classroom 8)	1	X	X	--	X	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
AC-19 (Classroom 3)	1	X	X	--	X	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
AC-20 (Classroom 7)	1	X	X	--	X	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
AC-21 (Classroom 4)	1	X	X	--	X	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
AC-22 (Classroom 5)	1	X	X	--	X	--	--	--	--	--	--	X	--	--	--	--	--	--	☐	☐
AC-23 (Classroom 6)	1	X	X	--	X	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐

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G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2016-NRCC-MCH-01-E)* — **§ RA4**

Declaration of Required Acceptance Certificates (NRCA) – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

Test Description		MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-08A	MCH-09A	MCH-10A	MCH-11A	MCH-12A	MCH-13A	MCH-14A	MCH-15A	MCH-16A	MCH-17A	MCH-18A	Confirmed Pass	Confirmed Fail
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Dist. Ducts	Economizer Controls	DCV	Supply Fan VAV	Valve leakage	Supply Water Temp. Reset	Hyd. Variable Flow Control	Auto Demand Shed Control	FDD for DX Units	Auto FDD for Air & Zone	Dist. Energy Storage DX AC	TES Systems	Supply Air Temp. Reset	Condenser Water Reset Controls	ECMS	Pass	Fail
AC-24 & 25 (Multi-Use C1	2	X	X	--	X	X	--	--	--	--	--	X	--	--	--	--	--	--	☐	☐

H. EVAPORATIVE COOLER SUMMARY

This Section Does Not Apply

NRCC-PRF-LTI-DETAILS -SECTION START-

A. INDOOR CONDITIONED LIGHTING CONTROL CREDITS (Adapted from NRCC-LTI-02-E) — **§ 140.6**

This Section Does Not Apply

B. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROLS (Adapted from NRCC-LTI-02-E) — **§ 130.1**

This Section Does Not Apply

§130.1(a) = Manual area controls; §130.0(b) = Multi Level; §130.1(c) = Auto Shut-Off; §130.1(d) = Mandatory Daylight; §130.1(e) = Demand Responsive

C. TAILORED METHOD CONDITIONED LIGHTING POWER ALLOWANCE SUMMARY AND CHECKLIST (Adapted from NRCC-LTI-04-E) — **§ 140.6**

General lighting power (see Table D)	0
General lighting power from special function areas (see Table E)	NA
Additional "use it or lose it" (See Table G)	0

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B. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY — **§ 140.4**

1. System ID	2. System Type	3. Qty	4. Rated Capacity (kBtuh) Heating	4. Rated Capacity (kBtuh) Cooling	5. Economizer	6. Zone Name	7. Airflow (cfm) Design	7. Airflow (cfm) Min.	7. Airflow (cfm) Min. Ratio	8. Fan BHP	8. Fan Cycles	8. Fan ECM Motor	Confirmed Pass	Confirmed Fail
1-Classroom 18-Trm	VAVNoReheatBox	1	NA	NA	NA	1-Classroom 18	2000	500	0.25	NA	NA	☐	☐	☐
2-Classroom 19-Trm	VAVNoReheatBox	1	NA	NA	NA	2-Classroom 19	2000	500	0.25	NA	NA	☐	☐	☐
3-Classroom 16-Trm	VAVNoReheatBox	1	NA	NA	NA	3-Classroom 16	2000	500	0.25	NA	NA	☐	☐	☐
4-Classroom 17-Trm	VAVNoReheatBox	1	NA	NA	NA	4-Classroom 17	2000	500	0.25	NA	NA	☐	☐	☐
5-Classroom 15-Trm	VAVNoReheatBox	1	NA	NA	NA	5-Classroom 15	1600	500	0.31	NA	NA	☐	☐	☐
6-Library A19-Trm	VAVNoReheatBox	1	NA	NA	NA	6-Library A19	2000	500	0.25	NA	NA	☐	☐	☐
8-Counselor A20-Trm	VAVNoReheatBox	1	NA	NA	NA	8-Counselor A20	305	76	0.25	NA	NA	☐	☐	☐
7-Classroom 14-Trm	VAVNoReheatBox	1	NA	NA	NA	7-Classroom 14	1695	424	0.25	NA	NA	☐	☐	☐
11-Nurse 13-Trm	VAVNoReheatBox	1	NA	NA	NA	11-Nurse 13	293	122	0.42	NA	NA	☐	☐	☐
10-Office A10-Trm	VAVNoReheatBox	1	NA	NA	NA	10-Office A10	496	207	0.42	NA	NA	☐	☐	☐
9-Supplies Workroom A8-Trm	VAVNoReheatBox	1	NA	NA	NA	9-Supplies Workroom A8	411	171	0.42	NA	NA	☐	☐	☐
14-Principal A9-Trm	VAVNoReheatBox	1	NA	NA	NA	14-Principal A9	623	260	0.42	NA	NA	☐	☐	☐
13-Vice Principal A7-Trm	VAVNoReheatBox	1	NA	NA	NA	13-Vice Principal A7	322	134	0.42	NA	NA	☐	☐	☐
12-Mail Room A6-Trm	VAVNoReheatBox	1	NA	NA	NA	12-Mail Room A6	254	106	0.42	NA	NA	☐	☐	☐
15-Faculty Lounge A3-Trm	VAVNoReheatBox	1	NA	NA	NA	15-Faculty Lounge A3	800	500	0.63	NA	NA	☐	☐	☐
16-Consolidated Office 13-Trm	VAVNoReheatBox	1	NA	NA	NA	16-Consolidated Office 13	1000	500	0.50	NA	NA	☐	☐	☐
17-Classroom 12-Trm	VAVNoReheatBox	1	NA	NA	NA	17-Classroom 12	1600	500	0.31	NA	NA	☐	☐	☐
18-Classroom 11-Trm	VAVNoReheatBox	1	NA	NA	NA	18-Classroom 11	2370	741	0.31	NA	NA	☐	☐	☐
19-Classroom 10-Trm	VAVNoReheatBox	1	NA	NA	NA	19-Classroom 10	1600	500	0.31	NA	NA	☐	☐	☐
21-Kindergarten 1-Trm	VAVNoReheatBox	1	NA	NA	NA	21-Kindergarten 1	2000	500	0.25	NA	NA	☐	☐	☐
22-Kindergarten 9-Trm	VAVNoReheatBox	1	NA	NA	NA	22-Kindergarten 9	1600	500	0.31	NA	NA	☐	☐	☐

Project Name:	Oak Street Elementary School - LAWA Sound Mitigation	NRCC-PRF-01-E	Page 29 of 36
Project Address:	633 S Oak Street Inglewood 90301	Calculation Date/Time:	16:17, Tue, Nov 20, 2018
Compliance Scope:	ExistingAlteration	Input File Name:	Oak Street Elementary School - LAWA Sound Mitigation_NR T24_11-20-2018.cibd16x

B. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY — **§ 140.4**

1. System ID	2. System Type	3. Qty	4. Rated Capacity (kBtuh) Heating	4. Rated Capacity (kBtuh) Cooling	5. Economizer	6. Zone Name	7. Airflow (cfm) Design	7. Airflow (cfm) Min.	7. Airflow (cfm) Min. Ratio	8. Fan BHP	8. Fan Cycles	8. Fan ECM Motor	Confirmed Pass	Confirmed Fail
26-Classroom 2-Trm	VAVNoReheatBox	1	NA	NA	NA	26-Classroom 2	1600	500	0.31	NA	NA	☐	☐	☐
27-Classroom 8-Trm	VAVNoReheatBox	1	NA	NA	NA	27-Classroom 8	1350	500	0.37	NA	NA	☐	☐	☐
28-Classroom 3-Trm	VAVNoReheatBox	1	NA	NA	NA	28-Classroom 3	1600	500	0.31	NA	NA	☐	☐	☐
29-Classroom 7-Trm	VAVNoReheatBox	1	NA	NA	NA	29-Classroom 7	1350	500	0.37	NA	NA	☐	☐	☐
30-Classroom 4-Trm	VAVNoReheatBox	1	NA	NA	NA	30-Classroom 4	1600	500	0.31	NA	NA	☐	☐	☐
31-Classroom 5-Trm	VAVNoReheatBox	1	NA	NA	NA	31-Classroom 5	2000	500	0.25	NA	NA	☐	☐	☐
32-Classroom 6-Trm	VAVNoReheatBox	1	NA	NA	NA	32-Classroom 6	1600	500	0.31	NA	NA	☐	☐	☐
36-Kitchen C9-Trm	VAVNoReheatBox	2	NA	NA	NA	36-Kitchen C9	587	73	0.13	NA	NA	☐	☐	☐
34-Platform C2-Trm	VAVNoReheatBox	2	NA	NA	NA	34-Platform C2	962	120	0.13	NA	NA	☐	☐	☐
33-Mutli-Use C1-Trm	VAVNoReheatBox	2	NA	NA	NA	33-Mutli-Use C1	2450	306	0.13	NA	NA	☐	☐	☐

C. EXHAUST FAN SUMMARY

This Section Does Not Apply

D. DHW EQUIPMENT SUMMARY – *(Adapted from NRCC-PLB-01)* — **§ 110.3** — **Confirmed**

1. DHW Name	2. Heater Element Type	3. Tank Type	4. Qty	5. Tank Vol (gal)	6. Rated Input (kBtu/h)	7. Efficiency	8. Tank Insulation R-value (Int/Ext)	9. Pilot Energy (Btu/h)	10. Standby Loss	11. Heat Pump Type	12. Tank Location or Ambient Condition	Pass	Fail
Standard Gas 50 gal or Le2	Gas	Storage	1	50	40	EF: 0.575	NA		0	NA	NA	☐	☐
Standard Gas 50 gal or Le2 2	Gas	Storage	1	50	40	EF: 0.575	NA		0	NA	NA	☐	☐
Standard Gas 50 gal or Le2 3	Gas	Storage	1	50	40	EF: 0.575	NA		0	NA	NA	☐	☐

Project Name:	Oak Street Elementary School - LAWA Sound Mitigation	NRCC-PRF-01-E	Page 30 of 36
Project Address:	633 S Oak Street Inglewood 90301	Calculation Date/Time:	16:17, Tue, Nov 20, 2018
Compliance Scope:	ExistingAlteration	Input File Name:	Oak Street Elementary School - LAWA Sound Mitigation_NR T24_11-20-2018.cibd16x

E. MULTI-FAMILY CENTRAL DHW SYSTEM DETAILS

This Section Does Not Apply

F. SOLAR HOT WATER HEATING SUMMARY (Adapted from NRCC-STH-01)

This Section Does Not Apply

G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2016-NRCC-MCH-01-E)* — **§ RA4**

Declaration of Required Acceptance Certificates (NRCA) – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

Test Description		MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-08A	MCH-09A	MCH-10A	MCH-11A	MCH-12A	MCH-13A	MCH-14A	MCH-15A	MCH-16A	MCH-17A	MCH-18A	Confirmed Pass	Confirmed Fail
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Dist. Ducts	Economizer Controls	DCV	Supply Fan VAV	Valve leakage	Supply Water Temp. Reset	Hyd. Variable Flow Control	Auto Demand Shed Control	FDD for DX Units	Auto FDD for Air & Zone	Dist. Energy Storage DX AC	TES Systems	Supply Air Temp. Reset	Condenser Water Reset Controls	ECMS	Pass	Fail
Oak Street Elementary Sch1 - SHW	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
Oak Street Elementary Sch191 - SHW	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
Oak Street Elementary Sch293 - SHW	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
AC-1 (Classroom 1B)	1	X	X	--	X	--	--	--	--	--	--	X	--	--	--	--	--	--	☐	☐

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APP. 03-119485 INC:
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JAVAN NABILI
NO. C24035
REN.: 7.31.21
STATE OF CALIFORNIA

INGLEWOOD UNIFIED SCHOOL DISTRICT

CORDOBA CORPORATION
SAN FRANCISCO • LOS ANGELES • SANTA ANA • SAN DIEGO

REGISTERED PROFESSIONAL ENGINEER
CHARLES H. WU
No. 26903
Renewal: 9/30/20
MECHANICAL
STATE OF CALIFORNIA

SOUND MITIGATION PROGRAM

OAK STREET ELEMENTARY SCHOOL

633 South Oak Street Inglewood, CA 90301

A PROJECT FOR:
INGLEWOOD UNIFIED SCHOOL DISTRICT

PROJECT NUMBER:
10292

DRAWN: N.W, S.W.L, S.N

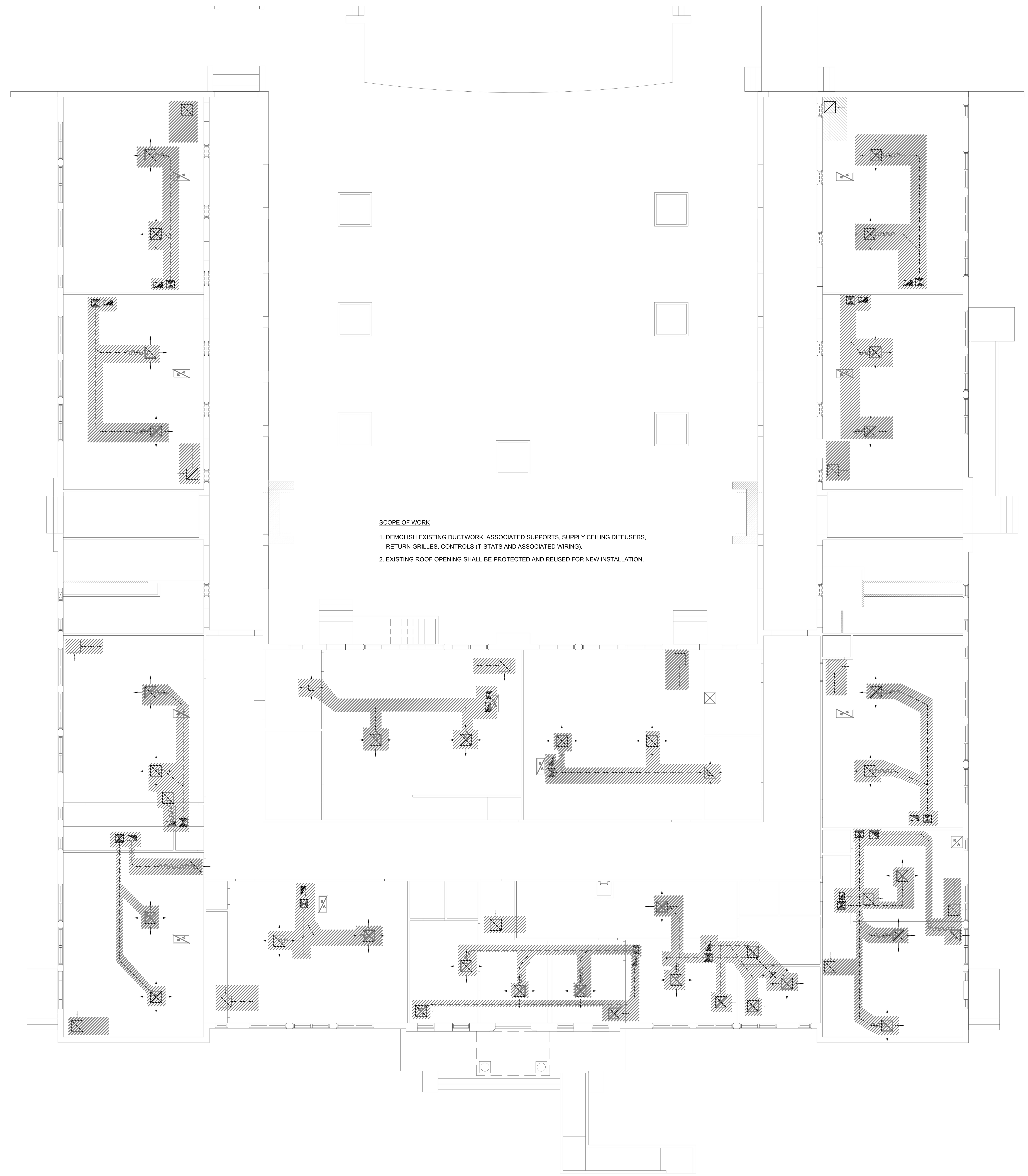
CHECKED: J.S, N.W

ISSUE/REVISION:

8/21/2018	30% - SCHEMATIC DESIGN
10/10/2018	50% CD SUBMITTAL
11/15/2018	100% CD – DSA SUBMITTAL
03/15/2019	DSA APPROVAL

TITLE - 24

M0.06



MECHANICAL EXISTING FLOOR PLAN - BUILDING A 1

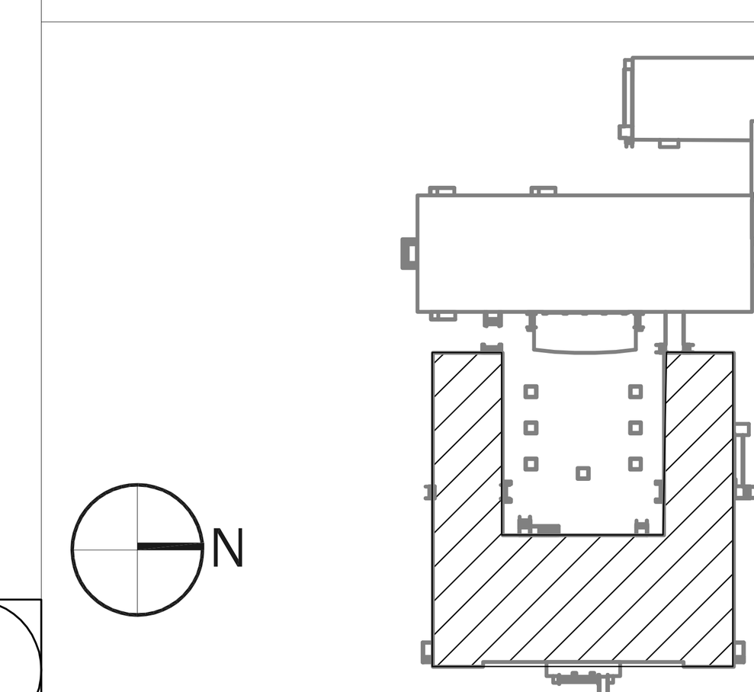
1/8" = 1'-0"

LEGEND

SHEET NOTES

KEYNOTES

KEY PLAN



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No. 26903, Renewal: 9/30/20, MECHANICAL, STATE OF CALIFORNIA

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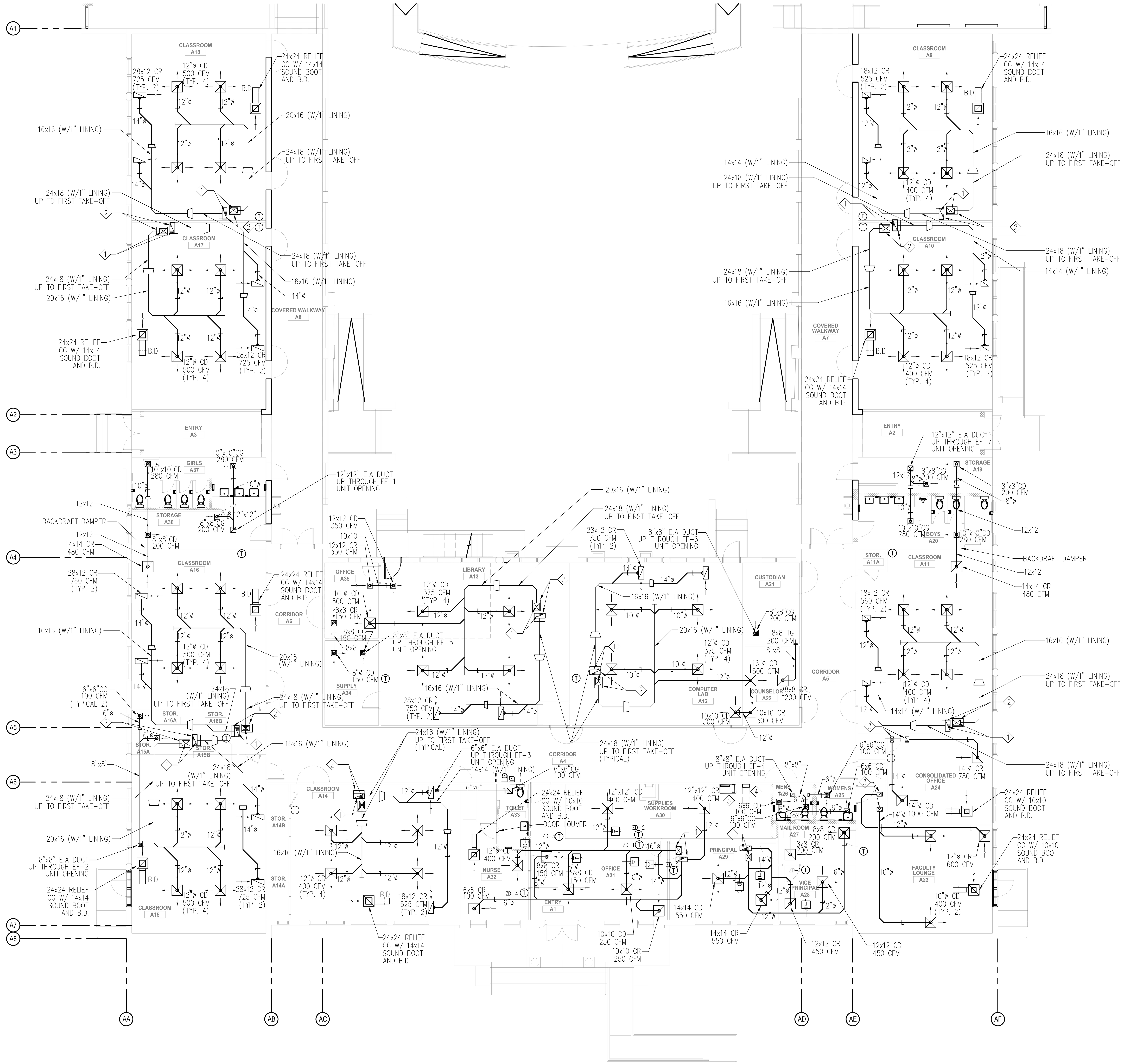
03/15/2019	DSA APPROVAL

MECHANICAL DEMOLITION FLOOR PLAN - BUILDING A

MAD101



MECHANICAL NEW FLOOR PLAN - BUILDING A

1

1/8" = 1'-0"

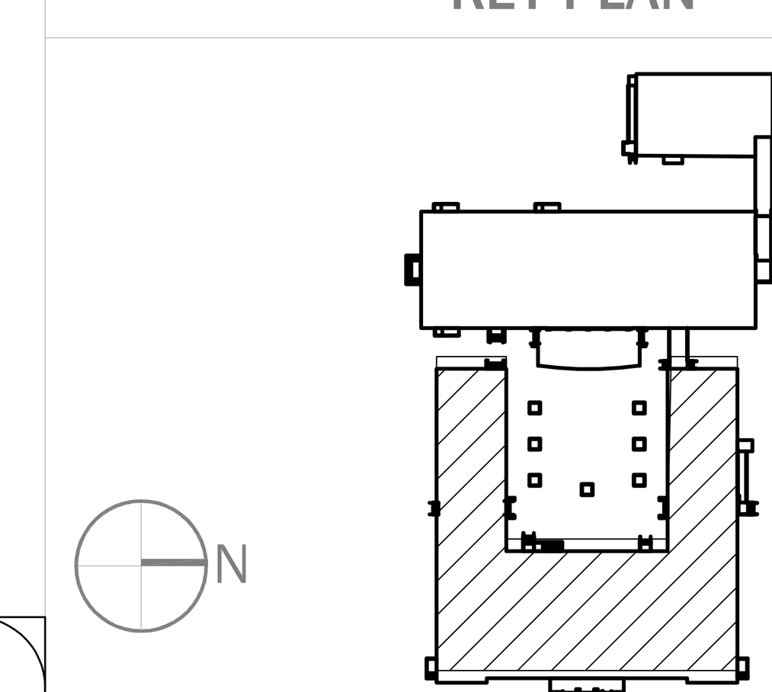
LEGEND

SHEET NOTES

KEYNOTES

1. 18"x12" SUPPLY AIR AND 26"x11" RETURN AIR DUCTS UP THROUGH ROOF.
2. 24"x18"x36" (WxHxL) DUCT SILENCER (DS-2), IAC MODEL LFM. SEE DETAIL #3/ M2.03 FOR ANCHORAGE.
3. 16"x10" SUPPLY AIR AND 16"x10" RETURN AIR DUCTS UP THROUGH ROOF.
4. RECOMMENDED MASTER CONTROL PANEL LOCATION. EXACT LOCATION SHALL BE DETERMINED BY CONTROL'S CONTRACTOR.
5. EMS FRONT-END COMPUTER WITH WEB ROUTER. PROVIDE FOUR DATA OUTLETS AND WALL RECEPTACLES. SEE ELECTRICAL DWG.

KEY PLAN



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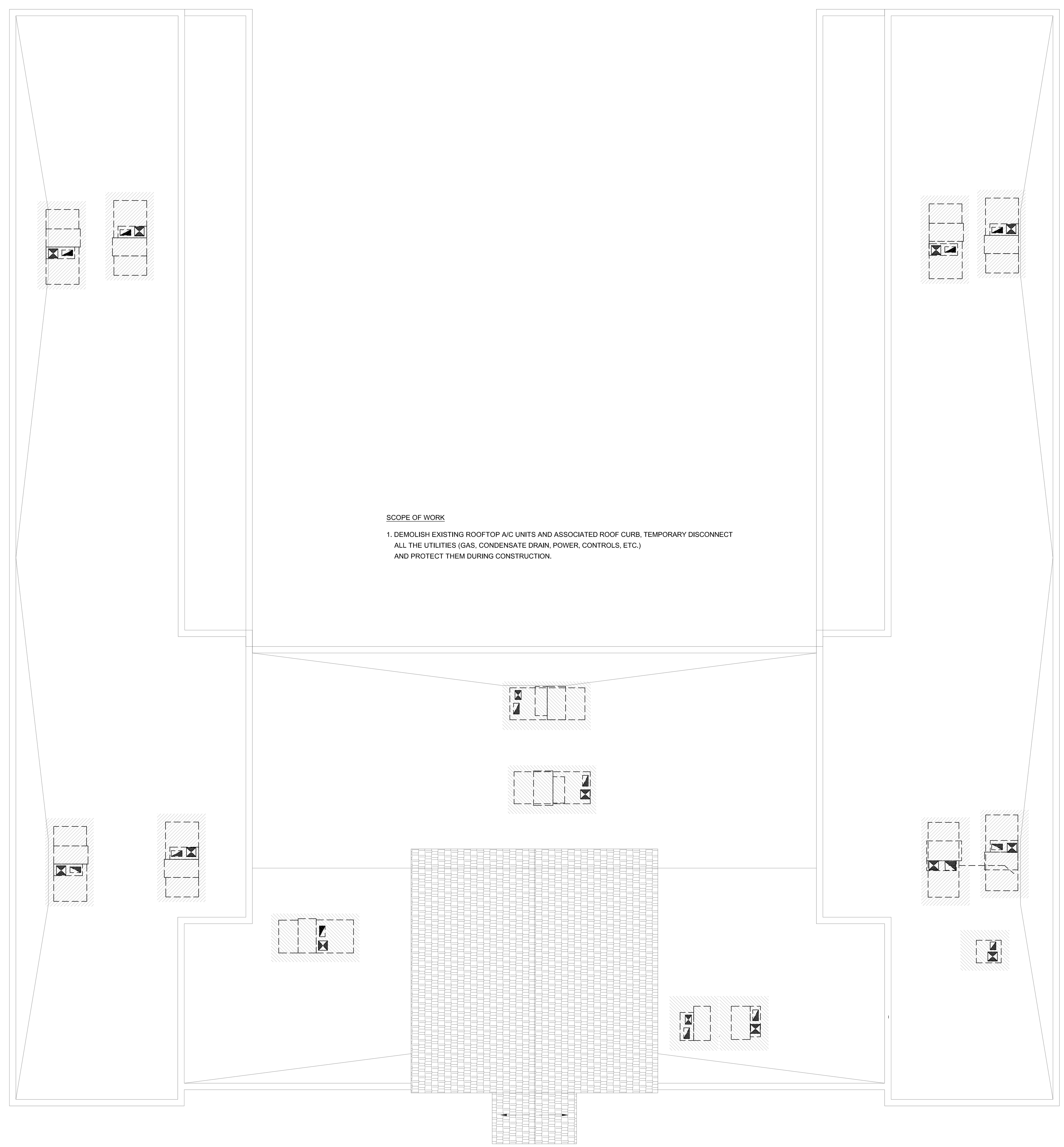
MECHANICAL NEW FLOOR PLAN - BUILDING A

MA101



SCOPE OF WORK

1. DEMOLISH EXISTING ROOFTOP A/C UNITS AND ASSOCIATED ROOF CURB, TEMPORARY DISCONNECT ALL THE UTILITIES (GAS, CONDENSATE DRAIN, POWER, CONTROLS, ETC.) AND PROTECT THEM DURING CONSTRUCTION.

MECHANICAL EXISTING ROOF PLAN - BUILDING A 1

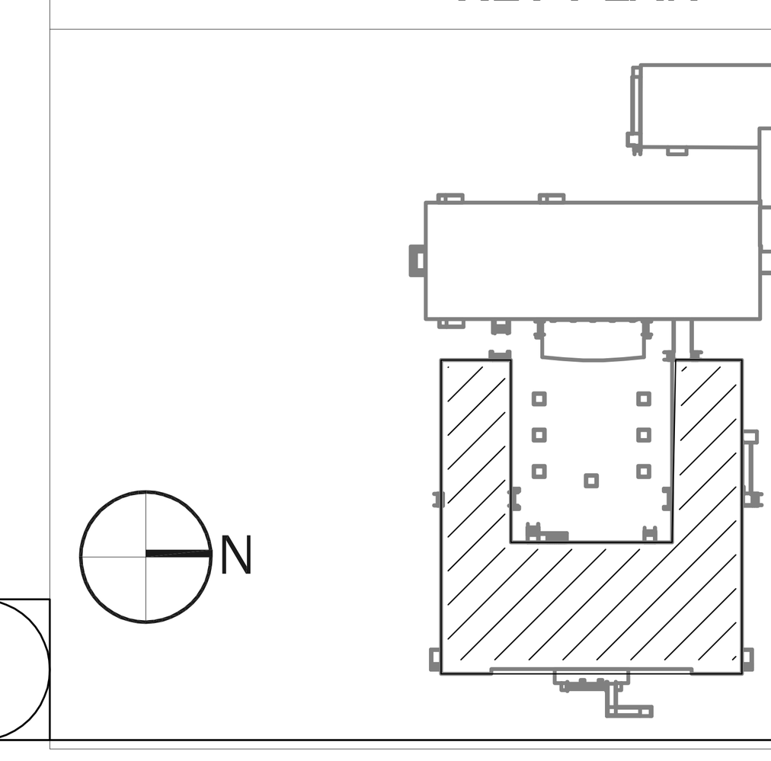
1/8" = 1'-0"

LEGEND

SHEET NOTES

KEYNOTES

KEY PLAN



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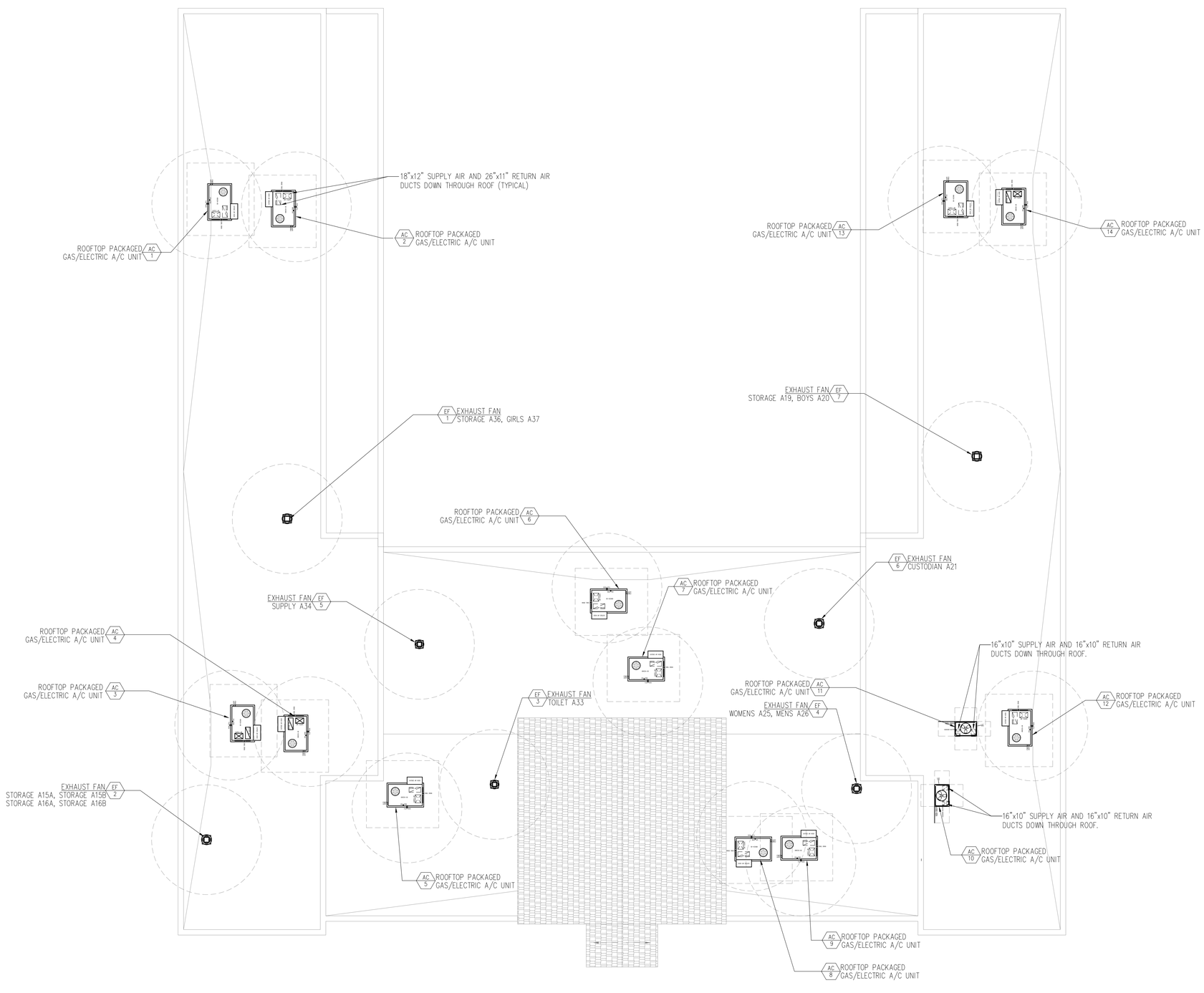
MECHANICAL DEMOLITION ROOF PLAN - BUILDING A

MAD102



MECHANICAL NEW ROOF PLAN - BUILDING A

1/8" = 1'-0"

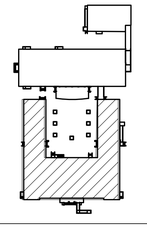
1

LEGEND

SHEET NOTES

KEYNOTES

KEY PLAN



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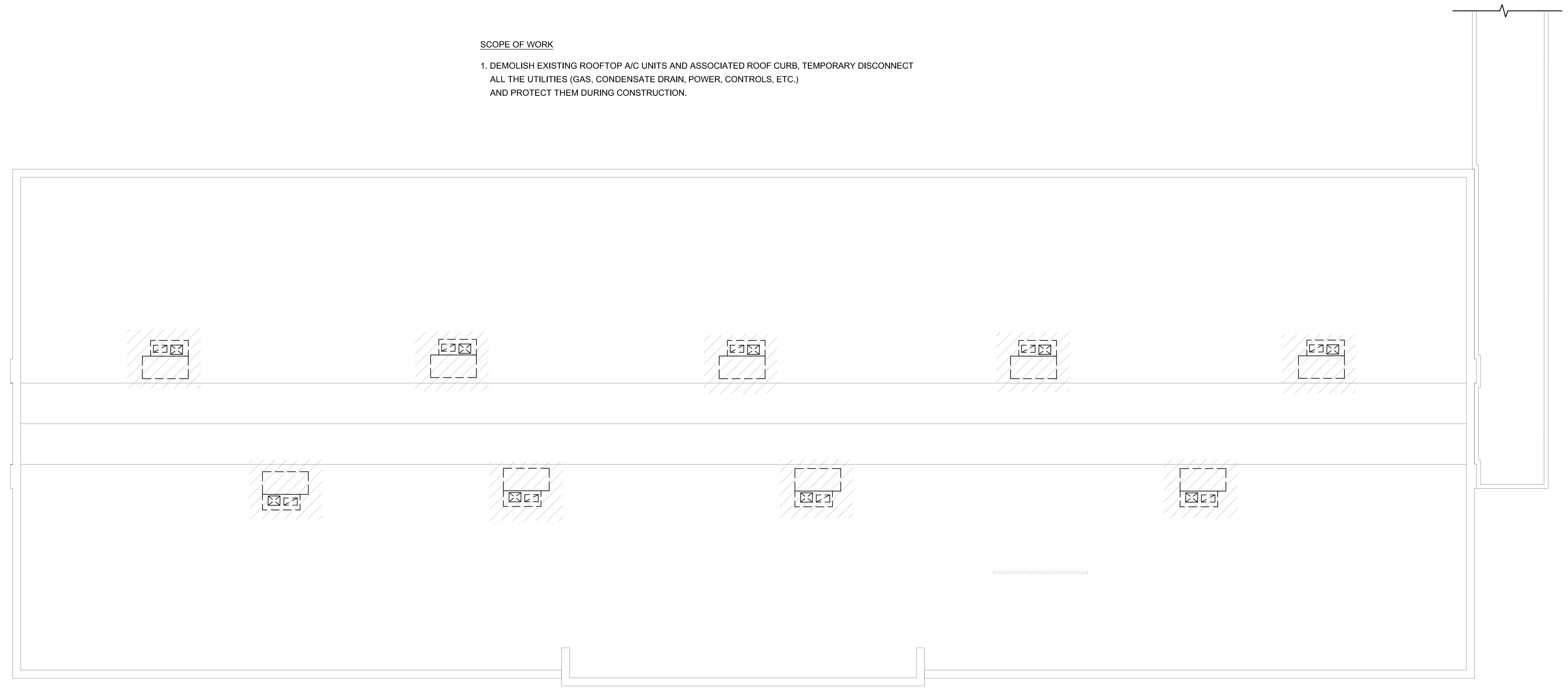
MECHANICAL NEW
ROOF PLAN - BUILDING A

MA102

V:\10033.00 Oak Street Elementary School - LAMS Sound Mitigation\2019-04-17

SCOPE OF WORK

1. DEMOLISH EXISTING ROOFTOP A/C UNITS AND ASSOCIATED ROOF CURB, TEMPORARY DISCONNECT ALL THE UTILITIES (GAS, CONDENSATE DRAIN, POWER, CONTROLS, ETC.) AND PROTECT THEM DURING CONSTRUCTION.



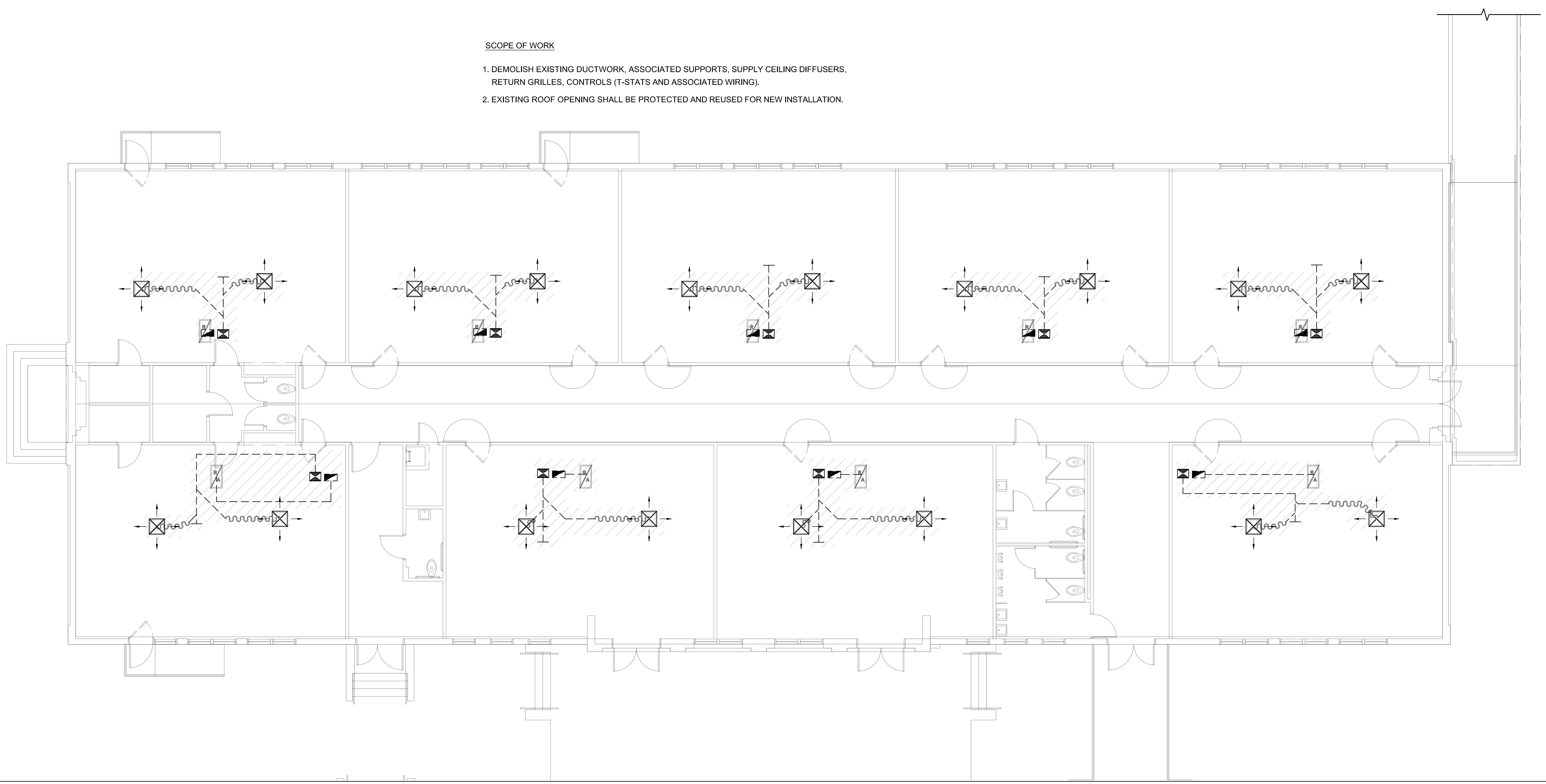
MECHANICAL EXISTING ROOF PLAN - BUILDING B

1/8" = 1'-0"

1

SCOPE OF WORK

1. DEMOLISH EXISTING DUCTWORK, ASSOCIATED SUPPORTS, SUPPLY CEILING DIFFUSERS, RETURN GRILLES, CONTROLS (T-STATS AND ASSOCIATED WIRING).
2. EXISTING ROOF OPENING SHALL BE PROTECTED AND REUSED FOR NEW INSTALLATION.



MECHANICAL DEMOLITION FLOOR PLAN - BUILDING B

1/8" = 1'-0"

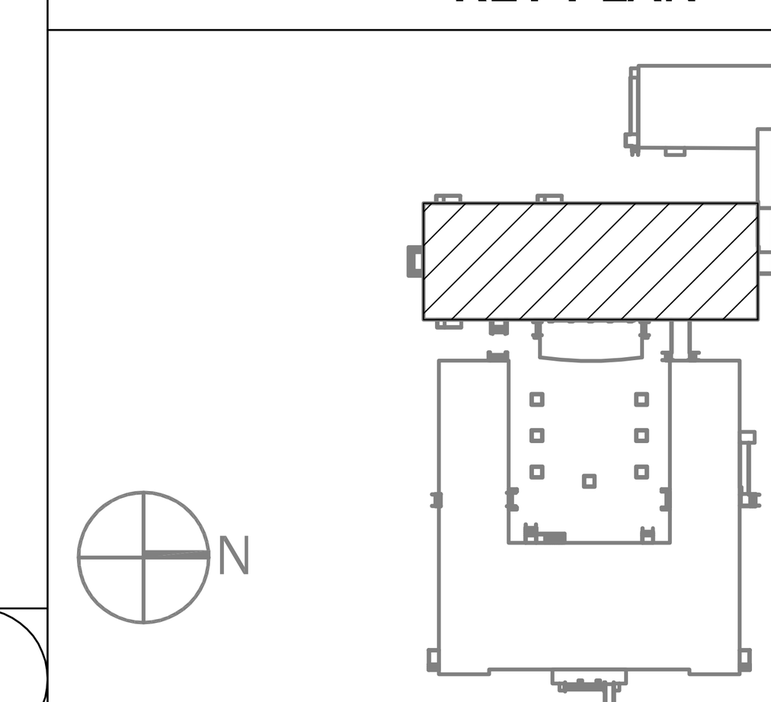
1

LEGEND

SHEET NOTES

KEYNOTES

KEY PLAN



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MECHANICAL DEMOLITION PLANS - BUILDING B

MBD101