DSA FILE NO: 1-1

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OWNER

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ACLC-NEA MECHANICAL MODERNIZATION 1900 THIRD STREET, ALAMEDA, CA 94501 ALAMEDA UNIFIED SCHOOL DISTRICT

DSA APPLICATION NO: 01-119265

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MECHANICAL ENGINEER

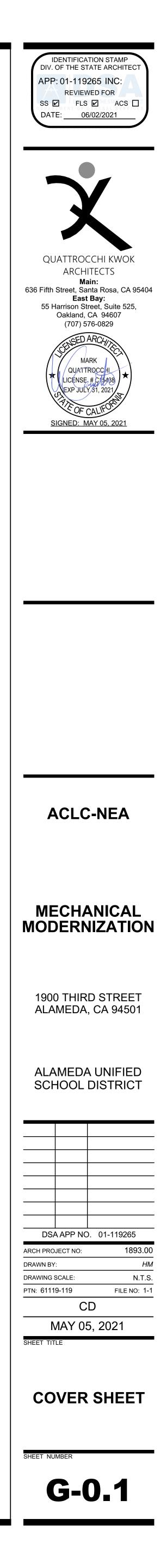
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ABBREVIATIONS

&	
L @	ANGLE AT
ዊ '	CENTERLINE FEET
"	INCHES
d #	PENNY POUND/ NUMBER
AB ABBREV	ANCHOR BOLT ABBREVIATION
AC A/C	ASPHALT CONCRETE AIR CONDITIONING
ACC	ACCESSIBLE
ACOUS AC T	ACOUSTICAL ACOUSTICAL TILE
AD	AREA DRAIN
ADJ A.F.F.	ADJUSTABLE ABOVE FINISH FLOOR
AGG	AGGREGATE
ALUM ANOD	ALUMINUM ANODIZED
APPROX	APPROXIMATE
ARCH ASPH	ARCHITECTURAL ASPHALT
BD	BOARD
BITUM	BITUMINOUS
BLDG BLK	BUILDING BLOCK
BLKG	BLOCKING
BM BOT	BEAM BOTTOM
BO BRK	BY OWNER BREAK
BRG	BEARING
BTWN BU	BETWEEN BUILT-UP
BUR	BUILT-UP ROOFING
CAB	CABINET
CB CBC	CATCH BASIN CALIFORNIA BUILDING CODE
CEM	CEMENT
CER CI	CERAMIC CAST IRON
CIR	CIRCLE
CJ CORR	CONTROL JOINT CORRIDOR
CL CLG	CLOSET/ CENTER LINE CEILING
CLR	CLEAR
CLS CMU	CLOSURE CONCRETE MASONRY UNIT
CO	CLEANOUT
COL COMB	COLUMN COMBINATION
COMP CONC	COMPOSITION CONCRETE
CONN	CONNECTION
CONST CONT	CONSTRUCTION CONTINUOUS
CONTR	CONTRACTOR
CT CTR	CERAMIC TILE CENTER
CTSK CUST	COUNTERSINK CUSTODIAN
CW	COLD WATER
DBL	DOUBLE
DEPT DET	DEPARTMENT DETAIL
DF	DRINKING FOUNTAIN
DG	DECOMPOSED GRANITE
DI DIA	DRAIN INLET DIAMETER
DIAG	DIAGONAL
DIM DISP	DIMENSION DISPOSAL
DIV	DIVISION
DN DO	DOWN DOOR OPENING
DIR DR	DIRECTLY DOOR
DSA	DIVISION OF STATE ARCHITEC
DS DSP	DOWN SPOUT DRY STAND PIPE
DT DW	DRAIN TILE DISHWASHER
DWG	DRAWING
DWR	DRAWER
E (E)	EAST EXISTING
EA	EACH
EB EE	EXPANSION BOLT EACH END
EF EJ	EXHAUST FAN EXPANSION JOINT
EL	ELEVATION GRADE
ELEC ELEV	ELECTRICAL ELEVATION
EMER EMT	EMERGENCY ELECTRIC METALLIC TUBING
ENCL	ENCLOSURE
EP EQ	ELECTRIC PANEL EQUAL
EQUIP EQUIV	EQUIPMENT EQUIVALENT
ES	EACH SIDE
EW EXH	EACH WAY EXHAUST
EXIST	EXISTING
EXP EXT	EXPANSION EXTERIOR
F	FACE
FA FCO	FIRE ALARM FLOOR CLEAN OUT
FD	FLOOR DRAIN
FDN FE	FOUNDATION
FEC FF	FIRE EXTINGUISHER
	FIRE EXTINGUISHER CABINET
FG	FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE
FG FGL FH	FIRE EXTINGUISHER CABINET FINISH FLOOR
FGL FH FHMS	FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW
FGL FH FHMS FHS FHS	FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD WOOD SCREW
FGL FH FHMS FHS FHWS FIN	FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION
FGL FH FHMS FHS FHWS FIN FIXT FL	FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD WOOD SCREW FINISH FIXTURE FLOOR LINE
FGL FH FHMS FHS FHWS FIN FIXT FL FLASH FLUOR	FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD WOOD SCREW FINISH FIXTURE FLOOR LINE FLASHING FLUORESCENT
FGL FH FHMS FHS FHWS FIN FIXT FL FLASH	FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD WOOD SCREW FINISH FIXTURE FLOOR LINE FLASHING
FGL FH FHMS FHS FHWS FIN FIXT FL FLASH FLUOR FLR FLR FM / FOM FN	FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD WOOD SCREW FINISH FIXTURE FLOOR LINE FLOOR LINE FLOOR SCENT FLOOR FACE OF MASONRY FACE NAIL
FGL FH FHMS FHS FHWS FIN FIXT FL FLASH FLUOR FLR FM / FOM FN FOC FOF	FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD WOOD SCREW FINISH FLAT HEAD WOOD SCREW FINISH FLAOR LINE FLOOR LINE FLOOR LINE FLOOR SCENT FLOOR FACE OF MASONRY FACE NAIL FACE OF CONCRETE FACE OF FINISH
FGL FH FHMS FHS FHWS FIN FIXT FL FLASH FLUOR FLR FM / FOM FN FOC	FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD WOOD SCREW FINISH FIXTURE FLOOR LINE FLOOR LINE FLOOR LINE FLOOR FLUORESCENT FLOOR FACE OF MASONRY FACE NAIL FACE OF CONCRETE
FGL FH FHMS FHS FHWS FIN FIXT FL FLASH FLUOR FLR FLUOR FLR FM / FOM FN FOC FOF FOS FRMG FR	FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD WOOD SCREW FINISH FIXTURE FLOOR LINE FLOOR LINE FLOOR LINE FLOOR SCENT FLOOR FACE OF MASONRY FACE NAIL FACE OF CONCRETE FACE OF FINISH FACE OF STUD FRAMING FIRE-RESISTANT
FGL FH FHMS FHS FHWS FIN FIXT FL FLASH FLUOR FLR FLUOR FLR FM / FOM FN FOC FOF FOS FRMG FR FRP	FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD WOOD SCREW FINISH FIXTURE FLOOR LINE FLOOR LINE FLOOR LINE FLOOR FACE OF MASONRY FACE NAIL FACE OF MASONRY FACE NAIL FACE OF FINISH FACE OF STUD FRAMING FIRE-RESISTANT FIBERGLASS REINFORCED PANEL
FGL FH FHMS FHS FHWS FIN FIXT FL FLASH FLUOR FLR FLUOR FLR FM / FOM FN FOC FOF FOS FRMG FR	FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD WOOD SCREW FINISH FIXTURE FLOOR LINE FLOOR LINE FLOOR LINE FLOOR SCENT FLOOR FACE OF MASONRY FACE NAIL FACE OF CONCRETE FACE OF FINISH FACE OF STUD FRAMING FIRE-RESISTANT FIBERGLASS REINFORCED

GA GALV GB GC GI GL GLB GND GR GYP BD	GAUGE GALVANIZE GRAB BAR GENERAL C GALVANIZE GLASS/ GL/ GLUE LAMII GROUND GRADE GYPSUM BO
HB HC HDR HDWD HDWR HM HOR HP HR HSS HT HTG HVAC	HOSE BIBB HOLLOW CO HEADER HARDWOOI HARDWARE HOLLOW M HORIZONTA HIGH POINT HOUR HOLLOW ST HEIGHT HEATING HEATING, V AIR-CONDIT
ID INSUL INT INTEG INTERMED INV	INSIDE DIAI INSULATION INTERIOR INTEGRAL INTERMEDI INVERT
JH JST JT	JOIST HANG JOIST JOINT
KIT KP LAB LAM LAV LL LP LT	KITCHEN KICK PLATE LABORATO LAMINATE LAVATORY LIVE LOAD LOW POINT LIGHT
MAT MAX MB MC MECH MED MEMB MFR MH MIN MIR MISC MO MOD MR MOD MR MTD MTL MUL	MATERIAL MAXIMUM MACHINE B MEDICINE (MECHANIC/ MEDIUM MEMBRANE MANUFACT MANHOLE MINIMUM MIRROR MISCELLAN MASONRY (MODULAR MOISTURE MOUNTED METAL MULLION
N (N) NAT N.I.C. NO NOM N.T.S.	NORTH NEW NATURAL NOT IN CON NUMBER NOMINAL NOT TO SC
O/ OA OBS OC OD OF OFCI OFCI OFF OPNG OPP OVHD	OVER OVERALL OBSCURE ON CENTEF OUTSIDE D OVERFLOW OWNER FU CONTRACT OCCUPANT OFFICE OPENING OPPOSITE OVERHEAD
PC P.C.F. PDA PERF PH PL P/L PLAM PLAS PLF PLYWD P.O.C. PR PROP PSF PSI PT PTDF PTDF PTN PTR PVC PVMT	PORTLAND POUNDS PE POWER DR PERFORAT PLATE HEIG PLATE PROPERTY PLASTIC LA PLASTER/ F POUNDS PE PLYWOOD POINT OF C PAIR PROPERTY POUNDS PE POUNDS PE
R R / RAD RD REF REFR REG REQD REINF RH RHMS RHWS RM RO RWL RWL RWD	RISER RADIUS ROOF DRAI REFERENC REFRIGERA REGULAR REQUIRED REINFORCE ROOF HATC ROUND HEA ROUND HEA ROUND HEA ROUGH OP RAIN WATE REDWOOD

GALVANIZED

LVANIZED AB BAR NERAL CONTRACTOR
LVANIZED IRON ASS/ GLAZING
JE LAMINATED BEAM OUND ADE
PSUM BOARD SE BIBB LLOW CORE
ADER RDWOOD RDWARE LLOW METAL
RIZONTAL EH POINT UR
LLOW STEEL SECTION GHT ATING ATING, VENTILATING,
-CONDITIONING IDE DIAMETER
ULATION ERIOR EGRAL ERMEDIATE ERT
ST HANGER ST NT
CHEN K PLATE
BORATORY MINATE /ATORY E LOAD W POINT
TERIAL
XIMUM CHINE BOLT DICINE CABINET CHANICAL DIUM
MBRANE NUFACTURER NHOLE IIMUM ROR
CELLANEOUS SONRY OPENING DULAR ISTURE RESISTANT
UNTED TAL LLION
RTH N
FURAL T IN CONTRACT MBER MINAL T TO SCALE
ER ERALL
SCURE CENTER TSIDE DIAMETER
ERFLOW NER FURNISHED/ NTRACTOR INSTALLED CUPANT LOAD FACTOR
FICE ENING POSITE ERHEAD
RTLAND CEMENT JNDS PER CUBIC FOOT WER DRIVEN ANCHOR
RFORATED ATE HEIGHT ATE OPERTY LINE
ASTIC LAMINATE ASTER/ PLASTIC JNDS PER LINEAL FOOT WOOD NT OF CONTACT
R DPERTY JNDS PER SQUARE FOOT
JNDS PER SQUARE INCH NT ESSURE TREATED UGLAS FIR
RTITION PER TOWEL RECEPTACLE LYVINYL CHLORIDE /EMENT

DRAIN RENCE GERATOR RED ORCED HATCH D HEAD MACHINE SCREW HEAD WOOD SCREW I OPENING VATER LEADER OOD

SEE ARCHITECTURAL DRAWINGS SEE AUDIOVIDEO DRAWINGS SOLID CORE SEE CIVIL DRAWINGS SCHEDULE STORM DRAIN SECTION SEE ELECTRICAL DRAWINGS SEPARATION SEE FIRE PROTECTION DRAWINGS SHEATHING SIMILAR SLIDING SEE LANDSCAPE DRAWINGS SHEET METAL SEE MECHANICAL DRAWING SHUT OFF VALVE SEE PLUMBING DRAWINGS SPECIFICATION SPEAKER SQUARE STAINLESS STEEL SEE STRUCTURAL DRAWINGS SEE THEATER DRAWINGS STATION STANDARD STEEL STORAGE STRUCTURAL SUSPENDED SYMMETRICAL TREAD TOP & BOTTOM TOP OF CURB TELEPHONE TERRAZZO **TONGUE & GROOVE** THICK THROUGH TOOL JOINT TOE NAIL TOP OF DECK TOP OF PLATE TOP OF ROOF TOP OF WALL TOP OF PAVEMENT TRANSOM TRANSPARENT TUBE STEEL TUBULAR TELEVISION TACKWALL TYPICAL UNFINISHED UNLESS OTHERWISE NOTED URINAL UTILITY VAPOR BARRIER VINYL COMPOSITION TILE VERTICAL VESTIBULE VERIFY IN FIELD VENT THROUGH ROOF VINYL WALL COVERING

SOUTH

S.A.D.

S.AV.D.

SC

S.C.D.

SD

SECT

S.E.D.

S.F.PD.

SHTG

S.L.D.

S.M.D.

SOV

S.P.D.

SPEC

SQ

SS

SPKR

S.S.D.

S.TH.D.

STA

STD

STL

STOR

STRUCT

SUSP

SYM

T&B

TEL

TER

T&G

ΤН

ΤJ

ΤN

T.O.D.

T.O.P.

T.O.R.

T.O.W.

T.P.

TS

ΤV

TUB

ΤW

TYP

UNF

UR

UTIL

VCT

VERT

VEST

V.I.F.

VTR

VWC

W

W/

WC

WD

WDW

WH

W/O

WP

W.P.

WR

WΤ

YD

WSCT

VB

U.O.N.

TRN

TRANS

THRU

TC

SIM

SL

SM

SEP

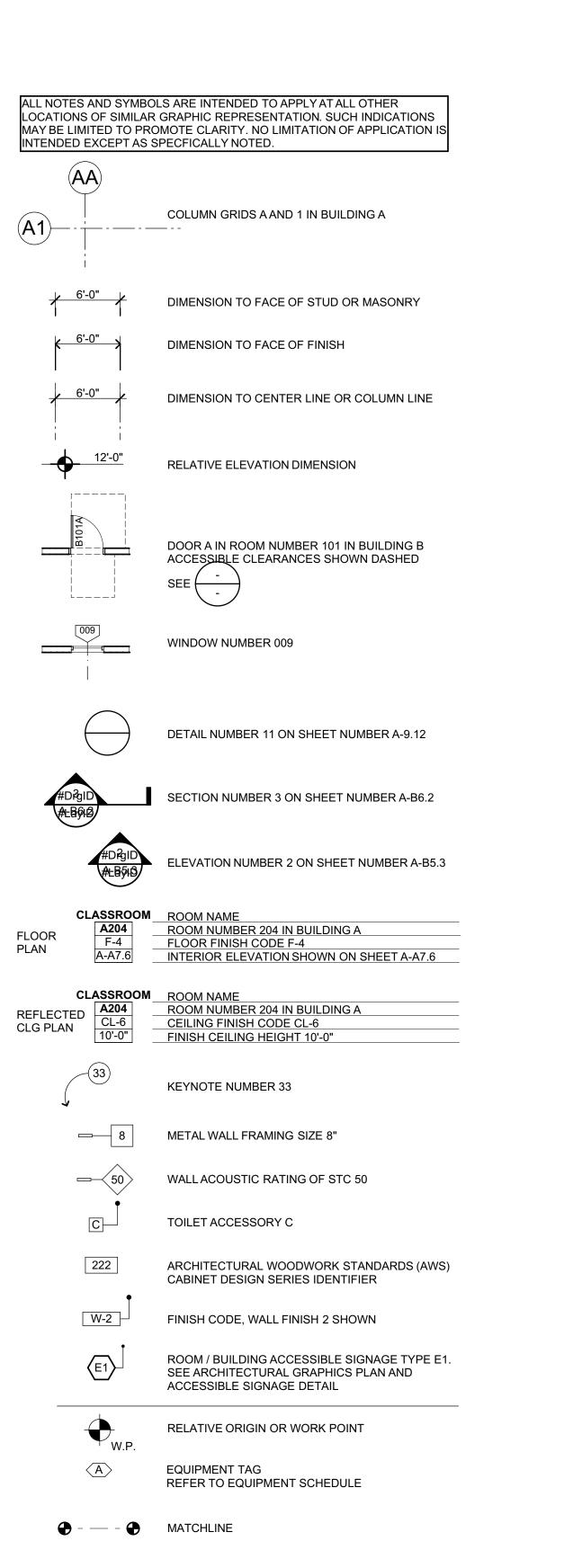
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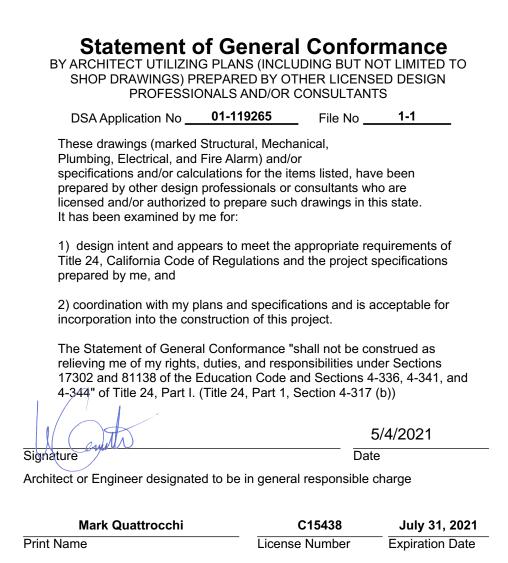
WEST WITH WATER CLOSET WOOD WATER HEATER WATER PROOF WORK POINT WATER RESISTANT WAINSCOT WEIGHT

WINDOW WITHOUT

YARD

LEGEND



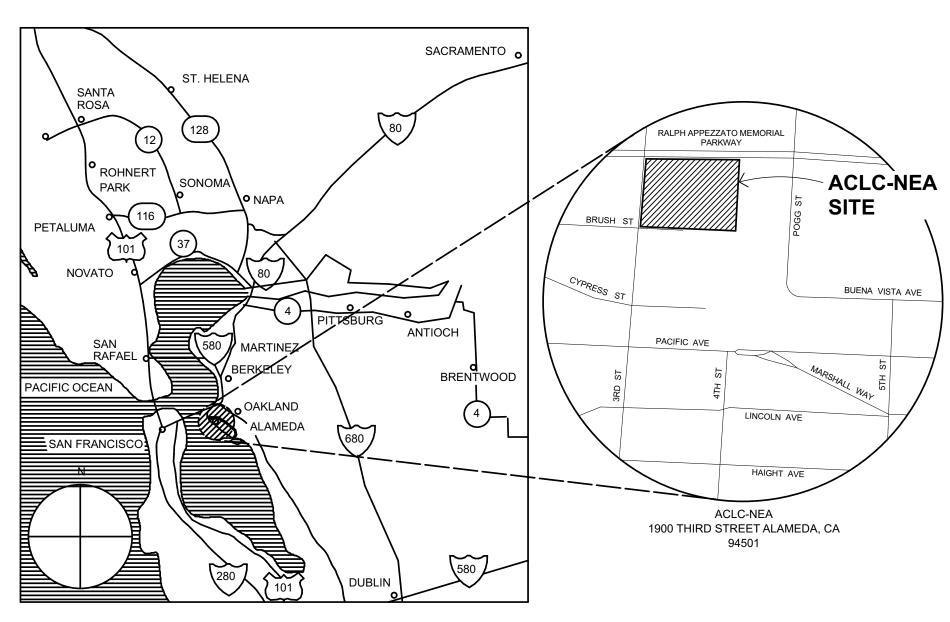


GE	ENERAL NOTES			
1.	ALL WORK IS SHOWN, DESCRIBED OR SPECIFIED IN THE DRAWINGS INDEXED ON THIS SPECIFICATIONS.	PAGE OR IN THE	57 SHEE GENERAL G-0.1	COVER SHEET
	ALL WORK NOT INDICATED AS EXISTING (E) IS NEW.		G-0.2	ABBREVIATIONS AND NOTES
2.	ALL FRAMING DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE.		SITE PLAN	8
	 DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS WHERE WORK INVOLVES FRAMING FOR WINDOWS, DOORS, 	OR CABINETS.	A-1.1	CAMPUS SITE PLAN
3	ONLY WORK SO NOTED IS NOT IN CONTRACT (N.I.C.) ALL N.I.C. ITEMS ARE NOT PART OF	F DSA APPROVAL	FLOOR PL	
4.	GOVERNING CODES: A COPY OF TITLE 24 PARTS 1-5 SHALL BE KEPT ON THE JOB AT ALL		A-2.0.1 A-2.0.2	DEMOLITION FLOOR PLAN - NORTH DEMOLITION FLOOR PLAN - SOUTH
	CALIFORNIA CODE OF REGULATIONS TITLE 24 BUILDING STANDARDS CODE: PART 1 2019 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR		A-2.0.2 A-2.1	FLOOR PLAN - NORTH
	PART 2 2019 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR		A-2.2	FLOOR PLAN - SOUTH
	(2018 INTERNATIONAL BUILDING CODE, VOL. 1 & 2, AND 2016 CALIFORNI/ PART 3 2019 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR	, ,	REFLECTE	D CEILING PLANS
	(2017 NATIONAL ELECTRICAL CODE AND 2016 CALIFORNIA AMENDMENTS PART 4 2019 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR	5)	A-3.0.1	DEMOLITION REFLECTED CEILING PLAN - NORTH
	(2018 IAPMO UNIFORM MECHANICAL CODE AND 2016 CALIFORNIA AMENI PART 5 2019 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR	DMENTS)	A-3.0.2 A-3.1	DEMOLITION REFLECTED CEILING PLAN - SOUTH REFLECTED CEILING PLAN - NORTH
	(2018 IAPMO UNIFORM PLUMBING CODE AND 2016 CALIFORNIA AMENDM	IENTS)	A-3.2	REFLECTED CEILING PLAN - SOUTH
	PART 6 2019 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 CCR PART 9 2019 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR		ROOF PLA	NS
	(2018 INTERNATIONAL FIRE CODE AND 2016 CALIFORNIA AMENDMENTS) PART 10 2019 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24	CCR	A-4.0.1	DEMOLITION ROOF PLAN - NORTH
	(2018 INTERNATIONAL EXISTING BUILDING CODE AND 2016 CALIFORNIA PART 11 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CAL-GREEN), P.		A-4.0.2 A-4.1	DEMOLITION ROOF PLAN - SOUTH ROOF PLAN - NORTH
	PART 12 2019 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 (TITLE 19 CCR, PUBLIC SAFETY CODE, STATE FIRE MARSHAL REGULATIONS		A-4.2	ROOF PLAN - SOUTH
	2010 ADA STANDARDS FOR ACCESSIBILITY DESIGN		ASSEMBLY	DETAILS
-	2016 ASME A17.1-16/CSA B44-16 SAFETY CODE FOR ELEVATORS AND ESCALATORS		A-9.1	DETAILS
5.	STANDARD AND GUIDES: NFPA 13 INSTALLATION OF FIRE SPRINKLER SYSTEMS (CA AMENDED)	2016 EDITION	STRUCTUR	AL
	NFPA 14 INSTALLATION OF STANDPIPE AND HOSE SYSTEMS NFPA 17 DRY CHEMICAL EXTINGUISHING SYSTEMS	2016 EDITION 2017 EDITION	S-0.1	GENERAL NOTES
	NFPA 17A WET CHEMICAL FIRE EXTINGUISHING SYSTEMS NFPA 20 INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION	2017 EDITION 2016	S-1.1 S-A2.1	TYPICAL DETAILS FOUNDATION PLAN - NORTH
	EDITION	2010	S-A2.2	FOUNDATION PLAN - SOUTH
	NFPA 24 STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES	2016 EDITION	S-A2.3 S-A2.4	ROOF FRAMING PLAN - NORTH
	NFPA 25 CALIFORNIA EDITION - TESTING, MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS	2013 EDITION		ROOF FRAMING PLAN - SOUTH
	NFPA 72NATIONAL FIRE ALARM AND SIGNALING CODE (CA AMENDED)NFPA 80STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES	2016 EDITION 2016 EDITION	MECHANIC MP1.1	AL & PLUMBING MECHANICAL & PLUMBING SCHEDULES & LEGENDS
	NFPA 110 EMERGENCY AND STANDBY POWER SYSTEMS NFPA 170 STANDARD FOR FIRE SAFETY AND EMERGENCY SYMBOLS	2016 EDITION 2018 EDITION	MPD2.1	MECHANICAL & PLUMBING DEMOLITION FLOOR PLAN NOR
	NFPA 2001 STANDARD ON CLEAN AGENT FIRE EXTINGUISHING SYSTEMS	2015	MPD2.2	MECHANICAL & PLUMBING DEMOLITION FLOOR PLAN SOU
	EDITION		MPD2.3 MPD3.1	MECHANICAL & PLUMBING BOILER ROOM DEMOLITION MECHANICAL & PLUMBING DEMOLITION ROOF PLAN NORT
	UL 300 STANDARD FOR FIRE TESTING OF FIRE EXTINGUISHING SYSTEMS FOR PROTECTION OF COMMERCIAL COOKING EQUIPMENT	2005 (R2010)	MPD3.2	MECHANICAL & PLUMBING DEMOLITION ROOF PLAN SOUT
	UL 464 AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND SIGNALING SYSTEMS, INCLUDING ACCESSORIES	2003 EDITION	MP2.0	FURNACE SECTIONS
	UL 521 STANDARD FOR HEAT DETECTORS FOR FIRE PROTECTIVE		MP2.0A MP2.1	ALT FURNACE SECTIONS MECHANICAL & PLUMBING FIRST FLOOR PLAN NORTH
	SIGNALING SYSTEMS UL 1971 STANDARD FOR SIGNALING DEVICES FOR THE HEARING IMPAIRED	1999 EDITION 2002 EDITION	MP2.1A	ALT -MECHANICAL & PLUMBING FIRST FLOOR PLAN NORTH
	UL 2034 STANDARD FOR SINGLE AND MULTIPLE CARBON MONOXIDE ALARMS	2017 EDITION	MP2.2	MECHANICAL & PLUMBING FIRST FLOOR PLAN SOUTH
	ICC 300 STANDARD FOR BLEACHERS, FOLDING AND TELESCOPIC SEATING, AND GRANDSTANDS	2017 EDITION	MP2.2A MP3.1	ALT MECHANICAL & PLUMBING FIRST FLOOR PLAN SOUTH MECHANICAL & PLUMBING ROOF PLAN NORTH
6.	IN ACCORDANCE WITH TITLE 24 PART 1 CHAPTER 4: THE ADMINISTRATIVE REGULATION		MP3.2	MECHANICAL & PLUMBING ROOF PLAN SOUTH
0.	THE STATE ARCHITECT STRUCTURAL SAFETY (DSA/SS)		MP4.1 MP4.2	MECHANICAL & PLUMBING DETAILS MECHANICAL & PLUMBING DETAILS
	 •4-331 DSA SHALL BE NOTIFIED AT THE START OF CONSTRUCTION. •4-332 WHEN CONSTRUCTION IS SUSPENDED FOR MORE THAN ONE MONTH, THE PROVIDED FOR MORE THAN ONE MONTH, THE PROVIDED FOR MORE THAN ONE MONTH. 	JECT INSPECTOR SHALL	MP4.2 MP5.1	CONTROL DIAGRAMS
	INFORM DSA. •4-333(a) OBSERVATION OF THE WORK SHALL BE BY ARCHITECT OR REGISTERED ENG	BINEER.	MP5.2	CONTROL DIAGRAMS
	 •4-333(b) THE DISTRICT MUST PROVIDE AND PAY FOR PROJECT INSPECTOR. •4-334 SUPERVISION OF CONSTRUCTION BY DSA SHALL BE IN ACCORDANCE WITH THI 	S SECTION.	ELECTRICA	L
	•4-335 STRUCTURAL TESTS AND INSPECTION ARE REQUIRED IN ACCORDANCE WITH TH MATERIALS AND TESTING LAB SHALL BE IN ACCORDANCE WITH SECTION 4-335 AND TH	HIS SECTION. TESTS OF	E-0.1	SYMBOLS LIST, GENERAL NOTES & LIST OF DRAWINGS
	EMPLOY AND PAY THE LAB. COSTS OF RE-TEST MAY BE BACKCHARGED TO THE CONTR	RACTOR. ALL TESTS	E-3.1 E-3.2	FLOOR PLAN NORTH - ELECTRICAL FLOOR PLAN SOUTH - ELECTRICAL
	 SHALL CONFORM TO THE REQUIREMENTS OF SECTION 4-335 AND APPROVED T & I SHE •4-336 VERIFIED REPORTS SHALL BE SUBMITTED BY CONTRACTORS (DSA 006-C), INSP 	PECTORS (DŚA 006-PI),	E-6.1	SCHEDULES
	ARCHITECTS AND ENGINEERS (DSA 006-AE) IN ACCORDANCE WITH SECTIONS 4-336 AN •4-337 SEMI-MONTHLY REPORTS SHALL BE SUBMITTED BY INSPECTORS (DSA - 155), IN		FE-0.1 FE-3.1	FIRE ALARM EQUIPMENT LIST, NOTES & DETAILS FLOOR PLAN NORTH - FIRE ALARM
	SECTIONS 4-337. •4-338 WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE APPROVED PLANS, ADD		FE-3.1 FE-3.2	FLOOR PLAN NORTH - FIRE ALARM FLOOR PLAN SOUTH - FIRE ALARM
	CONSTRUCTION DOCUMENTS. CHANGES IN THE APPROVED PLANS AND SPECIFICATION	NS SHALL BE MADE BY	FE-5.1	RISER DIAGRAM AND CALCULATIONS - FIRE ALARM
	ADDENDA OR CONSTRUCTION CHANGE DOCUMENTS STAMPED AND SIGNED BY THE AF REGISTERED ENGINEER IN CHARGE. ADDENDA AND CHANGE DOCUMENTS SHALL BE S		TITLE 24	
	 APPROVED BY DSA PRIOR TO COMMENCEMENT OF WORK. 4-341(a) THE ARCHITECT AND THE REGISTERED ENGINEER SHALL PERFORM THEIR D 	UTIES IN ACCORDANCE	T-1.1	TITLE 24 - BUILDING A
	WITH SECTIONS 4-333(a) AND 4-341. • 4-341(d) INSPECTOR SHALL BE APPROVED BY DSA.		T-1.2 T-1.3	TITLE 24 - BUILDING A TITLE 24 - BUILDING B
	 4-342 INSPECTION SHALL BE IN ACCORDANCE WITH SECTION 4-333 THE DUTY OF TH IN ACCORDANCE WITH THIS SECTION. 	IE INSPECTOR SHALL BE	T-1.4	TITLE 24 - BUILDING C
	•.4-343 THE CONTRACTOR SHALL PERFORM HIS DUTIES IN ACCORDANCE WITH THIS SE	ECTION.	T-1.5	TITLE 24 - BUILDING D
7.	THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF ALTERATI	,	T-1.6 T-1.7	TITLE 24 - BUILDING F TITLE 24 - BUILDING G
	RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, C.C.R. SHOULD ANY EXIST DISCOVERED WHICH ARE NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN TH		T-1.8	TITLE 24 - BUILDING H
	NOT COMPLY WITH SAID TITLE 24 C.C.R. A CONSTRUCTION CHANGE DOCUMENT DETAIL THE REQUIRED REPAIR WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFO		T-1.9	TITLE 24 - BUILDING I
	THE REPAIR WORK. (TITLE 24 PART 1, SECTION 4-338(c))			
8.	COMPLIANCE WITH CFC CHAPTER 33, FIRE SAFETY DURING CONSTRUCTION AND DEM CHAPTER 33, SAFETY DURING CONSTRUCTION SHALL BE ENFORCED.	OLITION AND CBC		
9.	EMERGENCY VEHICLE ACCESS ROADS AND ON-SITE FIRE HYDRANTS SHALL BE IN SER PRIOR TO LOADING THE SITE WITH COMBUSTIBLE MATERIALS.	VICE AND OPERABLE		
10.	GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS, AN	ID ENVIRONMENTAL		

VICINITY MAP

KEPT ON SITE.

11.



BUILDING CODE ANALYSIS

CODE CYCLE	BUILDING	OCCUPANCY		BASIC ALLOWABLE AREA (square feet)	ACTUAL AREA (square feet)	MAX STORIES	ACTUAL STORIES
EXISTING BUILDINGS BELOW HAVE NO CHANGE IN USE, BUILDING SQUARE FOOTAGE, OCCUPANCY CLASSIFICATION, TYPE OF CONSTRUCTION, BUILDING AREA OR NUMBER OF STORIES. BUILDINGS BELOW MAINTAIN THEIR PREVIOUSLY APPROVED BUILDING CODE ANALYSIS.							
1998 CBC	А	В	V-N	8,000 SF	5,200 SF	ONE	ONE
1998 CBC	В	E-1	V-N	9,100 SF	2,970 SF	ONE	ONE
1998 CBC	С	A-3	V-1	6,000 SF	4,000 SF	ONE	ONE
1998 CBC	D	E-1	V-N	9,100 SF	1,690 SF	ONE	ONE
1998 CBC	E	E-1	V-N	9,100 SF	685 SF	ONE	ONE
1998 CBC	F	E-1	V-N	9,100 SF	4,353 SF	ONE	ONE
1998 CBC	G	E-1	V-N	9,100 SF	4,353 SF	ONE	ONE
1998 CBC	Н	E-1	V-N	9,100 SF	4,353 SF	ONE	ONE
1998 CBC	I	E-1	V-N	9,100 SF	6,384 SF	ONE	ONE

GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS, AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH APPLICABLE LOCAL ORDINANCES.

OPM DOCUMENT #OPM-0043-13 MUST BE KEPT AT SITE DURING CONSTRUCTION. TITLE 24 PARTS 1 AND 2 TO BE

Z101003.2019

2) REPLACE EXISTING MECHANICAL UNITS AT EXISTING ADMINISTRATION (BUILDING A), 6 CLASSROOM BUILDINGS (BUILDINGS B, D, F, G, H AND I), AND MULTI-USE BUILDING C.

PROJECT DESCRIPTON

1) SHEAR WALL ALTERATION AT BUILDING A.

DEFERRED APPROVALS

NONE

ALTERNATES

DEDUCT ALTERNATE: PROVIDE LOUVERED SUPPLY AT MECHANICAL UNIT IN LIEU OF MECHANICAL DUCTS AT CLASSROOMS, SEE MECHANICAL DRAWINGS. NO CHANGE IN STRUCTURAL DRAWINGS.



ABBREVIATIONS

AND NOTES

SHEET TITLE

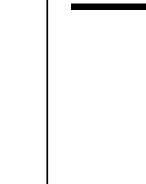
DSA APP NO. 01-119265 ARCH PROJECT NO: 1893.00 DRAWN BY: HM DRAWING SCALE: N.T.S. PTN: 61119-119 FILE NO: 1-1 CD MAY 05, 2021

ALAMEDA UNIFIED SCHOOL DISTRICT

1900 THIRD STREET ALAMEDA, CA 94501



ACLC-NEA



QUATTROCCHI KWOK ARCHITECTS Main: 636 Fifth Street, Santa Rosa, CA 95404 East Bay: 55 Harrison Street, Suite 525, Oakland, CA 94607 (707) 576-0829 INSED ARCH MARK QUATTROCCHI LICENSE # C15438 EXP JUL 31, 2 SIGNED: MAY 05, 2021

NORTH SOUTH ORTH DUTH

RTH

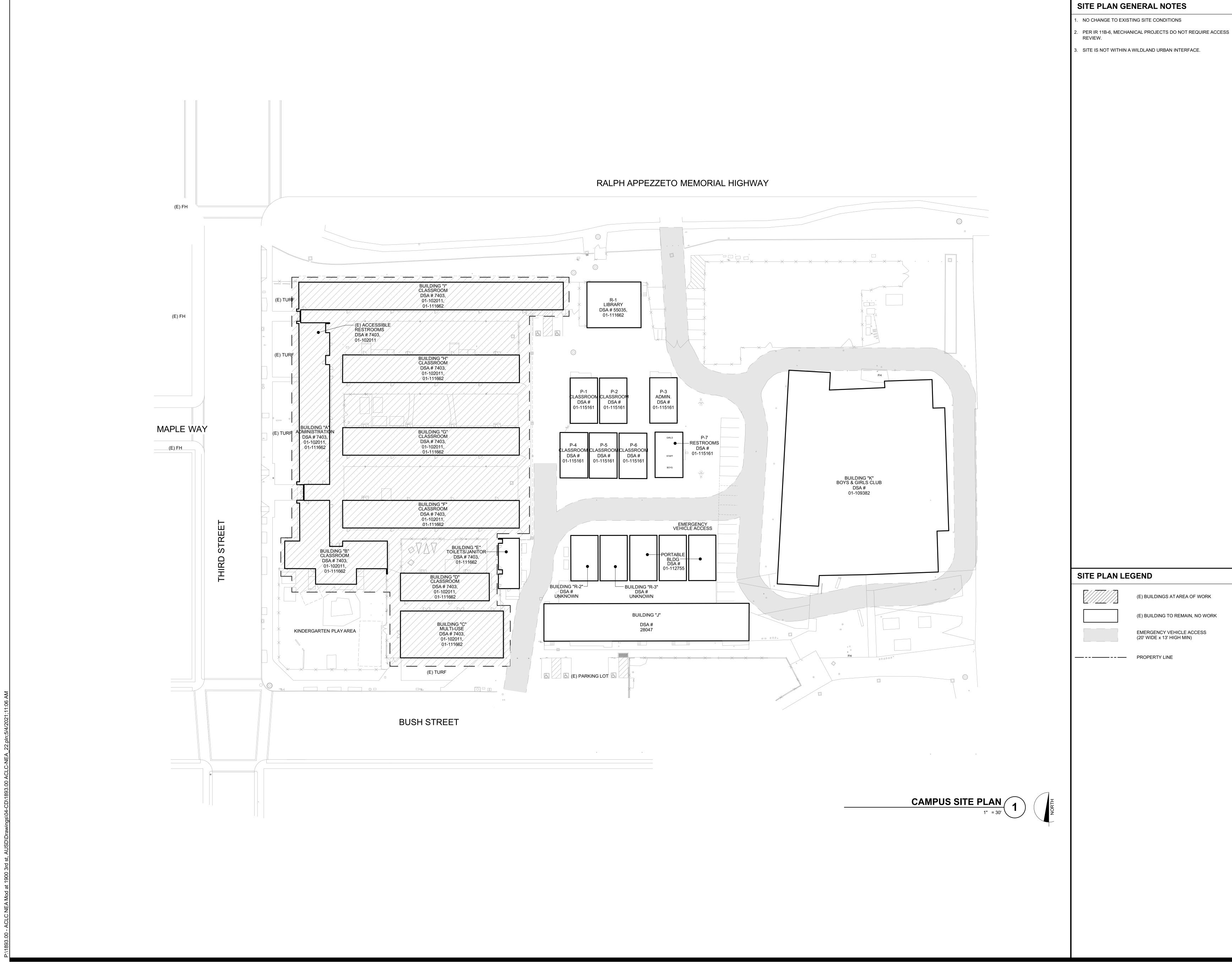
JTH

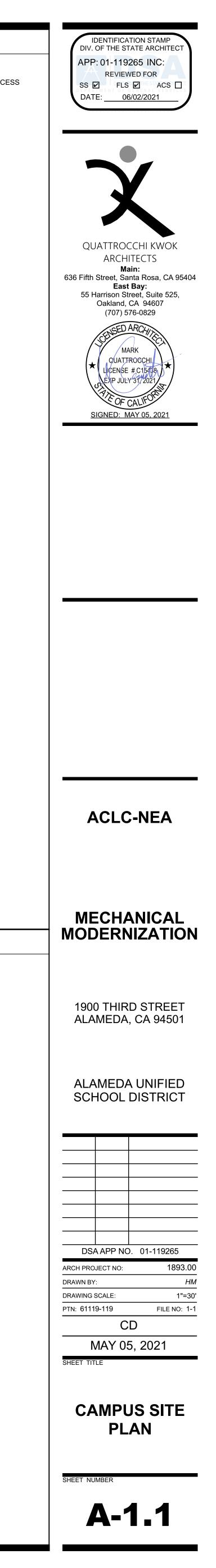
DATE: 06/02/2021

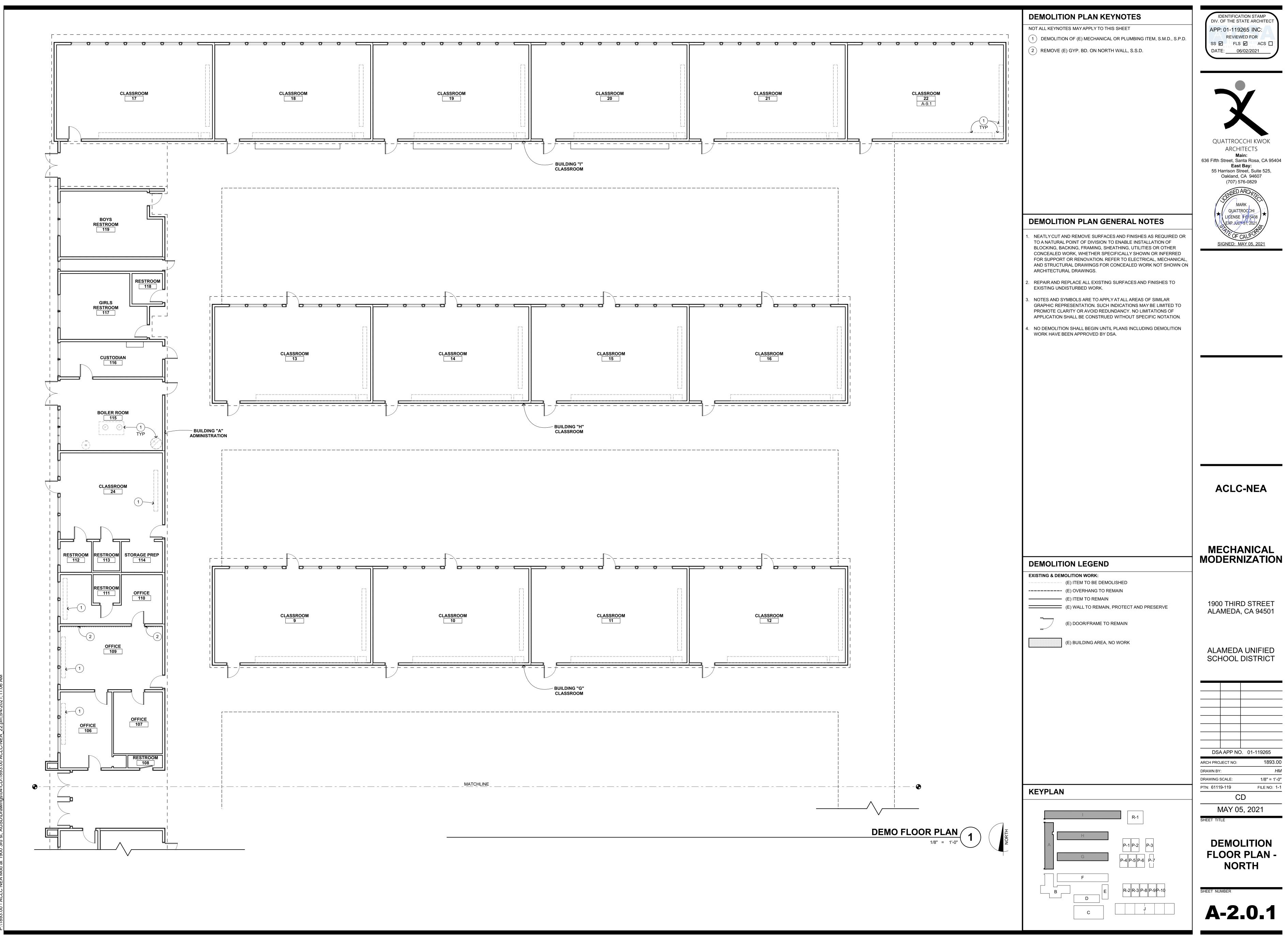
APP: 01-119265 INC: REVIEWED FOR SS 🗹 FLS 🗹 ACS 🗌

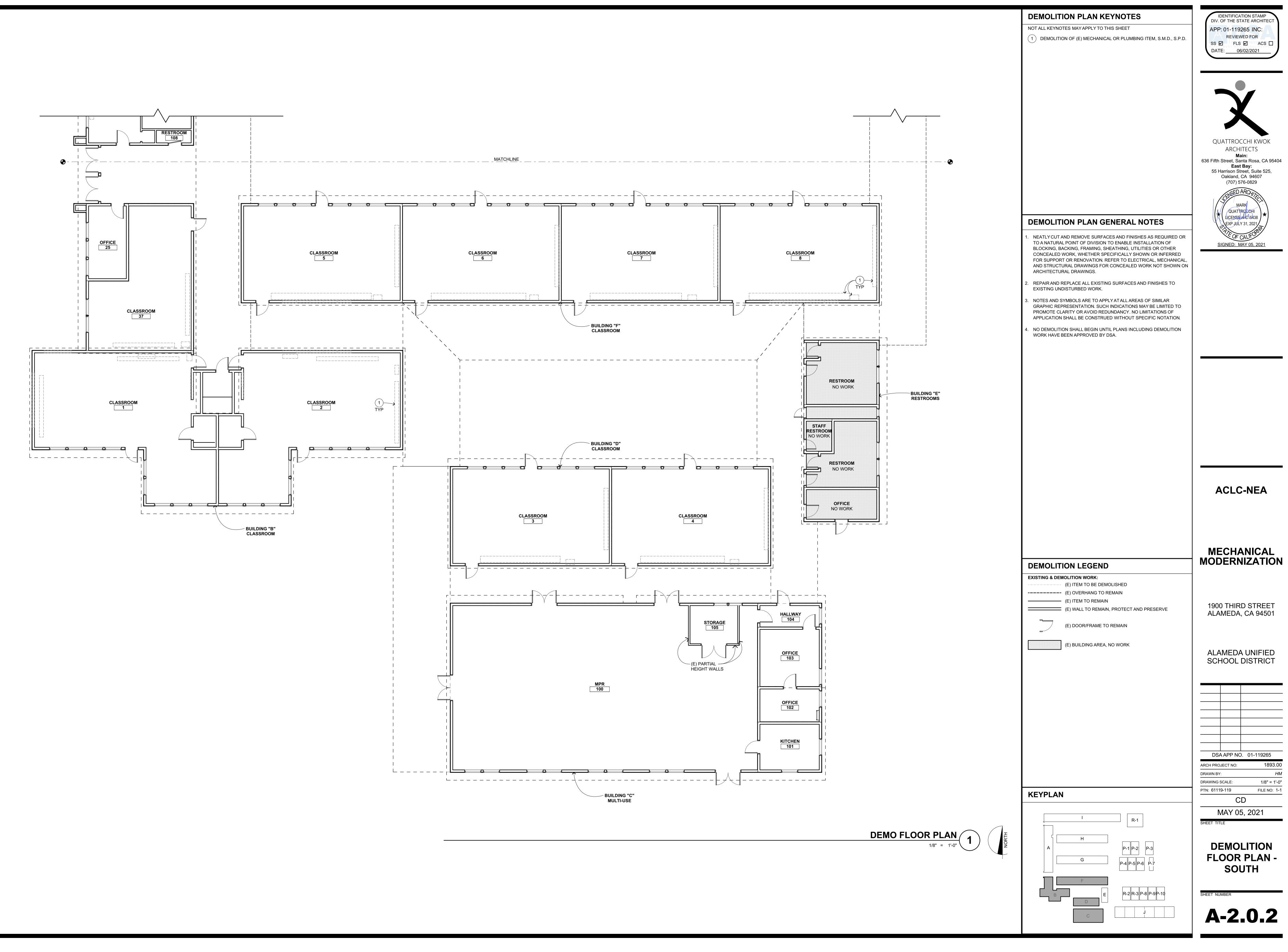
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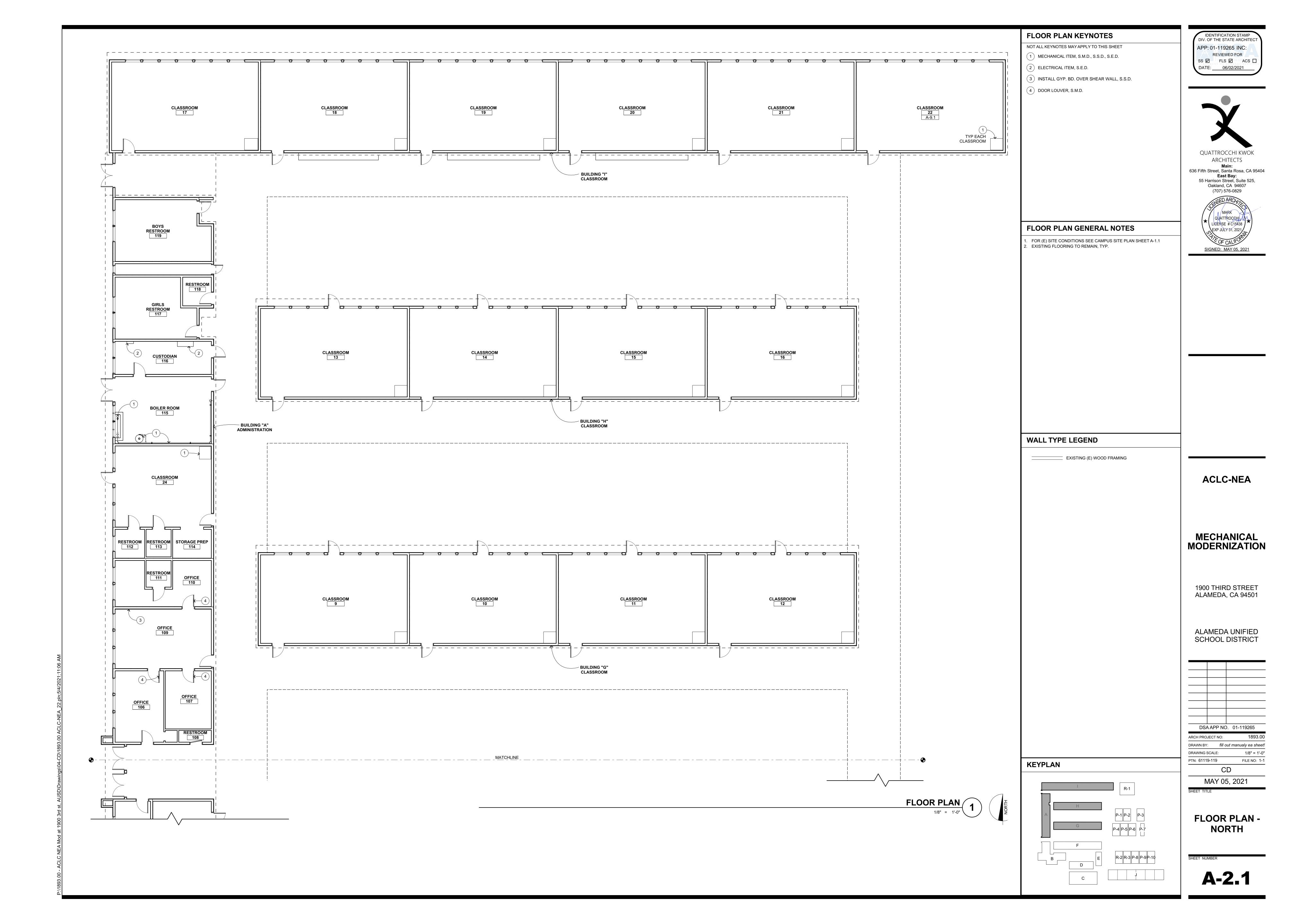
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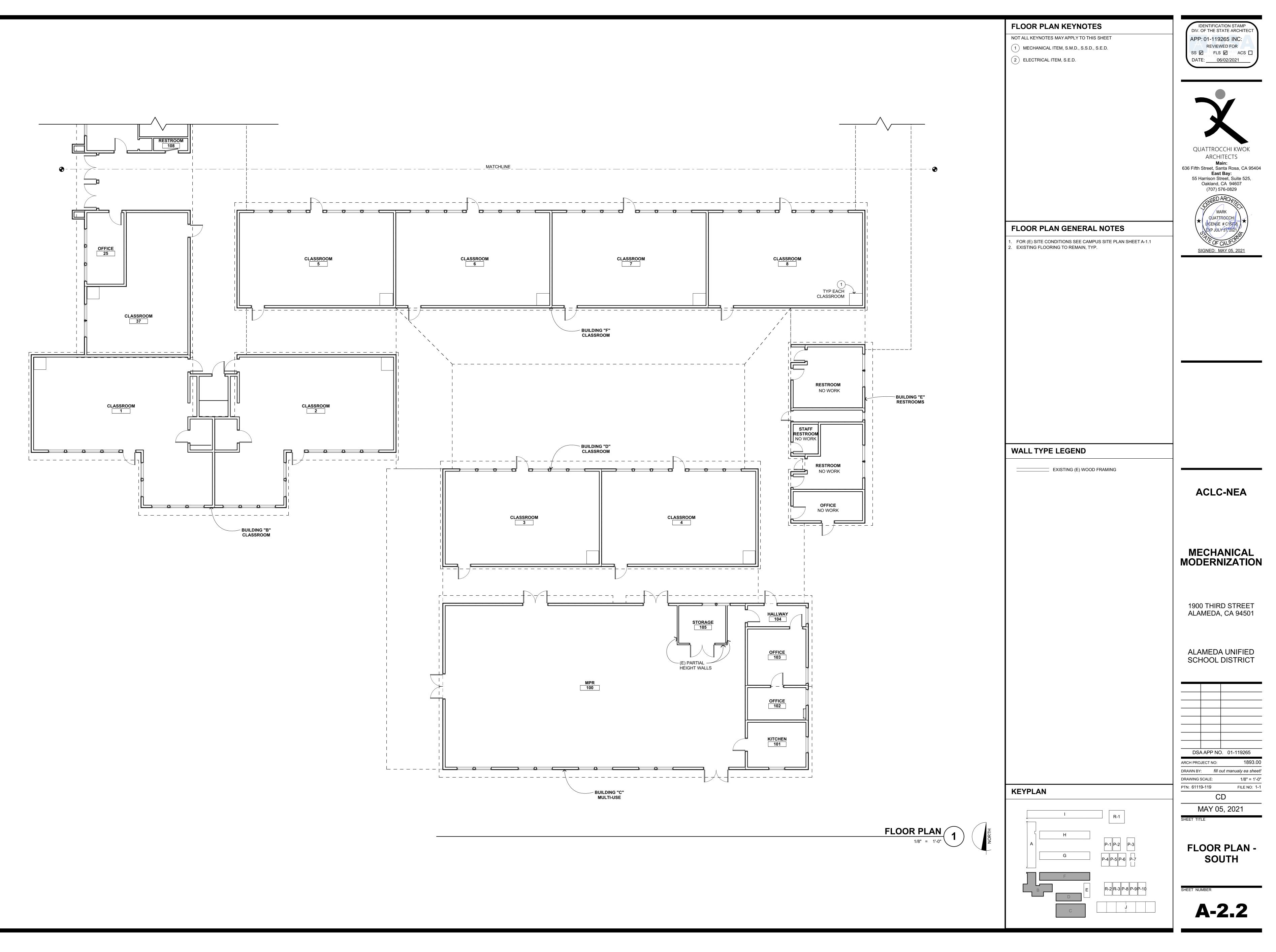


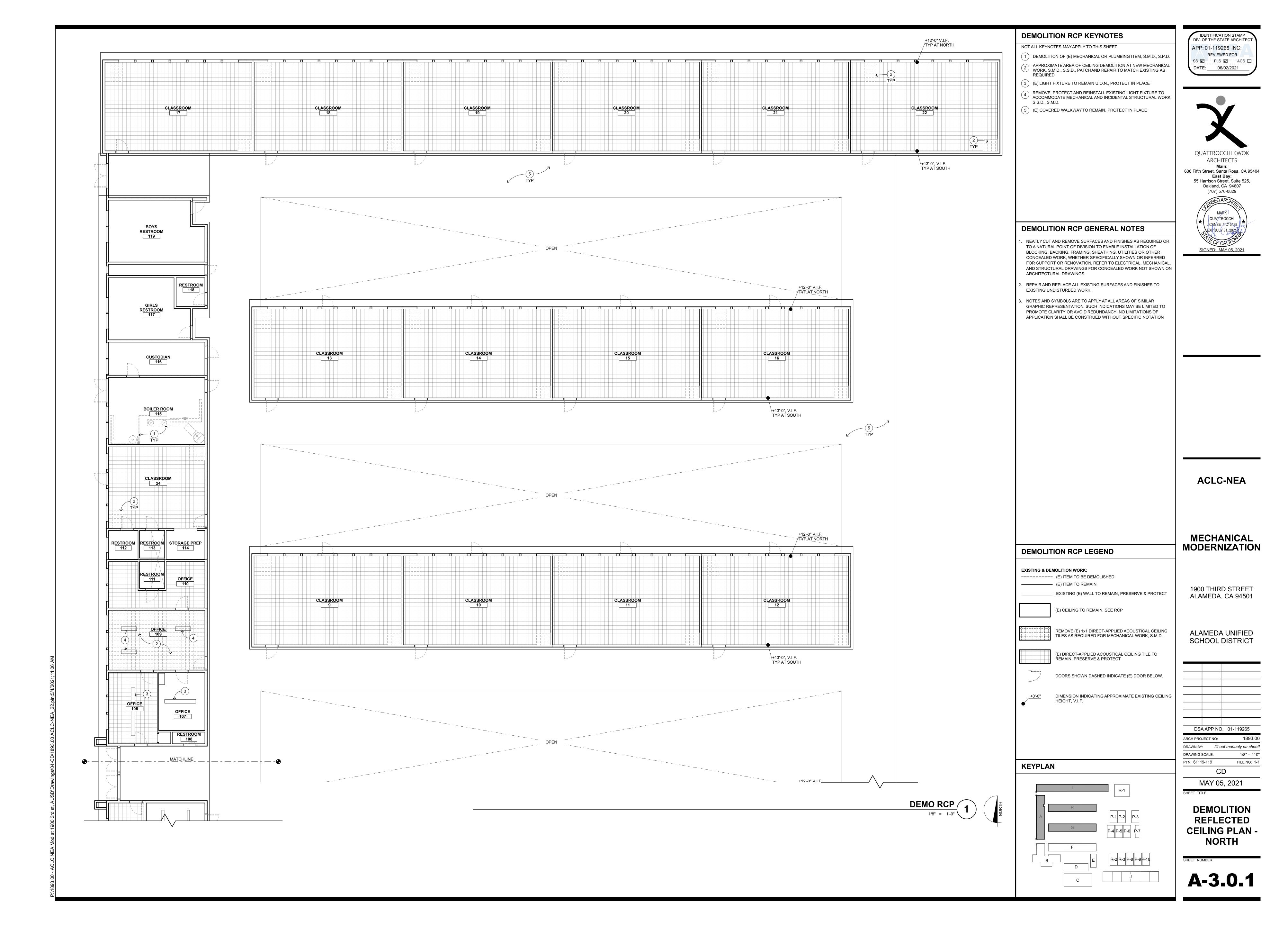


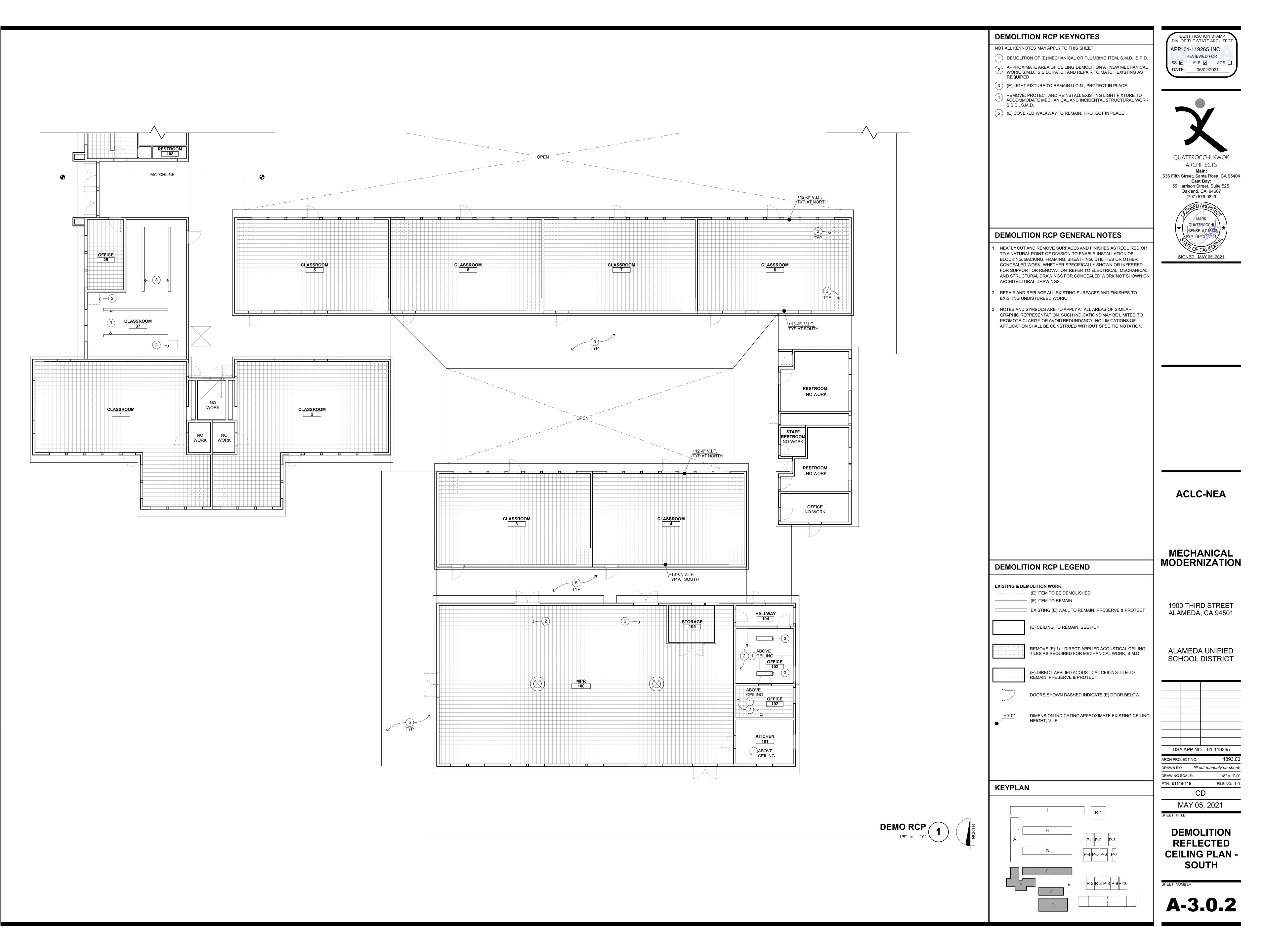


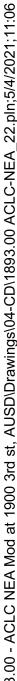


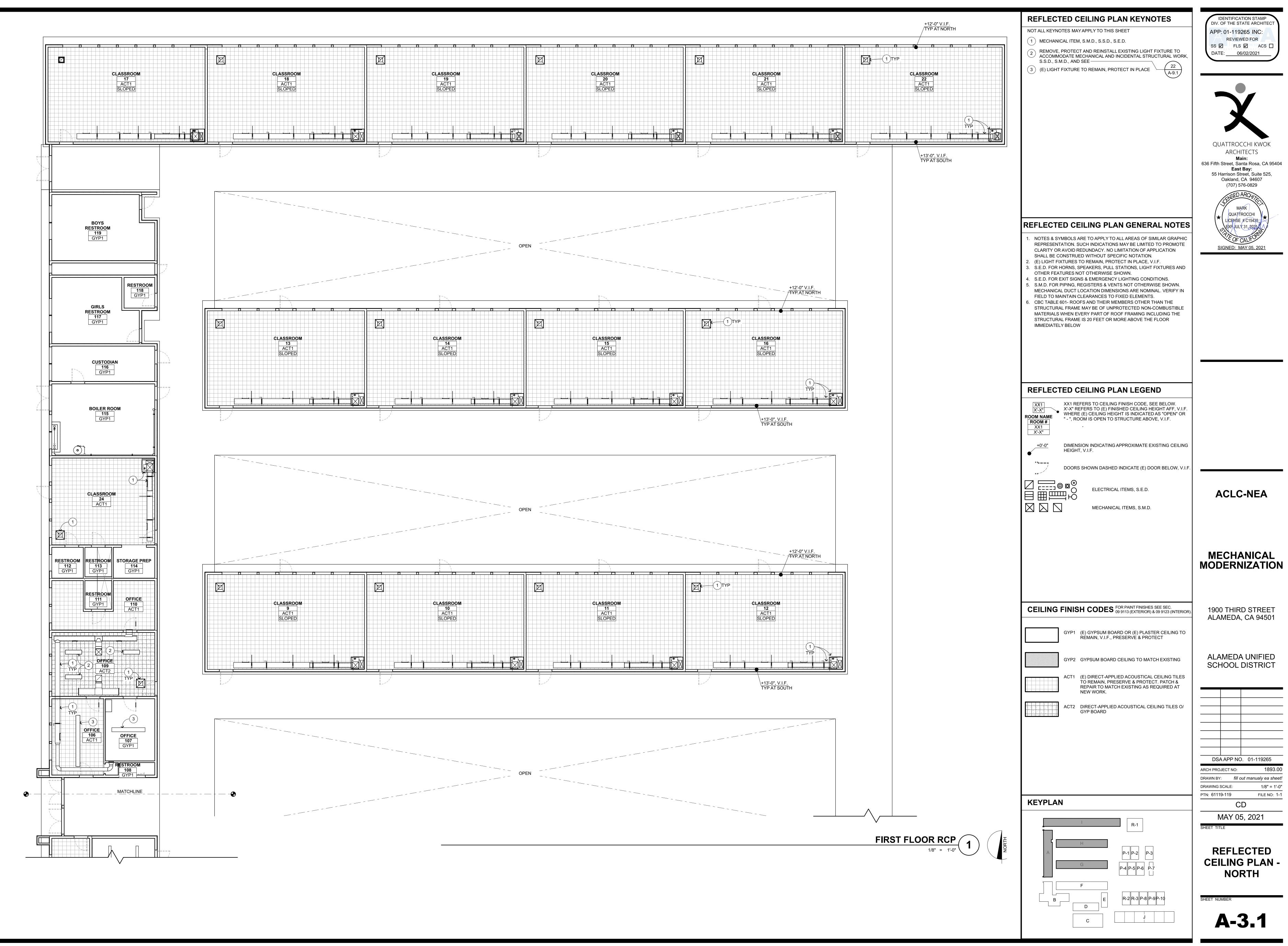


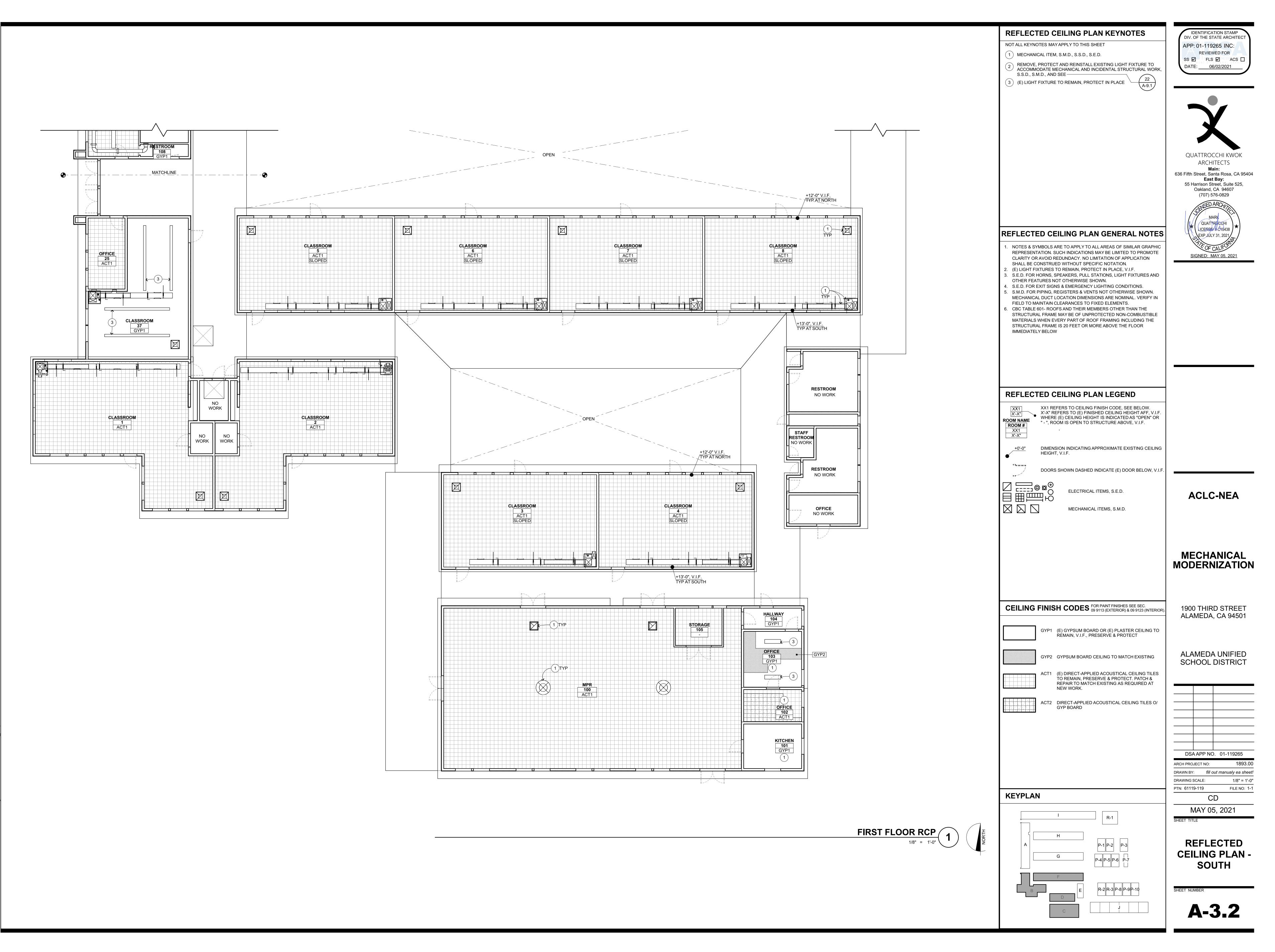


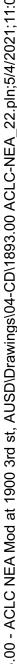


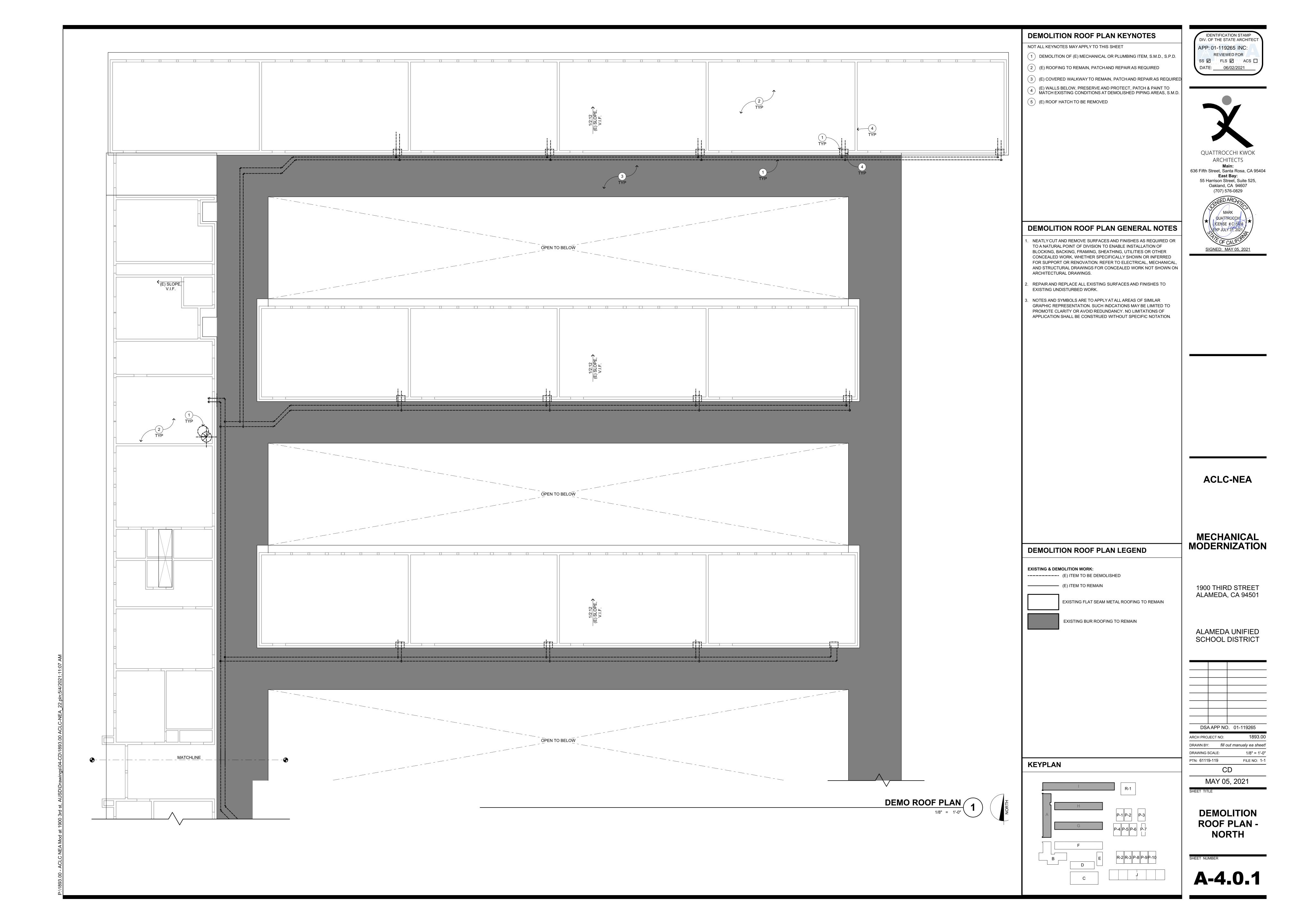


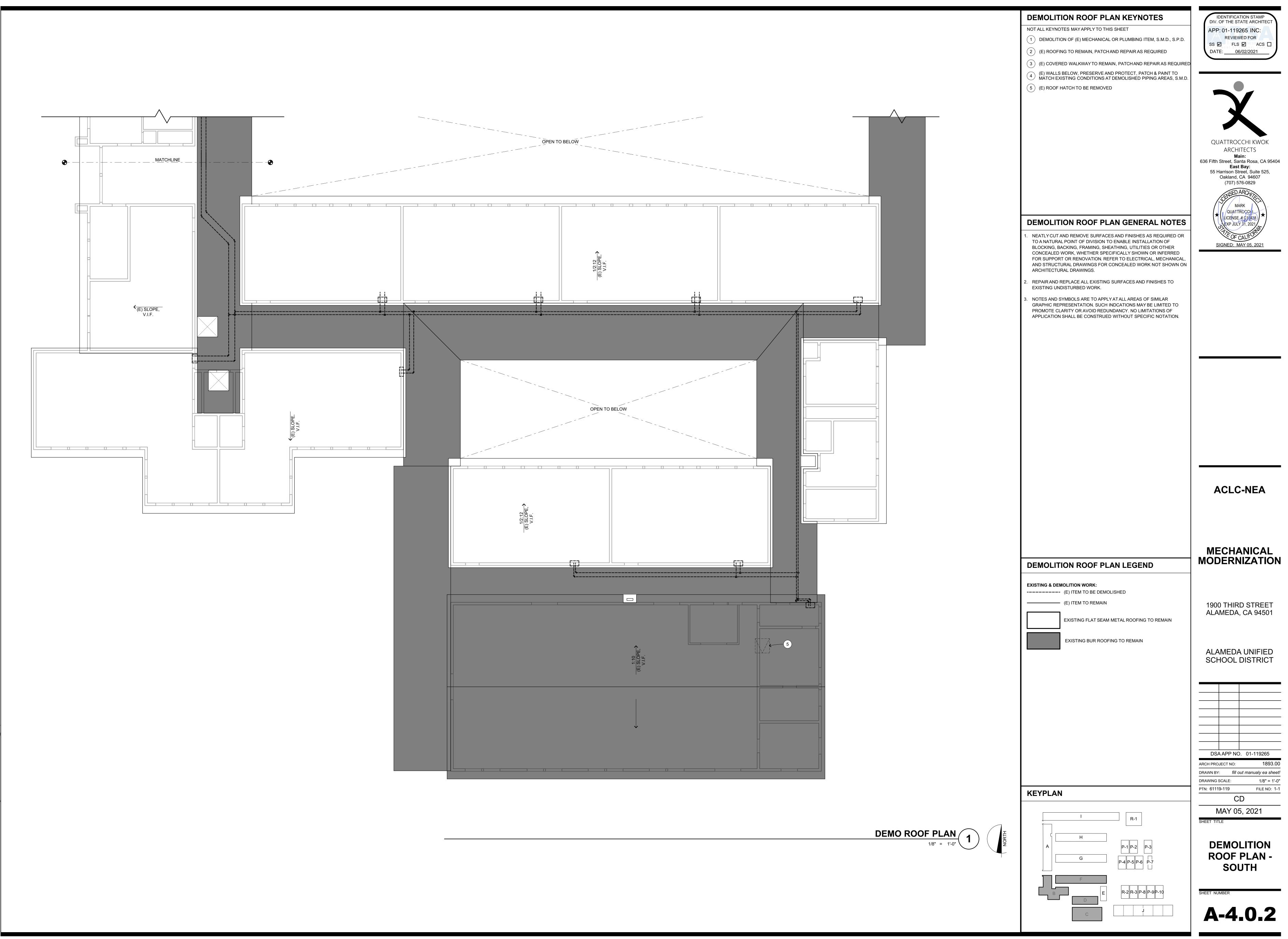




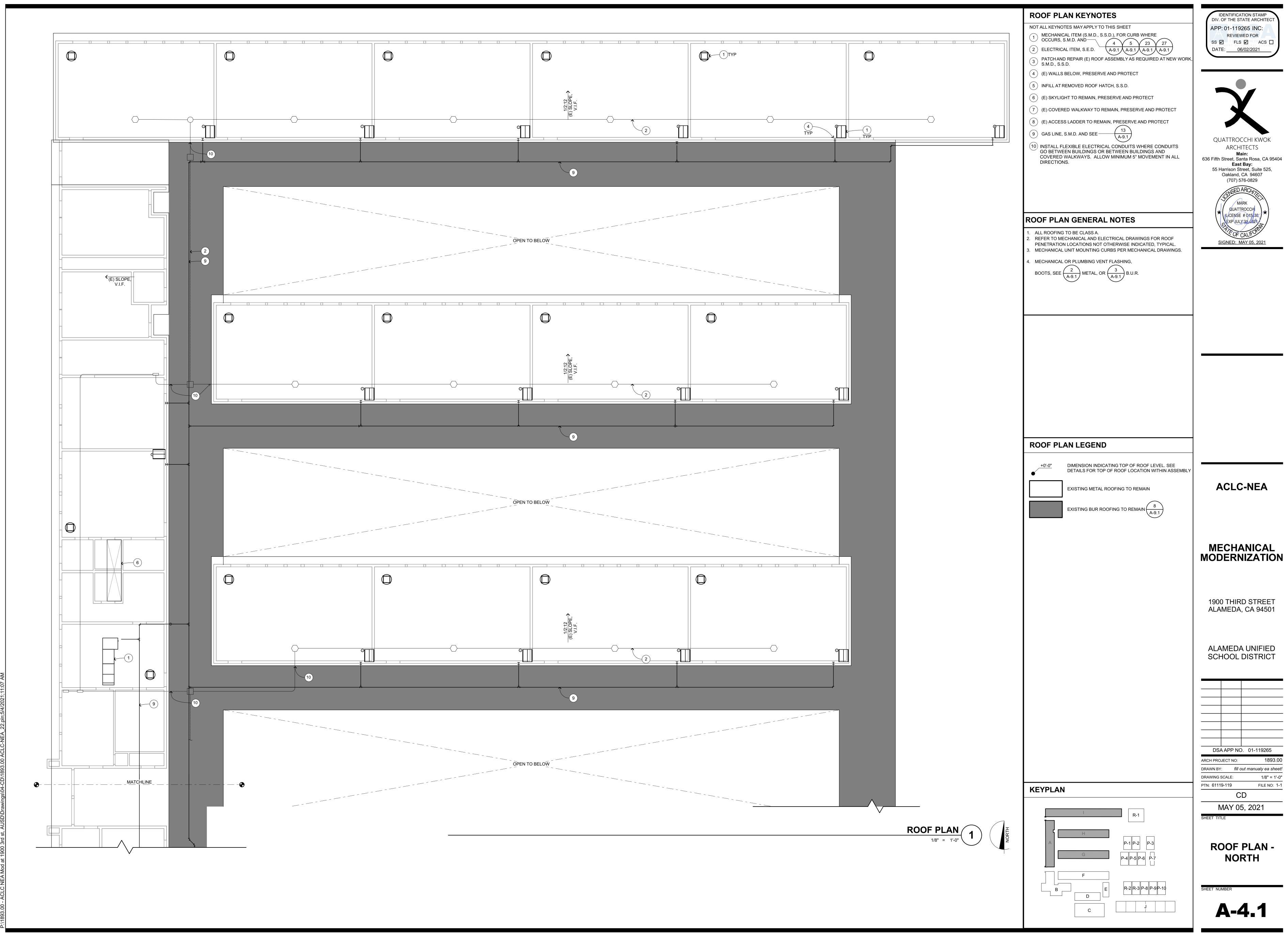


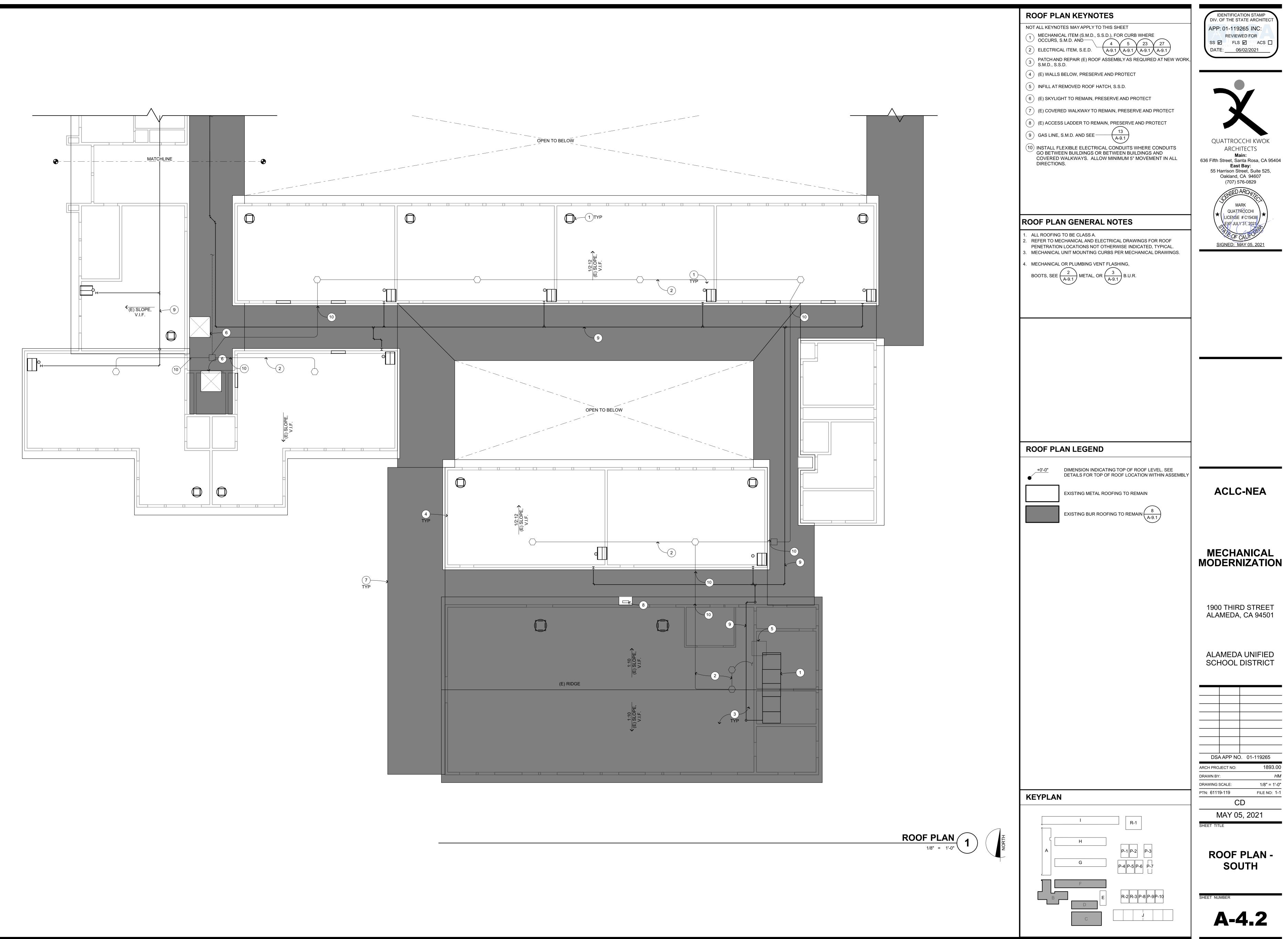


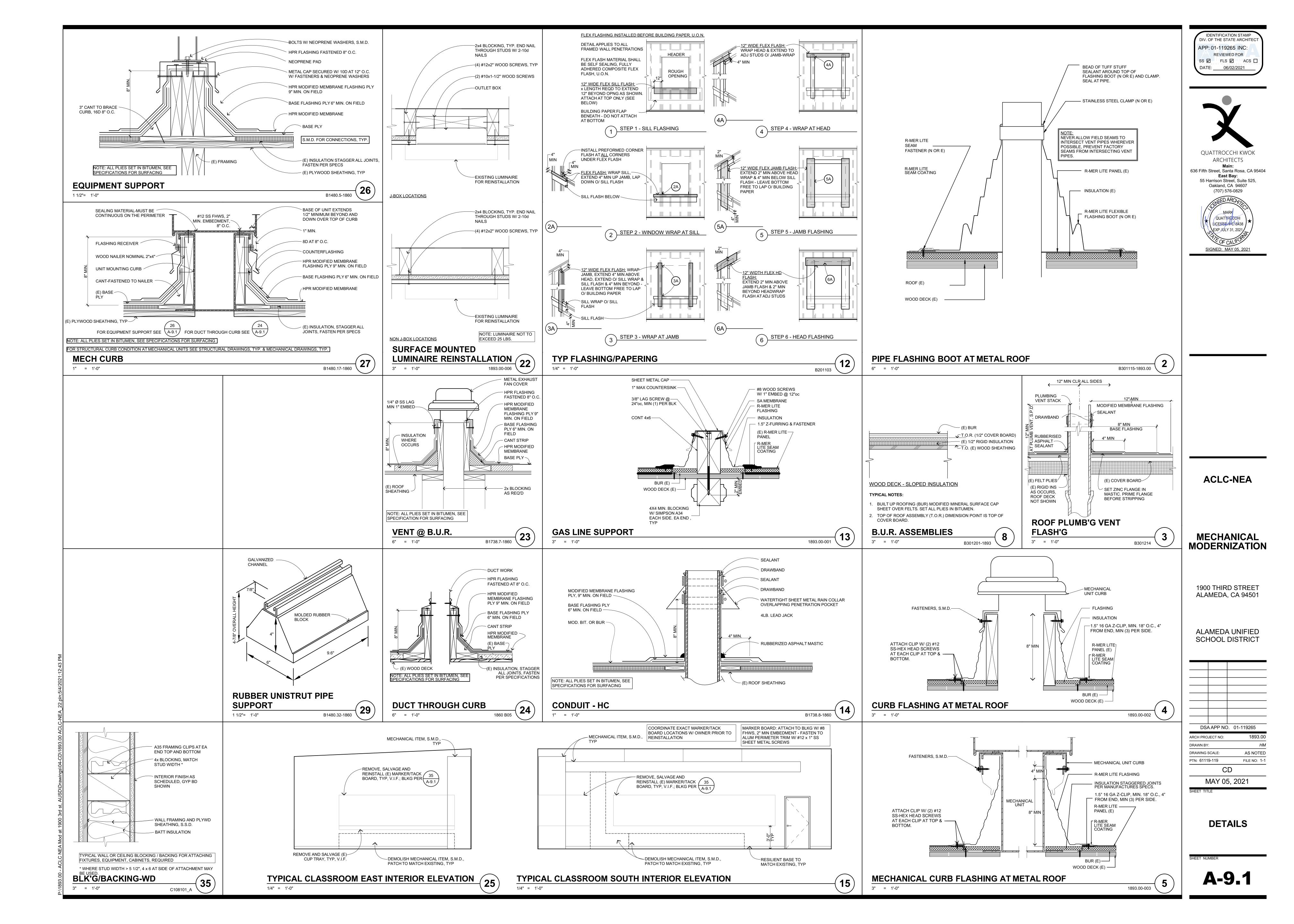




3.00 - ACLC NEA Mod at 1900 3rd st, AUSD\Drawings\04-CD\1893.00 ACLC-NEA_22.pln;5/4/2021;11:C







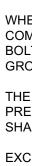


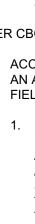
FASTENERS:

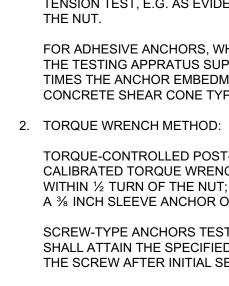
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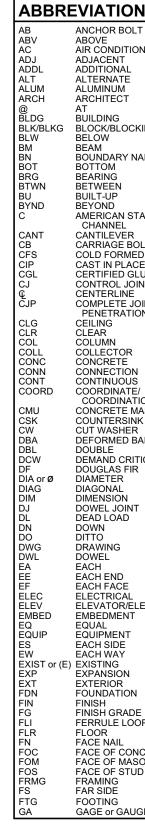
4x F 2x JO SPECIFICATIONS.











🔿 MATERIAL DATA

(INFORMATION SHOWN IS FOR STRUCTURAL DESIGN REFERENCE ONLY. SEE THE PROJECT SPECIFICATIONS FOR ALL MATERIAL SPECIFICATIONS.)

ANGLES, CHANNELS, AND PLATES - ASTM A36 (Fy = 36,000 PSI)

MACHINE BOLTS SHALL BE ASTM A307 GRADE A ANCHOR RODS SHALL BE ASTM F1554 GR 36 UNO ARC-WELDING ELECTRODES SHALL BE E70

WOOD BASE DESIGN STRESSES (UNO):

	SAWN LUMBER MEMBER	SPECIES AND MINIMUM GRADE, UNO	F _b (PSI)	F_{v} (PSI)	E (PSI)	
	6x POSTS	DOUGLAS FIR - #1	1200	170	1.6x10 ⁶	
	6x BEAMS	DOUGLAS FIR - #1	1350	170	1.6x10 ⁶	
	4x POSTS & BEAMS	DOUGLAS FIR - #1	1000	180	1.7x10 ⁶	
	2x JOISTS, RAFTERS	DOUGLAS FIR - #1	1000	180	1.7x10 ⁶	
		DOUGLAS FIR - #1	1000	180	1.7x10 ⁶	
	2x STUDS	DOUGLAS FIR - #1	1000	180	1.7x10 ⁶	
	DIAG SHTG	DOUGLAS FIR - #1	1000	180	1.7x10 ⁶	
FOF	OR METAL CONNECTOR DESIGNATION REFER TO SIMPSON STRONG-TIE PER					

POST-INSTALLED ANCHORAGE TESTING NOTES

1. TEST POST-INSTALLED ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5.

PER CBC SECTION 1910A.5.3 TEST FREQUENCY,

- WHEN POST-INSTALLED ANCHORS ARE USED FOR STURCTURAL APPLICATIONS, ALL SUCH ANCHORS SHALL BE TESTED.
- WHEN POST-INSTALLED ANCHORS ARE USED FOR NONSTRUCTURAL COMPONENTS, SUCH AS EQUIPMENT ANCHORAGE, 50 PERCENT OF ALTERNATE BOLTS IN A GROUP, INCLUDING AT LEAST ONE-HALF THE ANCHORS IN EACH GROUP, SHALL BE TESTED.
- THE TESTING OF THE POST-INSTALLED ANCHORS SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO THE ENFORCEMENT AGENCY.

EXCEPTIONS:

1. UNDERCUT ANCHORS THAT ALLOW VISUAL CONFIRMATION OF FULL SET SHALL NOT REQUIRE TESTING.

PER CBC SECTION 1910A.5.5 TEST ACCEPTANCE CRITERIA,

ACCEPTANCE CRITERIA FOR POST-INSTALLED ANCHORS SHALL BE BASED ON AN APPROVED EVALUATION REPORT USING CRITERIA ADOPTED IN THIS CODE. FIELD TESTS SHALL SATISFY THE FOLLOWING MINIMUM REQUIREMENTS.

1. HYDRAULIC RAM METHOD:

ANCHORS TESTED WITH A HYDRAULIC JACK OR SPRING LOADED APPARATUS SHALL MAINTAIN THE TEST LOAD FOR A MINIMUM OF 15 SECONDS AND SHALL EXHIBIT NO DISCERNIBLE MOVEMENT DURING THE TENSION TEST, E.G. AS EVIDENCED BY LOOSENING OF THE WASHER UNDER THE NUT.

FOR ADHESIVE ANCHORS, WHERE OTHER THAN BOND IS BEING TESTED, THE TESTING APPRATUS SUPPORT SHALL NOT BE LOCATED WITHIN 1.5 TIMES THE ANCHOR EMBEDMENT DEPTH TO AVOID RESTRICTING THE CONCRETE SHEAR CONE TYPE FAILURE MECHANISM FROM OCCURRING.

TORQUE-CONTROLLED POST-INSTALLED ANCHORS TESTED WITH A CALIBRATED TORQUE WRENCH SHALL ATTAIN THE SPECIFIED TORQUE WITHIN ½ TURN OF THE NUT; OR ONE-QUARTER (¼) TURN OF THE NUT FOR A ¾ INCH SLEEVE ANCHOR ONLY.

SCREW-TYPE ANCHORS TESTED WITH A CALIBRATED TORQUE WRENCH SHALL ATTAIN THE SPECIFIED TORQUE WITHIN ONE-QUARTER (1/4) TURN OF THE SCREW AFTER INITIAL SEATING OF THE SCREW HEAD.

TIONS				
R BOLT	GALV	GALVANIZED	PTDF	PRESSURE TREATED
	GB	GRADE BEAM		DOUGLAS FIR
	GLB GR	GLUE LAMINATED BEAM GRADE	PT	POINT RADIUS
NT NAL	HD	HOLD DOWN	R RBS	REDUCED BEAM SECTION
ATE	HDG	HOT-DIP GALVANIZED	RFTR	RAFTER
UM	HDR	HEADER	REF	REFERENCE
ECT	HGR HK	HANGER HOOK	REINF REQD	REINFORCING REQUIRED
G	HORIZ	HORIZONTAL	RET	RETAINING
BLOCKING	HS	HIGH STRENGTH	REV	REVISION
	HSB HSFB	HIGH STRENGTH BOLT HIGH STRENGTH	RF RWD	ROOF REDWOOD
ARY NAIL	1131 D	FRICTION BOLT	S	AMERICAN STANDARD BEAM
Л	HSG	HIGH STRENGTH GROUT	SAD	SEE ARCHITECTURAL
G EN	HSH	HORIZONTAL SLOTTED HOLE	SB	DRAWINGS SOLID BLOCK
P	HSS	HOLLOW STRUCTURAL	SC	SLIP CRITICAL
)		SECTION	SCBF	SPECIAL CONCENTRIC
	HT ID	HEIGHT INSIDE DIAMETER	SCD	BRACED FRAME SEE CIVIL DRAWINGS
NEL EVER	IJ	I SHAPED WOOD BUILT	SCHED	SCHEDULE
GE BOLT		UP TRUSS	SED	SEE ELECTRICAL DRAWINGS
ORMED STEEL	INT	INTERIOR	SEOR	STRUCTURAL ENGINEER OF
PLACE ED GLUED LUMBER	JST JT	JOIST JOINT	SFRS	RECORD SEISMIC FORCE RESISTING
OL JOINT	KP	KING POST	orno	SYSTEM
RLINE	L "	STEEL ANGLE	SHTG	SHEATHING
ETE JOINT TRATION	Lb or # LGMF	POUND(s) LIGHT GAGE METAL	SIM SKYLT	SIMILAR SKYLIGHT
	LOWI	FRAMING	SLD	SEE LANDSCAPE DRAWINGS
	LGMFC	LIGHT GAGE METAL	SMF	SPECIAL MOMENT FRAME
TOR	LL	FRAMING CONTRACTOR LIVE LOAD	SMS SMD	SHEET METAL SCREW SEE MECHANICAL DRAWINGS
ETE		LONG LEG HORIZONTAL	SOG	SLAB ON GRADE
CTION	LLV	LONG LEG VERTICAL	SPCG	SPACING
UOUS	LOC		SPD	SEE PLUMBING DRAWINGS
INATE/ DINATION	LS LSL	LAG SCREW LAMINATED STRAND LUMBER	SPEC SQ	SPECIFICATION SQUARE
ETE MASONRY UNIT	LVL	LAMINATED VENEER LUMBER	SS	SELECT STRUCTURAL
ERSINK	MAX MB		STOD	or STAINLESS STEEL
SHER MED BAR ANCHOR	MBM	MACHINE BOLT METAL BUILDING	STGR STD	STAGGERED STANDARD
		MANUFACTURER	STIFF	STIFFENER
	MC	MISCELLANEOUS CHANNEL	STL	STEEL
AS FIR ER	MECH MEZZ	MECHANICAL MEZZANINE	STRUCT SW	STRUCTURAL SHEAR WALL
AL	MF	MOMENT FRAME	SYM	SYMMETRICAL
ION	MFR	MANUFACTURER	T&B	TOP AND BOTTOM
JOINT DAD	MIN MISC	MINIMUM MISCELLANEOUS	T&G THK	TONGUE AND GROOVE THICK
	MIW	MALLEABLE IRON WASHER	THRD	THREADED
10	MTL	METAL	THRU	THROUGH
IG	(N) NIC	NEW NOT IN CONTRACT	TL TN	TOTAL LOAD TOE NAIL
	NO or #	NUMBER	тос	TOP OF CONCRETE
ND	NS	NEAR SIDE	TOF	TOP OF FRAMING
ACE	NSG NTS	NON-SHRINK GROUT NOT TO SCALE	TOP	TOP OF MASONRY TOP OF PLYWOOD
OR/ELEVATION	0/	OVER	TOS	TOP OF STEEL
MENT	oc	ON CENTER	TOT	TOTAL
ENT	OD OH	OUTSIDE DIAMETER OPPOSITE HAND	TU TYP	TILT UP TYPICAL
IDE	OPNG	OPENING	UNO	UNLESS NOTED OTHERWISE
AY	OPP	OPPOSITE	VERT	VERTICAL
G SION	OVS OW	OVERSIZED OTHERWISE	VIF VSH	VERIFY IN FIELD VERTICAL SLOTTED HOLE
OR	OWT	OPEN WEB TRUSS	W	WIDE FLANGE STEEL BEAM
ATION	Æ	PLATE or PROPERTY LINE	W/	WITH
GRADE	PA		W/O	WITHOUT
E LOOP INSERT	PDP PEN	POWDER DRIVEN PINS PANEL EDGE NAIL	WD WHS	WOOD WELDED HEADED STUD
	PERP	PERPENDICULAR	WLD	WELDED
AIL	PES	PANEL EDGE SCREWS	WP	WORK POINT/WATERPROOF
F CONCRETE F MASONRY	PJP PLF	PARTIAL JOINT PENETRATION POUNDS PER LINEAR FOOT	WS WT	WOOD SCREW WEIGHT
F STUD	PNL	PANEL	WTS	WEIGHT WELDED THREADED STUD
G	PSF	POUNDS PER SQUARE FOOT	WWR	WELDED WIRE
E G	PSI PSL	POUNDS PER SQUARE INCH PARALLEL STRAND LUMBER		REINFORCEMENT
G r GAUGE	PTB	PARALLEL STRAND LUMBER PANEL TIE BAR		

	SHEET INDEX
S-0.1	GENERAL NOTES
S-1.1	TYPICAL DETAILS
S-A2.1	FOUNDATION PLAN - NORTH
S-A2.2	FOUNDATION PLAN - SOUTH
S-A2.3	ROOF FRAMING PLAN - NORTH
S-A2.4	ROOF FRAMING PLAN - SOUTH

CRITERIA

DESIGN CRITERIA: ROOF LIVE LOAD: RISK CATEGORY: <u>WIND DATA</u>:

2019 CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2, A CHAPTERS (CBC) 20 PSF (REDUCIBLE) 111

ULTIMATE WIND SPEED (3 SEC GUST) IN MPH: 98 WIND EXPOSURE: C

INTERNAL WIND PRESSURE COEFFICIENT (GCPI) = ±0.18 COMPONENTS AND CLADDING DESIGN PRESSURES FOR SYSTEMS DESIGNED BY OTHERS SHALL COMPLY WITH THE "ASCE 7" DESIGN STANDARD EARTHQUAKE DATA: SEISMIC IMPORTANCE FACTOR, I.: 1.25

MAPPED SPECTRAL RESPONSE ACCELERATIONS: $S_s = 1.50$; $S_1 = 0.60$ SITE CLASS: D SPECTRAL RESPONSE COEFFICIENTS: S_{DS} = 1.20; S_{D1} = 0.68 SEISMIC DESIGN CATEGORY: D SEISMIC FORCE RESISTING SYSTEM(S): WOOD FRAMED SHEAR WALLS

RESPONSE MODIFICATION FACTOR(S): R = 6.5 DESIGN BASE SHEAR: C_sW (ASD) SEISMIC RESPONSE COEFFICIENT(S), C_S = 0.231 (ULTIMATE)

ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE MAXIMUM ANTICIPATED STORY DRIFT = 0.02 X HEIGHT PROVIDE DEFORMATION COMPATIBILITY PER ASCE 7 SECTION 12.12.5 FOR NON-STRUCTURAL ITEMS, INCLUDING CLADDING,

SCOPE:

1-STORY WOOD-FRAMED BUILDING MODERNIZATION OF EXISTING SCHOOL CAMPUS INCLUDING NEW MECHANICAL UNITS, DUCTWORK, AND PIPING, AND SHEAR WALL STRENGTHENING AT BUILDING "A"

GENERAL NOTES

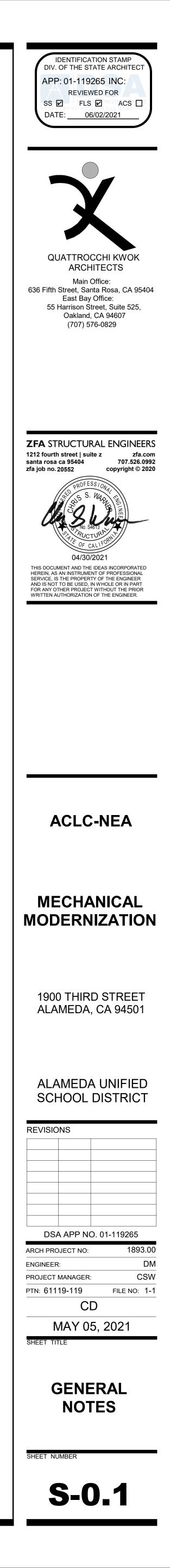
1. REFER TO SHEETS **<u>5-1.1</u>** FOR STANDARD DETAILS OF CONSTRUCTION. REFER TO THE PROJECT SPECIFICATIONS FOR MATERIALS AND METHODS.

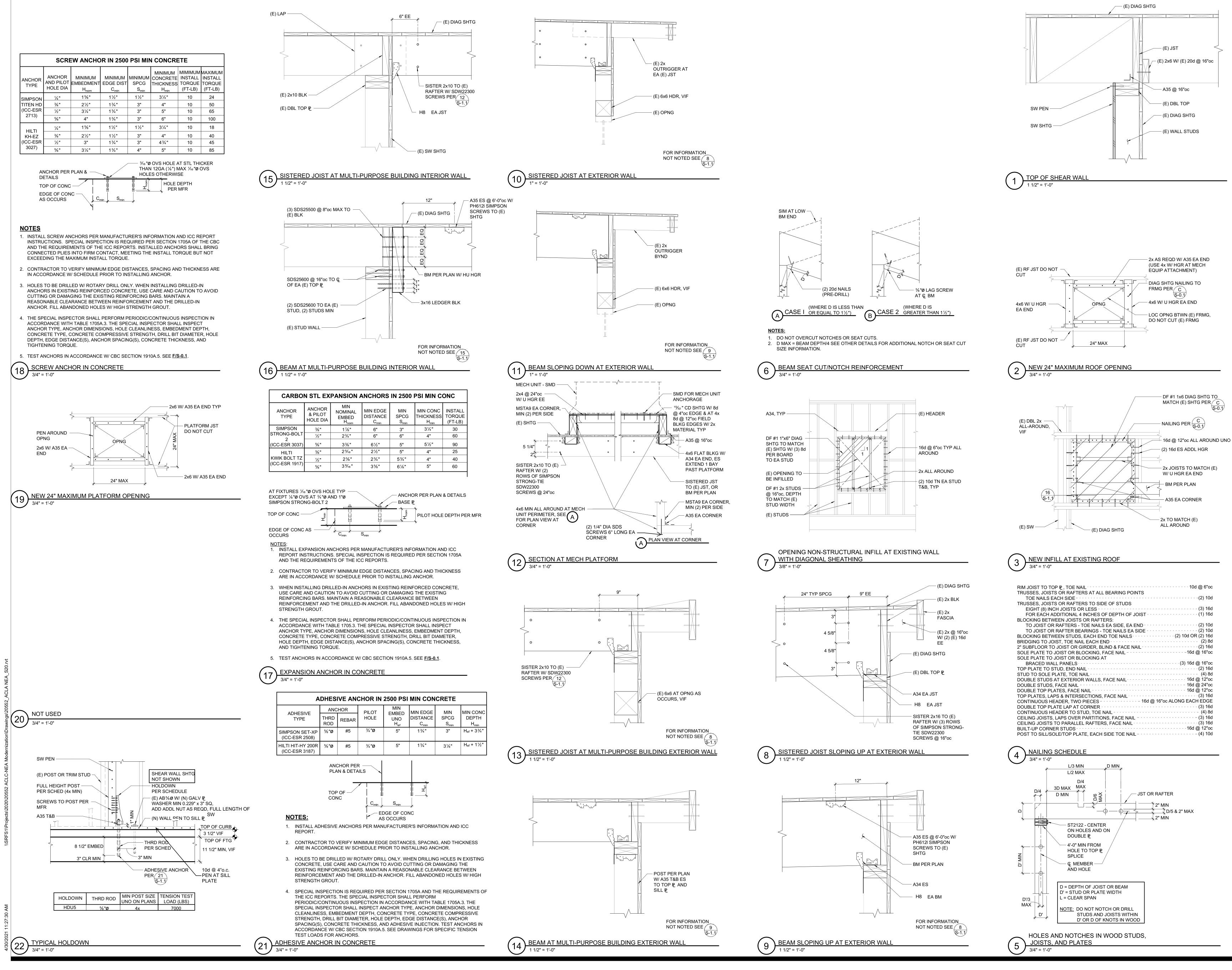
STAIRS, GLAZING, ETC.

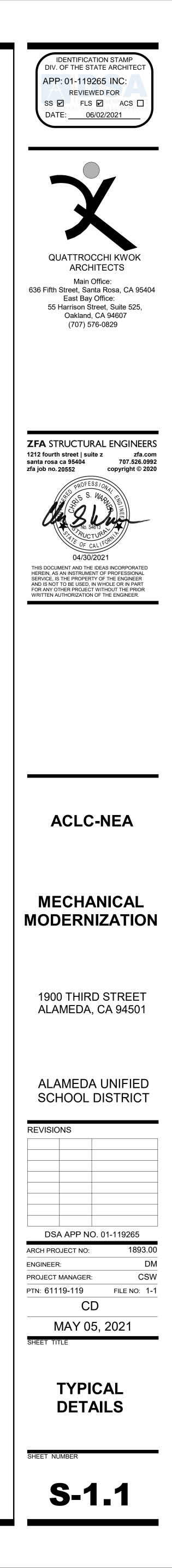
- 2. BUILDING DIMENSIONS SHOWN ARE FOR GENERAL REFERENCE ONLY. SEE ARCHITECTURAL DRAWINGS (SAD) FOR ALL ACTUAL BUILDING DIMENSIONS. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER SO CLARIFICATION CAN BE MADE PRIOR TO COMMENCING WORK.
- 3. STRUCTURAL DRAWINGS SHALL NOT BE SCALED. ALL DIMENSIONS AND FIT SHALL BE DETERMINED AND VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING WORK.
- 4. DETAILS NOT FULLY OR SPECIFICALLY SHOWN SHALL BE OF SAME NATURE AS OTHER SIMILAR CONDITIONS.
- 5. REFER TO ARCHITECTURAL DRAWINGS FOR SIDEWALK SLABS AND DIMENSIONS.
- 6. COORDINATION OF MECHANICAL, ELECTRICAL, PLUMBING, AND SITE UTILITY SYSTEMS WITH THE STRUCTURAL SYSTEM IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. USE DETAILS ON SHEETS **<u>5-1.1</u>**. AT CONDITIONS WHERE THESE DETAILS DO NOT APPEAR TO APPLY, NOTIFY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION. AT CONDITIONS WHERE FIELD MODIFICATIONS OF MECHANICAL, ELECTRICAL, PLUMBING, OR SITE UTILITIES AFFECT STRUCTURAL SYSTEMS, NOTIFY STRUCTURAL ENGINEER PRIOR TO INSTALLATION.
- 7. VERIFY WEIGHTS AND LOCATIONS OF MECHANICAL UNITS WITH MECHANICAL ENGINEER PRIOR TO PLACEMENT. UNITS VARYING OVER 10% IN WEIGHT SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION (MECHANICAL WEIGHTS SHOWN ARE MAXIMUM). CONTRACTOR TO VERIFY MECHANICAL UNIT SIZES AND WEIGHTS AS INSTALLED PRIOR TO INSTALLATION OF SPECIAL FRAMING TO ENSURE CORRECT PLACEMENT UNDER CURBS, ETC.
- 8. SHORING AND BRACING DESIGN, MATERIALS AND INSTALLATION SHALL BE PROVIDED BY THE GENERAL CONTRACTOR, AND SHALL BE ADEQUATE FOR ALL LOADS. LEAVE IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY AND UNTIL FINAL STRUCTURAL CONSTRUCTION IS COMPLETED.
- 9. SPECIAL INSPECTIONS ARE REQUIRED PER THE TESTING AND INSPECTION FORM.

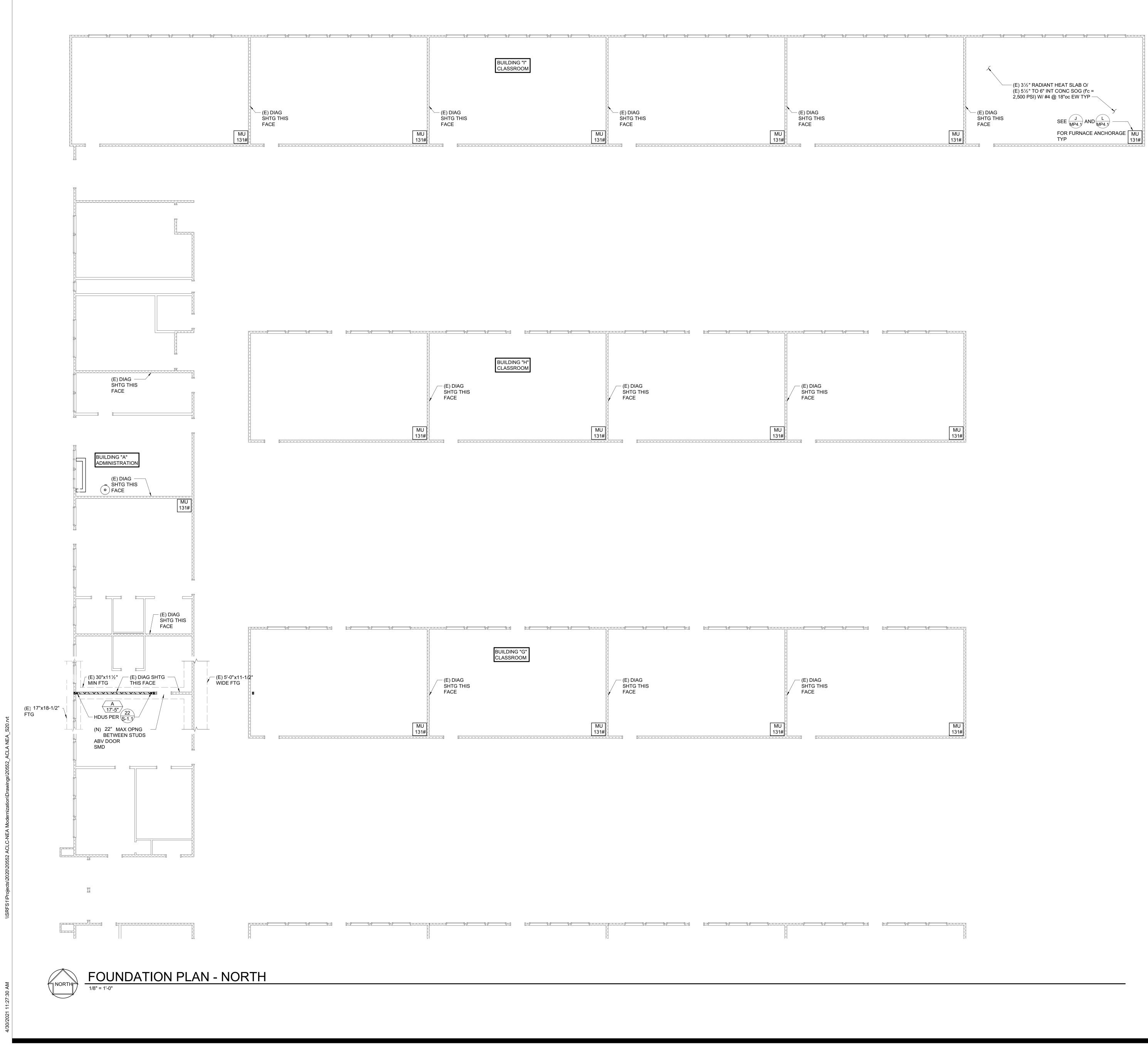
WOOD FRAMING NOTES

- 1. HEADERS, BEAMS, POSTS, TOP PLATE SPLICES, AND ETC., ARE PER1/S-1.1 2. ALL BEAMS AND JOISTS (EXCLUDING I JOISTS) SHALL BE SEAT CUT FOR FULL
- UNIFORM BEARING AT SUPPORTS, INCLUDING BEAM SEATS AND COLUMN CAPS. ALL NAILING NOT NOTED OR DETAILED OTHERWISE SHALL BE PER <u>4/S-1.1</u>. NAIL LENGTH TO BE SUFFICIENT TO MEET CBC PENETRATION REQUIREMENTS. NAILS INTO PRESSURE TREATED MATERIAL SHALL BE HOT DIP GALVANIZED. NAILS AT BORATE TREATED LUMBER MAY BE CLEAR ZINC COATED. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AT EXTERIOR EXPOSURES.
- 4. WOOD POST SIZES ARE TO MATCH BEAM AND STUD WIDTH, UNO.
- 5. FOR ROOF DRAINAGE, TOP OF FRAMING BETWEEN NOTED POINTS IS A STRAIGHT LINE.
- 6. ALL MECHANICAL SUPPLY AND RETURN OPENINGS TO BE BETWEEN FRAMING UNO. 7. THE CONTRACTOR SHALL VERIFY THAT THE MOISTURE CONTENT OF ALL FRAMING LUMBER AND SHEATHING MEET THE REQUIREMENTS OF THE SPECIFICATIONS AT
- THE TIME OF INSTALLATION AND AT CLOSE-IN. 8. VENTING IS REQUIRED IN ENCLOSED FRAMING AREAS, SAD. DRILL BLOCKING AND LEDGERS AND PROVIDE SKIP BLOCKING AS DETAILED.
- 9. EXISTING DIAGONAL SHEATHING THAT REQUIRES REMOVAL AND REPLACEMENT SHALL BE SHEATHED AT 45 DEGREES TO SUPPORTS. JOINTS SHALL BE MADE ONLY AT CENTER OF SUPPORTS AND PARALLEL THERETO. THERE SHALL BE AT LEAST 2 UNCUT BOARDS BETWEEN JOINTS ON THE SAME LINE OF SUPPORT AND AT LEAST (2) SPACES BETWEEN SUPPORTS FOR JOINTS IN ADJOING BOARDS. USE (3) 8d NAILS AT ENDS OF ALL BOARDS AND (2) 8d NAILS AT ALL OTHER INTERMEDIATE SUPPORTS. AT ROOF, REPLACEMENT DIAGONAL SHEATHING SHALL BE DOUGLAS FIR #1 1x6 TO MATCH EXISTING THICKNESS AND WIDTH, CONTRACTOR TO VERIFY. AT WALKWAY CANOPY, REPLACEMENT DIAGONAL SHEATHING SHALL BE 11/4"x6 T&G SHEATHING.
- **NEXISTING CONSTRUCTION NOTES**
- 1. IN PREPARING THE PROJECT PLANS, THE SOURCE OF INFORMATION WAS BASED ON THE EXISTING BUILDING PLANS PREPARED BY, KENT & HASS ARCHITECTS, DATED NOVEMBER 15, 1949 AND REVISED JANUARY 20, 1950. THE CONTRACTOR SHALL VERIFY ALL EXISTING JOB CONDITIONS, REVIEW THE PLANS AND VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ALL DISCREPANCIES AND EXCEPTIONS BEFORE PROCEEDING WITH ANY WORK. DRAWINGS FOR THE EXISTING CONSTRUCTION ARE AVAILABLE FOR REVIEW.
- 2. ALL WORK NOT INDICATED AS EXISTING (E) SHALL BE ASSUMED TO BE NEW (N).
- 3. ANY REMOVAL, CUTTING, DRILLING, ETC OF EXISTING WORK SHALL BE PERFORMED WITH GREAT CARE. SMALL TOOLS SHALL BE USED IN ORDER NOT TO JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE STRUCTURE. IF STRUCTURAL MEMBERS OR MECHANICAL, ELECTRICAL, OR ARCHITECTURAL ELEMENTS NOT INDICATED FOR REMOVAL INTERFERE WITH THE NEW WORK, THE ARCHITECT/ENGINEER SHALL BE IMMEDIATELY NOTIFIED AND PRIOR APPROVAL SHALL BE OBTAINED BEFORE REMOVAL OF THE MEMBERS.
- 4. DO NOT OVER CUT EXISTING WOOD, CONCRETE, MASONRY OR OTHER WORK TO REMAIN. CUTS SHALL BE MADE NEATLY TO A CORNER, THEN ALTERNATE MEANS SHALL BE USED TO REMOVE REMAINING MATERIAL. CONTRACTOR IS RESPONSIBLE FOR REPAIR/REPLACEMENT OF OVER CUT MATERIAL AS DIRECTED BY THE ARCHITECT AND/OR ENGINEER.
- 5. EXISTING DAMAGED STRUCTURAL MEMBERS WHICH ARE UNCOVERED SHALL BE REPORTED TO THE ARCHITECT/ENGINEER FOR REVIEW AND REPAIR.
- 6. REMODELING REQUIRES ASSUMPTIONS BE MADE REGARDING EXISTING CONDITIONS WHICH MAY NOT BE VERIFIABLE WITHOUT DESTROYING OTHERWISE ADEQUATE OR SERVICEABLE PORTIONS OF THE STRUCTURE. THIS ANALYSIS DOES NOT MAKE ANY GUARANTEE TO THE ADEQUACY OF THE STRUCTURAL DESIGN OF THE EXISTING BUILDING NOT SPECIFICALLY ADDRESSED IN THE STRUCTURAL CALCULATIONS. ZFA SHALL NOT BE RESPONSIBLE FOR UNSATISFACTORY PERFORMANCE OF EXISTING PORTIONS OF THE STRUCTURE NOT SPECIFICALLY ADDRESSED IN THE CONSTRUCTION DOCUMENTS.









	BUILDING "G" CLASSROOM		
5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	(E) DIAG SHTG THIS FACE	(E) DIAG SHTG THIS FACE	(E) DIAG SHTG THIS FACE
MU 131#	MU 131#	MU 131#	

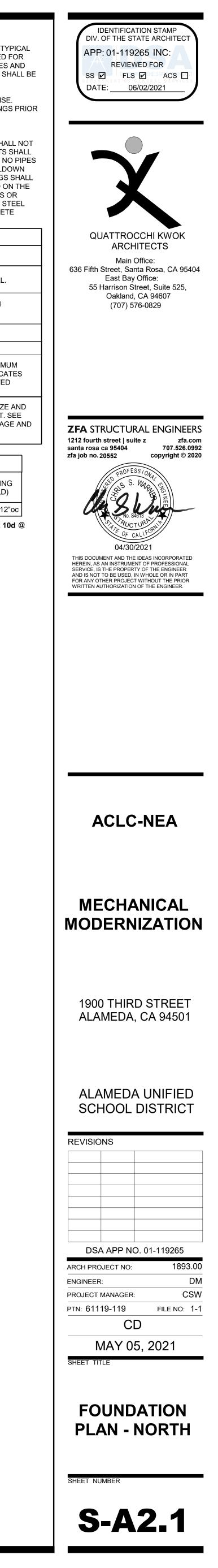
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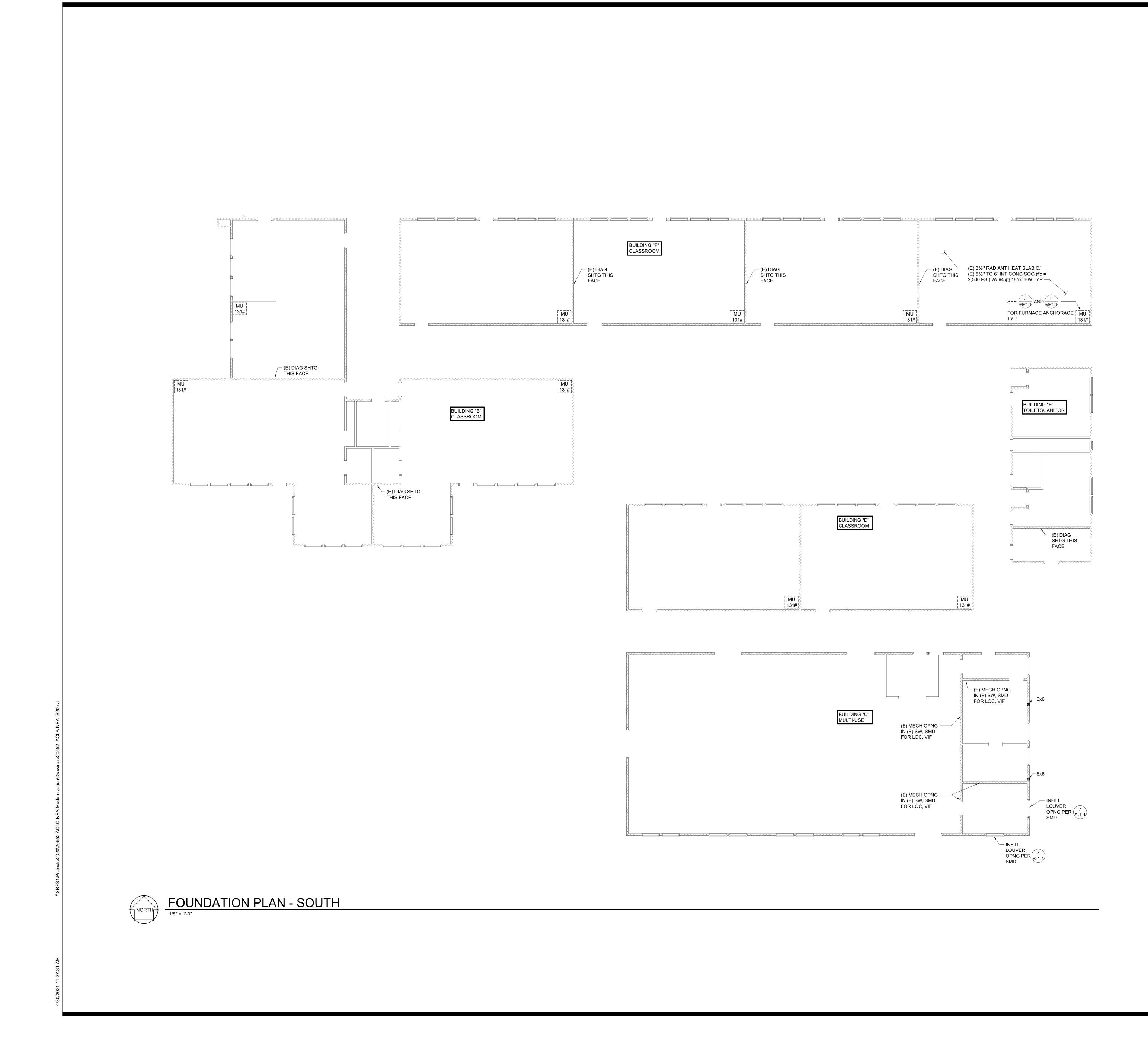
FOUNDATION PLAN NOTES:

- 1. REFER TO SHEETS <u>S-0.1</u> AND <u>S-1.1</u> FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
- 2. DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
- 3. PLUMBING AND ELECTRICAL CONDUIT AND GROUND STRAP SHALL NOT BE LAID WITHIN FOUNDATIONS. NO UTILITY PIPES OR CONDUITS SHALL BE LOCATED THRU COLUMN FOOTINGS OR FRAME FOOTINGS. NO PIPES OR CONDUITS THRU SILL PLATES SHALL BE WITHIN 12" OF HOLDOWN BOLTS. NO MECHANICAL, ELECTRICAL, OR PLUMBING OPENINGS SHALL BE LOCATED IN SHEAR WALLS UNLESS SHOWN AND DETAILED ON THE STRUCTURAL DRAWINGS. NO VERTICAL OR HORIZONTAL PIPES OR CONDUITS SHALL BE LOCATED THROUGH STEEL COLUMNSOR STEEL BASE PLATES. PROVIDE FURRING AND/OR THICKENED CONCRETE

WHERE REQUIRED TO CLEAR UTILITY SYSTEMS				
PLAN LEGEND				
SYMBOL	REFERENCE DETAIL	DESCRIPTION		
		INDICATES EXISTING STRUCTURAL WALL.		
		INDICATES EXISTING SHEAR WALL WITH EXISTING DIAGONAL SHEATHING.		
\square	<u>C/S-0.1</u>	INDICATES WOOD POST.		
<u>x x x x</u>		INDICATES STRENGTHENED SHEAR WALL.		
A 17'-5"		INDICATES SHEAR WALL TYPE AND MINIMU WALL LENGTH. SYMBOL LOCATION INDICA SHEATHED FACE OF WALL UNLESS NOTED OTHERWISE.		
[] [] []		INDICATES APPROXIMATE LOCATION, SIZE MAXIMUM WEIGHT OF MECHANICAL UNIT. MECHANICAL DRAWINGS FOR ANCHORAG ADDITIONAL INFORMATION.		

	HEDULE		
SW	APA RATED SHEATHING	NAILING (PEN)	NAILINO (FIELD)
$\langle A \rangle$	¹⁵ ⁄ ₃₂ " (32/16) EXP 1	10d @ 6"oc	10d @ 12
NOT 4"oc	<u>E:</u> AT (E) REDWOOD PEN IN LIEU OF 10d	SILL PLATE, P @ 6"oc PEN.	ROVIDE 10



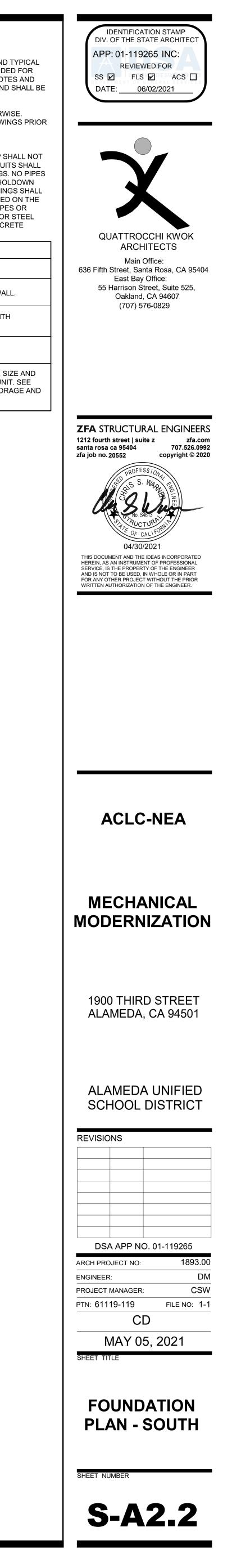


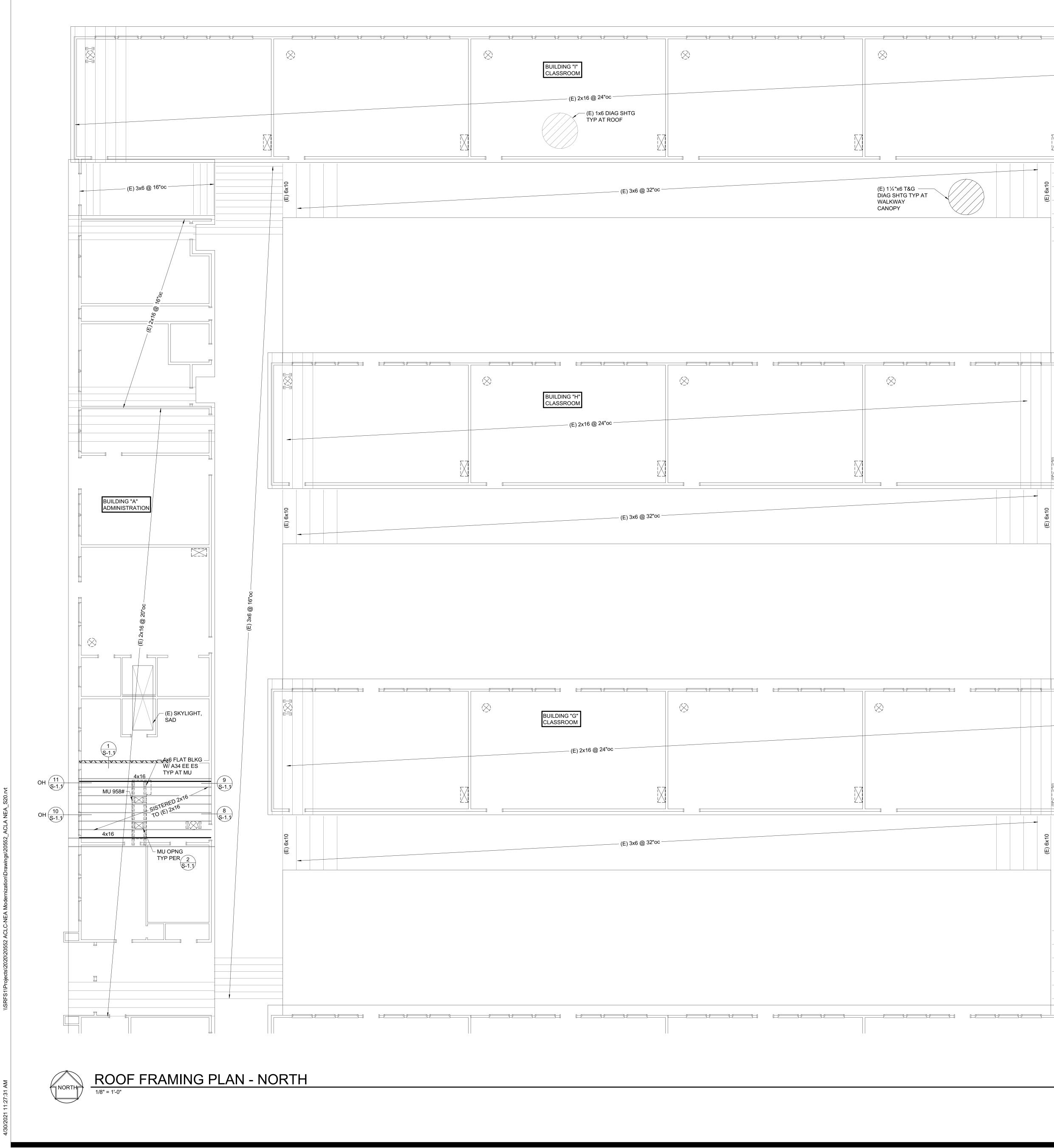
FOUNDATION PLAN NOTES

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	PLAN LEGEND
	WHERE REQUIRED TO CLEAR UTILITY SYSTEMS
	BASE PLATES. PROVIDE FURRING AND/OR THICKENED CONCR
	CONDUITS SHALL BE LOCATED THROUGH STEEL COLUMNSOR
	STRUCTURAL DRAWINGS. NO VERTICAL OR HORIZONTAL PIPES
	BE LOCATED IN SHEAR WALLS UNLESS SHOWN AND DETAILED
	BOLTS. NO MECHANICAL, ELECTRICAL, OR PLUMBING OPENING
	OR CONDUITS THRU SILL PLATES SHALL BE WITHIN 12" OF HOL
	BE LOCATED THRU COLUMN FOOTINGS OR FRAME FOOTINGS.
	BE LAID WITHIN FOUNDATIONS. NO UTILITY PIPES OR CONDUIT
3.	PLUMBING AND ELECTRICAL CONDUIT AND GROUND STRAP SH

		PLAN LEGEND
SYMBOL	REFERENCE DETAIL	DESCRIPTION
		INDICATES EXISTING STRUCTURAL WALL.
		INDICATES EXISTING SHEAR WALL WITH EXISTING DIAGONAL SHEATHING.
\boxtimes	<u>C/S-0.1</u>	INDICATES WOOD POST.
[] [] []		INDICATES APPROXIMATE LOCATION, SIZE MAXIMUM WEIGHT OF MECHANICAL UNIT. MECHANICAL DRAWINGS FOR ANCHORAG ADDITIONAL INFORMATION.





<u> </u>	<u>- p</u>	<u></u>	
BUILDING "I" CLASSROOM	\otimes	\otimes	
(E) 2x16 @ 24"oc	HTG		
	E) 3x6 @ 32"oc	(E) 1¼"x6 T&G DIAG SHTG TYP AT WALKWAY CANOPY	

q	pt			pq_pq_p	Q	<u> </u>	_pq_pq_p_	
	\otimes			\otimes			\otimes	
		BUILDIN CLASSR	g "H" OOM					
			- (E) 2x16 @ 24"oc					
] []	

– (E) 3x6 @ 32"oc —

— (E) 3x6 @ 32"oc —

	BUILDING "G" CLASSROOM	\otimes
	(E) 2x16 @ 24"oc	
Γ.Z	$\overline{\Sigma}$	

FRAMING PLAN NOTES:

GRAVITY —

TYP, SMD

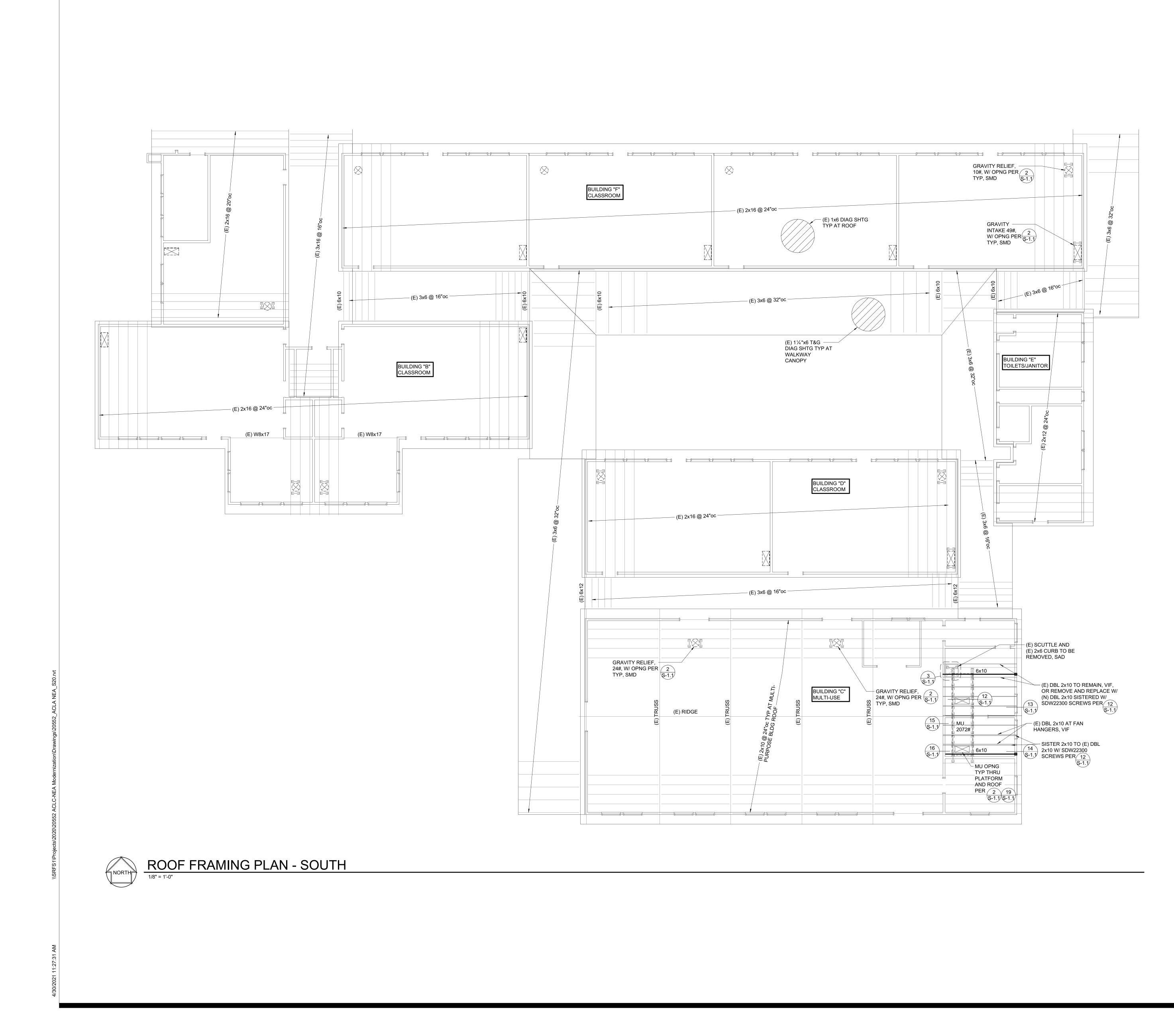
INTAKE 49#, INTAKE 40,...W/ OPNG PER 5.1.1

- 1. REFER TO SHEETS <u>S-0.1</u> AND <u>S-1.1</u> FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
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- 3. MECHANICAL, ELECTRICAL AND PLUMBING PENETRATIONS THROUGH WALLS, ROOFS OR FLOORS SHALL BE PER REFERENCES BELOW UNLESS SHOWN AND DETAILED OTHERWISE ON THE STRUCTURAL PLANS. PENETRATIONS THROUGH SHEAR WALLS ARE NOT ALLOWED. NOTIFY ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.
- PENETRATIONS THROUGH ROOFS SHALL BE PER 2/S-1.1. 4. COORDINATE TOP OF FRAMING AND LEDGER HEIGHTS AS REQUIRED TO PROVIDE ROOF SLOPES AS SHOWN ON ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.

ARCHI	ARCHITECT/ENGINEER OF ANY DISCREPANCIES.										
	PLAN LEGEND										
SYMBOL	REFERENCE DETAIL	DESCRIPTION									
		INDICATES STRUCTURAL WALL.									
	<u>C/S-0.1</u>	INDICATES WOOD POST.									
∈	<u>C/S-0.1</u>	INDICATES HANGER.									
[MU] [1,000#]		INDICATES APPROXIMATE LOCATION, SIZE AND MAXIMUM WEIGHT OF MECHANICAL UNIT. SEE MECHANICAL DRAWINGS FOR ANCHORAGE ANI ADDITIONAL INFORMATION.									
		INDICATES STRENGTHENED SHEAR WALL									





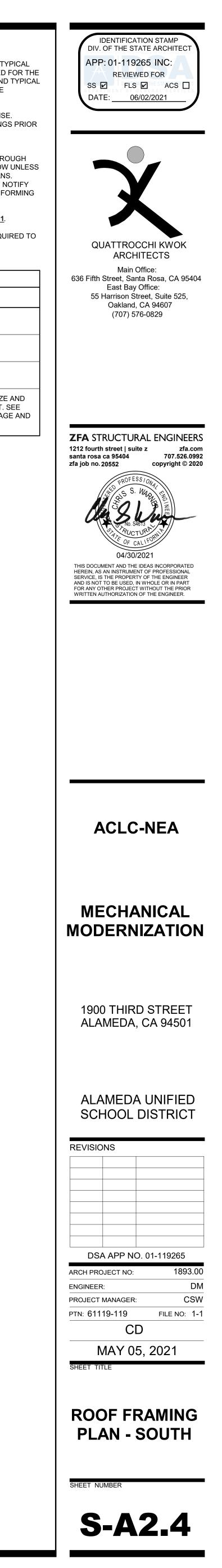


FRAMING PLAN NOTES:

- REFER TO SHEETS <u>S-0.1</u> AND <u>S-1.1</u> FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
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PENETRATIONS THROUGH ROOFS SHALL BE PER <u>2/S-1.1</u>.
4. COORDINATE TOP OF FRAMING AND LEDGER HEIGHTS AS REQUIRED TO PROVIDE ROOF SLOPES AS SHOWN ON ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.

		PLAN LEGEND
SYMBOL	REFERENCE DETAIL	DESCRIPTION
		INDICATES STRUCTURAL WALL.
	<u>C/S-0.1</u>	INDICATES WOOD POST.
E	<u>C/S-0.1</u>	INDICATES HANGER.
[] [] []		INDICATES APPROXIMATE LOCATION, SIZE MAXIMUM WEIGHT OF MECHANICAL UNIT. S MECHANICAL DRAWINGS FOR ANCHORAG ADDITIONAL INFORMATION.



		MECH	ANICAL VENTILATION SCHEDULE			
ROOM #	ROOM NAME	Area	ASHRAE 62.1 OCCUPANCY	MIN OSA	MAX OSA	DESIGN OSA
1	CLASSROOM	899	62-Educational Facilities - Daycare age 4	135	342	350
2	CLASSROOM	899	62-Educational Facilities - Daycare age 4	135	342	350
3	CLASSROOM	879	62-Educational Facilities - Classrooms Age 5-8	132	335	350
4	CLASSROOM	876	62-Educational Facilities - Classrooms Age 5-8	132	333	350
5	CLASSROOM	878	62-Educational Facilities - Classrooms Age 5-8	132	334	350
6	CLASSROOM	877	62-Educational Facilities - Classrooms Age 5-8	132	334	350
7	CLASSROOM	877	62-Educational Facilities - Classrooms Age 5-8	132	334	350
8	CLASSROOM	879	62-Educational Facilities - Classrooms Age 5-8	132	335	350
9	CLASSROOM #9	876	62-Educational Facilities - Classrooms Age 5-8	132	333	350
10	CLASSROOM #9 CLASSROOM	870	62-Educational Facilities - Classrooms Age 5-8	132	333	350
10	CLASSROOM	876	62-Educational Facilities - Classrooms Age 5-8	132	333	350
12	CLASSROOM	876	62-Educational Facilities - Classrooms Age 5-8	132	333	350
12	CLASSROOM	876	62-Educational Facilities - Classrooms Age 5-6	132	333	350
13	CLASSROOM	875	62-Educational Facilities - Classrooms Age 5-6			
				132	333 333	350
15	CLASSROOM	876	62-Educational Facilities - Classrooms Age 5-8	132		350
16 17	CLASSROOM	884	62-Educational Facilities - Classrooms Age 5-8	133	336	350
	CLASSROOM	876	62-Educational Facilities - Classrooms Age 5-8	132	333	350
18	CLASSROOM	876	62-Educational Facilities - Classrooms Age 5-8	132	333	350
19	CLASSROOM	875	62-Educational Facilities - Classrooms Age 5-8	132	333	350
20	CLASSROOM	875	62-Educational Facilities - Classrooms Age 5-8	132	333	350
21	CLASSROOM	875	62-Educational Facilities - Classrooms Age 5-8	132	333	350
22	CLASSROOM	876	62-Educational Facilities - Classrooms Age 5-8	132	333	350
24	CLASSROOM	528	62-Food and Beverage Service General - Break Rooms	80	264	275
25	OFFICE	163	62-Office Buildings - Office Space	0	25	25
37	CLASSROOM	699	62-Office Buildings - Office Space	0	105	125
100	MPR	2848	62-Educational Facilities - Multiuse Assembly	0	428	450
101	KITCHEN	160	62-Food and Beverage Service General - kitchen	24	80	100
102	OFFICE	117	62-Office Buildings - Office Space	0	18	25
103	OFFICE	201	62-Office Buildings - Office Space	0	31	50
104	HALLWAY	75	62-General - Corridor	0	12	25
106	OFFICE	234	62-Office Buildings - Office Space	0	36	50
107	OFFICE	180	62-Office Buildings - Office Space	0	27	50
109	OFFICE	389	62-Office Buildings - Office Space	0	59	75
110	OFFICE	247	62-Office Buildings - Office Space	0	38	50
127 128	CLASSROOM #2 ALCOVE CLASSROOM #1 ALCOVE	230 231	62-Educational Facilities - Classrooms Age 5-8 62-Educational Facilities - Classrooms Age 5-8	35 35	88 88	100 100

	HEATING VENTILATOR UNIT SCHEDULE														
					Capacity (MBH) ELECTRICAL DATA										
MARK	MFR	MODEL NUMBER	CFM	External SP (in. wg)	Input	Output	SUPPLY FAN RPM	Motor HP	Operating (hp)	V-Ø-Hz	MCA (A)	MOP (A)	CEI WEIGHT	SERVICE	REMARKS
HV 100	GREENHECK	IGX-P120-H32-MF-M	5000	0.75	400	320	1180	2	1.31	208-3-60	11.3	15	2072 lb	GYM	1-7
HV 109	GREENHECK	IGX-109-H12-C	1350	0.5	100	80	929	.5	0.34	208-3-60	5	15	958 lb	OFFICES	1-5
REMARKS: 1. PROVIDE WITH 2" MERV 13 PLEATED FILTERS. 2. VERTICAL RETURN/SUPPLY DUCT 3. PROVIDE WITH PELICAN THEROMOSTAT WITH CO2 SENSOR FOR DEMAND CONTROL VENTILATION 4. PROVIDE WITH NBPI SYSTEM (NEEDLEPOINT BIPOLAR IONIZATION) 5. EQUIPMENT MOUNT ON GPI CURB SEE DETAIL A/MP4.1							IENT MOUNT ON ATIC SHUTOFF I					2/S1.1 FOR PLATFORM			

							Fl	URNACE SO	CHEDULE								
								GAS	GAS		EL	ECTRI	CAL DAT	Ā			
		MODEL		SUPPLY				HEATING	HEATING								
MARK	Manufacturer	NUMBER	ESP	FAN RPM	AIRFLOW	OSA MIN	OSA MAX	INPUT	OUTPUT	AFUE	V-Ø-Hz	HP	MCA	MOCP	WEIGHT	LOCATION	REMARKS
F-1	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	175 CFM	775 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 1	1-6
F-2	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	175 CFM	775 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 2	1-6
F-3	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 3	1-6
F-4	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 4	1-6
F-5	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 5	1-6
F-6	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 6	1-6
F-7	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 7	1-6
F-8	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 8	1-6
F-9	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 9	1-6
F-10	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 10	1-6
F-11	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 11	1-6
F-12	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 12	1-6
F-13	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 13	1-6
F-14	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 14	1-6
F-15	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 15	1-6
F-16	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 16	1-6
F-17	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 17	1-6
F-18	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 18	1-6
F-19	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 18	1-6
F-20	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 19	1-6
F-21	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 21	1-6
F-22	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 22	1-6
F-24	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 24	1-6
F-37	CARRIER	090E1714	0.50 in-wg	1050	1200 CFM	150 CFM	600 CFM	88000.0	71000.0 Btu/h	80	115-1-60	.5	11.0	15	131 lb	ROOM 37	1-6
	MARKS: 1. PR 2. PR 3. PR 4. PR 5. FU	OVIDE WITH 2" OVIDE WITH LC OVIDE WITH PE OVIDE WITH 42 RNACE MOUNT	' MERV 13 FIL' DW LEAK ECC ELICAN THER 2"x36" (+/- 2") 1 T ON TEAM EN	TERS AND MANU DNOMIZER DAMP OMOSTAT WITH FEAM FURNACE I NCLOSURE SEE I NEEDLEPOINT B	FACTURES 2" FI ERS WITH BOLI CO2 SENSOR F(ENCLOSURE WI DETAIL J/MP4.1	ILTER RACK MO ACTUATORS OR DEMAND CO TH COMBUSTIO	S AND PEARL EO	CONOMIZER C ATION	ONTROLLER				11.0	13		ROOM 37	1-0

Applicable Code: 2019 CBC	02/05/2020	Revised: 02/14/2020	
MEP Componet Anchorage Note			SYMBO
All mechanical, plumbing, and electrica approved construction documents. The displacement requirements prescribed 16 Chapters 13, 26, and 30:	e following components shall be anche	ored or braced to meet the force and	$\begin{pmatrix} x \\ x \\ x \end{pmatrix}$
1. All permanent equipment and c	components.		X-X
utility services such as electricit	equipment that is permanently attach y, gas or water. "Permanently attache 0/220 volt receptacles having a flexit	ed" shall include all electrical	<u>X-XX</u>
	which is heavier than 400 pounds or l t floor or roof level that directly suppo d by DSA.		, <u> </u>
The following mechanical and electrica demonstrate design compliance with th connections provided between the com connections must allow movement in b	ne references noted above. These component and associated ductwork, pip	mponents shall have flexible bing, and conduit. Flexible ons:	CD
	n 400 pounds and having a center of in nat directly support the component.	mass located 4 feet or less above	-RVD
	n 20 pounds, or in the case of distribu from a roof or floor or hung from a wa	tied systems, less than 5 pounds	-RWL SD-
The anchorage of all mechanical, elect design professional in general respons by DSA. The project inspector will verif with the above requirements.	ible charge of structural engineer dele	egated responsibility and acceptance	│ │ │ ↓ ↓ ↓ ↓
			<u>–N</u> –

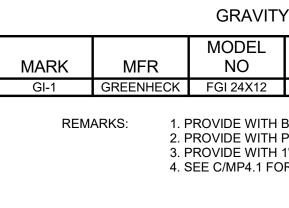
The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a preapproved installation guide (e.g., OSHPD OPM for 2013 CBC or later), copies of the bracing system installation guide or manual shall be available on the jobsite prior to the start of and during the haging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads. Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

MP MD PP E Option 1: Detailed on the approved drawings with project specific notes and details MPX MDX PPXE Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM #) #OPM-0043-13

APPLICABLE GOVERNING CODES:
2019 CALIFORNIA BUILDING CODE 2019 CALIFORNIA ELECTRICAL CODE 2019 CALIFORNIA MECHANICAL CODE 2019 CALIFORNIA PLUMBING CODE 2019 CALIFORNIA ENERGY CODE 2019 CALIFORNIA FIRE CODE
2019 CALIFORNIA GREEN BUILDING STANDARDS

	BLDG 'MECHANICAL' SHEET LIST
MP1.1	MECHANICAL & PLUMBING SHEDULES & LEGENDS
MPD2.1	MECHANICAL & PLUMBING DEMOLITION FLOOR PLAN NORTH
MPD2.2	MECHANICAL & PLUMBING DEMOLITION FLOOR PLAN SOUTH
MPD2.3	MECHANICAL & PLUMBING BOILER ROOM DEMOLITION
MPD3.1	MECHANICAL & PLUMBING DEMOLITION ROOF PLAN NORTH
MPD3.2	MECHANICAL & PLUMBING DEMOLITION ROOF PLAN SOUTH
MP2.0	FURNACE SECTIONS
MP2.0A	ALT FURNACE SECTIONS
MP2.1	MECHANICAL & PLUMBING FIRST FLOOR PLAN NORTH
MP2.1A	ALT - MECHANICAL & PLUMBING FIRST FLOOR PLAN NORTH
MP2.2	MECHANICAL & PLUMBING FIRST FLOOR PLAN SOUTH
MP2.2A	ALT MECHANICAL & PLUMBING FIRST FLOOR PLAN SOUTH
MP3.1	MECHANICAL & PLUMBING ROOF PLAN NORTH
MP3.2	MECHANICAL & PLUMBING ROOF PLAN SOUTH
MP4.1	MECHANICAL & PLUMBING DETAILS
MP4.2	MECHANICAL & PLUMBING DETAILS
MP5.1	CONTROL DIAGRAMS
MP5.2	CONTROL DIAGRAM

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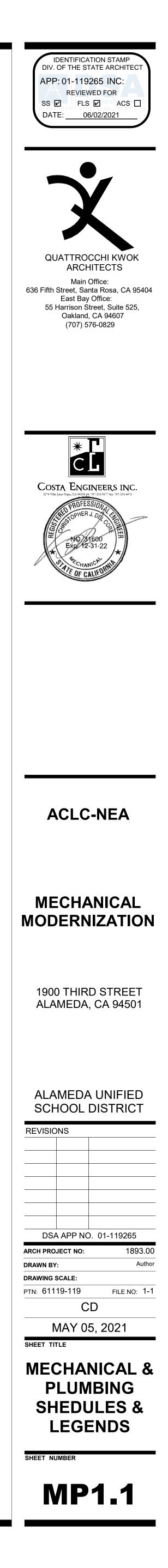


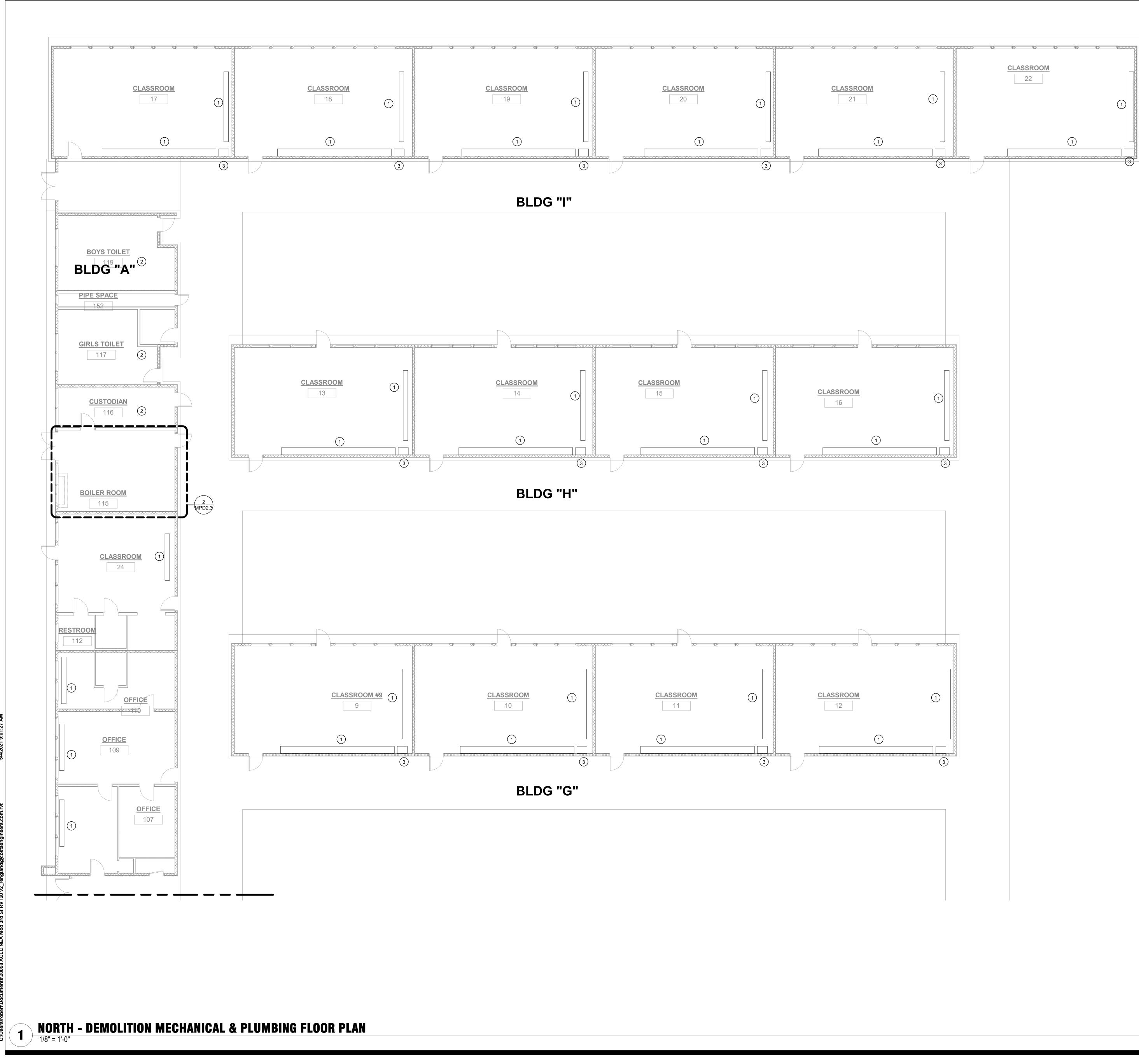
		GRAVITY	RELIEF SC	HEDULE		
MARK	MFR	MODEL NO	AIRFLOW	SP	WEIGHT	REMARKS
IVIARN		NO	AIRFLOW	JF	WEIGHT	REIVIARNO
GR 1	GREENHECK	GRSR 12	1050 CFM	0.25 in-wg	10 lb	1-4
GR 2	GREENHECK	GRSR 20	2500 CFM	0.20 in-wg	24 lb	1-4
REM	2. F 3. F	PROVIDE WITH F	BACKDRAFT DA PREFABRICATEI I" FACTORY APF R MOUNTING DI	D ROOF CURB. PLIED INSULATIO	ON.	

PLUMBI	NG LEGEND	N	IECHANIC	CAL LEGEND
ABBREVIATION	DESCRIPTION	SYMBOL	ABBREVIATION	DESCRIPTION
	EQUIPMENT TYPE EQUIPMENT NUMBER DETAIL / DRAWING NUMBER SHEET NUMBER	$\begin{pmatrix} \mathbf{x} \\ \mathbf{x} \end{pmatrix}$		EQUIPMENT TYPE EQUIPMENT NUMBER DETAIL / DRAWING NUMBER
(N) (E) SS SS	FIXTURE TYPE/NUMBER NEW PLUMBING AND PIPING SHOWN HEAVY EXISTING PLUMBING AND PIPING SHOWN LIGHT SANITARY WASTE ABOVE GROUND SANITARY WASTE BELOW GROUND		SA OR OA	SHEET NUMBER SECTION THRU SUPPLY AIR OR OUTSIDE AIR DUCT
V DCW DHW DHWR CD	VENT PIPE DOMESTIC COLD WATER PIPE DOMESTIC HOT WATER PIPE HOT WATER RETURN PIPE CONDENSATE DRAIN		RA EXH	SECTION THRU RETURN AIR DUCT
G RVD RWL SD	NATURAL GAS PIPE RELIEF VALVE DISCHARGE RAIN WATER LEADER STORM DRAIN PIPE			ROUND DUCT DOWN
GV BV BFV	GATE VALVE GLOBE VALVE BALL VALVE BUTTERFLY VALVE		DN OR UP	SLOPE DUCT DOWN OR UP IN DIRECTION OF FLOW
CV	CHECK VALVE BALANCING VALVE	ţ=====ŧ	AL	ACOUSTICAL LINING
PRV	GAS COCK OR STOP PRESSURE REDUCING VALVE	∮∳	FC	FLEXIBLE DUCT CONNECTION
TV	TEMPERING VALVE STRAINER UNION PRESSURE GAUGE AND COCK		VD	VOLUME DAMPER
P CO WCO FCO COTG	PUMP THERMOMETER CLEANOUT WALL CLEANOUT FLOOR CLEANOUT CLEANOUT TO GRADE		FD FSD TV	FIRE DAMPER FIRE SMOKE DAMPER TURNING VANES
НВ	PRESSURE GUAGE WELL ONLY (PETE'S PLUG) HOSE BIBB PIPE UP			FLEXIBLE DUCT
	PIPE DOWN BRANCH TOP CONNECTION BRANCH BOTTOM CONNECTION BRANCH SIDE CONNECTION CAP ON END OF PIPE CONCENTRIC REDUCER ECCENTRIC REDUCER			45° ROUND DUCT TAKE-OFF 45° RECTANGULAR DUCT TAKE-OFF
AFF AFG AFC	VALVE IN RISER POINT OF CONNECTION POINT OF DEMOLITION CENTER LINE ABOVE FINISHED FLOOR ABOVE FINISHED GRADE ABOVE FINISHED CEILING			90° TURN - ROUND DUCT 90° RADIUS TURN - ROUND OR RECTANGULAR DUCT SQUARE TO ROUND DUCT TRANSITION
AP BFF CI COTG	ACCESS PANEL BELOW FINISHED FLOOR CAST IRON CLEANOUT TO GRADE			DUCT TRANSITION
DMV DN DW DWG	DRAIN, WASTE, AND VENT DOWN DISHWASHER DRAWING	ردر بر اردر بر		RECTANGULAR DUCT 90° SPLIT
(E) FCO IE	EXISTING FLOOR CLEANOUT INVERT ELEVATION	0		THERMOSTAT @ 48" AFF TO TOP OF T-STAT, MAX
IW MFR	INDIRECT WASTE MANUFACTURER		AP	ACCESS PANEL
(N) NIC NTS	NEW NOT IN CONTRACT NOT TO SCALE		POC	POINT OF CONNECTION
SA SAD	SHOCK ABSORBER SEE ARCHITECTURAL DRAWINGS		UTR	UP THRU ROOF
SCD SED	SEE CIVIL DRAWINGS SEE ELECTRICAL DRAWINGS		BHP	BRAKE HORSEPOWER
SMD SSD	SEE MECHANICAL DRAWINGS SEE STRUCTURAL DRAWINGS		HP	HORSEPOWER
TYP UMC	TYPICAL UNIFORM MECHANICAL CODE		SAD	SEE ARCHITECTURAL DRAWINGS
	UNIFORM PLUMBING CODE UNLESS NOTED OTHERWISE		SSD	SEE STRUCTURAL DRAWINGS
V VTR WCO	VENT VENT THROUGH ROOF WALL CLEANOUT		SCD AFC	SEE CIVIL DRAWINGS ABOVE FINISH CEILING
WA	WATER HAMMER ARRESTOR			

T١	Í INTAKE SC	HEDULE		
	AIRFLOW	SP	WEIGHT	REMARKS
	1200 CFM	0.04 in-wg	49 lb	1-4
H F H ´	BACKDRAFT DA PREFABRICATEI I" FACTORY APF R MOUNTING DI	D ROOF CURB. PLIED INSULATION	ON.	

Α	AIR TEF	RMINAL SC	CHEDULE MANUFACTURER:TITUS (EXCEPT AS NOTED)
SDG		SPIRAL DUCT SUPPLY GRILLE	S300FL - SPIRAL DUCT GRILLE WITH AIR SCOOP. ALUMINUM DUCT GRILLE, WHITE POWDER COATED FINISH, 3/4" BLADE SPACING; DIRECT MOUNT TO SPIRAL DUCT. DOUBLE DEFLECTION.
WS		WALL SUPPLY DIFFUSER	300RL - 3/4" BLADE SPACING, STEEL CONSTRUCTION, 0 DEGREE DOUBLE DEFLECTION HORIZONTAL BLADES, EQUALIZING GRID.
SDGR		SPIRAL DUCT RETURN GRILLE	US8F - SPIRAL DUCT GRILLE . ALUMINUM DUCT GRILLE, WHITE POWDER COATED FINISH, 1/4" PERFORATED; DIRECT MOUNT TO SPIRAL DUCT.
WR		WALL RETURN GRILLE	355RS - 1/2" BLADE SPACING, 35 DEGREE DEFLECTION STEEL CONSTRUCTION, LOUVERS PARALLEL WITH LONG DIMENSION
CR	2	CEILING RETURN	50F5 - 1/2" x 1/2" x 1/2" EGGCRATE, ALUMINUM GRID
EG	<u> </u>	EXHAUST GRILLE	50F5 - 1/2" x 1/2" x 1/2" EGGCRATE, ALUMINUM GRID
DL		DOOR LOUVER	T-700 STEEL DOOR LOUVER
NC	<u>2. SIZE (N</u>		ION FROM SQUARE NECK TO ROUND DUCT. E FOR T-BAR CEILING ONLY









- FOR MECHANICAL & PLUMBING GENERAL NOTES, LEGENDS, AND Α SYMBOLS, REFER TO SHEET MP1.1 MECHANICAL & PLUMBING CONTRACTOR SHALL BE RESPONSIBLE В.
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- ALL EQUIPMENT, MECHANICAL EQUIPMENT, PLUMBING EQUIPMENT, D PIPING, VALVING, CONTROLS, ETC. RENDERED USELESS BY THIS
- WORK SHALL BE DEMOLISHED AND REMOVED FROM THE SITE LOCATION OF EXISTING MECHANICAL EQUIPMENT, PLUMBING E. EQIPMENT, DUCTWORK, AIR OUTLETS, PIPING, CONTROLS, VALVING, ETC. HAS BEEN BASED ON THE BEST AVAILABLE INFORMATION OBTAINABLE AT THE SITE AND THROUGH RECORD DRAWINGS. VERIFY EXACT LOCATIONS, SIZES, AND EXTENT OF EXISTING SYSTEMS PRIOR TO START OF DEMOLITION WORK

(1)

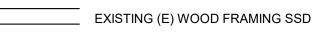
(1)

- PATCH ALL WALLS, CEILINGS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS. ASBESTOS CONTAINING PRODUCTS MAY BE PRESENT IN THE G.
- EXISTING BUILDING CONSTRUCTION. IF SUSPECT MATERIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE FOR INSTRUCTIONS PRIOR TO PROCEEDING WITH ADDITIONAL WORK. THE CONTRACTOR SHALL IMMEDIATELY POST NOTICES AND TAKE PRECAUTIONS NECESSARY TO ENSURE THE HEALTH AND SAFETY OF ALL WORKERS, THE STAFF, AND THE PUBLIC.
- TEMPORARY CAP EXISTING OPEN DUCT REMOVE FROM REGISTERS DURING CONSTRUCTION. PREPARE DUCT FOR RECONNECTION. н

DEMOLITION SHEET NOTES

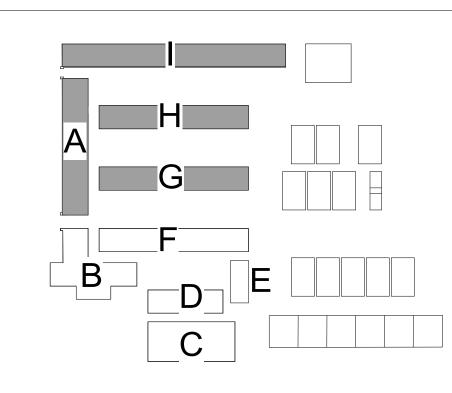
- (1) DEMOLISH THERMOSTAT. DEMOLISH ALL BASEBOARD HEATING UNITS, PIPING, VALVING AND ALL ASSOCIATED APPURTENANCES. FIELD VERIFY FOR EXACT LOCATION. (2) NO WORK IN THIS AREA.
- (3) DEMOLISH & REMOVE EXISTING MECHANICAL PIPING SHAFT & ALL ASSOCIATED APPURTENANCES. PATCH WALLS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS. FIELD VERIFY FOR EXACT LOCATION.

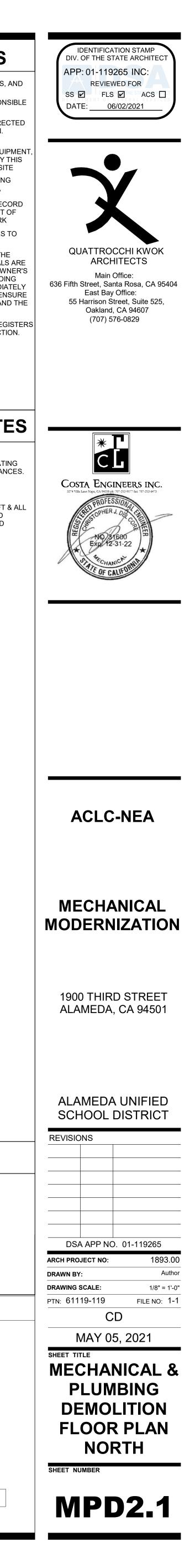


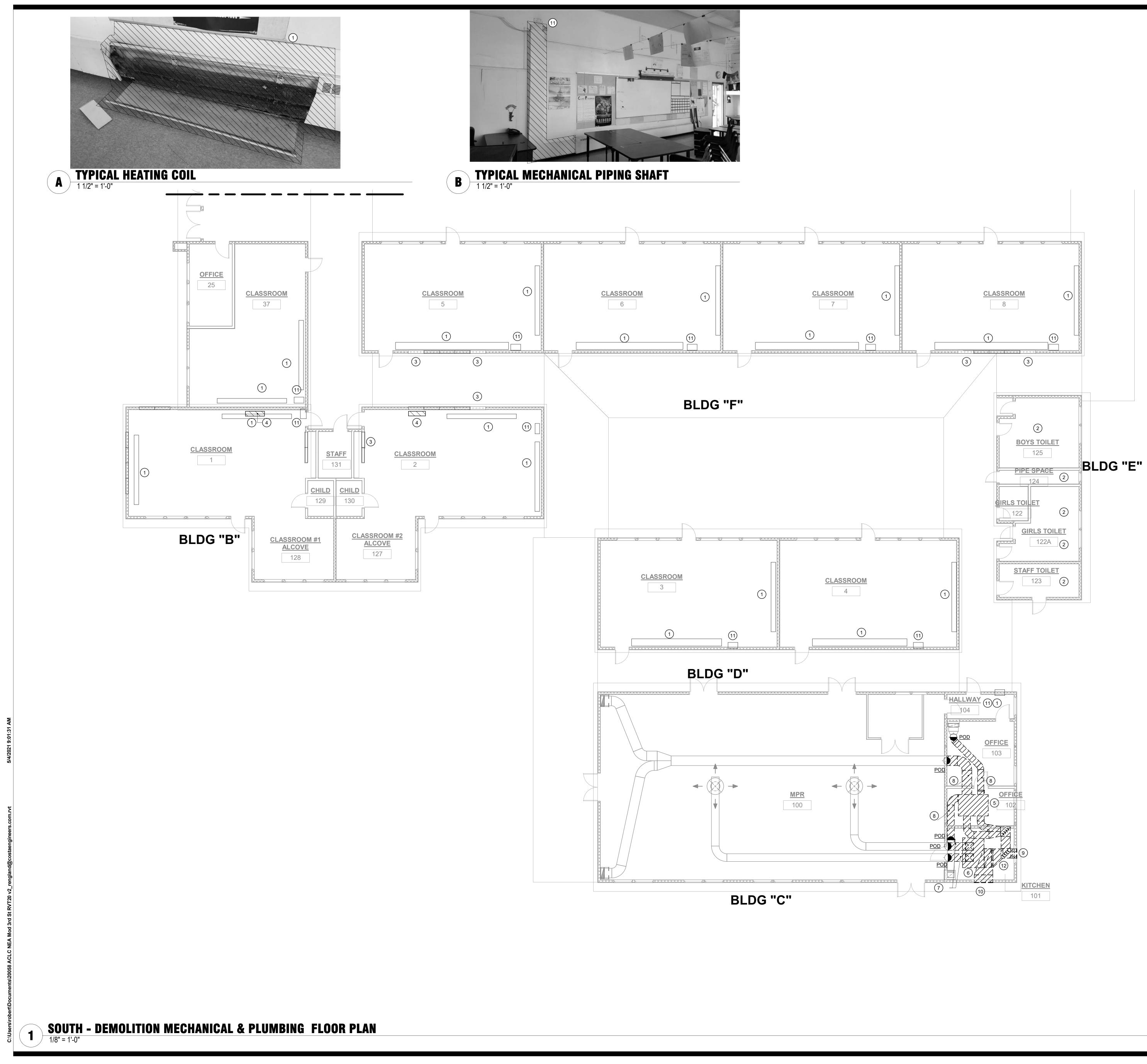


EXISTING (E) SHEAR WALL SSD

KEYPLAN





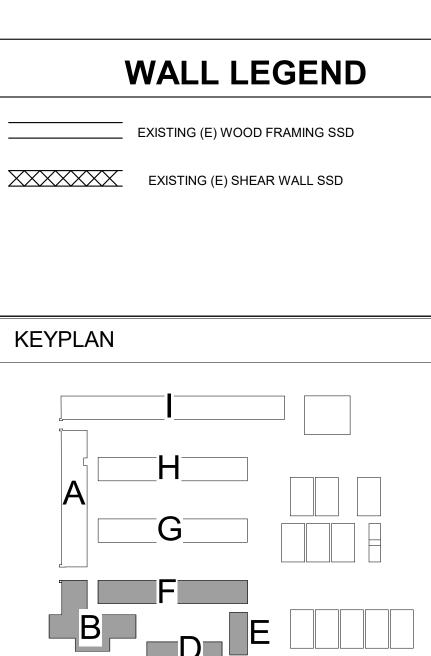


DEMO GENERAL NOTES

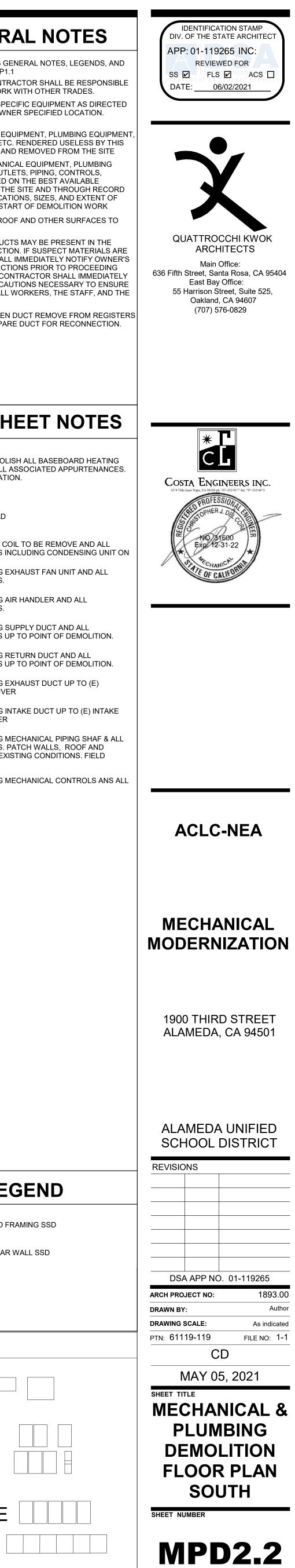
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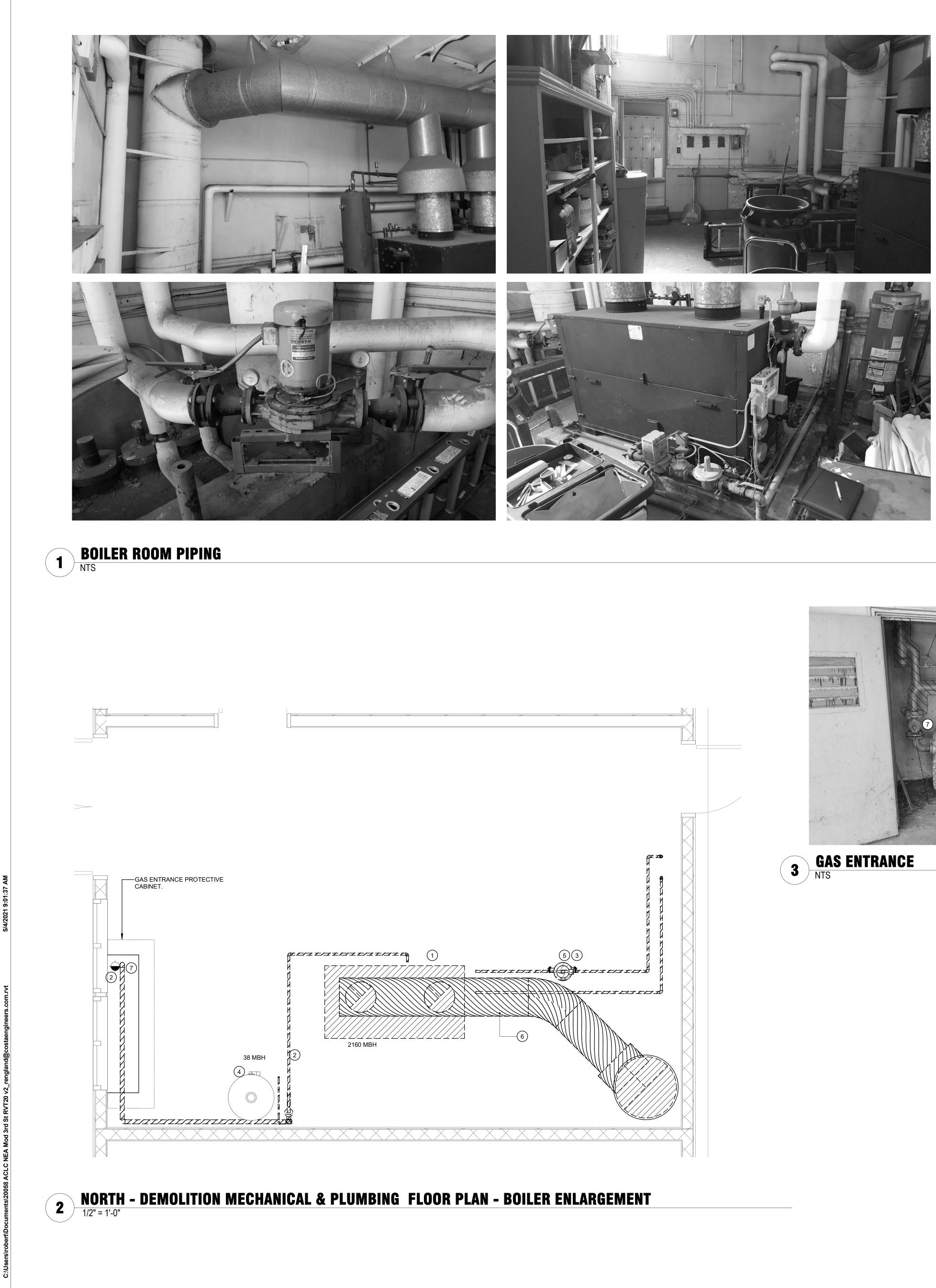
DEMOLITION SHEET NOTES

- (1) DEMOLISH THERMOSTAT. DEMOLISH ALL BASEBOARD HEATING UNITS, PIPING, VALVING AND ALL ASSOCIATED APPURTENANCES. FIELD VERIFY FOR EXACT LOCATION. (2) NO WORK IN THIS AREA.
- (3) EXISTING WINDOW LOUVER SAD
- (4) EXISTING WALL MOUNTED FAN COIL TO BE REMOVE AND ALL ASSOCIATED APPURTENANCES INCLUDING CONDENSING UNIT ON
- THE ROOF. 5 DEMOLISH & REMOVE EXISTING EXHAUST FAN UNIT AND ALL ASSOCIATED APPURTENANCES.
- 6 DEMOLISH & REMOVE EXISTING AIR HANDLER AND ALL ASSOCIATED APPURTENANCES.
- (7) DEMOLISH & REMOVE EXISTING SUPPLY DUCT AND ALL ASSOCIATED APPURTENANCES UP TO POINT OF DEMOLITION.
- (8) DEMOLISH & REMOVE EXISTING RETURN DUCT AND ALL ASSOCIATED APPURTENANCES UP TO POINT OF DEMOLITION.
- 9 DEMOLISH & REMOVE EXISTING EXHAUST DUCT UP TO (E) LOUVER. PATCH EXHAUST LOUVER
- (10) DEMOLISH & REMOVE EXISTING INTAKE DUCT UP TO (E) INTAKE LOUVER. PATCH INTAKE LOUVER
- 11 DEMOLISH & REMOVE EXISTING MECHANICAL PIPING SHAF & ALL ASSOCIATED APPURTENANCES. PATCH WALLS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS. FIELD VERIFY FOR EXACT LOCATION.
- (12) DEMOLISH & REMOVE EXISTING MECHANICAL CONTROLS ANS ALL ASSOIATED APPRUTENANCES



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CLOSE VALVE AND PREPARE TO CONNET PIPE TO NEW 3"Ø GAS VALVE TO REM



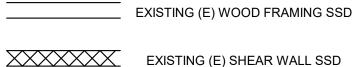
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FLOOR NOTES

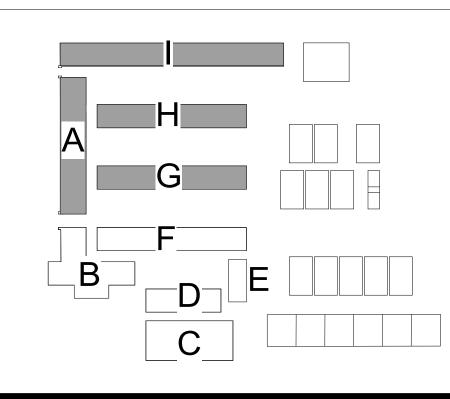
- (1) DEMOLISH BOILER & ALL ASSOCIATED APPURTENANCES.
- (2) DEMOLISH GAS PIPING TO POINT OF DEMOLITION.
- 3 DEMOLISH & REMOVE (E) HYDRONIC PIPING & VALVING & ALL ALL ASSOCIATED APPURTENANCES. REPAIR/SEAL & MATCH TO (E) WALL
- PROTECT (E) WATER HEATER. TEMPORARILY CLOSE GAS CONNECTION VALVE.
- (5) DEMOLISH PUMP & ALL ASSOCIATED APPURTENANCES.
- (6) DEMOLISH FLUE & ALL ASSOCIATED APPURTENANCES. (7) EXISTING BUILDING GAS SHUTOFF VALVE

WALL LEGEND

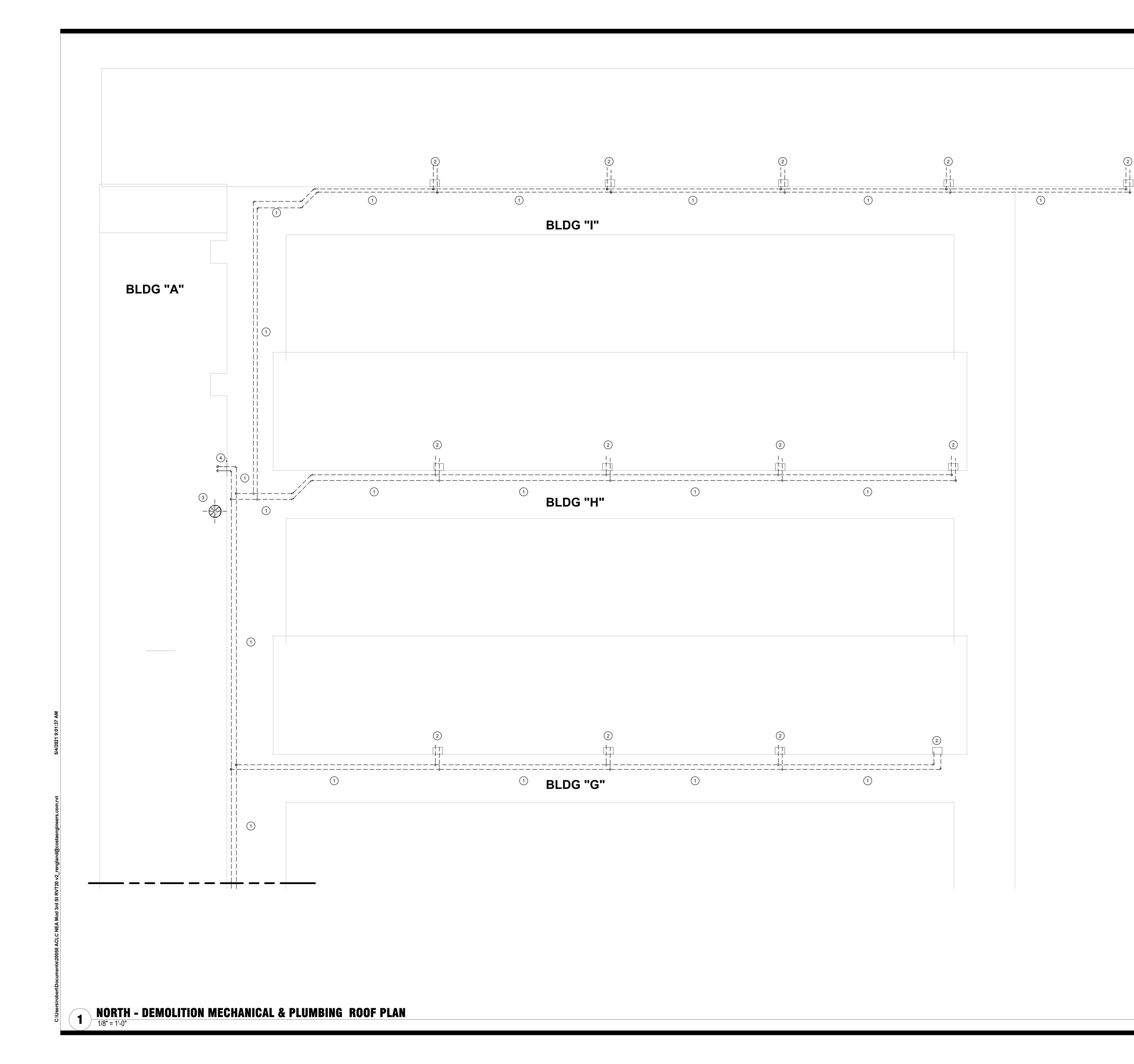


EXISTING (E) SHEAR WALL SSD

KEYPLAN







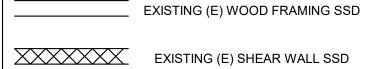
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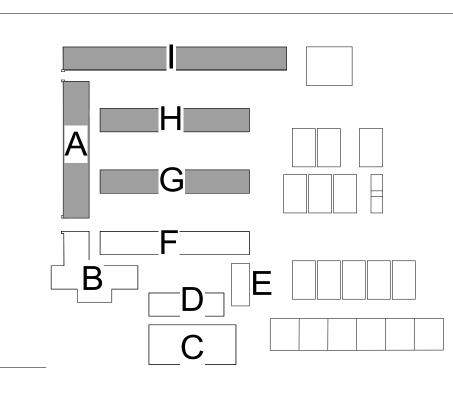
ROOF NOTES

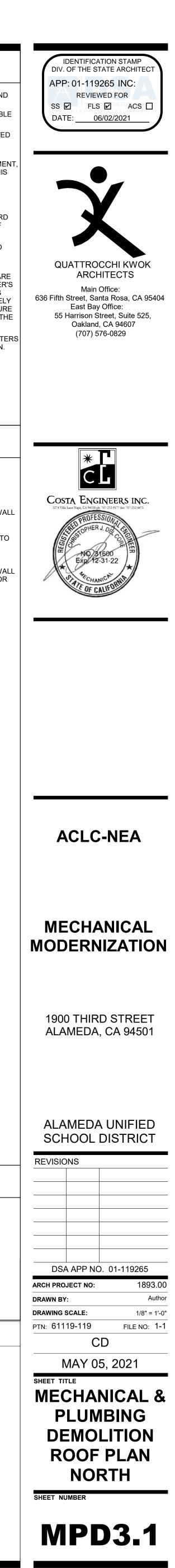
- (1) DEMOLISH & REMOVE (E) HEATING HOT WATER PIPING, SOV, SUPPORTS & ALL ASSOCIATED APPURTENANCES.
- 2 DEMOLISH & REMOVE (E) HEATING HOT WATER PIPING THRU WALL PATCH, SEAL & MATCH TO EXTERIOR WALL.
- 3 DEMOLISH & REMOVE (E) BOILER FLUE PATCH, SEAL & MATCH TO EXTERIOR ROOF.
- (4) DEMOLISH & REMOVE (E) HEATING HOT WATER PIPING THRU WALL PATCH, SEAL & MATCH TO EXTERIOR WALL. PREPARE WALL FOR 3" NEW GAS PIPING THRU WALL.

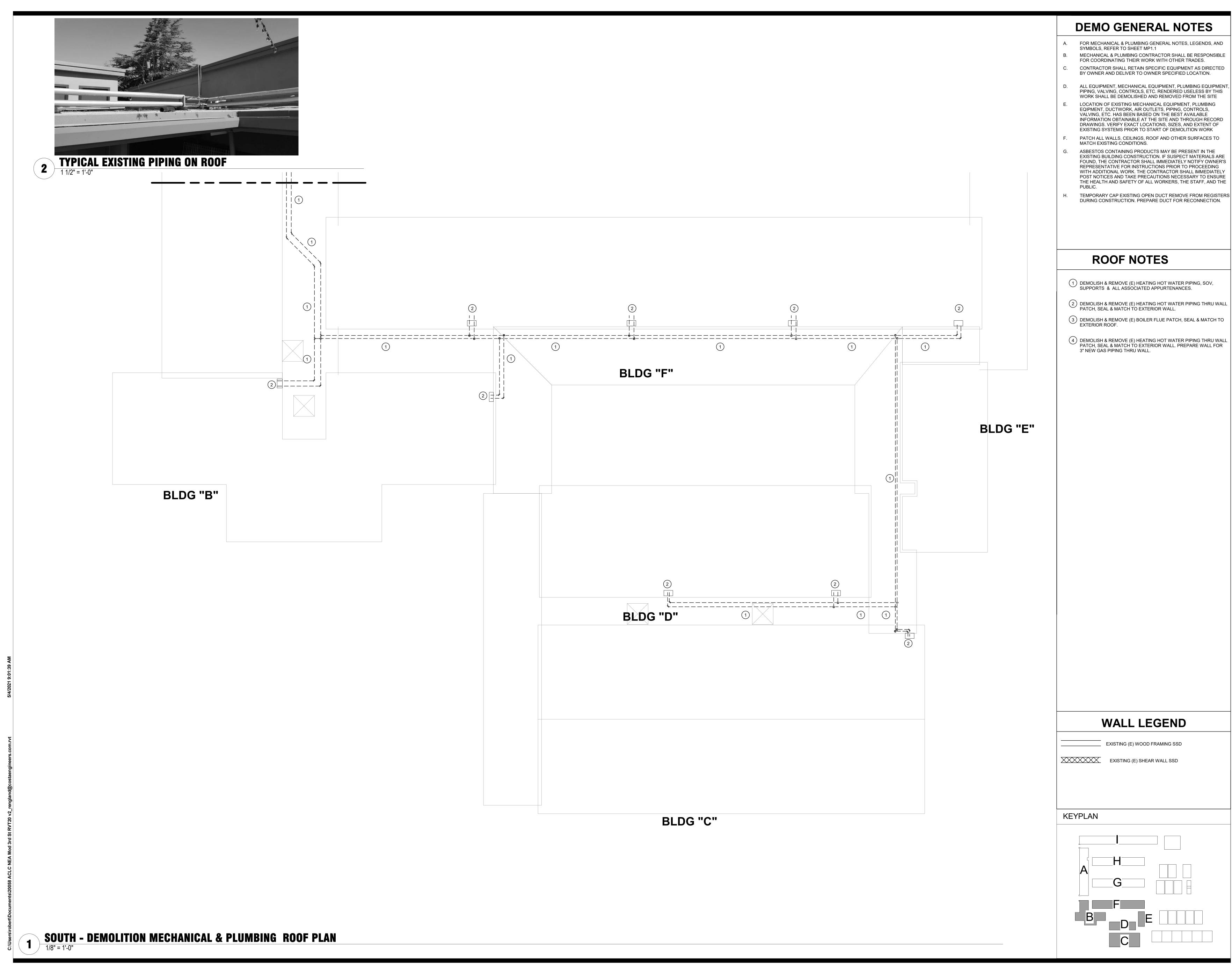
WALL LEGEND



KEYPLAN

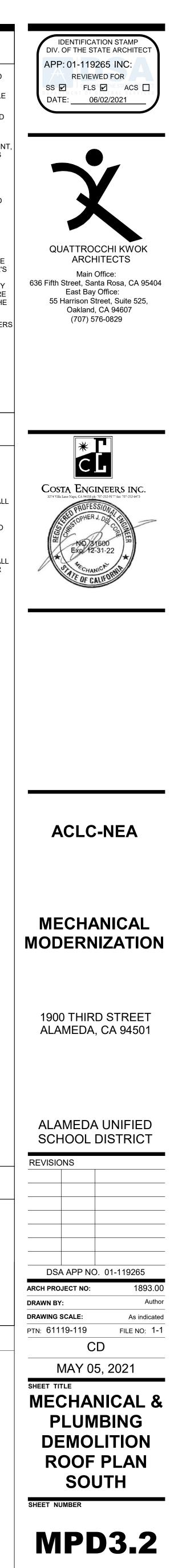


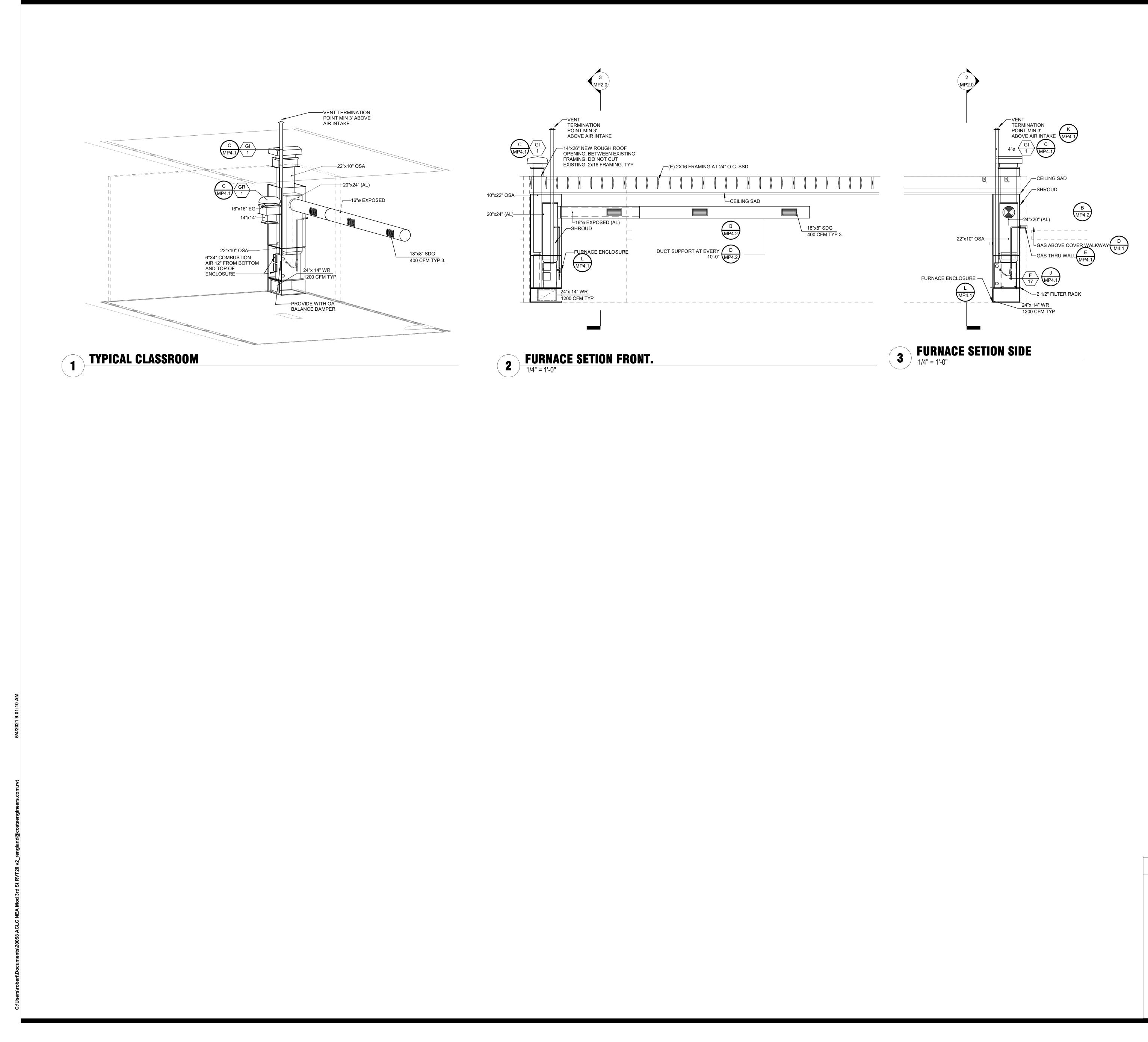


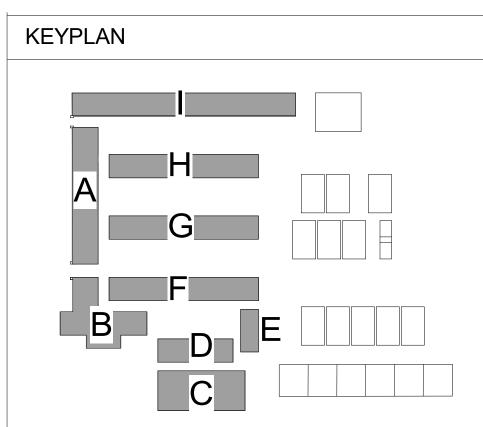


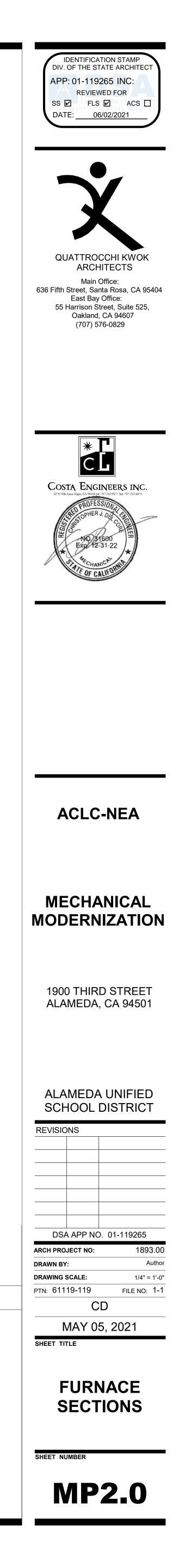
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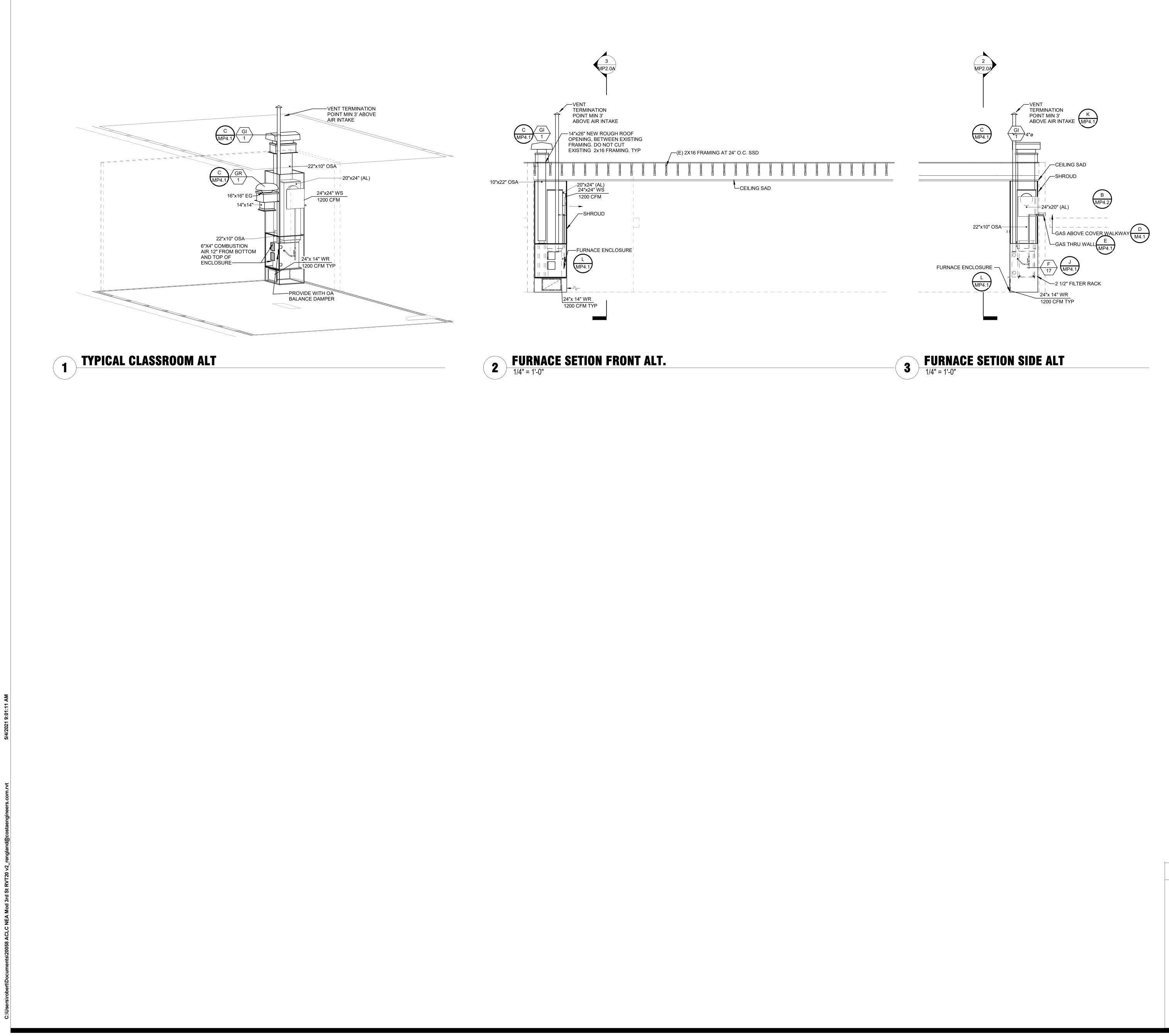
- (4) DEMOLISH & REMOVE (E) HEATING HOT WATER PIPING THRU WALL PATCH, SEAL & MATCH TO EXTERIOR WALL. PREPARE WALL FOR

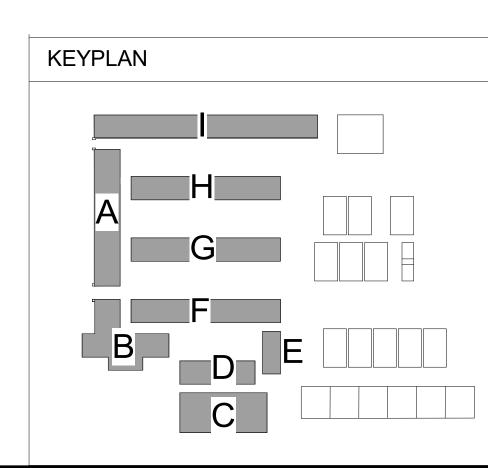


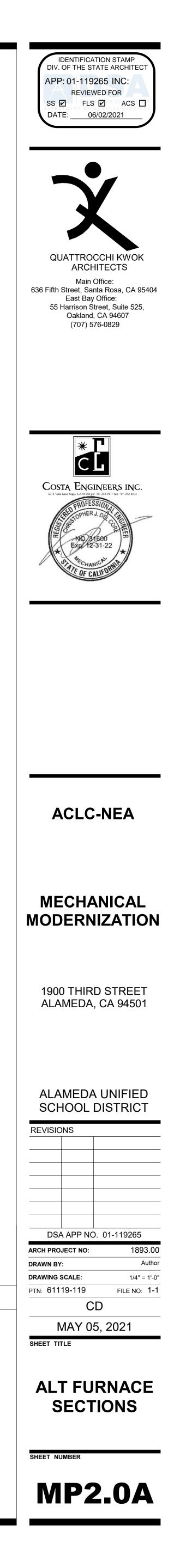


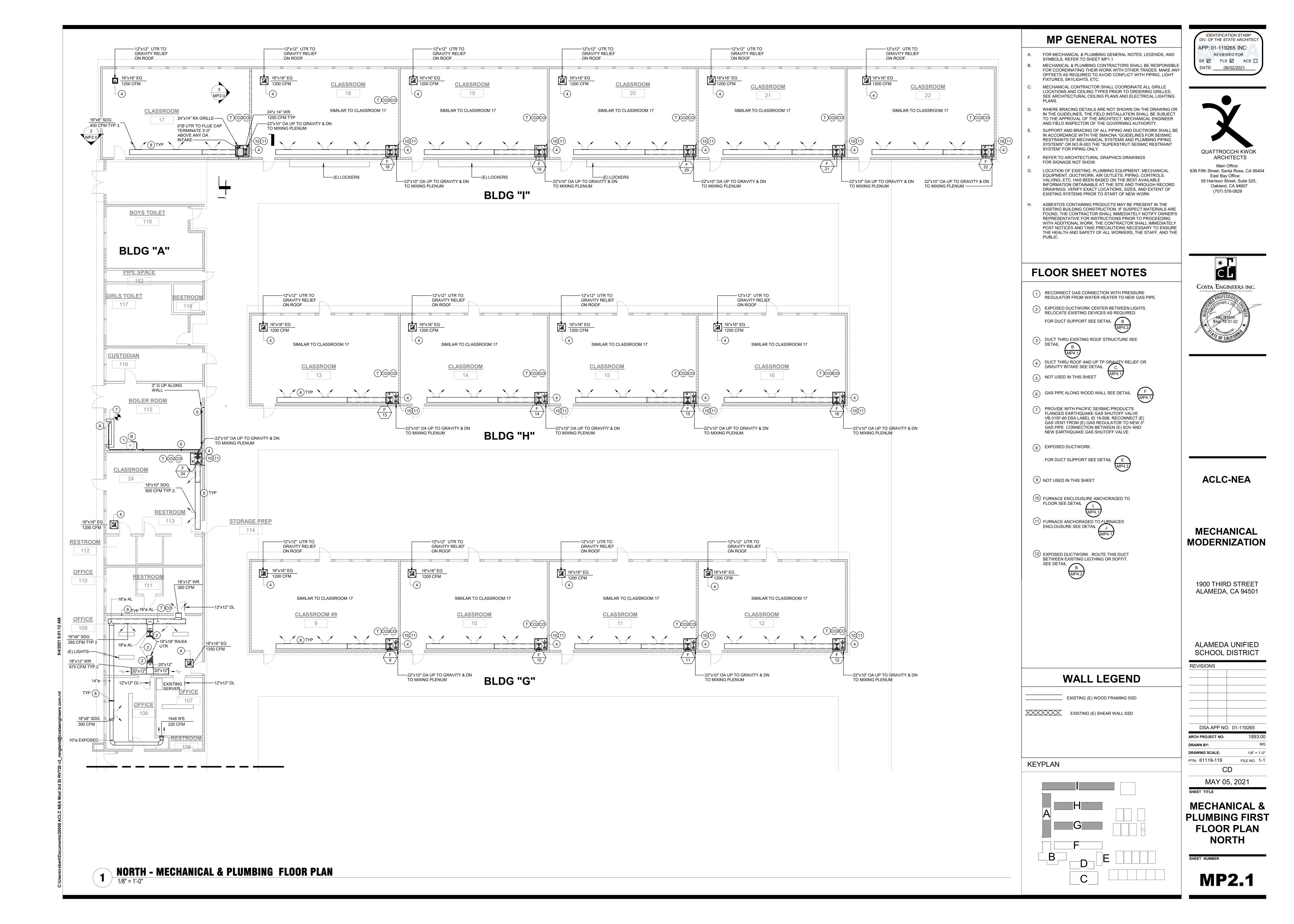


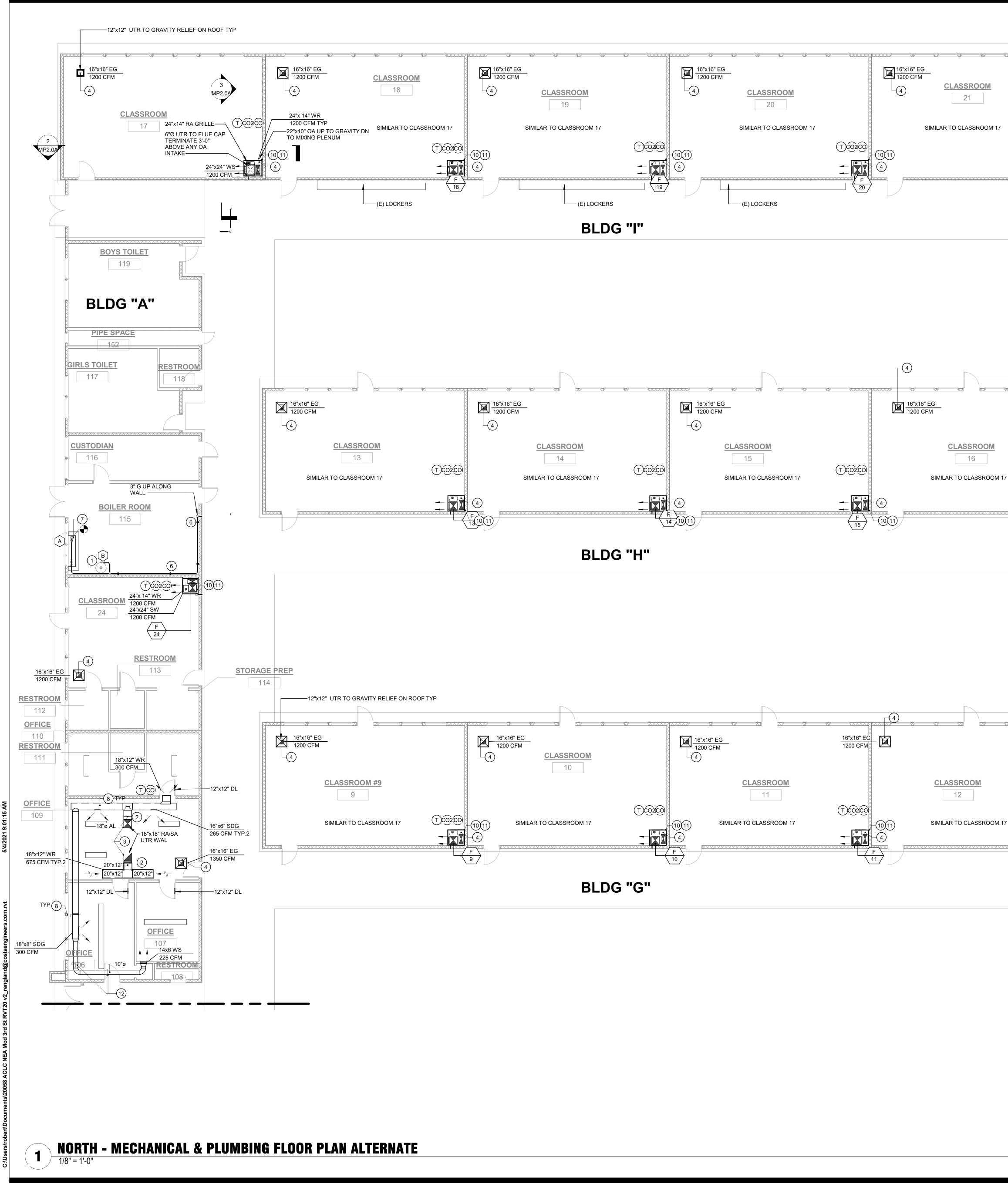




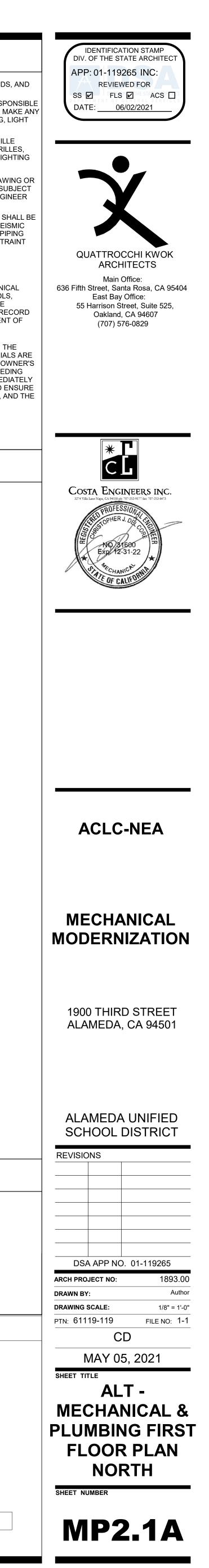


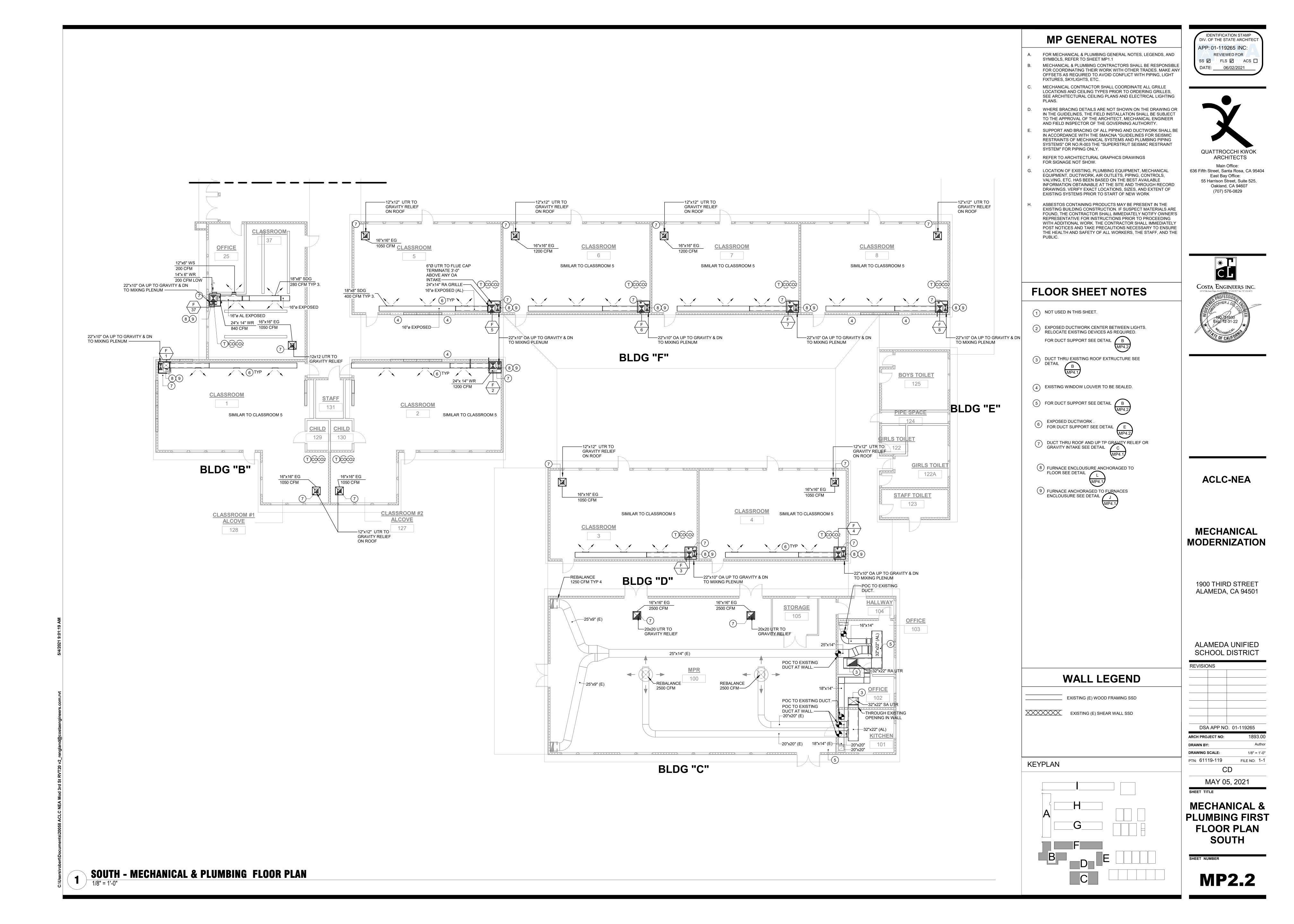


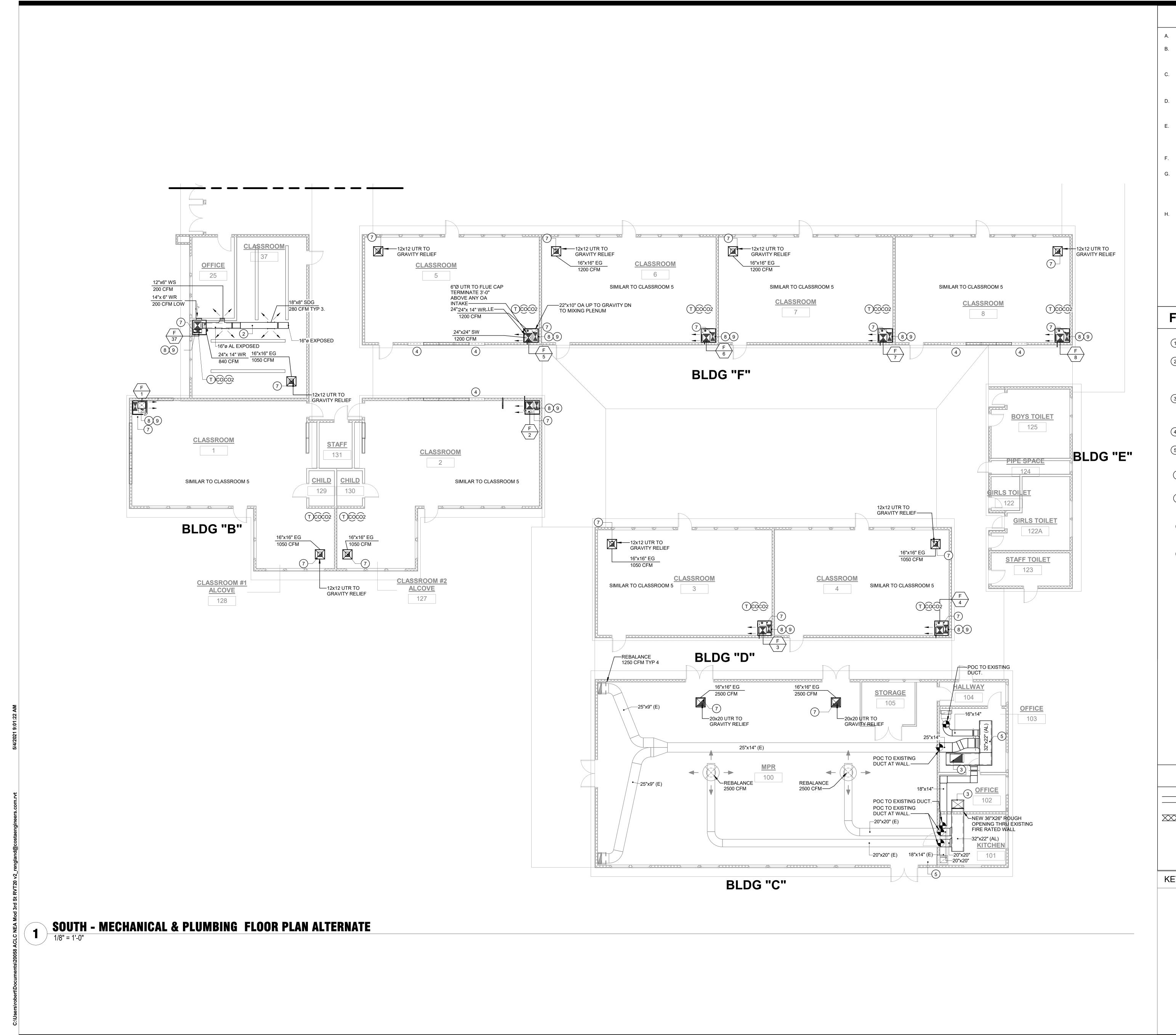




MP GENERAL NOTES FOR MECHANICAL & PLUMBING GENERAL NOTES, LEGENDS, AND Α SYMBOLS, REFER TO SHEET MP1.1 MECHANICAL & PLUMBING CONTRACTORS SHALL BE RESPONSIBLE В. FOR COORDINATING THEIR WORK WITH OTHER TRADES. MAKE ANY OFFSETS AS REQUIRED TO AVOID CONFLICT WITH PIPING, LIGHT 16"x16" EG 1200 CFM FIXTURES, SKYLIGHTS, ETC. **CLASSROOM** MECHANICAL CONTRACTOR SHALL COORDINATE ALL GRILLE С LOCATIONS AND CEILING TYPES PRIOR TO ORDERING GRILLES, 4 22 SEE ARCHITECTURAL CEILING PLANS AND ELECTRICAL LIGHTING PLANS. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWING OR D. IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER SIMILAR TO CLASSROOM 17 AND FIELD INSPECTOR OF THE GOVERNING AUTHORITY. SUPPORT AND BRACING OF ALL PIPING AND DUCTWORK SHALL BE (T)ĆO2(ĆO) IN ACCORDANCE WITH THE SMACNA "GUIDELINES FOR SEISMIC $(T)\hat{CO2}\hat{CO}$ (10)11) RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS" OR NO.R-003 THE "SUPERSTRUT SEISMIC RESTRAINT SYSTEM" FOR PIPING ONLY. REFER TO ARCHITECTURAL GRAPHICS DRAWINGS FOR SIGNAGE NOT SHOW. LOCATION OF EXISTING, PLUMBING EQUIPMENT, MECHANICAL EQUIPMENT, DUCTWORK, AIR OUTLETS, PIPING, CONTROLS, VALVING, ETC. HAS BEEN BASED ON THE BEST AVAILABLE INFORMATION OBTAINABLE AT THE SITE AND THROUGH RECORD DRAWINGS. VERIFY EXACT LOCATIONS, SIZES, AND EXTENT OF EXISTING SYSTEMS PRIOR TO START OF NEW WORK ASBESTOS CONTAINING PRODUCTS MAY BE PRESENT IN THE EXISTING BUILDING CONSTRUCTION. IF SUSPECT MATERIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE FOR INSTRUCTIONS PRIOR TO PROCEEDING WITH ADDITIONAL WORK. THE CONTRACTOR SHALL IMMEDIATELY POST NOTICES AND TAKE PRECAUTIONS NECESSARY TO ENSURE THE HEALTH AND SAFETY OF ALL WORKERS, THE STAFF, AND THE PUBLIC. **FLOOR SHEET NOTES** 1 RECONNECT GAS CONNECTION WITH PRESSURE REGULATOR FROM WATER HEATER TO NEW GAS PIPE. (2) EXPOSED DUCTWORK CENTER BETWEEN LIGHTS. RELOCATE EXISTING DEVICES AS REQUIRED. FOR DUCT SUPPORT SEE DETAIL MP4.2 3 DUCT THRU EXISTING ROOF STRUCTURE SEE MP4.1 4 DUCT THRU ROOF AND UP TP GRAVITY RELIEF OR GRAVITY INTAKE SEE DETAIL C TCO2(CO)MP4.1 5 NOT USED IN THIS SHEET F MP4.1 (6) GAS PIPE ALONG WOOD WALL SEE DETAIL F 1011 7 PROVIDE WITH PACIFIC SEISMIC PRODUCTS FLANGED EARTHQUAKE GAS SHUTOFF VALVE VB-315F-60 DSA LABEL ID 19-S06. RECONNECT (E) GAS VENT FROM (E) GAS REGULATOR TO NEW 3" GAS PIPE. CONNECTION BETWEEN (E) SOV AND NEW EARTHQUAKE GAS SHUTOFF VALVE. (8) EXPOSED DUCTWORK . ALONG WALL. FOR DUCT SUPPORT SEE DETAIL MP4.2 9 NOT USED IN THIS SHEET (10) FURNACE ENCLOUSURE ANCHORAGED TO FLOOR SEE DETAIL MP4.1 1) FURNACE ANCHORAGED TO FURNACES ENCLOUSURE SEE DETAIL MP4.1 (12) EXPOSED DUCTWORK . ROUTE THIS DUCT BETWEEN EXISTING LIGTHING OR SOFFIT. SEE DETAIL TCO2|CO|(10)(11) ₹ F \ 12 WALL LEGEND EXISTING (E) WOOD FRAMING SSD EXISTING (E) SHEAR WALL SSD KEYPLAN H G ___**B**___ _C__





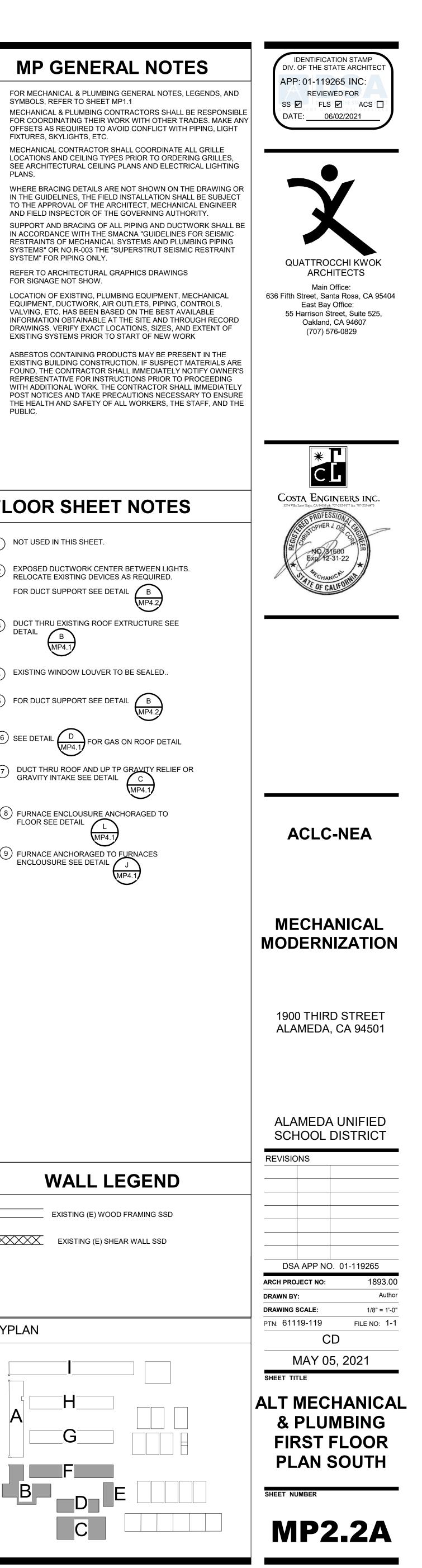


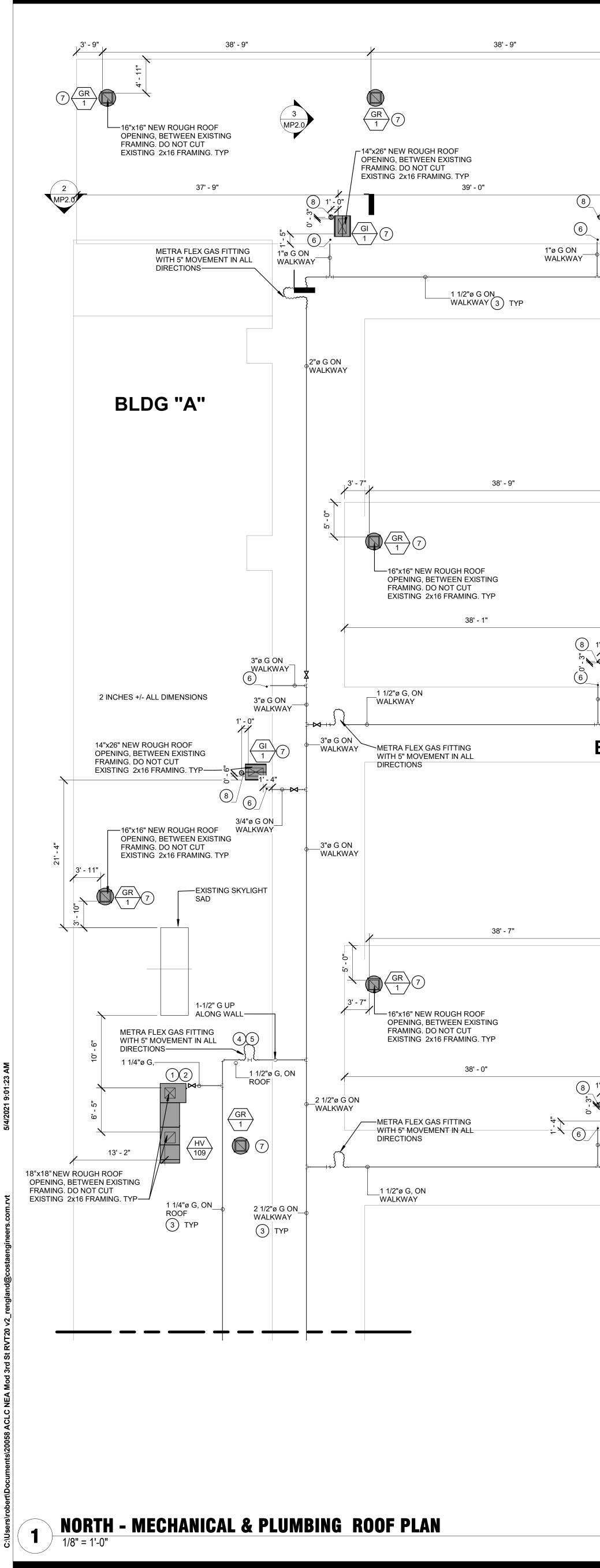
FOR COORDINATING THEIR WORK WITH OTHER TRADES. MAKE ANY OFFSETS AS REQUIRED TO AVOID CONFLICT WITH PIPING, LIGHT FIXTURES, SKYLIGHTS, ETC. C. MECHANICAL CONTRACTOR SHALL COORDINATE ALL GRILLE LOCATIONS AND CEILING TYPES PRIOR TO ORDERING GRILLES, SEE ARCHITECTURAL CEILING PLANS AND ELECTRICAL LIGHTING PLANS. D. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWING OR IN THE GUIDELINES. THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER AND FIELD INSPECTOR OF THE GOVERNING AUTHORITY. SUPPORT AND BRACING OF ALL PIPING AND DUCTWORK SHALL BE IN ACCORDANCE WITH THE SMACNA "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS" OR NO.R-003 THE "SUPERSTRUT SEISMIC RESTRAINT SYSTEM" FOR PIPING ONLY. F REFER TO ARCHITECTURAL GRAPHICS DRAWINGS FOR SIGNAGE NOT SHOW. LOCATION OF EXISTING, PLUMBING EQUIPMENT, MECHANICAL G. EQUIPMENT, DUCTWORK, AIR OUTLETS, PIPING, CONTROLS, VALVING, ETC. HAS BEEN BASED ON THE BEST AVAILABLE INFORMATION OBTAINABLE AT THE SITE AND THROUGH RECORD DRAWINGS. VERIFY EXACT LOCATIONS, SIZES, AND EXTENT OF EXISTING SYSTEMS PRIOR TO START OF NEW WORK ASBESTOS CONTAINING PRODUCTS MAY BE PRESENT IN THE EXISTING BUILDING CONSTRUCTION. IF SUSPECT MATERIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE FOR INSTRUCTIONS PRIOR TO PROCEEDING WITH ADDITIONAL WORK. THE CONTRACTOR SHALL IMMEDIATELY POST NOTICES AND TAKE PRECAUTIONS NECESSARY TO ENSURE THE HEALTH AND SAFETY OF ALL WORKERS, THE STAFF, AND THE PUBLIC. **FLOOR SHEET NOTES** (1) NOT USED IN THIS SHEET. (2) EXPOSED DUCTWORK CENTER BETWEEN LIGHTS. RELOCATE EXISTING DEVICES AS REQUIRED. FOR DUCT SUPPORT SEE DETAIL MP4.2 3 DUCT THRU EXISTING ROOF EXTRUCTURE SEE MP4.1 4 EXISTING WINDOW LOUVER TO BE SEALED.. 5 FOR DUCT SUPPORT SEE DETAIL B MP4.2 6 SEE DETAIL $\left(\begin{array}{c} D \\ H \end{array} \right)$ FOR GAS ON ROOF DETAIL 7 DUCT THRU ROOF AND UP TP GRAVITY RELIEF OR GRAVITY INTAKE SEE DETAIL MP4.1 8 FURNACE ENCLOUSURE ANCHORAGED TO FLOOR SEE DETAIL MP4.1 9 FURNACE ANCHORAGED TO FURNACES ENCLOUSURE SEE DETAIL WALL LEGEND EXISTING (E) WOOD FRAMING SSD EXISTING (E) SHEAR WALL SSD KEYPLAN $-\mathsf{H}_{-}$

SYMBOLS, REFER TO SHEET MP1.1

В.

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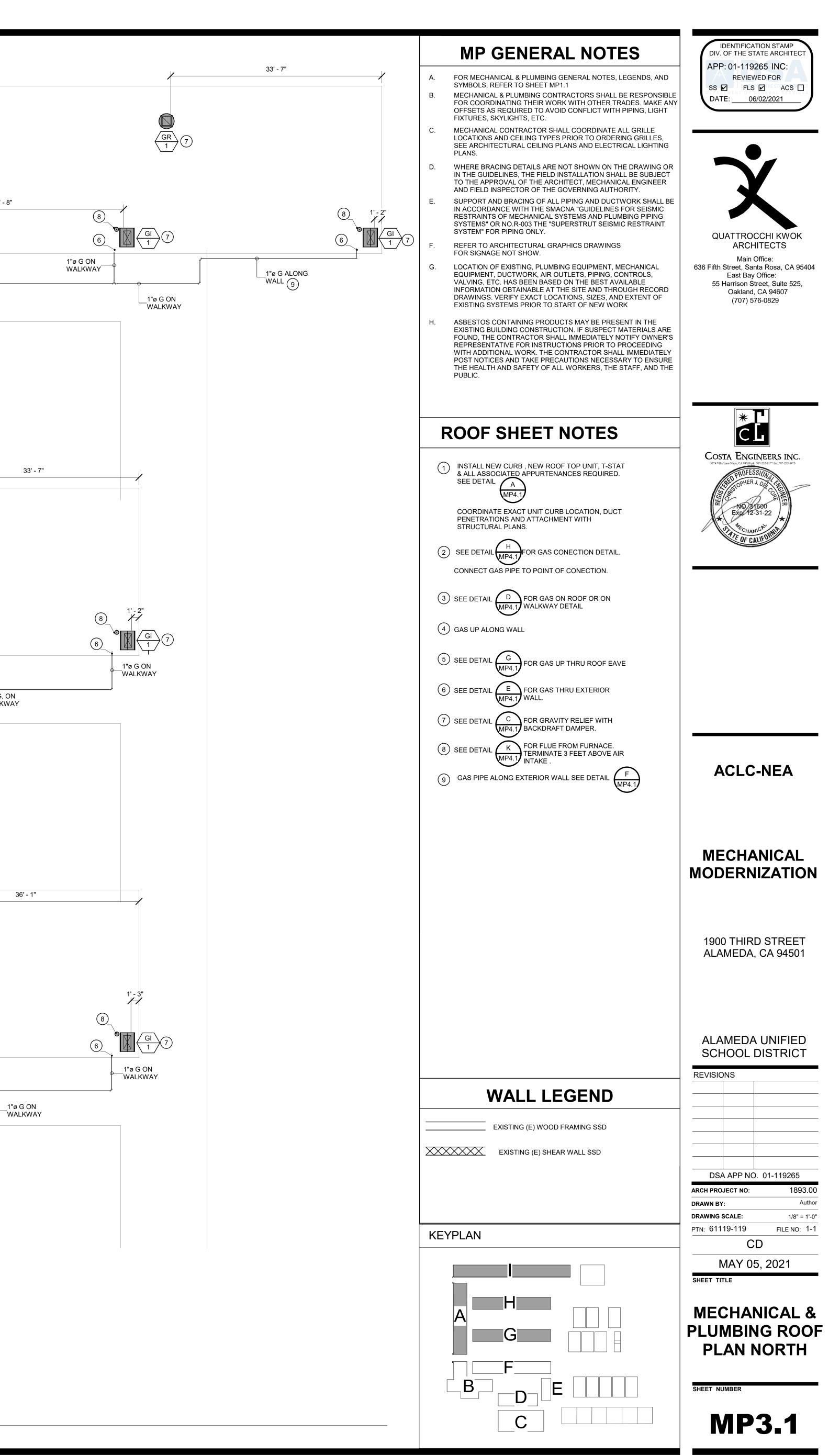
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$\bigcirc \overbrace{1}^{GR} 7$	$\bigcirc \overline{\mathbb{GR}} \xrightarrow{\mathbb{GR}} \overline{\mathbb{7}}$	$\bigcirc \overline{\mathbb{GR}} \overline{\mathbb{GR}} \overline{\mathbb{T}} \overline{\mathbb{T}}$
2 INCHES +/- ALL DIN 14"x26" NEW ROUGH ROOF OPENING, BETWEEN EXISTING FRAMING. DO NOT CUT EXISTING 2x16 FRAMING. TYP 38' - 8"	MENSIONS 38' - 8"	
1' - 1" \K	8	
GI = 7		
1"ø G ON WALKWAY	1"ø G ON WALKWAY	↓1"ø G ON WALKWAY
BLD 1 1/2"ø G, ON WALKWAY (3) TYP)G "G" 1 1/4"ø G ON WALKWAY	·†+·

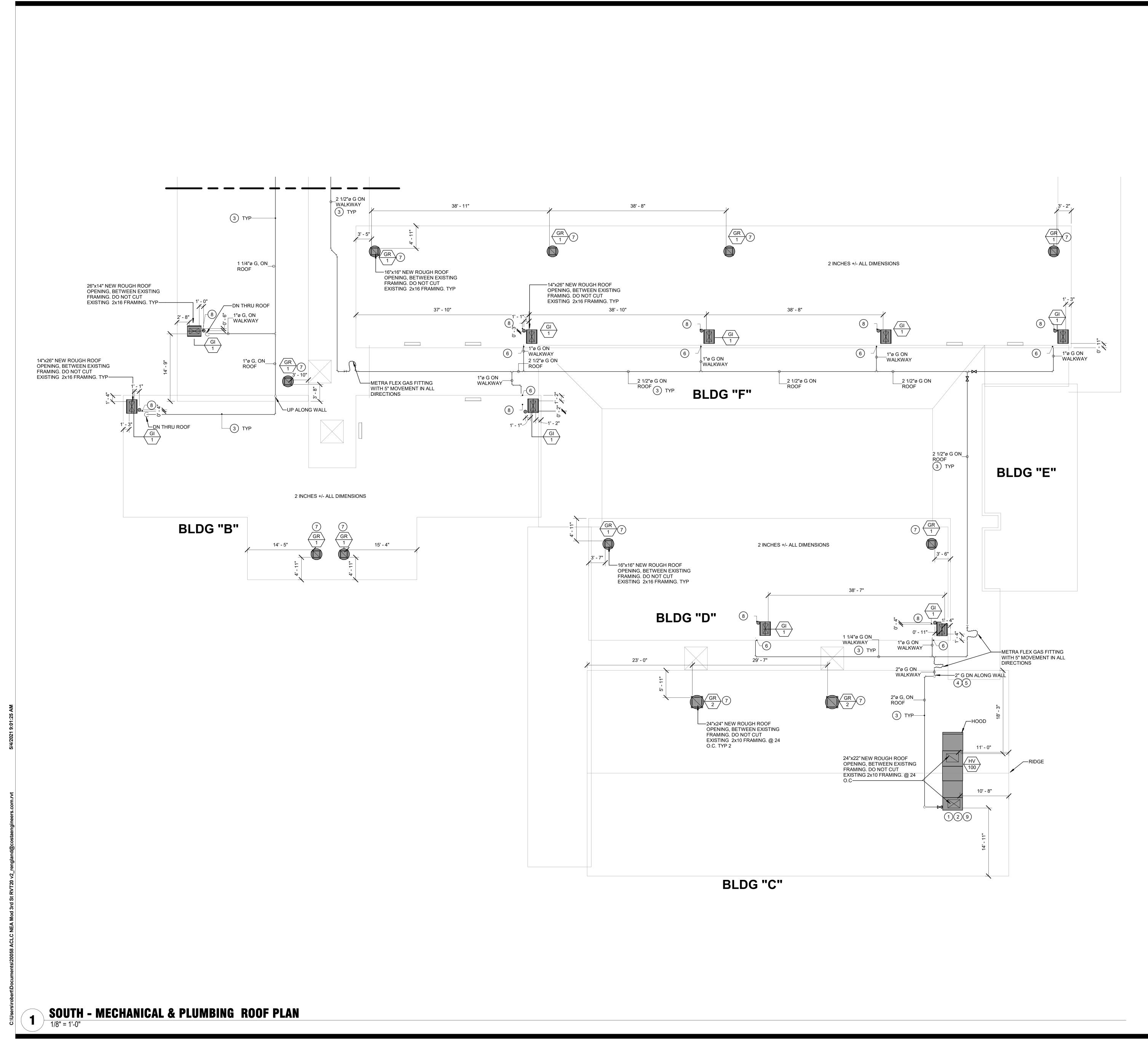
	38' - 9"	/		/	
$\bigcirc \overbrace{1}^{GR} 7$		$\bigcirc \overline{\bigcirc} \overline{\bigcirc} \overline{\bigcirc} \overline{\bigcirc} \overline{\bigcirc} \overline{\bigcirc} \overline{\bigcirc} \bigcirc$		GR 1) 7)
- 14"x26" NEW ROUGH ROO OPENING, BETWEEN EXI FRAMING. DO NOT CUT EXISTING 2x16 FRAMING	ISTING 6. TYP	NS			
	38' - 8"	8 6 Gl 7	38' - 8"		
1"ø G, ON WALKWAY	0	1"ø G ON WALKWAY	0	1"ø G ON WALKWAY	
BLDG "H"	1 1/4"ø G, ON WALKWAY ③ TYP		1 1/4"ø G, ON WALKWAY	· * · · ·	1"ø G, WALK\

GR 1 7	2 INCHES +/- ALL DIMENSIONS	GR 1 7	GR 1	€7
	38' - 8" (6)	38' - 8"		38' - 8
	1"ø G ON WALKWAY	₽_1_/	1"ø G ON WALKWAY	
	1 1/2"ø G ON BLDG "I" WALKWAY	1 1/2"ø G ON WALKWAY		1 1/4"ø G ON WALKWAY

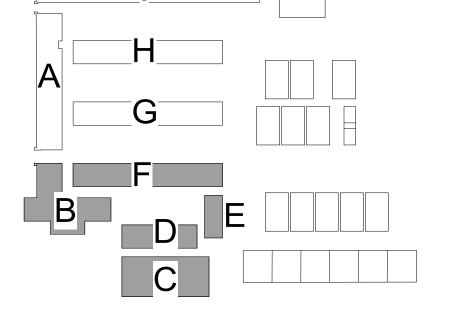
38' - 8"

38' - 9"

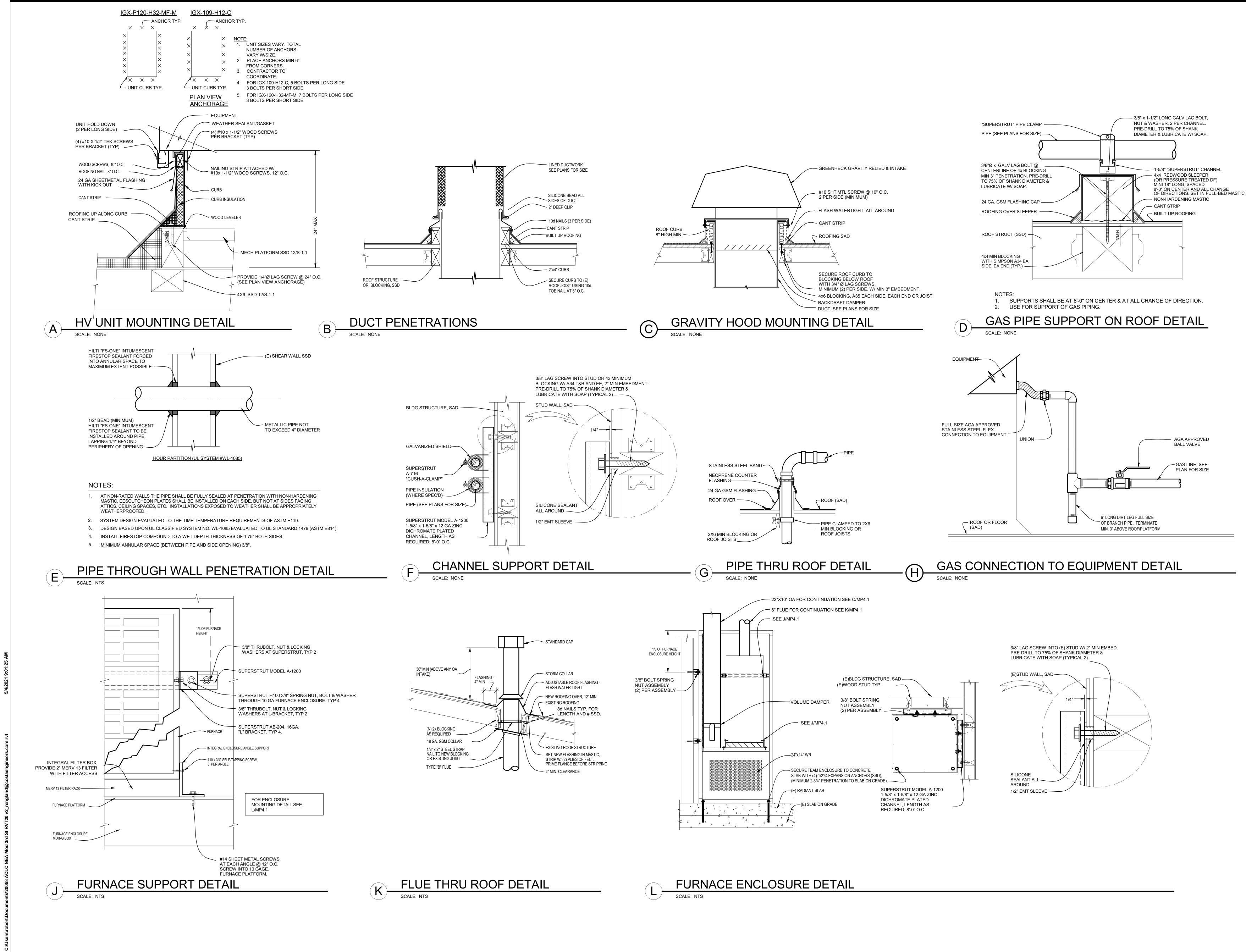


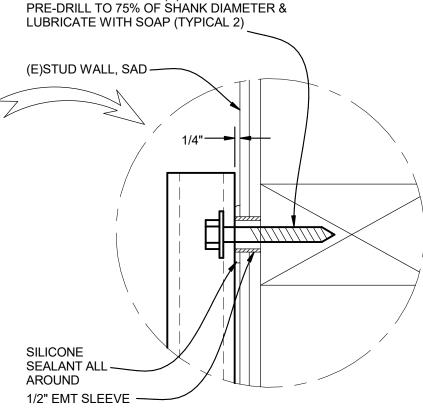


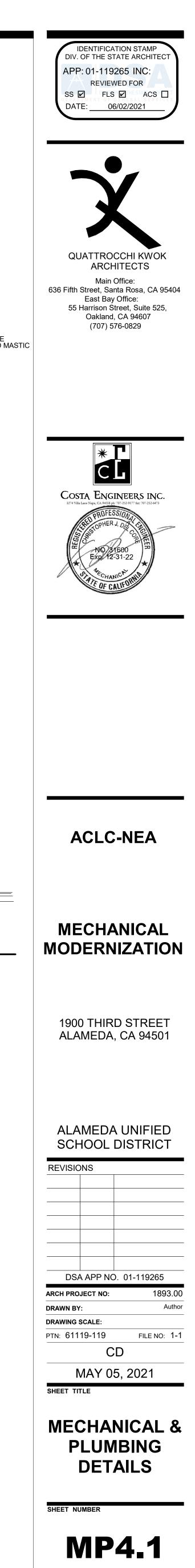
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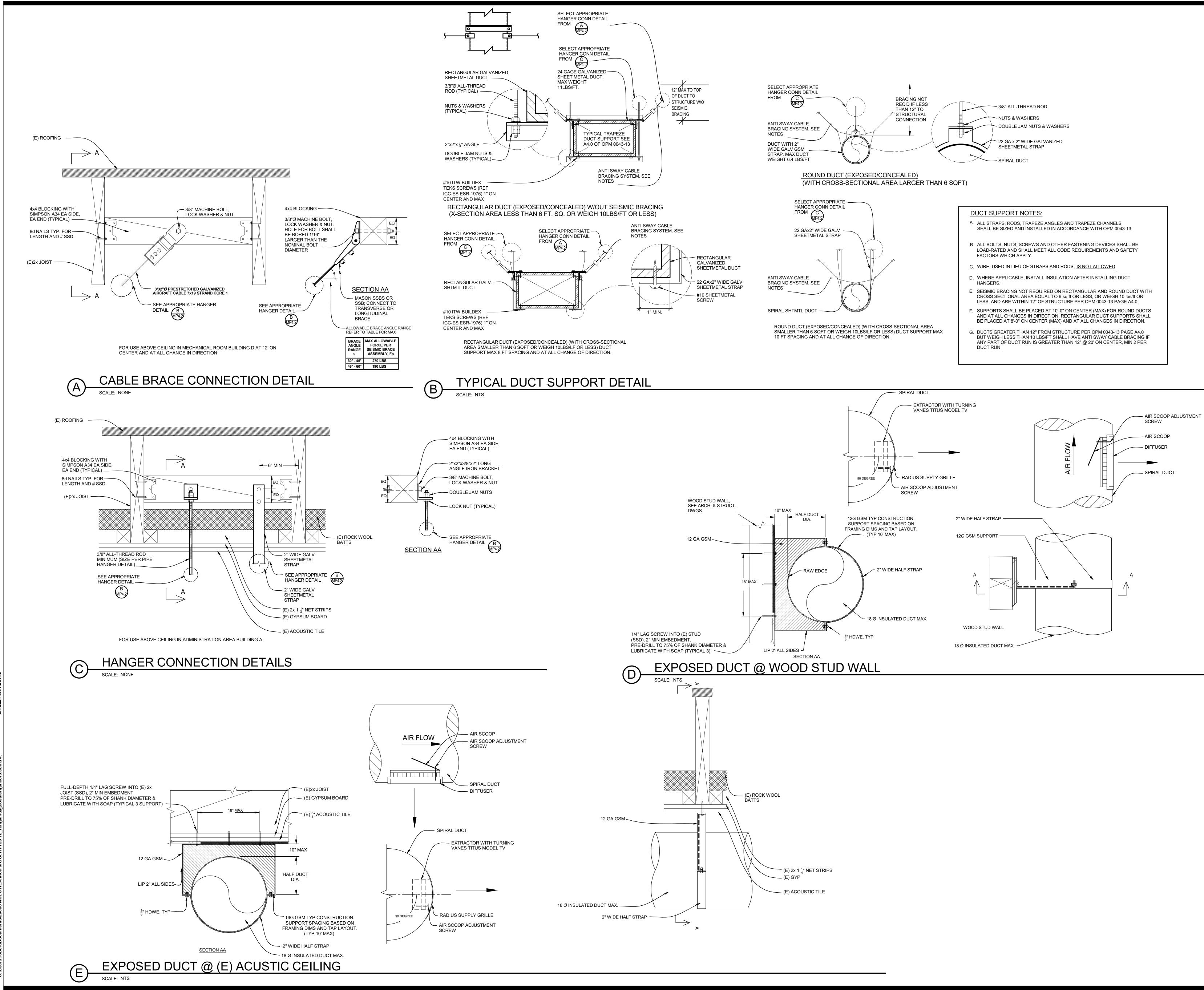


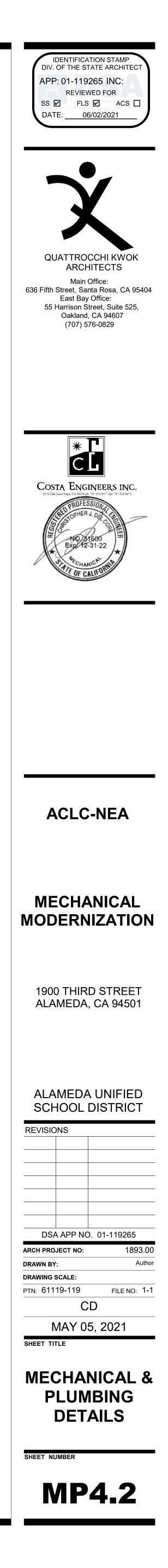


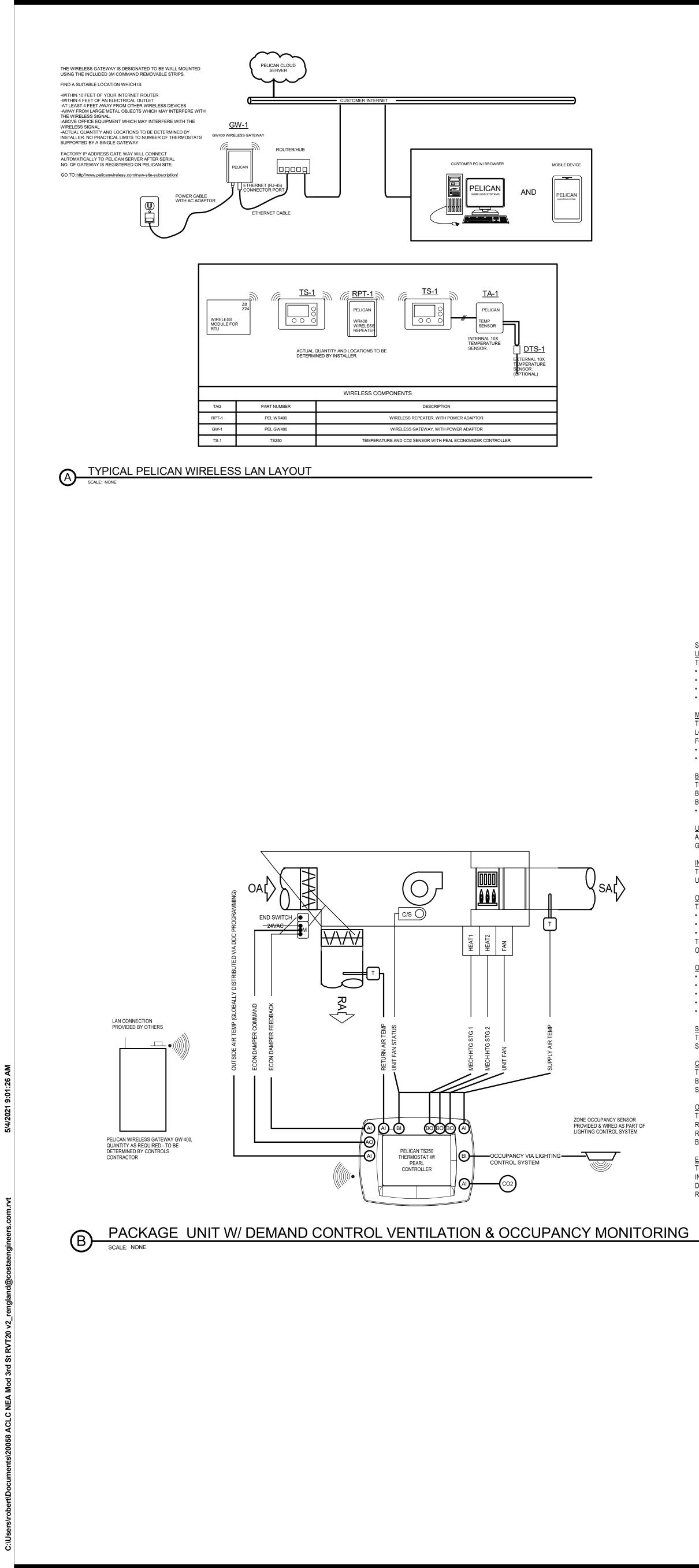












BUILDING MANAGEMENT SYSTEM (BMS) COMMUNICATION THE MICROPROCESSOR CONTROLLER SHALL BE CAPABLE OF INTEGRATING INTO A BUILDING MANAGEMENT SYSTEM (BMS) TO ALLOW THE BMS TO REMOTELY ADJUST SET POINTS, VIEW UNIT STATUS POINTS AND ALARMS. THE MICROPROCESSOR SHALL INCLUDE THE REQUIRED BMS CARD TO COMMUNICATE OVER THE FOLLOWING PROTOCOL: BACNET® MSTP UNIT START COMMAND A CONTACT CLOSURE OR JUMPER WIRE MUST BE FIELD WIRED BETWEEN TERMINALS R AND G TO ENABLE THE UNIT. WHEN TERMINAL G IS ENERGIZED THE UNIT SHALL OPERATE AS DESCRIBED BELOW. WHEN TERMINAL G IS DE-ENERGIZED THE UNIT IS DISABLED. INTERNAL TIME CLOCK (SCHEDULE) THE MICROPROCESSOR CONTROLLER IS EQUIPPED WITH AN INTERNAL 7-DAY PROGRAMMABLE TIME CLOCK, ALLOWING THE USER TO ADD UP TO SEVEN DIFFERENT OCCUPANCY SCHEDULES. THE USER MAY ALSO ADD UP TO 15 HOLIDAYS FOR ADDITIONAL ENERGY SAVINGS. OCCUPIED/UNOCCUPIED MODES THE MICROPROCESSOR CONTROLLER OFFERS THE FOLLOWING MODES FOR DETERMINING OCCUPANCY: THE INTERNAL TIME CLOCK A REMOTE CONTACT (SEE WIRING DIAGRAM FOR DETAILS) THE BUILDING MANAGEMENT SYSTEM (BMS) THE UNIT CAN BE TEMPORARILY OVERRIDDEN TO THE OCCUPIED MODE VIA A DRY CONTACT OR THE KEYPAD DISPLAY. AFTER THE OVERRIDE TIME HAS EXPIRED (1 HR, ADJ) THE UNIT WILL RETURN TO THE SCHEDULED OCCUPIED/UNOCCUPIED MODE. OCCUPIED MODE UNIT START-UP SEQUENCE • UNIT ENABLE INPUT MUST BE CLOSED (CONTACT CLOSURE BETWEEN R AND G). INITIAL DELAY, MICROPROCESSOR CONTROLLER INITIALIZATION SEQUENCE. • FACTORY MOUNTED AND WIRED OUTDOOR AIR AND RECIRCULATED AIR DAMPER ACTUATOR IS POWERED. • SUPPLY FAN STARTS AFTER 10 SECOND (ADJ.) DELAY. TEMPERING OPERATION BEGINS (SEE MODES BELOW). SUPPLY FAN SEQUENCE (OCCUPIED) THE UNIT HAS BEEN PROVIDED WITH A FACTORY MOUNTED VARIABLE FREQUENCY DRIVE (VFD). THE VARIABLE FREQUENCY DRIVE SHALL CONTROL THE SUPPLY FAN SPEED AS INDICATED BY THE FOLLOWING SEQUENCE: CONSTANT VOLUME: THE VFD SHALL BE PROGRAMMED FROM THE FACTORY FOR A CONSTANT SUPPLY FAN SPEED. THIS IS TO BE ADJUSTED FOR AIR BALANCING ONLY AND IS NOT TO BE MODULATED. THE MICROPROCESSOR CONTROLLER HAS NO CONTROL OR MONITORING OF THE SUPPLY FAN SPEED. OUTDOOR AIR DAMPER AND RECIRCULATED AIR DAMPER CONTROL (OCCUPIED) THE OUTDOOR AIR AND RECIRCULATED AIR DAMPERS ARE CONTROLLED BY A SINGLE COMMON MODULATING ACTUATOR AND THE RECIRCULATED AIR DAMPER WILL OPERATE INVERSE OF THE OUTDOOR AIR DAMPER. WHEN DE-ENERGIZED THE ACTUATOR WILL SPRING RETURN, CLOSING THE OUTDOOR AIR DAMPER AND OPENING THE RECIRCULATED AIR DAMPER. THE POSITION OF THE DAMPERS SHALL BE CONTROLLED BY THE FOLLOWING SEQUENCE: EXTERNAL 2-10 VDC SIGNAL BY OTHERS THE DAMPERS SHALL BE CONTROLLED BY AN EXTERNAL 2-10 VDC SIGNAL (FIELD PROVIDED AND WIRED) LANDED TO TERMINALS IN THE UNIT CONTROL CENTER (SEE UNIT WIRING DIAGRAM FOR DETAILS). THE EXTERNAL SIGNAL SHALL CONTROL THE ACTUATOR DIRECTLY AND THE MICROPROCESSOR CONTROLLER SHALL HAVE NO CONTROL OR MONITORING OF THE OUTDOOR AIR AND RECIRCULATED AIR DAMPER POSITIONS.

FOLLOWING SENSORS: OUTDOOR AIR TEMPERATURE SENSOR • SUPPLY DISCHARGE TEMPERATURE SENSOR (MUST BE FIELD MOUNTED IN THE SUPPLY DUCTWORK)

<u>MICROPROCESSOR CONTROLLER</u> THE MICROPROCESSOR CONTROL SHALL BE FACTORY PROGRAMMED, MOUNTED, WIRED AND TESTED. CONTROLLER SHALL HAVE A LIGHTED LCD DISPLAY AND KEYPAD FOR CHANGING SET POINTS AND MONITORING UNIT OPERATION. THE CONTROLLER SHALL BE EQUIPPED WITH THE

• FACTORY MOUNTED AND WIRED OUTDOOR AIR AND RECIRCULATED AIR DAMPERS AND ACTUATOR

 24VAC TRANSFORMER TERMINAL STRIP SUPPLY FAN VFD

THE UNIT SHALL BE PROVIDED FROM THE FACTORY WITH:

SEQUENCE OF OPERATIONS UNIT CONTROLS

HEATING CONTROL THE HEATING WILL BE LOCKED OUT WHEN THE OUTSIDE AIR IS ABOVE THE HEATING LOCKOUT SET POINT (65 F ADJ.). WHEN ENABLED HEATING WILL BE CONTROLLED AS FOLLOWS: INDIRECT GAS FIRED HEATING

THE MICROPROCESSOR CONTROLLER WILL MODULATE THE INDIRECT GAS FURNACE TO MAINTAIN THE ACTIVE SUPPLY TEMPERATURE SET POINT. SUPPLY TEMPERATURE SET POINT CONTROL (OCCUPIED) THE ACTIVE SUPPLY TEMPERATURE SET POINT SHALL BE ADJUSTED (FIELD SELECTABLE): LOCALLY AT THE CONTROLLER. REMOTELY BY THE BMS.

• RESET BASED UPON OUTSIDE AIR TEMPERATURE (FIELD SELECTABLE) OUTSIDE AIR RESET SEQUENCE THE MICROPROCESSOR CONTROLLER MONITORS THE OUTDOOR AIR TEMPERATURE AND ADJUSTS THE DESIRED SUPPLY TEMPERATURE SET POINT ACCORDINGLY. FOR EXAMPLE, WHEN THE OUTDOOR AIR IS ABOVE 80 F, THE CONTROLLER WILL CHANGE THE SUPPLY SET POINT TO 75 F. IF THE OUTDOOR AIR IS BELOW 60 F, THE CONTROLLER WILL CHANGE THE SUPPLY SET POINT TO 65 F. IF THE OUTDOOR AIR TEMPERATURE IS BETWEEN 60 F AND 80 F THE SUPPLY SET POINT IS CHANGED ACCORDING TO THE OUTDOOR AIR RESET FUNCTION. THE OUTSIDE AIR RESET FUNCTION IS FIELD ADJUSTABLE LOCALLY AT THE CONTROLLER.

OUTDOOR AIR RESET FUNCTION

55 60 65 70 75 80 50 OUTSIDE AIR TEMPERATURE (F) UNOCCUPIED MODE (DISABLED)

 SUPPLY FAN IS OFF • FACTORY MOUNTED AND WIRED OUTDOOR AIR AND RECIRCULATED AIR DAMPER ACTUATOR IS DE-ENERGIZED.

AND GENERATE AN ALARM.

SUPPLY AIR LOW LIMIT IF THE SUPPLY AIR TEMPERATURE DROPS BELOW 35 F (ADJ.) FOR 300 SECONDS (ADJ.), THE CONTROLLER WILL DE-ENERGIZE THE UNIT ALARM MANAGEMENT THE MICROPROCESSOR CONTROLLER WILL MONITOR THE UNIT STATUS FOR ALARM CONDITIONS. UPON DETECTING AN ALARM, THE CONTROLLER WILL RECORD THE ALARM DESCRIPTION, TIME, DATE, AVAILABLE TEMPERATURES, AND UNIT STATUS FOR USER REVIEW. A DIGITAL OUTPUT IS RESERVED FOR REMOTE ALARM INDICATION.

8

ALARMS ARE ALSO COMMUNICATED TO THE BUILDING MANAGEMENT SYSTEM (BMS).

POSSIBLE ALARMS INCLUDE:

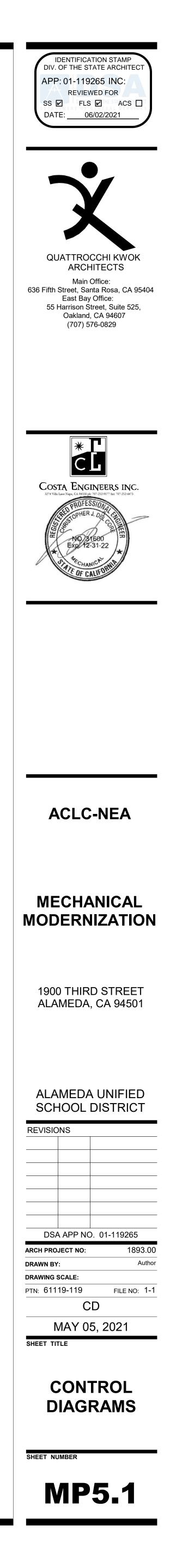
 GLOBAL ALARM INDICATION THAT ONE OR MORE ALARMS ARE PRESENT. OUTDOOR AIR INLET TEMPERATURE SENSOR ALARM OUTDOOR AIR INLET TEMPERATURE SENSOR ALARM: FAILURE OF THE OUTDOOR AIR INLET TEMPERATURE SENSOR.

 SUPPLY AIR DISCHARGE TEMPERATURE SENSOR ALARM FAILURE OF THE SUPPLY AIR DISCHARGE TEMPERATURE SENSOR. UNIT IS SHUT DOWN. SUPPLY AIR LOW LIMIT ALARM SUPPLY AIR HAS FALLEN BELOW 35 F (ADJ.) FOR 300 SECONDS (ADJ.). UNIT IS SHUT DOWN.

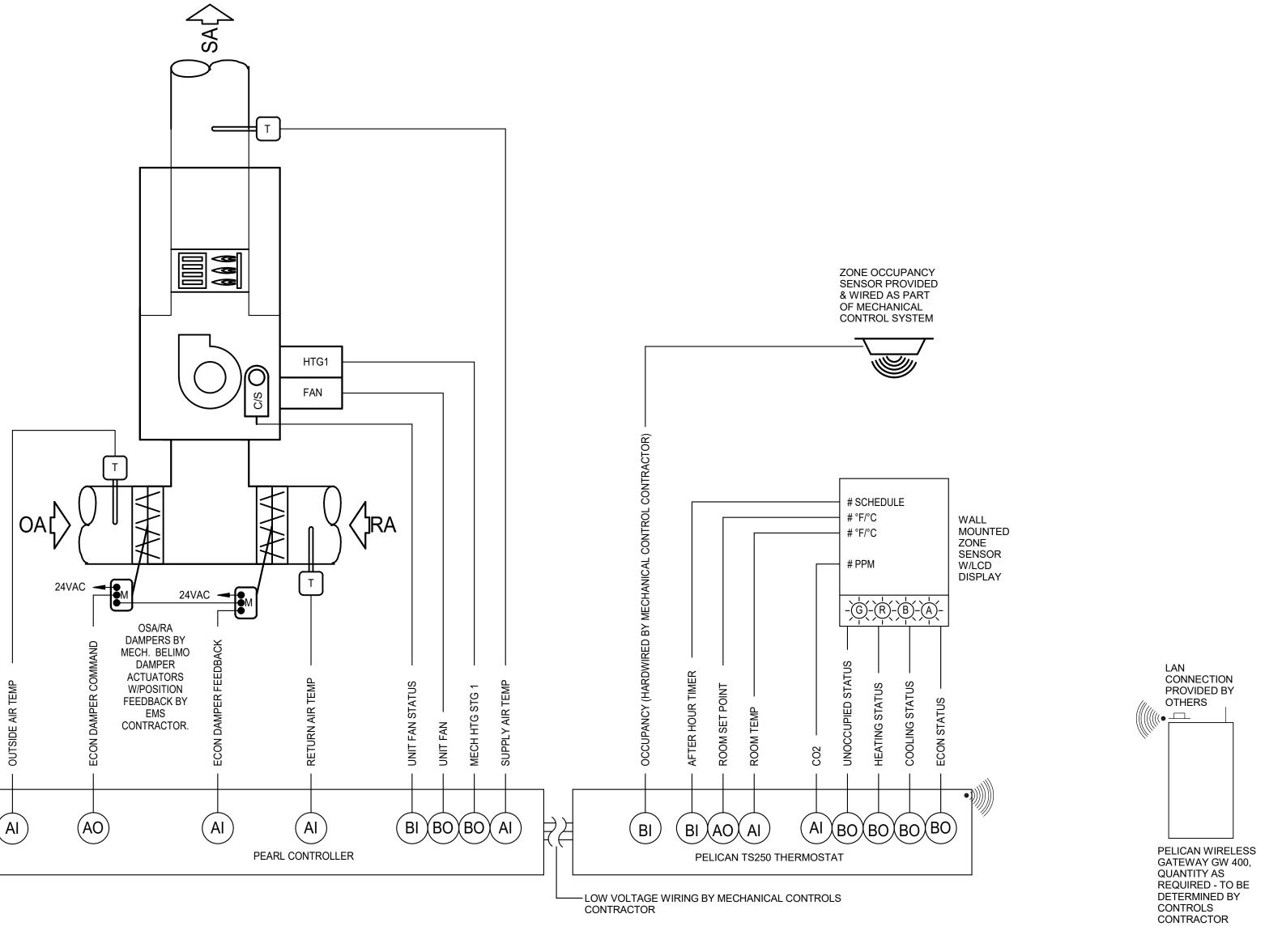
INDICATES THE PRESSURE ACROSS THE FILTERS HAS INCREASED ABOVE THE DIRTY FILTER PRESSURE SWITCH SETTING (FIELD

 DIRTY FILTER ALARM ADJUSTABLE)

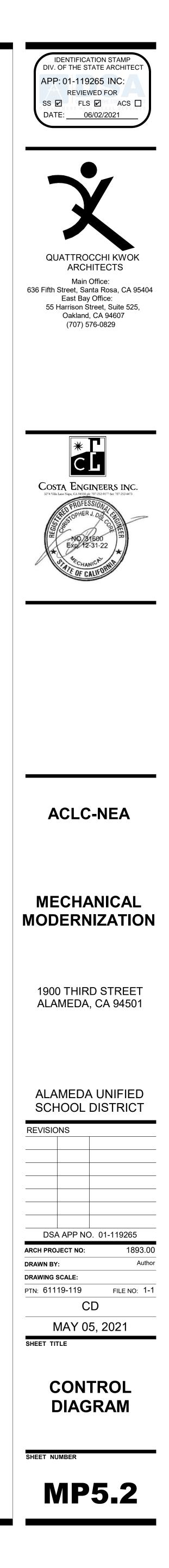
 INDIRECT GAS FURNACE ALARMS THE INDIRECT GAS FURNACE OPERATION IS MONITORED FOR A VARIETY OF ALARM CONDITIONS. SUPPLY FAN ALARM INDICATES THE SUPPLY FAN FAILED TO PROVE FOR A 30 SECOND (ADJ.) PERIOD.



b. EMS unitary controll	view vill be directly controlled by its own dedicated EMS (Energy Management System) unitary controller. ler will be connected to a wall mounted electronic zone temperature sensor with integral CO2 sensor. perature sensor shall have a touch screen LCD interface which includes: 1) digital pushbuttons for
warmer/cooler setpo pushbutton after-hou ability to be limited fi	bint control; 2) visual display of room temperature, room CO2 and ambient OSA temperature; and 3) digital urs override timer control, with user adjustable duration. The after-hours override duration shall have the
available, monitoring occupancy sensor(s 3. Unit Fan Ope	ration
triggered. b. During the Unoccup controlled by the uno	Occupied Mode or in Afterhours Mode, the fan shall run continuously, unless Vacant Mode has been ied Mode as determined by EMS time schedule, the unit fan cycles with demand and the temperature is occupied space temperature heating and cooling setpoints.
a. During Occupied Mo maintain a position w determined by Air Ba	door Air Ventilation ode or Afterhours Mode, the economizer damper shall be commanded by the EMS unitary controller to which satisfies the Minimum Outdoor Air ventilation requirements for the zoneDamper position(s) alancing Contractor. trol Ventilation
 a. EMS unitary controll b. During Occupied Mo maintain the CO2 co 	ler will be connected to a wall mounted CO2 sensor to monitor zone CO2 concentration. ode or Afterhours Mode, the EMS unitary controller shall reset the outside air damper minimum position to oncentration below 1,000 ppm. emand Reduction Controls
Automatic Demand 7. Vacant Mode a. When the zone has	been scheduled for occupancy for at least one hour and the occupancy sensor has confirmed that zone
 b. Reset cooling and h c. Minimum Outdoor A the zone is in Vacan 	
 Zone Pre-Occ The EMS shall sche Heating operation 	
a gas regulating value b. Economizer to be con 10. Cooling operation	ommanded to Min CFM setpoint during heating mode.
b. A call for cooling willc. Mechanical heating 11. Fault Detection	l enable the economizer to provide free cooling for as long as possible. to be locked out during cooling mode.
results via EMS netw i. Temperature Senso ii. Economizer not eco iii. Economizer econom	work: r Failure/Fault nomizing when enabled nizing when disabled
Interface:	The following conditions shall be monitored and displayed at EMS Operator Workstation/Graphical User
a. Supply air temperatub. Room temperature.c. Room CO2 concentd. Room occupancy state. Current mode (heati	ration. atus.
f. Supply air temperatu	ure attained last time unit was in heating. tatus of fan, economizer and gas valve. fan and heat.
j. Economizer actuato	r feedback status.
	120/24 VAC
	120VAC/208VAC FROM FRN UNIT. TRANSFORMER & WIRING BY EMS CONTRACTOR.
(A)	FURNACE UNIT W/ DEMAND CONTROL VE BCALE: NONE



LATION & OCCUPANCY MONITORING



ELE	CTRICAL EQUIPMENT ANCHORAGE
ELECTRICA	AL ANCHORAGE NOTES:
APPROVED BRACED T	RICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA O CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR O MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, 5 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16, CHAPTER 13, 26, AND 30.
2.	ALL PERMANENT EQUIPMENT AND COMPONENTS. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOT LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.
BUT NEED COMPONE ASSOCIAT	DWING ELECTRICAL COMPONENTS SHALL BE BE POSITIVELY ATTACHED TO THE STRUCTURE, NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE NTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND 'ED CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND DINAL DIRECTIONS.
	COMPONENT WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED
D.	SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM WALL.
DESIGN PI RESPONSI	IORAGE OF ALL ELECTRICAL COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE ROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED BILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL NTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE IENTS.
ELECTRICA	AL DISTRIBUTION SYSTEM BRACING NOTE:
DISPLACE	AL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND MENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5 .6.7, 13.6.8, AND 2019 CBC, SECTIONS 1617A.1.24, 1617A.1.25, AND 1617A.1.26.
DISTRIBU PREAPPRO SYSTEM IN START OF STRUCTUF	OD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED TION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A VED INSTALLATION GUIDE (eg., OSHPD OPM FOR 2013 CBC), COPIES OF THE BRACING NSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE RAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT GER AND BRACE LOADS.
	AL DISTRIBUTION SYSTEMS ARE: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT NOTES AND DETAILS.
LIGHT FIX	TURES:
MECHANIC MINIMUM	FIXTURES SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION SYSTEMS BY CAL MEANS TO RESIST A HORIZONTAL FORCE EQUAL TO THE WEIGHT OF THE FIXTURE. A OF TWO SCREWS OR APPROVED FASTENERS ARE REQUIRED AT EACH LIGHT FIXTURE, PER 0, SECTION 5.3.1.
POSITIVE SUPPORTI ROTATION CONNECTI SUPPORTS	MOUNTED LIGHT FIXTURES SHALL BE ATTACHED TO THE MAIN RUNNER WITH AT LEAST TWO CLAMPING DEVICES. THE CLAMPING DEVICE SHALL COMPLETELY SURROUND THE NG CEILING RUNNER AND BE MADE OF STEEL WITH A MINIMUM THICKNESS OF #14 GAGE. IAL SPRING CATCHES DO NOT COMPLY. A #12 GAGE SLACK SAFETY WIRE SHALL BE ED FROM EACH CLAMPING DEVICE TO THE STRUCTURE ABOVE. PROVIDE ADDITIONAL WHEN LIGHT FIXTURES ARE EIGHT (8) FEET OR LONGER OR EXCEED 56 LB. MAXIMUM BETWEEN SUPPORTS SHALL NOT EXCEED EIGHT (8) FEET.
	TURES WEIGHING LESS THAN OR EQUAL TO 10 LB. SHALL HAVE A MINIMUM OF ONE (1) #12 CK SAFETY WIRE CONNECTED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE.
SUPPORTE GAGE SLA THE STRU	TURES WEIGHING GREATER THAN 10 LB. BUT LESS THAN OR EQUAL TO 56 LBS. MAY BE ED DIRECTLY ON THE CEILING RUNNERS, BUT THEY SHALL HAVE A MINIMUM OF TWO (2) #1 CK SAFETY WIRES CONNECTED FROM THE FIXTURE HOUSING AT DIAGONAL CORNERS TO CTURE ABOVE. <u>EXCEPTION:</u> ALL LIGHT FIXTURES GREATER THAN TWO BY FOUR FEET G LESS THAN 56 LBS. SHALL HAVE A #12 GAGE SLACK SAFETY WIRE AT EACH CORNER.
LESS THAI FIXTURE H	FIXTURES WEIGHING GREATER THAN 56 LB. SHALL BE INDEPENDENTLY SUPPORTED BY NO N FOUR (4) TAUT #12 GAGE HANGER WIRES (ONE AT EACH CORNER) ATTACHED FROM THE OUSING TO THE STRUCTURE ABOVE OR OTHER APPROVED HANGERS. THE FOUR (4) TAUT WIRES OR OTHER APPROVED HANGERS, INCLUDING THEIR ATTACHMENT TO THE

GENERAL DEMOLITION NOTES

ACCURATE TO THE BEST OF OUR KNOWLEDGE. IT IS INTENDED, HOWEVER, AS A GUIDE FOR USE IN VERIFICATION ONLY.

FIXTURE.

- THESE PLANS AND MODIFICATION OF (E) CONDITIONS TO ACCOMMODATE THE NEW MECHANICAL AND FIRE ALARM WORK.
- THE CIRCUIT IN PANEL SHALL BE MARKED "SPARE". THIS APPLIES TO SIGNAL AND COMMUNICATIONS SYSTEMS EQUIPMENT, CONDUIT, AND WIRE AS WELL.
- BE MAINTAINED CONTINUOUS TO THE EXISTING EQUIPMENT IN USE WITH MINIMUM EQUIPMENT, CONDUIT, AND WIRE AS WELL.
- DONE TO MINIMIZE ANY INTERRUPTIONS OF POWER.
- OR PANEL
- SOME SPECIAL CONSIDERATIONS.
- FULLY TYPED / UPDATED PANEL SCHEDULES FOR MODIFIED PANELS. 9. REMOVE ALL ABANDONED CONDUIT AND WIRE IN THE AREAS OF WORK.
- WHICH IS TO REMAIN, PATCH ABANDONED OPENINGS TO MATCH EXISTING FINISH.
- BOXED AND TAGGED TO IDENTIFY THE SPECIFIC EQUIPMENT. EQUIPMENT TO BE IN ITS ORIGINAL CONDITION OR AS REQUIRED.
- 12. IF ANY EQUIPMENT THAT IS SCHEDULED TO REMAIN IN OPERATION IS DAMAGED BY THE OWNER AT CONTRACTOR'S EXPENSE.

IPMENT ANCHORAGE

56 LB. SHALL BE INDEPENDENTLY SUPPORTED BY NOT VIRES (ONE AT EACH CORNER) ATTACHED FROM THE OR OTHER APPROVED HANGERS. THE FOUR (4) TAUT #12 GAGE WIRES OR OTHER APPROVED HANGERS, INCLUDING THEIR ATTACHMENT TO THE STRUCTURE ABOVE, SHALL BE CAPABLE OF SUPPORTING FOUR (4) TIMES THE WEIGHT OF THE

THE CONTRACTOR SHALL VERIFY IN THE FIELD ALL LINES, LEVELS, DIMENSIONS AND EXISTING CONDITIONS. THE INFORMATION ON THE DRAWINGS REGARDING EXISTING ELECTRICAL EQUIPMENT AND BRANCH CIRCUITS IS THE RESULT OF FIELD SURVEY AND IS

ALL EXISTING ELECTRICAL, LIGHTING, AND LOW VOLTAGE SYSTEMS (NOT SHOWN ON THE PLANS) SHALL REMAIN, TO BE PROTECTED IN PLACE, EXCEPT FOR NEW WORK SHOWN ON

WHEREVER THE REMOVAL OF EXISTING ELECTRICAL EQUIPMENT IS REQUIRED, WITH NO NEW EQUIPMENT TO REPLACE IT, ALL EQUIPMENT ON A PARTICULAR BRANCH CIRCUIT IS TO BE REMOVED, ALL CONDUIT AND WIRE BACK TO THE PANEL SHALL BE ENTIRELY REMOVED AND

WHEREVER THE REMOVAL OF EXISTING ELECTRICAL EQUIPMENT IS CALLED FOR AND ALL EQUIPMENT ON A PARTICULAR BRANCH CIRCUIT IS NOT TO BE REMOVED, THE CIRCUIT SHALL INTERRUPTIONS OF POWER. THIS APPLIES TO SIGNAL AND COMMUNICATIONS SYSTEMS

WHENEVER THE REMOVAL OF EXISTING CONSTRUCTION REVEALS ELECTRICAL WORK THAT IS TO REMAIN, BUT IS IN CONFLICT WITH NEW CONSTRUCTION, RELOCATE THE EXISTING ELECTRICAL WORK AS NECESSARY TO AVOID ANY CONFLICT. RELOCATION WORK SHALL BE

ENSURE RECONNECTION OF EXISTING DEVICES WHOSE CIRCUITS HAVE BEEN INTERRUPTED BY DEMOLITION BY PROVIDING NEW CONNECTION TO ANOTHER EXISTING TO REMAIN DEVICE

ALL EXISTING ELECTRICAL EQUIPMENT SHOWN ON THE PLANS FOR NEW WORK ARE THOSE WHICH ARE TO BE REUSED DURING SOME PHASE OF THE NEW CONSTRUCTION OR REQUIRE

THE ELECTRICAL CONTRACTOR SHALL REVISE EXISTING PANEL SCHEDULES TO CORRESPOND TO ACTUAL CONDITIONS AFTER ALL DEMOLITION AND NEW WORK IS COMPLETED. PROVIDE

10. WHEN ELECTRICAL EQUIPMENT OR DEVICE IS REMOVED FROM AN EXISTING WALL OR CEILING

11. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER PRIOR TO REMOVAL OF EXISTING ELECTRICAL EQUIPMENT AND TURN OVER REMOVED EQUIPMENT THAT THE OWNER REQUESTS. IN AS-FOUND CONDITION. EQUIPMENT THAT IS TO BE TURNED OVER SHALL BE TEMPORARILY REMOVED DUE TO THE CONSTRUCTION SHALL BE CLEANED AND RE-INSTALLED

CONTRACTOR, IT SHALL BE REPLACED TO ITS ORIGINAL CONDITION SATISFACTORY TO THE

	SYMBOLS LIST		SY
Н	FIRE ALARM SYSTEM MAGNETIC DOOR HOLD-OPEN		CONTROL MOUNTIN H MOUNTING HEIGI
B	WALL-MOUNTED BEAM SMOKE DETECTOR - TRANSMITTING UNIT; MOUNT 18" BELOW CEILING LEVEL, U.O.N.	THE DEVICE BOX,	
Ĩ ₽	WALL-MOUNTED BEAM SMOKE DETECTOR - RECEIVING UNIT; MOUNT IN EXACT HORIZONTAL & VERTICAL ALIGNMENT WITH CORRESPONDING TRANSMITTING UNIT		— MAIN SWITCHB FLUSH MOUNTE
B	CEILING-MOUNTED BEAM SMOKE DETECTOR - TRANSMITTING UNIT		SURFACE MOUN
٦ ا	CEILING-MOUNTED BEAM SMOKE DETECTOR - RECEIVING UNIT; MOUNT IN EXACT HORIZONTAL & VERTICAL ALIGNMENT WITH CORRESPONDING TRANSMITTING UNIT		FUSED EQUIPM BY EQUIPMENT
~~~~	FIRE ALARM SYSTEM END-OF-LINE RESISTOR		MOTOR DISCOM
FSD	FIRE SMOKE DAMPER BY MECHANICAL. COORDINATE WITH MECHANICAL FOR MONITORING TO FIRE ALARM SYSTEM (INCLUDING SMOKE DETECTOR PROVISIONS). CONTROL OF DAMPER TO BE BY MECHANICAL, U.O.N. PROVIDE TOGGLE TYPE DISCONNECT SWITCH		COMBINATION MAGNETIC MOT VARIABLE FREC
FACP	FIRE ALARM CONTROL PANEL	VFD	CONNECTED CO
FAAP	FIRE ALARM ANNUNCIATOR PANEL		MANUAL MOTO
•	WEATHERPROOF ENCLOSURE		MOTOR WITH F
	CONDUIT AND WIRE CONCEALED IN CEILING OR WALL	Т	TRANSFORMER
	CONDUIT AND WIRE CONCEALED IN OR UNDER SLAB OR UNDERGROUND		CONCRETE PUL LABELED LID PI
	CONDUIT AND WIRE RUN EXPOSED	<b>↔</b>	COPPER GROUN
	CROSSMARKS INDICATE QUANTITY OF #12 CONDUCTORS PLUS PARITY SIZED GROUND CONDUCTOR (INCLUDED BUT NOT INDICATED), NO HASHMARKS INDICATES (2) #12 CONDUCTORS PLUS PARITY SIZED GROUND CONDUCTOR, U.O.N.	0 HO	FLUSH CEILING FLUSH WALL M
	- GROUND WIRE	IJ	JUNCTION BOX
(#10)	WIRE SIZE 10 AWG FOR ALL CONDUCTORS, INCLUDING GROUND WIRE,	⊨	20A 3PG 125V
(#10)	THROUGHOUT THE COMPLETE CIRCUIT	HE_	20A 3PG 125V
$\sim$	FLEXIBLE METALLIC CONDUIT	⊨G ^{GFI}	20A 3PG 125V TYPE, UP 18" U
	HOMERUN TO PANELBOARD OR TERMINAL BOARD, AS NOTED ON PLANS	⊨G ^{IG}	20A 3PG 125V
	COMPLETE CONNECTION OF EQUIPMENT	μ	20A 3PG 125V
]	CONDUIT STUBBED OUT, CAPPED AND MARKED	⊢ ⊢	20A 3PG 125V
0	CONDUIT TURNED UP	L ⊢	20A 3PG 125V
•	CONDUIT TURNED DOWN	⊨	20A 3PG 125V
T	TELEPHONE SYSTEM CONDUIT AND PULLWIRE; 3/4" U.O.N.	ю	20A 3PG 125V
C	COMPUTER/DATA SYSTEM CONDUIT AND PULLWIRE; 3/4" U.O.N.	н	20A 3PG 125V
D G	TELEPHONE/DATA SYSTEM CONDUIT AND PULLWIRE; 3/4" U.O.N. #4/0 COPPER GROUNDING ELECTRODE CONDUCTOR, U.O.N.	н®	SPECIAL RECEP
AC-1	MECHANICAL EQUIPMENT DESIGNATION - <u>SEE</u> MECHANICAL PLANS	Þ	CONTROLLED A ONE HALF OF R UP 18″ U.O.N.
3 E-6	DETAIL DESIGNATION - <u>SEE</u> DETAIL 3, SHEET E-6	Þ	CONTROLLED D CONTROLLER, I
	NUMBERED SHEET NOTE		FLUSH IN FLOO RECEPTACLES
€-M	UTILITY METER	<b>⊕</b>	FLUSH CEILING
	CURRENT TRANSFORMERS	НD	LINE VOLTAGE CONNECTED CO
) <u>30A</u>	CIRCUIT BREAKER. NUMBER INDICATES 30A 3-POLE	=====	SURFACE MOUI PLANS
o ⁷ 3P (1504N)	FEEDER SIZE - <u>SEE</u> POWER SINGLE LINE DIAGRAMS & FEEDER SCHEDULE		TERMINAL MOU PLANS, PAINT 1 LABEL VISIBLE
			TELEPHONE OU

# ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
С	CONDUIT
CATV	CABLE TV
СО	CONDUIT ONLY
CU	COPPER
E.C.	ELECTRICAL CONTRACTOR
E	EMERGENCY LIGHT FIXTURE ON EMERGENCY GENERATOR OR INVERTER, SWITCHABLE, U.O.N.
EM	EMERGENCY LIGHT FIXTURE WITH BATTERY PACK, SWITCHABLE
EMS	ENERGY MANAGEMENT SYSTEM
(E)	EXISTING
EQPT	EQUIPMENT
(ER)	EXISTING EQUIPMENT TO BE RELOCATED
(EX)	EXISTING EQUIPMENT TO BE DISCONNECTED AND REMOVED
EXT	EXTERIOR
FMC	FLEXIBLE METALLIC CONDUIT
FTL	FEED THROUGH LUGS
GFI	GROUND FAULT CIRCUIT INTERRUPTING TYPE RECEPTACLE
IDF	INTERMEDIATE DISTRIBUTION FRAME
L	LOCKABLE
LV	LOW VOLTAGE
МСВ	MAIN CIRCUIT BREAKER
MDF	MAIN DISTRIBUTION FRAME
MFR	MANUFACTURER
MLO	MAIN LUGS ONLY
MTD	MOUNTED
(N)	NEW
N.E.C.	NATIONAL ELECTRICAL CODE
NEU	NEUTRAL
N.I.E.C.	NOT IN ELECTRICAL CONTRACT
0.A.H.	OVERALL HEIGHT
O.F.C.I.	OWNER FURNISHED, CONTRACTOR INSTALLED
Р	INDICATES FIXTURES ON PHOTOCELL CONTROL
PA	PUBLIC ADDRESS
PNL	PANEL
S.A.D.	SEE ARCHITECTURAL DRAWINGS
STC	SIGNAL TERMINAL CABINET
ТС	INDICATES FIXTURES ON TIMECLOCK CONTROL
TELE	TELEPHONE
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
U.O.N.	UNLESS OTHERWISE NOTED
VAV	VAV BOX, <u>SEE</u> MECHANICAL DIVISION DRAWINGS FOR LOCATIONS. PROVIDE TOGGLE TYPE DISCONNECT SWITCH
WP	WEATHER PROOF, NEMA 3R
WPIU	WEATHER PROOF WHILE IN USE

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# SYMBOLS LIST

#### SWITCH AND CONTROL MOUNTING HEIGHTS OF 48" SHALL BE TO TOP OF THE DEVICE BOX. ALL EPTACLES WITH MOUNTING HEIGHT OF UP TO 18" SHALL BE NO LOWER THAN 15" TO BOTTOM OF

MAIN SWITCHBOARD, DISTRIBUTION PANEL OR MOTOR CONTROL CENTER

FLUSH MOUNTED PANELBOARD, 6'-6" TO TOP

SURFACE MOUNTED PANELBOARD, 6'-6" TO TOP

FUSED EQUIPMENT DISCONNECT SWITCH WITH FUSE SIZE AS RECOMMENDED BY EQUIPMENT MANUFACTURER

MOTOR DISCONNECT SWITCH; HORSEPOWER RATED, NON FUSE COMBINATION MAGNETIC MOTOR STARTER & MOTOR CIRCUIT PROTECTOR

MAGNETIC MOTOR STARTER

VARIABLE FREQUENCY DRIVE, FURNISHED BY MECHANICAL, INSTALLED & CONNECTED COMPLETE BY ELECTRICAL

MANUAL MOTOR STARTER WITH OVERLOAD PROTECTION

MOTOR WITH FLEXIBLE CONDUIT CONNECTION AND DISCONNECT

TRANSFORMER

CONCRETE PULLBOX, SIZE AS REQUIRED OR SHOWN - CHRISTY OR EQUAL WITH LABELED LID PER USE

COPPER GROUND ROD

FLUSH CEILING MOUNTED JUNCTION BOX, U.O.N. FLUSH WALL MOUNTED JUNCTION BOX, UP 18" U.O.N.

JUNCTION BOX FLUSH FLOOR MOUNTED

20A 3PG 125V DUPLEX RECEPTACLE, UP 18" U.O.N.

20A 3PG 125V DUPLEX RECEPTACLE, WEATHERPROOF, UP 18" U.O.N.

20A 3PG 125V DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER TYPE, UP 18" U.O.N. 20A 3PG 125V DUPLEX RECEPTACLE, ISOLATED GROUND TYPE, UP 18" U.O.N.

20A 3PG 125V DUPLEX RECEPTACLE, TAMPER RESISTANT, UP 18" U.O.N.

20A 3PG 125V DUPLEX RECEPTACLE, MOUNTED ABOVE COUNTER, U.O.N.

20A 3PG 125V DOUBLE DUPLEX RECEPTACLE, UP 18" U.O.N.

20A 3PG 125V DOUBLE DUPLEX RECEPTACLE, MOUNTED ABOVE COUNTER, U.O.N. 20A 3PG 125V SINGLE RECEPTACLE, UP 18" U.O.N.

20A 3PG 125V SINGLE TWISTLOCK RECEPTACLE, NEMA L5-20R, UP 18" U.O.N. SPECIAL RECEPTACLE AS INDICATED ON PLANS

CONTROLLED AND IDENTIFIED (SPLIT-WIRED) DUPLEX RECEPTACLE, WITH ONE HALF OF RECEPTACLE WIRED THROUGH LOCAL PLUG-LOAD CONTROLLER, UP 18″ U.O.N.

CONTROLLED DUPLEX RECEPTACLE WIRED THROUGH LOCAL PLUG-LOAD CONTROLLER, UP 18" U.O.N.

FLUSH IN FLOOR OUTLET BOX WITH QUANTITY OF 20A 3PG 125V DUPLEX RECEPTACLES AS INDICATED ON PLANS

FLUSH CEILING MTD. DUPLEX OUTLET, 20A 3PG

LINE VOLTAGE THERMOSTAT, PROVIDED & INSTALLED BY ELECTRICAL, CONNECTED COMPLETE BY MECHANICAL

SURFACE MOUNTED WIREMOLD RACEWAY WITH RECEPTACLES AS INDICATED ON

TERMINAL MOUNTING BACKBOARD, 3/4" PLYWOOD, DIMENSIONS AS NOTED ON PLANS, PAINT TO MATCH ADJACENT WALL SURFACE, MAINTAINING UL FIRE LABEL VISIBLE

TELEPHONE OUTLET, UP 18" U.O.N.

TELEPHONE OUTLET, UP 48" U.O.N.

COMBINED TELEPHONE/DATA OUTLET, UP 18" U.O.N. – NUMBER INDICATES QUANTITY OF DATA OUTLET JACKS

COMBINED VOICE/DATA OUTLET, MOUNTED ABOVE COUNTER U.O.N.

INTERCOM HANDSET, UP 48" U.O.N.

WALL MOUNTED SIGNAL SYSTEM CLOCK, UP 96" U.O.N.

WALL MOUNTED VIDEO OUTLET, UP 18" U.O.N. FLUSH WALL MOUNTED INDOOR PUBLIC ADDRESS SPEAKER, UP 96" U.O.N.

FLUSH WALL MOUNTED OUTDOOR WEATHERPROOF PUBLIC ADDRESS SPEAKER

FLUSH CEILING MOUNTED INDOOR PUBLIC ADDRESS SPEAKER

FLUSH WALL MOUNTED INDOOR PUBLIC ADDRESS SPEAKER & SIGNAL SYSTEM CLOCK, UP 96" U.O.N.

FIRE ALARM SYSTEM MANUAL PULL STATION, UP 48" U.O.N.

FIRE ALARM SYSTEM HORN/STROBE, UP 80" U.O.N. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE

WEATHERPROOF FIRE ALARM SYSTEM HORN/STROBE, UP 80" U.O.N. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE

FIRE ALARM SYSTEM HORN/STROBE, CEILING MOUNTED. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE

FIRE ALARM SYSTEM STROBE, UP 80" U.O.N. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE

FIRE ALARM SYSTEM STROBE, CEILING MOUNTED. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE

WEATHERPROOF FIRE ALARM SYSTEM HORN, UP 90" U.O.N.

FIRE ALARM SYSTEM SPEAKER/STROBE, UP 80" U.O.N. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE

FIRE ALARM SYSTEM SPEAKER/STROBE, CEILING MOUNTED. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE

FIRE ALARM SYSTEM SPEAKER, UP 90" U.O.N.

WEATHERPROOF FIRE ALARM SYSTEM SPEAKER, UP 90" U.O.N.

FIRE ALARM SYSTEM SPEAKER, CEILING MOUNTED

WALL MOUNTED ELECTROMAGNETIC DOOR HOLD-OPEN DEVICE, FURNISHED BY DIV. 8, INSTALLED & CONNECTED COMPLETE TO FIRE ALARM SYSTEM BY DIV. 28 FIRE ALARM SYSTEM SPRINKLER FLOW SWITCH. PROVIDE MONITOR MODULE

FIRE ALARM SYSTEM SPRINKLER VALVE SUPERVISORY SWITCH. PROVIDE MONITOR MODULE

POST INDICATING VALVE

SPRINKLER FLOW ALARM (PROVIDE BY SPRINKLER CONTRACTOR). CONNECT COMPLETE VIA WATER FLOW SWITCH AUX. CONTACTS

FIRE ALARM SYSTEM SMOKE DETECTOR FIRE ALARM SYSTEM CEILING MOUNTED SMOKE DETECTOR PROGRAMMED FOR

AUTOMATIC RECALL OF ELEVATOR

FIRE ALARM SYSTEM HEAT DETECTOR

FIRE ALARM SYSTEM HVAC DUCT MOUNTED SMOKE DETECTOR. COORDINATE WITH MECHANICAL FOR SUPPLY, INSTALL AND COMPLETE CONNECTION (INCLUDING CONTROL OF HVAC EQUIPMENT) - <u>SEE</u> SPECIFICATIONS

FIRE ALARM SYSTEM MONITOR MODULE

FIRE ALARM SYSTEM CONTROL MODULE

FIRE ALARM SYSTEM RELAY MODULE

FIRE ALARM SYSTEM CEILING MOUNTED CARBON MONOXIDE DETECTOR WITH SOUNDER BASE

FIRE ALARM SYSTEM CEILING MOUNTED AIR SAMPLING PORT

# **GENERAL NOTES**

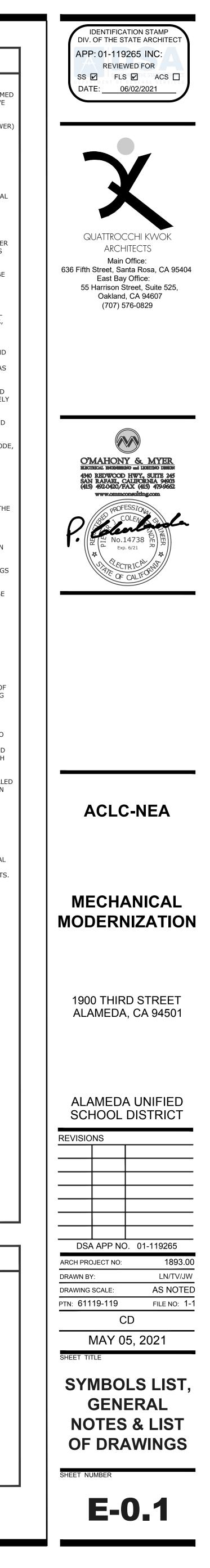
- PRIOR TO BID THE CONTRACTOR SHALL VISIT THE SITE TO ADEQUATELY DETERMINE ALL PRE-EXISTING CONDITIONS. BY THE ACT OF SUBMITTING A BID, THE CONTRACTOR WILL BE DEEMED TO HAVE COMPLIED WITH THE FOREGOING, TO HAVE ACCEPTED SUCH CONDITIONS, AND TO HAVE MADE ALLOWANCES THEREFORE IN PREPARING THE BID.
- PROVIDE PARITY SIZED GREEN GROUND WIRE IN ALL POWER CONDUITS, BRANCH CIRCUITS (POWER) AND HOMERUNS.
- PROVIDE PULLROPE IN ALL EMPTY CONDUITS THROUGHOUT THE PROJECT.
- 4. COORDINATE LOCATIONS OF ALL JUNCTION BOXES WITH MECHANICAL DIVISION PRIOR TO ROUGH-IN.
- REFER TO MECHANICAL PLANS FOR EXACT LOCATION(S) OF ALL MECHANICAL EQUIPMENT, AND CONFIRM EXACT CONNECTION REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL DIVISION, PRIOR TO ROUGH-IN. VERIFY EXACT REQUIREMENTS FOR VOLTAGE, PHASE, HORSE-POWER, OR KVA RATINGS, OF ALL MECHANICAL DIVISION EQUIPMENT REQUIRING ELECTRICAL CONNECTION.
- VERIFY EXACT CONNECTION REQUIREMENTS, OUTLET TYPE(S), MOUNTING HEIGHT(S) AND LOCATION(S) OF ALL OWNER-SUPPLIED EQUIPMENT, AND ALL EQUIPMENT PROVIDED UNDER OTHER SECTIONS OF THE SPECIFICATIONS, PRIOR TO ROUGH-IN. REFER TO ARCHITECTURAL DRAWINGS FOR EQUIPMENT LOCATIONS.
- ALL CONDUIT PENETRATIONS THROUGH FIRE-RATED WALLS, FLOORS, AND/OR CEILINGS SHALL BE SEALED AND EQUIPPED WITH U.L. LISTED FIRE PENETRATION ASSEMBLIES TO MAINTAIN FIRE SEPARATION RATING.
- CIRCUITRY AND CONDUIT ROUTING SHOWN ON THE PLANS IS DIAGRAMMATIC ONLY. THIS CONTRACTOR IS RESPONSIBLE FOR BECOMING COMPLETELY FAMILIAR WITH THE ARCHITECTURAL AND STRUCTURAL CONDITIONS AND LIMITATIONS IN THE BUILDING AND TO PROVIDE ALL LABOR, TOOLS AND MATERIALS REQUIRED TO PRODUCE A COMPLETELY CONCEALED INSTALLATION WHEREVER INDICATED ON THE PLANS.
- MAINTAIN "AS-BUILT" RECORDS AT ALL TIMES, SHOWING EXACT LOCATION OF ALL UNDERGROUND AND/OR CONCEALED CONDUITS AND SERVICES INSTALLED UNDER THIS CONTRACT, INCLUDING CIRCUIT IDENTIFICATION WHERE APPLICABLE. PROVIDE OWNER WITH "AS-BUILT" DOCUMENTS AS INDICATED IN THE SPECIFICATIONS, AND/OR CALLED FOR IN THE SPECIFICATIONS.
- 0. DRAWINGS INDICATE THE LOCATION(S) OF DEVICES, EQUIPMENT, AND THE CIRCUIT NUMBER AND PANEL DESIGNATED TO SUPPLY THEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETELY CONNECTING ALL ELECTRICAL DEVICES TO CIRCUITS INDICATED ON THE DRAWINGS.
- 1. UNLESS OTHERWISE NOTED, ALL WORK SHOWN ON DRAWINGS IS NEW AND TO BE PROVIDED AND INSTALLED COMPLETE UNDER THIS CONTRACT.
- 12. ALL EQUIPMENT GROUNDING SHALL CONFORM TO ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE,
- LATEST EDITION. 13. ALL EXTERIOR CONDUIT ABOVE GRADE, INCLUDING ALL ROOF MOUNTED CONDUIT, SHALL BE GALVANIZED RIGID STEEL. COAT ALL EXPOSED THREADS WITH GALVANIZING PAINT. PAINT ALL
- SURFACE MOUNTED RACEWAYS AND PULLBOXES TO MATCH SURROUNDING CONDITIONS, AS DIRECTED BY THE ARCHITECT. 14. ALL ELECTRICAL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE LATEST EDITION OF THE
- N.E.C., AS WELL AS STATE, AND LOCAL CODES AND REQUIREMENTS.
- 15. ALL CONDUIT SHALL BE CONCEALED, UNLESS OTHERWISE NOTED. 16. EQUIPMENT OVERLOADS AND FUSES SHALL BE PROVIDED AND INSTALLED AS PER NAME PLATE ON
- THE EOUIPMENT ACTUALLY PROVIDED. 17. THE CONTRACTOR SHALL VERIFY ALL CRITICAL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS
- PRIOR TO ROUGH-IN.
- 18. ALL MECHANICAL DIVISION EQUIPMENT LOW VOLTAGE CONTROL WIRING AND RACEWAY SHALL BE PROVIDED AND INSTALLED AS SPECIFIED IN MECHANICAL DIVISION U.O.N.
- 19. USE FLEXIBLE CONDUIT FOR ALL MOTORS AND CONNECTIONS BETWEEN TWO SEPARATE STRUCTURES; MINIMUM 1/2" DIAMETER, LIQUID TIGHT TYPE USED OUTDOORS AND IN ALL WET LOCATIONS; PROVIDE WITH CODE-SIZE (MINIMUM #12) BARE GROUND WIRE IN ALL FLEXIBLE CONDUIT.
- 20. ALL CONDUIT CONNECTORS TO OUTLET OR JUNCTION BOXES SHALL HAVE INSULATED THROATS (MANUFACTURED AS AN INTEGRAL PART OF THE CONNECTOR). AFTER-MARKET INSERTABLE THROATS ARE NOT ACCEPTABLE.
- 21. ALL CIRCUITS IN ALL JUNCTION BOXES AND DEVICES SHALL BE CLEARLY IDENTIFIED BY MEANS OF "EZ" NUMBERING TAGS OR EQUIVALENT, TO IDENTIFY THE CIRCUIT NUMBER OR RELAY SUPPLYING THE CONDUCTOR. ALL JUNCTION BOXES SHALL BE LABELED PER SPECIFICATIONS. 22. ALL LOCATIONS OF BARE METAL SURFACE MOUNTED CONDUIT, BOXES, PANEL COVERS, AND
- RELATED FITTINGS OR ACCESSORIES INSTALLED IN FINISHED AREAS (BOTH INTERIOR AND EXTERIOR) SHALL BE FINISH PAINTED TO MATCH THE SURFACE TO WHICH THEY ARE MOUNTED TO (AFTER INSTALLATION). PAINTING SHALL INCLUDE DIFFERENT COLORS AS REQUIRED TO MATCH EXISTING STRIPING OR OTHER BUILDING FEATURES TO WHICH THE EQUIPMENT IS ATTACHED AND VISIBLE. VERIFY EXACT JUNCTION BOX LOCATION(S) AND ROUTING OF EXPOSED RACEWAYS WITH THE ARCHITECT PRIOR TO ROUGH-IN.
- 3. PROVIDE A BLANK COVER PLATE (COLOR TO MATCH ADJACENT DEVICES OR AS SPECIFICALLY CALLED FOR IN SPECIFICATIONS) FOR ALL JUNCTION BOXES (NEW AND EXISTING) ON THE PROJECT WHEN
- 24. FOR OUTDOOR 15 AND 20-AMPERE, 125 AND 250-VOLT RECEPTACLES: RECEPTACLES LOCATED IN "WET" LOCATIONS SHALL HAVE "IN-USE" TYPE WEATHERPROOF COVER PLATES PROVIDED AND INSTALLED; RECEPTACLES LOCATED IN "DAMP" LOCATIONS SHALL HAVE "IN-USE" TYPE WEATHERPROOF COVER PLATES IN LOCATIONS DEEMED TO BE "IN-USE" WITH CORD AND PLUG ATTACHED.
- 25. TWO OR THREE DIFFERENT PHASES SUPPLIED BY A 3-PHASE PANEL MAY SHARE A SINGLE NEUTRAL ONLY IF CIRCUIT POSITIONS ARE ADJACENT IN THE PANEL. PROVIDE COMMON HANDLE-TIE ON BREAKERS FOR MULTI-WIRE BRANCH CIRCUITS, WITH COMMON NEUTRAL, PER NEC REQUIREMENTS.

# LIST OF DRAWINGS

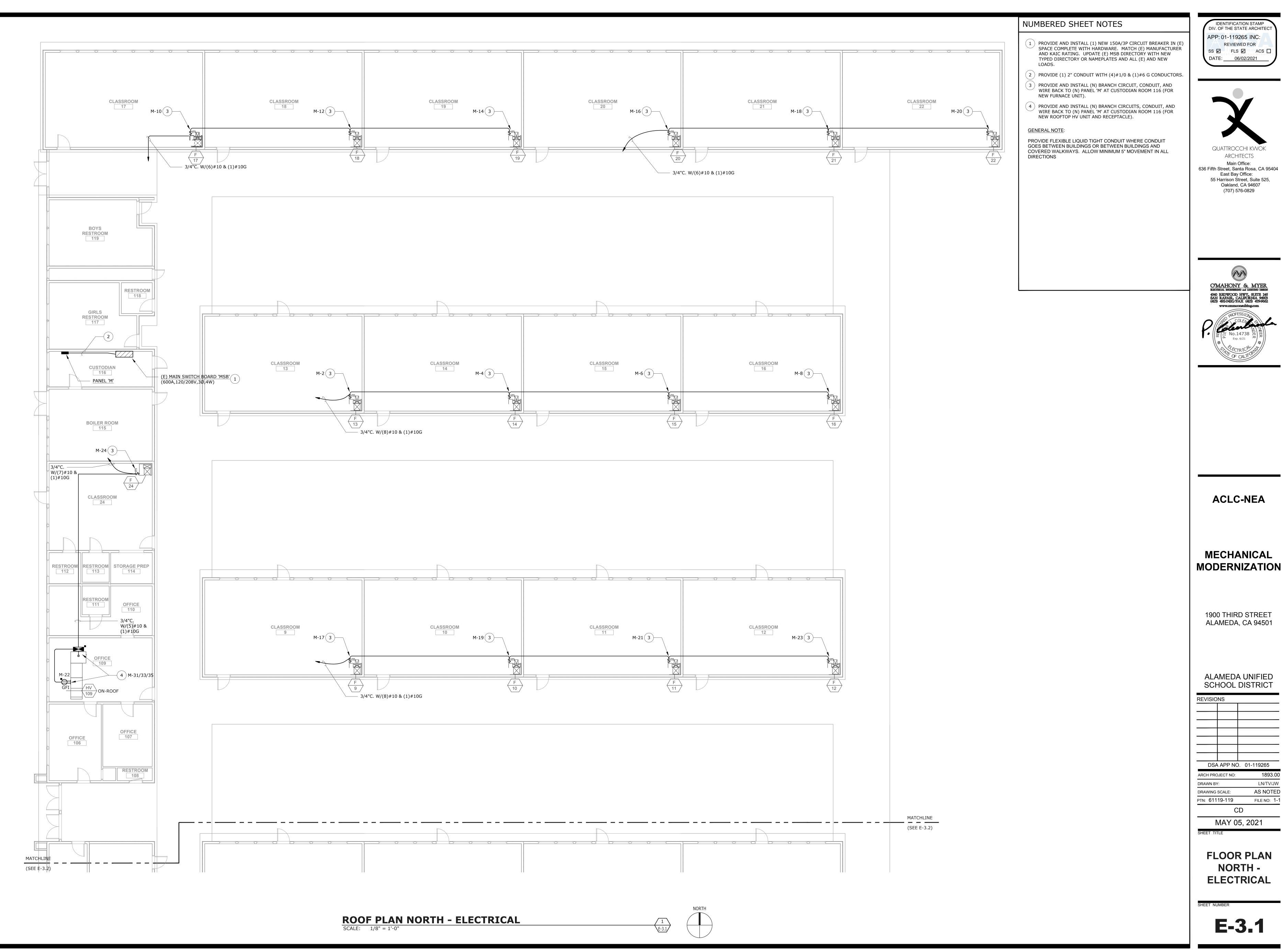
- E-0.1 SYMBOLS LIST, GENERAL NOTES & LIST OF DRAWINGS
- E-3.1 FLOOR PLAN NORTH ELECTRICAL E-3.2 FLOOR PLAN SOUTH - ELECTRICAL

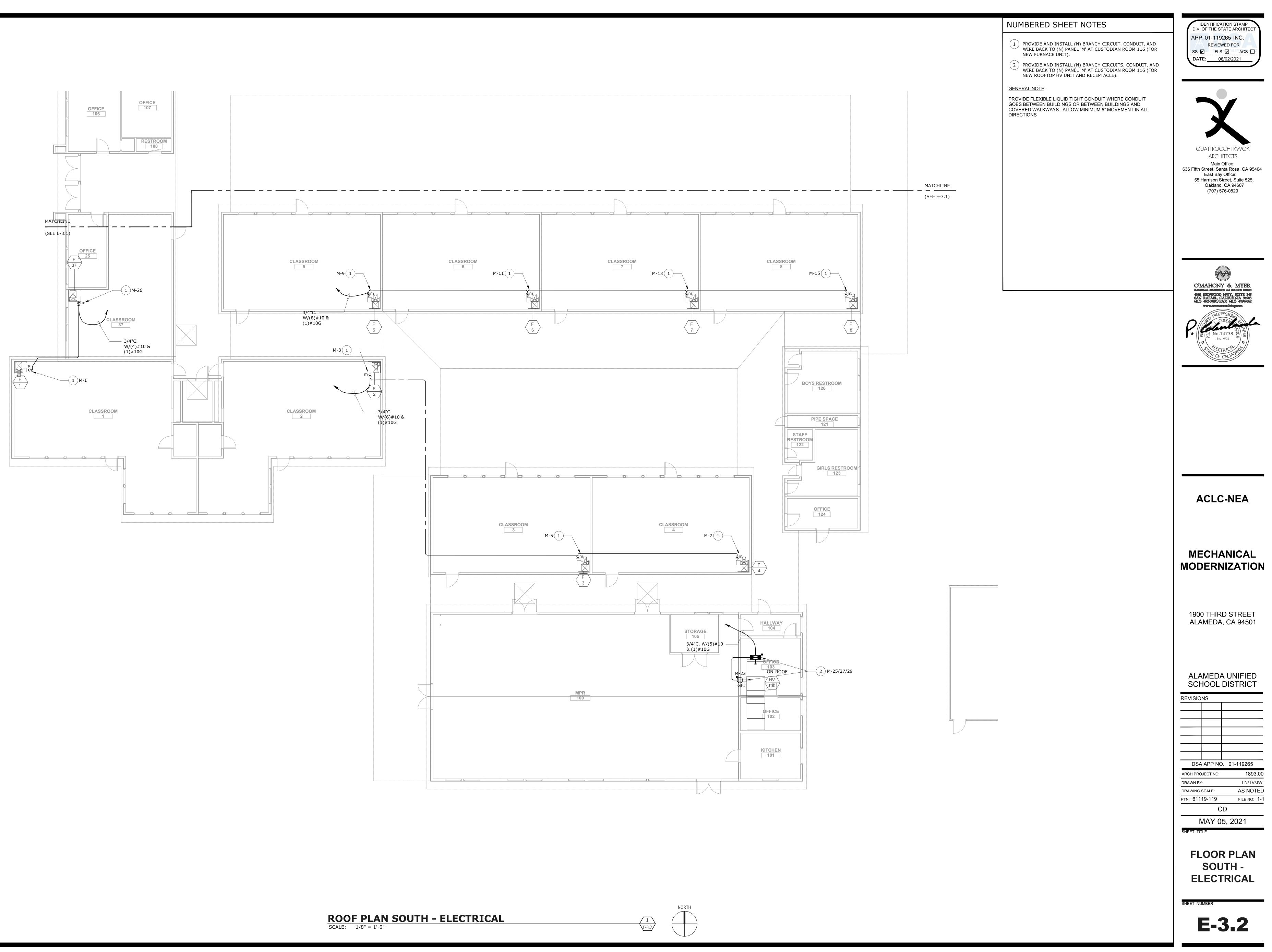
NO DEVICE IS INSTALLED.

- E-6.1 SCHEDULES
- FE-0.1 FIRE ALARM EQUIPMENT LIST, NOTES & DETAILS FE-3.1 FLOOR PLAN NORTH - FIRE ALARM
- FE-3.2 FLOOR PLAN SOUTH FIRE ALARM
- FE-5.1 RISER DIAGRAM & CALCULATIONS- FIRE ALARM

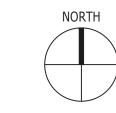








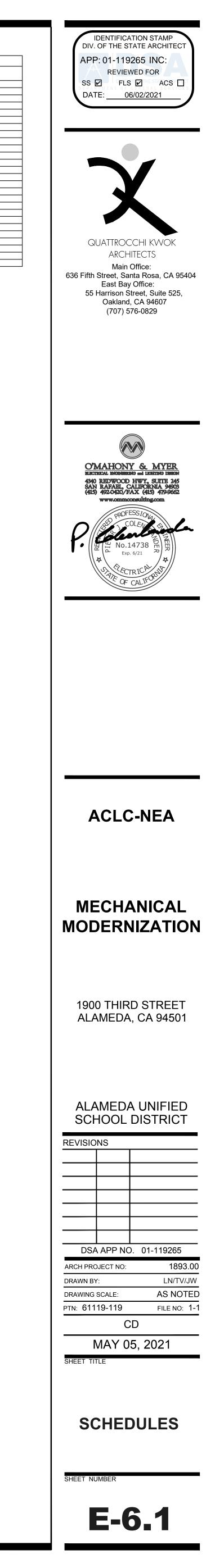




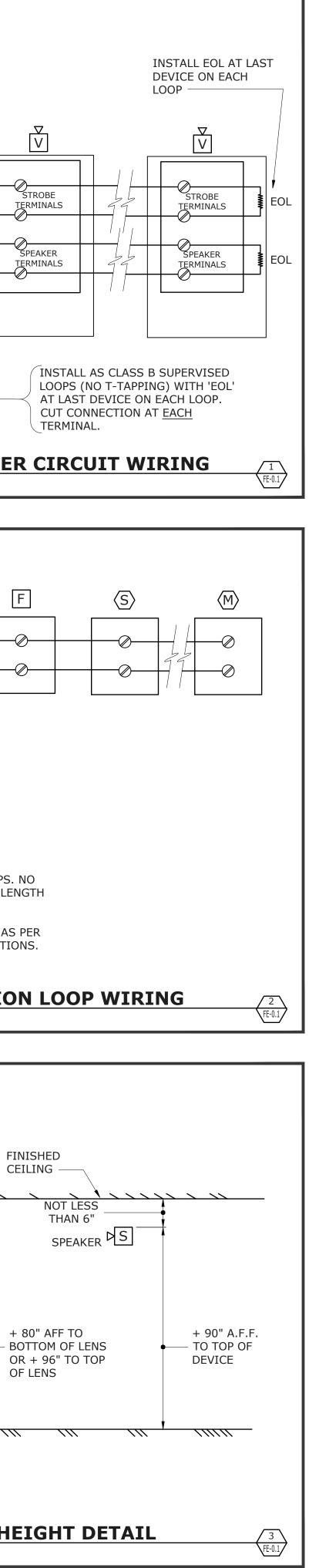
							PAN	EL M						
VOLTS:	120 / 208 V												MAIN BRKR:	MLO
PHASE:	3 PH												ENCLOSURE:	NAMA 1
WIRE:	4 W												CONDUIT:	SEE E-3.1
BUSSING:	225A												MOUNTED:	SURFACE
POLES:	42												AIC RATING:	22KAIC
LOAD DESCRIPTIO	N	TYPE	A	В	С	BRKR.	СКТ.	СКТ.	BRKR.	А	В	С	ТҮРЕ	LOAD DESCRIPTION
		Н	1.10			15/1	1	2	15/1	1.10			H F-13	
		Н		1.10		15/1	3	4	15/1		1.10		H F-14	
		Н		_ [	1.10	15/1	5	6	15/1		-	1.10	H F-15	
		Н	1.10			15/1	7	8	15/1	1.10			H F-16	
		Н		1.10		15/1	9	10	15/1		1.10		H F-17	
		Н			1.10	15/1	11	12	15/1			1.10	H F-18	
		Н	1.10			15/1	13	14	15/1	1.10			H F-19	
		Н		1.10		15/1	15	16	15/1		1.10		H F-20	
		Н			1.10	15/1	17	18	15/1			1.10	H F-21	
)		Н	1.10			15/1	19	20	15/1	1.10			H F-22	
1		Н		1.10		15/1	21	22	20/1		0.36		R ROOFTOP RECE	PTACLES
2		Н	]		1.10	15/1	23	24	15/1			1.10	H F-24	
		Н	,65	] `			25	26	15/1	1.10	]		H F-37	
OFTOP UNIT HV-100		Н		,65		15/3	27	28					SPACE	
		Н			,65	1	29	30					SPACE	
		Н	0.29	] `			31	32					SPACE	
DFTOP UNIT HV-109		Н		0.29		15/3	33	34					SPACE	
		Н			0.29	1	35	36					SPACE	
ACE				] `			37	38					SPACE	
ACE							39	40					SPACE	
ACE							41	42					SPACE	
		<u> </u>	4.69	4.69	4.69		ļ			5.50	3.66	4.40		
						4				ļ		ļ		
DE	EMAND LOAD SUMMARY			CONN. KVA	DEMAND	FACTOR	DEMA	ND KVA						
TYPE "M": NON-CONTINUO	JS / MISC. LOADS			0.00	10	0%	0.	00	1				<b>PHASE A:</b> 10.19	KVA
TYPE "L": LIGHTING / CONT				0.00		5%		00					<b>PHASE B:</b> 8.35	KVA
TYPE "R": RECEPTACLES (				0.36		0%		36						
				1									<b>PHASE C:</b> 9.09	KVA
TYPE "R": RECEPTACLES (				0.00		0%		00						
TYPE "H": HVAC / MECHAN	ICAL LOADS			27.27	10	0%	27	.27	]				84.92	MAX AMPS / PHASE

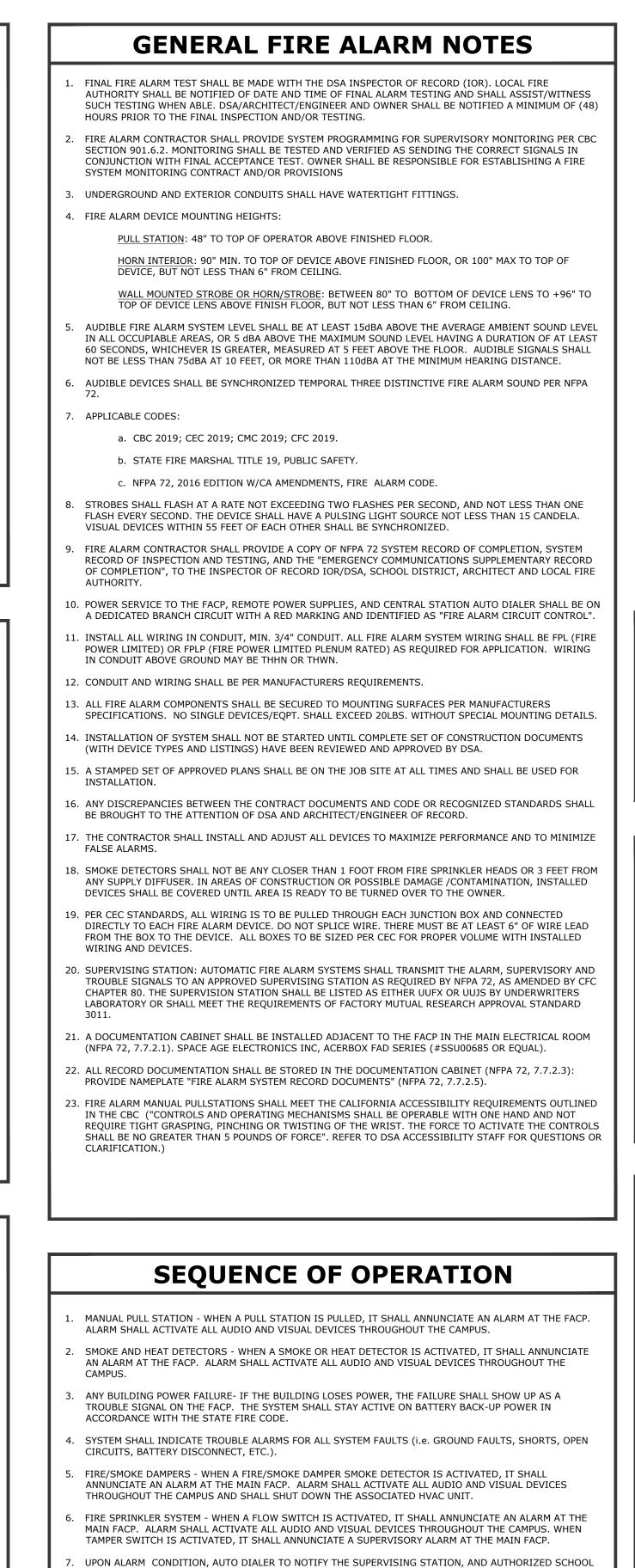
		M	ECHANICAL EQPT. FEEDE	K SCHEDU	
QPT.		ELECTRICAL	TAP CONDUIT/	PANEL	REMARKS
ΓAG		RATING	CONDUCTOR		
F	1	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	2	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	3	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	4	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	5	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	6	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	7	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	8	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	9	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	10	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	11	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	12	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	13	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	14	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	15	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	16	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	17	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	18	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	19	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	20	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	21	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	22	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	24	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
F	37	115V, .5HP, 11MCA, 15MOCP	SEE FLOOR PLAN SHEETS	м	
HV	100	208V, 3PH, 2HP, 11.3MCA, 15MOP	SEE FLOOR PLAN SHEETS	м	INCLUDE ROOFTOP RECEPTACLE CIRCUIT
HV	109	208V, 3PH, .5HP, 5MCA, 15MOP	SEE FLOOR PLAN SHEETS	м	INCLUDE ROOFTOP RECEPTACLE CIRCUIT

2. COORDINATE ALL ELECTRICAL REQUIREMENTS & CONTROLS WITH MECHANICAL AND INCLUDE ALL WORK IN BID. PROVIDE NEW CONTROL WIRING. 3. COMPLETELY REMOVE & DISCONNECT ALL (E) EQUIPMENT DISCONNECT SWITCH, BRANCH CIRCUITS, RACEWAYS & WIRING.



WIRINO CONDU	<u>L</u> STROBE LOOP 5; (2)#12 IN IT, AS NOTED	)				
ON PLA NOTIFIC CIRCUI TERMIN F.A. PA	CATION T ALS IN					
SPEAKE CIRCUI TERMIN IN F.A. PANEL	R T IALS AMP				ł	
WIRINO CONDU	L SPEAKER LOO 5; (2)#16 IN IT, OR AS ON PLANS ——	P				
	ICAL NO	TIF	ICATI	<u>on /</u>	SPE	
SCALE: FILE:	NONE L:\DETAILS\POV	VER\FIR	REALRM\PFIR	E012A		
(2)#16 RECOM	L ADDRESSABL TWST/SHLD (C MENDED BY TH IDUIT TYP.	OR AS		(H)		
LOOP C	SSABLE CKT. ( NALS IN	⊘— ⊘—				
	<u>NOTE</u> :					
	1. T-TAPP `EOL' D OF 3,00 2. PROPER	DEVICE	RMINATE S	ED. MAXI SHIELDS A	MUM T	DT AI
TVD	1. T-TAPP `EOL' D OF 3,00 2. PROPER SYSTEM	DEVICE DO FEE RLY TEI 1 SUPP	S REQUIRI T. RMINATE S PLIERS REC	ED. MAXI GHIELDS A COMMEND	MUM T AND DR ED INS	01 (A) (T)
<b>TYP</b> SCALE: FILE:	1. T-TAPP `EOL' D OF 3,00 2. PROPER	DEVICE 00 FEE RLY TEI 1 SUPP	S REQUIRI T. RMINATE S PLIERS REC	ED. MAXI SHIELDS A COMMEND	MUM T AND DR ED INS	OT AI
SCALE:	1. T-TAPP `EOL' D OF 3,00 2. PROPER SYSTEM ICAL ADI NONE	DEVICE 00 FEE RLY TEI 1 SUPP	S REQUIRI T. RMINATE S PLIERS REC	ED. MAXI SHIELDS A COMMEND	MUM T AND DR ED INS	OT AI
SCALE:	1. T-TAPP `EOL' D OF 3,00 2. PROPER SYSTEM ICAL ADI NONE	DEVICE 00 FEE RLY TEI 1 SUPP	S REQUIRI T. RMINATE S PLIERS REC	ED. MAXI SHIELDS A COMMEND	MUM T AND DR ED INS	01 (A) (T)
SCALE:	1. T-TAPP `EOL' D OF 3,00 2. PROPER SYSTEM ICAL ADI NONE	DEVICE 00 FEE RLY TEI 1 SUPP	S REQUIRI T. RMINATE S PLIERS REC	ED. MAXI SHIELDS A COMMEND	MUM T AND DR ED INS	01 (A) (T)
SCALE:	1. T-TAPP `EOL' D OF 3,00 2. PROPER SYSTEM ICAL ADI NONE	DEVICE 00 FEE ALY TEI 1 SUPF DRE VER\FIF	S REQUIRI T. RMINATE S PLIERS REC	ED. MAXI	MUM T AND DR ED INS	01 (A) (T)
SCALE: FILE:	1. T-TAPP `EOL' D OF 3,00 2. PROPER SYSTEM ICAL ADI NONE	DEVICE 00 FEE ALY TEI 1 SUPF DRE VER\FIF	STROBE O	ED. MAXI	MUM T AND DR ED INS	01 (A) (T)
SCALE: FILE:	1. T-TAPP: `EOL' D OF 3,00 2. PROPER SYSTEM ICAL ADD NONE L:\DETAILS\POV	DEVICE 00 FEE ALY TEI 1 SUPF DRE VER\FIF	STROBE O SPEAKER/S + 48'	ED. MAXI SHIELDS A COMMEND LE IN E013 R STROBE A.F.F. TO DF OPERA		0 [A] [T]





- UPON ALARM CONDITION, AUTO DIALER TO NOTIFY THE SUPERVISING STATION, AND AUTHORIZED SCHOOL PERSONNEL TO NOTIFY THE FIRE DEPARTMENT AND INITIATE EVACUATION OF STUDENTS AND FACULTY AS PER THE SCHOOL'S EVACUATION PLAN.
- UPON TROUBLE CONDITION, AUTO DIALER TO NOTIFY THE SUPERVISING STATION, AND AUTHORIZED SCHOOL PERSONNEL TO NOTIFY AUTHORIZED TECHNICIAN TO CORRECT THE TROUBLE CONDITION. UPON CO DETECTION, IT SHALL ANNUNCIATE AN ALARM AT THE FACP AND REMOTE ANNUNCIATOR ONLY AND SHALL ACTIVATE THE CO DETECTOR SOUNDER BASE WITH TEMPORAL 4 FORM IN THE CLASSROOM. SCHOOL PERSONNEL TO NOTIFY THE OCCUPANTS IMMEDIATELY AND INITIATE EVACUATION OF STUDENTS & FACULTY.

VICES	
ON DEV	
ΙΤΙΑΤΙΟ	SF
I OF IN	
ACTIVATION OF INITIATION DEVICES	
ACTIV	
S	
MALFUNCTION	F
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Σ	FI (F
ORY ES	5
PERVISOR) SWITCHES	
sv Sv	CH

		RM EQUIPMENT LIST			
		MANUFACTURER	CSFM LISTING	STANDBY	ALARM
SYMBOL	DESCRIPTION	& MODEL NUMBER	NUMBER	CURRENT	CURREN
FACP	(E) FIRE ALARM CONTROL PANEL	NOTIFIER NFS2-640	7165-0028:0243	791mA	1.969A
FAEP	FIRE ALARM EXPANDER PANEL (ADDRESSABLE)	NOTIFIER ACPS-610 W/ CAB-PS1 CABINET	7315-0028:0248	150mA	90mA
D	ADDRESSABLE PHOTO DUCT SMOKE DETECTOR HOUSING WITH SMOKE DETECTOR (FSP-951), RELAY (FRM-1), SAMPLING TUBE (DST_), TEST COIL (DCOIL) AND REMOTE KEY TEST SWITCH (RTS451KEY)	SYSTEM SENSOR DNR	3240-1653:0209	0.59mA	13mA
	ADDRESSABLE COMBO CO/PHOTOELECTRIC	NOTIFIER FCO-851	7275-0028:0264	0.30mA	7.20mA
	SMOKE DETECTOR WITH SOUNDER BASE				
	CO/PHOTOELECTRIC SMOKE DETECTOR SOUNDER BASE	SYSTEM SENSOR	7300-1653:0213	0.50mA	35mA
		B200S			

NOTE:

DETECTOR SUBSCRIPTS:

"c" - DETECTOR IN ACCESSIBLE CEILING SPACE

"p" - DETECTOR WITHIN 36" OF PEAK

	FIRE ALARM WIRING	LEGEND
TAG	DESCRIPTION	CABLING
А	INITIATION CIRCUIT	(2) #16 TWISTED/UNSHIELDED
В	CO DETECTOR SOUNDER BASE POWER	(2) #14 THHN/THWN

CONTRACTOR SHALL VERIFY EXACT CABLE/WIRE TYPES WITH SYSTEM MANUFACTURER PRIOR TO ROUGH-IN. INSTALL WIRING IN WIREMOLD RACEWAYS (IN FINISH AREAS, I.E. CLASSROOMS, OFFICES, HALLWAYS, ETC.) AND IN 3/4" CONDUIT MIN. (IN UTILITY ROOMS).

# FIRE ALARM SYSTEM DESCRIPTION

THE FIRE ALARM SYSTEM SHALL BE AN AUTOMATIC ADDRESSABLE SYSTEM WITH CLASS B WIRING FOR IDC'S, NAC'S, AND SLC'S WITH EMERGENCY VOICE / ALARM COMMUNICATIONS. 2. CIRCUIT PATHWAY SURVIVABILITY SHALL BE LEVEL 1.

THE SCOPE OF WORK FOR THIS PROJECT ONLY INCLUDES ADDING CO DETECTION ON A NEW INITIATION LOOP TO SUPPORT THE NEW MECHANICAL SYSTEM CHANGES. ALL EXISTING FIRE ALARM SYSTEM INITIATION, NOTIFICATION, AND RELATED

COMPONENTS, WIRING, PROGRAMMING, AND SEQUENCE OF OPERATION ARE TO REMAIN AS-IS AND BE PROTECTED IN PLACE. TEST ALL NEW DEVICES AND WIRING AND A MINIMUM OF 10% OF THE EXISTING DEVICES AND WIRING UPON COMPLETION TO VERIFY PROPER OPERATION.

PROVIDE AND INSTALL NEW EQUIPMENT, DEVICES AND REQUIRED MODULES AND PROVIDE CONNECTIONS COMPLETE FOR A FULLY FUNCTIONING NETWORKED FIRE ALARM SYSTEM.

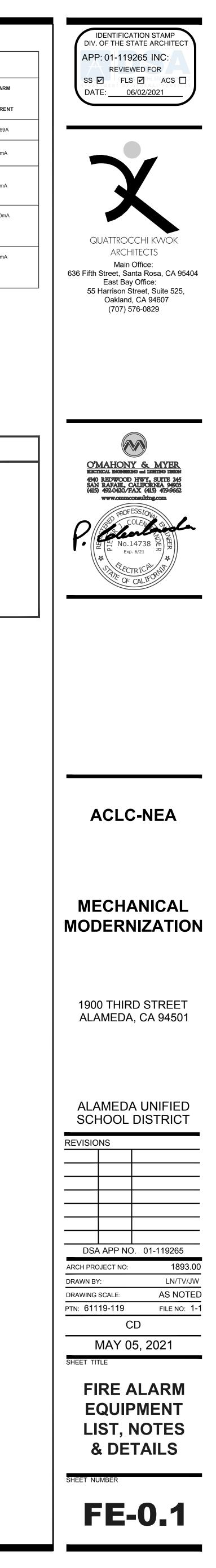
THE NAME OF THE SPECIFIC PERSON RESPONSIBLE FOR THE SYSTEM DESIGN IS ANTHONY CHU (O'MAHONY & MYER). SYSTEM INSTALLATION SHALL BE BY A LICENSED ELECTRICAL OR FIRE ALARM CONTRACTOR WITH A

CALIFORNIA C-10 LICENSE, REGULARLY ENGAGED IN THE INSTALLATION AND COMMISSIONING OF FIRE ALARM SYSTEMS TO NFPA 72 STANDARDS. FIRE ALARM CONTRACTOR SHALL BE FACTORY-AUTHORIZED OF THE SPECIFIED SYSTEM MANUFACTURER. INSTALLING CONTRACTOR'S NAME AND CONTACT INFORMATION SHALL BE LISTED IN THE NFPA CLOSE OUT DOCUMENTATION AT COMPLETION OF PROJECT.

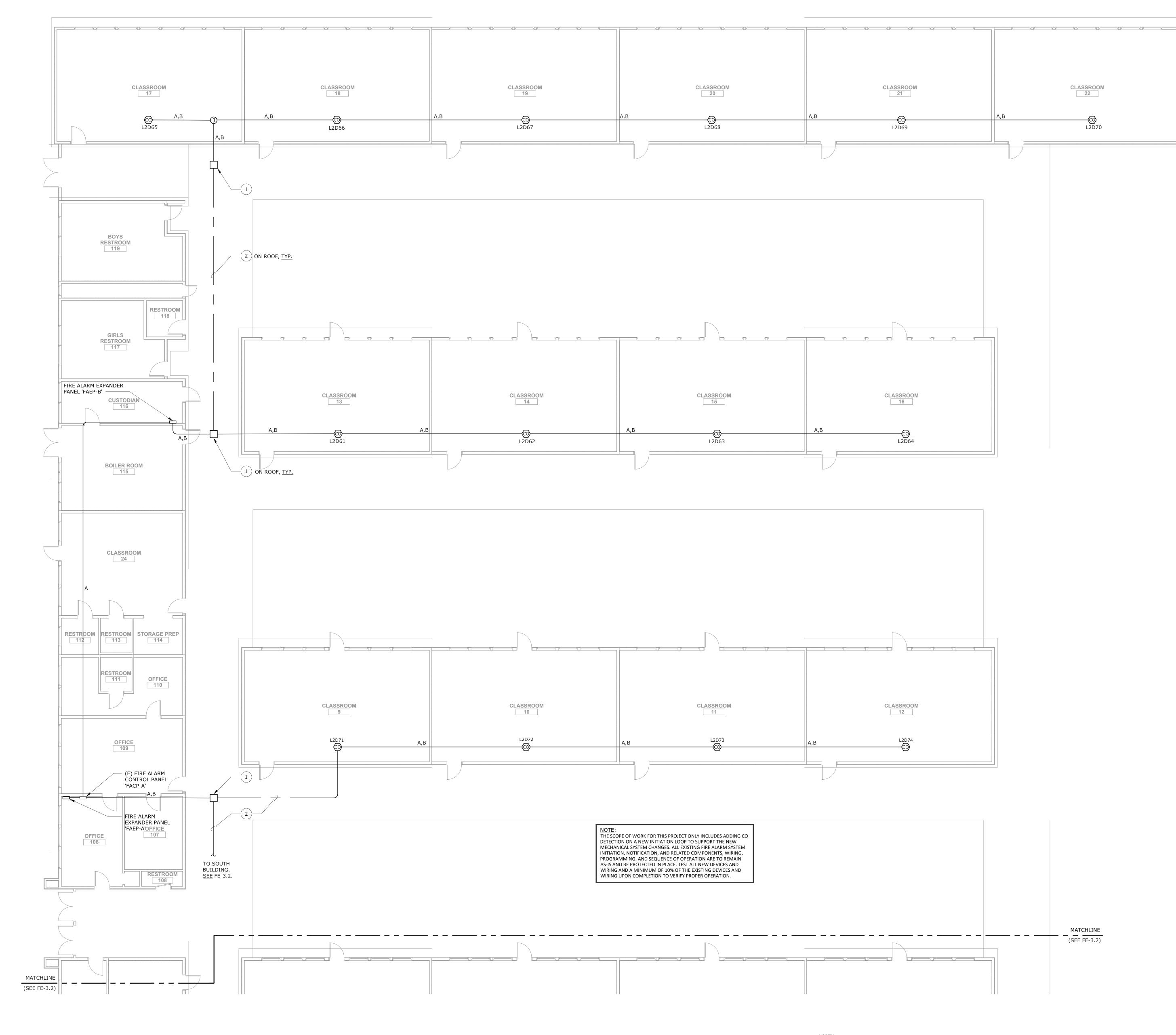
F	IRE	ALARM	SCOPE	OF	WORK	
						-

- . TERMINATE EACH INITIATION LOOP AT THE (E) MAIN FIRE ALARM CONTROL PANEL AS SHOWN.
- PROVIDE CO DEVICES AND WIRING FOR THE FACILITY AS SHOWN.
- PROVIDE A COMPLETE FIRE ALARM SYSTEM, INCLUDING EXPANDER PANELS, OUTLETS, DEVICES AND WIRING FOR THE FACILITY AS SHOWN.
- . FINAL SYSTEM PROGRAMMING SHALL BE DONE BASED ON ACTUAL PHYSICAL ROOM NAMES AND NUMBERS USED AT THE SITE (IF DIFFERENT FROM THE ROOM NAMES OR NUMBERS SHOWN ON THE APPROVED PLANS).

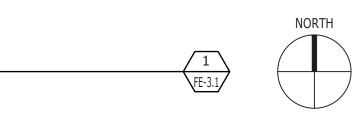
SEQUENCE OF OPERATION MATRIX											
	RESPONSE										
	ANNUNCIATE AT FIRE ALARM CONTROL PANEL (FACP)	ANNUNCIATE AT FIRE ALARM ANNUNCIATOR PANEL (FAAP)	ANNUNCIATE AT OFF-SITE MONITORING STATION	ACTIVATE AUDIBLE/VISUAL DEVICES IN ALL AREAS	SHUTDOWN OF APPLICABLE HVAC EQUIPMENT AND/OR MOTORIZED DAMPERS	ELEVATOR RECALL TO FIRE FLOOR	FACILITY PERSONNEL TO NOTIFY FIRE DEPARTMENT				
MANUAL PULLSTATION	х	х	х	x	x	х	x				
AREA SMOKE OR HEAT DETECTOR	x	x	x	х	x	X	x				
SPECIAL EXTINGUISHING ANSUL SYSTEM	x	x	x	х	x	х	x				
DUCT SMOKE DETECTOR	x	x	x	x	x	x	x				
SPRINKLER FLOW SWITCH	х	X	X	X	X	X	x				
INITIATION CIRCUITS	X	X	X								
CIRCUITS	X	X	X								
(FACP) FIRE ALARM ANNUNCIATOR	X	X	X								
PANEL (FAAP) FIRE ALARM EXTENDER PANEL	X	X	X								
(FAEP) OR REMOTE AMPLIFIER	X	X	X								
POWER FAILURE	Х	X	X								
SPRINKLER TAMPER SWITCH	X	X	X								
POST INDICATOR VALVE	X	X	X								
CHECK VALVE TAMPER SWITCH	x	x	x								







# FLOOR PLAN NORTH - FIRE ALARM SCALE: 1/8" = 1'-0"



	CLASSROOM 14	CLASSROOM	с
A,B		A,B	А,В
A,D	L2D62	A,B L2D63	

			-	
Ч				
	CLASSROOM 19	С	LASSROOM 20	CL [
	А,В	A,B		A,B
	А,Б L2D67		L2D68	
			-	

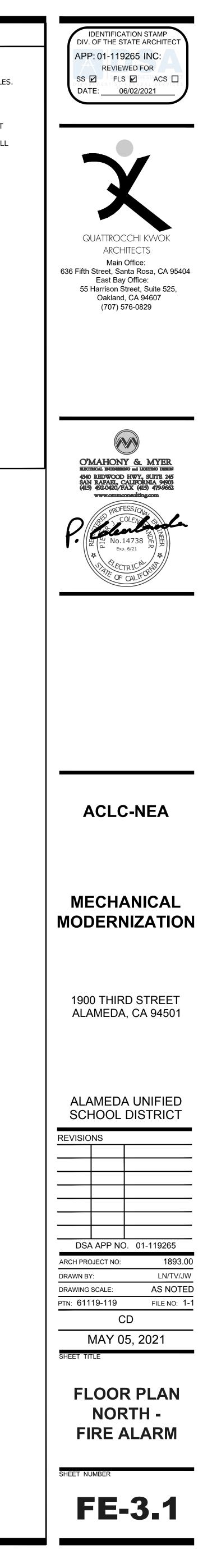
## NUMBERED SHEET NOTES

(1) 12X12X6 NEMA 3R PULLBOX.

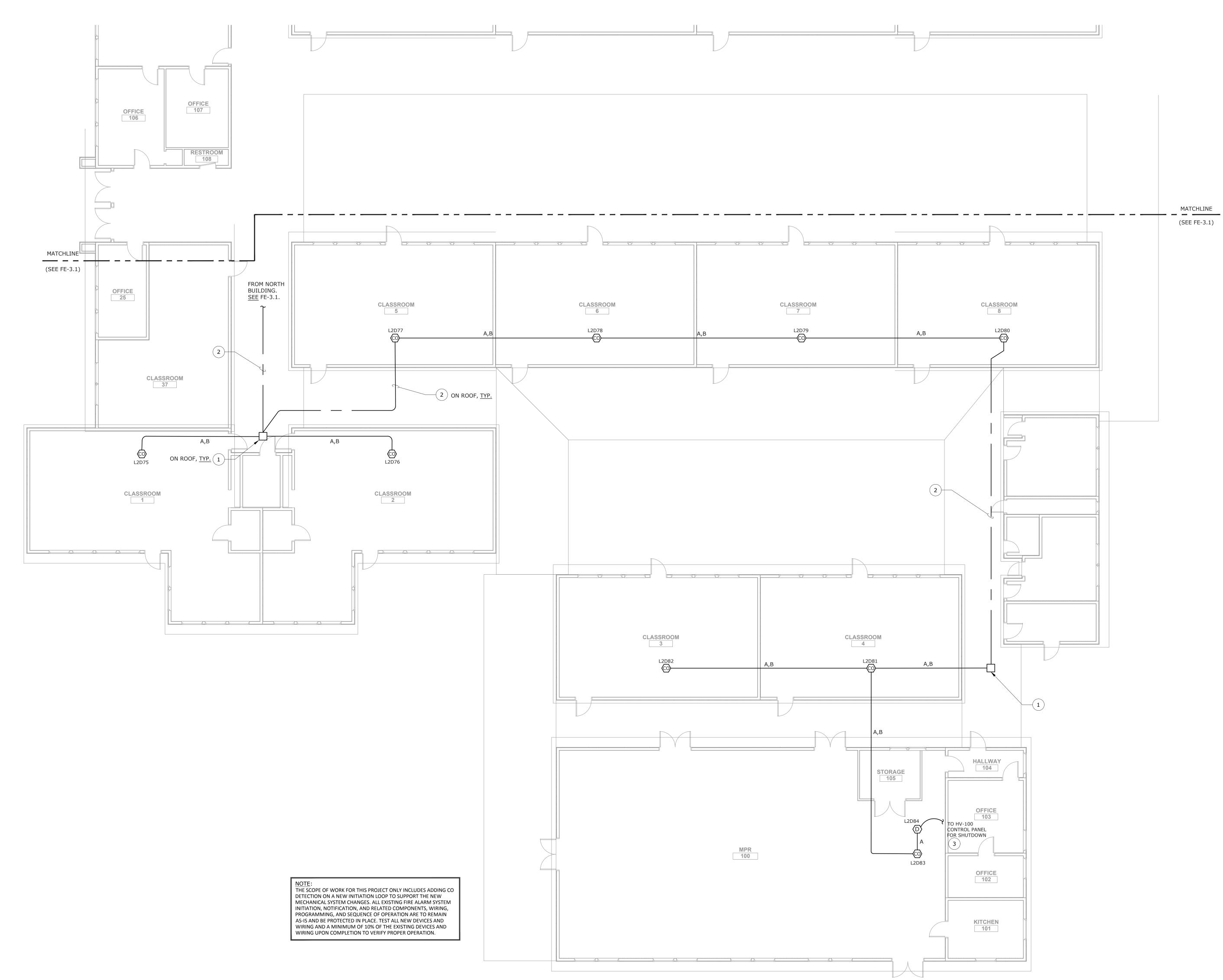
(2) (1) 1" CONDUIT WITH (1) TYPE 'A' AND (1) TYPE 'B' CABLES.

### GENERAL NOTE:

PROVIDE FLEXIBLE LIQUID TIGHT CONDUIT WHERE CONDUIT GOES BETWEEN BUILDINGS OR BETWEEN BUILDINGS AND COVERED WALKWAYS. ALLOW MINIMUM 5" MOVEMENT IN ALL DIRECTIONS

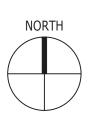






# FLOOR PLAN SOUTH - FIRE ALARM SCALE: 1/8" = 1'-0"





# NUMBERED SHEET NOTES

1) 12X12X6 NEMA 3R PULLBOX.

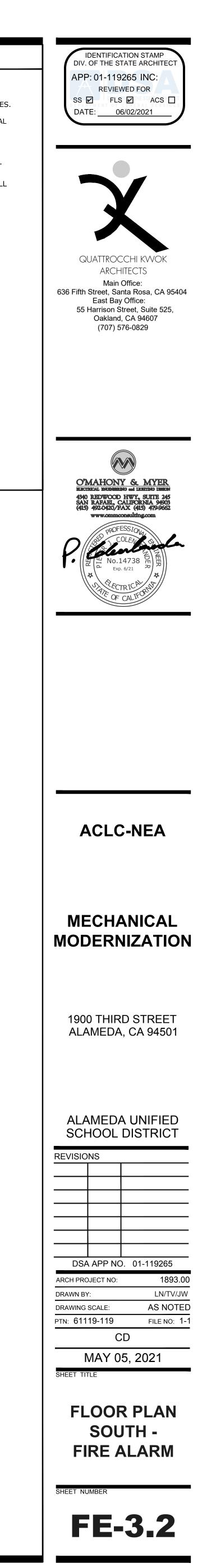
DIRECTIONS

(2) (1) 1" CONDUIT WITH (1) TYPE 'A' AND (1) TYPE 'B' CABLES.

(3) CONNECT RELAY CONTACT AT DUCT DETECTOR FOR LOCAL  $\smile$  Shut-down of HV unit upon duct smoke alarm.

GENERAL NOTE:

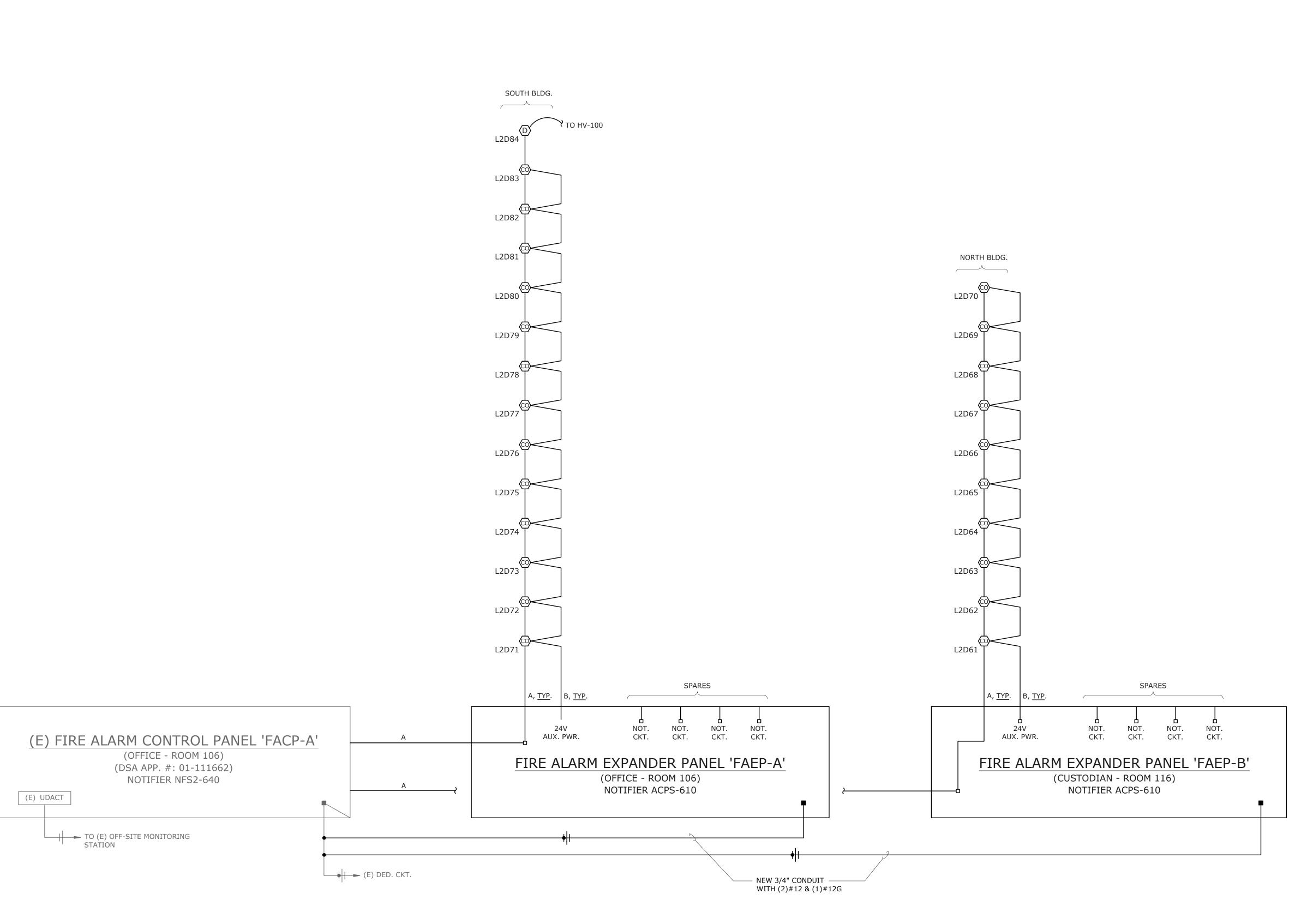
PROVIDE FLEXIBLE LIQUID TIGHT CONDUIT WHERE CONDUIT GOES BETWEEN BUILDINGS OR BETWEEN BUILDINGS AND COVERED WALKWAYS. ALLOW MINIMUM 5" MOVEMENT IN ALL



BATTERY CALCULATIONS:	(E) FIRE ALARM	CONTROL	L PANEL 'FACP-	<u> </u>
STANDBY MODE				
	<u>EA (A)</u>	<u>QTY.</u>	CURRENT	
(E) LOADS	0.791	1	0.791	
DETECTORS	0.0003	24	0.007	
	TOTAL STANDBY CU	RRENT =	0.798	А
	REQUIRED (24 H	IOURS) =	19.157	AH
ALARM MODE				
	<u>EA (A)</u>	<u>QTY.</u>	CURRENT	
(E) LOADS	1.969	1	1.969	
DETECTORS	0.007	24	0.168	
	TOTAL ALARM CU	RRENT =	2.137	А
	REQUIRED (	15 MIN) =	0.534	AH
	TOTAL POWER REQUIRED W	TH 120%		
	BATTERY DERATING F	ACTOR =	23.629	AH
	EXISTING (2) 12V, 30AH BATT	ERIES - C	<u>DK</u>	
(E	EXISTING LOAD INFO ARE FROM DS	A APP. #0	)1-111662)	

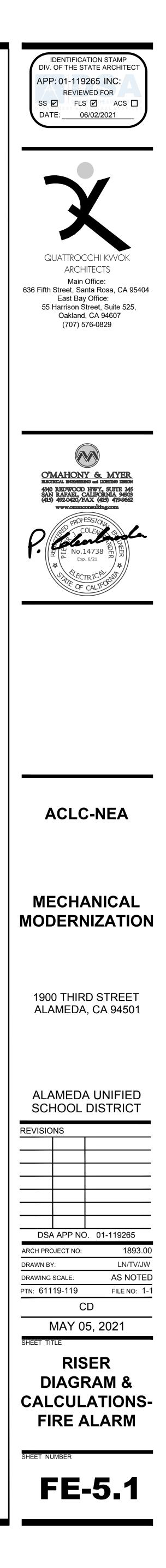
ERY CALCULATIONS:	FIRE ALARM EX	PANDER F	ANEL 'FAEP	<u>-A'</u>
STANDBY MODE				
	<u>EA (A)</u>	QTY.	<u>CURRENT</u>	
FAEP CTRL UNIT	0.150	1	0.150	
CO SOUNDER BASE	0.0005	13	0.007	
	TOTAL STANDBY CU	IRRENT =	0.157	А
	REQUIRED (24 H	HOURS) =	3.756	AH
ALARM MODE				
	<u>EA (A)</u>	QTY.	CURRENT	
FAEP CTRL UNIT	0.090	1	0.090	
CO SOUNDER BASE	0.035	1	0.035	
	TOTAL ALARM CU	IRRENT =	0.125	А
	REQUIRED (	(15 MIN) =	0.031	AH
	TOTAL POWER REQUIRED W	ITH 120%		
	BATTERY DERATING F	ACTOR =	4.545	AH
PROVID	E TWO 12V, 7.0AH BATTERIES	<u>6</u>		
(MARK BATTERIES WI	TH MONTH & YEAR OF MFR. U	JSING THE	MONTH/YEA	R FORMAT)
RY CALCULATIONS:	FIRE ALARM EX	PANDER F	ANEL 'FAEP	- <u>B'</u>

BATTERY CALCULATIONS:	<u>FIRE ALARM E</u>	XPANDER F	PANEL 'FAEP-B'	-
STANDBY MODE				
	<u>EA (A)</u>	<u>QTY.</u>	CURRENT	
FAEP CTRL UNIT	0.150	1	0.150	
CO SOUNDER BASE	0.0005	10	0.005	
	TOTAL STANDBY O	URRENT =	0 155	A
	REQUIRED (24			AH
	(	,	5.720	
ALARM MODE				
	<u>EA (A)</u>	<u>QTY.</u>	CURRENT	
FAEP CTRL UNIT	0.090	1	0.090	
CO SOUNDER BASE	0.035	1	0.035	
	TOTAL ALARM O		0 125	A
		(15  MIN) =		A
	REGOREE	(10 mint) =	0.031	Ап
ΤΟΤΑ	L POWER REQUIRED	WITH 120%		
	BATTERY DERATING	FACTOR =	4.502	АН
PROVIDE TWO	) 12V, 7.0AH BATTERI	ES		
(MARK BATTERIES WITH MO			MONTH/YEAR	FORMAT)
(				,



# FIRE ALARM RISER DIAGRAM





#### NRCC-MCH-E CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and ar path outlined in  $\underline{\$140.4}$ , or  $\underline{\$141.0(b)2}$  for alterations. Project Name: A Classroom + Office ACLC-NEA Mechanical Modernization Report Page: 1900 Third Street Date Prepared:

# Project Address:

A. 0	GENERAL INFORMATION			
01	Project Location (city)	Alameda		Total Conditioned Floor Area
02	Climate Zone	3	05	Total Unconditioned Floor Area
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Gr
$\boxtimes$	Office (B)	Retail (M)		Non-refrigerated Warehouse (S)
	Hotel/ Motel Guest Rooms (R-1)	🔲 School (E)		Healthcare Facility (I)
	High-Rise Residential (R-2/R-3)	Relocatable Class Bldg (E)		Other (write in)

### **B. PROJECT SCOPE** This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating co

<u>§140.4</u> , o	r <u>§141.0(b)2</u> for alterations.	 	j.
	01	02	
	Air System(s)	Wet System Components	
	Heating Air System	Water Economizer	
	Cooling Air System	Pumps	
	Mechanical Controls	System Piping	
	Mechanical Controls (existing to remain, altered or new)	Cooling Towers	
		Chillers	
		Boilers	

### **Registration Number:**

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

### Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Date/Time:

#### STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E CERTIFICATE OF COMPLIANCE

Project Name:

A Classroom + Office ACLC-NEA Mechanical Modernization Report Page: Project Address: 1900 Third Street Date Prepared:

I. SYSTEM CONTROLS											
This table is used to demonstrate compliance with mandatory controls in <u>§110.2</u> and <u>§120.2</u> and prescriptive controls in <u>§140.4(f)</u> and (n) or requirements in <u>§141.0(b)2E</u> for altered space conditioning systems.											
01	02	03	04	05	06	07	08	09			
System Name	System Zoning	Conditioned Floor Area Being Served (ft ² )	Thermostats	Shut-Off Controls <u>§120.2(e)</u>	Isolation Zone Controls <u>§120.2(g)</u>	Demand Response §110.12 and §120.2(b)	Supply Air Temp. Reset <u>§140.4(f)</u>	Window Interlocks per <u>§140.4(n)</u>			
FAU 24	Single zone	<= 25,000 ft ²	EMCS	EMCS	NA: Serves < 25k ft ²	EMCS	NA: Single Zone	NA: Alteration Project			
HV 109	Single zone	<= 25,000 ft ²	EMCS	EMCS	NA: Serves < 25k ft ²	EMCS	NA: Single Zone	NA: Alteration Project			

¹FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.

*Notes: Controls with a * require a note in the space below explaining how compliance is achieved. EX: system 1: SA Temp Reset: Exempt because zones compliant with §140.4(d); EXCEPTION 1 to <u>§140.4(f)</u>

J. VENTILATIO	N AND IND	OOR AIR QUALITY						
occupancies. Fo	or alterations	strate compliance with mo s, only ventialtion systems nd airflows may be shown	being altered	within the sc	ope of the p	permit app	lication nee	ed to be docume
01		Check the box if the pro	ject is showing	g ventilation of	calculations	on the pla	ns, or attac	ching the calcula
02	$\boxtimes$	Check this box if the pro	ject included l	Nonresidentia	al or Hotel/I	Motel space	es	
02		Check this box if the pro	ject included i	new or altere	d high-rise	residential	dwelling u	nits.
03		Check the box if the pro	ject is using na	atural ventila	tion in any r	nonresiden	tial or hote	el/motel spaces t
Nonresidential	and Hotel/	Motel Ventilation System	S					
	04			05				06
System Name		FAU 24	System Design OA CFN Airflow ¹		201	,	Design Air CFM	0
08		09	10	11	12	13	14	15
Registration Number: Registration Date/Time:								

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

# Report Version: 2019.1.003 Schema Version: rev 20200601

#### STATE OF CALIFORNIA Machanical S

Mechanical S	ystems	
CERTIFICATE OF COM	MPLIANCE	
Project Name:		A Classroom + Office ACLC-NEA Mechanical Modernization Report Page:
Project Address:		1900 Third Street Date Prepared:
L. DISTRIBUTION		( and PIPING)
		In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insula
16		The scope of the project includes an existing duct system that is documented to have been previ and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code
The answers to the	e questions bel	ow apply to the following duct systems: HV 109 Duct leakage testing trig
11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone,
13	Yes	The space conditioning system serves less than 5,000 ft ² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total s
	•	Outdoors
		$\Box$ In a space directly under a roof that has a U-factor greater than the u-factor of requirements of <u>§140.3(a)1B</u> or if the roof has fixed vents or openings to the opening to the open
		In an unconditioned crawl space
		In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insula
16		The scope of the project includes an existing duct system that is documented to have been previ and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code
	WFRS	

M. COOLING TOWERS This section does not apply to this project.

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

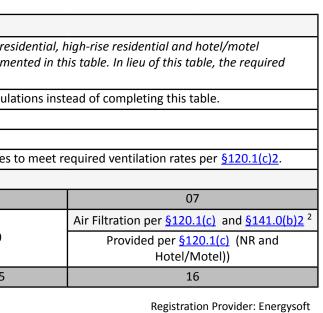
	CALIFORNIA ENERGY COMMISSION					
NRCC-MCH-E						
re demonstrating compliance using the prescriptive						
	(Page 1 of 11)					
	1/5/2021					
	1578					
	0					
rade)	1					
)						
	See Table J					
ompliance usi	ng the prescriptive path outlined in					
	03					
Dr	y System Components					
Air Econ	omizer					
Electric I	Resistance Heat					
Fan Syste	ems					
Ductwor	k (existing to remain, altered or new)					
Ventilati	on					
Zonal Sy	stems/ Terminal Boxes					

Mechanic	cal Sys	stems														Mechanica	I System	S							
NRCC-MCH-E														CALIFORNIA E	ENERGY COMMISSION	NRCC-MCH-E								CALIFOF	NIA ENERGY COMMISSI
CERTIFICATE O		LIANCE													NRCC-MCH-E	CERTIFICATE OF	COMPLIANCE				r				NRCC-MC
Project Name:			(Page 2 of 11)	Project Name:		A	A Classroom + C	Office ACLC-NEA Mechanical M		-			(Page 3 of												
Project Addres	ss:						1900 TI	hird Street <b>Da</b> t	te Prepar	ed:					1/5/2021	Project Address:				1900	Third Street Dat	te Prepared:			1/5/20
C. COMPLIA	ANCE RE	SULTS						_								H. FAN SYSTEI	MS & AIR E	CONOMIZEI	RS						
	-				•		•			al requirement compliant for			ditable k	by the user. If this	table says "DOES			-		escriptive requirements four be included in Table H.	nd in <u>§140.4(c)</u> ,	<u>§140.4(e)</u> and §	<u>§140.4(m)</u> for fan :	systems. Fan systems servin	g only process loads are
01 System		02		03		04 System	_	05		06		07		08	09	System Name:	FAU 24	Eco	onomizer:1	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed pe	er <u>§140.4(e)</u> and (m)	System Fan Type:	Constant Volume
Summary	AND	Pumps	AND	Fans/ Economizers	AND	Controls	AND	Ventilation	AND	Terminal Box	AND	Distributior	AND	Cooling Towers		01		02	03	04		05	06	07	08
<u>§110.1</u> ,		<u>§140.4(k)</u>	1	<u>§140.4(c)</u> ,		<u>§110.2</u> ,		§120.1	/	Controls	/	<u>9120.3</u> ,		<u>§110.2(e)2</u>	Compliance Results	Fan Name or				Maximum Design Supply	Airflow			Fan Power Pressure Drop	Adjustment - Table 140.4
<u>§110.2</u> , <u>§140.4</u>				<u>§140.4(e)</u>		<u>§120.2</u> , <u>§140.4(f)</u>				<u>§140.4(d)</u>		<u>§140.4(l)</u>				Item Tag	Fan F	unction	Qty	(CFM)		IP Unit ²	Design HP	Device	Design Airflow throug Device (CFM)
(See Table F)		(See Table C		(See Table H)		(See Table I	) AND	(See Table J	·	(See Table K)	AND	(See Table L	) AND	(See Table M)	COMPLIES	SF	Su	upply	3	3600		BHP	0.5	NA	NA
	AND		AND	Yes Mandatory	AND <b>Measu</b>	Yes I <b>res Complia</b>		Yes e Table Q for	AND Details)			Yes	COMP		COMPLIES	Total Syste	em Design Su	upply Airflow	v (CFM):	3600	Total Systen (B)HI	-	1.5	Maximum System Fan Power (B)HP:	1.13
D. EXCEPTIC																System Name:	HV 109	Eco	onomizer: ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed pe	er <u>§140.4(e)</u> and (m)	System Fan Type:	Constant Volume
This table is a	auto-fille	ed with uneo	itable co	omments beca	ause of s	selections ma	ade or de	lata entered ii	n tables	throughout th	e form.					01		02	03	04		05	06	07	08
		MARKS																			4:#fla			Fan Power Pressure Drop	Adjustment - Table 140.4
		-	by the	permit applica	ant to th	e Authority	Having J	Jurisdiction.								Fan Name or Item Tag	Fan F	unction	Qty	Maximum Design Supply (CFM)	Airliow	IP Unit ²	Design HP	Device	Design Airflow throug Device (CFM)
. HVAC SYS	STEM SL	JMMARY (	DRY & \	NET SYSTEM	15)											SF	Su	upply	1	1350		BHP	0.5	NA	NA
This section o					1											Total Syste	em Design Su	upply Airflow	v (CFM):	1350	Total Systen (B)HI	-	0.5	Maximum System Fan Power (B)HP:	1.27
G. PUMPS																¹ FOOTNOTES: 0	Computer ro	om economiz	zers must mee	et requirements of <u>§140.9(a</u>	) and will be d	ocumented on th	he NRCC-PRC-E doc	sument.	
This section o	does not	apply to th	s projec	t.												² The unit used	for HP must	be consistent	nt for all fans v	within a system.					

Registration Provider: Energysoft

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CALIFORNIA ENERGY COMMISSION NRCC-MCH-E (Page 4 of 11) 1/5/2021



Report Generated: 2021-01-05 10:24:07

CALIFORNIA	ENERGY COMMISSION
	NRCC-MCH-E
	(Page 7 of 11)
	1/5/2021
insulated or sealed with asbestos.	
n previously sealed as confirmed the endix NA2.	rough field verification
ing triggered for these systems?	No
zone, space-conditioning system.	
total surface area of the entire duc	t system:
tor of the ceiling, or if the roof doe the outside/ unconditioned space	
	3
insulated or sealed with asbestos.	
n previously sealed as confirmed the endix NA2.	rough field verification

Registration Provider: Energysoft Report Generated: 2021-01-05 10:24:07

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time:

1900 Third Street Date Prepared:

Report Version: 2019.1.003 Schema Version: rev 20200601

Report Generated: 2021-01-05 10:24:07

STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E

CERTIFICATE OF COMPLIANCE Project Name:

Project Address:

STATE OF CALIFORNIA

Space Name ot item Tag	Mechanical Ventila	tion Required Conditioned		<u>3</u> ³		Exh. \	Vent per <u>§120.1(c)4</u>		
	Decupancy Type ⁴	Conditioned	# of Shower						
	Occupancy Type ⁴		heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Cont <u>§120.1(d)5</u> , ar	rols per <u>§120.1(d)3,</u> Id <u>§120.1(e)3</u> ⁶
Bldg A -	nostsecondary classroom	528			200.6	0	0	DCV	NA: Not required per §120.1(d)3
Classroom 24	4 Lecture/ postsecondary classroom				200.0		Ŭ	Occ Sensor	NA: Not required space type
17 Total System	m Required Min OA CFM				201	18	Ventilation for this S	system Complies?	Yes
(	04 0						06	0	7
		System Desig	an OA CEM		System	Docign		Air Filtration per $\frac{120.1(c)}{2}$ and $\frac{141.0(b)2}{2}^{2}$	
System Name	HV 109		ow ¹	158	Transfer	-	0	Provided per <u>§120.1(c)</u> (NR and Hotel/Motel))	
08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per <u>§120.1(c)3</u> ³						Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ² )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Cont <u>§120.1(d)5</u> , ar	
Bldg A - 3 Small Offices	Office space	661			99.1	0	0	DCV	NA: Not required per §120.1(d)3
106 107 110	Office space	001			99.1	0	0	Occ Sensor	NA: Not required space type
Bldg A - 1	Office space	389			58.4	0	0	DCV	NA: Not required per §120.1(d)3
Large Office	Office space				50.4	U	U		NA: Not required
Large Office 109								Occ Sensor	space type

A Classroom + Office ACLC-NEA Mechanical Modernization Report Page:

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

**Registration Number:** CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Registration Provider: Energysoft Report Version: 2019.1.003 Report Generated: 2021-01-05 10:24:07 Schema Version: rev 20200601

#### STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E

CERTIFICA	ATE OF CO	MPLIANCE		NF	RCC-MCH-E
Project N		A Classroom + Office ACLC-NEA Mechanical Modernization Report Page:		(Pa	age 8 of 11)
Project A	ddress:	1900 Third Street Date Prepared:			1/5/2021
N. DECL	ARATIO	N OF REQUIRED CERTIFICATES OF INSTALLATION			
		een made based on information provided in previous tables of this document. If any selection needs	s to be changed, please explain why in Table E Ac	ditional Re	emarks.
		must be provided to the building inspector during construction and can be found online at	/		
nttps://v	vww.ener	rgy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCl,		Field Incor	octor
Yes		No Form/Title		Field Inspe Pass	Fail
	NRCI-MCH-01-E - Must be submitted for all buildings				
			I	<u> </u>	
O. DECL	ARATIO	N OF REQUIRED CERTIFICATES OF ACCEPTANCE			
Selection	is have be	een made based on information provided in previous tables of this document. If any selection needs	s to be changed, please explain why in Table E Ac	ditional Re	emarks.
		must be provided to the building inspector during construction and can be found online at rgy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA	. ,		
https://v	V 1	Field Inspector			
Yes	No	Form/Title	Systems To Be Field Verified	Pass	Fail
		NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note:		Fass	1 all
	$\bigcirc$	MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if			
		applicable) since testing activities overlap.			
		NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically			
	$\bigcirc$	move to "Yes'. If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".			
		NRCA-MCH-04-A - Air Distribution Duct Leakage			
	•	NRCA-MCH-05-A - Air Economizer Controls			
		NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems			
		required to employ demand controlled ventilation (refer to <u>§120.1(c)3</u> ) can vary outside			
	•	ventilation flow rates based on maintaining interior carbon dioxide (CO ₂ ) concentration			
$\bigcirc$		setpoints. NRCA-MCH-07-A Supply Fan Variable Flow Controls			
		NRCA-MCH-07-A Supply rail variable flow controls			
		NRCA-MCH-09-A Supply Water Temperature Reset Controls			
		NRCA-MCH-10-A Hydronic System Variable Flow Controls			
		NRCA-MCH-11-A Automatic Demand Shed Controls			
Registrat	ion Numb	er: Registration Date/Time:	Registration	n Provider: E	- nergysoft
registiat			Registration	LI TOVIUEL. L	Licigyson

**Registration Number:** CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2021-01-05 10:24:07

Registration Provider: Energysoft

NRCC-MCH-E

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CALIFORNIA ENERGY COMMISSION

(Page 8 of 11)

1/5/2021

CALIFORNIA ENERGY COMMISSION

Registration Number:

STATE OF CALIFORNIA

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

STATE OF CALIFORNIA Mechanical Systems

CALIFORNIA ENERGY COMMISSION NRCC-MCH-E CERTIFICATE OF COMPLIANCE NRCC-MCH-E A Classroom + Office ACLC-NEA Mechanical Modernization Report Page: (Page 6 of 11) Project Name: 1900 Third Street Date Prepared: 1/5/2021 Project Address:

Registration Date/Time:

Report Version: 2019.1.003

Schema Version: rev 20200601

J. VENTILATION AND INDOOR AIR QUALITY

² Air filtration requirements apply to the following three system types per <u>§120.1(c)1A</u> : space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space. ³ Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.

⁴ See Standards Tables 120.1-A and 120.1-B.

⁵ For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code. ⁶ <u>§120.2(e)3</u> requires systems serving rooms that are required by <u>§130.1(c)</u> to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by <u>§130.1(c)</u>.

K. TERMINAL BO	X CONTROLS					
This section does r	not apply to thi	is project.				
L. DISTRIBUTION		K and PIPING)				
	-	-	ry pipe insulation requirer	ments found in <u>§120.3</u>	and prescriptive requirements found in <u>§140.4(I)</u> for duct leaka	ge testing.
Duct Leakage Seal	ling					
The answers to the	e questions bel	low apply to the foll	owing duct systems:	FAU 24	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities				
12	Yes	Duct system prov	vides conditioned air to a	n occupiable space for	a constant volume, single zone, space-conditioning system.	
13	Yes	The space condit	ioning system serves less	than 5,000 ft ² of cond	itioned floor area.	
14	No	The <u>combined</u> su	Irface area of the ducts in	the following location	s is more than 25% of the total surface area of the entire duct s	ystem:
			Outdoors			
					tor greater than the u-factor of the ceiling, or if the roof does n fixed vents or openings to the outside/ unconditioned spaces	ot meet the
			In an unconditioned crav	vl space		

Registration Provider: Energysoft Registration Date/Time: **Registration Number:** CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Report Generated: 2021-01-05 10:24:07 Schema Version: rev 20200601

STATE OF CALIFORNIA Mechanical Systems

CERTIFICA	TE OF CC	DMPLIANCE			N	RCC-MCH-			
Project Na	ame:	A Classroom + Office ACLC-NEA Mechanical Modernization	eport Page:		(Page 9 of 1				
Project Address: 1900 Third Street Date Prepared:						1/5/202			
O. DECL	ARATIO	N OF REQUIRED CERTIFICATES OF ACCEPTANCE							
$\bigcirc$		NRCA-MCH-12-A FDD for Packaged Direct Expansion Units							
$\bigcirc$		NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal	Units Acceptance						
$\bigcirc$	•	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance Nervice not automatically move to "Yes". If Distributed Energy System DX AC System scope permit applicant should move this form to 'Yes".							
•	•	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance NOTE: automatically move to "Yes". If Chilled water Storage, Ice-on-Coil Internal I External melt, Ice Harvester, Brine, Ice-Slurry, Eutecti Salt, Clathrate Hydra Cryogenic or Encapsulated (Ice Ball) Systems are included in the scope, per move this form to 'Yes".	Melt, Ice-on-Coil te Slurry (CHS),						
$\bigcirc$		NRCA-MCH-16-A Supply Air Temperature Reset Controls							
$\bigcirc$		NRCA-MCH-17-A Condenser Water Temperature Reset Controls							
	$\bigcirc$	NRCA-MCH-18-A Energy Management Control Systems							
$\bigcirc$		NRCA-MCH-19-A Occupancy Sensor Controls							
$\bigcirc$		NRCA-MCH-20 Multi-Family Ventilation							
$\bigcirc$		NRCA-MCH-21 Multi-Family Envelope Leakage							

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be completed by a HERS Rater and provided to the building inspector during construction. The final documents must be created by a HERS Provider's registry, but drafts can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCV/ 

Yes	No	Form/Title	Field Inspector		
105	NO	Torriy file		Fail	
$\bigcirc$	۲	NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be completed by a HERS Rater			
$\bigcirc$	۲	NRCV-MCH-24 Enclosure Air Leakaage Worksheet NOTE: Must be completed by a HERS Rater			
$\bigcirc$	۲	NRCV-MCH-27 High-rise Resdential NOTE: Must be completed by a HERS Rater			
$\bigcirc$	۲	NRCV-MCH-32 Local Mechanical Exhaust NOTE: Must be completed by a HERS Rater			

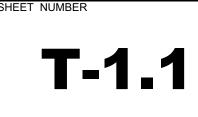
Registration Provider: Energysoft **Registration Number:** CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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Registration Date/Time:

Registration Provider: Energysoft Report Generated: 2021-01-05 10:24:07

Schema Version: rev 20200601



# **TITLE 24 -BUILDING A**

DSA APP NO. 01-119265							
ARCH PROJECT NO: 1893.0							
DRAWN BY	:	НМ					
DRAWING	SCALE:	N.T.S.					
PTN: 6111	9-119	FILE NO: 1-1					
	CD						
MAY 05, 2021							
SHEET TITLE							

ALAMEDA UNIFIED SCHOOL DISTRICT

1900 THIRD STREET ALAMEDA, CA 94501



**ACLC-NEA** 



QUATTROCCHI KWOK ARCHITECTS Main: 636 Fifth Street, Santa Rosa, CA 95404 East Bay: 55 Harrison Street, Suite 525, Oakland, CA 94607 (707) 576-0829 MARK QUATTROCCHI LICENSE # C15438 **EXP JULY 31, 2021** SIGNED: MAY 05, 2021

IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITEC

**REVIEWED FOR** SS 🗹 FLS 🗹 ACS 🗌

APP: 01-119265 INC:

DATE: 06/02/2021



Registration Provider: Energysoft

Report Generated: 2021-01-05 10:24:07

STATE OF CALIFORNIA				
Mechanical System	S			
NRCC-MCH-E				CALIFORNIA EN
CERTIFICATE OF COMPLIANCE				
Project Name:	A Classroom + Office ACLC-NEA Mechanical	Modernization	Report Page:	
Project Address:	19	900 Third Street	Date Prepared:	
	RES DOCUMENTATION LOCATION			
-	a whara mandatory maggyras are documented in t	ha plan cat or	construction documentation	
-	e where mandatory measures are documented in t	he plan set or o	construction documentation.	
-	e where mandatory measures are documented in ta 01	he plan set or o	construction documentation.	02
This table is used to indicat	·	he plan set or o	construction documentation. Yes	02 Plan sheet or construction docur

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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STATE OF CALIFORNIA Mechanical Syste

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CERTIFICATE OF COMPLIANCE		NRCC-MCH-E				
Project Name:	A Classroom + Office ACLC-NEA Mechanical Modernization					
Project Address:	1900 Third Street					
DOCUMENTATION AUTHO	DR'S DECLARATION STATEMENT	SOPO				
I certify that this Certificat	te of Compliance documentation is accurate and comple	rte. Sarah Cernica				
Documentation Author Name: Sarah Pernula		Documentation Author Signature:				
Company:		Signature Date:				
SOLDATA Energy Consulting		2021-01-05				
Address:		CEA/ HERS Certification Identification (if applicable):				
2227 Capricorn Way		NR16-90-20043				
City/State/Zip:		Phone:				
Santa Rosa CA 95407		707.545.4440				
	DECLARATION STATEMENT					
	of perjury, under the laws of the State of California:					
	ed on this Certificate of Compliance is true and correct.	ding design or system design identified on this Certificate of Compliance (responsible designer)				
3. The energy features and	d performance specifications, materials, components, and manufactured device	es for the building design or system design identified on this Certificate of Compliance (responsible designer)				
,	art 6 of the California Code of Regulations.					
	submitted to the enforcement agency for approval with this building permit ap	consistent with the information provided on other applicable compliance documents, worksheets, calculations, oplication.				
5. I will ensure that a comp	pleted signed copy of this Certificate of Compliance shall be made available wit	h the building permit(s) issued for the building, and made available to the enforcement agency for all applicable be included with the documentation the builder provides to the building owner at occupancy.				
Responsible Designer Name: Chr	ris Del Core	Responsible Designer Signature:				
Company:		Date Signed:				
Costa Engineers Inc.		2021-01-05				
Address:		License:				
3274 Villa Lane		M31600				
City/State/7in [.]		Phone:				

Registration Provider: Energysoft

**Registration Number:** 

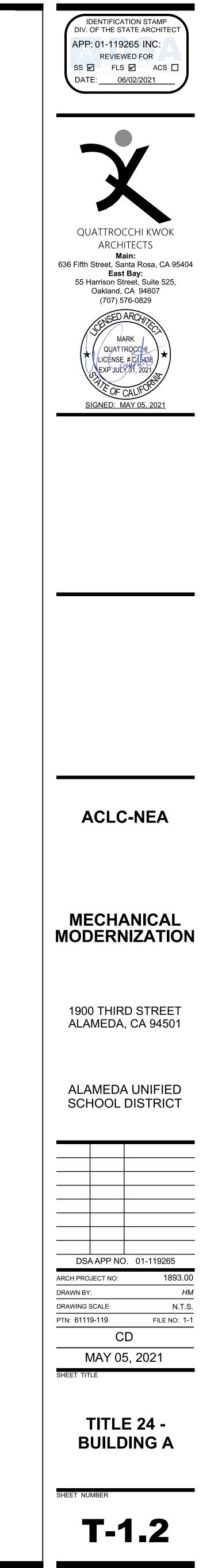
City/State/Zip: Napa CA 94558

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

Phone: 707-252-9177

Registration Provider: Energysoft Report Generated: 2021-01-05 10:24:07



#### NRCC-MCH-E CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are path outlined in <u>§140.4</u>, or <u>§141.0(b)2</u> for alterations. Project Name: Bldg B Classrooms ACLC-NEA Mechanical Modernization **Report Page**: 1900 Third Street Date Prepared:

## Project Address:

A. 6	A. GENERAL INFORMATION								
01	Project Location (city)	Alameda	04	Total Conditioned Floor Area					
02	Climate Zone	3	05	Total Unconditioned Floor Area					
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Gr					
	Office (B)	🔲 Retail (M)		Non-refrigerated Warehouse (S)					
	Hotel/ Motel Guest Rooms (R-1)	🔲 School (E)		Healthcare Facility (I)					
	High-Rise Residential (R-2/R-3)	Relocatable Class Bldg (E)		Other (write in)					

### **B. PROJECT SCOPE** This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating co

<u>§140.4</u> , o	r <u>§141.0(b)2</u> for alterations.		5
	01	02	
	Air System(s)	Wet System Components	
	Heating Air System	Water Economizer	
	Cooling Air System	Pumps	
	Mechanical Controls	System Piping	
	Mechanical Controls (existing to remain, altered or new)	Cooling Towers	
		Chillers	
		Boilers	

### Registration Number:

Registration Date/Time:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

#### Report Version: 2019.1.003 Schema Version: rev 20200601

STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E CERTIFICATE OF COMPLIANCE

Project Name: Bldg B Classrooms ACLC-NEA Mechanical Modernization Report Page: Project Address: 1900 Third Street Date Prepared:

· · · <b>j</b> · · · · · · · · · · · · · · · · · · ·										=, 0, =0==		
				lation nonvin	ana anta in E	120.1 and	<u>5120 2/012</u>	D for all population tight	aigh vice residential and	h at al /m at al		
occupancies. F	or alterations	-	being altered	within the so	ope of the p	permit app	lication nee	B for all nonresidential, h ed to be documented in th dsheet.	-	-		
01		Check the box if the pro	ject is showing	g ventilation	calculations	on the pla	ns, or attac	ching the calculations inst	ead of completing this	able.		
02	$\boxtimes$	Check this box if the pro	ject included Nonresidential or Hotel/Motel spaces									
02	Check this box if the project included new or altered high-rise				d high-rise	residential dwelling units.						
03	Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per							s per <u>§120.1(c)2</u> .				
Nonresidentia	and Hotel	Motel Ventilation System	S									
	04			05				06	07			
			System Doci			Custom	Design		Air Filtration per §120.1(c) and §141.0(b)2			
System Name		FAU 1, 2, 37	System Desi Airflo	-	949		System Design 0 Transfer Air CFM		Provided per <u>§120.1(c)</u> (NR and Hotel/Motel))			
08		09	10	11	12	13	14	15	1	16		
		Mechanical Ventilat	tion Required	<mark>3</mark> ³		Exh.	Vent per <u>§120.1(c)4</u>					
Space Name ot item Tag	Oc	ccupancy Type ⁴	Conditioned# of Shower# ofFloor Areaheads/people5(ft²)toilets		Required Min OA CFM	Required Min CFM	Provided per Design CFM		trols per <u>§120.1(d)3</u> , nd <u>§120.1(e)3</u> ⁶			
Bldg B -	Locturo / po	octooondany classroom	2407			948.9	0	0	DCV	NA: Not required per §120.1(d)3		
Classrooms 1, 2	Lecture/ postsecondary classroom		2497			948.9	0	U	Occ Sensor	NA: Not required space type		
17	Total System	Required Min OA CFM				949	18	Ventilation for this S	System Complies?	Yes		

¹ FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system ² Air filtration requirements apply to the following three system types per <u>§120.1(c)1A</u> : space conditioning systems utilizing ducts to supply air to occupiable space; supply-only

ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space. ³ Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.

⁴ See Standards Tables 120.1-A and 120.1-B. ⁵ For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code.

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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#### STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E		Juli								
CERTIFICATE	OF COM	PLIANC	E							
Project Name:			Bldg B Classrooms ACLC-NEA Mechanical Modernization Report Page:							
Project Add	ress:		1900 Third Street Date Prepared:							
O. DECLA	RATION	OF RE	QUIRED CERTIFICATES OF ACCEPTANCE							
$\bigcirc$	MCH-12-A FDD for Packaged Direct Expansion Units									
$\bigcirc$		NRCA-	MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance							
•	$\bullet$	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance NOTE: This form does not automatically move to "Yes". If Distributed Energy System DX AC Systems are included in teh scope permit applicant should move this form to 'Yes".								
0	•	autom Extern Cryoge	MCH-15-A Thermal Energy Storage (TES) System Acceptance NOTE: This form does not atically move to "Yes". If Chilled water Storage, Ice-on-Coil Internal Melt, Ice-on-Coil al melt, Ice Harvester, Brine, Ice-Slurry, Eutecti Salt, Clathrate Hydrate Slurry (CHS), enic or Encapsulated (Ice Ball) Systems are included in the scope, permit applicant should this form to 'Yes".							
$\bigcirc$		NRCA-	MCH-16-A Supply Air Temperature Reset Controls							
$\bigcirc$		NRCA-	MCH-17-A Condenser Water Temperature Reset Controls							
	$\bigcirc$	NRCA-	MCH-18-A Energy Management Control Systems							
$\bigcirc$		NRCA-	MCH-19-A Occupancy Sensor Controls							
$\bigcirc$		NRCA-	MCH-20 Multi-Family Ventilation							
$\bigcirc$		NRCA-	MCH-21 Multi-Family Envelope Leakage							
P. DECLAR	ATION	OF RE	QUIRED CERTIFICATES OF VERIFICATION							
Selections l These docu	have bee ments m	n mad nust be	e based on information provided in previous tables of this document. If any selection needs completed by a HERS Rater and provided to the building inspector during construction. The at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonr	final docun						
Yes	N	0	Form/Title							
$\bigcirc$			NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be completed by a HERS Rater							

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

	CALIFORNIA ENERGY COMMISSION						
NRCC-MCH-E							
re demonstra	ting compliance using the prescriptive						
	(Page 1 of 9)						
	1/5/2021						
	2497						
	0						
rade)	1						
)							
	See Table J						
ompliance usi	ng the prescriptive path outlined in						
	03						
Dr	y System Components						
Air Econ	omizer						
Electric I	Resistance Heat						
Fan Syste	ems						
Ductwor	Ductwork (existing to remain, altered or new)						
Ventilati	on						
Zonal Sy	stems/ Terminal Boxes						
, ,							

STATE OF CALIFOR Mechanic		stems												
NRCC-MCH-E														CALIFORNI
CERTIFICATE O	F COMF	PLIANCE												
Project Name:				Bldg B Classroo	ms ACL				-					
Project Addres	s:						1900 Tł	hird Street Date	Prepar	ed:				
C. COMPLIA	NCE R	ESULTS												
				out into the co ional Conditior									itable b	y the user. If th
01		02		03		04		05		06		07		08
System Summary <u>§110.1</u> , <u>§110.2</u> , <u>§140.4</u>	AND	Pumps <u>§140.4(k)</u>	AND	Fans/ Economizers <u>§140.4(c)</u> , <u>§140.4(e)</u>	AND	System Controls <u>§110.2</u> , <u>§120.2</u> , <u>§140.4(f)</u>	AND	Ventilation §120.1	AND	Terminal Box Controls <u>§140.4(d)</u>	AND	Distribution <u>§120.3</u> , <u>§140.4(I)</u>	AND	Cooling Towe §110.2(e)2
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M
	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND	Yes	AND	
				Mandatory	Measu	res Complian	ce (See	Table Q for D	etails)				COMP	LIES
D. EXCEPTIO	NAL C	ONDITIONS												
This table is a	uto-fill	ed with unedit	able co	omments beca	use of :	selections mad	de or de	ata entered in	tables	throughout th	e form.			
		MARKS												
			hv the	permit applica	nt to th	ne Authority H	avina I	urisdiction						
	uuesn		oy the				aving s							
F. HVAC SYS	rem s	UMMARY (D	RY & \	NET SYSTEM	S)									
This section d	oes no	ot apply to this	projec	t.										
G. PUMPS														
This section d	oes no	ot apply to this	projec	t.										

Registration Date/Time:

Report Version: 2019.1.003

Schema Version: rev 20200601

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CALIFORNIA ENERGY COMMISSION
NRCC-MCH-E

Registration Provider: Energysoft

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Registration Number:

STATE OF CALIFORNIA

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Provider: Energysoft Report Generated: 2021-01-05 09:15:25

CALIFORNIA ENERGY COMMISSION

NRCC-MCH-E (Page 7 of 9)

This section does	not apply to th	is project.						
L. DISTRIBUTIO		K and PIPING)						
	•	-	tory nine insulation reau	irements found in §120.3 au	nd prescriptive requirements found in <u>§140.4(I)</u> for duct			
Duct Leakage Sea	·							
		low apply to the fe	ollowing duct systems:	FAU 1, 2, 37	Duct leakage testing triggered for these systems?			
11	11 No The scope of the project includes only duct systems serving healthcare facilities							
12	Yes	Duct system p	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning syst					
13	Yes	The space con	ditioning system serves l	ess than 5,000 ft ² of conditi	oned floor area.			
14	No	The <u>combined</u>	surface area of the duct	s in the following locations i	s more than 25% of the total surface area of the entire d			
			Outdoors					
					r greater than the u-factor of the ceiling, or if the roof de and vents or openings to the outside/ unconditioned spa			
			In an unconditioned of	crawl space				
			In other uncondition	ed spaces				
15		The scope of t	he project includes exter	nding an existing duct system	n, which is constructed, insulated or sealed with asbesto			
16				<b>e</b> ,	cumented to have been previously sealed as confirmed nce Nonresidential Appendix NA2.			
17	Yes	Duct system sh	nall be sealed in acordan	ce with the California Mech	anical Code			
		•						
M. COOLING TO	OWERS							
This section does		is project.						

Registration Number:	Registration Date/Time:
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003

STATE OF CALIFORNIA
Mechanical Systems

	-			
NRCC-MCH-E				CALIFORNI
CERTIFICATE OF COMPLIANCE				
Project Name:	Bldg B Classrooms ACLC-NEA Mechanica	l Modernization	Report Page:	
Project Address:	1	900 Third Street	Date Prepared:	
Q. MANDATORY MEASU	RES DOCUMENTATION LOCATION			
This table is used to indicate	e where mandatory measures are documented in t	he plan set or o	construction documentation.	
	01			02
Compliance with Mandator	y Measures documented through MCH		Yes	Plan sheet or construction d

Schema Version: rev 20200601

			1	80 . 0. 01			
				1/5/2021			
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			$\rightarrow$				
			_				
			$\rightarrow$				
d, please explain why in Table E Additional Remarks.							
ents must be created by a HE							
ocuments/NRCV/							
	Field Inspector						
	Pa	SS		Fail			
		]					
		]					
		]					
	<u> </u>						

Registration Provider: Energysoft Report Generated: 2021-01-05 09:15:25

**Registration Number:** CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Provider: Energysoft Report Generated: 2021-01-05 09:15:25

	(Page 2 of 9)	Project Name:		E	Bidg B Classroon	ns ACLC-NEA Mechanical M	odernizatio	n Report	t Page:				(Page 3 of 9		
	1/5/2021	Project Address:				1900	Third Stree	et Date P	repared:				1/5/202		
		H. FAN SYSTE	MS & AIR EC	CONOMIZER	S										
by the user. If this t	table says "DOES					riptive requirements four included in Table H.	nd in <u>§140</u>	<u>.4(c)</u> , <u>§1</u>	<u>40.4(e)</u> and <u>§1</u>	<u>40.4(m)</u> for fan	systems. Far	n systems servir	ng only process loads are		
08 09		System Name:	FAU 1, 2, 3	57 Econ	omizer: ¹ NA: <=54 kBtu/h cooling Controls:		Designed per <u>§140.4(e)</u> and (m)		System	n Fan Type:	Constant Volume				
Cooling Towers		01	C	)2	03	04		C	)5	06		07	08		
<u>§110.2(e)2</u>	Compliance Results	Fan Name or				Maximum Design Supply	Airflow				Fan Power	Pressure Drop	Adjustment - Table 140.4-E		
	-	Item Tag	Fan Fu	unction	Qty	(CFM)	AII IIOW	HP Unit ²		Design HP		Design HP		evice	Design Airflow through Device (CFM)
(See Table M)	COMPLIES	SF	Su	pply	3	3600		BI	HP	0.5		0.5 NA		NA	NA
PLIES	COMPLIES	Total Syste	em Design Sup	oply Airflow (	CFM):	3600		ystem D (B)HP:	esign	1.5		n System Fan er (B)HP:	1.13		
		¹ FOOTNOTES: ² The unit used	-			requirements of <u>§140.9(a</u> hin a system.	<u>)</u> and will	be docu	imented on the	NRCC-PRC-E doo	cument.				
		I. SYSTEM CO	NTROLS												
		This table is use space condition		trate compliai	nce with mand	latory controls in <u>§110.2</u>	and <u>§120</u>	. <u>2</u> and p	prescriptive cor	ntrols in <u>§140.4(f</u>	and (n) or i	requirements in	n <u>§141.0(b)2E</u> for altered		
		01		02	03	04		05	06	07		08	09		
		System	Name	System Zoning	Conditioned Floor Area Being Served (ft ² )	Thermostats	Co	ut-Off ontrols 20.2(e)	Isolation Zone Controls §120.2(g)	Demand Re <u>§110.12</u> and g	•	Supply Air Temp. Reset <u>§140.4(f)</u>	Window Interlocks per <u>§140.4(n)</u>		
		FAU 1,	2, 37	Single zone	<= 25,000 ft ²	EMCS	E	MCS	NA: Serves < 25k ft ²	EMC	S	NA: Single Zone	NA: Alteration Project		

STATE OF CALIFORNIA

NRCC-MCH-E

Project Name:

Project Address:

Mechanical Systems

CERTIFICATE OF COMPLIANCE

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

NRCC-MCH-E

CALIFORNIA ENERGY COMMISSION

STATE OF CALIFOR	RNIA							
Mechanica	al Systems							
NRCC-MCH-E	•					CALIFOR	NIA ENERGY COMMISSION	
CERTIFICATE OF	COMPLIANCE						NRCC-MCH-E	
Project Name:		Bldg B Classr	ooms ACLC-NEA Mechanical M	odernization Re	port Page:		(Page 3 of 9)	
Project Address	5:		1900	) Third Street <b>Da</b>	te Prepared:		1/5/2021	
H. FAN SYSTE	EMS & AIR ECONO	OMIZERS						
This table is used to demonstrate compliance with prescriptive requirements found in <u>\$140.4(c)</u> , <u>\$140.4(e)</u> and <u>\$140.4(m)</u> for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.								
System	FAU 1, 2, 37	Economizer:1	NA: <=54 kBtu/h cooling	Economizer	Designed per $\frac{140.4(e)}{2}$ and	System Fan Type:	Constant Volume	

System Name	System Zoning	Floor Area Being Served (ft ² )	Thermostats <u>§110.2(b)</u> & (c) ¹ , <u>§120.2(a)or</u> <u>§141.0(b)2E</u>	Shut-Off Controls <u>§120.2(e)</u>	Zone Controls <u>§120.2(g)</u>	Demand Response §110.12 and §120.2(b)	Supply Air Temp. Reset <u>§140.4(f)</u>	Window Interlocks per <u>§140.4(n)</u>
FAU 1, 2, 37	Single zone	<= 25,000 ft ²	EMCS	EMCS	NA: Serves < 25k ft ²	EMCS	NA: Single Zone	NA: Alteration Project
ave setback thermostats.								
	quire a note in	the space belo	ow explaining how complian	ce is achieved.	EX: system 1: S	5A Temp Reset: Exempt beca	ause zones com	pliant with <u>§140.4(d)</u> ;
Notes: Controls with a * re	quire a note in	the space belo		ce is achieved. Registration Date	·	5A Temp Reset: Exempt beca		pliant with <u>§140.4(d)</u> ; sistration Provider: Energysoft

Bldg B Classrooms ACLC-NEA Mechanical Modernization Report Page:

1900 Third Street Date Prepared:

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks.

CERTIFICATE OF COM	/IPLIANCE						NRCC-MCH
Project Name:		Bldg B Clas	ssrooms ACLC-NEA Mechanie	cal Modernization	Report Page:		(Page 5 of 9
Project Address:				1900 Third Street	Date Prepared	d:	1/5/202
I. VENTILATION							
			are required by \$120 1(c)	to have lighting	occupancy co	ensing controls to also have occupancy sensing zone con	trols for ventilation
					• •	se rooms less than 1,000 ft ² , classrooms, conference roo	-
				-		g and unloading zones, unless excepted by <u>§130.1(c)</u> .	
K. TERMINAL BO		i					
This section does r	not apply to th	is project.					
L. DISTRIBUTION	(DUCTWOR	K and PIPING)					
This table is used t	o show compli	ance with manda	tory pipe insulation requir	ements found in	<u>§120.3</u> and	prescriptive requirements found in <u>§140.4(I)</u> for duct lea	akage testing.
Duct Leakage Seal	ing						
The answers to the	e questions be	low apply to the fo	ollowing duct systems:	FAU 1, 2	, 37	Duct leakage testing triggered for these systems?	No
11	No	The scope of tl	he project includes only d	uct systems serv	ing healthcar	e facilities	
12	Yes	Duct system p	rovides conditioned air to	an occupiable sp	bace for a cor	nstant volume, single zone, space-conditioning system.	
13	Yes	The space con	ditioning system serves le	ss than 5,000 ft ²	of condition	ed floor area.	
14	No	The <u>combined</u>	surface area of the ducts	in the following	locations is n	nore than 25% of the total surface area of the entire due	ct system:
			Outdoors				
					-	reater than the u-factor of the ceiling, or if the roof doe I vents or openings to the outside/ unconditioned space	
			In an unconditioned cr	awl space			
			In other unconditioned	d spaces			
15		The scope of t	he project includes extend	ding an existing o	luct system, v	which is constructed, insulated or sealed with asbestos.	
16	6 The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.						
17	Yes	Duct system sh	nall be sealed in acordance	e with the Califo	rnia Mechani	cal Code	
M. COOLING TO	WFRS						
		is project.					

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Yes		0	Form/Title	Field In	spe				
103									
۲		NRCI-MCH-01-E - Mus	t be submitted for all buildings						
O. DECL	ARATIO	OF REQUIRED CERTIFICAT	ES OF ACCEPTANCE						
These do	cuments	nust be provided to the buildin	n provided in previous tables of this document. If any selection needs to be changed, please explain why i ng inspector during construction and can be found online at ds/2019_compliance_documents/Nonresidential_Documents/NRCA/	n Table E Additiona	l R				
Yes	No		Form/Title Systems To Be Field Verifi	ed Field Pas	_				
۲	$\bigcirc$		ir must be submitted for all newly installed HVAC units. Note: in conjunction with MCH-07-A Supply Fan VFD Acceptance (if ities overlap.						
۲	0		Volume Single Zone HVAC NOTE: This form does not automatically ume Single Zone HVAC Systems are included in the scope, permit orm to "Yes".						
$\bigcirc$		NRCA-MCH-04-A - Air Distrib	ution Duct Leakage		1				
$\bigcirc$		NRCA-MCH-05-A - Air Econor	nizer Controls		1				
$\bigcirc$	٠	required to employ demand	ntrol Ventilation Systems must be submitted for all systems controlled ventilation (refer to <u>§120.1(c)3</u> ) can vary outside on maintaining interior carbon dioxide (CO ₂ ) concentration						
$\bigcirc$		NRCA-MCH-07-A Supply Fan	Variable Flow Controls		1				
$\bigcirc$	۲	NRCA-MCH-08-A Valve Leaka	ge Test		1				
$\bigcirc$	۲	NRCA-MCH-09-A Supply Wat	er Temperature Reset Controls		1				
$\bigcirc$	۲	NRCA-MCH-10-A Hydronic Sy	stem Variable Flow Controls		1				
۲	$\bigcirc$	NRCA-MCH-11-A Automatic I	Demand Shed Controls		J				
	ion Numb		Registration Date/Time:	Registration Provide					

NIA ENERGY COMMISSION
NRCC-MCH-E
(Page 8 of 9)
1/5/2021
document location
ts

Registration Provider: Energysoft

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Mechanical	Systems
NRCC-MCH-E	

STATE OF CALIFORNIA

NRCC-MC	CH-E		CALIFC	ORNIA ENERGY COMMISSIO			
CERTIFIC	CATE OF COMPLIANCE			NRCC-MCH-			
Project N	Name: Bldg B Classrooms ACLC-NEA Mecl	hanical Modernization	Report Page:	(Page 9 of 9			
Project A	Address:	1900 Third Street	Date Prepared:	1/5/202			
DOCUN	MENTATION AUTHOR'S DECLARATION STATEMENT		Sarah Cernica				
I certify	y that this Certificate of Compliance documentation is acc	urate and comple	te. Durch fernith				
	ntation Author Name:		Documentation Author Signature:				
Sarah Pe	ernula						
Company	r.		Signature Date:				
SOLDAT	A Energy Consulting		2021-01-05				
Address:			CEA/ HERS Certification Identification (if applicable):				
2227 Ca	apricorn Way		NR16-90-20043				
City/State	e/Zip:		Phone:				
Santa R	losa CA 95407		707.545.4440				
RESPO	NSIBLE PERSON'S DECLARATION STATEMENT						
I certify th	he following under penalty of perjury, under the laws of the State of California:						
1.	The information provided on this Certificate of Compliance is true and correct						
2.	2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)						
3.							
4.							

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5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.						
Responsible Designer Name: Chris Del Core	Responsible Designer Signature:					
Company:	Date Signed:					
Costa Engineers Inc.	2021-01-05					
Address:	License:					
3274 Villa Lane	M31600					

707-252-9177

**Registration Number:** CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

City/State/Zip:

Napa CA 94558

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Provider: Energysoft Report Generated: 2021-01-05 09:15:25



# **TITLE 24 -BUILDING B**

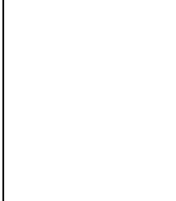
DSA	APP NC	01-119265					
ARCH PRO	JECT NO:	1893.00					
DRAWN BY	:	НМ					
DRAWING	SCALE:	N.T.S.					
PTN: 6111	9-119	FILE NO: 1-1					
CD							
MAY 05, 2021							
SHEET TITLE							

ALAMEDA UNIFIED SCHOOL DISTRICT

1900 THIRD STREET ALAMEDA, CA 94501



**ACLC-NEA** 



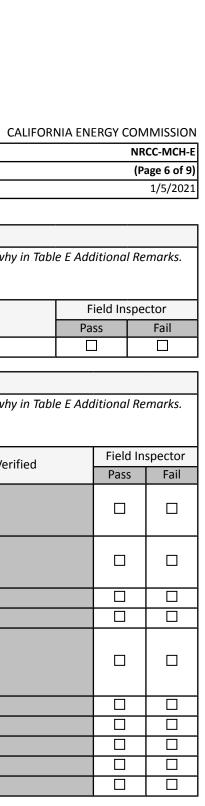


IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITEC

**REVIEWED FOR** 

APP: 01-119265 INC:





#### NRCC-MCH-E CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and ar path outlined in <u>§140.4</u>, or <u>§141.0(b)2</u> for alterations. Project Name: C MPR+Offices+Kitchen ACLC-NEA Mechanical Modernization **Report Page**: 1900 Third Street Date Prepared:

# Project Address:

A. 0	A. GENERAL INFORMATION								
01	Project Location (city)	Alameda	04	Total Conditioned Floor Area					
02	Climate Zone	3	05	Total Unconditioned Floor Area					
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above G					
$\boxtimes$	Office (B)	🔲 Retail (M)		Non-refrigerated Warehouse (S					
	Hotel/ Motel Guest Rooms (R-1)	□ School (E)		Healthcare Facility (I)					
	High-Rise Residential (R-2/R-3)	Relocatable Class Bldg (E)		Other (write in)					

### **B. PROJECT SCOPE** This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating con

<u>§140.4</u> , o	r <u>§141.0(b)2</u> for alterations.		5
	01	02	
	Air System(s)	Wet System Components	
	Heating Air System	Water Economizer	
	Cooling Air System	Pumps	
	Mechanical Controls	System Piping	
	Mechanical Controls (existing to remain, altered or new)	Cooling Towers	
		Chillers	
		Boilers	

## **Registration Number:**

Registration Date/Time:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003 Schema Version: rev 20200601

#### STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E CERTIFICATE OF COMPLIANCE

Project Name: C MPR+Offices+Kitchen ACLC-NEA Mechanical Modernization **Report Page**: 1900 Third Street Date Prepared: Project Address:

## J. VENTILATION AND INDOOR AIR QUALITY

-	-							
occupancies. I	For alterations	s, only ventialtion systems	· · · –	<u>120.1</u> and <u>§120.2(e)3B</u> for all nonresidential, permit application need to be documented in t presented in a spreadsheet.				
01		Check the box if the pro	Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations ins					
02		Check this box if the project included Nonresidential or Hotel/Motel spaces						
02		Check this box if the project included new or altered high-rise residential dwelling units.						
03 Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet								
Nonresidential and Hotel/ Motel Ventilation Systems								
	04		05	06				

	04			06			
System Name	HV 100	System Design OA CFM Airflow ¹		1483		Design Air CFM	0
08	09	10	11	12	13	14	15
	Mechanical Ventila	tion Required	per <u>§120.1(c</u>	3 ³		Exh.	Vent per <u>§120.1(c)4</u>
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ² )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM
Bldg C - Multi- Purpose Room 100	Assembly- multiuse	2848			1424	0	0
Bldg C - Kitchen 110	Kitchenettes	160			0	48	0
Bldg C - Offices 102 103	Office space	318			47.7	0	0

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time:

Report Version: 2019.1.003 Schema Version: rev 20200601

#### STATE OF CALIFORNIA Mechanical S

CERTIFICA	ATE OF CO	MPLIANCE		NF	RCC-MCH-E	
Project Name: C MPR+Offices+Kitchen ACLC-NEA Mechanical Modernization Report Page:						
Project Address: 1900 Third Street Date Prepared:						
	_	N OF REQUIRED CERTIFICATES OF ACCEPTANCE			_	
These do	ocuments	een made based on information provided in previous tables of this document. If any selection needs to must be provided to the building inspector during construction and can be found online at gy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/	be changed, please explain why in Table E	E Additional Re	emarks.	
Yes	No	Form/Title	Systems To Be Field Verified	Field In Pass	spector Fail	
٠	0	NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.				
٠	•	NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically move to "Yes'. If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".				
$\bigcirc$	۲	NRCA-MCH-04-A - Air Distribution Duct Leakage				
$\bigcirc$		NRCA-MCH-05-A - Air Economizer Controls				
$\bigcirc$	•	NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to <u>§120.1(c)3</u> ) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO ₂ ) concentration setpoints.				
$\bigcirc$		NRCA-MCH-07-A Supply Fan Variable Flow Controls				
$\bigcirc$		NRCA-MCH-08-A Valve Leakage Test				
$\bigcirc$	۲	NRCA-MCH-09-A Supply Water Temperature Reset Controls				
$\bigcirc$		NRCA-MCH-10-A Hydronic System Variable Flow Controls				
۲	$\bigcirc$	NRCA-MCH-11-A Automatic Demand Shed Controls				
$\bigcirc$		NRCA-MCH-12-A FDD for Packaged Direct Expansion Units				
$\bigcirc$	۲	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance				
$\bigcirc$	•	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance NOTE: This form does not automatically move to "Yes". If Distributed Energy System DX AC Systems are included in teh scope permit applicant should move this form to 'Yes".				

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

CALIFORNIA ENERGY COMMISSIO						
NRCC-MCH-E						
re demonstrating compliance using the prescriptive						
	(Page 1 of 9)					
	1/5/2021					
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	0					
rade)	1					
)						
	See Table J					
ompliance usi	ng the prescriptive path outlined in					
	03					
Dr	y System Components					
Air Econ	omizer					
Electric I	Resistance Heat					
Fan Systems						
Ductwor	Ductwork (existing to remain, altered or new)					
Ventilati	on					
Zonal Sy	stems/ Terminal Boxes					
<u> </u>						

CERTIFICATE O	F COM	PLIANCE												
Project Name:			C MP	R+Offices+Kitch	en ACL									
Project Addres	is:						1900 Tł	nird Street D	Date Prepa	red:				
C. COMPLIA	NCE R	ESULTS												
										al requirement t compliant for			itable b	y the user. Ij
01		02		03		04		05		06		07		08
System Summary <u>§110.1</u> , <u>§110.2</u> , <u>§140.4</u>	AND	Pumps <u>§140.4(k)</u>	AND	Fans/ Economizers <u>§140.4(c)</u> , <u>§140.4(e)</u>	AND	System Controls <u>§110.2</u> , <u>§120.2</u> , <u>§140.4(f)</u>	AND	Ventilatio <u>§120.1</u>	on AND	Terminal Box Controls <u>§140.4(d)</u>	AND	Distribution <u>§120.3</u> , <u>§140.4(l)</u>	AND	Cooling To <u>§110.2(</u> e
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table	5 J)	(See Table K)		(See Table L)		(See Table
	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND	Yes	AND	
				Mandatory	Measu	ires Complian	ce (See	Table Q fo	or Details				COMP	LIES
		CONDITIONS												
			tabla ci	ommants hasa	use of	calactions may	de or de	ata antarad	l in tablac	throughout th	a form			
	uto-jiii				use of .						e joini.			
E. ADDITION	NAL RE	MARKS												
This table incl	ludes r	emarks made	by the	permit applica	nt to th	ne Authority H	aving J	urisdiction.						
F. HVAC SYS	TEM S	UMMARY (D	RY & V	WET SYSTEM	S)									
•														

Registration Provider: Energysoft

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	CALIFORNIA	ENERGY COMMISSION				
		(Page 4 of 9)				
		1/5/2021				
sidential	high-rise residential and	hotel/motel				
	nis table. In lieu of this to					
	-					
ations inst	ead of completing this	table.				
to meet r	equired ventilation rate	s per <u>§120.1(c)2</u> .				
	-	7				
	Air Filtration per <u>§120.1(c)</u> and <u>§141.0(b)2</u>					
	Provided per <u>§120.1(c)</u> (NR and					
	Hotel/Motel))					
	1	6				
L <u>(c)4</u>	DCV or Sonsor Cont	role per $8120.1(d)2$				
r Design	DCV or Sensor Controls per <u>§120.1(d)3</u> , <u>§120.1(d)5</u> , and <u>§120.1(e)3</u> ⁶					
		NA: Not required per				
	DCV	<u>§120.1(d)3</u>				
	Occ Sensor	NA: Not required				
		space type				
	DCV	NA: Not required per				
		§120.1(d)3				
	Occ Sensor	NA: Not required space type				
		NA: Not required per				
	DCV	<u>§120.1(d)3</u>				
	Occ Sensor	NA: Not required				
		space type				

Registration Provider: Energysoft

Report Generated: 2021-01-05 14:38:32

Registration Provider: Energysoft Report Generated: 2021-01-05 14:38:32

Registration Date/Time: Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Pr

Report Generated: 202

DCV

Occ Sensor

NRCC-MCH-E CERTIFICATE OF COMPLIANCE

Mechanical Systems

STATE OF CALIFORNIA

This section does not apply to this project.

C MPR+Offices+Kitchen ACLC-NEA Mechanical Modernization Report Page: Project Name: 1900 Third Street Date Prepared: Project Address:

J. VENTILATION AND INDOOR AIR QUALITY Bldg C -11.2 Corridor 75 0 Hallway 104 17 Total System Required Min OA CFM 148318Ventilation for this System Complies? ¹ FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system ² Air filtration requirements apply to the following three system types per <u>\$120.1(c)1A</u> : space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing

outside air to occupiable space. ³ Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence. ⁴ See Standards Tables 120.1-A and 120.1-B.

⁵ For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code. ⁶ §120.2(e)3 requires systems serving rooms that are required by §130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, restrooms, aisles

	,					
L. DISTRIBUTIO	N (DUCTWORH	( and PIPING)				
This table is used	to show compli	ance with mandatory pipe insulation requ	irements found in <u>§120.3</u> an	d prescriptive requirements found in <u>§140.4(I)</u> for duct le		
Duct Leakage Sea	lling					
The answers to th	ne questions bel	ow apply to the following duct systems:	HV 100	Duct leakage testing triggered for these systems?		
11	No	The scope of the project includes only	duct systems serving healtho	care facilities		
12	Yes	Duct system provides conditioned air to	o an occupiable space for a c	constant volume, single zone, space-conditioning system.		
13	Yes	The space conditioning system serves less than 5,000 ft ² of conditioned floor area.				
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire due				
		Outdoors				

Registration Date/Time: Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003

#### STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E

CERTIFICA	TE OF		ICE								
Project Na	ame:		C MPR+Offices+Kitchen ACLC-NEA Mechanical Modernization Report Page:								
Project Ad	ddres	5:	1900 Third Street Date Prepared:								
O. DECL	ARA		REQUIRED CERTIFICATES OF ACCEPTANCE								
•		autom Extern Cryog	A-MCH-15-A Thermal Energy Storage (TES) System Acceptance NOTE: This form does not matically move to "Yes". If Chilled water Storage, Ice-on-Coil Internal Melt, Ice-on-Coil mal melt, Ice Harvester, Brine, Ice-Slurry, Eutecti Salt, Clathrate Hydrate Slurry (CHS), genic or Encapsulated (Ice Ball) Systems are included in the scope, permit applicant should this form to 'Yes".								
$\bigcirc$		NRCA-	A-MCH-16-A Supply Air Temperature Reset Controls								
$\bigcirc$		NRCA-	A-MCH-17-A Condenser Water Temperature Reset Controls								
		NRCA-	A-MCH-18-A Energy Management Control Systems								
$\bigcirc$		NRCA-	A-MCH-19-A Occupancy Sensor Controls								
$\bigcirc$		NRCA-	A-MCH-20 Multi-Family Ventilation								
$\bigcirc$		NRCA-	A-MCH-21 Multi-Family Envelope Leakage								
			EQUIRED CERTIFICATES OF VERIFICATION	and place overlain why in Tak							
These do	cume	ents must be	de based on information provided in previous tables of this document. If any selection needs to be chang be completed by a HERS Rater and provided to the building inspector during construction. The final documents and at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_u	ments must be created by a H							
Yes		No	Form/Title								
$\bigcirc$			NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be completed by a HERS Rater								

• NRCV-MCH-24 Enclosure Air Leakaage Worksheet NOTE: Must be completed by a HERS Rater NRCV-MCH-27 High-rise Resdential NOTE: Must be completed by a HERS Rater NRCV-MCH-32 Local Mechanical Exhaust NOTE: Must be completed by a HERS Rater Q. MANDATORY MEASURES DOCUMENTATION LOCATION This table is used to indicate where mandatory measures are documented in the plan set or construction documentation. 01

Compliance with Mandatory Measures documented through MCH Plan sheet or construction Yes Mandatory Measures Note Block M-Sheet **Registration Number:** Registration Date/Time:

> Report Version: 2019.1.003 Schema Version: rev 20200601

Schema Version: rev 20200601

Registration Provider: Energysof Report Generated: 2021-01-05 14:38:32

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

space type

		NRCC-MCH-E
		(Page 2 of 9)
		1/5/2021
ahla h	y the user. If this to	able caus "DOES
uble b	iy the user. If this to	IDIE SUYS DOES
	08	09
AND	Cooling Towers	
	<u>§110.2(e)2</u>	Compliance Results
	<u> </u>	compliance neodito
	(See Table M)	COMPLIES
AND		CONPLIES
COMP	LIES	

CALIFORNIA ENERGY COMMISSION

STATE OF CALIFORNIA		
Mechanical Systems		
NRCC-MCH-E		
CERTIFICATE OF COMPLIANCE		
Project Name:	C MPR+Offices+Kitchen ACLC-NEA Mechanical Modernization	Report Page:
Project Address:	1900 Third Street	Date Prepared:

his table is used to demonstrate compliance with prescriptive requirements found in <u>\$140.4(c)</u> , <u>\$140.4(e)</u> and <u>\$140.4(m)</u> for fan systems. Fan systems serving only process loads are xempt from these requirements and do not need to be included in Table H.										
System Name:	HV 100	Econon	nizer:1	NA: <=54 kBtu/h cooling	Econon Contro	-	Designe	d per <u>§140.4(e)</u> and (m)	System Fan Type:	Constant Volume
01	02		03	04			05	06	07	08
For Name of Maximum Design C	Maximum Docign Supply	Airflow			Fan Power Pressure Drop Adjustment - Table 140.4					
Fan Name or Item Tag	Fan Functio	'n	Qty	Maximum Design Supply (CFM)	AITHOW	HP	Unit ²	Design HP	Device	Design Airflow throu Device (CFM)
SF	Supply		1	5000		E	внр	2	NA	NA
Total Syster	n Design Supply A	irflow (CF	M):	5000	Total Syst		Design	2	Maximum System Fan Power (B)HP:	4.7

² The unit used for HP must be consistent for all fans within a system.

I. SYSTEM CONTROLS

STATE OF CALIFORNIA

NRCC-MCH-E

Project Name:

Project Address:

Mechanical Systems

CERTIFICATE OF COMPLIANCE

L. DISTRIBUTION (DUCTWORK and PIPING)

_____

01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft ² )	Thermostats <u>§110.2(b)</u> & (c) ¹ , <u>§120.2(a)or</u> <u>§141.0(b)2E</u>	Shut-Off Controls <u>§120.2(e)</u>	Isolation Zone Controls <u>§120.2(g)</u>	Demand Response §110.12 and §120.2(b)	Supply Air Temp. Reset <u>§140.4(f)</u>	Window Interlocks <u>§140.4(n)</u>
HV 100	Single zone	<= 25,000 ft ²	EMCS	EMCS	NA: Serves < 25k ft ²	EMCS	NA: Single Zone	NA: Alteration Proj

have setback thermostats. *Notes: Controls with a * require a note in the space below explaining how compliance is achieved. EX: system 1: SA Temp Reset: Exempt because zones compliant with <u>§140.4(d)</u>; EXCEPTION 1 to <u>§140.4(f)</u>

Provider: Energysoft	Registration Number:	Registration Date/Time:
2021-01-05 14:38:32	CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Provider: Energysoft Report Generated: 2021-01-05 14:38:32

CALIFORNIA ENERGY COMMISSION

NRCC-MCH-E

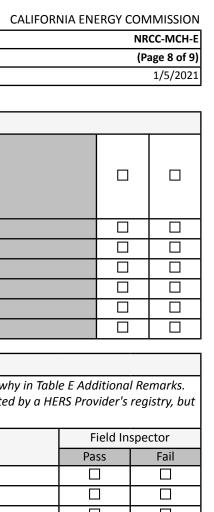
(Page 3 of 9)

1/5/2021

NA: Not required per
<u>§120.1(d)3</u>
NA: Not required
space type
Yes

K. TERMINAL B	OX CONTROLS						
This section does	not apply to th	is project.					
L. DISTRIBUTIO	N (DUCTWOR	K and PIPING)					
This table is used	to show compli	ance with mandatory pipe insulation requir	rements found in <u>§120.3</u> a	nd prescriptive requirements found in <u>§140.4(I)</u> for duct leakag	je testing.		
Duct Leakage Sea	lling						
The answers to th	e questions be	low apply to the following duct systems:	HV 100	Duct leakage testing triggered for these systems?	No		
11	11 No The scope of the project includes only duct systems serving healthcare facilities						
12	Yes	Duct system provides conditioned air to	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.				
13	Yes	The space conditioning system serves le	ss than 5,000 ft ² of conditi	oned floor area.			
	Na	The combined surface area of the ducts	e <u>combined</u> surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:				
14	No	The <u>combined</u> surface area of the ducts	in the following locations i	is more than 25% of the total surface area of the entire duct sy	Stern.		

Registration Provider: Energysoft Report Generated: 2021-01-05 14:38:32



n document location							
t	S						

oft	Registration Number:
27	CA Building Energy Eff

requirements of <u>§140.3(a)1B</u> or if the roof has fixed vents or openings to the outside/ unconditioned spaces In an unconditioned crawl space In other unconditioned spaces 15 The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos. The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification 16 and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2. 17 Yes Duct system shall be sealed in acordance with the California Mechanical Code M. COOLING TOWERS This section does not apply to this project. N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION vided in previous tables of this document. If any selection needs to be changed, please explain why in Table F Additional Remark

1900 Third Street Date Prepared:

In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the

C MPR+Offices+Kitchen ACLC-NEA Mechanical Modernization Report Page:

	elections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. hese documents must be provided to the building inspector during construction and can be found online at							
ttps://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/								
Yes No	No	Form/Title	Field Inspector					
	$\bigcirc$	NRCI-MCH-01-E - Must be submitted for all buildings						

Registration Date/Time: **Registration Number:** CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Provider: Energysoft Report Generated: 2021-01-05 14:38:32

#### STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-F

NRCC-MCH-E			CALIFORNIA ENERGY COMMISSION			
CERTIFICATE OF COMPLIANC	CE		NRCC-MCH-E			
Project Name:	C MPR+Offices+Kitchen ACLC-NEA Mechanical Modernization	Report Page:	(Page 9 of 9)			
Project Address:	1900 Third Street	Date Prepared:	1/5/2021			
DOCUMENTATION AUT	HOR'S DECLARATION STATEMENT		]			
I certify that this Certif	icate of Compliance documentation is accurate and comple	ete.				
Documentation Author Name:		Documentation Author Signature:				
Sarah Pernula						
Company:		Signature Date:				
SOLDATA Energy Consulting		2021-01-05				
Address:		CEA/ HERS Certification Identification (if applicable):				
2227 Capricorn Way		NR16-90-20043				
City/State/Zip:		Phone:				
Santa Rosa CA 95407		707.545.4440				
<b>RESPONSIBLE PERSON'</b>	S DECLARATION STATEMENT	-				
I certify the following under pen	alty of perjury, under the laws of the State of California:					
1. The information pro	vided on this Certificate of Compliance is true and correct.					
e e	Division 3 of the Business and Professions Code to accept responsibility for the build					
0,	and performance specifications, materials, components, and manufactured device d Part 6 of the California Code of Regulations.	25 for the building design or system design identified on this Certificate	of Compliance conform to the requirements			
0 0						

shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable ^c Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.
Responsible Designer Signature:
Date Signed:
2021-01-05
License:
M31600
Phone:
707-252-9177

Registration Date/Time: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Provider: Energysoft Report Generated: 2021-01-05 14:38:32



# **TITLE 24 -BUILDING C**

DSA		).	01-119265
ARCH PRO	JECT NO:		1893.00
DRAWN BY	:	НМ	
DRAWING	SCALE:	N.T.S.	
PTN: 6111	9-119	FILE NO: 1-1	
	С	D	
N	/IAY 0	5,	2021
SHEET TIT	LE		

ALAMEDA UNIFIED SCHOOL DISTRICT

1900 THIRD STREET ALAMEDA, CA 94501





IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITEC

**REVIEWED FOR** 

SS 🗹 FLS 🗹 ACS 🗌

QUATTROCCHI KWOK

ARCHITECTS

Main:

636 Fifth Street, Santa Rosa, CA 95404

East Bay: 55 Harrison Street, Suite 525, Oakland, CA 94607 (707) 576-0829

MARK

QUATTROCCHL

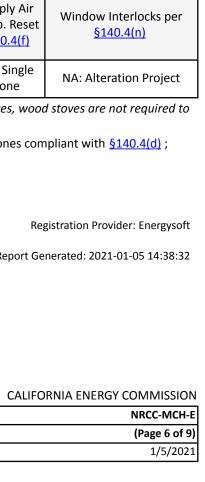
LICENSE # 015438 EXP JULY 31, 2

SIGNED: MAY 05, 2021

APP: 01-119265 INC:

DATE: 06/02/2021









#### NRCC-MCH-E CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are path outlined in  $\underline{\$140.4}$ , or  $\underline{\$141.0(b)2}$  for alterations. Project Name: Bldg D Classrooms ACLC-NEA Mechanical Modernization Report Page: 1900 Third Street Date Prepared:

## Project Address:

Α. (	GENERAL INFORMATION			
01	Project Location (city)	Alameda	04	Total Conditioned Floor Area
02	Climate Zone	3	05	Total Unconditioned Floor Area
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Gr
	Office (B)	🔲 Retail (M)		Non-refrigerated Warehouse (S)
	Hotel/ Motel Guest Rooms (R-1)	□ School (E)		Healthcare Facility (I)
	High-Rise Residential (R-2/R-3)	Relocatable Class Bldg (E)	$\boxtimes$	Other (write in)

### **B. PROJECT SCOPE** This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating co

<u>§140.4</u> , o	r <u>§141.0(b)2</u> for alterations.		5
	01	02	
	Air System(s)	Wet System Components	
	Heating Air System	Water Economizer	
	Cooling Air System	Pumps	
	Mechanical Controls	System Piping	
	Mechanical Controls (existing to remain, altered or new)	Cooling Towers	
		Chillers	
		Boilers	

### Registration Number:

Registration Date/Time:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

#### Report Version: 2019.1.003 Schema Version: rev 20200601

STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E CERTIFICATE OF COMPLIANCE

Project Name: Bldg D Classrooms ACLC-NEA Mechanical Modernization Report Page: 1900 Third Street Date Prepared: Project Address:

### J. VENTILATION AND INDOOR AIR QUALITY

J. VENTILAIR		OOR AIR QUALITY								
occupancies. F	or alterations	-	being altered	within the so	ope of the p	permit app	lication nee	B for all nonresidential, h ed to be documented in th dsheet.	-	
01		Check the box if the pro	eck the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.							
02		Check this box if the pro	Check this box if the project included Nonresidential or Hotel/Motel spaces							
02		Check this box if the pro	ject included i	new or altere	d high-rise	residential	dwelling u	nits.		
03		Check the box if the pro	ject is using na	atural ventila	tion in any r	nonresiden	tial or hote	el/motel spaces to meet re	equired ventilation rate	s per <u>§120.1(c)2</u> .
Nonresidentia	and Hotel/	Notel Ventilation System	S							
	04			05		06			07	
			System Design OA CFM			Suctor	Docign		Air Filtration per $\frac{120.1(c)}{2}$ and $\frac{141.0(b)2}{2}^2$	
System Name		FAU 3, 4	Airfle		667	System Design Transfer Air CFM		0	Provided per <u>§120.1(c)</u> (NR and Hotel/Motel))	
08		09	10	11	12	13	14	15	1	6
		Mechanical Ventila	ition Required per <u>§120.1(c)3</u> ³				Exh.	Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Oc	cupancy Type ⁴	Conditioned Floor Area (ft ² )	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM			rols per <u>§120.1(d)3</u> , Id <u>§120.1(e)3</u> ⁶
Bldg D - Classrooms 3,	Lecture/ no	Lecture/ postsecondary classroom				666.9	0	0	DCV	NA: Not required per §120.1(d)3
4			1755			000.9		0	Occ Sensor	NA: Not required space type
17	Total System	Required Min OA CFM				667	18	Ventilation for this S	System Complies?	Yes

¹ FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system ² Air filtration requirements apply to the following three system types per <u>§120.1(c)1A</u> : space conditioning systems utilizing ducts to supply air to occupiable space;

ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation sy outside air to occupiable space. ³ Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.

⁴ See Standards Tables 120.1-A and 120.1-B. ⁵ For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code.

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003

Schema Version: rev 20200601

#### STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E								
CERTIFICATE OF C	OMPLIANC	E E						
Project Name:		Bldg D Classrooms ACLC-NEA Mechanical Modernization Report Page:						
Project Address:		1900 Third Street Date Prepared:						
O. DECLARATIO	ON OF RE	QUIRED CERTIFICATES OF ACCEPTANCE						
	NRCA-	MCH-12-A FDD for Packaged Direct Expansion Units						
	NRCA-	MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance						
•	not au	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance NOTE: This form does not automatically move to "Yes". If Distributed Energy System DX AC Systems are included in teh scope permit applicant should move this form to 'Yes".						
•	autom Extern Cryoge	MCH-15-A Thermal Energy Storage (TES) System Acceptance NOTE: This form does not atically move to "Yes". If Chilled water Storage, Ice-on-Coil Internal Melt, Ice-on-Coil al melt, Ice Harvester, Brine, Ice-Slurry, Eutecti Salt, Clathrate Hydrate Slurry (CHS), enic or Encapsulated (Ice Ball) Systems are included in the scope, permit applicant should this form to 'Yes".						
	NRCA-	MCH-16-A Supply Air Temperature Reset Controls						
	NRCA-	MCH-17-A Condenser Water Temperature Reset Controls						
	NRCA-	MCH-18-A Energy Management Control Systems						
	NRCA-	MCH-19-A Occupancy Sensor Controls						
	NRCA-	MCH-20 Multi-Family Ventilation						
	NRCA-	MCH-21 Multi-Family Envelope Leakage						
		QUIRED CERTIFICATES OF VERIFICATION						
These document	ts must be	le based on information provided in previous tables of this document. If any selection needs a completed by a HERS Rater and provided to the building inspector during construction. The e at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonre	final docun					
Yes	No	Form/Title						
		NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be completed by a HERS Rater						

$\bigcirc$	۲	NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be completed by a HERS Rater
$\bigcirc$	۲	NRCV-MCH-24 Enclosure Air Leakaage Worksheet NOTE: Must be completed by a HERS Rater
$\bigcirc$	۲	NRCV-MCH-27 High-rise Resdential NOTE: Must be completed by a HERS Rater
$\bigcirc$		NRCV-MCH-32 Local Mechanical Exhaust NOTE: Must be completed by a HERS Rater

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

	CALIFORNIA ENERGY COMMISSION
	NRCC-MCH-E
re demonstra	ting compliance using the prescriptive
	(Page 1 of 9)
	1/4/2021
	1755
	0
rade)	1
)	
	See Table J
ompliance usi	ng the prescriptive path outlined in
	03
Dr	y System Components
Air Econ	omizer
Electric F	Resistance Heat
Fan Syste	ems
Ductwor	k (existing to remain, altered or new)
Ventilati	on
Zonal Sy	stems/ Terminal Boxes

NRCC-MCH-E														CALIFORN
CERTIFICATE O		PLIANCE						· ··						
Project Name: Project Addres				Bldg D Classroo	ms ACLO			ernization Repondent						
Floject Addres							1900 11		гера	cu.				
C. COMPLIA	NCE R	ESULTS												
		if the project o OMPLIES with											itable b	y the user. If t
01		02		03		04		05		06		07		08
System Summary <u>§110.1</u> , <u>§110.2</u> , <u>§140.4</u>	AND	Pumps <u>§140.4(k)</u>	AND	Fans/ Economizers <u>§140.4(c)</u> , <u>§140.4(e)</u>	AND	System Controls <u>§110.2</u> , <u>§120.2</u> , <u>§140.4(f)</u>	AND	Ventilation §120.1	AND	Terminal Box Controls <u>§140.4(d)</u>	AND	Distribution <u>§120.3</u> , <u>§140.4(I)</u>	AND	Cooling Tow §110.2(e)
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table
	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND	Yes	AND	
				Mandatory	Measu	ires Complian	ce (See	Table Q for D	etails)				COMP	LIES
	ΝΔΙ (													
		led with unedit	table co	omments beca	use of	selections ma	de or da	nta entered in	tables	throughout th	e form.			
									tubles	in oughout in	e joini			
E. ADDITION	IAL RE	EMARKS												
This table inc	ludes r	emarks made l	by the	permit applica	nt to th	ne Authority H	aving J	urisdiction.						
	TENA C	UMMARY (D	DV 2.1	NET SVSTENA	c)									
		ot apply to this			3)									
	ides no		projec	ι.										
G. PUMPS														
0.100013														

Registration Date/Time:

Report Version: 2019.1.003

Schema Version: rev 20200601

	CALIFORNIA ENERGY COMMISSION
	NRCC-MCH-E
	(Page 4 of 9)
	1/4/2021
tial, h	igh-rise residential and hotel/motel
in th	is table. In lieu of this table, the required
s inst	ead of completing this table.
eet re	equired ventilation rates per <u>§120.1(c)2</u> .
	07
	Air Filtration per $\frac{120.1(c)}{2}$ and $\frac{141.0(b)2^2}{2}$

Registration Provider: Energysoft

Report Generated: 2021-01-04 20:17:20

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registratio Report Generated

1/4/2021

Sensor	NA: Not required			In other unconditioned s	paces	
maliaci	space type Yes	15	Т	he scope of the project includes extendin	g an existing duct system, which is constructed, ins	sulated or sealed with asbestos.
mplies?	Yes	16			ng duct system that is documented to have been p procedures in the Reference Nonresidential Appen	
cupiable space		17	Yes D	Duct system shall be sealed in acordance v	vith the California Mechanical Code	
y ventilation s	systems providing		*			
		M. COOLING TOW	VERS			
		This section does no	ot apply to this pr	oject.		
Registrat	ion Provider: Energysoft	Registration Number:	:		Registration Date/Time:	Registration Provider: Ene
Report Generat	ed: 2021-01-04 20:17:20	CA Building Energy Ef	fficiency Standards	- 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601	Report Generated: 2021-01-04 20
		STATE OF CALIFORNIA				
		Mechanical Sy	/stems			
CALIFORNIA	ENERGY COMMISSION	NRCC-MCH-E				CALIFORNIA ENERGY COMN
	NRCC-MCH-E	CERTIFICATE OF COMF	PLIANCE			NRCO
	(Page 7 of 9)	Project Name:		Bldg D Classrooms ACLC-NEA Mechanical	Modernization Report Page:	(Pag

Project Name:	Bldg D Classrooms ACLC-NEA Mechanica	l Modernization	Report Page:	
Project Address:	1	900 Third Street	Date Prepared:	
Q. MANDATORY MEASU	RES DOCUMENTATION LOCATION			
This table is used to indicate	e where mandatory measures are documented in t	he plan set or	construction documentation.	
	01			02
Compliance with Mandator	y Measures documented through MCH		Yes	Plan sheet or constructi
Mandatory Measures Note	Block		165	M-She

nged, please explain why in Table E Additional Remarks. uments must be created by a HERS Provider's registry, but L_Documents/NRCV/ Field Inspector

	speciol
Pass	Fail

Registration Provider: Energysoft Report Generated: 2021-01-04 20:17:20

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2021-01-04 20:17:20

			NRCC-MCH-E
			(Page 2 of 9)
			1/4/2021
t odit		wtho woor If this to	
t ean	uble b	y the user. If this to	IDIE SUYS DUES
		08	09
ion	AND	Cooling Towers	
B, ])	/	<u>§110.2(e)2</u>	Compliance Results
<u>1</u>		<u> </u>	compliance results
e L)		(See Table M)	
	AND		COMPLIES
	COMP	LIES	

CALIFORNIA ENERGY COMMISSION

STATE OF CALIFORNIA		
Mechanical Systems		
NRCC-MCH-E		
CERTIFICATE OF COMPLIANCE		
Project Name:	Bldg D Classrooms ACLC-NEA Mechanical Modernization	Report Page:
Project Address:	1900 Third Street	Date Prepared:

This table is used to demonstrate compliance with prescriptive requirements found in <u>§140.4(c)</u> , <u>§140.4(e)</u> and <u>§140.4(m)</u> for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.										
System Name:	FAU 3, 4	Econor	nizer:1	NA: <=54 kBtu/h cooling				Constant Volume		
01	02		03	04		05 06		06	07	08
an Name or				Maximum Design Supply	Airflow	hirflow HP Unit ²			Fan Power Pressure Drop Adjustment - Table 14	
Item Tag	Fan Functio	n	Qty	(CFM)	AITHOW			HP Unit ²		Design HP
SF	Supply		2	2400		В	HP	0.5	NA	NA
Total System Design Supply Airflow (CFM):		2400 Total System D (B)HP:		Design	1	Maximum System Fan Power (B)HP:	1.13			

² The unit used for HP must be consistent for all fans within a system.

I. SYSTEM CONTROLS This table is used to demonstrate compliance with mandatory controls in  $\frac{\$110.2}{\$120.2}$  and  $\frac{\$120.2}{\$120.2}$  and prescriptive controls in  $\frac{\$140.4(f)}{\$140.4(f)}$  and (n) or requirements in  $\frac{\$141.0(b)2E}{\$141.0(b)2E}$  for altered space conditioning systems. 01 05 06 02 03 07 08 09 04 Isolation onditione Shut-Off Thermostats Supply Air Floor Area Zone System Demand Response Window Interlocks per System Name <u>§110.2(b)</u> & (c)¹, Controls Temp. Reset Being Served Controls Zoning §110.12 and §120.2(b) <u>§140.4(n)</u> <u>§120.2(e)</u> <u>§140.4(f)</u> <u>20.2(a)or</u> §141.0(b)2E (ft²) §120.2(g) NA: Serves < NA: Single EMCS EMCS EMCS FAU 3, 4 Single zone <= 25,000 ft² NA: Alteration Project 25k ft² Zone

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

Registration Provider: Energysoft	Registration Number:	Registration Date/Time:	Registration Provider: Energysoft
Report Generated: 2021-01-04 20:17:20	CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601	Report Generated: 2021-01-04 20:17:20

STATE OF CALIFORNIA	A				STATE	OF CALIFOR	ΝΙΑ				
Mechanical							al Systems				
NRCC-MCH-E	-			CALIFORNIA ENERGY		C-MCH-E	•		CALIFORM	IIA ENERGY CO	<b>MMISSION</b>
CERTIFICATE OF CO	OMPLIANCE				NRCC-MCH-E CER	FIFICATE OF	COMPLIANCE			N	NRCC-MCH-E
Project Name:		Bldg D Classrooms ACLC-NEA Mechanic				ect Name:	Bldg D Classrooms ACLC-NEA Mechanica			(	(Page 6 of 9)
Project Address:		:	1900 Third Street Date Prepared:		1/4/2021 Proj	ect Address	: 1	900 Third Street Date Prepared:			1/4/2021
J. VENTILATION	I AND INDOO	R AIR QUALITY			N. [	DECLARAT	ION OF REQUIRED CERTIFICATES OF INSTALLATION				
Examples of space	es which requir	e lighting occupancy sensors include offices 2	250ft ² or smaller, multipurpose roor	controls to also have occupancy sensing zone controls for v ns less than 1,000 ft ² , classrooms, conference rooms, restro unloading zones, unless excepted by <u>\$130.1(c)</u> .	ooms, aisles The	se docume	e been made based on information provided in previous tables nts must be provided to the building inspector during construct nergy.ca.gov/title24/2019standards/2019_compliance_docum	ion and can be found online at	o be changed, please explain why in Table		
		<b>.</b>				Yes	No	Form/Title		Field Insp	
K. TERMINAL B						•	NRCI-MCH-01-E - Must be submitted for all building			Pass	Fail
	,							-		L	
L. DISTRIBUTIO	N (DUCTWOR	K and PIPING)			0. [	DECLARAT	ION OF REQUIRED CERTIFICATES OF ACCEPTANCE				
Duct Leakage Sea	aling			ptive requirements found in <u>§140.4(I)</u> for duct leakage test	The	se docume	e been made based on information provided in previous tables nts must be provided to the building inspector during construct nergy.ca.gov/title24/2019standards/2019_compliance_docum	ion and can be found online at	o be changed, please explain why in Table	E Additional R	Remarks.
The answers to the	he questions be	low apply to the following duct systems:		ct leakage testing triggered for these systems?	No					Field	Inspector
11	No	The scope of the project includes only du			Y	es N	o Form/Title		Systems To Be Field Verified	Pass	
12	Yes	Duct system provides conditioned air to	an occupiable space for a constant	volume, single zone, space-conditioning system.			NRCA-MCH-02-A - Outdoor Air must be submitted for all r	newly installed HVAC units. Note:			
13	Yes	The space conditioning system serves les	ss than 5,000 ft ² of conditioned floo	r area.			MCH-02-A can be performed in conjunction with MCH-07				
14	No	The <u>combined</u> surface area of the ducts	in the following locations is more th	an 25% of the total surface area of the entire duct system:	:		applicable) since testing activities overlap.				
		Outdoors					NRCA-MCH-03-A - Constant Volume Single Zone HVAC NO				
				than the u-factor of the ceiling, or if the roof does not me or openings to the outside/ unconditioned spaces	et the		move to "Yes'. If Constant Volume Single Zone HVAC Syste applicant should move this form to "Yes".	ms are included in the scope, permit			
		In an unconditioned cra			(		NRCA-MCH-04-A - Air Distribution Duct Leakage				
		In other unconditioned			(		NRCA-MCH-05-A - Air Economizer Controls				
15				s constructed, insulated or sealed with asbestos.			NRCA-MCH-06-A Demand Control Ventilation Systems mu				
16			ting duct system that is documente	d to have been previously sealed as confirmed through fie	ld verification		required to employ demand controlled ventilation (refer t ventilation flow rates based on maintaining interior carbo setpoints.				
17	Yes	Duct system shall be sealed in acordance	e with the California Mechanical Coo	de	(		NRCA-MCH-07-A Supply Fan Variable Flow Controls				
							NRCA-MCH-08-A Valve Leakage Test				
M. COOLING TO	OWERS						NRCA-MCH-09-A Supply Water Temperature Reset Contro	ls			
This section does	s not apply to th	nis project.					NRCA-MCH-10-A Hydronic System Variable Flow Controls				
							NRCA-MCH-10-A Hydronic System Variable How controls           NRCA-MCH-11-A Automatic Demand Shed Controls				
Registration Numl	ber:		Registration Date/Time:	Registration Provi	der: Energysoft Beg	sistration N	imber:	Registration Date/Time:	Regist	ration Provider:	: Energysoft
		lards - 2019 Nonresidential Compliance	Report Version: 2019.1.003	Report Generated: 2021-			ergy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003	-	rated: 2021-01-0	
er bunding Energ	y Enciency Stand		Schema Version: rev 20200601	•				Schema Version: rev 20200601	heport dener	J.C.G. 2021 01-0	,. 20.17.20

CALIFORNIA ENERGY COMMISSION
NRCC-MCH-E
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02
onstruction document location
M-Sheets

Mechanical	Systems
NRCC-MCH-F	

STATE OF CALIFORNIA

NRCC-MCH-E		CALI	FORNIA ENERGY COMMISSIC
CERTIFICATE OF COMPLIANCE			NRCC-MCH
Project Name:	Bldg D Classrooms ACLC-NEA Mechanical Modernization	Report Page:	(Page 9 of
Project Address:	1900 Third Street	Date Prepared:	1/4/202
DOCUMENTATION AUTH	OR'S DECLARATION STATEMENT		
I certify that this Certifica	ate of Compliance documentation is accurate and comple	te.	
Documentation Author Name: Sarah Pernula		Documentation Author Signature:	
Company: SOLDATA Energy Consulting		Signature Date: 2021-01-04	
Address: 2227 Capricorn Way		CEA/ HERS Certification Identification (if applicable): NR16-90-20043	
City/State/Zip: Santa Rosa CA 95407		Phone: 707.545.4440	
I certify the following under penalt 1. The information provid 2. I am eligible under Divi 3. The energy features an	DECLARATION STATEMENT y of perjury, under the laws of the State of California: led on this Certificate of Compliance is true and correct. ision 3 of the Business and Professions Code to accept responsibility for the built d performance specifications, materials, components, and manufactured device Part 6 of the California Code of Regulations		

of Title 24, Part 1 and Part 6 of the California Code of Regulations 4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable

inspections. I understand that a completed signed copy of this Certificate of Compliance is required to	be included with the documentation the builder provides to the building owner at occupancy.
Responsible Designer Name: Chris Del Core	Responsible Designer Signature:
	Date Signed:
Costa Engineers Inc.	2021-01-04
Address:	License:
3274 Villa Lane	M31600
City/State/Zip:	Phone:
Napa CA 94558	707-252-9177
	*

Registration Provider: Energysoft **Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Provider: Energysoft Report Generated: 2021-01-04 20:17:20



# **TITLE 24 -BUILDING D**

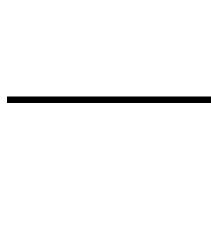
DSA APP NO. 01-119265							
ARCH PROJECT NO: 1893.0							
DRAWN BY	·	НМ					
DRAWING	SCALE:	N.T.S.					
PTN: 6111	9-119	FILE NO: 1-1					
CD							
MAY 05, 2021							
SHEET TITLE							

ALAMEDA UNIFIED SCHOOL DISTRICT

1900 THIRD STREET ALAMEDA, CA 94501



**ACLC-NEA** 





IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITEC

**REVIEWED FOR** 

SS 🗹 FLS 🗹 ACS 🗌

APP: 01-119265 INC:

DATE: 06/02/2021

CALIFORNIA ENERGY COMMISSION

NRCC-MCH-E

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1/4/2021

#### NRCC-MCH-E CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are path outlined in  $\underline{\$140.4}$ , or  $\underline{\$141.0(b)2}$  for alterations. Project Name: Bldg F Classrooms ACLC-NEA Mechanical Modernization Report Page: 1900 Third Street Date Prepared:

## Project Address:

A. (	A. GENERAL INFORMATION							
01	Project Location (city)	Alameda	04	Total Conditioned Floor Area				
02	Climate Zone	3	05	Total Unconditioned Floor Area				
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grad				
	Office (B)	🔲 Retail (M)		Non-refrigerated Warehouse (S)				
	Hotel/ Motel Guest Rooms (R-1)	□ School (E)		Healthcare Facility (I)				
	High-Rise Residential (R-2/R-3)	Relocatable Class Bldg (E)	$\boxtimes$	Other (write in)				
	High-Rise Residential (R-2/R-3)	Relocatable Class Bldg (E)	$\boxtimes$	Other (write in)				

### **B. PROJECT SCOPE** This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating con

<u>§140.4</u> , oi	r <u>§141.0(b)2</u> for alterations.		-
	01	02	
	Air System(s)	Wet System Components	
	Heating Air System	Water Economizer	
	Cooling Air System	Pumps	
	Mechanical Controls	System Piping	
	Mechanical Controls (existing to remain, altered or new)	Cooling Towers	
		Chillers	
		Boilers	

## **Registration Number:**

# Registration Date/Time:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003 Schema Version: rev 20200601

#### STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E CERTIFICATE OF COMPLIANCE

Bldg F Classrooms ACLC-NEA Mechanical Modernization Report Page: Project Name: 1900 Third Street Date Prepared: Project Address:

### J. VENTILATION AND INDOOR AIR QUALITY

5. VENTEAN		CONAIN QUALITY								
occupancies. F	or alteration	strate compliance with mo s, only ventialtion systems nd airflows may be shown	being altered	within the sc	ope of the p	permit app	lication nee	ed to be documen		
01		Check the box if the pro	ject is showing	ng ventilation calculations on the plans, or attaching the calculation						
02		Check this box if the pro	ject included	Nonresidenti	al or Hotel/	Motel space	es			
02		Check this box if the pro	ject included	new or altere	d high-rise	residential	dwelling u	nits.		
03		Check the box if the pro	ject is using na	atural ventila	tion in any r	nonresiden	tial or hote	el/motel spaces to		
Nonresidentia	and Hotel/	Motel Ventilation System	IS							
	04			05				06		
System Name		FAU 5, 6, 7, 8 System Design Airflow			1334 1 2		Design Air CFM	0		
08		09	10	11	12	13	14	15		
		Mechanical Ventilat	tion Required	per <u>§120.1(c</u>	<mark>3</mark> ³		Exh.	Vent per <u>§120.1(c</u>		
Space Name ot item Tag	O	ccupancy Type ⁴	Conditioned Floor Area (ft ² )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per D CFM		
Bldg F - Classrooms 5, 6, 7, 8	Lecture/ po	ostsecondary classroom	3511			1334.2	0	0		
17	Total System	Required Min OA CFM	•	•		1334	18	Ventilation f		

¹ FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system ² Air filtration requirements apply to the following three system types per <u>§120.1(c)1A</u> : space conditioning systems utilizing ducts to s ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation system outside air to occupiable space.

³ Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence. ⁴ See Standards Tables 120.1-A and 120.1-B.

⁵ For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code.

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003 Schema Version: rev 20200601

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#### STATE OF CALIFORNIA Mechanical Systems

**Registration Number:** 

NRCC-MCH-E	•								
CERTIFICATE C	OF COMPLIAN	CE							
Project Name	:	Bldg F Classrooms ACLC-NEA Mechanical Modernization Report Page:							
Project Addre	ss:	1900 Third Street Date Prepared:							
O. DECLARA	ATION OF R	EQUIRED CERTIFICATES OF ACCEPTANCE							
$\bigcirc$	NRCA	-MCH-12-A FDD for Packaged Direct Expansion Units							
$\bigcirc$	NRCA	-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance							
0	not aι	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance NOTE: This form does not automatically move to "Yes". If Distributed Energy System DX AC Systems are included in teh scope permit applicant should move this form to 'Yes".							
0	<ul> <li>auton</li> <li>Extern</li> <li>Cryog</li> </ul>	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance NOTE: This form does not automatically move to "Yes". If Chilled water Storage, Ice-on-Coil Internal Melt, Ice-on-Coil External melt, Ice Harvester, Brine, Ice-Slurry, Eutecti Salt, Clathrate Hydrate Slurry (CHS), Cryogenic or Encapsulated (Ice Ball) Systems are included in the scope, permit applicant should move this form to 'Yes".							
$\bigcirc$	NRCA	-MCH-16-A Supply Air Temperature Reset Controls							
$\bigcirc$	NRCA	-MCH-17-A Condenser Water Temperature Reset Controls							
	NRCA	-MCH-18-A Energy Management Control Systems							
0	NRCA	-MCH-19-A Occupancy Sensor Controls							
$\bigcirc$	NRCA	-MCH-20 Multi-Family Ventilation							
$\bigcirc$	NRCA	-MCH-21 Multi-Family Envelope Leakage							
			•						
P. DECLARA	TION OF RE	QUIRED CERTIFICATES OF VERIFICATION							
These docum	nents must be	de based on information provided in previous tables of this document. If any selection n e completed by a HERS Rater and provided to the building inspector during construction e at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/	n. The final docun						
Yes	No	Form/Title							
$\bigcirc$	۲	NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be completed by a HERS Rater							

$\bigcirc$		NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be completed by a HERS Rater
$\bigcirc$		NRCV-MCH-24 Enclosure Air Leakaage Worksheet NOTE: Must be completed by a HERS Rater
$\bigcirc$	۲	NRCV-MCH-27 High-rise Resdential NOTE: Must be completed by a HERS Rater
$\bigcirc$		NRCV-MCH-32 Local Mechanical Exhaust NOTE: Must be completed by a HERS Rater

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

	CALIFORNIA ENERGY COMMISSION
	NRCC-MCH-E
re demonstra	ting compliance using the prescriptive
	(Page 1 of 9)
	1/4/2021
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rade)	1
)	
	See Table J
ompliance usi	ng the prescriptive path outlined in
	03
Dr	y System Components
Air Econ	omizer
Electric F	Resistance Heat
Fan Syste	ems
Ductwor	k (existing to remain, altered or new)
Ventilati	on
Zonal Sy	stems/ Terminal Boxes

CERTIFICATE O	F COM	PLIANCE												CALIFOR
Project Name:				Bldg F Classroo	ms ACLO	C-NEA Mechani	cal Mod	ernization Repo	ort Page	:				
Project Addres	s:						1900 Th	nird Street Date	Prepar	ed:				
C. COMPLIA	NCE R	ESULTS												
		if the project o OMPLIES with											table b	y the user. If
01		02		03		04		05		06		07		08
System Summary <u>§110.1</u> , <u>§110.2</u> , <u>§140.4</u>	AND	Pumps <u>§140.4(k)</u>	AND	Fans/ Economizers <u>§140.4(c)</u> , <u>§140.4(e)</u>	AND	System Controls <u>§110.2</u> , <u>§120.2</u> , <u>§140.4(f)</u>	AND	Ventilation §120.1	AND	Terminal Box Controls <u>§140.4(d)</u>	AND	Distribution <u>§120.3</u> , <u>§140.4(I)</u>	AND	Cooling Tov <u>§110.2(e</u>
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table
	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND	Yes	AND	
				Mandatory	Measu	ires Complian	ce (See	Table Q for D	etails)				COMP	LIES
		led with unedit	ahle co	omments hera	use of	selections mai	de or da	nta entered in	tahles	throughout th	e form			
	uto jin	cu with uncun							<i>cubics</i>	in oughout th	c joini.			
E. ADDITION	IAL RE	MARKS												
This table incl	ludes r	emarks made l	by the	permit applica	nt to th	ne Authority H	aving J	urisdiction.						
F. HVAC SYS	TEM S	UMMARY (D	RY & \	NET SYSTEM	S)									
This section d	loes no	ot apply to this	projec	t.										
G. PUMPS														
		ot apply to this												

Registration Date/Time:

01

Report Version: 2019.1.003

Schema Version: rev 20200601

F	Report Generate	d: 2021-01-04	19:30:49

CALIFORNIA ENERGY COMMISSION

Registration Provider: Energysoft

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

		NRCC-MCH-E							
		(Page 4 of 9)							
		1/4/2021							
ntial k	nigh-rise residential and	hotel/motel							
	-								
d in this table. In lieu of this table, the required									
ns instead of completing this table.									
neet required ventilation rates per <u>§120.1(c)2</u> .									
	0	7							
	Air Filtration per §120	<u>.1(c)</u> and <u>§141.0(b)2</u> ²							
	Provided per <u>§1</u>	<u>20.1(c)</u> (NR and							
	Hotel/I	Motel))							
	1	6							
	DCV or Sensor Cont	rols per <u>§120.1(d)3</u> ,							
sign	<u>§120.1(d)5</u> , an	d <u>§120.1(e)3</u> ⁶							
		NA: Not required per							
	DCV	<u>§120.1(d)3</u>							
	Occ Sensor	NA: Not required							
	OLC SENSO	space type							

		<u>§120.1(d)3</u>			
	Occ Sensor	NA: Not required			
	OCC SENSO	space type			
for this S	System Complies?	Yes			
to supply	air to occupiable space	; supply-only			

Registration Report Generated: 2

	space typ	be	1 -		The second of the project includes outons			
omplies?	Yes		15		The scope of the project includes extend		-	
			16		The scope of the project includes an exist and diagnostic testing in accordance wit	• .	•	-
	ce; supply-only		17	Yes	Duct system shall be sealed in acordance	e with the Califo	rnia Mechanical Code	
ry ventilation	n systems providii	ng						
			M. COOLING TO	WERS				
			This section does r	not apply to th	is project.			
Registra	ation Provider: Ene	ergysoft	Registration Numbe	er:		Registrat	ion Date/Time:	Registra
Report Genera	ated: 2021-01-04 1	9:30:49	CA Building Energy	Efficiency Stand	ards - 2019 Nonresidential Compliance		Yersion: 2019.1.003 Version: rev 20200601	Report Generat
			STATE OF CALIFORNIA					
			Mechanical S	ystems				
CALIFORNI	A ENERGY COMM		NRCC-MCH-E					CALIFORNIA
		С-МСН-Е	CERTIFICATE OF CON	<b>IPLIANCE</b>				
	(Pag	ge 7 of 9)	Project Name:		Bldg F Classrooms ACLC-NEA Mechanic	cal Modernization	Report Page:	
	1	1/4/2021	Project Address:			1900 Third Street	Date Prepared:	
			Q. MANDATORY	MEASURES I	DOCUMENTATION LOCATION			
			This table is used to	o indicate whe	ere mandatory measures are documented in	the plan set or o	construction documentation.	

Compliance with Mandatory Measures documented through MCH

Mandatory Measures Note Block

			(Pag	ge 7 of 9)
				1/4/2021
				_
			$\rightarrow$	
			$\uparrow$	
			+	
			+	
, please explain why in Tabl	e E Ada	litional	Ron	narks
its must be created by a HE				
cuments/NRCV/			- 9	,
	F	ield Ins	spect	tor
	Pa			Fail
		]		
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Registration Provider: Energysoft Report Generated: 2021-01-04 19:30:49

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

Yes

Report Generated: 2021-01-04 19:30:49

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(Page 2 of 9			
1/4/202			
	wtho woor If this to	itabla b	ot odi
IDIE SUYS DOES	y the user. If this to	luble b	iot eui
09	08		,
	Cooling Towers	AND	ution
Compliance Result	<u>§110.2(e)2</u>	/	) <u>.3</u> ,
compliance Result	<u>9110.1(0/1</u>		<u>4(l)</u>
			h. l. a. l. N
001401150	(See Table M)		ble L)
COMPLIES		AND	S
	LIES	COMP	

CALIFORNIA ENERGY COMMISSION

STATE OF CALIFORNIA		
Mechanical Systems		
NRCC-MCH-E		
CERTIFICATE OF COMPLIANCE		
Project Name:	Bldg F Classrooms ACLC-NEA Mechanical Modernization	Report Page:
Project Address:	1900 Third Street	Date Prepared:

			-	escriptive requirements four be included in Table H.	nd in <u>§140</u>	<u>.4(c)</u> , <u>§14</u>	<u>40.4(e)</u> a	nd <u>§140.4(m)</u> for fan s	systems. Fan systems servin	g only process loads are	
System Name:	FAU 5, 6, 7, 8	Econon	nizer:1	I NA [•] <=54 kBtu/h cooling I		Economizer Controls:Designed per §140.4(e) and (m)		System Fan Type:	Constant Volume		
01	02		03	04		05		06	07	08	
Fan Name or	News			Maximum Docign Supply	Ainflour				Fan Power Pressure Drop Adjustment - Table 140.4-		
Item Tag	Fan Functio	n	Qty	Maximum Design Supply (CFM)	HP		Jnit ²	Design HP	Device	Design Airflow through Device (CFM)	
SF	Supply		4	4800		BF	BHP 0.5		NA	NA	
Total System Design Supply Airflow (CFM):			4800		System Design 2 (B)HP: 2		2	Maximum System Fan Power (B)HP:	1.13		

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

table is used to demo e conditioning system		nce with mand	atory controls in <u>§110.2</u> and	<u>§120.2</u> and p	prescriptive con	trols in <u>§140.4(f)</u> and (n) or	requirements ir	n <u>§141.0(b)2E</u> for alt
01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft ² )	hermostats $8110.2(b) & (c)^{1}$	Shut-Off Controls <u>§120.2(e)</u>	Isolation Zone Controls <u>§120.2(g)</u>	Demand Response §110.12 and §120.2(b)	Supply Air Temp. Reset <u>§140.4(f)</u>	Window Interlock <u>§140.4(n)</u>
FAU 5, 6, 7, 8	Single zone	<= 25,000 ft ²	EMCS	EMCS	NA: Serves < 25k ft ²	EMCS	NA: Single Zone	NA: Alteration Pro

have setback thermostats. *Notes: Controls with a * require a note in the space below explaining how compliance is achieved. EX: system 1: SA Temp Reset: Exempt because zones compliant with §140.4(d); EXCEPTION 1 to <u>§140.4(f)</u>

Registration Provider: Energysoft	Registration Number:	Registration Date/Time:	Registration Provider: Energysoft
Report Generated: 2021-01-04 19:30:49	CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601	Report Generated: 2021-01-04 19:30:49

STATE OF CALIFORNIA	N					STATE OF CALIFOR	NIA					
Mechanical	Systems					Mechanica	al Sy	stems				
NRCC-MCH-E	-			CALIFORNIA ENERGY CO	OMMISSION	NRCC-MCH-E	-			CALIFOR	NIA ENERGY C	COMMISSION
CERTIFICATE OF CO	OMPLIANCE				NRCC-MCH-E	CERTIFICATE OF	СОМР	LIANCE				NRCC-MCH-E
Project Name:		Bldg F Classrooms ACLC-NEA Mechanical			(Page 5 of 9)	Project Name:		Bldg F Classrooms ACLC-NEA Mechanical				(Page 6 of 9)
Project Address:		19	900 Third Street Date Prepared:		1/4/2021	Project Address	:	19	000 Third Street Date Prepared:			1/4/2021
J. VENTILATION	AND INDOO	R AIR QUALITY				N. DECLARAT		OF REQUIRED CERTIFICATES OF INSTALLATION				
⁶ §120.2(e)3 requ	uires systems se	erving rooms that are required by $\frac{9130.1(c)}{5130.1(c)}$ to	have lighting occupancy sensing controls to a	Ilso have occupancy sensing zone controls for ven	tilation.	Selections have	e beer	n made based on information provided in previous tables o	f this document. If any selection needs to	o be changed, please explain why in Tab	e E Additiona	al Remarks.
Examples of spac	es which requii		50ft ² or smaller, multipurpose rooms less than	1,000 ft ² , classrooms, conference rooms, restroom		These docume	nts m	ust be provided to the building inspector during construction.ca.gov/title24/2019standards/2019_compliance_docume	on and can be found online at			
K. TERMINAL B		5				Yes	Nc	)	Form/Title		Field Ins	
This section does						•	$\bigcirc$	NRCI-MCH-01-E - Must be submitted for all building	S		Pass	Fail
L. DISTRIBUTIO		RK and PIPING)				O. DECLARAT		OF REQUIRED CERTIFICATES OF ACCEPTANCE				
	•	•	monte found in \$120.2 and proscriptive require	ements found in <u>§140.4(I)</u> for duct leakage testing	<i>a</i>			n made based on information provided in previous tables o	f this document. If any selection needs to	o he changed please explain why in Tab	le E Additionc	al Remarks
Duct Leakage Sea					<i>y.</i>	These docume	nts mi	ust be provided to the building inspector during construction	on and can be found online at	o be changed, piedse explain why in lab		in nernarks.
The answers to the	he questions be	elow apply to the following duct systems:	FAU 5, 6, 7, 8 Duct leakage te	esting triggered for these systems? N	No	https://www.e	energy	.ca.gov/title24/2019standards/2019_compliance_docume	ents/Nonresidential_Documents/NRCA/			
11	No	The scope of the project includes only duc				Yes N	0	Form/Title		Systems To Be Field Verified	Field	d Inspector ss Fail
12	Yes	Duct system provides conditioned air to ar	n occupiable space for a constant volume, sing	gle zone, space-conditioning system.				IRCA-MCH-02-A - Outdoor Air must be submitted for all no	ewly installed HVAC units Note:		1 43.	
13	Yes	The space conditioning system serves less	than 5,000 ft ² of conditioned floor area.					/CH-02-A can be performed in conjunction with MCH-07-				
14	No	The combined surface area of the ducts in	the following locations is more than 25% of the	he total surface area of the entire duct system:				pplicable) since testing activities overlap.				
		Outdoors						NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatica				
			a roof that has a U-factor greater than the u-f a)1B or if the roof has fixed vents or openings	factor of the ceiling, or if the roof does not meet t s to the outside/ unconditioned spaces	the			nove to "Yes'. If Constant Volume Single Zone HVAC Syster pplicant should move this form to "Yes".	ns are included in the scope, permit			
		In an unconditioned crav	wl space				_	IRCA-MCH-04-A - Air Distribution Duct Leakage				
		In other unconditioned s	spaces					IRCA-MCH-05-A - Air Economizer Controls				
15		The scope of the project includes extendin	ng an existing duct system, which is constructe	ed, insulated or sealed with asbestos.				IRCA-MCH-06-A Demand Control Ventilation Systems mus				
16			ng duct system that is documented to have be procedures in the Reference Nonresidential A	een previously sealed as confirmed through field v ppendix NA2.	Io     Th       Io     Io       Io		v	equired to employ demand controlled ventilation (refer to entilation flow rates based on maintaining interior carbon etpoints.				
17	Yes	Duct system shall be sealed in acordance v	with the California Mechanical Code					IRCA-MCH-07-A Supply Fan Variable Flow Controls				
								IRCA-MCH-08-A Valve Leakage Test				
M. COOLING TO								IRCA-MCH-09-A Supply Water Temperature Reset Controls	5			
This section does	not apply to the	his project.						IRCA-MCH-10-A Hydronic System Variable Flow Controls				
								IRCA-MCH-11-A Automatic Demand Shed Controls				
Registration Num	ber:		Registration Date/Time:	Registration Provider	r: Energysoft	Registration Nu	umber:		Registration Date/Time:	Regi	stration Provide	er: Energysoft
CA Building Energ	y Efficiency Stan	dards - 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601	Report Generated: 2021-01-	-04 19:30:49	CA Building Ene	ergy Ef	ficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601	Report Gen	erated: 2021-01	1-04 19:30:49

CALIFORNIA ENERGY COMMISSION
NRCC-MCH-E
(Page 8 of 9)
1/4/2021
02
Plan sheet or construction document location
M-Sheets

Mechanical	Systems

STATE OF CALIFORNIA

wiechanical Systems	5	
NRCC-MCH-E		CALIFORNIA ENERGY COMMISSIO
CERTIFICATE OF COMPLIANCE		NRCC-MCH-
Project Name:	Bldg F Classrooms ACLC-NEA Mechanical Modernization	Report Page: (Page 9 of 9
Project Address:	1900 Third Street	Date Prepared: 1/4/202
DOCUMENTATION AUTH	OR'S DECLARATION STATEMENT	Sarah Cernica
I certify that this Certifica	ate of Compliance documentation is accurate and comple	te.
Documentation Author Name: Sarah Pernula		Documentation Author Signature:
Company: SOLDATA Energy Consulting		Signature Date:
Address: 2227 Capricorn Way		CEA/ HERS Certification Identification (if applicable): NR16-90-20043
City/State/Zip: Santa Rosa CA 95407		Phone: 707.545.4440
I certify the following under penalt 1. The information provid 2. I am eligible under Divid		ding design or system design identified on this Certificate of Compliance (responsible designer) es for the building design or system design identified on this Certificate of Compliance conform to the requirements

The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirement of Title 24, Part 1 and Part 6 of the California Code of Regulations. 4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations,

		plans and specifications submitted to the enforcement agency for approval with this building permit ap	oplication.							
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all a										
		inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.								
	Responsible	P Designer Name: Chris Del Core	Responsible Designer Signature:							
	Company:		Date Signed:							
	Costa Eng	gineers Inc.	2021-01-04							

M31600

707-252-9177

Registration Provider: Energysoft **Registration Number:** 

3274 Villa Lane

City/State/Zip:

Napa CA 94558

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Provider: Energysoft Report Generated: 2021-01-04 19:30:49



# **TITLE 24 -BUILDING F**

DSA APP NO. 01-119265							
ARCH PROJECT NO: 1893.							
DRAWN BY	:	НМ					
DRAWING	SCALE:	N.T.S.					
PTN: 6111	9-119	FILE NO: 1-1					
	С	D					
MAY 05, 2021							
SHEET TIT	ΊLΕ						

ALAMEDA UNIFIED SCHOOL DISTRICT

1900 THIRD STREET ALAMEDA, CA 94501



# **ACLC-NEA**





IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITEC

**REVIEWED FOR** 

SS 🗹 FLS 🗹 ACS 🗌

APP: 01-119265 INC:

DATE: 06/02/2021

CALIFORNIA ENERGY COMMISSION

NRCC-MCH-E

(Page 3 of 9)

1/4/2021



#### NRCC-MCH-E CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and ar path outlined in  $\underline{\$140.4}$ , or  $\underline{\$141.0(b)2}$  for alterations. Project Name: Bldg G Classrooms ACLC-NEA Mechanical Modernization Report Page: 1900 Third Street Date Prepared:

## Project Address:

Α. (	GENERAL INFORMATION			
01	Project Location (city)	Alameda	04	Total Conditioned Floor Area
02	Climate Zone	3	05	Total Unconditioned Floor Area
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Gra
	Office (B)	🔲 Retail (M)		Non-refrigerated Warehouse (S)
	Hotel/ Motel Guest Rooms (R-1)	🔲 School (E)		Healthcare Facility (I)
	High-Rise Residential (R-2/R-3)	Relocatable Class Bldg (E)	$\boxtimes$	Other (write in)

### **B. PROJECT SCOPE** This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating co

<u>§140.4</u> , o	r <u>§141.0(b)2</u> for alterations.		_
	01	02	
	Air System(s)	Wet System Components	
	Heating Air System	Water Economizer	
	Cooling Air System	Pumps	
	Mechanical Controls	System Piping	
	Mechanical Controls (existing to remain, altered or new)	Cooling Towers	
		Chillers	
		Boilers	

## Registration Number:

Registration Date/Time:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

#### Report Version: 2019.1.003 Schema Version: rev 20200601

STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E CERTIFICATE OF COMPLIANCE

Project Name: Bldg G Classrooms ACLC-NEA Mechanical Modernization Report Page: 1900 Third Street Date Prepared: Project Address:

J. VENTILATIO	N AND IND	OOR AIR QUALITY									
occupancies. Fo	or alterations	-	being altered	within the sc	ope of the p	permit app	lication nee	B for all nonresidential, h d to be documented in th dsheet.	-		
01		Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.									
02	Check this box if the project included Nonresidential or Hotel/Motel spaces										
02		Check this box if the pro	ject included r	new or altere	d high-rise	residential	dwelling u	nits.			
03		Check the box if the pro	ject is using na	atural ventila	tion in any r	onresiden	tial or hote	el/motel spaces to meet re	equired ventilation rate	s per <u>§120.1(c)2</u> .	
Nonresidentia	and Hotel/	Notel Ventilation System	S								
	04			05				06	C	7	
			System Design OA CFM		System Design			Air Filtration per <u>§120.1(c)</u> and <u>§141.0(b)2</u>			
System Name	FA	U 9, 10, 11, 12	Airflo	-	1332		Air CFM	0	Provided per <u>§120.1(c)</u> (NR and Hotel/Motel))		
08		09	10	11	12	13	14	15	1	6	
		Mechanical Ventilat	tion Required	per <u>§120.1(c</u> )	<mark>3</mark> ³		Exh.	Vent per <u>§120.1(c)4</u>			
Space Name ot item Tag	Oc	cupancy Type ⁴	Conditioned Floor Area (ft ² )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM		rols per <u>§120.1(d)3</u> , Id <u>§120.1(e)3</u> ⁶	
Bldg G - Classrooms 9.	Lecture/ no	stsecondary classroom	3505			1331.9	0	0	DCV	NA: Not required per <u>§120.1(d)3</u>	
10, 11, 12			5505			1331.9	0	0	Occ Sensor	NA: Not required space type	
17	Total System	Required Min OA CFM				1332	18	Ventilation for this S	System Complies?	Yes	

¹ FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system ² Air filtration requirements apply to the following three system types per <u>§120.1(c)1A</u> : space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.

³ Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence. ⁴ See Standards Tables 120.1-A and 120.1-B.

⁵ For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code.

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Date/Time:

#### STATE OF CALIFORNIA Mechanical Systems

**Registration Number:** 

NRCC-MCH-E								
CERTIFICATE C	F COMPLIAN	CE						
Project Name	:	Bldg G Classrooms ACLC-NEA Mechanical Modernization Report Page:						
Project Address: 1900 Third Street Date Prepared:								
O. DECLARA	TION OF R	EQUIRED CERTIFICATES OF ACCEPTANCE						
	NRCA-	-MCH-12-A FDD for Packaged Direct Expansion Units						
$\bigcirc$	NRCA-	-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance						
•	not aι	-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance NOTE: This form does utomatically move to "Yes". If Distributed Energy System DX AC Systems are included in teh permit applicant should move this form to 'Yes".						
•	<ul> <li>autom</li> <li>Extern</li> <li>Cryoge</li> </ul>	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance NOTE: This form does not automatically move to "Yes". If Chilled water Storage, Ice-on-Coil Internal Melt, Ice-on-Coil External melt, Ice Harvester, Brine, Ice-Slurry, Eutecti Salt, Clathrate Hydrate Slurry (CHS), Cryogenic or Encapsulated (Ice Ball) Systems are included in the scope, permit applicant should move this form to 'Yes".						
$\bigcirc$	NRCA-	-MCH-16-A Supply Air Temperature Reset Controls						
$\bigcirc$	NRCA-	-MCH-17-A Condenser Water Temperature Reset Controls						
	NRCA-	-MCH-18-A Energy Management Control Systems						
$\bigcirc$	NRCA-	-MCH-19-A Occupancy Sensor Controls						
$\bigcirc$	NRCA-	-MCH-20 Multi-Family Ventilation						
$\bigcirc$	NRCA-	-MCH-21 Multi-Family Envelope Leakage						
P. DECLARA	TION OF RE	QUIRED CERTIFICATES OF VERIFICATION						
These docum	ents must be	de based on information provided in previous tables of this document. If any selection needs to e completed by a HERS Rater and provided to the building inspector during construction. The f e at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonres	inal docun					
Yes	No	Form/Title						
$\bigcirc$	۲	NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be completed by a HERS Rater						

$\bigcirc$		NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be completed by a HERS Rater
$\bigcirc$		NRCV-MCH-24 Enclosure Air Leakaage Worksheet NOTE: Must be completed by a HERS Rater
$\bigcirc$		NRCV-MCH-27 High-rise Resdential NOTE: Must be completed by a HERS Rater
$\bigcirc$	۲	NRCV-MCH-32 Local Mechanical Exhaust NOTE: Must be completed by a HERS Rater

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

CALIFORNIA ENERGY COMMISSIO						
NRCC-MCH-E						
re demonstrating compliance using the prescriptive						
	(Page 1 of 9)					
	1/4/2021					
	3505					
	0					
rade)	1					
)						
	See Table J					
ompliance usi	ng the prescriptive path outlined in					
	03					
Dr	y System Components					
Air Econ	omizer					
Electric I	Resistance Heat					
Fan Syste	ems					
Ductwor	k (existing to remain, altered or new)					
Ventilati	on					
Zonal Sy	stems/ Terminal Boxes					

#### STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E CERTIFICATE OF COMPLIANCE Bldg G Classrooms ACLC-NEA Mechanical Modernization Report Page: Project Name: Project Address: 1900 Third Street Date Prepared: C. COMPLIANCE RESULTS Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D., or the table indicated as not compliant for guidance. 01 04 07 System Svstem Fans/ Summary Controls ninal B tributic Pumps Fconomiz Ventilation <u>§110.1</u>, <u>§120.3</u>, <u>§110.2</u>, Controls <u>§140.4(k)</u> <u>§140.4(c)</u>, <u>§120.1</u> <u>§110.2</u>, <u>§120.2</u>, <u>§140.4(d)</u> <u>§140.4(l)</u> <u>§140.4(e)</u> <u>§140.4</u> §140.4( (See Table F) (See Table G) (See Table H) (See Table I) (See Table J) (See Table K) (See Table L) AND AND Yes AND Yes AND Yes AND AND Yes AND Mandatory Measures Compliance (See Table Q for Details) COMPLIES D. EXCEPTIONAL CONDITIONS This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form. E. ADDITIONAL REMARKS This table includes remarks made by the permit applicant to the Authority Having Jurisdiction. F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS) This section does not apply to this project. G. PUMPS This section does not apply to this project.

Bldg G Classrooms ACLC-NEA Mechanical Modernization Report Page:

and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by §130.1(c).

# CALIFORNIA ENERGY COMMISSION NRCC-MCH-E (Page 4 of 9) 1/4/2021

Registration Provider: Energysoft

Report Generated: 2021-01-04 19:40:15

Registration Provider: Energysoft Report Generated: 2021-01-04 19:40:15

CALIFORNIA ENERGY COMMISSION

NRCC-MCH-E (Page 7 of 9)

## 16 17 Yes Duct system shall be sealed in acordance with the California Mechanical Code M. COOLING TOWERS This section does not apply to this project.

Registration Number:

STATE OF CALIFORNIA

NRCC-MCH-E

Project Name:

Project Address:

Mechanical Systems

CERTIFICATE OF COMPLIANCE

K. TERMINAL BOX CONTROLS

Duct Leakage Sealing

12 13

14

15

This section does not apply to this project.

L. DISTRIBUTION (DUCTWORK and PIPING)

J. VENTILATION AND INDOOR AIR QUALITY

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

**Registration Number:** Registration Date/Time: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003

# STATE OF CALIFORNIA

<b>Mechanical System</b>	IS			
NRCC-MCH-E				CALIFOF
CERTIFICATE OF COMPLIANCE				
Project Name:	Bldg G Classrooms ACLC-NEA Mechani	Bldg G Classrooms ACLC-NEA Mechanical Modernization Report Page:		
Project Address:		1900 Third Street	Date Prepared:	
Q. MANDATORY MEASU	RES DOCUMENTATION LOCATION			
This table is used to indicat	e where mandatory measures are documented ir	the plan set or	construction documentation.	
	01			02
Compliance with Mandator	ry Measures documented through MCH		Voc	Plan sheet or construction
Mandatory Measures Note	Yes			

1/4/2021 nged, please explain why in Table E Additional Remarks. uments must be created by a HERS Provider's registry, but L_Documents/NRCV/ Field Inspector Pass Fail

Registration Provider: Energysoft Report Generated: 2021-01-04 19:40:15 **Registration Number:** 

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Provider: Energysoft Report Generated: 2021-01-04 19:40:15

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Schema Version: rev 20200601

Registration Date/Time:

1900 Third Street Date Prepared:

⁶ <u>§120.2(e)3</u> requires systems serving rooms that are required by <u>§130.1(c)</u> to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, restrooms, aisles

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

and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.

Yes Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.

No The <u>combined</u> surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:

The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.

The answers to the questions below apply to the following duct systems: FAU 9, 10, 11, 12 Duct leakage testing triggered for these systems?

11 No The scope of the project includes only duct systems serving healthcare facilities

In an unconditioned crawl space

In other unconditioned spaces

Outdoors

Yes The space conditioning system serves less than 5,000 ft² of conditioned floor area.

Report Version: 2019.1.003

Schema Version: rev 20200601

In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the

requirements of <u>§140.3(a)1B</u> or if the roof has fixed vents or openings to the outside/ unconditioned spaces

The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification

Report Generated: 2021-01-04 19:40:15

CALIFORNIA ENE

Report Generated: 20

(See Table M)

	NERGY COMMISSION	NRCC-MCH-E										CALIFOR	RNIA ENERGY COMMISSION
	NRCC-MCH-E	CERTIFICATE OF	F COMPLIANCE										NRCC-MCH-
	(Page 2 of 9)	Project Name:		В	Bldg G Classro	oms ACLC-NEA Mechanical Mo	odernizatior	n <b>Report P</b>	Page:				(Page 3 of 9
	1/4/2021	Project Address	5:			1900	Third Stree	t Date Pre	epared:				1/4/2021
		H. FAN SYSTI	EMS & AIR ECONO	OMIZER	s								
ne user. If this to	able says "DOES	This table is us	sed to demonstrate	complia	nce with pre	scriptive requirements four	d in <u>§140.</u>	4(c), §14(	0.4(e) and §14	40.4(m) for fan s	systems. Fai	n systems servin	g only process loads are
,	,			•	•	e included in Table H.					,	,	5 71
08	09	System	FAU 9, 10, 11, 12	Fcon	omizer:1	NA: <=54 kBtu/h cooling	Econom		Designed per	140.4(e) and	System	n Fan Type:	Constant Volume
		Name:					Contro		(n	-			
ooling Towers		01	02		03	04		05		06		07	08
<u>§110.2(e)2</u>	Compliance Results	Fan Name or				Maximum Design Supply	Airflow				Fan Power	Pressure Drop	Adjustment - Table 140.4-B
		Item Tag	Fan Functio	on	Qty	(CFM)		HP Ur	nit ²	Design HP	C	Device	Design Airflow through Device (CFM)
See Table M)		65	Gungha			4000				0.5			Device (CFIVI)
	COMPLIES	SF	Supply		4	4800		BHI		0.5		NA	NA
;		Total Sys	tem Design Supply	Airflow (	CFM):	4800		/stem Des (B)HP:	sign	2		m System Fan er (B)HP:	1.13
		1	-										
		¹ FOOTNOTES:	Computer room ec	onomizei	rs must mee	t requirements of <u>§140.9(a</u>	and will	be docum	nented on the	NRCC-PRC-E doc	ument.		
		² The unit used	d for HP must be co	nsistent f	for all fans w	vithin a system.							
		I. SYSTEM CO											
				complia	nce with ma	ndatory controls in <u>§110.2</u>	and <u>§120.</u>	2 and pr	escriptive con	trols in <u>§140.4(f)</u>	and (n) or	requirements in	§ <u>141.0(b)2E</u> for altered
		space conditio		02	02	0.1		0.5	00	07			00
		0	1	02	03	04		05	06	07		08	09
			S	/stem	Conditione Floor Area	Thermostats	Shu	ut-Off	Isolation Zone	Demand Re	snonse	Supply Air	Window Interlocks per
		System	iName i '	oning	Being Serve	$[ad] \frac{\$110.2(b)}{\$} \& (c)^1,$		ntrols	Controls	§110.12 and §		Temp. Reset	§140.4(n)
				Ū	(ft ² )	§120.2(a)or §141.0(b)	<u>2E §12</u>	<u>0.2(e)</u>	<u>§120.2(g)</u>			<u>§140.4(f)</u>	
									NIA Comuna d			NA: Single	
			0 11 12 I Cinc		1 25 000 4				NA: Serves <	EMC	-		NIA · Altoration Draiget
		FAU 9, 10	0, 11, 12 Sing	gie zone	<= 25,000	ft ² EMCS	E	MCS	25k ft ²	EMCS	5	Zone	NA: Alteration Project
					,	ft ² EMCS eaters, gravity room heater		MCS	25k ft ²			Zone	-
		¹ FOOTNOTES: have setback t	Gravity gas wall he thermostats.	aters, gro	avity floor h	eaters, gravity room heater	s, non-cen	tral electi	25k ft ² ric heaters, fire	eplaces or decor	ative gas ap	Zone opliances, wood	stoves are not required to
		¹ FOOTNOTES: have setback t *Notes: Contr	Gravity gas wall he thermostats. ols with a * require	aters, gro	avity floor h		s, non-cen	tral electi	25k ft ² ric heaters, fire	eplaces or decor	ative gas ap	Zone opliances, wood	stoves are not required to
		¹ FOOTNOTES: have setback t	Gravity gas wall he thermostats. ols with a * require	aters, gro	avity floor h	eaters, gravity room heater	s, non-cen	tral electi	25k ft ² ric heaters, fire	eplaces or decor	ative gas ap	Zone opliances, wood	stoves are not required to
		¹ FOOTNOTES: have setback t *Notes: Contr	Gravity gas wall he thermostats. ols with a * require	aters, gro	avity floor h	eaters, gravity room heater	s, non-cen	tral electi	25k ft ² ric heaters, fire	eplaces or decor	ative gas ap	Zone opliances, wood	stoves are not required to
		¹ FOOTNOTES: have setback t *Notes: Contr	Gravity gas wall he thermostats. ols with a * require	aters, gro	avity floor h	eaters, gravity room heater	s, non-cen	tral electi	25k ft ² ric heaters, fire	eplaces or decor	ative gas ap	Zone opliances, wood	stoves are not required to
Registratior	n Provider: Energysoft	¹ FOOTNOTES: have setback t *Notes: Contr	Gravity gas wall he thermostats. ols with a * require to <u>§140.4(f)</u>	aters, gro	avity floor h	eaters, gravity room heater	liance is a	tral electi	25k ft ² ric heaters, fire EX: system 1: S	eplaces or decor	ative gas ap	Zone opliances, wood ause zones com	stoves are not required to
-		¹ FOOTNOTES: have setback t *Notes: Contro EXCEPTION 1 t Registration N	Gravity gas wall he thermostats. ols with a * require to <u>§140.4(f)</u> umber:	aters, gro	avity floor h	eaters, gravity room heater	liance is au Registra	tral electi chieved. I	25k ft ² ric heaters, fin EX: system 1: S /Time:	eplaces or decor	ative gas ap	Zone opliances, wood ause zones com Reg	stoves are not required to pliant with <u>§140.4(d)</u> ; istration Provider: Energysoft
-	n Provider: Energysoft 2021-01-04 19:40:15	¹ FOOTNOTES: have setback t *Notes: Contro EXCEPTION 1 t Registration N	Gravity gas wall he thermostats. ols with a * require to <u>§140.4(f)</u>	aters, gro	avity floor h	eaters, gravity room heater	s, non-cen liance is au Registra Report	tral electi chieved. I ation Date, Version: 20	25k ft ² ric heaters, fin EX: system 1: 5 /Time: 019.1.003	eplaces or decor	ative gas ap	Zone opliances, wood ause zones com Reg	stoves are not required to pliant with <u>§140.4(d)</u> ;
-		¹ FOOTNOTES: have setback t *Notes: Contro EXCEPTION 1 t Registration N	Gravity gas wall he thermostats. ols with a * require to <u>§140.4(f)</u> umber:	aters, gro	avity floor h	eaters, gravity room heater	s, non-cen liance is au Registra Report	tral electi chieved. I ation Date, Version: 20	25k ft ² ric heaters, fin EX: system 1: S /Time:	eplaces or decor	ative gas ap	Zone opliances, wood ause zones com Reg	stoves are not required to pliant with <u>§140.4(d)</u> ; istration Provider: Energysoft
-		¹ FOOTNOTES: have setback t *Notes: Contro EXCEPTION 1 t Registration N	Gravity gas wall he thermostats. ols with a * require to <u>§140.4(f)</u> umber:	aters, gro	avity floor h	eaters, gravity room heater	s, non-cen liance is au Registra Report	tral electi chieved. I ation Date, Version: 20	25k ft ² ric heaters, fin EX: system 1: 5 /Time: 019.1.003	eplaces or decor	ative gas ap	Zone opliances, wood ause zones com Reg	stoves are not required to pliant with <u>§140.4(d)</u> ; istration Provider: Energysoft
-		¹ FOOTNOTES: have setback t *Notes: Contro EXCEPTION 1 t Registration N	Gravity gas wall he thermostats. ols with a * require to <u>§140.4(f)</u> umber:	aters, gro	avity floor h	eaters, gravity room heater	s, non-cen liance is au Registra Report	tral electi chieved. I ation Date, Version: 20	25k ft ² ric heaters, fin EX: system 1: 5 /Time: 019.1.003	eplaces or decor	ative gas ap	Zone opliances, wood ause zones com Reg	stoves are not required to pliant with <u>§140.4(d)</u> ; istration Provider: Energysoft
-		¹ FOOTNOTES: have setback t *Notes: Contro EXCEPTION 1 t Registration N	Gravity gas wall he thermostats. ols with a * require to <u>§140.4(f)</u> umber:	aters, gro	avity floor h	eaters, gravity room heater	s, non-cen liance is au Registra Report	tral electi chieved. I ation Date, Version: 20	25k ft ² ric heaters, fin EX: system 1: 5 /Time: 019.1.003	eplaces or decor	ative gas ap	Zone opliances, wood ause zones com Reg	stoves are not required to pliant with <u>§140.4(d)</u> ; istration Provider: Energysoft
-		¹ FOOTNOTES: have setback t *Notes: Contro EXCEPTION 1 t Registration N	Gravity gas wall he thermostats. ols with a * require to <u>§140.4(f)</u> umber: hergy Efficiency Standa	aters, gro	avity floor h	eaters, gravity room heater	s, non-cen liance is au Registra Report	tral electi chieved. I ation Date, Version: 20	25k ft ² ric heaters, fin EX: system 1: 5 /Time: 019.1.003	eplaces or decor	ative gas ap	Zone opliances, wood ause zones com Reg	stoves are not required to pliant with <u>§140.4(d)</u> ; istration Provider: Energysoft
-		¹ FOOTNOTES: have setback t *Notes: Contro EXCEPTION 1 t Registration N CA Building En	Gravity gas wall he thermostats. ols with a * require to <u>§140.4(f)</u> umber: hergy Efficiency Standa	aters, gro	avity floor h	eaters, gravity room heater	s, non-cen liance is au Registra Report	tral electi chieved. I ation Date, Version: 20	25k ft ² ric heaters, fin EX: system 1: 5 /Time: 019.1.003	eplaces or decor	ative gas ap	Zone opliances, wood ause zones com Reg	stoves are not required to pliant with <u>§140.4(d)</u> ; istration Provider: Energysoft
eport Generated:	2021-01-04 19:40:15 NERGY COMMISSION	¹ FOOTNOTES: have setback t *Notes: Contro EXCEPTION 1 t Registration N CA Building En	Gravity gas wall he thermostats. ols with a * require to <u>§140.4(f)</u> umber: tergy Efficiency Standa	aters, gro	avity floor h	eaters, gravity room heater	s, non-cen liance is au Registra Report	tral electi chieved. I ation Date, Version: 20	25k ft ² ric heaters, fin EX: system 1: 5 /Time: 019.1.003	eplaces or decor	ative gas ap	Zone opliances, wood ause zones com Reg Report Ger	stoves are not required to pliant with <u>§140.4(d)</u> ; istration Provider: Energysoft herated: 2021-01-04 19:40:15
eport Generated:	NERGY COMMISSION	¹ FOOTNOTES: have setback t *Notes: Contro EXCEPTION 1 t Registration N CA Building En STATE OF CALIFOF <b>Mechanic</b>	Gravity gas wall he thermostats. ols with a * require to <u>§140.4(f)</u> umber: ergy Efficiency Standa	a note in a note in ards - 2019	avity floor ha	eaters, gravity room heater	s, non-cen liance is ad Registra Report Schema	VICS tral electric chieved. If ation Date, Version: 2 version: 1	25k ft ² ric heaters, fin EX: system 1: 5 /Time: 019.1.003 rev 20200601	eplaces or decor	ative gas ap	Zone opliances, wood ause zones com Reg Report Ger	stoves are not required to pliant with §140.4(d) ; istration Provider: Energysoft herated: 2021-01-04 19:40:15 RNIA ENERGY COMMISSION
eport Generated:	2021-01-04 19:40:15 NERGY COMMISSION	¹ FOOTNOTES: have setback t *Notes: Contro EXCEPTION 1 t Registration N CA Building En STATE OF CALIFOF <b>Mechanic</b> NRCC-MCH-E	Gravity gas wall he thermostats. ols with a * require to <u>§140.4(f)</u> umber: ergy Efficiency Standa RNIA <b>al Systems</b> F COMPLIANCE	a note in a note in ards - 2019	avity floor ha	eaters, gravity room heater pelow explaining how comp tial Compliance	s, non-cen liance is ad Registra Report Schema	tral election chieved. I ation Date, Version: 2 Version: 1	25k ft ² ric heaters, fire EX: system 1: 5 /Time: 019.1.003 rev 20200601	eplaces or decor	ative gas ap	Zone opliances, wood ause zones com Reg Report Ger	stoves are not required to pliant with <u>§140.4(d)</u> ; istration Provider: Energysoft herated: 2021-01-04 19:40:15

These doc	uments n	nust be	e based on information provided in previous tables of this document. If any selection needs provided to the building inspector during construction and can be found online at v/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/		e E Additiona	l Rem	arks.
Yes		No	Form/Title		Field In	specto	or
105						F	Fail
NRCI-MCH-01-E - Must be submitted for all buildings							
O. DECLA	RATION		QUIRED CERTIFICATES OF ACCEPTANCE				
These doc	uments n	nust be	e based on information provided in previous tables of this document. If any selection needs provided to the building inspector during construction and can be found online at v/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA				
Yes	No		Form/Title	Systems To Be Field Verified		<u> </u>	ector
					Pas	s	Fail
۲	$\bigcirc$	MCH-0	MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: 2-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if ble) since testing activities overlap.				
٠	$\bigcirc$	move t	MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically o "Yes'. If Constant Volume Single Zone HVAC Systems are included in the scope, permit nt should move this form to "Yes"				

		applicant should move this form to res .				
$\bigcirc$	NRCA-MCH-04-A - Air Distribution Duct Leakage					
$\bigcirc$	NRCA-MCH-05-A - Air Economizer Controls					
<ul> <li>NRCA-MCH-06-A Demand Control Ventilation Systems mus required to employ demand controlled ventilation (refer to ventilation flow rates based on maintaining interior carbon setpoints.</li> </ul>		required to employ demand controlled ventilation (refer ventilation flow rates based on maintaining interior carb	to <u>§120.1(c)3</u> ) can vary outside			
$\bigcirc$	۲	NRCA-MCH-07-A Supply Fan Variable Flow Controls				
$\bigcirc$	۲	NRCA-MCH-08-A Valve Leakage Test				
$\bigcirc$	۲	NRCA-MCH-09-A Supply Water Temperature Reset Controls				
$\bigcirc$	۲	NRCA-MCH-10-A Hydronic System Variable Flow Controls				
	$\bigcirc$	NRCA-MCH-11-A Automatic Demand Shed Controls	NRCA-MCH-11-A Automatic Demand Shed Controls			

Schema Version: rev 20200601

IIA ENERGY COMMISSION
NRCC-MCH-E
(Page 8 of 9)
1/4/2021
document location
s

Registration Provider: Energysoft

No

Mechanical	Systems

STATE OF CALIFORNIA

NRCC-MCH-E	3	CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE		NRCC-MCH-I
Project Name:	Bldg G Classrooms ACLC-NEA Mechanical Modernization	n Report Page: (Page 9 of 9
Project Address:	1900 Third Street	t Date Prepared: 1/4/202
DOCUMENTATION AUTH	IOR'S DECLARATION STATEMENT	Sauch Gernia
I certify that this Certific	ate of Compliance documentation is accurate and comple	ete.
Documentation Author Name: Sarah Pernula		Documentation Author Signature:
Company: SOLDATA Energy Consulting		Signature Date: 2021-01-04
Address: 2227 Capricorn Way	·	CEA/ HERS Certification Identification (if applicable): NR16-90-20043
City/State/Zip: Santa Rosa CA 95407		Phone: 707.545.4440
<ol> <li>certify the following under penalting</li> <li>The information provide</li> <li>I am eligible under Dive</li> <li>The energy features and of Title 24, Part 1 and</li> </ol>		lding design or system design identified on this Certificate of Compliance (responsible designer) es for the building design or system design identified on this Certificate of Compliance conform to the requirements

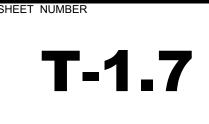
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calc plans and specifications submitted to the enforcement agency for approval with this building permit application.					
<ol> <li>I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be</li> </ol>	the building permit(s) issued for the building, and made available to the enforcement agency for all applicable be included with the documentation the builder provides to the building owner at occupancy.				
Responsible Designer Name: Chris Del Core	Responsible Designer Signature:				
Company:	Date Signed:				
Costa Engineers Inc.	2021-01-04				
Address:	License:				
3274 Villa Lane	M31600				
Sity/State/Zip:	Phone:				
Napa CA 94558	707-252-9177				

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Provider: Energysoft Report Generated: 2021-01-04 19:40:15



# **TITLE 24 -BUILDING G**

DSA APP NO. 01-119265							
ARCH PRO	JECT NO:	1893.00					
DRAWN BY	:	НМ					
DRAWING	SCALE:	N.T.S.					
PTN: 6111	9-119	FILE NO: 1-1					
	С	D					
MAY 05, 2021							
SHEET TIT	LE						

ALAMEDA UNIFIED SCHOOL DISTRICT

1900 THIRD STREET ALAMEDA, CA 94501



**ACLC-NEA** 





IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITEC

**REVIEWED FOR** 

SS 🗹 FLS 🗹 ACS 🗌

APP: 01-119265 INC:





#### NRCC-MCH-E CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are path outlined in  $\underline{\$140.4}$ , or  $\underline{\$141.0(b)2}$  for alterations. Project Name: Bldg H Classrooms ACLC-NEA Mechanical Modernization Report Page: 1900 Third Street Date Prepared:

## Project Address:

A. 0	GENERAL INFORMATION			
01	Project Location (city)	Alameda	04	Total Conditioned Floor Area
02	Climate Zone	3	05	Total Unconditioned Floor Area
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Gra
	Office (B)	🔲 Retail (M)		Non-refrigerated Warehouse (S)
	Hotel/ Motel Guest Rooms (R-1)	School (E)		Healthcare Facility (I)
	High-Rise Residential (R-2/R-3)	Relocatable Class Bldg (E)	$\boxtimes$	Other (write in)

### **B. PROJECT SCOPE** This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating con

<u>§140.4</u> , o	r <u>§141.0(b)2</u> for alterations.		-
	01	02	
	Air System(s)	Wet System Components	
	Heating Air System	Water Economizer	
	Cooling Air System	Pumps	
	Mechanical Controls	System Piping	
	Mechanical Controls (existing to remain, altered or new)	Cooling Towers	
		Chillers	
		Boilers	

### Registration Number:

Registration Date/Time:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

#### Report Version: 2019.1.003 Schema Version: rev 20200601

#### STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E CERTIFICATE OF COMPLIANCE

Project Name: Bldg H Classrooms ACLC-NEA Mechanical Modernization Report Page: 1900 Third Street Date Prepared: Project Address:

### J. VENTILATION AND INDOOR AIR QUALITY

J. VENTILAIN		OOK AIK QOALITT						
occupancies. F	or alterations,	trate compliance with mo only ventialtion systems d airflows may be shown	being altered	within the so	ope of the p	permit app	lication ne	ed to be documen
01		Check the box if the pro	ject is showing	g ventilation of	calculations	on the pla	ns, or atta	ching the calculati
02	Check this box if the project included Nonresidential or Hotel/Motel spaces							
02		Check this box if the pro	ject included	new or altere	d high-rise	residential	dwelling u	nits.
03		Check the box if the pro	ject is using na	atural ventila	tion in any r	nonresiden	tial or hote	el/motel spaces to
Nonresidentia	and Hotel/ N	Notel Ventilation System	IS					
	04			05		06		
System Name	FAL	J 13, 14, 15, 16	System Desi Airfle	-	1334	-	Design Air CFM	0
08		09	10	11	12	13	14	15
		Mechanical Ventila	tion Required	per <u>§120.1(c</u>	3 ³		Exh.	Vent per <u>§120.1(c</u>
Space Name ot item Tag	Oc	cupancy Type ⁴	Conditioned Floor Area (ft ² )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per D CFM
Bldg H - Classrooms 13, 14, 15, 16		stsecondary classroom	3511			1334.2	0	0
17	Total System	Required Min OA CFM	-			1334	18	Ventilation f

¹ FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system ² Air filtration requirements apply to the following three system types per <u>§120.1(c)1A</u> : space conditioning systems utilizing ducts to s ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing

outside air to occupiable space. ³ Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence. ⁴ See Standards Tables 120.1-A and 120.1-B.

⁵ For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code.

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time:

Report Version: 2019.1.003 Schema Version: rev 20200601

#### STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E									
CERTIFICATE O	F COMPLIAN	2E							
Project Name:		Bldg H Classrooms ACLC-NEA Mechanical Modernization Report Page:							
Project Addres	s:	1900 Third Street Date Prepared:							
O. DECLARA	TION OF RI	EQUIRED CERTIFICATES OF ACCEPTANCE							
	NRCA-	MCH-12-A FDD for Packaged Direct Expansion Units							
	NRCA-	MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance							
•	<ul> <li>NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance NOTE: This form does not automatically move to "Yes". If Distributed Energy System DX AC Systems are included in teh scope permit applicant should move this form to 'Yes".</li> </ul>								
•	<ul> <li>autom</li> <li>Extern</li> <li>Cryoge</li> </ul>	MCH-15-A Thermal Energy Storage (TES) System Acceptance NOTE: This form does not natically move to "Yes". If Chilled water Storage, Ice-on-Coil Internal Melt, Ice-on-Coil nal melt, Ice Harvester, Brine, Ice-Slurry, Eutecti Salt, Clathrate Hydrate Slurry (CHS), enic or Encapsulated (Ice Ball) Systems are included in the scope, permit applicant should this form to 'Yes".							
	NRCA-	NRCA-MCH-16-A Supply Air Temperature Reset Controls							
0	NRCA-	MCH-17-A Condenser Water Temperature Reset Controls							
• (	NRCA-	MCH-18-A Energy Management Control Systems							
0	NRCA-	MCH-19-A Occupancy Sensor Controls							
	NRCA-	MCH-20 Multi-Family Ventilation							
0	NRCA-	MCH-21 Multi-Family Envelope Leakage							
P. DECLARAT	FION OF RE	QUIRED CERTIFICATES OF VERIFICATION							
These docume	ents must be	le based on information provided in previous tables of this document. If any selection needs to completed by a HERS Rater and provided to the building inspector during construction. The fir at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresi	nal docum						
Yes	No	Form/Title							
$\bigcirc$	۲	NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be completed by a HERS Rater							

$\bigcirc$	NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be completed by a HERS Rater
$\bigcirc$	NRCV-MCH-24 Enclosure Air Leakaage Worksheet NOTE: Must be completed by a HERS Rater
$\bigcirc$	NRCV-MCH-27 High-rise Resdential NOTE: Must be completed by a HERS Rater
$\bigcirc$	NRCV-MCH-32 Local Mechanical Exhaust NOTE: Must be completed by a HERS Rater

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

	CALIFORNIA ENERGY COMMISSION
	NRCC-MCH-E
re demonstra	ting compliance using the prescriptive
	(Page 1 of 9)
	1/4/2021
	3511
	0
rade)	1
)	
	See Table J
ompliance usi	ng the prescriptive path outlined in
	03
Dr	y System Components
Air Econ	omizer
Electric I	Resistance Heat
Fan Syste	ems
Ductwor	k (existing to remain, altered or new)
Ventilati	on
Zonal Sy	stems/ Terminal Boxes

#### STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E CERTIFICATE OF COMPLIANCE Project Name: Bldg H Classrooms ACLC-NEA Mechanical Modernization Report Page: 1900 Third Street Date Prepared: Project Address: C. COMPLIANCE RESULTS Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this ta NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D., or the table indicated as not compliant for guidance. 01 04 07 System Svstem Fans/ Summary Controls ninal B stributio Pumps Economi Ventilation <u>§110.1</u>, <u>§120.3</u>, <u>§110.2</u>, Controls <u>§140.4(k)</u> <u>§140.4(c)</u>, <u>§120.1</u> <u>§110.2</u>, <u>§120.2</u>, <u>§140.4(d)</u> <u>§140.4(l)</u> <u>§140.4(e</u> <u>§140.4</u> §140.4 (See Table F) (See Table G) (See Table H) (See Table I) (See Table J) (See Table K) (See Table L) AND Yes AND AND AND Yes AND Yes AND Yes AND Mandatory Measures Compliance (See Table Q for Details) D. EXCEPTIONAL CONDITIONS This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form. E. ADDITIONAL REMARKS This table includes remarks made by the permit applicant to the Authority Having Jurisdiction. F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS) This section does not apply to this project. G. PUMPS This section does not apply to this project.

## CALIFORNIA ENERGY COMMISSION NRCC-MCH-E (Page 4 of 9) 1/4/2021 idential, high-rise residential and hotel/motel ented in this table. In lieu of this table, the required ations instead of completing this table. to meet required ventilation rates per <u>§120.1(c)2</u>. 07 Air Filtration per §120.1(c) and §141.0(b)2 Provided per <u>§120.1(c)</u> (NR and Hotel/Motel)) 16 c)4 DCV or Sensor Controls per §120.1(d)3, Design <u>§120.1(d)5</u>, and <u>§120.1(e)3</u> ⁶ NA: Not required per DCV

Registration Provider: Energysoft

Report Generated: 2021-01-04 19:50:30

Registration Number:

STATE OF CALIFORNIA

NRCC-MCH-E

Project Name:

Project Address:

Mechanical Systems

CERTIFICATE OF COMPLIANCE

K. TERMINAL BOX CONTROLS

Duct Leakage Sealing

11

14

12

13

15

16

17

M. COOLING TOWERS

This section does not apply to this project.

This section does not apply to this project.

L. DISTRIBUTION (DUCTWORK and PIPING)

Yes

J. VENTILATION AND INDOOR AIR QUALITY

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

	DCV	<u>§120.1(d)3</u>
	Occ Sensor	NA: Not required space type
or this S	System Complies?	Yes
o supply	air to occupiable space	; supply-only

Registration Provider: Energysoft Report Generated: 2021-01-04 19:50:30

## CALIFORNIA ENERGY COMMISSION NRCC-MCH-E (Page 7 of 9) 1/4/2021 nged, please explain why in Table E Additional Remarks. uments must be created by a HERS Provider's registry, but _Documents/NRCV/ Field Inspector Pass Fail

rass	Fall

Registration Provider: Energysoft Report Generated: 2021-01-04 19:50:30

# Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Date/Time:

1900 Third Street Date Prepared:

⁶ <u>§120.2(e)3</u> requires systems serving rooms that are required by <u>§130.1(c)</u> to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation.

Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, restrooms, aisles

This table is used to show compliance with mandatory pipe insulation requirements found in  $\frac{\$120.3}{\$120.3}$  and prescriptive requirements found in  $\frac{\$140.4(I)}{\$140.4(I)}$  for duct leakage testing.

and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.

Yes Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.

No The <u>combined</u> surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:

The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.

In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the

requirements of <u>§140.3(a)1B</u> or if the roof has fixed vents or openings to the outside/ unconditioned spaces

The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification

The answers to the questions below apply to the following duct systems: FAU 13, 14, 15, 16 Duct leakage testing triggered for these systems?

The space conditioning system serves less than 5,000 ft² of conditioned floor area.

No The scope of the project includes only duct systems serving healthcare facilities

In an unconditioned crawl space

Yes Duct system shall be sealed in acordance with the California Mechanical Code

In other unconditioned spaces

Outdoors

Bldg H Classrooms ACLC-NEA Mechanical Modernization Report Page:

and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by §130.1(c).

Report Version: 2019.1.003

Schema Version: rev 20200601

#### STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E			CALIFORNIA			
CERTIFICATE OF COMPLIANCE						
Project Name: Bldg H Classrooms ACLC-N	Bldg H Classrooms ACLC-NEA Mechanical Modernization Report Page:					
Project Address:	1900 Third Street	Date Prepared:				
Q. MANDATORY MEASURES DOCUMENTATION LOCATION						
This table is used to indicate where mandatory measures are doc	cumented in the plan set or o	construction documentation.				
01			02			
Compliance with Mandatory Measures documented through MC	CH IIII	Vec	Plan sheet or construction do			
Mandatory Measures Note Block		Yes	M-Sheets			

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Provider: Energysoft Report Generated: 2021-01-04 19:50:30

				_									
CALIFORNIA F	ENERGY COMMISSION	NRCC-MCH-E	al Systems	5								CALIFOR	RNIA ENERGY COMMISSION
	NRCC-MCH-E		F COMPLIANCE									0.12.101	NRCC-MCH-E
	(Page 2 of 9)	Project Name:			Bldg H Classro	oms ACLC-NEA Mechanical M	odernizati	on <b>Report</b>	Page:				(Page 3 of 9)
	1/4/2021	Project Addres	is:		_	1900	Third Stre	et Date P	repared:				1/4/2021
			EMS & AIR E		<u>c</u>						-		
	table equa "DOFC						adia 61.4	0.4(a) 51	40.4(a) an	d 5140 4(m) for from	avetarea. Fa		
by the user. If this t	,					scriptive requirements fou e included in Table H.	na in <u>9140</u>	<u>J.4(C)</u> , <u>914</u>			systems. Fa	n systems servin	g only process loaas are
08	09	System Name:	FAU 13, 14, 1	5, 16 Econ	omizer:1	NA: <=54 kBtu/h cooling	Econor Contr		Designed	per <u>§140.4(e)</u> and (m)	Syster	n Fan Type:	Constant Volume
Cooling Towers		01		02	03	04		0	5	06		07	08
§110.2(e)2	Compliance Results	Fan Name or				Maximum Docign Supply	Airflow				Fan Power	Pressure Drop	Adjustment - Table 140.4-B
		Item Tag	Fan F	Fan Function		(CFM)	imum Design Supply Airflow (CFM)		Jnit ²	Design HP	[	Device	Design Airflow through Device (CFM)
(See Table M)		SF	Su	pply	4	4800		BH	ΗΡ	0.5		NA	NA
	COMPLIES	<b>T</b>				1000	Total	System D	esign		Maximu	m System Fan	4.42
LIES		lotal Sys	stem Design Su	pply Airflow (	CFM):	4800		, (B)HP:	0	2		ver (B)HP:	1.13
		I. SYSTEM C				ndatory controls in <u>§110.2</u>	and §120	0.2 and p	prescriptive	controls in §140.4(f	) and (n) or	requirements in	§141.0(b)2E for altered
			oning systems.			<u></u>	unu <u>911</u>	<u></u>		<u> </u>	2 4114 (11) 61		<u>52 / 2/0 (0/22</u> ) or allorou
		C	)1	02	03	04		05	06	07		08	09
		System	n Name	System Zoning	Conditione Floor Area Being Serve	a Inermostats		nut-Off ontrols	Isolatio Zone Control	Demand Re	-	Supply Air Temp. Reset	Window Interlocks per <u>§140.4(n)</u>
				201111g	(ft ² )	§120.2(a)or §141.0(b)	<u>2E §1</u>	<u>20.2(e)</u>	<u>§120.2(</u>	g)	3120.2(0)	<u>§140.4(f)</u>	<u>3140.4(II)</u>
			14, 15, 16	Single zone				EMCS	NA: Serve 25k ft ²	2 EMC		NA: Single Zone	NA: Alteration Project
		have setback	thermostats.	-									stoves are not required to
		*Notes: Contr EXCEPTION 1		quire a note ii	n the space b	pelow explaining how com	oliance is	achieved.	. EX: systen	n 1: SA Temp Reset:	Exempt beca	ause zones com	pliant with <u>§140.4(d)</u> ;
Registratio	on Provider: Energysoft	Registration N	lumber:				Regist	ration Dat	e/Time:			Reg	istration Provider: Energysoft
Report Generated	d: 2021-01-04 19:50:30	CA Building Er	nergy Efficiency S	Standards - 201	9 Nonresident	tial Compliance			2019.1.003 : rev 202006			Report Gen	nerated: 2021-01-04 19:50:30
CALIFORNIA E		STATE OF CALIFO <b>Mechanic</b> NRCC-MCH-E	^{RNIA} cal Systems	5								CALIFOF	RNIA ENERGY COMMISSION
	NRCC-MCH-E	CERTIFICATE O	F COMPLIANCE										NRCC-MCH-E
	(Page 5 of 9)	Project Name:			Bldg H Classro	oms ACLC-NEA Mechanical M	odernizati	on <b>Report</b>	Page:				(Page 6 of 9)
	1/4/2021	Project Addres	ss:			1900	Third Stre	et Date P	repared:				1/4/2021
		N. DECLARA	TION OF REQ	UIRED CERT	IFICATES OF	F INSTALLATION							

Yes		No Form/Title		Field Insp	ector
163				Pass	Fail
۲	(	NRCI-MCH-01-E - Must be submitted for all buildings			
D. DECL	ARATION	N OF REQUIRED CERTIFICATES OF ACCEPTANCE			
https://w	ww.energ	must be provided to the building inspector during construction and can be found online at gy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA,		Field I	nspecto
Yes	No	Form/Title	Systems To Be Field Verified	Pass	Fai
٠	$\bigcirc$	NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.			
٠	0	NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically move to "Yes'. If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".			
$\bigcirc$		NRCA-MCH-04-A - Air Distribution Duct Leakage			
		NPCA MCH OF A Air Economizer Controls			

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks.

NRCA-MCH-06-A Demand Control Ventilation Systems must required to employ demand controlled ventilation (refer to ventilation flow rates based on maintaining interior carbor	o <u>§120.1(c)3</u> ) can vary outside			
setpoints.	dioxide (CO2) concentration			
NRCA-MCH-07-A Supply Fan Variable Flow Controls				
NRCA-MCH-08-A Valve Leakage Test				
NRCA-MCH-09-A Supply Water Temperature Reset Control	S			
NRCA-MCH-10-A Hydronic System Variable Flow Controls				
NRCA-MCH-11-A Automatic Demand Shed Controls				
	NRCA-MCH-07-A Supply Fan Variable Flow Controls         NRCA-MCH-08-A Valve Leakage Test         NRCA-MCH-09-A Supply Water Temperature Reset Control         NRCA-MCH-10-A Hydronic System Variable Flow Controls	NRCA-MCH-07-A Supply Fan Variable Flow Controls         NRCA-MCH-08-A Valve Leakage Test         NRCA-MCH-09-A Supply Water Temperature Reset Controls         NRCA-MCH-10-A Hydronic System Variable Flow Controls	NRCA-MCH-07-A Supply Fan Variable Flow Controls         NRCA-MCH-08-A Valve Leakage Test         NRCA-MCH-09-A Supply Water Temperature Reset Controls         NRCA-MCH-10-A Hydronic System Variable Flow Controls	NRCA-MCH-07-A Supply Fan Variable Flow Controls       □         NRCA-MCH-08-A Valve Leakage Test       □         NRCA-MCH-09-A Supply Water Temperature Reset Controls       □         NRCA-MCH-10-A Hydronic System Variable Flow Controls       □

IA ENERGY COMMISSIO	N
NRCC-MCH-	·E
(Page 8 of 9	<del>)</del> )
1/4/202	1
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Registration Provider: Energysoft

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No

COMPLIES

STATE OF CALIFORNIA
<b>Mechanical Systems</b>
NRCC-MCH-E

NRCC-MCH-E		CALIFORNIA ENERGY COMMISSIC
CERTIFICATE OF COMPLIANCE		NRCC-MCH
Project Name:	Bldg H Classrooms ACLC-NEA Mechanical Modernization	Report Page: (Page 9 of
Project Address:	1900 Third Street	Date Prepared: 1/4/202
DOCUMENTATION AUTH	IOR'S DECLARATION STATEMENT	Sarah German
I certify that this Certific	ate of Compliance documentation is accurate and comple	te.
Documentation Author Name: Sarah Pernula		Documentation Author Signature:
Company:		Signature Date:
SOLDATA Energy Consulting	3	2021-01-04
Address: 2227 Capricorn Way		CEA/ HERS Certification Identification (if applicable): NR16-90-20043
City/State/Zip: Santa Rosa CA 95407		Phone: 707.545.4440
I certify the following under penalt 1. The information provid 2. I am eligible under Div 3. The energy features ar	nd performance specifications, materials, components, and manufactured device Part 6 of the California Code of Regulations.	ding design or system design identified on this Certificate of Compliance (responsible designer) es for the building design or system design identified on this Certificate of Compliance conform to the requirement

4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy. Responsible Designer Signature: Responsible Designer Name: Chris Del Core

CIIIS DEI COIE	Responsible Designer Signature.
Company:	Date Signed:
Costa Engineers Inc.	2021-01-04
Address:	License:
3274 Villa Lane	M31600
City/State/Zip:	Phone:
Napa CA 94558	707-252-9177

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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Registration Provider: Energysoft Report Generated: 2021-01-04 19:50:30



# **TITLE 24 -BUILDING H**

DSA APP NO. 01-119265										
ARCH PRO	JECT NO:	1893.00								
DRAWN BY	•	НМ								
DRAWING	SCALE:	N.T.S.								
PTN: 6111	9-119	FILE NO: 1-1								
CD										
MAY 05, 2021										
SHEET TITLE										

ALAMEDA UNIFIED SCHOOL DISTRICT

1900 THIRD STREET **ALAMEDA, CA 94501** 



**ACLC-NEA** 





IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITEC

**REVIEWED FOR** 

SS 🗹 FLS 🗹 ACS 🗌

APP: 01-119265 INC:







#### NRCC-MCH-E CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are path outlined in  $\S140.4$ , or  $\S141.0(b)2$  for alterations. Project Name: Bldg I Classrooms ACLC-NEA Mechanical Modernization Report Page: 1900 Third Street Date Prepared:

## Project Address:

A. 6	GENERAL INFORMATION					
01	Project Location (city)	Alameda	04	Total Conditioned Floor Area		
02	Climate Zone	3		Total Unconditioned Floor Area		
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Gra		
	Office (B)	Retail (M)		Non-refrigerated Warehouse (S)		
	Hotel/ Motel Guest Rooms (R-1)	School (E)		Healthcare Facility (I)		
	High-Rise Residential (R-2/R-3)	Relocatable Class Bldg (E)		Other (write in)		

### **B. PROJECT SCOPE** This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating co

<u>§140.4</u> , oi	r <u>§141.0(b)2</u> for alterations.		2
	01	02	
	Air System(s)	Wet System Components	
	Heating Air System	Water Economizer	
	Cooling Air System	Pumps	
	Mechanical Controls	System Piping	
	Mechanical Controls (existing to remain, altered or new)	Cooling Towers	
		Chillers	
		Boilers	

### **Registration Number:**

# Registration Date/Time:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003 Schema Version: rev 20200601

#### STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E CERTIFICATE OF COMPLIANCE

Project Name: Bldg I Classrooms ACLC-NEA Mechanical Modernization Report Page: Project Address: 1900 Third Street Date Prepared:

## J. VENTILATION AND INDOOR AIR QUALITY

occupancies. F	or alterations,	trate compliance with ma only ventialtion systems d airflows may be shown	being altered	within the sc	ope of the p	permit app	lication nee	ed to be documen				
01		Check the box if the pro	ject is showing	g ventilation of	calculations	on the pla	ns, or attac	ching the calculati				
02		Check this box if the project included Nonresidential or Hotel/Motel spaces										
02		d high-rise	residential	dwelling u	nits.							
03		Check the box if the pro	tion in any r	nonresiden	tial or hote	el/motel spaces to						
Nonresidentia	and Hotel/ N	Notel Ventilation System	IS									
04 05							06					
System Name	FAU 17, 18, 19, 20, 21, 22		System Design OA CFM Airflow ¹			System Transfer	0					
08		09	10	11	12	13	14	15				
		Mechanical Ventilat	tion Required	per <u>§120.1(c</u> )	<mark>3</mark> ³		Exh. '	Vent per <u>§120.1(c</u>				
Space Name ot item Tag	Occupancy Type ⁴		Conditioned Floor Area (ft ² )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per D CFM				
Bldg I - Classrooms 17, 18, 19, 20, 21, 22	Lecture/ po	stsecondary classroom	5253			1996.1	0	0				
17	Total System	Required Min OA CFM	•	· · · · · · · · · · · · · · · · · · ·	•	1996	18	Ventilation				
							•					

¹ FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system ² Air filtration requirements apply to the following three system types per <u>§120.1(c)1A</u> : space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.

³ Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence. ⁴ See Standards Tables 120.1-A and 120.1-B. ⁵ For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code.

**Registration Number:** CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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Registration Date/Time:

#### STATE OF CALIFORNIA Mochanical Sys

CERTIFICAT	E OF CO	MPLIANC	Έ								
Project Nar	me:		Bldg I Classrooms ACLC-NEA Mechanical Modernization	Report Page:							
Project Address:			1900 Third Street	Date Prepared:							
O. DECLA	RATIO	N OF RE	QUIRED CERTIFICATES OF ACCEPTANCE								
$\bigcirc$	٠	NRCA-	MCH-12-A FDD for Packaged Direct Expansion Units								
$\bigcirc$	۲	NRCA-	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance								
$\bigcirc$	۲	not au	NRCA-MCH-15 A Automatic FDD for All Handling Onits and 20ne ferminal Onits Acceptance NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance NOTE: This form does not automatically move to "Yes". If Distributed Energy System DX AC Systems are included in teh scope permit applicant should move this form to 'Yes".								
•	٠	autom Extern Cryoge	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance NOTE: This form does not automatically move to "Yes". If Chilled water Storage, Ice-on-Coil Internal Melt, Ice-on-Coil External melt, Ice Harvester, Brine, Ice-Slurry, Eutecti Salt, Clathrate Hydrate Slurry (CHS), Cryogenic or Encapsulated (Ice Ball) Systems are included in the scope, permit applicant should move this form to 'Yes".								
$\bigcirc$	۲	NRCA-	NRCA-MCH-16-A Supply Air Temperature Reset Controls								
$\bigcirc$	۲	NRCA-	NRCA-MCH-17-A Condenser Water Temperature Reset Controls								
	$\bigcirc$	NRCA-	MCH-18-A Energy Management Control Systems								
$\bigcirc$	۲	NRCA-	MCH-19-A Occupancy Sensor Controls								
$\bigcirc$	۲	NRCA-	MCH-20 Multi-Family Ventilation								
$\bigcirc$	۲	NRCA-	NRCA-MCH-21 Multi-Family Envelope Leakage								
P. DECLA	RATION	OF RE	QUIRED CERTIFICATES OF VERIFICATION								
These doc	uments	must be	e based on information provided in previous tables of this docume completed by a HERS Rater and provided to the building inspector at https://www.energy.ca.gov/title24/2019standards/2019_comp	during construction. The final docum							
Yes		No	Form	/Title							
$\bigcirc$		•	NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be completed by	a HERS Rater							

$\bigcirc$		NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be completed by a HERS Rater
$\bigcirc$	۲	NRCV-MCH-24 Enclosure Air Leakaage Worksheet NOTE: Must be completed by a HERS Rater
$\bigcirc$	۲	NRCV-MCH-27 High-rise Resdential NOTE: Must be completed by a HERS Rater
$\bigcirc$	۲	NRCV-MCH-32 Local Mechanical Exhaust NOTE: Must be completed by a HERS Rater

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

	CALIFORNIA ENERGY COMMISSION
	NRCC-MCH-E
re demonstra	ting compliance using the prescriptive
	(Page 1 of 9)
	1/4/2021
	5253
	0
rade)	1
)	
	See Table J
ompliance usi	ng the prescriptive path outlined in
	03
Dr	y System Components
Air Econ	omizer
Electric I	Resistance Heat
Fan Syst	ems
Ductwor	k (existing to remain, altered or new)
Ventilati	on
Zonal Sy	stems/ Terminal Boxes

CERTIFICATE O	F COMF	PLIANCE													
Project Name:				Bldg I Classroo	ms ACL	C-NEA Mechanio	al Mod	ernization Re	eport Page	:					
Project Addres	ss:						1900 Tł	hird Street <b>D</b> a	ate Prepai	ed:					
C. COMPLIA	NCE R	ESULTS													
		if the project o OMPLIES with			•		•			•			itable b	y the user. If this	table
01		02		03		04		05		06		07		08	Τ
System Summary <u>§110.1</u> , <u>§110.2</u> , <u>§140.4</u>	AND	Pumps <u>§140.4(k)</u>	AND	Fans/ Economizers <u>§140.4(c)</u> , <u>§140.4(e)</u>	AND	System Controls <u>§110.2</u> , <u>§120.2</u> , <u>§140.4(f)</u>	AND	Ventilation <u>§120.1</u>	n AND	Terminal Box Controls <u>§140.4(d)</u>	AND	Distribution <u>§120.3</u> , <u>§140.4(I)</u>	AND	Cooling Towers §110.2(e)2	Co
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table	J)	(See Table K)		(See Table L)		(See Table M)	]
	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND	Yes	AND		
				Mandatory	Measu	ires Complian	ce (See	Table Q for	Details)				COMP	LIES	
D. EXCEPTIC	ONAL C	ONDITIONS													
		ed with unedit	table co	omments beca	use of :	selections mad	de or da	ata entered	in tables	throughout th	e form.				
E. ADDITION															
This table inc	ludes r	emarks made l	by the	permit applica	nt to th	e Authority H	aving J	urisdiction.							
F. HVAC SYS	TEM S	UMMARY (D	RY & V	NET SYSTEM	S)										
		ot apply to this			-,										
			projec												
G. PUMPS															
G. PUIVIPS															

Registration Date/Time:

Report Version: 2019.1.003

Schema Version: rev 20200601

Report Generated: 2021-01-04 20:01:54

Registration Provider: Energysoft

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

	CALIFORNIA ENERGY COMMISSION					
		NRCC-MCH-E				
		(Page 4 of 9)				
		1/4/2021				
idential h	high-rise residential and	hotel/motel				
-	is table. In lieu of this to					
		lore, ene required				
tions inst	ead of completing this t	able.				
to meet re	equired ventilation rates	s ner §120 1(c)2				
		5 per <u>312012(0/2</u> .				
	07					
	Air Filtration per <u>§120.1(c)</u> and <u>§141.0(b)2</u>					
	Provided per <u>§1</u>					
	Hotel/I					
	1	6				
<u>(c)4</u>						
Design	DCV or Sensor Controls per <u>§120.1(d)3</u> ,					
Design	<u>§120.1(d)5</u> , and <u>§120.1(e)3</u> ⁶					
	DCV	NA: Not required per				
		<u>§120.1(d)3</u>				
	Occ Sensor	NA: Not required				
		space type				
n for this S	System Complies?	Yes				

Registration Provider: Energysoft Report Generated: 2021-01-04 20:01:54

CALIFORNIA ENERGY COMMISSION

NRCC-MCH-E (Page 7 of 9) 1/4/2021

ATE OF CALIFORNIA													
lechanical S	ystems												
RCC-MCH-E						CALIFORNIA E	ENERGY COMMISSION						
ERTIFICATE OF CON	IPLIANCE						NRCC-MCH-E						
roject Name:							(Page 5 of 9)						
roject Address: 1900 Third Street Da					Date Prepared	:	1/4/2021						
VENTILATION A			<u> </u>										
amples of spaces	which require li	ghting occupancy	sensors include offices	250ft ² or smaller	r, multipurpos	nsing controls to also have occupancy sensing zone contro e rooms less than 1,000 ft ² , classrooms, conference rooms 1 and unloading zones, unless excepted by <u>§130.1(c)</u> .	-						
. TERMINAL BO	<b>CONTROLS</b>												
his section does n	ot apply to this	project.											
DISTRIBUTION	(DUCTWORK	and PIPING)											
	-	-	y pipe insulation requi	rements found in	<u>§120.3</u> and p	rescriptive requirements found in <u>§140.4(I)</u> for duct leaka	age testing.						
uct Leakage Seali	ng												
he answers to the	questions below	w apply to the follo	owing duct systems:	FAU 17, 18, 19,	20, 21, 22	Duct leakage testing triggered for these systems?	No						
11	No	The scope of the	project includes only o	duct systems serv	ing healthcare	e facilities							
12	Yes	Duct system prov	vides conditioned air to	o an occupiable sp	bace for a con	stant volume, single zone, space-conditioning system.							
13	No	The space condit	ioning system serves le	ess than 5,000 ft ²	of conditione	d floor area.							
14	No	The <u>combined</u> su	rface area of the ducts	s in the following	locations is m	ore than 25% of the total surface area of the entire duct s	system:						
			Outdoors										
In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does requirements of $\frac{\$140.3(a)1B}{\$140.3(a)1B}$ or if the roof has fixed vents or openings to the outside/ unconditioned spaces					ot meet the								
			In an unconditioned crawl space										
			In other unconditioned spaces										
15		The scope of the	project includes exten	ding an existing c	luct system, w	hich is constructed, insulated or sealed with asbestos.							
16						• •	The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.						

M. COOLING TOWERS This section does not apply to this project.

Registration Number:	Registration Date/Time:
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17 Yes Duct system shall be sealed in acordance with the California Mechanical Code

#### STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E

	-			
NRCC-MCH-E				CALIFORNIA
CERTIFICATE OF COMPLIANCE				
Project Name:	Bldg I Classrooms ACLC-NEA Mechanica	I Modernization R	eport Page:	
Project Address:	1	900 Third Street <b>D</b>	ate Prepared:	
Q. MANDATORY MEASU	RES DOCUMENTATION LOCATION			
This table is used to indicate	e where mandatory measures are documented in t	he plan set or co	nstruction documentati	on.
	01			02
Compliance with Mandator		Vac	Plan sheet or construction do	
Mandatory Measures Note Block Yes				M-Sheets

Schema Version: rev 20200601

nged, please explain why in Table E Additional Remarks. uments must be created by a HERS Provider's registry, but I_Documents/NRCV/ Field Inspector 

	-
Pass	Fail

Registration Provider: Energysoft Report Generated: 2021-01-04 20:01:54

**Registration Number:** CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Provider: Energysoft Report Generated: 2021-01-04 20:01:54

		CALIFORNIA E	NERGY COMMISSION	NRCC-MCH-	nical Syst	,cm5									CALIFO	RNIA ENERGY	соми	MISSIO
			NRCC-MCH-E	CERTIFICA	TE OF COMPLIA	ANCE												с-мсн-
			(Page 2 of 9)	Project Na				Bldg I Classroo	ms ACLC-NEA Mechanical Mo		-	-						ge 3 of 9
			1/4/2021	Project Ac	idress:				1900 1	I hird Stree	et Date Prep	pared:					1	1/4/202
				LL FANG														
c not odite	bla h	utha war If this	table caus "DOES		SYSTEMS & A				arintina requirements found	d in \$1.10	4(0) 5140	1(a) and \$1	(40.4) for fac	sustanas Fa	n customa comuin	a only process	load	
s not eunt	ַם שומו	y the user. If this t	uble suys DOES				-		criptive requirements founc included in Table H.	, III <u>9140.</u>	<u>.4(c)</u> , <u>9140</u>	<u>.4(e)</u> unu <u>91</u>	<u>40.4(111)</u> juli juli	systems. Fu	in systems servin	iy only proces	s iouu.	Sure
07		08	09	Syster		18, 19, 20,			NA: <=54 kBtu/h cooling	Econom	nizer D	esigned per	§140.4(e) and	Syster	n Fan Type:	Constan	t Volu	
	ĺ			Name	e: 21	1, 22	LCOIN			Contro		(	m)					
ibution AND Cooling Towers			01		02		03	04		05		06	Fan Dawe	07	-	)8 Fable (	140.4.1	
<u>§110.2(e)2</u> Compliance Results	Compliance Results	Fan Nam		Fan Functio	n	Qty	Maximum Design Supply A	Airflow	HP Un	it ²	Design HP	Fan Power	r Pressure Drop	Design Airfl				
				Item Ta	ag				(CFM)				Designin	[ [	Device	Design Airi		-
Table L)		(See Table M)	COMPLIES	SF		Supply		6	7200		BHP		0.5		NA	Ν	IA	
	AND OMPI	IES	COMPLIES	Tota	Total System Design Supply Airflow (CFM):     7200     Total System Design (DUD)     3     Maximum System Fan				-	1.	13							
					-						(B)HP:				/er (B)HP:	1.	15	
					•				requirements of <u>§140.9(a)</u>	and will	be docum	ented on the	NRCC-PRC-E doc	cument.				
				² The unit	t used for HP n	must be cons	sistent f	for all fans wit	thin a system.									
				I. SYSTEI		S			_									
							compliar	nce with man	datory controls in <u>§110.2</u> c	and <u>§120</u> .	.2 and pre	scriptive cor	trols in <u>§140.4(f</u>	and (n) or	requirements in	§141.0(b)2E	for al	ltered
					nditioning syst							•					-	
					01	(	02	03	04		05	06	07		08	0	9	
						Sve	stem	Conditioned Floor Area	Inermostats	Sh	ut-Off	Isolation Zone	Demand Re	sponse	Supply Air	Window Int	orlock	ks nor
				Sy	stem Name		ning	Being Serve	d <u>§110.2(b)</u> & (c) [⊥] ,		ntrols	Controls	§110.12 and	-	Temp. Reset	<u>§140.</u>		ts per
								(ft ² )	§120.2(a)or §141.0(b)2	<u>E 912</u>	<u>0.2(e)</u>	<u>§120.2(g)</u>			<u>§140.4(f)</u>			
				FAU 17,	18, 19, 20, 21	., 22 Singl	e zone	<= 25,000 ft	2 EMCS	E	MCS N	NA: Serves < 25k ft ²	EMC	S	NA: Single Zone	NA: Alterat	ion Pr	oject
					TES: Gravity o		tors ar	 guity floor bo	 aters, gravity room heaters		tral electr		ranlacas or dasor	ativo aas a	1	stovas ara no	troqu	uired to
		Report Generated	n Provider: Energysoft 1: 2021-01-04 20:01:54	CA Buildi STATE OF CA <b>Mecha</b> NRCC-MCH-	nical Syst	ems	ds - 2019	9 Nonresidenti	al Compliance	Report	ation Date/ Version: 20 a Version: re				Report Ger	istration Provid herated: 2021-0 RNIA ENERGY	1-04 2	20:01:54
			NRCC-MCH-E		TE OF COMPLIA	ANCE												C-MCH-
			(Page 5 of 9) 1/4/2021	Project Na Project Ad				Bldg I Classroo	ms ACLC-NEA Mechanical Mo		n Report Pa et Date Prep	-						ge 6 of 9 1/4/202
			1/4/2021	Toject Ad					1500 1		Daterre						-	
									INSTALLATION									
ft², classro	oms,	conference room	ols for ventilation. s, restrooms, aisles	Selection. These do	s have been m cuments must	nade based o t be provideo	on infor d to the	mation providual	ded in previous tables of th ector during construction a 19 compliance documents,	nd can b	e found on	line at	-	d, please ex	kplain why in Tal	ole E Additiond	al Rem	narks.
mess exce	neu b	y <u>§130.1(c)</u> .					., _01.03		uocuments,							Field Ir	spect	tor
				Yes	No					Forr	m/Title					Pass	·	Fail
					$\bigcirc$	NRCI-M	CH-01-E	- Must be su	bmitted for all buildings									
									ACCEPTANCE									
found in	5140	4(I) for duct leak	nae testina			-			ded in previous tables of th	is docum	ent If anv	selection ne	eds to be change	d nlease ex	nlain why in Tal	nle F Addition	al Rem	narks
s jouriu in j	<u>9140.</u>			These do	cuments must	t be provided	d to the	building insp	ector during construction a	nd can b	e found on	line at	_	a, picase cr			in nem	iurks.
riggered fo	or the	se systems?	No	https://w	ww.energy.co	a.gov/title24	4/2019s	tandards/201	19_compliance_documents,	/Nonresid	dential_Do	cuments/NF	PCA/					
0.0				Yes	No				Form/Title				Sys	stems To Be	Field Verified			pector
e, space-c	onditi	oning system.			NR	CA-MCH-02-	-A - Out	door Air mus	t be submitted for all newly	v installer	HVACuni	its. Note:				Pas	55	Fail
				۲	🔵 мс	CH-02-A can	be perfe	ormed in con	, junction with MCH-07-A Su								]	
l surface a	irea o	f the entire duct s	system:			-		ng activities or	-								$\square$	
									e Single Zone HVAC NOTE: T ingle Zone HVAC Systems a								,	
		if the roof does r ditioned spaces	not meet the		-			this form to				Sobe, heinii					·	
SatsiuC/				$\bigcirc$		CA-MCH-04-	-A - Air l	Distribution D	Ouct Leakage								]	
				$\bigcirc$	-			Economizer C									]	
		with asbestos. is confirmed thro	ugh field verification	•	_ req	uired to em	ploy de	mand control	Yentilation Systems must be lled ventilation (refer to <u>§1.</u> ntaining interior carbon dio	<u>20.1(c)3</u> )	) can vary o	outside					וו	

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	NRCC-MCH-E
	(Page 8 of 9)
	1/4/2021
document l	ocation

Mechanical Systems

STATE OF CALIFORNIA

**Registration Number:** 

setnoints

NRCA-MCH-07-A Supply Fan Variable Flow Controls

NRCA-MCH-11-A Automatic Demand Shed Controls

NRCA-MCH-09-A Supply Water Temperature Reset Controls

NRCA-MCH-10-A Hydronic System Variable Flow Controls

NRCA-MCH-08-A Valve Leakage Test

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

IVIECNANICAI SYSTEMS NRCC-MCH-E		CALI	FORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Bldg I Classrooms ACLC-NEA Mechanical Modernization	Report Page:	(Page 9 of 9)
Project Address:	1900 Third Street	Date Prepared:	1/4/2021
DOCUMENTATION AUTHO	DR'S DECLARATION STATEMENT		
I certify that this Certifica	te of Compliance documentation is accurate and comple	te.	
Documentation Author Name: Sarah Pernula		Documentation Author Signature:	
Company: SOLDATA Energy Consulting		Signature Date: 2021-01-04	
Address: 2227 Capricorn Way		CEA/ HERS Certification Identification (if applicable): NR16-90-20043	
City/State/Zip: Santa Rosa CA 95407		Phone: 707.545.4440	
<ol> <li>I certify the following under penalty</li> <li>The information provide</li> <li>I am eligible under Divis</li> <li>The energy features and</li> </ol>	DECLARATION STATEMENT of perjury, under the laws of the State of California: ed on this Certificate of Compliance is true and correct. ion 3 of the Business and Professions Code to accept responsibility for the build d performance specifications, materials, components, and manufactured device art 6 of the California Code of Regulations.		

Registration Date/Time:

Report Version: 2019.1.003

Schema Version: rev 20200601

The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy. esponsible Designer Name: Chris Del Core Responsible Designer Signature: N Date Signed:

Address: Lice 3274 Villa Lane	ense: M31600
City/State/Zip: Pho Napa CA 94558 707	one: 17-252-9177

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Provider: Energysoft Report Generated: 2021-01-04 20:01:54



# **TITLE 24 -BUILDING I**

DSA	A APP NC	D. 01-119265				
ARCH PRO	JECT NO:	1893.00				
DRAWN BY	:	НМ				
DRAWING	SCALE:	N.T.S.				
PTN: 6111	9-119	FILE NO: 1-1				
CD						
MAY 05, 2021						
SHEET TITLE						

ALAMEDA UNIFIED SCHOOL DISTRICT

1900 THIRD STREET ALAMEDA, CA 94501

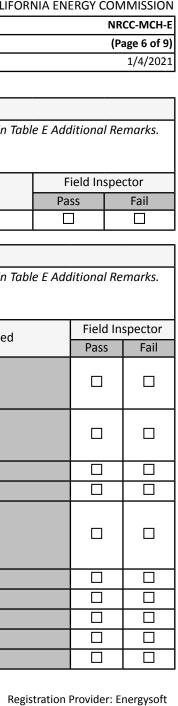


# ACLC-NEA









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