HERBERT HOOVER HIGH SCHOOL- PROP 39 HVAC UPGRADE

APPLICABLE CODES:

PARTIAL LIST OF APPLICABLE CODES AS OF JANUARY 1, 2017

PART 1	2016 CALIFORNIA BUILDING STANDARD ADMINISTRATIVE CODE, TITLE 24 C.C.R.
PART 2	2016 CALIFORNIA BUILDING CODE, TITLE 24 C.C.R. (2015 INTERNATIONAL BUILDING CODE OF THE INTERNATIONAL CODE COUNCIL, WITH CALIFORNIA AMENDMENTS)
PART 3	2016 CALIFORNIA ELECTRICAL CODE, TITLE 24 C.C.R. (2014 NATIONAL ELECTRICAL CODE OF THE NATIONAL FIRE PROTECTION ASSOCIATION, NFPA)
PART 4	2016 CALIFORNIA MECHANICAL CODE, TITLE 24 C.C.R. (2015 UNIFORM MECHANICAL OF THE INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS, IAPMO)
PART 5	2016 CALIFORNIA PLUMBING CODE TITLE 24 C.C.R. (2015 UNIFORM MECHANICAL OF THE INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS, IAPMO)
PART 6	2016 CALIFORNIA ENERGY CODE, TITLE 24 C.C.R.
PART 8	2016 CALIFORNIA HISTORICAL BUILDING CODE, TITLE 24 C.C.R.
PART 9	2016 CALIFORNIA FIRE CODE, TITLE 24 C.C.R. (2015 INTERNATIONAL FIRE CODE OF THE INTERNATIONAL CODE COUNCIL)
PART 10	2016 CALIFORNIA EXISTING BUILDING CODE, TITLE 24 C.C.R. (2015 INTERNATIONAL EXISTING BUILDING CODE OF THE INTERNATIONAL CODE COUNCIL WITH AMENDMENTS)
PART 12	2016 CALIFORNIA REFERENCED STANDARDS CODE, TITLE 24 C.C.R.

PARTIAL LIST OF APPLICABLE STANDARDS:

2016 CALIFORNIA BUILDING CODE (for SFM) REFERENCED STANDARDS CHAPTER 35

NFPA 13	AUTOMATIC SPRINKLER SYSTEMS (CALIFORNIA AMENDED)	2016 EDITION
NFPA 14	STANDPIPES SYSTEMS (CALIFORNIA AMENDED)	2013 EDITION
NFPA 72	NATIONAL FIRE ALARM CODE (CALIFORNIA AMENDED) (NOTE SEE UL STANDARD 1971 FOR "VISUAL DEVICES")	2016 EDITION

VICINITY MAP

SCOPE OF WORK

WORK CONSISTS OF:
1. REPLACEMENT OF (E) ROOF TOP HVAC MECHANICAL UNITS SERVING THE 2ND FLOOR AT CLASSROOM BUILDING #11000

2. THIS HVAC EQUIPMENT REPLACEMENT PROJECT IS EXEMPT FROM ACCESS REQUIREMENTS PER CBC-11B-2002.4 EXEMPTION #7

DIRECTORY

OWNER:	GLENDALE UNIFIED SCHOOL DISTRICT 223 N. JACKSON ST. GLENDALE, CA 91206
ARCHITECT:	NAC 837 N. SPRING STREET LOS ANGELES CA 90012
STRCTURAL ENGINEER:	KPFF CONSULTING ENGINEERS 301 N. LAKE AVENUE, SUITE 550 PASADENA CALIFORNIA 91101
MECHANICAL ENGINEER:	POCOCK DESIGN SOLUTIONS, INC 14451 CHAMBERS RD #210 TUSTIN, CA 92780
ELECTRICAL ENGINEER:	TURPIN & RATTAN ENGINEERING, INC 2441 HONOLULU AVE #200 MONTROSE, CA 91020

BUILDING DATA

CONSTRUCTION TYPE

BUILDING 11000 (I FR) SPRINKLERED
CONCRETE FLOOR, ROOF, AND STEEL COLUMNS WITH MASONRY WALLS
FIREPROOFED STEEL ROOF FRAMING - TABLE 601
FIRE RESISTANCE REQUIREMENTS FOR BUILDING ELEMENTS: TABLE 601
*NOTE: FIRE SPRINKLERS DO NOT REDUCE FIRE RATING IF BEING USED FOR AREA OR HEIGHT INCREASE PER CBC TABLE 601 NOTE D

PRIMARY STRUCTURAL FRAME:	1
BEARING WALLS:	EXTERIOR 1 &INTERIOR1
NON-BEARING WALLS AND PARTITIONS:	EXTERIOR SEE CBC TABLE 602
NON-BEARING WALLS AND PARTITIONS:	INTERIOR 0
FLOOR CONSTRUCTION AND SECONDARY MEMBERS:	1
ROOF CONSTRUCTION AND SECONDARY MEMBERS:	1
AUTOMATIC FIRE SPRINKLER THROUGHOUT	

(E) AUTOMATIC FIRE ALARM SYSTEM PER 98-05-109852

OCCUPANCY CLASSIFICATIONS	E-1	S-4
CONSTRUCTION TYPE: II-FR	E-1	S-4

- CONCRETE FLOORS & COLUMNS WITH MASONRY WALLS
- FIRE PROOFED STEEL ROOF FRAMING
- FIRE SPRINKLER GARAGE LEVEL

AREA ANALYSIS

1. ACTUAL EXISTING SQ.FOOTAGE	E-1	S-4
1 ST LEVEL (1ST FLOOR)	-	20,664 S.F.
2 ND LEVEL (1ST FLOOR)	17,910 S.F.	
3 RD LEVEL (2ND FLOOR)	17,910 S.F.	
TOTAL	35,820 S.F.	20,664 S.F

2. ALLOWABLE FLOOR AREA	E-1	S-4
PER TABLE 5B 7 3H	45,200 S.F.	125,000 S.F.
SIDE YARD INCREASE		
MULTI STORY INCREASE (2X)	45,200 S.F.	N/A
SPRINKLER INCREASE (2X)	90,400 S.F.	125,000 S.F.
ALLOWABLE FLOOR AREAS	180,800 S.F.	250,000 S.F.

3. MIXED OCCUPANCY

(S-4) 20,664 / 25,000 + (E-1) 35,820 / 180,800 = .278 = OK
.06 + .196 = .278 = OK

- BUILDING HEIGHT

1)ALLOWABLE NUMBER OF STORIES	2	1
2) ALLOWABLE NUMBER OF STORIES PER TABLE 5B:	4	12 TIERS
3) INCREASE / SPRINKLERS	N/A	
TOTAL ALLOWABLE STORIES:	4	12 TIERS
HEIGHT= OK		

SHEET INDEX

STATEMENT OF GENERAL CONFORMANCE

FOR ARCHITECTS/ENGINEERS WHO UTILIZE PLANS, INCLUDING BUT NOT LIMITED TO SHOP DRAWINGS, PREPARED BY OTHER LICENSNSED DESIGN PROFESSIONALS AND/OR CONSULTANTS (APPLICATION NO. A#03-117998 FILE NO. 13-H13)

☒ THE DRAWINGS OR SHEETS LISTED ON THE COVER
☐ THIS DRAWING, PAGE OF SPECIFICATIONS/CALCULATIONS

HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OR CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. IT HAS BEEN EXAMINED BY ME FOR:

1. DESIGN INTENT AND APPEARS TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS AND THE PROJECT SPECIFICATIONS PREPARED BY ME, AND
2. COORDINATION WITH MY PLANS AND SPECIFICATIONS AND IS ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT.

THE STATEMENT OF GENERAL CONFORMANCE "SHALL NOT BE CONSTRUED AS RELIEVING ME OF MY RIGHTS, DUTIES, AND RESPONSIBILITIES UNDER SECTIONS 17302 AND 81138 OF THE EDUCATION CODE AND SECTIONS 4-336, 4-341, AND 4-344" OF TITLE 24, PART 1 (TITLE 24, PART 1, SECTION 4-317(b))

I FIND ☒ ALL DRAWINGS OR SHEETS LISTED ON THE COVER OR INDEX
THAT: ☐ SHEET
☐ THIS DRAWING OR PAGE

☒ IS/ARE IN GENERAL CONFORMANCE WITH THE PROJECT DESIGN, AND
☒ HAS/HAVE BEEN COORDINATED WITH THE PROJECT PLANS AND SPECIFICATIONS.

SIGNATURE / DATE
ARCHITECT OR ENGINEER DELEGATED TO BE IN GENERAL RESPONSIBLE CHARGE
TIMOTHY A. BALLARD
PRINT NAME
C 21424 — LICENSE NUMBER
08 / 31 / 17 — EXPIRATION DATE

☐ IS/ARE IN GENERAL CONFORMANCE WITH THE PROJECT DESIGN, AND
☐ HAS/HAVE BEEN COORDINATED WITH THE PROJECT PLANS AND SPECIFICATIONS.

SIGNATURE DATE
ARCHITECT OR ENGINEER DELEGATED RESPONSIBILITY FOR THIS PORTION OF THE WORK
PRINT NAME
LICENSE NUMBER EXPIRATION DATE

GENERAL NOTES

1. ALL TESTS SHALL BE PERFORMED BY A LABORATORY CERTIFIED BY THE DIVISION OF THE STATE ARCHITECT EMPLOYED BY THE SCHOOL DISTRICT (OWNER).
2. A DIVISION OF THE STATE ARCHITECT APPROVED CLASS I IN PLANT INSPECTOR AND A DSA APPROVED CLASS 3 PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) SHALL PROVIDE CONTINUOUS INSPECTION FOR THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342 PART-1 TITLE 24, CCR.
3. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR CONSTRUCTION CHANGE DIRECTIVE (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
4. ALL TESTS AND SPECIFICATIONS SHALL CONFORM TO THE LATEST EDITION OF CALIFORNIA CODE OF REGULATIONS, TITLE 24 AND C.B.C. 2016.
5. EACH GENERAL CONTRACTOR SHALL VISIT THE SITE BEFORE BIDDING THIS PROJECT. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND SITE OBSERVATIONS SHALL BE BROUGHT TO THE ARCHITECTS ATTENTION IMMEDIATELY, IN WRITTEN FORM & SHALL TAKE THESE INTO CONSIDERATION IN THE COST OF THE BID. CONTRACTOR SHALL NOTIFY THE ARCHITECT WITH ANY CONDITIONS REQUIRING MODIFICATION BEFORE PROCEEDING WITH THE WORK.
6. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL NEW WORK. SHOP DRAWINGS SHALL BE OF A SCALE WHICH SPECIFIC COMPONENTS CAN BE IDENTIFIED.
7. CONSTRUCTION DOCUMENTS ARE DIAGRAMMATIC. DO NOT SCALE DIMENSIONS OFF THE DRAWINGS. FIELD VERIFY ALL DIMENSIONS. EACH CONTRACTOR SHALL CONSULT WITH CONSTRUCTION MANAGER REGARDING SCHEDULING OF WORK. EACH CONTRACTOR SHALL SUBMIT CONSTRUCTION SCHEDULE TO THE C.M. FOR APPROVAL BEFORE START OF CONSTRUCTION.
9. EACH GENERAL CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES TO PROTECT EXISTING PIPELINES AND UTILITIES THAT ARE TO REMAIN IN SERVICE. EACH CONTRACTOR SHALL VERIFY WITH THE CONSTRUCTION MANAGER THAT THOSE PIPELINES AND UTILITIES THAT ARE TO BE REMOVED, HAVE BEEN DISCONNECTED, SHUT DOWN OR ABANDONED PRIOR TO ATTEMPTING REMOVAL OR DEMOLITION IN A MANNER TO AVOID ANY DISRUPTION OF EXISTING FACILITIES.
10. ALL DAMAGE DONE TO EXISTING CONSTRUCTION AS A RESULT OF DEMOLITION OR INSTALLATION SHALL BE COMPLETELY REPAIRED BY EACH CONTRACTOR AT NO COST TO OWNER. REPAIRED WORK SHALL MATCH EXISTING CONSTRUCTION.
11. PRODUCTS OF DEMOLITION/CONSTRUCTION SHALL BE STORED AND/OR INSTALLED IN A MANNER SUCH THAT NO MATERIALS ARE DAMAGED AND PUBLIC SAFETY IS MAINTAINED.
12. EACH GENERAL CONTRACTOR SHALL THOROUGHLY CLEAN AND SECURE THE AREA OF CONSTRUCTION AFTER EACH DAY OF WORK.
13. EACH GENERAL CONTRACTOR SHALL COORDINATE ALL WORK SHOWN ON THE ARCHITECTS DRAWINGS WITH THE WORK SHOWN ON THE PLUMBING AND ELECTRICAL DRAWINGS. ANY DISCREPANCIES FOUND SHALL BE BROUGHT TO THE ARCHITECTS ATTENTION BY RFI'S (REQUEST FOR INFORMATION) BEFORE ANY NEW WORK IS STARTED
14. SHUT DOWN OF EXISTING AND OPERATING PLUMBING AND ELECTRICAL SYSTEMS OR PORTIONS THEREOF SHALL BE COORDINATED WITH THE CONTRACTOR.
15. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NONCOMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS,CONSTRUCTION CHANGE DOCUMENT (CCD), SHALL BE SUBMITTED TO AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
16. PARKED VEHICLES SHALL NOT OBSTRUCT REQUIRED EXITS.
17. STOCKPILES OF DEBRIS AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER
18. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
19. TRASH AND CONSTRUCTION RELATED DEBRIS MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
20. THE CONTRACTOR SHALL COORDINATE BETWEEN ALL TRADES TO PROVIDE BACKING PLATES FOR ANCHORING & ATTACHMENT OF ALL WALL MOUNTED FIXTURES, CABINETS, SHELVES, ETC.
21. DETAILS ARE REFERENCED FOR CONVENIENCE ONLY. DETAILS & NOTES SHALL APPLY IN ALL SIMILAR CASES, WHETHER OR NOT SPECIFICALLY REFERENCED.
23. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALE. DO NOT SCALE THE DRAWINGS. ALL WORK SHALL CONFORM TO TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR) THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD.
24. AN INSPECTOR WHO IS SPECIALLY QUALIFIED IN MECHANICAL AND ELECTRICAL WORK WILL BE REQUIRED FOR THIS PROJECT.
25. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES
27. ALL STUD DIMENSIONS ARE TO THE FACE OF STUD, UNLESS NOTED OTHERWISE.CONCRETE OR MASONRY WALLS ARE MEASURED TO THE FACE,UNLESS NOTED OTHERWISE.
28. ALL MATTERS OF COLOR,TEXTURE, DESIGN AND INTERPRETATION OF PLANS SHALL BE REFERRED BY THE CONTRACTOR TO THE CONTRACTOR FOR RESOLUTION BY THE ARCHITECT.
30. ALL CONSTRUCTION DOCUMENTS ARE COMPLEMENTARY AND WHAT IS SPECIFIED BY ONE SHALL BE BINDING AS IF SPECIFIED BY ALL. ANY WORK SHOWN OR REFERRED TO ON CONSTRUCTION DOCUMENTS, WHETHER DRAWINGS OR SPECIFICATIONS, SHALL BE PROVIDED AS THOUGH IT WERE SHOWN IN ALL RELATED DOCUMENTS.
31. THE GENERAL CONDITIONS AND OWNER/ CONTRACTOR AGREEMENT SHALL CONTROL THE EXECUTION, CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS.
32. THERMOSTAT LOCATIONS ON MECHANICAL DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL VERIFY ALL THERMOSTAT LOCATIONS WITH ARCHITECT.
33. EACH GENERAL CONTRACTOR SHALL COORDINATE FOR THE INSTALLATION OF ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS, OR OTHER SUPPORT FOR ALL FIXTURES, EQUIPMENT, CABINETRY, FURNISHINGS, AND ALL OTHER ITEMS REQUIRING THE SAME.
34. EACH GENERAL CONTRACTOR SHALL INVESTIGATE AND VERIFY THAT ALL WALL, FLOOR, AND OTHER FINISHES ARE APPLIED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.
35. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY BACKBOARDS, ELECTRICAL OUTLETS, CONDUIT, AND ETC., AS REQUIRED BY THE OWNER'S TELEPHONE COMPANY,TO ACCOMMODATE THEIR INSTALLATION.
36. TELEPHONE AND ELECTRICAL OUTLETS ON THE OPPOSITE SIDES OF COMMON WALLS SHALL BE LOCATED IN SEPARATE STUD CAVITIES. NO BACK-TO-BACK OUTLETS SHALL BE ALLOWED. WHERE SPECIFIC DIMENSIONS CONTRADICT THIS NOTE, THE CONTRACTOR SHALL RELOCATE ONE OUTLET TO THE OPPOSITE SIDE OF THE STUD NEAREST THAT DIMENSION.
37. ALL ELECTRICAL, PHONE, MECHANICAL AND PLUMBING LINES SHALL BE CONCEALED UNLESS OTHERWISE NOTED.
38. EACH GENERAL CONTRACTOR SHALL COORDINATE ALL WORK W/ THE CONSTRUCTION MANAGER TO ASSURE THE CORRECT SEQUENCE METHODS & TIMES OF PERFORMANCE, ARRANGE THE WORK TO IMPOSE THE MINIMUM HARDSHIP ON THE OPERATION & USE OF THE EXISTING CAMPUS.
39. ALL CONSTRUCTION APPARATUS & ACTIVITIES SHALL BE LIMITED TO DESIGNATED AREAS. ALL WORK SHALL BE DONE IN A MANNER WHICH WILL NOT ENDANGER THE USERS OF THE EXISTING CAMPUS.
40. THERE SHALL NOT BE ANY TRESPASSING ON THE ADJOINING PROPERTY. NO MATERIALS SHALL BE STORED ON THE ADJOINING PROPERTY. THE CONSTRUCTION MANAGER & EACH PRIME CONTRACTOR ARE TO INSPECT ALL SIDEWALKS INCLUDING THE ADJOINING PROPERTY PRIOR TO COMMENCING WORK. ALL EXISTING DAMAGE SHALL BE NOTED AND AGREED TO BY ALL PARTIES. ANY DAMAGE TO THESE SIDEWALKS OR ADJOINING PROPERTY DURING THE CONSTRUCTION SHALL BE REPAIRED PRIOR TO COMPLETION.
41. FUELS, OILS, SOLVENTS AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM
42. THE CONTRACTOR SHALL CARE FOR ,AND HAVE CUSTODY & RESPONSIBILITY FOR SAFEGUARDING ALL OF THE OWNERS PROPERTY OF EVERY KIND WHETHER FIXED OR PORTABLE. FURNISH ALL FORMS OF SECURITY & PROTECTION NECESSARY TO PROTECT THE OWNERS PROPERTY REGARDLESS OF CAUSE. EACH CONTRACTOR SHALL REPAIR, REPLACE OR OTHERWISE ACCEPTABLY RESTORE OWNERS PROPERTY UNDER THE CONTRACTORS CARE.
43. ALL MATERIAL USED IN THIS PROJECT SHALL BE NEW AND OF A KIND & QUALITY REQUIRED BY CONSTRUCTION DOCUMENTS.
44. TRENCHES OR EXCAVATIONS 5 FEET OR MORE IN DEPTH INTO WHICH A PERSON IS REQUIRED TO DESCEND. REQUIRE A SEPARATE PERMIT FROM THE STATE OF CALIFORNIA, DIVISION OF INDUSTRIAL SAFETY.

GENERAL DEMOLITION/PATCH & REPAIR NOTES

1. ALL SURFACES DAMAGED OR ALTERED SHALL BE REPAIRED, PATCHED AND/OR RECONSTRUCTED TO MATCH THE ADJACENT SURFACES.
2. ALL EXISTING EQUIPMENT, FIXTURES, ETC. REMOVED BY THE WORK OF THIS CONTRACT ARE THE PROPERTY OF THE CONTRACTOR (UNLESS NOTED OTHERWISE) AND SHALL BE DISPOSED OF BY THE CONTRACTOR AT HIS EXPENSE.
3. "REMOVE" MEANS TO REMOVE THE ITEM COMPLETELY, INCLUDING ALL STRUCTURAL ATTACHMENTS, FRAMES, HARDWARE, ANCHORS, FITTINGS, SUPPORTS, & FOUNDATIONS. CAPPING, PIPING AND CONDUIT BEHIND FINISHED SURFACES. REMOVING WIRING BACK TO THE PANEL AND REPAIRING ALL DAMAGED AREAS.
4. REMOVE ALL ITEMS NOT SHOWN ON THE DEMOLITION PLANS WHICH INTERFERE WITH OR OBSTRUCT THE WORK OF THIS CONTRACT AND ARE NOT NECESSARY TO THE PROPER FUNCTIONING OF THE FACILITY.
5. EXECUTE WORK BY METHODS TO AVOID DAMAGE TO EXISTING ADJACENT WORK TO REMAIN AND WHICH WILL PROVIDE PROPER SURFACES TO RECEIVE PATCHING AND FINISHING.
6. PRODUCTS FOR PATCHING, EXTENDING, AND MATCHING:
   A. PROVIDE SAME PRODUCT OR TYPES OF CONSTRUCTION AS THAT IN EXISTING STRUCTURE, AS NEEDED, TO PATCH, EXTEND OR MATCH EXISTING WORK.
   B. GENERALLY CONTRACT DOCUMENTS WILL NOT DEFINE PRODUCTS OR STANDARDS OR WORKMANSHIP PRESENT IN EXISTING CONSTRUCTION. CONTRACTOR SHALL DETERMINE PRODUCTS BY INSPECTION AND ANY NECESSARY TESTING, AND WORKMANSHIP BY USE OF THE EXISTING AS A SAMPLE OF COMPARISON.
7. PATCH AND EXTEND EXISTING WORK USING SKILLED CRAFTSPERSONS WHO ARE CAPABLE OF MATCHING EXISTING QUALITY OF WORKMANSHIP. QUALITY OF PATCHED OR EXTENDED WORK SHALL NOT BE LESS THAN THAT SPECIFIED FOR NEW WORK.
8. PATCH OR REPLACE ANY PORTION OF AN EXISTING FINISHED SURFACE WHICH IS FOUND TO BE DAMAGED, LIFTED, DISCOLORED, OR SHOWS OTHER IMPERFECTIONS, WITH MATCHING MATERIAL.
   A. PROVIDE ADEQUATE SUPPORT OF SUBSTRATE PRIOR TO PATCHING THE FINISH.
   B. REFINISH PATCHED PORTIONS OF PAINTED OR COATED SURFACES IN A MANNER TO PRODUCE UNIFORM COLOR AND TEXTURE OVER ENTIRE SURFACE.
   C. WHEN EXISTING SURFACE FINISH CANNOT BE MATCHED, REFINISH ENTIRE SURFACE TO NEAREST INTERSECTIONS.
   D. WHEN FINISHED SURFACES ARE CUT IN SUCH A WAY THAT A SMOOTH TRANSITION WITH NEW WORK IS NOT POSSIBLE, TERMINATE EXISTING SURFACE IN NEAT MANNER ALONG A STRAIGHT LINE AT A NATURAL LINE OF DIVISION, AND PROVIDE TRIM APPROPRIATE TO FINISHED SURFACE.
9. MAINTAIN EXISTING UTILITIES TO REMAIN IN SERVICE AND PROTECT THEM AGAINST DAMAGE DURING DEMOLITION OPERATIONS.
10. DURING DEMOLITION, SAFETY PROVISIONS SHALL BE MAINTAINED PER CFC-CHAPTER 11 AND CBC CHAPTER 33.
11. SUITABLE FIRE HOSE, AS REQUIRED BY THE FIRE CHIEF, SHALL BE MAINTAINED AT THE DEMOLITION SITE.
12. DEMOLITION OPERATIONS INVOLVING CUTTING AND WELDING SHALL BE IN ACCORDANCE WITH ARTICLE 49 CFC.
13. COMBUSTIBLE WASTE MATERIAL, TRASH AND RUBBISH SHALL NOT BE BURNED AT THE DEMOLITION SITE, UNLESS APPROVED.
14. WATER SUPPLY, ACCESS ROUTE AND FIRE PROTECTION SYSTEM SHALL BE MAINTAINED DURING DEMOLITION.
15. ALL OPENINGS IN EXISTING WALLS, FLOORS, CEILING AND ROOFS, THAT ARE THE RESULT OF DEMOLITION TO REMOVE EXISTING SYSTEMS/COMPONENTS, ARE TO BE PATCHED AND REPAIRED TO MATCH EXISTING FINISHES.
16. CONTRACTOR TO PATCH AND REPAIR EXISTING WALLS, FLOORS, CEILING AND ROOFS TO MATCH EXISTING FINISHES WHERE CUTTING AND DEMOLITION IS REQUIRED TO INSTALL THE WORK.
17. WHERE MECHANICAL EQUIPMENT IS DEMOLISHED, DUCTWORK MAY BE ABANDONED IN PLACE WHERE IT WILL BE CONCEALED FROM VIEW IN IMPROVEMENT PLANS. IF ABANDONED DUCTWORK CONFLICTS WITH CEILING IMPROVEMENTS, THE DUCTWORK SHALL BE REMOVED.
18. WHERE MECHANICAL EQUIPMENT IS DEMOLISHED, REMOVE ASSOCIATED CONTROLS, ELECTRICAL PANELS, CONDUIT AND WIRING BACK TO THE PANEL. CAP TO CONCEAL BEHIND NEAREST, WALL, FLOOR OR CEILING AS REQUIRED. IDENTIFY REMOVED CIRCUITS ON THE PANEL AS "SPARE".
19. THE WORK OF THIS PROJECT INVOLVES ALTERATIONS OF THE EXISTING BUILDINGS TO ACHEVE THE ARRANGEMENT INDICATED ON THE DRAWINGS. VISIT THE JOB SITE TO DETERMINE THE EXTENT OF WORK REQUIRED BY THE CONSTRUCTION ACTIVITIES. THE ARCHITECTURAL DRAWINGS SHOW THE IMPROVEMENTS. REVISE, REARRANGE, REROUTE OR REMOVE EXISTING CONDUIT, PIPING, WIRING AND RELATED APPURTENANCES AS REQUIRED TO ACCOMMODATE THE CHANGES AND ADDITIONS SHOWN TO PROVIDE CONTINUING SERVICES FOR THOSE EXISTING PORTIONS OF THE PROJECT WHICH ARE TO REMAIN IN OPERATION.
20. ALL PENETRATIONS THROUGH WALLS, FLOORS, CEILINGS AND ROOFS ARE TO BE SEALED WITH ACOUSTIC RESILIENT CAULK OR FIRE-STOPPED PER CBC SECTION 712 WHEN PENETRATION IS THROUGH FIRE-RATED WALL, FLOOR, CEILING OR ROOF.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP# 3 117998
AC FLS SS
Date AUG 07 2017

REVISIONS

CONSTRUCTION DOCUMENTS

GLENDALE UNIFIED SCHOOL DISTRICT
HERBERT HOOVER HIGH SCHOOL- 11000 BUILDING
PROP 39 - HVAC UPGRADE
651 GLENWOOD RD, GLENDALE, CA 91202

REGISTERED ARCHITECT TIMOTHY A. BALLARD No. C 21424 Exp. 8/31/17 STATE OF CALIFORNIA

NAC ARCHITECTURE
nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
P.323.473.8079

NAC NO	161-16043
DRAWN	TC
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DATE	06-28-2017

TITLE PAGE

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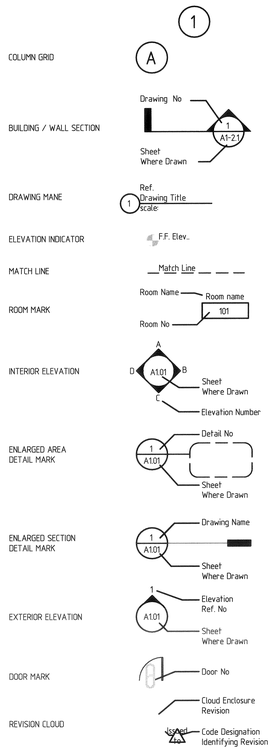
SYMBOLS



ABBREVIATIONS

@	AT	FLEX	FLEXIBLE	PL	PLATE, PROPERTY LINE
A.C.	ASPHALT CONCRETE	FLUOR	FLUORESCENT	PLBG	PLUMBING
A/C	ANCHOR BOLT	FO	FACE OF	PLAM	PLASTIC LAMINATE
ABC	AGGREGATE BASE COURSE	FP	FIREPROOF	PLF	POUNDS PER LINEAL FOOT
AC	ACOUSTICAL CEILING	F.S.	FINISH SLAB	PNL	PANEL
A.D.	ACCESS DOOR	FS	FIELD SURVEY	PO	POWER OPERATED
ADJ	ADJACENT	FR	FIRE RETARDANT	POT	PATH OF TRAVEL
				PR	PAIR
AFF	ABOVE FINISH FLOOR	FRP	FIBER REINF PLASTIC	PSF	POUNDS PER SQUARE FOOT
AGG	AGGREGATE	FT	FOOT, FEET	PSI	POUNDS PER SQUARE INCH
ALT	ALTERNATE	FTG	FOOTING	PT	POINT, PAINT
ALUM	ALUMINUM	FUR	FURREDING)	PTD	PAPER TOWEL DISPENSER
ANCH	ANCHOR, ANCHORAGE	FUT	FUTURE	PTR	PAPER TOWEL RECEPTOR
ANOD	ANODIZED			PVC	POLYVINYL CHLORIDE
		GA	GAGE (GAUGE)	PVMT	PAVEMENT
BD	BOARD	GALV	GALVANIZED	PWD	PLYWOOD
BFF	BELOW FINISH FLOOR	GC	GENERAL CONTRACTIOR)		
BLDG	BUILDING	GD	GRADE	QTR	QUARTER
BLK(G)	BLOCK(ING)	GL	GLAZING	QTY	QUANTITY
BM	BENCH MARK	GWB	GYPSUM WALLBOARD		
BO	BOTTOM OF	GYP	GYPSUM	R	RECESSED
BOT	BOTTOM			(R)	RADIUS, RISER, ROUND
		HT)	HEIGHT	RA	RETURN AIR
BRG	BEARING	HB	HOSE BIBB	RB	RESILIENT BASE
BSMT	BASEMENT	HC	HOLLOW CORE	RCP	REFLECTED CEILING PLAN
BUR	BUILT UP ROOFING	HDBD	HARDBOARD	RD	ROOF DRAIN
		HD	HEAVY DUTY	REIF)	REFERENCE
C	CHANNEL	HDWD	HARDWOOD	RELO	RELOCATION
C/C	CENTER TO CENTER	HDWR	HARDWARE	REPL	REPLACE
CAB	CABINET	HM	HOLLOW METAL	RES	RESILIENT
CB	CHALK BOARD, CATCH BASIN	HOR	HORIZONTAL	REV	REVISION(S),REVISED
CEM	CEMENT	HP	HIGH POINT	RF	RIGID FIBERGLASS
CG	CORNER GUARD	HR	HOUR	RFG	ROOFING
CI	CAST IRON	HVAC	HEATING/VENTILATING/	RH	RIGHT HAND
			AIR CONDITIONING	RM	ROOM
CIP	CAST IN PLACE	HW	HOT WATER	RO	ROUGH OPENING
CJ	CONTROL JOINT			ROW	RIGHT OF WAY
CL.CLK	CLOCK	ID	INSIDE DIAMETER	REQD	REQUIRED
CLG	CEILING, CHAIN LINK GATE	IE	INVERT ELEVATION	RWL	RAINWATER LEADER
CLR	CLEAR(ANCE)	IN	INCHES)		
CMP	CORRUGATED METAL PIPE	INCL	INCLUDING	S	SEALED, SOUTH
CMTS	COMMENTS	INSUL	INSULATION	(S)	SURFACE MOUNTED
		INT	INTERIOR	SC	SOLID CORE
CMU	CONCRETE MASONRY UNIT			SCHED	SCHEDULE
CO	CLEAN OUT	JC	JANITOR'S CLOSET	SECT	SECTION
COL	COLUMN	JT	JOINT	SD	STORM DRAIN
COMB	COMBINATION			SDG	SIDING
CONC	CONCRETE	KD	KNOCKED DOWN	SF	SQUARE FEET
CONN	CONNECTION	KP	KICK PLATE	SHT	SHEET
CONST	CONSTRUCTION			SHWR	SHOWER
		L	LENGTH LONG	SIM	SIMILAR
CONT	CONTINUOUS OR CONTINUE	LAB	LABORATORY	SM	SHEET METAL
CORR	CORRIDOR, CORRUGATED	LAM	LAMINATE	SMS	SHEET METAL SCREWS
CPT	CARPET	LAV	LAVATORY	SP	SOUNDPROOF
CSK	COUNTERSINK	LF	LINEAL FEET	SPECS	SPECIFICATIONS
CT	CERAMIC TILE	LH	LEFT HAND	SPKR	SPEAKER
CU FT	CUBIC FEET	LL	LIVE LOAD	SPL	SPECIAL
CW	COLD WATER	LLH	LONG LEG HORIZONTAL	SQ	SQUARE
		LLV	LONG LEG VERTICAL	SS	SERVICE SINK
D	DEPTH	LP	LOW POINT	S.S.	STAINLESS STEEL
DEMO	DEMOLISH, DEMOLITION	LTWT	LIGHT WEIGHT	ST	STREET
DF	DRINKING FOUNTAIN	LVR	LOUVER	STC	SOUND TRANSMISSION
DG	DECOMPOSED GRANITE				COEFFICIENT
DIA	DIAMETER	MAS	MASONRY	STD	STANDARD
DIAG	DIAGONAL	MAX	MAXIMUM	STL	STEEL
DIM	DIMENSION	MATL	MATERIAL	STOR	STORAGE
		MB	MARKER BOARD	STRUC	STRUCTURAL
DISP	DISPENSER	MED	MEDIUM	SUSP	SUSPENDED
DN	DOWN	MECH	MECHANICAL	SV	SEAMLESS VINYL
DO	DITTO	MET,MTL	METAL	SW	SWITCH
DP	DAMPPROOFING	MEZZ	MEZZANINE	SWR	SEWER
DR	DOOR	MNFR	MANUFACTURER	SYM	SYMMETRY(ICAL)
DS	DOWNSPOUT	MH	MAN HOLE		
DTL	DETAIL	MIN	MINIMUM	T	THICKNESS
		MISC	MISCELLANEOUS	TD	TRENCH DRAIN
DWG	DRAWING	MO	MASONRY OPENING	TB	TACK BOARD
DWC	DRYWALL CHANNEL	MOD	MODULAR	TEL	TELEPHONE
		MOV	MOVABLE	TEMP	TEMPERATURE,
(E)	EXISTING	MTD	MOUNTED		TEMPORARY
E	EAST	MWP	METAL WALL PANEL	THK	THICKNESS
EA	EACH			TO	TOP OF
EDF	ELECTRIC			TOC	TOP OF CONCRETE
EF	EACH FACE	(N)	NEW	TOIL	TOILET
EJ	EXPANSION JOINT	N	NORTH	TOP	TOP OF PARAPET
ELEC	ELECTRICIAL	NA	NOT APPLICABLE	TOS	TOP OF STEEL
ELAST		NIC	NOT IN CONTRACT	TOW	TOP OF WALL
ELEV	ELEVATION, ELEVATOR	NOM	NOMINAL	TPD	TOILET PAPER DISPENSER
EMER	EMERGENCY	NRC	NOISE REDUCTION	TYP	TYPICAL
EP	EPOXY PAINT		COEFFICIENTS		
EPDM	ETHYLENE PROPYLENE	NTS	NOT TO SCALE	U	URINAL
EQ	EQUAL	NO	NUMBER	UG	UNDERGROUND
EQUIP	EQUIPMENT			UL	UNDERWRITERS LABORATORY
ES	EXPOSED STRUCTURE	OA	OVERALL	UNF	UNFINISHED
		OC	ON CENTER(S)	UNO	UNLESS NOTED OTHERWISE
EST	ESTIMATE	OD	OUTSIDE DIAMETER	VCT	VINYL COMPOSITION TILE
EW	EACH WAY	OFF	OFFICE	VERT	VERTICAL
EWC	ELECTRICAL WATER COOLER	OH	OVERHEAD, OPPOSITE HAND	VNR	VENEER
EXC	EXCAVATIE)(ION)	OPG	OPENING	VPL	VENEER PLASTER
EXH	EXHAUST	OPP	OPPOSITE	VWC	VINYL WALL COVERING
EXIST	EXISTING	ORD	OVERFLOW ROOF DRAIN		
EXP	EXPANSION	OS	OUTSIDE	W	WIDTH
EXT	EXTERIOR			W/	WITH
		P,PNT	PIANTIED)	W/O	WITHOUT
F	FAHRENHEIT	PAR	PARALLEL	W/W	WALL TO WALL
FA	FIRE ALARM	PART	PARTITION	WC	WATER CLOSET
FAB	FABRICATE	PART BD	PARTICLE BOARD	WD	WOOD
FD	FLOOR DRAIN	PC	PIECE	WG	WIRE GLASS
FDN	FOUNDATION	PCC	PRECAST CONCRETE	WDW	WINDOW
FE	FIRE EXTINGUISHER	PCF	POUNDS PER CUBIC FOOT	WH	WALL HUNG, WATER HEATER
FEC	FIRE EXTINGUISHER CABINET	PERF	PERFORATE(D)	WM	WIRE MESH
		PERIM	PERIMETER	WP	WATERPROOFING
FF	FINISH FLOOR	PERP	PERPENDICULAR	WR	WATER REPELLENT
F.G.	FINISH GRADE	PH	PANIC HARDWARE	WS	WEATHER-STRIP
FHC	FIRE HOSE CABINET	PREFAB	PREFABRICATE(D)	WSCT	WAINSCOT
FHR	FIRE HOSE RACK	P.J.	PANEL JOINT	WT	WEIGHT
FIN	FINISHED)	P.JP	PARTIAL-JOINT	WWF	WELDED WIRE FABRIC
F.J.	FALSE JOINT		PENETRATION		
FLA	FLASHING			YD	YARD

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP# 3 117998
AC FLS SS
Date AUG 17 2017

REVISIONS

CONSTRUCTION DOCUMENTS

GLENDALE UNIFIED SCHOOL DISTRICT

HERBERT HOOVER HIGH SCHOOL- HVAC UPGRADE

651 GLENWOOD RD.
GLENDALE, CA 91202

REGISTERED ARCHITECT
TIMOTHY A. BALLARD
No. C 21404
Exp. 8/31/17
STATE OF CALIFORNIA

NAC ARCHITECTURE
nacarchitecture.com
837 NORTH SPRING STREET,
THIRD FLOOR
LOS ANGELES CA 90012
P.323.475.4075

NAC NO	161-16043
DRAWN	TC
CHECKED	DB
DATE	06-28-2017

SYMBOLS AND ABBREVIATIONS

G0.02

KEYNOTES

KEY	TEXT
S1	(E) PLANTING AREA
S5	(E) CONCRETE PAVING
S6	(E) CONCRETE PAVING
S8	(E) ASPHALT PAVING
S10	(E) CONCRETE RAMP
S11	(E) CONCRETE STAIRS
S17	(E) CURB CUT
S18	(E) PLANTING AREA
S19	(E) CONCRETE RETAINING WALL

KEY	TEXT
S28	(E) STORAGE CONTAINER
S29	(E) PLANTER
S30	(E) ORNAMENTAL METAL FENCE
S31	(E) CHAIN LINK FENCE
S32	(E) CONCRETE STAIRS
S33	(E) CONCRETE RAMP
S34	(E) LUNCH SHELTER
S35	(E) COLUMN
S36	(E) GATE

KEY	TEXT
S37	(E) ASPHALT BERM
S38	(E) TRASH ENCLOSURE
S39	(E) ASPHALT PAVING
S40	(E) HIGH IMPACT SURFACE *PLAY STRUCTURE
S42	(E) CHAINLINK FENCE
S43	PROPERTY LINE - TYP.

GENERAL SITE NOTES

A. REFER TO STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR ADDITIONAL SCOPE OF WORK NOT NOTED ON ARCHITECTURAL DRAWINGS.

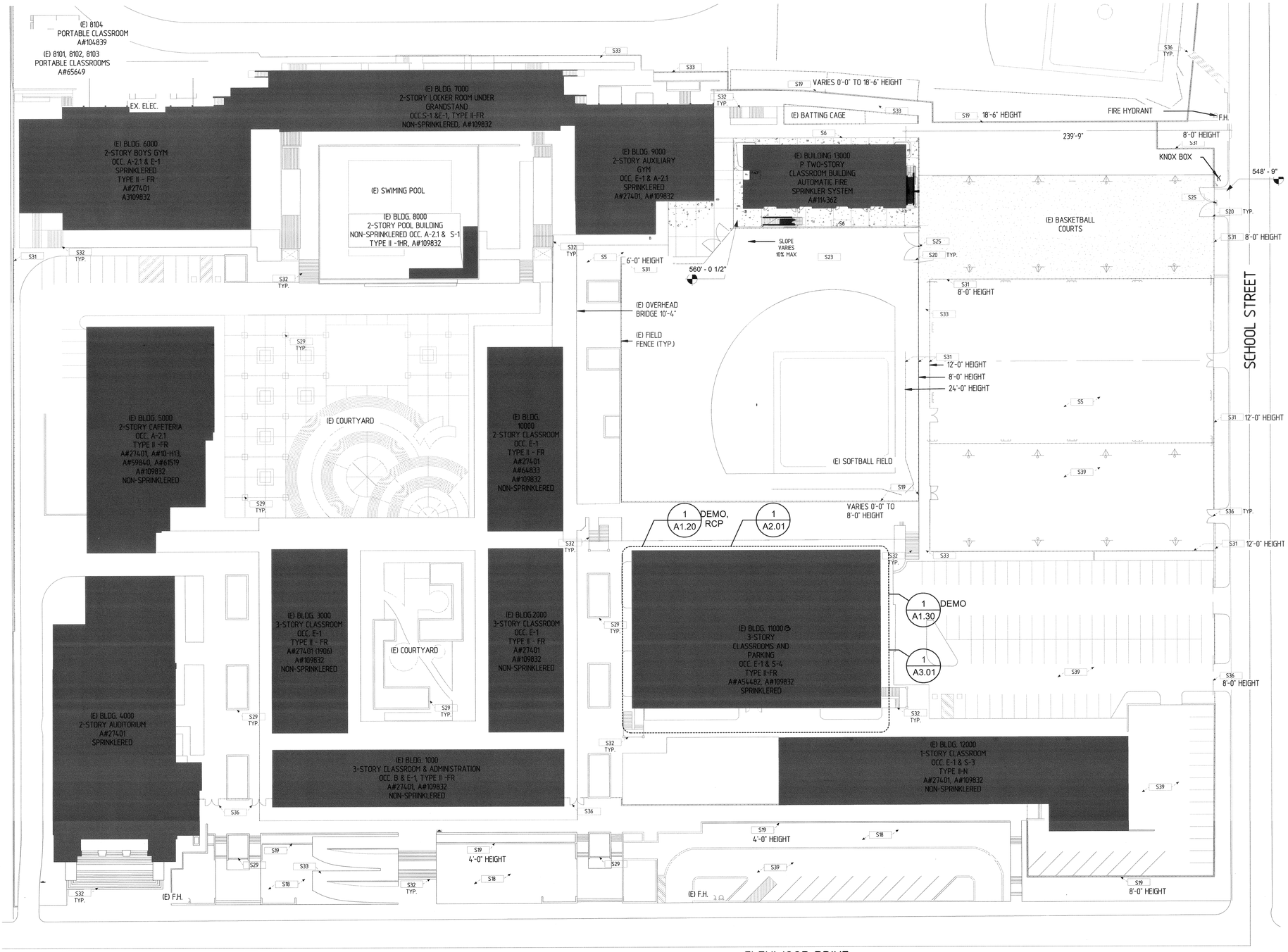
B. GENERAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL AND ELECTRICAL SUB-CONTRACTORS PRIOR TO PERFORMING WORK SHOWN IN CONTRACT DOCUMENTS.

C. GENERAL CONTRACTOR SHALL VERIFY ALL (E) SITE CONDITIONS PRIOR TO COMMENCMENT OF WORK.

D. GENERAL CONTRACTOR SHALL CLEAN AREA OF WORK DAILY AND PROVIDE BARRICADES AT ALL AREAS OF CONSTRUCTION.

DSA PROJECT STATUS

A#	Status	Date
7678	Certified	02.26.1953
12780	Unknown	
27401	Certified	07.09.1969
45416	Certified	09.17.1986
50260	Certified	03.04.1998
54482	Certified	03.02.1995
58640	Void	04.30.1998
59840	Certified	06.30.1998
61519	#3	12.08.1998
61533	Certified	09.18.1997
61534	Certified	04.03.1998
62903	Certified	04.03.1998
64176	Certified	04.03.1998
64231	Certified	05.13.1998
64833	Certified	05.06.1998
65131	Certified	01.12.1998
65596	Certified	09.16.1998
65649	Certified	01.08.1999
65725	Certified	06.30.1999
104939	Certified	06.09.2003
109832	Certified	01.09.2013
114627	Certified	08.28.2012
115013	Certified	05.14.2014
116253	Certified	08.28.2015



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

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HERBERT HOOVER HIGH SCHOOL- HVAC UPGRADE
651 GLENWOOD RD.
GLENDALE CA 91202

REGISTERED ARCHITECT ANTHONY A. KAZANJIAN No. C 21424 Exp. 8/31/17 STATE OF CALIFORNIA

NAC ARCHITECTURE
nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
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KEY SITE PLAN/ CODE PLAN

A1.01

(E) GYP CEILING TO REMAIN

(E) OPERABLE PARTITION WALL TO REMAIN

WALKWAY

CLASSROOM 11224

KITCHENETTE N.I.C. N.I.C.

WOMENS N.I.C.

MENS N.I.C.

CLASSROOM 11220

CLASSROOM 11219

CLASSROOM 11218

CLASSROOM 11217

WORKROOM 11216

CLASSROOM 11225

CLASSROOM 11226

CLASSROOM 11215

CLASSROOM 11214

OPEN TO SKY

WALKWAY

WORKROOM 11227

CLASSROOM 11228

CLASSROOM 11229

CLASSROOM 11213

CLASSROOM 11212

WALKWAY

(E) GYP CEILING TO REMAIN

STORAGE 11205 N.I.C.

JANITORS 11206 N.I.C.

CLASSROOM 11201

CLASSROOM 11202

GIRLS 11204 N.I.C.

CLASSROOM 11208

WORKROOM 11207 N.I.C.

BOYS 11203 N.I.C.

ELEVATOR

CLASSROOM 11209

CLASSROOM 11210

WORKROOM 11211

(E) GYP CEILING TO REMAIN

WALKWAY

1 SECOND FLOOR REFLECTED CEILING DEMO PLAN

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

N

NOTES

1.SEE MECHANICAL DRAWING MD1.01 FOR THE REMOVAL OF EXISTING FAN COIL UNITS AND ASSOCIATED ATTACHMENTS

2. CONTRACTOR TO PROVIDE MINIMUM 15 CEILING TILES PER ROOM TO ACCOUNT FOR DAMAGED TILES. TILES TO MATCH EXISTING ADJACENT CEILING TILES.

3. CONTRACTOR TO DUST, CLEAN AND REPAIR CEILING GRID AS NECESSARY AFTER INSTALLATION IS COMPLETE.

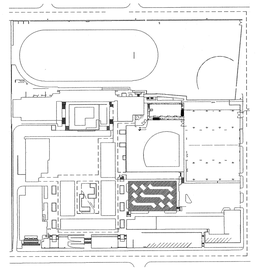
4. CONTRACTOR TO MAKE SURE ALL LIGHT FIXTURE LENSES ARE SECURELY ATTACHED TO GRID BEFORE COMPLETION OF PROJECT.

5. CONTRACTOR TO PROTECT EXISTING CEILING GRID AND ATTACHMENTS

6. AT (E) FAN COILS TO BE REMOVED, (E) UNISTRUT/ EQ. CARRIER TO REMAIN, PROTECT IN PLACE.

LEGEND

- (E) FAN COIL TO BE REMOVED
- (E) LIGHTS TO REMAIN
- (E) REGISTERS TO REMAIN
- (E) SPRINKLERS TO REMAIN
- REMOVE (E) CEILING TILE
- (E) 1 HR RATED WALL



KEY PLAN

SCALE: NTS

N

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GLENDALE UNIFIED SCHOOL DISTRICT

HERBERT HOOVER HIGH SCHOOL- 11000 BUILDING

PROP 39 - HVAC UPGRADE

651 GLENWOOD RD, GLENDALE, CA 91202

REGISTERED ARCHITECT TIMOTHY A. BALLANTYNE No. C 21424 Exp. 8/31/17 STATE OF CALIFORNIA

NAC ARCHITECTURE
nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
P 323.475.8075

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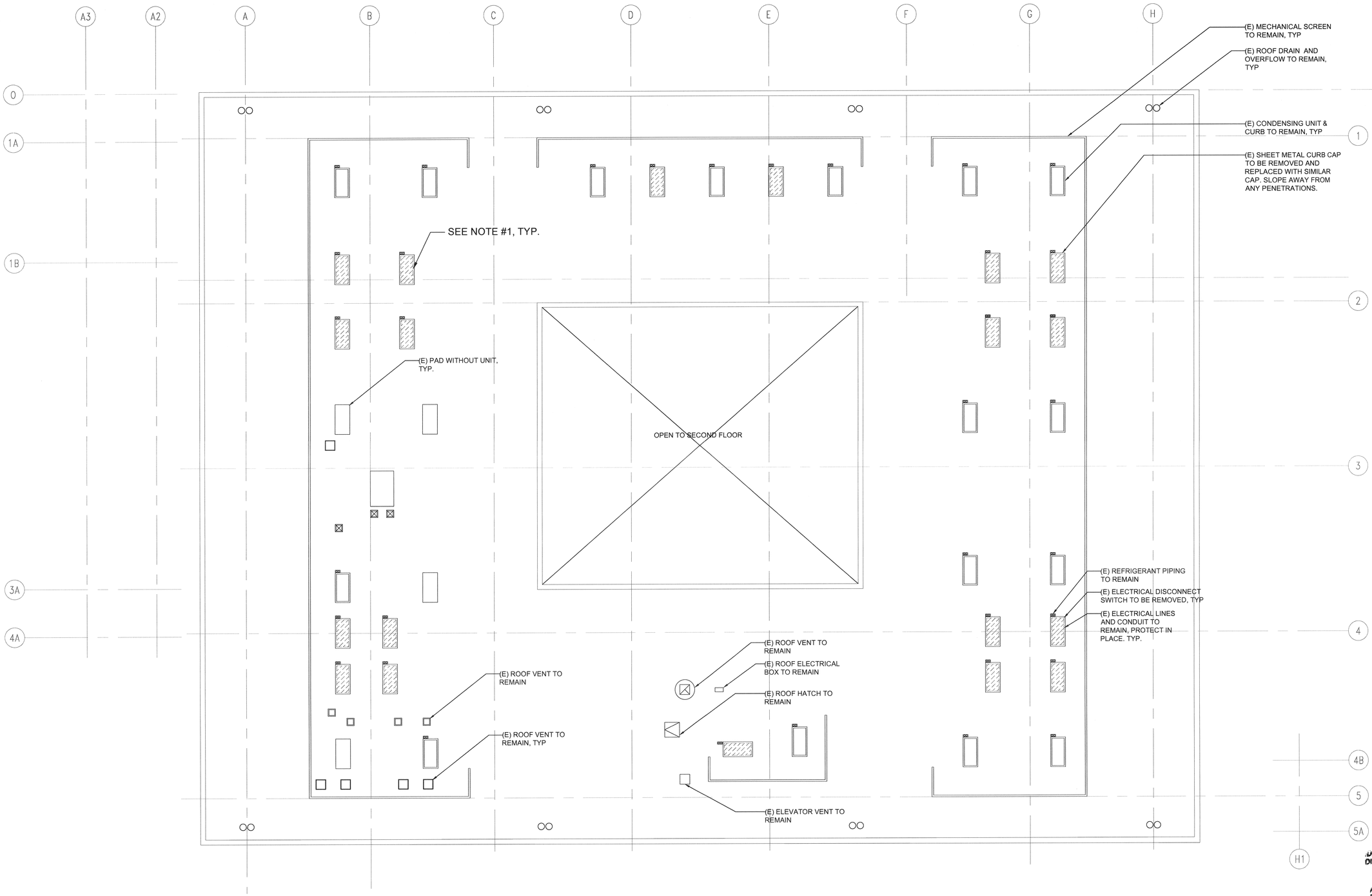
SECOND FLOOR REFLECTED CEILING DEMO PLAN

A1.20



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

N

NOTES

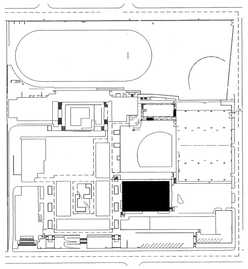
1. SEE MECHANICAL MD 2.01 FOR HEAT PUMP UNITS TO BE REMOVED. PATCH AND REPAIR SURFACES AFTER REMOVAL OF EXISTING UNITS AND ITS ASSOCIATED UTILITIES AND ATTACHMENTS.

2.CONTRACTOR TO COORDINATE REMOVAL & INSTALLATION OF (E) UNITS, UTILITIES, AND EQUIPMENT WITH ROOFING MANUFACTURER AND (E) ROOFING WARRANTY REQUIREMENTS IN ORDER TO PRESERVE WARRANTIES.

LEGEND

(E) HEAT PUMPS TO BE REMOVED

(E) MECHANICAL EQUIPMENT TO REMAIN PROTECT IN PLACE



KEY PLAN
SCALE: NTS

N

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HERBERT HOOVER HIGH SCHOOL- 11000 BUILDING

PROP 39 - HVAC UPGRADE

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REGISTERED ARCHITECT TIMOTHY A. BALLARD No. C 21424 Exp. 8/31/17 STATE OF CALIFORNIA

NAC ARCHITECTURE
nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
P 323.475.3075

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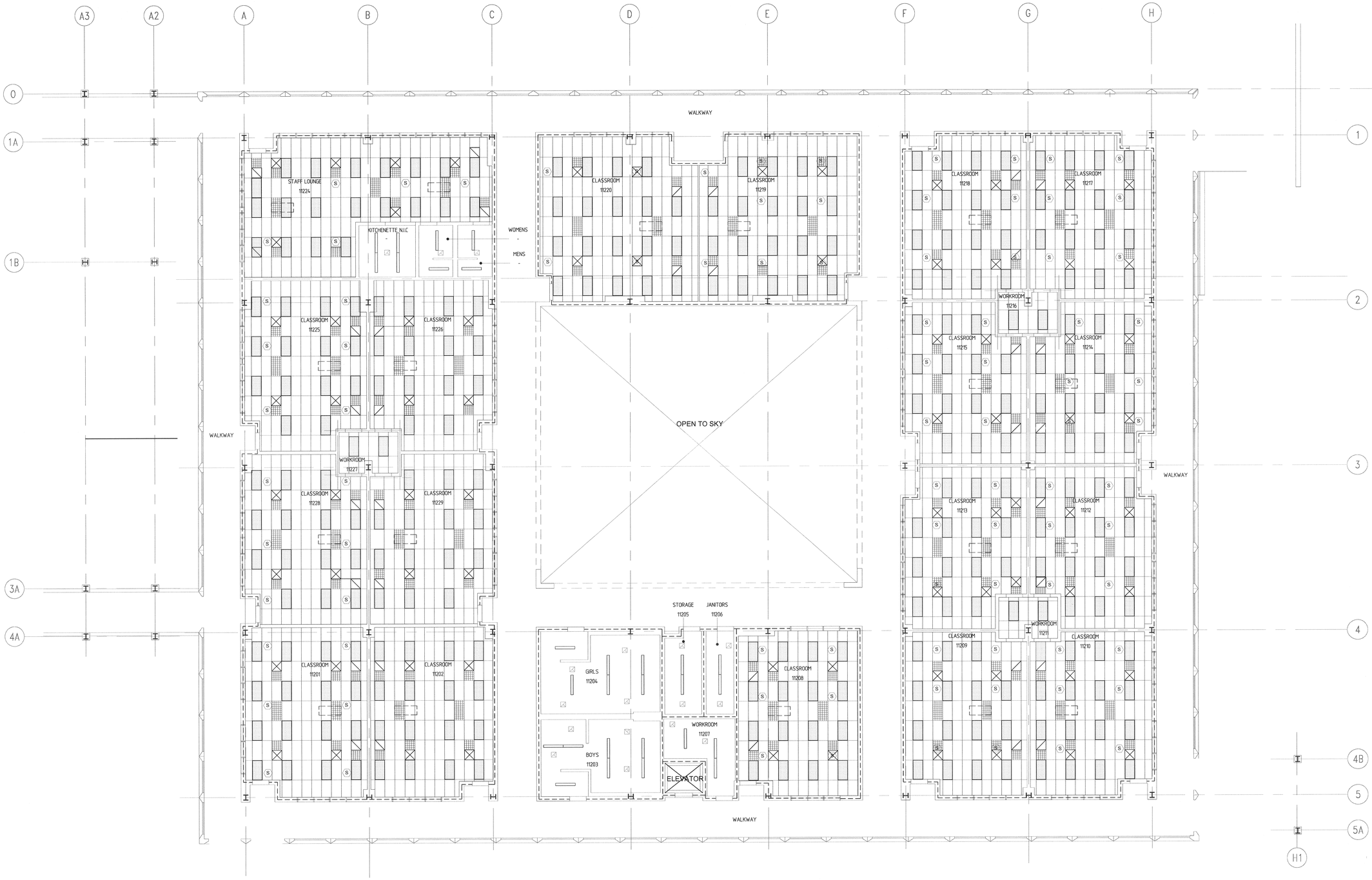
ROOF DEMO PLAN

A1.30

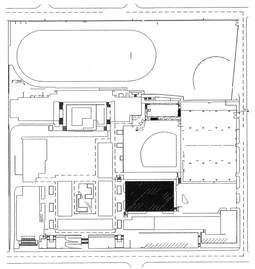


1 REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"

N

LEGEND

	REGISTERS
	(E) LIGHTS TO REMAIN
	FAIN COIL, SEE M1.01
S	(E) SPRINKLER HEADS TO REMAIN
	1-HR RATED WALL
	2X2 ACOUSTIC CEILING TILE @ GRILL LOCATIONS PROVIDE GRILL CEILING DIVIDER AT EACH GRILL, TYP
	4X2 CEILING TILE TO MATCH ADJACENT EXISTING



KEY PLAN
SCALE: NTS

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PROP 39 - HVAC UPGRADE

651 GLENWOOD RD, GLENDALE, CA 91202

REGISTERED ARCHITECT
TIMOTHY A. BALLARD
No. C 31424
Exp. 8/31/17
STATE OF CALIFORNIA

NAC ARCHITECTURE
nacarchitecture.com
837 NORTH SPRING STREET,
THIRD FLOOR
LOS ANGELES CA 90012
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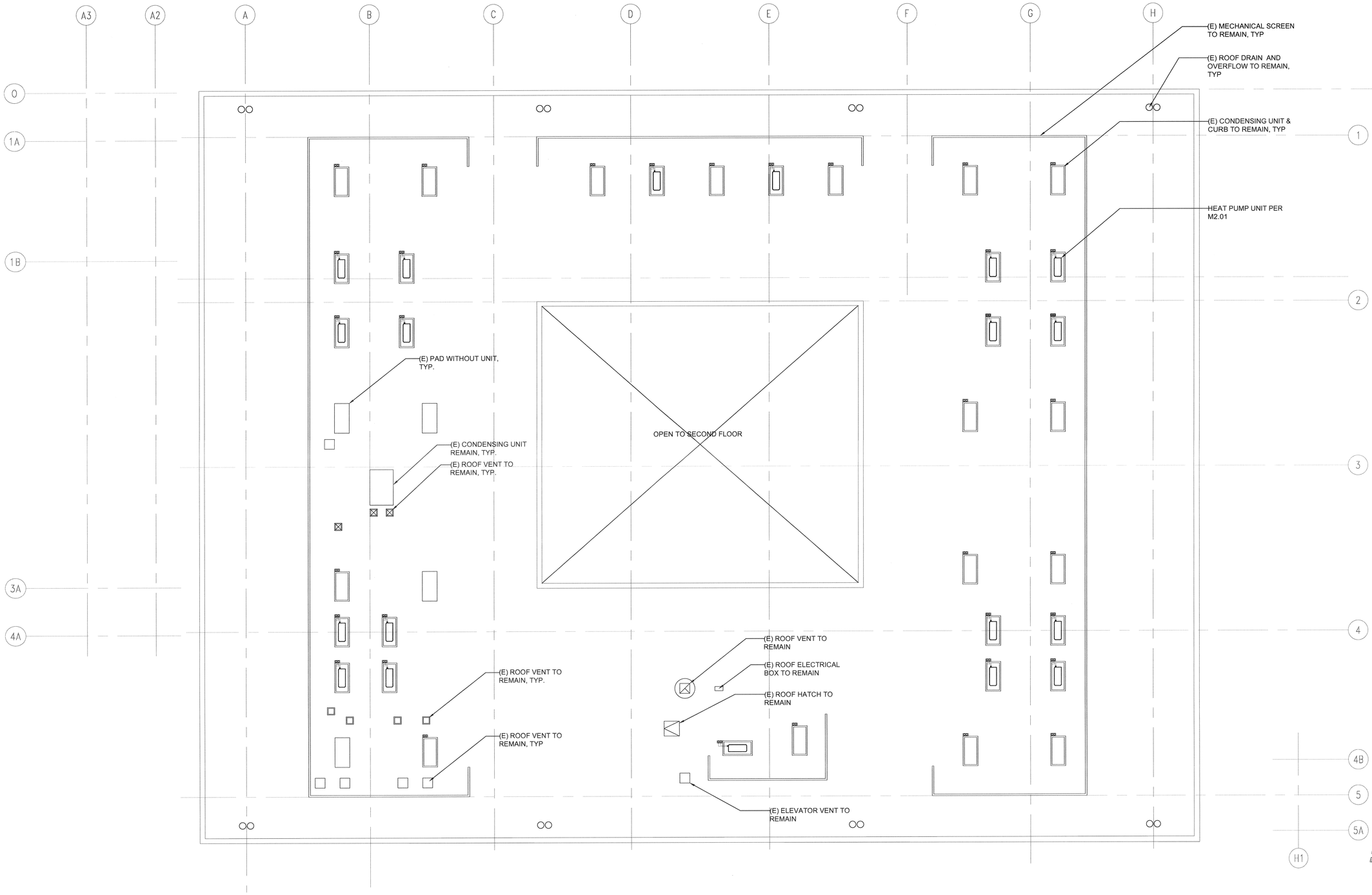
2ND FLOOR
REFLECTED CEILING
PLAN

A2.01



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

N

LEGEND

HEAT PUMP UNIT

(E) MECHANICAL EQUIPMENT TO REMAIN

NOTES

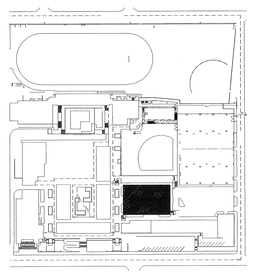
A. GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AT ROOF WHERE WORK WILL OCCUR PRIOR TO STARTING ANY NEW CONSTRUCTION. CONTACT THE ARCHITECT IF ANY DISCREPANCIES OR UNFORESEEN CONDITIONS OCCUR. ALSO, PRIOR TO, AND DURING ANY DEMOLITION, THE GENERAL CONTRACTOR SHALL VERIFY AND MAINTIAN THE BUILDNG'S STRUCTURAL INTEGRITY.

B. GENERAL CONTRACTOR SHALL COORDINATE MECHANICAL AND ELECTRICAL SUBCONTRACTORS FOR THE INSTALLATION OF (N) HVAC ROOFTOP UNITS.

C. GENERAL CONTRACTOR SHALL LOCATE AND VERIFY ALL (E) VENTS AND EQUIPMENT TO REMAIN, AND SHALL PROTECT DURING CONSTRUCTION.

D. CONTRACTOR TO PROTECT IN PLACE FIRE SPRINKLER SYSTEM.

E. GENERAL CONTRACTOR SHALL FIELD VERIFY LOCATION AND DIMENSIONS OF ALL (E) ROOF CURBS TO REMAIN



KEY PLAN
SCALE: NTS

N

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NAC ARCHITECTURE
nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
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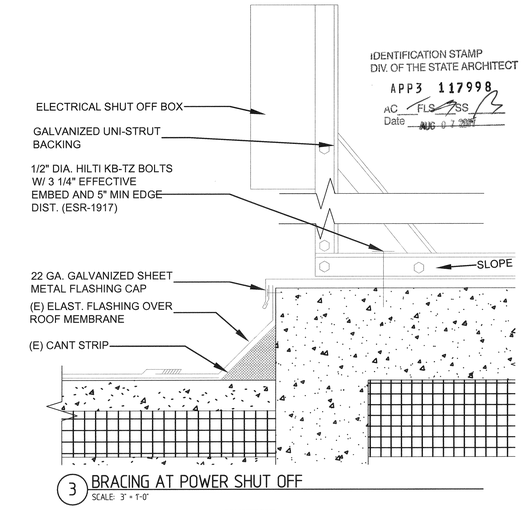
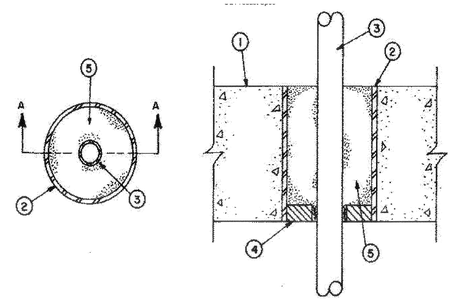
ROOF PLAN

A3.01



3 BRACING AT POWER SHUT OFF
SCALE: 3" = 1'-0"



Section A-A

1. **Floor or Wall Assembly —** Min 8 in. thick reinforced normal weight (140-155 pcf) concrete.

2. **Metallic Sleeve —** Nom 6 in. diam Schedule 40 (or heavier) steel pipe cast or grouted into floor or wall assembly, flush with floor or wall surfaces.

3. **Metallic Pipe —** Nom 1-1/4 in. diam rigid galv steel conduit Schedule 5 (or heavier) steel pipe, centered in sleeve and rigidly supported on both sides of through opening.

4. **Forming Materials —** Used as a form and sealant to prevent leakage of the fill materials when in a liquid state.

A. **Forming Material* —** Min 1 in. thick boards friction-fitted into annular space between through-penetrant and periphery of opening. Forming material to be flush with bottom surface of floor or both surfaces of wall.

xml/document.php?id=XHEZ.C-BJ-1005

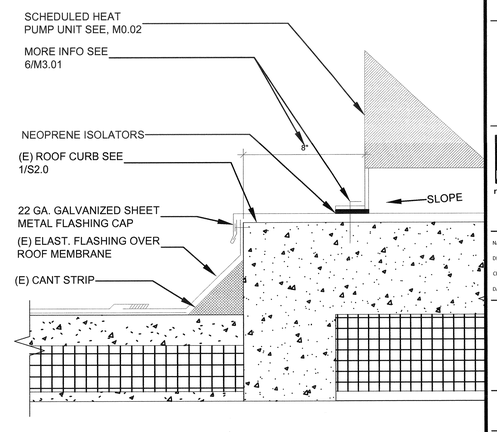
UL Product Spec

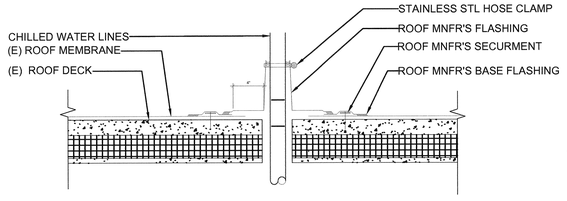
UNIFRAX I L L C — Type LD

B. **Packing Material —** Loose alumina silica fiber or strips of alumina silica fiber blanket packed between form board and conduit or pipe and between form board and sleeve to prevent leakage of liquid fill material.

5. **Fill, Void or Cavity Material* —** Min 7 in. thickness of silicone material installed as described in the manufacturer's application instructions to fill the remaining void in the opening. Density 17 pcf min, 20 pcf max.
DOW CORNING TORAY SILICONE CO LTD — Type SE 1900

2 WALL PENETRATION DETAIL
SCALE: 1 1/2" = 1'-0"





4 ROOF PIPE PENETRATION DETAIL
SCALE: 1 1/2" = 1'-0"

1 SHEET METAL CAP @ ROOF UNIT PADS

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501 GLENWOOD RD.
GLENDALE, CA 91202

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NAC ARCHITECTURE
nacarchitecture.com
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LOS ANGELES CA 90012
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DETAILS

A4.01

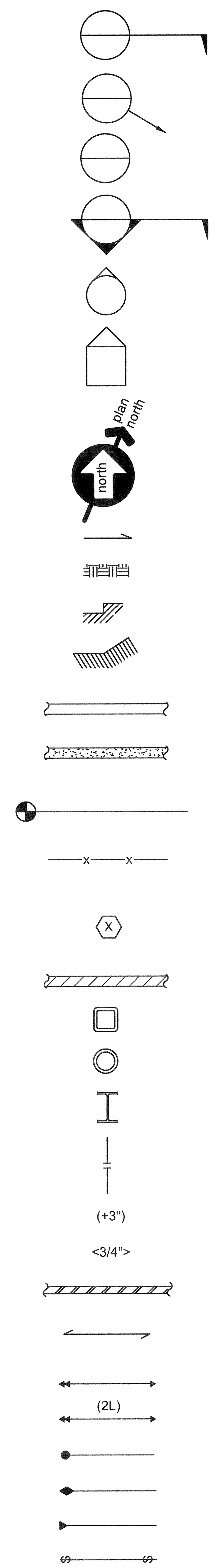
ABBREVIATIONS

AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
ADDL	ADDITIONAL
ADJ	ADJACENT
AESS	ARCHITECTURAL EXPOSED STRUCTURAL STEEL
AGGR	AGGREGATE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE
ALUM	ALUMINUM
ANCH	ANCHOR
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APA	AMERICAN PLYWOOD ASSOCIATION
APPVD	APPROVED
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL; ARCHITECT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWPA	AMERICAN WOOD PRESERVERS ASSOCIATION
AWS	AMERICAN WELDING SOCIETY
AITC	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
&	AND
@	AT
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BN	BOUNDARY NAIL
BNDRY	BOUNDARY
BOT OR	BOTTOM
BRC	BRACE
BRG	BEARING
BT	BENT
BTWN	BETWEEN
CANT	CANTILEVER
CAM OR	CAMBER
CC	CENTER TO CENTER
CRFM	CRUCIFORM
CG	CENTER OF GRAVITY
CIP	CAST-IN-PLACE
CJ	CONSTRUCTION JOINT; CONTROL JOINT
CL	CENTER LINE
CLR	CLEARANCE; CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMP	COMPRESSION
CONC	CONCRETE
CONN	CONNECTION; CONNECT
CONSTR	CONSTRUCTION
CONT	CONTINUE; CONTINUOUS
CONTR	CONTRACTOR
CJP	COMPLETE JOINT PENETRATION WELD
CTR	CENTER
CTSK	COUNTERSINK; COUNTERSUNK
CU FT	CUBIC FOOT
d	PENNY (NAIL OR BAR DIA)
DBL	DOUBLE
DEPT	DEPARTMENT
DET	DETAIL
DF	DOUGLAS FIR/LARCH
DIA OR Ø	DIAMETER
DIAG	DIAGONAL
DIAPH	DIAPHRAGM
DIM	DIMENSION
DN	DOWN
DO	DITTO (REPEAT)
DWG	DRAWING
DWL	DOWEL
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMBED	EMBEDMENT
EN	EDGE NAIL
ENGR	ENGINEER
EQ	EQUAL OR EQUIVALENT
EQUIP	EQUIPMENT
ES	EACH SIDE
ETC	ET CETERA
EW	EACH WAY
EXIST or (E)	EXISTING
EXT	EXTERIOR
FDN	FOUNDATION
FF	FAR FACE
FF	FINISHED FLOOR
FIN	FINISH
FJ	FLOOR JOIST
FL	FLOOR LINE
FLG	FLANGE
FLR	FLOOR
FN	FIELD NAIL
FOC	FACE OF CONCRETE
FOM	FACE OF MASONARY
FOS	FACE OF STUD
FOW	FACE OF WALL
FP	FULL PENETRATION; FIRE PROOFING
FRMG	FRAMING
FS	FULL SIZE; FAR SIDE
FT	FOOT; FEET
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GLB	GLUED LAMINATED BEAM
GR	GRADE
GRND	GROUND
H or HORIZ	HORIZONTAL
HDR	HEADER
HGR	HANGER
HGT	HEIGHT
HOSP	HOSPITAL
HP	HIGH POINT
HS	HIGH STRENGTH
HSH	HORIZONTALLY SLOTTED HOLES
HT	HEIGHT
HR	HARD ROCK
ID	INSIDE DIAMETER
IF	INSIDE FACE
I-JST	I-JOIST
IN	INCH
INCL	INCLUDE
INFO	INFORMATION
INSP	INSPECTION
INT	INTERIOR
JST	JOIST
JT	JOINT
K	KIPS
KSI	KIPS PER SQUARE INCH
LAB	LABORATORY
LB(S) OR #	POUND(S)
LF	LINEAL FOOT
LIN	LINEAL; LINEAR
LLBB	LONG LEGS BACK-TO-BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LP	LOW POINT
LSL	LONG SLOTTED HOLES
LT WT	LIGHTWEIGHT
LVL	LEVEL
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MC	MISCELLANEOUS CHANNEL SHAPE
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM; MINUTE
MISC	MISCELLANEOUS
(N)	NEW
N	NORTH
NF	NEAR FACE
NIC	NOT IN CONTRACT
NORM	NORMAL
NO or #	NUMBER
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
ORIG	ORIGINAL
OSB	ORIENTED STRAND BOARD
PARA OR //	PARALLEL
PC	PRECAST; PIECE
PERP	PERPENDICULAR
PI	PLYWOOD INDEX
PL	PLATE
PL	PROPERTY LINE
PLF	POUNDS PER LINEAL FOOT
PLCS	PLACES
PLY	PLYWOOD
PROP	PROPERTY
PT	POST TENSIONED
PW	PLATE WASHER
PJP	PARTIAL JOINT PENETRATION WELD
PREFAB	PREFABRICATED
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
#	POUND; NUMBER
REF	REFERENCE
REINF	REINFORCE; REINFORCING
REQD	REQUIRED
RF	ROOF
RJ	ROOF JOIST
RW	RETAINING WALL
Ø	ROUND; DIAMETER
SCHED	SCHEDULE
SECT	SECTION
SEP	SEPERATION
SHT	SHEET
SHTG	SHEATHING
SIM	SIMILAR
SLBB	SHORT LEGS BACK-TO-BACK
SOG	SLAB ON GRADE
SN	SHEAR NAIL
SPCG	SPACING
SPECS	SPECIFICATIONS
SPCL	SPECIAL
SQ	SQUARE
SS	SELECT STRUCTURAL
SSL	SHORT SLOTTED HOLES
STAGG	STAGGER
STD	STANDARD
STGR	STAGGER
STIFF	STIFFENERS
STIRR	STIRRUP
STL	STEEL
STRUCT	STRUCTURAL
STRUCT I	STRUCTURAL I
SW	SHEAR WALL
SYM	SYMMETRICAL
TB	TIE BEAM
T & B	TOP AND BOTTOM
T & G	TONGUE & GROOVE
TO	TOP OF
TOC	TOP OF CURB; TOP OF CONCRETE
TOF	TOP OF FOOTING
TEMP	TEMPERATURE; TEMPORARY
THRU	THROUGH
THK	THICKNESS/THICK
THR	THREADED
TOP or T	TOP
TOS	TOP OF STEEL
TOW	TOP OF WALL
TSG	TAPPERED STEEL GIRDER
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UNO	UNLESS NOTED OTHERWISE
UT	ULTRA-SONIC TEST
VERT	VERTICAL
VSH	VERTICAL SLOTTED HOLES
W	W SHAPE
W/	WITH
W/O	WITHOUT
WD	WOOD
WP	WORK POINT; WATERPROOF
WT	WEIGHT; STRUCTURAL TEE SHAPE
WWR	WELDED WIRE REINFORCEMENT

STRUCTURAL STEEL SHAPES

W	W SHAPE
C	AMERICAN STD CHANNEL SHAPE
MC	MISC CHANNEL SHAPE
L	ANGLE SHAPE
WT, ST, MT	STRUCT TEE SHAPE
PIPE	STANDARD PIPE SHAPE
PIPE-X	EXTRA STRONG PIPE SHAPE
PIPE-XX	DBL EXTRA STRONG PIPE SHAPE
HSS	STRUCT TUBING SHAPE

SYMBOLS



SECTION REFERENCE BUBBLE
DETAIL REFERENCE BUBBLE WITH ARROW
DETAIL REFERENCE BUBBLE
FULL HEIGHT SECTION INDICATOR
ELEVATION OF FRAME
ELEVATION OF WALL
NORTH ARROW
SLOPE
EARTH LAYER
STEPPED SURFACE; FLOOR DEPRESSION
SLOPPED SURFACE
INDICATES SAND OR GROUT
INDICATES GRAVEL
TOP OF SLAB ELEVATION
WELDED WIRE FABRIC (WWF LAYER)
FOOTING TYPE
INDICATES MASONRY WALLS
STEEL TUBE COLUMN
STEEL PIPE COLUMN
WIDE FLANGE STEEL COLUMN
MEMBER SPLICE
TOP OF STEEL ± ELEVATION
BEAM CAMBER AT MID-SPAN
STEEL IN CROSS SECTION
DIRECTION OF SPAN
ANGLE BRACE
DOUBLE ANGLE BRACE
DRAG STRUT CONNECTION
FULL HEIGHT STIFFENER CONNECTION
MOMENT CONNECTION
STEPPED FOOTING

SHEET LIST

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GLENDALE UNIFIED SCHOOL DISTRICT

kpff
117 E. Colorado Blvd, Suite 200
Pasadena, CA 91105
O 626.578.1121
F 626.578.5121
www.kpff.com

4399
12-31-17
STRUCTURAL
STATE OF CALIFORNIA

GLENDALE UNIFIED SCHOOL DISTRICT
HERBERT HOOVER HIGH SCHOOL- HVAC UPGRADE
651 GLENWOOD RD, GLENDALE, CA 91202

NAC
ARCHITECTURE
nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
P 323.475.8075

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SHEET INDEX, ABBREVIATIONS & SYMBOLS

S0.1

STRUCTURAL OBSERVATION:

1. STRUCTURAL OBSERVATION SHALL BE PERFORMED BY THE STRUCTURAL ENGINEER OF RECORD OR DESIGNEE IN ACCORDANCE WITH SECTION 1709A OF THE CODE.

2. STRUCTURAL OBSERVATION IS THE VISUAL OBSERVATION OF THE ELEMENTS AND CONNECTIONS OF THE STRUCTURAL SYSTEM AT SIGNIFICANT CONSTRUCTION STAGES AND THE COMPLETED STRUCTURE FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATION. STRUCTURAL OBSERVATION DOES NOT WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED OF THE BUILDING INSPECTOR OR THE DEPUTY INSPECTOR.

3. A CIVIL OR STRUCTURAL ENGINEER OR ARCHITECT SHALL PERFORM THE STRUCTURAL OBSERVATION THE ENGINEER OR ARCHITECT SHALL BE REGISTERED OR LICENSED IN THE STATE OF CALIFORNIA. THE DEPARTMENT OF BUILDING AND SAFETY RECOMMENDS THE USE OF THE ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN WHEN THEY ARE INDEPENDENT OF THE CONTRACTOR.

4. THE STRUCTURAL OBSERVER SHALL PROVIDE EVIDENCE OF EMPLOYMENT BY THE OWNER, A LETTER FROM THE OWNER OR A COPY OF THE AGREEMENT FOR SERVICES SHALL BE SENT TO THE BUILDING INSPECTOR BEFORE THE FIRST SITE VISIT, THE STRUCTURAL OBSERVER SHALL ALSO INFORM THE OWNER OF THE REQUIREMENTS FOR A PRECONSTRUCTION MEETING AND SHALL PRESIDE OVER THIS MEETING.

5. THE CONTRACTOR SHALL COORDINATE AND CALL FOR A PRE-CONSTRUCTION MEETING BETWEEN THE ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN, STRUCTURAL OBSERVER, CONTRACTOR, AFFECTED SUBCONTRACTORS AND DEPUTY INSPECTORS. THE PURPOSE OF THE MEETING SHALL BE TO IDENTIFY THE MAJOR STRUCTURAL ELEMENTS AND CONNECTIONS THAT AFFECT THE VERTICAL AND LATERAL LOAD SYSTEMS OF THE STRUCTURE AND TO REVIEW SCHEDULING OF THE REQUIRED OBSERVATIONS. A RECORD OF THE MEETING SHALL BE INCLUDED IN THE FIRST OBSERVATION REPORT SUBMITTED TO THE BUILDING INSPECTOR.

6. THE STRUCTURAL OBSERVER SHALL PERFORM SITE VISITS AT THOSE STEPS IN THE PROGRESS OF THE WORK THAT ALLOW FOR CORRECTION OF DEFICIENCIES WITHOUT SUBSTANTIAL EFFORT OR UNCOVERING OF THE WORK INVOLVED. AT A MINIMUM, THE FOLLOWING SIGNIFICANT CONSTRUCTION STAGES REQUIRE A SITE VISIT AND AN OBSERVATION REPORT FROM THE STRUCTURAL OBSERVER.

CONSTRUCTION STAGES	ELEMENTS/CONNECTIONS TO BE OBSERVED
a. EQUIPMENT ANCHORAGE	ANCHORS LAYOUT

7. THE STRUCTURAL OBSERVER SHALL PREPARE A REPORT FOR EACH SIGNIFICANT STATE OF CONSTRUCTION OBSERVED. A COPY OF THE OBSERVATION REPORT SHALL BE SENT TO DSA, OWNER, CONTRACTOR, AND PROJECT INSPECTOR.

STRUCTURAL TESTS AND SPECIAL INSPECTIONS

1. STRUCTURAL TESTS AND SPECIAL INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH CHAPTER 17A OF THE 2013 CBC.
2. THE SPECIAL INSPECTOR MUST BE APPROVED BY DSA, IN THE CATEGORY OF WORK REQUIRED TO HAVE SPECIAL INSPECTION.
3. THE SPECIAL INSPECTORS AND TESTING FIRM MUST BE HIRED BY THE OWNER OR OWNER'S REPRESENTATIVE.
4. SPECIAL INSPECTORS SHALL SHALL KEEP RECORDS OF INSPECTIONS AND FURNISH COPIES TO THE BUILDING OFFICIAL, OWNER, AND STRUCTURAL ENGINEER OF RECORD. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS, OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS AND FURNISH COPIES TO THE BUILDING OFFICIAL, COMPLETED IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.

INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE.

STRUCTURAL NOTES

GENERAL

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. THE ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.

2. ALL DRAWINGS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO START OF CONSTRUCTION SO THAT A CLARIFICATION CAN BE ISSUED. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE AND AT NO EXPENSE TO THE OWNER OR ARCHITECT.

3. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK.

4. ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE FOLLOWING:

   2016 CALIFORNIA BUILDING CODE, VOLUME 2A, REFERRED TO HERE AS "THE CODE", AND ANY OTHER REGULATING AGENCIES WHICH HAVE AUTHORITY OVER WHICH ANY PORTION OF THE WORK, INCLUDING THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY, AND THOSE CODES & STANDARDS LISTED IN THESE NOTES AND SPECIFICATIONS.

5. SEE ARCHITECTURAL DRAWINGS FOR THE FOLLOWING:

   a. SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS, EXCEPT AS NOTED
   b. SIZE AND LOCATION OF ALL INTERIOR AND EXTERIOR NON-BEARING PARTITIONS.
   c. SIZE AND LOCATION OF ALL CONCRETE CURBS, EQUIPMENT PADS, PITS, FLOOR DRAINS, SLOPES, DEPRESSED AREAS, CHANGE IN LEVEL, CHAMFERS, GROOVES, INSERTS, ETC.
   d. SIZE AND LOCATION OF ALL FLOOR AND ROOF OPENINGS EXCEPT AS SHOWN.
   e. FLOOR AND ROOF FINISHES.
   f. DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.

6. SEE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR THE FOLLOWING:

   a. PIPE RUNS, SLEEVES, HANGERS, TRENCHES, WALL AND SLAB OPENINGS, ETC., EXCEPT AS SHOWN OR NOTED.
   b. ELECTRICAL CONDUIT RUNS, BOXES, OUTLETS IN WALLS AND SLABS.
   c. CONCRETE INSERTS FOR ELECTRICAL, MECHANICAL OR PLUMBING FIXTURES.
   d. SIZE AND LOCATION OF MACHINE OR EQUIPMENT BASES, ANCHOR BOLTS FOR MOTOR MOUNTS.

7. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.

8. OPENINGS, POCKETS, ETC., LARGER THAN 6" SHALL NOT BE PLACED IN CONCRETE SLABS, DECKS, WALLS, UNLESS SPECIALLY DETAILED ON THE STRUCTURAL DRAWINGS. NOTIFY THE STRUCTURAL ENGINEER WHEN DRAWINGS BY OTHERS SHOW OPENINGS, POCKETS, ETC., LARGER THAN 6" NOT SHOWN ON THE STRUCTURAL DRAWINGS, BUT WHICH ARE LOCATED IN STRUCTURAL MEMBERS. FOR ANY FURTHER RESTRICTIONS ON OPENINGS IN STRUCTURAL ELEMENTS, SEE APPLICABLE SECTIONS BELOW.

9. PIPES SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE.

10. ASTM SPECIFICATIONS ON THE DRAWINGS SHALL BE OF THE LATEST REVISION.

11. CONSTRUCTION MATERIAL SHALL BE SPREAD OUT IF PLACED ON FRAMED ROOF OR FLOOR. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT. PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH.

DESIGN LOADS

LOCATION: 34.1659, -118.2696

1. EARTHQUAKE LOADS ON NONSTRUCTURAL COMPONENTS:

   EARTHQUAKE LOADS ARE IN ACCORDANCE WITH SECTION 1613A OF THE CODE.

   S_S = 2.755g
   S_1 = 0.938g
   F_a = 1.0
   F_V = 1.5
   S_{MS} = 2.755g
   S_{M1} = 1.407g
   S_{DS} = 1.837g
   S_{D1} = 0.938g

   I_e = 1.25
   rho = 1.0

RISK CATEGORY	III
SITE CLASS	D
SEISMIC DESIGN CATEGORY	E

   Ip = 1.0 FOR ALL NONSTRUCTURAL COMPONENTS EARTHQUAKE LOADS ON NONSTRUCTURAL COMPONENTS, SHALL BE DETERMINED IN ACCORDANCE WITH THE FOLLOWING PROCEDURE:

   CALCULATE Fp BASED ON ASCE 7-10 EQUATION 13.3-1 USING THE VALUE OF S_{DS}

   THE MAXIMUM AND MINIMUM VALUES FOR Fp SHALL BE DETERMINED FROM ASCE 7-10 EQUATIONS 13.3-2 AND 13.3-3, RESPECTIVELY.

   ALL EARTHQUAKE LOADS ON NONSTRUCTURAL COMPONENTS SHALL BE BASED ON THE VALUES OF ap AND Rp FROM ASCE 7-10 TABLES 13.5-1 AND 13.6-1.

2. WIND LOAD ON NON STRUCTURAL COMPONENTS

   WIND LOADS ARE IN ACCORDANCE WITH ASCE 7-10 CH 29 USING EQUATIONS 29.5-2 AND 29.3-1

WIND SPEED, V	=	115MPH
RISK CATEGORY	=	III
EXPOSURE CATEGORY	=	B
WIND LOAD TO ROOF TOP UNITS	=	63PSF

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GLENDALE UNIFIED SCHOOL DISTRICT

kpff
117 E. Colorado Blvd, Suite 200
Pasadena, CA 91105
O:626.578.1121
F:626.578.9121
www.kpff.com

REGISTERED PROFESSIONAL ENGINEER
No. 4399
Exp. 12-31-17
STRUCTURAL
STATE OF CALIFORNIA

GLENDALE UNIFIED SCHOOL DISTRICT
HERBERT HOOVER HIGH SCHOOL - HVAC UPGRADE
651 GLENWOOD RD, GLENDALE, CA 91202

REGISTERED ARCHITECT
TIMOTHY A. BALLARD
No. C 21424
Exp. 8\31\17
STATE OF CALIFORNIA

NAC ARCHITECTURE
nacarchitecture.com
837 NORTH SPRING STREET,
THIRD FLOOR
LOS ANGELES CA 90012
P:323.475.8075

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STRUCTURAL
GENERAL NOTES

S0.2

File: K:\2016\1600283 - GUSD Hoover High School Building 11000 HVAC Upgrade\5 SDraft\1600283_S0.2.dwg
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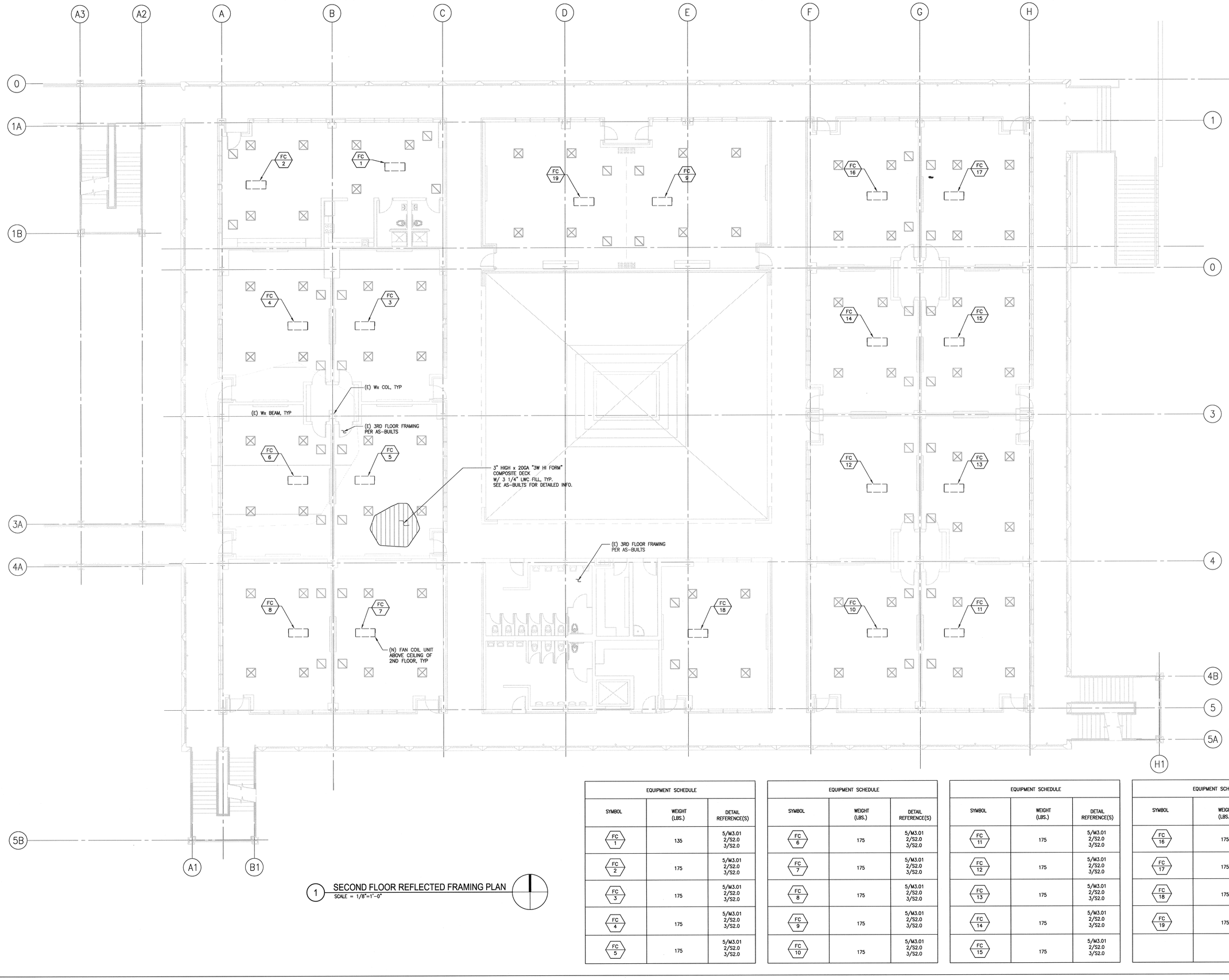

1 SECOND FLOOR REFLECTED FRAMING PLAN
SCALE = 1/8"=1'-0"

EQUIPMENT SCHEDULE		
SYMBOL	WEIGHT (LBS.)	DETAIL REFERENCE(S)
FC 1	135	5/M3.01 2/S2.0 3/S2.0
FC 2	175	5/M3.01 2/S2.0 3/S2.0
FC 3	175	5/M3.01 2/S2.0 3/S2.0
FC 4	175	5/M3.01 2/S2.0 3/S2.0
FC 5	175	5/M3.01 2/S2.0 3/S2.0

EQUIPMENT SCHEDULE		
SYMBOL	WEIGHT (LBS.)	DETAIL REFERENCE(S)
FC 6	175	5/M3.01 2/S2.0 3/S2.0
FC 7	175	5/M3.01 2/S2.0 3/S2.0
FC 8	175	5/M3.01 2/S2.0 3/S2.0
FC 9	175	5/M3.01 2/S2.0 3/S2.0
FC 10	175	5/M3.01 2/S2.0 3/S2.0

EQUIPMENT SCHEDULE		
SYMBOL	WEIGHT (LBS.)	DETAIL REFERENCE(S)
FC 11	175	5/M3.01 2/S2.0 3/S2.0
FC 12	175	5/M3.01 2/S2.0 3/S2.0
FC 13	175	5/M3.01 2/S2.0 3/S2.0
FC 14	175	5/M3.01 2/S2.0 3/S2.0
FC 15	175	5/M3.01 2/S2.0 3/S2.0

EQUIPMENT SCHEDULE		
SYMBOL	WEIGHT (LBS.)	DETAIL REFERENCE(S)
FC 16	175	5/M3.01 2/S2.0 3/S2.0
FC 17	175	5/M3.01 2/S2.0 3/S2.0
FC 18	175	5/M3.01 2/S2.0 3/S2.0
FC 19	175	5/M3.01 2/S2.0 3/S2.0

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HERBERT HOOVER HIGH SCHOOL - HVAC UPGRADE
651 GLENWOOD RD, GLENDALE, CA 91202

kpff
117 E. Colorado Blvd, Suite 200
Pasadena, CA 91105
O:626.578.1123
F:626.578.9121
www.kpff.com
REGISTERED PROFESSIONAL ENGINEER TIMOTHY A. BALLARD No. 4399 12-31-17 STRUCTURAL STATE OF CALIFORNIA

REGISTERED ARCHITECT TIMOTHY A. BALLARD No. C-31424 Exp. 8/31/18 STATE OF CALIFORNIA

NAC ARCHITECTURE
nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
P:323.475.8075

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SECOND FLOOR FRAMING PLAN

S1.0

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XREFs: 1602083-TBLK.dwg S-Grids.dwg Arch-Second Plan.dwg

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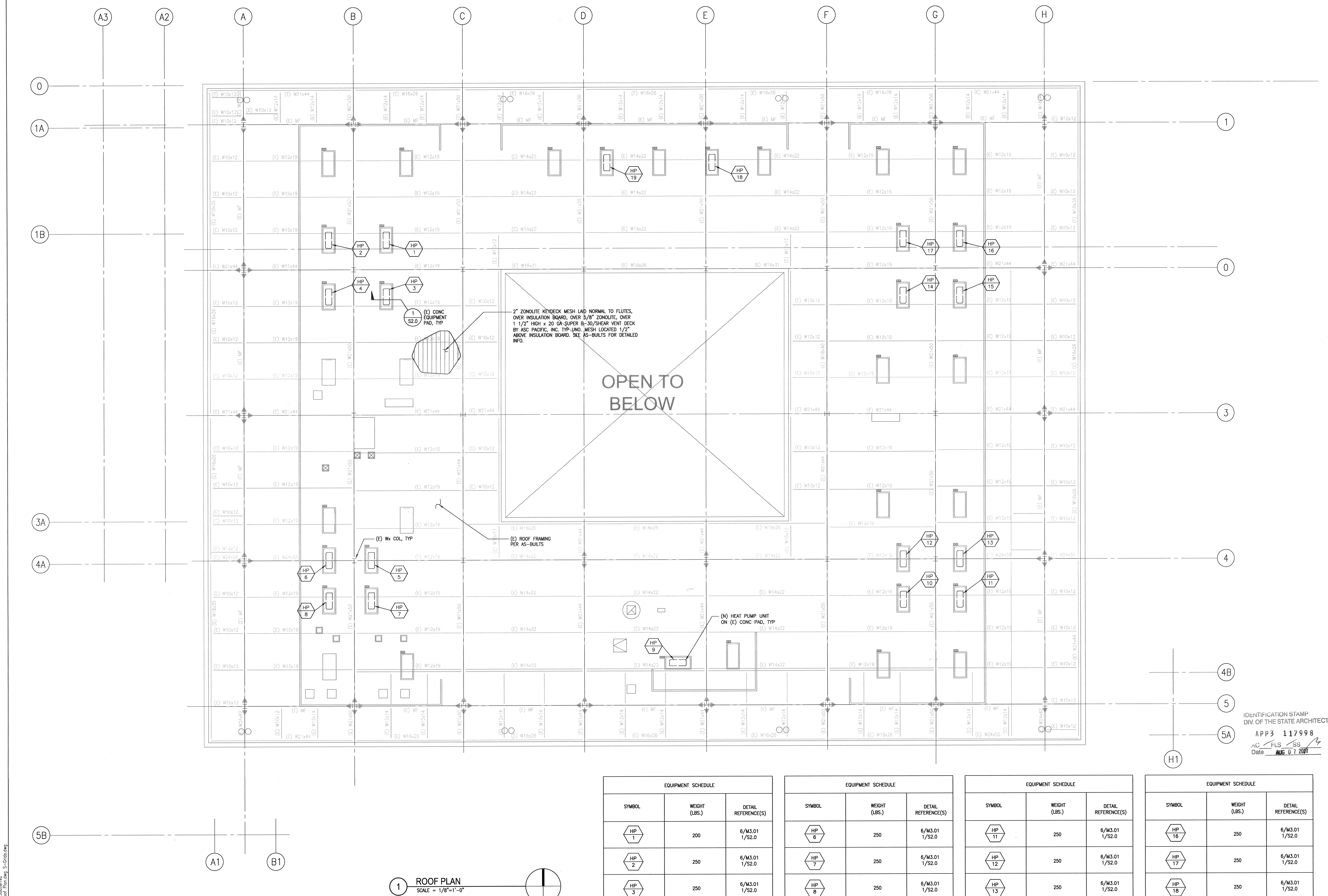

1 ROOF PLAN
SCALE = 1/8"=1'-0"

EQUIPMENT SCHEDULE		
SYMBOL	WEIGHT (LBS.)	DETAIL REFERENCE(S)
HP 1	200	6/M3.01 1/S2.0
HP 2	250	6/M3.01 1/S2.0
HP 3	250	6/M3.01 1/S2.0
HP 4	250	6/M3.01 1/S2.0
HP 5	250	6/M3.01 1/S2.0

EQUIPMENT SCHEDULE		
SYMBOL	WEIGHT (LBS.)	DETAIL REFERENCE(S)
HP 6	250	6/M3.01 1/S2.0
HP 7	250	6/M3.01 1/S2.0
HP 8	250	6/M3.01 1/S2.0
HP 9	250	6/M3.01 1/S2.0
HP 10	250	6/M3.01 1/S2.0

EQUIPMENT SCHEDULE		
SYMBOL	WEIGHT (LBS.)	DETAIL REFERENCE(S)
HP 11	250	6/M3.01 1/S2.0
HP 12	250	6/M3.01 1/S2.0
HP 13	250	6/M3.01 1/S2.0
HP 14	250	6/M3.01 1/S2.0
HP 15	250	6/M3.01 1/S2.0

EQUIPMENT SCHEDULE		
SYMBOL	WEIGHT (LBS.)	DETAIL REFERENCE(S)
HP 16	250	6/M3.01 1/S2.0
HP 17	250	6/M3.01 1/S2.0
HP 18	250	6/M3.01 1/S2.0
HP 19	250	6/M3.01 1/S2.0

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HERBERT HOOVER HIGH SCHOOL - HVAC UPGRADE
651 GLENWOOD RD, GLENDALE, CA 91202

kpff

REGISTERED ARCHITECT TIMOTHY A. BALLARD No. C 21424 Exp. 8\31\17 STATE OF CALIFORNIA

NAC ARCHITECTURE
nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
P:323.475.8075

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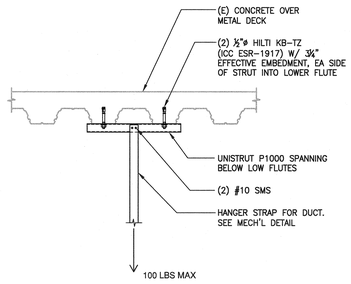
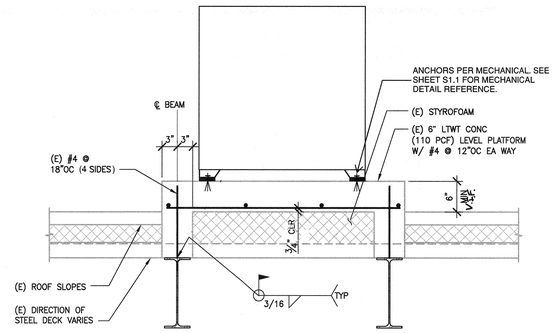
ROOF FRAMING PLAN

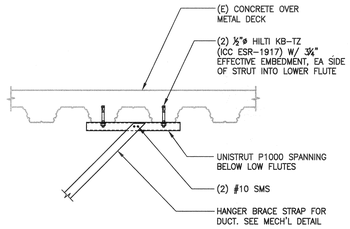
S1.1



DUCT HANGER CONNECTION 1"=1'-0" 4



(E) CONCRETE EQUIPMENT PAD 1"=1'-0" 1



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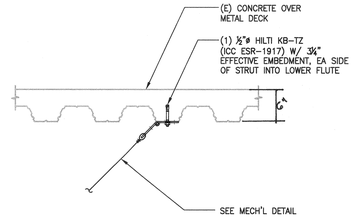
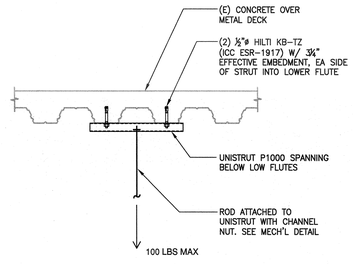


FAN COIL BRACE CONNECTION 1"=1'-0" 2

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP3 117998
AC FLS SS
Date AUG 07 2017



FAN COIL HANGER CONNECTION 1"=1'-0" 3

REVISIONS

CONSTRUCTION DOCUMENTS

kpff
117 E. Colorado Blvd, Suite 200
Pasadena, CA 91105
O:626.578.1121
F:626.578.9121
www.kpff.com

REGISTERED PROFESSIONAL ENGINEER
No. 4399
Exp. 12-31-17
STRUCTURAL
STATE OF CALIFORNIA

GLENDALE UNIFIED SCHOOL DISTRICT
HERBERT HOOVER HIGH SCHOOL- HVAC UPGRADE
651 GLENWOOD RD, GLENDALE, CA 91202

NAC
ARCHITECTURE
nacarchitecture.com
837 NORTH SPRING STREET,
THIRD FLOOR
LOS ANGELES CA 90012
P:323.475.8070

NAC NO	161-16043
DRAWN	TP
CHECKED	ORD
DATE	06-22-2017

DETAILS

S2.0

File: K:\2016\161602083 - GUSD Hoover High School Building 11000 HVAC Upgrade\5 Sheets\161602083_S2.0.dwg
Plotted: 6/1/17 at 4:45pm By: JPOPONGCO
XREFs: 161602083-TBLK.dwg

LEGEND

SYMBOL	ABBR.	DESCRIPTION	SYMBOL	ABBR.	DESCRIPTION
	-	SUPPLY AIR RISER		T-STAT	THERMOSTAT
	-	RETURN AIR RISER		H	HUMIDISTAT
	-	EXHAUST AIR RISER		TS	TEMPERATURE SENSOR
	SD	SUPPLY AIR GRILLE		OS	OVERRIDE SWITCH
	RG	RETURN AIR GRILLE		PD	PRESSURE DIFFERENTIAL SWITCH
	EG	EXHAUST AIR GRILLE		S	SWITCH
	SR	SIDEWALL REGISTER		O.C.	ON CENTER
	TG	TRANSFER AIR GRILLE	—HWR—	HWR	HOT-WATER RETURN
	(L)	LINED DUCTWORK	—HWS—	HWS	HOT-WATER SUPPLY
	-	FLEXIBLE CONNECTION	—CHWR—	CHWR	CHILLED-WATER RETURN
	FC	FLEXIBLE CONNECTION	—CHWS—	CHWS	CHILLED-WATER SUPPLY
	-	NEW DUCT (SEE PLAN)		I.D.	INSIDE DIAMETER
	-	EXISTING DUCT (SEE PLAN)		O.D.	OUTSIDE DIAMETER
	-	DEMO DUCT (SEE PLAN)		W/	WITH
	MVD	MANUAL VOLUME DAMPER		S/M	SHEET METAL
F	FD	AUTOMATIC FIRE DAMPER		S/S	STAINLESS STEEL
S/F	SFD	SMOKE/FIRE DAMPER		G.C.	GENERAL CONTRACTOR
BDD	BDD	BACKDRAFT DAMPER		VTR	VENT THRU ROOF
	DL	DOOR LOUVER		OSA	OUTSIDE AIR
U.C.	UC	UNDERCUT DOOR 3/4"	—CD—	CD	CONDENSATE DRAIN
—RS—	RS	REFRIGERANT SUCTION LINE		SOV	SHUT-OFF VALVE
—RL—	RL	REFRIGERANT LIQUID LINE		VFD	VARIABLE FREQUENCY DRIVE
	S.D.	DUCT SMOKE DETECTOR		OBD	OPPOSED BLADE DAMPER
	P.O.C.	POINT OF CONNECTION			DIRECTION OF PIPE PITCH (DOWN)
	E	ELECTRICAL CONTRACTOR			DIRECTION OF FLOW
	M	MECHANICAL CONTRACTOR			ANCHOR
CO2	CO2	CO2 SENSOR			REDUCER OR INCREASER
		GATE VALVE			ECCENTRIC REDUCER
		GLOBE VALVE			TOP CONNECTION, 45° OR 90°
		GATE VALVE W/ 3/4 " HOSE ADAPTER			BOTTOM CONNECTION, 45° OR 90°
		CHECK VALVE			SIDE CONNECTION
		ANGLE GLOBE VALVE			CAPPED OUTLET
		BUTTERFLY VALVE			RISE OR DROP IN PIPE
		BALL VALVE			UNION
		BALANCING VALVE			ORIFICE UNION
		CIRCUIT SETTER			MANUAL AIR VENT
		STRAIGHT-THRU MODULATING CONTROL VALVE			STRAINER
		THREE-WAY MODULATING CONTROL VALVE			THERMOMETER
		AUTOMATIC FLOW CONTROL VALVE			PRESSURE GAGE
		SAFETY OR PRESSURE RELIEF VALVE			WATER FLOW MEASURING DEVICE
		PRESSURE REDUCING VALVE			MONITORED WATER FLOW MEASURING DEVICE
		1 HOUR RATED WALL			TEST PLUG (PRESSURE/TEMPERATURE)

MEP COMPONENT ANCHORAGE NOTE

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

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

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

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

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

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM ANCHORAGE NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCE AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3, AS DEFINED IN ASCE 7-10 SECTION 13.6.5.6, 13.6.7, 13.6.8, AND 2016 CBC SECTIONS 1616A.1.23, 1615A.1.24, 1616A.1.25, AND 1616A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G. SMACNA OR OSHPD OPM), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

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

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

MP [ ] MD [ ] PP [ ] E [ ] – OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #) #________.

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

CA GREEN BUILDING STANDARDS NOTES

ENTIRE INSTALLATION SHALL COMPLY WITH THE 2016 CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN) CODE INCLUDING THE FOLLOWING APPLICABLE MANDATORY MEASURES:

1. 5.504.1.3 - PERMANENT HVAC SYSTEM SHALL ONLY BE USED DURING CONSTRUCTION IF NECESSARY TO CONDITION THE BUILDING WITHIN THE REQUIRED TEMPERATURE RANGE FOR MATERIAL AND EQUIPMENT INSTALLATION. IF THE HVAC SYSTEM IS USED DURING CONSTRUCTION, CONTRACTOR SHALL USE MERV 8 MINIMUM RETURN AIR FILTERS. REPLACE ALL FILTERS IMMEDIATELY PRIOR TO OCCUPANCY.
2. 5.504.3 - AT THE TIME OF ROUGH INSTALLATION AND DURING STORAGE ON THE CONSTRUCTION SITE UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEETMETAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY ENTER THE SYSTEM.
3. 5.504.5.3.1 - IN MECHANICALLY VENTILATED BUILDINGS, PROVIDE REGURLARLY OCCUPIED AREAS OF THE BUILDING WITH AIR FILTRATION MEDIA FOR OUTSIDE AND RETURN AIR PRIOR TO OCCUPANCY THAT PROVIDES AT LEAST A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 8. MERV 8 FILTERS SHALL BE INSTALLED PRIOR TO OCCUPANCY AND RECOMMENDATIONS FOR MAINTENANCE WITH FILTERS OF THE SAME VALUE SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE MANUAL.

EXCEPTIONS:

1. AN ASHRAE 10-PERCENT TO 15-PERCENT EFFICIENCY FILTER SHALL BE PERMITTED FOR AN HVAC UNIT MEETING THE 2016 CALIFORNIA ENERGY CODE HAVING 60,000 BTU/H OR LESS CAPACITY PER FAN COIL, IF THE ENERGY USE OF THE AIR DELIVERY SYSTEM IS 0.4 W/CFM OR LESS AT THE DESIGN AIR FLOW.

2. EXISTING MECHANICAL EQUIPMENT.

4. 5.504.5.3.1 - INSTALLED FILTERS SHALL BE CLEARLY LABELED BY THE MANUFACTURER INDICATING THE MERV RATING.
5. 5.504.7 - OUTDOOR SMOKING AREAS SHALL BE MINIMUM 25'-0" FROM ALL BUILDING ENTRIES, OUTDOOR AIR INTAKES, AND OPERABLE WINDOWS.
6. 5.505.1 - BUILDINGS SHALL MEET OR EXCEED THE PROVISIONS OF CALIFORNIA BUILDING CODE, CCR, TITLE 24, PART 2, SECTIONS 1203 (VENTILATION) AND CHAPTER 14 (EXTERIOR WALLS). FOR ADDITIONAL MEASURES NOT APPLICABLE TO LOW-RISE RESIDENTIAL OCCUPANCIES, SEE SECTION 5.407.2 OF THIS CODE.
7. 5.506.1 - FOR MECHANICALLY OR NATURALLY VENTILATED SPACES IN BUILDINGS, MEET THE MINIMUM REQUIREMENTS OF SECTION 121 (REQUIREMENTS FOR VENTILATION) OF THE 2010 CALIFORNIA ENERGY CODE, OR THE APPLICABLE LOCAL CODE, WHICHEVER IS MORE STRINGENT, AND DIVISION 1, CHAPTER 4 OR CCR, TITLE 8.
8. 5.506.2 - DEMAND CONTROL VENTILATION REQUIRED FOR ALL DENSELY OCCUPIED SPACES PER 2016 CALIFORNIA ENERGY CODE REQUIREMENTS.

GENERAL NOTES

----- GENERAL NOTES -----

1. ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2016 CALIFORNIA MECHANICAL CODE, 2016 CALIFORNIA BUILDING CODE, AND ALL OTHER APPLICABLE CODES AND REGULATIONS, INCLUDING 2016 CALIFORNIA ENERGY CONSERVATION STANDARDS DIVISION T-24.
2. 2016 CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN) CODE INCLUDING THE APPLICABLE MANDATORY MEASURES:

   - COVERING OF DUCT OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION PER CALGREEN REQUIREMENTS.
   - ADHESIVES, SEALANTS AND CAULKS SHALL MEET CALGREEN REQUIREMENTS.
   - FILTERS SHALL BE A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 8 OR AS SPECIFIED.
   - INSTALLATIONS OF HVAC AND REFRIGERATION EQUIPMENT SHALL COMPLY WITH SECTIONS 5.508.1.1 AND 5.508.1.2.
3. COORDINATE ENTIRE INSTALLATION OF THE HVAC SYSTEM WITH THE WORK OF ALL OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. PROVIDE ALL FITTINGS, OFFSETS, AND TRANSITIONS AS REQUIRED FOR A COMPLETE WORKABLE INSTALLATION. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ITEMS TO BE PROVIDED BY OTHER TRADES WHERE MENTIONED IN THE CONTRACT DOCUMENTS PRIOR TO BID - NO EXCEPTIONS.
4. COORDINATE THE LOCATIONS OF ALL CEILING DIFFUSERS, REGISTERS, AND GRILLES WITH THE ARCHITECTURAL REFLECTIVE CEILING PLAN, ELECTRICAL LIGHTING LAYOUT AND ARCHITECTURAL ROOM ELEVATIONS. THE ARCHITECT AND ENGINEER SHALL BE IMMEDIATELY NOTIFIED OF ANY CONFLICTS PRIOR TO FABRICATION AND INSTALLATION.
5. ALL EQUIPMENT, DUCTS, PIPING, AND OTHER DEVICES AND MATERIALS INSTALLED OUTSIDE OF THE BUILDING OR OTHERWISE EXPOSED TO THE WEATHER SHALL BE COMPLETELY WEATHER-PROOFED AND PAINTED TO MATCH, COORDINATE WITH ARCHITECT PRIOR TO PAINTING.
6. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH AND BE CONSIDERED TO BE PART OF A SEPARATE AND COMPLETE MECHANICAL SPECIFICATION.
7. ALL DIMENSIONS SHOWN ON THESE PLANS ARE APPROXIMATE AND MUST BE CONFIRMED ON SITE.
8. PRIOR TO OCCUPANCY, THE ENTIRE H.V.A.C. SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH SPECIFICATION SECTION 23.05.93 AND BY ASSOCIATED AIR BALANCE COUNCIL STANDARDS, BY AN INDEPENDENT AIR BALANCE CONTRACTOR. CERTIFICATION SHALL BE PROVIDED BY THE CONTRACTOR FOR AIR AND HYDRONIC AS APPLICABLE. SYSTEMS SHALL BE BALANCED AS INDICATED ON PLANS INCLUDING FRESH AIR VENTILATION. WHERE THERE IS A CONFLICT WITH THE MECHANICAL PLANS, THE AIR BALANCE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO BALANCING OF SYSTEM. IF NOT THE AIR BALANCE CONTRACTOR SHALL BEAR ALL COSTS INCURRED FOR WORK THAT MUST BE RE-BALANCED DUE TO CONFLICTS ON CONTRACT DOCUMENTS. CONTRACTOR SHALL PROVIDE THREE COPIES OF THE AIR BALANCE REPORT TO THE ENGINEER FOR APPROVAL. SEE SPEC. SECTION 23.05.93.
9. FOR INACCESSIBLE AREAS THE CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ALL DAMPERS, EQUIPMENT, SMOKE DETECTORS, AND CONTROL DEVICES. THESE PANELS SHALL MATCH THE RATING OF THE WALL AND/OR CEILING THAT THEY ARE LOCATED IN. MINIMUM ACCESS PANEL SIZES SHALL BE AS FOLLOWS:
   1) HAND ACCESS: 12"x12"

   2) BODY ACCESS: 30"x30" MIN. WHERE A LARGER ACCESS SIZE IS REQUIRED DUE TO INSTALLATION CONSTRAINTS, THE CONTRACTOR SHALL DO SO AT NO ADDITIONAL COST AND SHALL NOTIFY THE ARCHITECT AND ENGINEER OF DEVIATIONS PRIOR TO INSTALLATION.
10. COORDINATE THE LOCATION OF ALL (E)ROOF OPENINGS AND THE LOCATION OF ALL ROOF MOUNTED EQUIPMENT WITH THE STRUCTURAL AND ARCHITECTURAL PLANS PRIOR TO ANY INSTALLATION.
11. PLATFORMS, CURBS, AND FLASHINGS FOR MECHANICAL EQUIPMENT SHALL BE AS INDICATED ON THE STRUCTURAL AND ARCHITECTURAL PLANS, UNLESS NOTED OTHERWISE. WHERE THERE IS A CONFLICT WITH THE MECHANICAL PLANS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER PRIOR TO FABRICATION AND INSTALLATION.
12. ALL EQUIPMENT, ACCESSORIES, AND RELATED PIPING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL FITTINGS, TRANSITIONS, DAMPERS, VALVES, AND OTHER DEVICES REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
13. MAINTENANCE LABEL SHALL BE AFFIXED TO ALL MECHANICAL EQUIPMENT AND A MAINTENANCE MANUAL SHALL BE PROVIDED FOR THE OWNER'S USE.
14. PROVIDE 30% MIN. EFFICIENCY THROWAWAY FILTERS FOR ALL AIR CONDITIONING UNITS. SEE EQUIPMENT SCHEDULE AND SPECIFICATIONS FOR TYPE. SIZES SHALL BE AS RECOMMENDED BY THE MANUFACTURER, UNLESS OTHERWISE SPECIFIED.
15. AIR FILTERS SHALL BE STATE FIRE MARSHALL APPROVED AND LISTED. PREFORMED FILTERS HAVING COMBUSTIBLE FRAMING SHALL BE TESTED AS A COMPLETE ASSEMBLY. AIR FILTERS SHALL BE ACCESSIBLE FOR CLEANING OR REPLACEMENT.
16. ALL EQUIPMENT WITH MOVING PARTS SHALL BE PROVIDED WITH FLEXIBLE DUCT AND PIPE CONNECTIONS.
17. CONCEALED SPACES, CIRCULATING AIR: NO COMBUSTIBLE MATERIAL USED FOR EXPOSED COMMUNICATION CABLES, INSULATED WIRES, PLASTIC TUBING OR PIPING, PIPE INSULATION, CONDENSATE PAN INSULATION, WOOD, PVC, ABS, AND OTHER PLASTICS SHALL BE INSTALLED IN CONCEALED SPACES USED TO CONVEY CIRCULATING AIR SUPPLY.
18. ALL EQUIPMENT SHALL BE LABELED AS TO THE SPACE IT SERVES. SEE PLANS AND SPECIFICATIONS FOR IDENTIFICATION STANDARDS.
19. ALL HVAC EQUIPMENT SHALL BE CERTIFIED BY THE CALIFORNIA ENERGY COMMISSION TO COMPLY WITH LATEST EFFICIENCY STANDARDS.
20. AC UNITS PROVIDED WITH ECONOMY CYCLE DAMPERS SHALL HAVE DAMPERS SET UP TO CLOSE AUTOMATICALLY ON FAN SHUTDOWN.
21. ALL FRESH AIR INTAKES SHALL MEET CODE REQUIRED CLEARANCES FROM EXHAUST, FLUE, FUEL BURNING APPLIANCE AND PLUMBING VENT OUTLETS. FOR GAS/ELECTRIC AIR CONDITIONING UNITS WHERE THE CODE REQUIRED CLEARANCES ARE NOT MET, A FACTORY FLUE GAS DEFLECTOR AND EXTENSION SHALL BE USED TO MINIMIZE THESE CLEARANCES. CONTRACTOR SHALL DETERMINE LOCATIONS WHERE REQUIRED PRIOR TO BID. THIS SHALL BE PROVIDED AT NO ADDITIONAL COST.
22. ALL AIR HANDLING EQUIPMENT SERVING CONDITIONED SPACES SHALL PROVIDE CONTINUOUS FRESH AIR TO SPACES IN OCCUPIED MODE.
23. CONTRACTOR SHALL VERIFY ALL CLEARANCES AND AVAILABLE SPACE FOR DUCTWORK PRIOR TO ORDERING AND/OR FABRICATING MATERIAL.
24. CONTRACTOR TO SUBMIT ALL EQUIPMENT, DUCTWORK, AIR DISTRIBUTION DEVICES, AND OTHER ACCESSORIES TO THE ENGINEER FOR APPROVAL PRIOR TO ANY ORDERING OF SUCH ITEMS.
25. CONTRACTOR SHALL BE RESPONSIBLE FOR COMMISSIONING OF EQUIPMENT AS STIPULATED ON MECH-1-C FORM ON PLANS UNLESS NOTED OTHERWISE.
26. PAINT EXPOSED SURFACES, WHETHER OR NOT COLORS ARE DESIGNATED IN SCHEDULES, EXCEPT WHERE A SURFACE OR MATERIAL IS SPECIFICALLY INDICATED NOT TO BE PAINTED OR IS TO REMAIN NATURAL. WHERE AN ITEM OR SURFACE IS NOT SPECIFICALLY MENTIONED, PAINT THE SAME AS SIMILAR ADJACENT MATERIALS OR SURFACES. IF COLOR OR FINISH IS NOT DESIGNATED, THE OWNER'S REPRESENTATIVE WILL SELECT FROM STANDARD COLORS OR FINISHES AVAILABLE.

    1) PAINTING INCLUDES FIELD PAINTING EXPOSED BARE AND COVERED PIPES AND DUCTS (INCLUDING COLOR CODING), HANGERS, EXPOSED STEEL AND IRON WORK, AND PRIMED METAL SURFACES OF MECHANICAL AND ELECTRICAL EQUIPMENT.

----- CONTROLS -----

27. CONTROL SCHEMATICS ARE FOR SEQUENCE ONLY. REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR ALL ELECTRICAL DEVICES REQUIRED.
28. ALL LINE VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT. ALL LINE VOLTAGE CONDUIT AND WIRING, INCLUDING FINAL CONNECTIONS, SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AS INDICATED ON THE ELECTRICAL DRAWINGS OR SPECIFIED IN THE ELECTRICAL SECTION OF THE SPECIFICATIONS. ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS OF ALL GOVERNING BODIES HAVING JURISDICTION THEREOF.
29. ALL LOW VOLTAGE CONDUIT AND WIRING AS APPLICABLE, INCLUDING FINAL CONNECTIONS, SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR AS INDICATED ON THE MECHANICAL DRAWINGS OR SPECIFIED IN THE MECHANICAL SECTION OF THE SPECIFICATIONS.

    A1) ALL LOW VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT.

    A2) ALL LOW VOLTAGE WIRING SHALL BE PLENUM - RATED.

    B) WHERE THE CONTROLS CONTRACTOR IS RETAINED BY THE OWNER, THEY SHALL BE RESPONSIBLE FOR THE FOLLOWING:

    1) FURNISH AND INSTALL ALL DEVICES, WIRING, AND TERMINATIONS REQUIRED FOR A COMPLETE AND FUNCTIONAL INSTALLATION.

    2) COORDINATE ALL WORK AND REQUIREMENTS WITH OTHER TRADES INCLUDING GENERAL, MECHANICAL, AND ELECTRICAL CONTRACTORS PRIOR TO BID.

    3) CONTRACTOR SHALL FOLLOW ALL SUBMITTAL REQUIREMENTS PER DRAWINGS AND SPECIFICATIONS.
30. CONTRACTOR SHALL BE RESPONSIBLE FOR ORDERING AIR CONDITIONING EQUIPMENT WITH THRU-THE-BASE POWER, CONTROL, AND GAS CONNECTIONS. VERIFY ALL CONNECTION LOCATIONS WITH UNIT MANUFACTURER AND COORDINATE WITH OTHER TRADES AS NECESSARY.
31. ALL THERMOSTATS SHALL HAVE LOCKABLE COVERS (WHERE INDICATED ON PLANS) AND SHALL BE OF THE ELECTRONIC, PROGRAMMABLE, AUTOMATIC CHANGEOVER TYPE TO SEQUENCE HEATING OR COOLING. SET POINT RANGE SHALL BE 10 DEGREES F. BETWEEN FULL HEATING AND COOLING. THEY SHALL HAVE CAPABILITY OF TERMINATING ALL HEATING AT A TEMPERATURE NO MORE THAN 70 DEGREES F., AND COOLING AT A TEMPERATURE NOT LESS THAN 78 DEGREES F. ADJUSTABLE TEMPERATURE DIFFERENTIAL SHALL BE 1- 1/2 DEGREES F. CONTROL LIMITS SHALL BE FROM 55 DEGREES F. TO 85 DEGREES F. MOUNT AT 48 INCHES ABOVE FLOOR OR AS REQUIRED BY LOCAL AUTHORITIES OR HANDICAP CODES.

    NOTES: 1) THERMOSTATS OR SENSORS THAT ARE PART OF AN ENERGY MANAGEMENT SYSTEM SHALL FOLLOW CONTROL SPECIFICATIONS AND DRAWING REQUIREMENTS.

    2) SHOULD THE LOCATION OF THE THERMOSTAT NOT MEET THE ADA HEIGHT REQUIREMENTS DUE TO OBSTRUCTIONS, THEN AN ALTERNATE LOCATION SHALL BE PROPOSED OR REQUESTED BY THE CONTRACTOR THAT SHALL BE APPROVED BY THE ENGINEER AND ARCHITECT.
32. LINE VOLTAGE THERMOSTATS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
33. CONTROLS CONTRACTOR AND AIR BALANCE CONTRACTOR SHALL COORDINATE WORK AND PERFORM NECESSARY TASKS AS REQUIRED TO OBTAIN AIR AND WATER FLOW QUANTITIES FOR SYSTEMS SHOWN HEREIN.
34. CONTROLS SHALL BE PROVIDED TO PROVIDE THE MINIMUM RATE OF OUTDOOR AIR REQUIRED BY THE STATE ENERGY REGULATIONS.

----- AIR DISTRIBUTION -----

35. ALL DUCTWORK SHALL BE SHEET METAL CONSTRUCTED OR SPIRAL, ERECTED, AND TESTED IN ACCORDANCE WITH THE MOST RESTRICTIVE OF LOCAL REGULATIONS, PROCEDURES DETAILED IN THE ASHRAE HANDBOOK OF FUNDAMENTALS, CHAPTER 6 OF THE MECHANICAL CODE, OR THE APPLICABLE STANDARDS ADOPTED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION(SMACNA).
36. ALL FLEXIBLE DUCTWORK SHALL NOT EXCEED SEVEN FEET IN LENGTH TO RESPECTIVE DIFFUSERS, GRILLES, AND REGISTERS, OR OTHER AIR DEVICES.
37. PROVIDE SEISMIC RESTRAINTS TO ALL DUCTWORK, PIPE, AND EQUIPMENT SUPPORTS IN ACCORDANCE WITH THE LATEST SMACNA GUIDELINES FOR SEISMIC RESTRAINT OF MECHANICAL SYSTEMS. SUSPENDED EQUIPMENT SHALL BE PROVIDED WITH SEISMIC ANCHORAGE AND ISOLATION SUPPORTS.
38. ALL DUCT TURNS IN SUPPLY, RETURN, AND EXHAUST DUCTS SHALL HAVE TURNING VANES UNLESS OTHERWISE NOTED.
39. DUCTWORK HANDLING CONDITIONED AIR SHALL BE INSULATED OR LINED AS INDICATED ON DRAWINGS. SUPPLY AND RETURN DUCT INSULATION SHALL BE MIN. 1.5" THICK, 3/4 LB./CUBIC FT. DENSITY AND HAVE A MIN. VALUE OF R-8 WHERE LOCATED IN ONE OR MORE OF THE FOLLOWING SPACES:

    A) OUTDOORS, OR

    B) IN A SPACE BETWEEN THE ROOF AND AN INSULATED CEILING, OR

    C) IN A SPACE DIRECTLY UNDER A ROOF WITH FIXED VENTS OR OPENINGS TO THE OUTSIDE OR UNCONDITIONED SPACES, OR

    D) IN AN UNCONDITIONED CRAWLSPACE; OR

    E) IN OTHER UNCONDITIONED SPACES

    PER 2016 CEC, OTHERWISE PROVIDE R-4.2 WHEN LOCATED IN CONDITIONED ATTIC SPACES ABOVE CEILINGS . ALL DUCTWORK EXPOSED ON ROOF SHALL BE INTERNALLY LINED WITH 1.5" THICK, 1.5LB./CUBIC FT. DENSITY DUCT LINER UNLESS OTHERWISE INDICATED OR SPECIFIED. ALL DUCT SIZES ARE SHEET METAL SIZES. ALL DUCT JOINTS SHALL BE SEALED PER CHAPTER 6 MECHANICAL CODE REQUIREMENTS. PROVIDE PIPING AND DUCT INSULATION IN ACCORDANCE WITH THE LATEST STANDARDS OF THE CALIFORNIA ENERGY COMMISSION.
40. ALL INSULATION SHALL HAVE A FLAME SPREAD OF NOT MORE THAN 25 AND A SMOKE DENSITY NOT EXCEEDING 50.
41. MANUAL VOLUME DAMPERS SHALL BE PROVIDED IN ALL DUCT BRANCHES TO INDIVIDUAL DIFFUSERS, GRILLES, AND REGISTERS, AS WELL AS FRESH AIR INTAKE DUCTS. DAMPERS SHALL BE LOCATED AT THE BRANCH DUCT LOCATIONS. THE MECHANICAL CONTRACTOR SHALL COORDINATE LOCATIONS OF DAMPERS WITH THE AIR BALANCE CONTRACTOR PRIOR TO BID, SO THEY ARE ACCESSIBLE PRIOR TO INSTALLATION. IN LOCATIONS WHERE THESE DAMPERS ARE INACCESSIBLE, CABLE OPERATED ADJUSTMENT CONTROLS SHALL BE PROVIDED AT NO ADDITIONAL COST. OPPOSED BLADE DAMPERS SHALL NOT BE PERMITTED UNLESS NOTED OTHERWISE.
42. AUTOMATIC FIRE DAMPER REQUIREMENTS ARE AS FOLLOWS:

    A) PROVIDE AUTOMATIC FIRE DAMPERS AT ALL PENETRATIONS OF FIRE-RATED CEILINGS AND WALLS THROUGHOUT. CONTRACTOR SHALL COORDINATE FIRE-RATED AREAS WITH THE ARCHITECTURAL DRAWINGS AND OTHER TRADES PRIOR TO INSTALL AND SHALL NOTIFY PERTINENT PARTIES PRIOR TO ANY WORK PERFORMED IN THESE AREAS. IN ADDITION, CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE PROPER ACCESS FOR DAMPERS INSTALLED. THE DAMPER FIRE RATING SHALL BE COMPATIBLE WITH THE CEILING/WALL RATING.

    B) LOCATION OF FIRE-RATED CEILINGS AND WALLS ARE AS INDICATED ON THE ARCHITECTURAL DRAWINGS.

    C) FIRE AND/OR SMOKE DAMPER(S) SHALL BE PROVIDED AS REQUIRED BY THE LATEST UNIFORM/CALIFORNIA BUILDING CODE.

    D) CONTRACTOR SHALL FURNISH FLUSH MOUNTED FIRE AND/OR SMOKE DAMPERS, SO THAT DAMPER DO NOT EXTEND PASS WALLS, FOR AREAS WITHOUT CEILINGS FOR QUALITY WORKMANSHIP.
43. ALL DUCTWORK PASSING THROUGH FIRE RATED CORRIDORS AND LOBBIES SHALL BE MIN. 26 GAGE SHEET METAL CONSTRUCTION.
44. ALL DUCTWORK, PIPING, CONDUIT, & ETC. PENETRATING FIRE RATED CONSTRUCTION SHALL HAVE APPROVED FIRE STOPPING.
45. UNLESS OTHERWISE NOTED THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING EXTERIOR LOUVERS CALLED OUT HEREIN. SEE SPECIFICATIONS FOR LOUVER REQUIREMENTS. COORDINATE SIZE(S) AND LOCATION(S) WITH OTHER TRADES AS NECESSARY PRIOR TO BID.

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REVISIONS

CONSTRUCTION DOCUMENTS

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PocockDesignSolutions Inc.

GLENDALE UNIFIED SCHOOL DISTRICT
HERBERT HOOVER HIGH SCHOOL- 11000
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651 GLENWOOD RD, GLENDALE, CA 91202

nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
P:323.475.8075

NAC NO 161-16043
DRAWN BB
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GENERAL NOTES AND LEGENDS

REVISIONS

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AIR DISTRIBUTION SCHEDULE

SYM.	MANUF & MODEL	NECK SIZE	FACE SIZE	CFM RANGE	MAX. NECK VELOCITY	MAX. N.C.	S.P. DROP	TYPE	DAMPER	REMARKS
– / SD–1	KRUEGE 1240	6"x6" 8"x8" 10"x10" 12"x12" 14"x14" 16"x16" 18"x18" 20"x20"	24"x24"	0 - 125 130 - 220 225 - 350 355 - 500 505 - 680 685 - 880 885 - 1125 1130 - 1400	500	25	.10	LAY IN MOD. CORE	NO	BORDER TYPE FOR T-BAR
– / RG–1	KRUEGER ECG5	10"x6" 12"x8" 18"x10" 18"x18"	24"x24"	0 - 305 310 - 475 480 - 890 895-1550	750	25		EGG CRATE	NO	BORDER TYPE FOR T-BAR

LEGEND

400 — CFM
SD-1 — AIR DISTRIBUTION DEVICE

SD SUPPLY DIFFUSER
SR SUPPLY REGISTER
RG RETURN GRILLE
EG EXHAUST GRILLE
TG TRANSFER GRILLE

NOTES:
1. NOT ALL DIFFUSER/GRILLE TYPES OR SIZES MAY BE USED ON THIS PROJECT.

SPLIT SYSTEM OUTDOOR HEAT PUMP UNIT SCHEDULE

SYM	MFR & MODEL #	NOMINAL TONS	REFRIG.	COOLING: TOTAL CAPACITY (MBTU/h)	COOLING: SENSIBLE CAPACITY (MBTU/h)	COOLING: SEER	COOLING: EER	COOLING: AMBIENT (°F DB)	HEATING: OUTPUT (MBTU/h)	HEATING: COP / HSPF	HEATING: AMBIENT (°F DB)	INDOOR UNIT	ELECTRICAL: V	ELECTRICAL: PH	ELECTRICAL: MCA	ELECTRICAL: MOCP	OPERATING WEIGHT (LBS)	REMARKS	WIRING DETAIL	CONTROL DETAIL	ANCHORAGE DETAIL
HP 1	CARRIER 25HHA436A	3	410A	33.1	25.0	14.0	11.5	95	32.8	3.84	30	FC 1	208-230	1	19.0	30	200	2,3	7/M3.01	2/M5.01	6/M3.01
HP 2	CARRIER 25HHA448A	4	410A	46.3	34.7	14.0	11.5	95	35.1	3.82	30	FC 2	208-230	3	18.6	30	250	1,2,3	7/M3.01	2/M5.01	6/M3.01
HP 3	CARRIER 25HHA448A	4	410A	46.3	34.7	14.0	11.5	95	35.1	3.82	30	FC 3	208-230	3	18.6	30	250	1,2,3	7/M3.01	2/M5.01	6/M3.01
HP 4	CARRIER 25HHA448A	4	410A	46.3	34.7	14.0	11.5	95	35.1	3.82	30	FC 4	208-230	3	18.6	30	250	1,2,3	7/M3.01	2/M5.01	6/M3.01
HP 5	CARRIER 25HHA448A	4	410A	46.3	34.7	14.0	11.5	95	35.1	3.82	30	FC 5	208-230	3	18.6	30	250	1,2,3	7/M3.01	2/M5.01	6/M3.01
HP 6	CARRIER 25HHA448A	4	410A	46.3	34.7	14.0	11.5	95	35.1	3.82	30	FC 6	208-230	3	18.6	30	250	1,2,3	7/M3.01	2/M5.01	6/M3.01
HP 7	CARRIER 25HHA448A	4	410A	46.3	34.7	14.0	11.5	95	35.1	3.82	30	FC 7	208-230	3	18.6	30	250	1,2,3	7/M3.01	2/M5.01	6/M3.01
HP 8	CARRIER 25HHA448A	4	410A	46.3	34.7	14.0	11.5	95	35.1	3.82	30	FC 8	208-230	3	18.6	30	250	1,2,3	7/M3.01	2/M5.01	6/M3.01
HP 9	CARRIER 25HHA448A	4	410A	46.3	34.7	14.0	11.5	95	35.1	3.82	30	FC 9	208-230	3	18.6	30	250	1,2,3	7/M3.01	2/M5.01	6/M3.01
HP 10	CARRIER 25HHA448A	4	410A	46.3	34.7	14.0	11.5	95	35.1	3.82	30	FC 10	208-230	3	18.6	30	250	1,2,3	7/M3.01	2/M5.01	6/M3.01
HP 11	CARRIER 25HHA448A	4	410A	46.3	34.7	14.0	11.5	95	35.1	3.82	30	FC 11	208-230	3	18.6	30	250	1,2,3	7/M3.01	2/M5.01	6/M3.01
HP 12	CARRIER 25HHA448A	4	410A	46.3	34.7	14.0	11.5	95	35.1	3.82	30	FC 12	208-230	3	18.6	30	250	1,2,3	7/M3.01	2/M5.01	6/M3.01
HP 13	CARRIER 25HHA448A	4	410A	46.3	34.7	14.0	11.5	95	35.1	3.82	30	FC 13	208-230	3	18.6	30	250	1,2,3	7/M3.01	2/M5.01	6/M3.01
HP 14	CARRIER 25HHA448A	4	410A	46.3	34.7	14.0	11.5	95	35.1	3.82	30	FC 14	208-230	3	18.6	30	250	1,2,3	7/M3.01	2/M5.01	6/M3.01
HP 15	CARRIER 25HHA448A	4	410A	46.3	34.7	14.0	11.5	95	35.1	3.82	30	FC 15	208-230	3	18.6	30	250	1,2,3	7/M3.01	2/M5.01	6/M3.01
HP 16	CARRIER 25HHA448A	4	410A	46.3	34.7	14.0	11.5	95	35.1	3.82	30	FC 16	208-230	3	18.6	30	250	1,2,3	7/M3.01	2/M5.01	6/M3.01
HP 17	CARRIER 25HHA448A	4	410A	46.3	34.7	14.0	11.5	95	35.1	3.82	30	FC 17	208-230	3	18.6	30	250	1,2,3	7/M3.01	2/M5.01	6/M3.01
HP 18	CARRIER 25HHA448A	4	410A	46.3	34.7	14.0	11.5	95	35.1	3.82	30	FC 18	208-230	3	18.6	30	250	1,2,3	7/M3.01	2/M5.01	6/M3.01
HP 19	CARRIER 25HHA448A	4	410A	46.3	34.7	14.0	11.5	95	35.1	3.82	30	FC 19	208-230	3	18.6	30	250	1,2,3	7/M3.01	2/M5.01	6/M3.01

1. CRANCKCASE HEATER
2. LIQUID LINE DRIER
3. REFRIGERANT SPECIALTIES AS REQUIRED

SPLIT SYSTEM INDOOR DUCTED FAN COIL UNIT SCHEDULE

SYM	MFR & MODEL #	AREA SERVICED	NOMINAL TONS	CFM	OSA CFM	ESP (IN. WG)	MOTOR HP	MOTOR TYPE	FILTER EFFICIENCY	OUTDOOR UNIT	ELECTRICAL: V	ELECTRICAL: PH	ELECTRICAL: MCA	ELECTRICAL: MOCP	WEIGHT (LBS)	REMARKS	WIRING DETAIL	CONTROL DETAIL	ANCHORAGE DETAIL
FC 1	CARRIER FV4CNF002L	11224	3	1200	330	0.5	0.5	ECM	MERV8	HP 1	208-230	1	5.4	15	135	1	7/M3.01	2/M5.01	5/M3.01
FC 2	CARRIER FV4CNF005L	11224	4	1600	180	0.5	0.5	ECM	MERV8	HP 2	208-230	1	5.4	15	175	1	7/M3.01	2/M5.01	5/M3.01
FC 3	CARRIER FV4CNF005L	11226	4	1600	315	0.5	0.5	ECM	MERV8	HP 3	208-230	1	5.4	15	175	1	7/M3.01	2/M5.01	5/M3.01
FC 4	CARRIER FV4CNF005L	11225	4	1600	315	0.5	0.5	ECM	MERV8	HP 4	208-230	1	5.4	15	175	1	7/M3.01	2/M5.01	5/M3.01
FC 5	CARRIER FV4CNF005L	11229	4	1600	330	0.5	0.5	ECM	MERV8	HP 5	208-230	1	5.4	15	175	1	7/M3.01	2/M5.01	5/M3.01
FC 6	CARRIER FV4CNF005L	11228	4	1600	315	0.5	0.5	ECM	MERV8	HP 6	208-230	1	5.4	15	175	1	7/M3.01	2/M5.01	5/M3.01
FC 7	CARRIER FV4CNF005L	11202	4	1600	335	0.5	0.5	ECM	MERV8	HP 7	208-230	1	5.4	15	175	1	7/M3.01	2/M5.01	5/M3.01
FC 8	CARRIER FV4CNF005L	11201	4	1600	320	0.5	0.5	ECM	MERV8	HP 8	208-230	1	5.4	15	175	1	7/M3.01	2/M5.01	5/M3.01
FC 9	CARRIER FV4CNF005L	11208	4	1600	320	0.5	0.5	ECM	MERV8	HP 9	208-230	1	5.4	15	175	1	7/M3.01	2/M5.01	5/M3.01
FC 10	CARRIER FV4CNF005L	11209	4	1600	320	0.5	0.5	ECM	MERV8	HP 10	208-230	1	5.4	15	175	1	7/M3.01	2/M5.01	5/M3.01
FC 11	CARRIER FV4CNF005L	11210	4	1600	335	0.5	0.5	ECM	MERV8	HP 11	208-230	1	5.4	15	175	1	7/M3.01	2/M5.01	5/M3.01
FC 12	CARRIER FV4CNF005L	11213	4	1600	320	0.5	0.5	ECM	MERV8	HP 12	208-230	1	5.4	15	175	1	7/M3.01	2/M5.01	5/M3.01
FC 13	CARRIER FV4CNF005L	11212	4	1600	320	0.5	0.5	ECM	MERV8	HP 13	208-230	1	5.4	15	175	1	7/M3.01	2/M5.01	5/M3.01
FC 14	CARRIER FV4CNF005L	11215	4	1600	320	0.5	0.5	ECM	MERV8	HP 14	208-230	1	5.4	15	175	1	7/M3.01	2/M5.01	5/M3.01
FC 15	CARRIER FV4CNF005L	11214	4	1600	335	0.5	0.5	ECM	MERV8	HP 15	208-230	1	5.4	15	175	1	7/M3.01	2/M5.01	5/M3.01
FC 16	CARRIER FV4CNF005L	11217	4	1600	320	0.5	0.5	ECM	MERV8	HP 16	208-230	1	5.4	15	175	1	7/M3.01	2/M5.01	5/M3.01
FC 17	CARRIER FV4CNF005L	11218	4	1600	320	0.5	0.5	ECM	MERV8	HP 17	208-230	1	5.4	15	175	1	7/M3.01	2/M5.01	5/M3.01
FC 18	CARRIER FV4CNF005L	11219	4	1600	320	0.5	0.5	ECM	MERV8	HP 18	208-230	1	5.4	15	175	1	7/M3.01	2/M5.01	5/M3.01
FC 19	CARRIER FV4CNF005L	11220	4	1600	320	0.5	0.5	ECM	MERV8	HP 19	208-230	1	5.4	15	175	1	7/M3.01	2/M5.01	5/M3.01

1. 2" FIELD FABRICATED FILTER RACK.

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AC FLS SS
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GLENDALE UNIFIED SCHOOL DISTRICT
HERBERT HOOVER HIGH SCHOOL– 11000
BUILDING PROP 39 – HVAC UPGRADE
651 GLENWOOD RD, GLENDALE, CA 91202

PDS
PocockDesignSolutions Inc.

nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
P: 323.475.8075

NAC NO 161–16043
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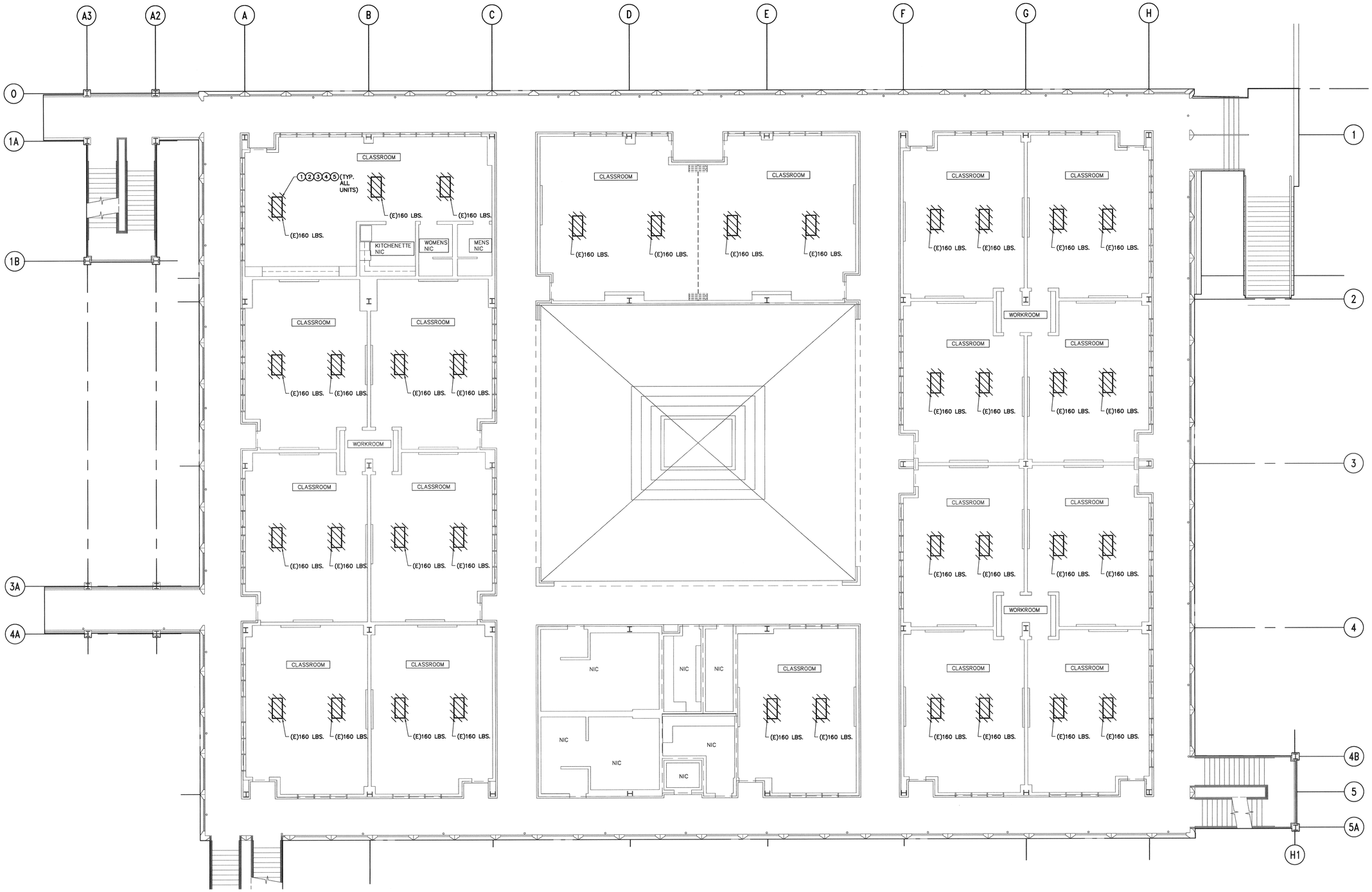
DATE 06–22–2017

MECHANICAL SCHEDULES

M0.02



1 DEMOLITION MECHANICAL 2ND FLOOR PLAN
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES:

1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL ITEMS TO BE REMOVED. CONTRACTOR SHALL VERIFY ALL SUCH ITEMS WITH DISTRICT PRIOR TO REMOVAL. ALL ITEMS NOT REFUSED BY DISTRICT SHALL BE REMOVED INTACT AND FULLY FUNCTIONAL BY CONTRACTOR AND RETURNED TO DISTRICT. ALL ITEMS REFUSED BY DISTRICT SHALL BE PROPERLY DISPOSED OF BY CONTRACTOR.
2. ELECTRICAL CONTRACTOR SHALL DISCONNECT POWER FROM MECHANICAL EQUIPMENT TO BE REMOVED, RELOCATED, RE-USED AND/OR REPLACED AS REQUIRED.
3. PLUMBING CONTRACTOR SHALL DISCONNECT EXISTING CONDENSATE DRAIN FROM MECHANICAL EQUIPMENT TO BE REMOVED AND/OR REPLACED – AS REQUIRED.
4. CONTRACTOR SHALL RE-USE EXISTING OPENINGS IN WALLS AND ROOF WHEREVER POSSIBLE. COORDINATE WITH OTHER TRADES AS NECESSARY. GENERAL CONTRACTOR SHALL MODIFY OPENING AS REQUIRED TO ACCOMMODATE NEW MECHANICAL DEVICE.
5. GENERAL CONTRACTOR SHALL PATCH ALL OPENINGS IN WALLS, ROOF, ETC. THAT WILL NOT BE REUSED FOR FUTURE WORK. COORDINATE AS NECESSARY WITH OTHER TRADES.
6. PRIOR TO ANY WORK BEING DONE CONTRACTOR SHALL MAKE A CAREFUL EVALUATION OF THE EXISTING CONDITIONS AND VERIFY ALL METHODS OF REMOVAL AND INSTALLATION OF MECHANICAL EQUIPMENT.
7. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH THE WORK OF ALL OTHER TRADES.
8. EXISTING ABANDONED OR UNUSED PIPING, DUCT, VENTS, ETC. SHALL BE REMOVED. PATCH AND REPAIR WALLS/ROOF AS NECESSARY.
9. ALL DUCTWORK AND DIFFUSER INDICATED AS DASHED LINES ARE EXISTING TO REMAIN.

DEMOLITION KEY NOTES:

1. DEMO AND REMOVE EXISTING FAN COILS UNITS AND ASSOCIATED REGISTERS, GRILLES, ETC. AS SHOWN AS CROSS HATCHED IN DRAWING.
2. DISCONNECT CONDENSATE CONNECTIONS AND RE-USE CONDENSATE PIPING FOR NEW UNITS.
3. DEMO HORIZONTAL RUNS OF REFRIGERANT PIPING TO VERTICAL RISER (EXISTING 1/2" LIQUID & 3/4" VAPOR VERTICAL REFRIGERANT PIPING TO REMAIN UNLESS NOTED OTHERWISE.)
4. ALL EXISTING DUCTWORK AND ACCESSORIES TO REMAIN UNLESS NOTED.
5. CONTRACTOR SHALL DISCONNECT AND CAP EXISTING CONDENSATE DRAIN LINE FOR RECONNETION TO NEW MECHANICAL UNIT.

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BUILDING PROP 39 – HVAC UPGRADE
651 GLENWOOD RD, GLENDALE, CA 91202

PocockDesignSolutions Inc.
REGISTERED PROFESSIONAL ENGINEER ANDREW R. GOSSMAN No. M29630 Exp. 3/31/18 MECHANICAL STATE OF CALIFORNIA
REGISTERED ARCHITECT TIMOTHY A. BACCHUS No. C 21424 Exp. 8/31/17 STATE OF CALIFORNIA
nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
P: 323.475.8075

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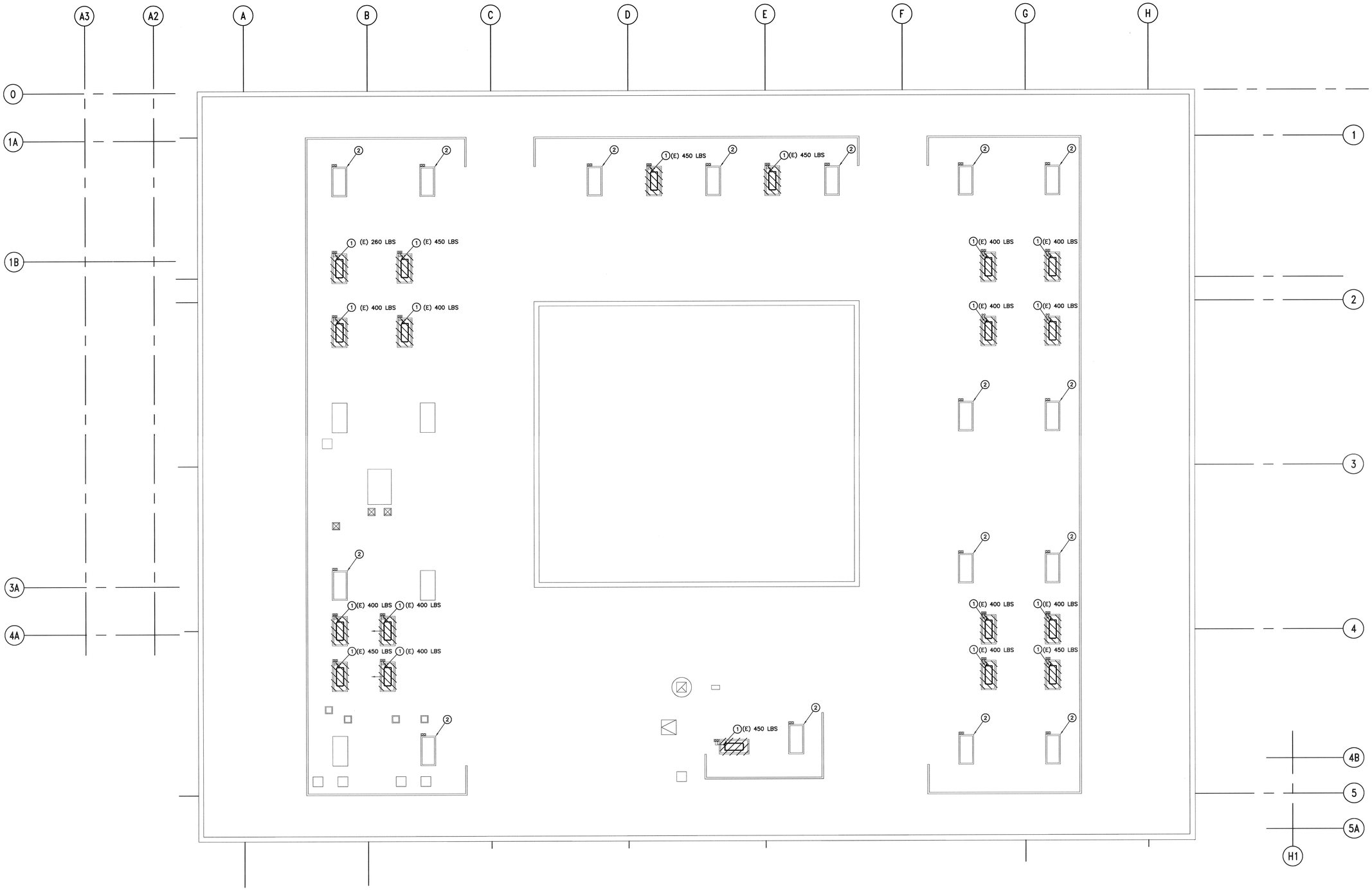
DEMOLITION MECHANICAL 2ND FLOOR PLAN

MD1.01

12/30/2015 9:39:00 File Path



1 DEMOLITION MECHANICAL ROOF PLAN
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES:

1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL ITEMS TO BE REMOVED. CONTRACTOR SHALL VERIFY ALL SUCH ITEMS WITH DISTRICT PRIOR TO REMOVAL. ALL ITEMS NOT REFUSED BY DISTRICT SHALL BE REMOVED INTACT AND FULLY FUNCTIONAL BY CONTRACTOR AND RETURNED TO DISTRICT. ALL ITEMS REFUSED BY DISTRICT SHALL BE PROPERLY DISPOSED OF BY CONTRACTOR.
2. ELECTRICAL CONTRACTOR SHALL DISCONNECT POWER FROM MECHANICAL EQUIPMENT TO BE REMOVED, RELOCATED, RE-USED AND/OR REPLACED AS REQUIRED.
3. PLUMBING CONTRACTOR SHALL DISCONNECT EXISTING CONDENSATE DRAIN FROM MECHANICAL EQUIPMENT TO BE REMOVED AND/OR REPLACED - AS REQUIRED.
4. CONTRACTOR SHALL RE-USE EXISTING OPENINGS IN WALLS AND ROOF WHEREVER POSSIBLE. COORDINATE WITH OTHER TRADES AS NECESSARY. GENERAL CONTRACTOR SHALL MODIFY OPENING AS REQUIRED TO ACCOMMODATE NEW MECHANICAL DEVICE.
5. GENERAL CONTRACTOR SHALL PATCH ALL OPENINGS IN WALLS, ROOF, ETC. THAT WILL NOT BE REUSED FOR FUTURE WORK. COORDINATE AS NECESSARY WITH OTHER TRADES.
6. PRIOR TO ANY WORK BEING DONE CONTRACTOR SHALL MAKE A CAREFUL EVALUATION OF THE EXISTING CONDITIONS AND VERIFY ALL METHODS OF REMOVAL AND INSTALLATION OF MECHANICAL EQUIPMENT.
7. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH THE WORK OF ALL OTHER TRADES.
8. EXISTING ABANDONED OR UNUSED PIPING, DUCT, VENTS, ETC. SHALL BE REMOVED. PATCH AND REPAIR WALLS/ROOF AS NECESSARY.
9. ALL DUCTWORK AND DIFFUSER INDICATED AS DASHED LINES ARE EXISTING TO REMAIN.

DEMOLITION KEY NOTES:

(1) DEMO AND REMOVE EXISTING HEAT PUMP UNITS. REFRIGERANT PIPING TO REMAIN. CAP AND SEAL AS REQUIRED AFTER HEAT PUMP REMOVAL.

(2) PROTECT (E) HEAT PUMPS IN PLACE.

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HERBERT HOOVER HIGH SCHOOL- 11000
BUILDING PROP 39 - HVAC UPGRADE
651 GLENWOOD RD, GLENDALE, CA 91202

REGISTERED ARCHITECT TIMOTHY A. BALLARD No. C 21426 EXP. 8/31/17 STATE OF CALIFORNIA

nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
P: 323.478.8075

NAC NO	161-16043
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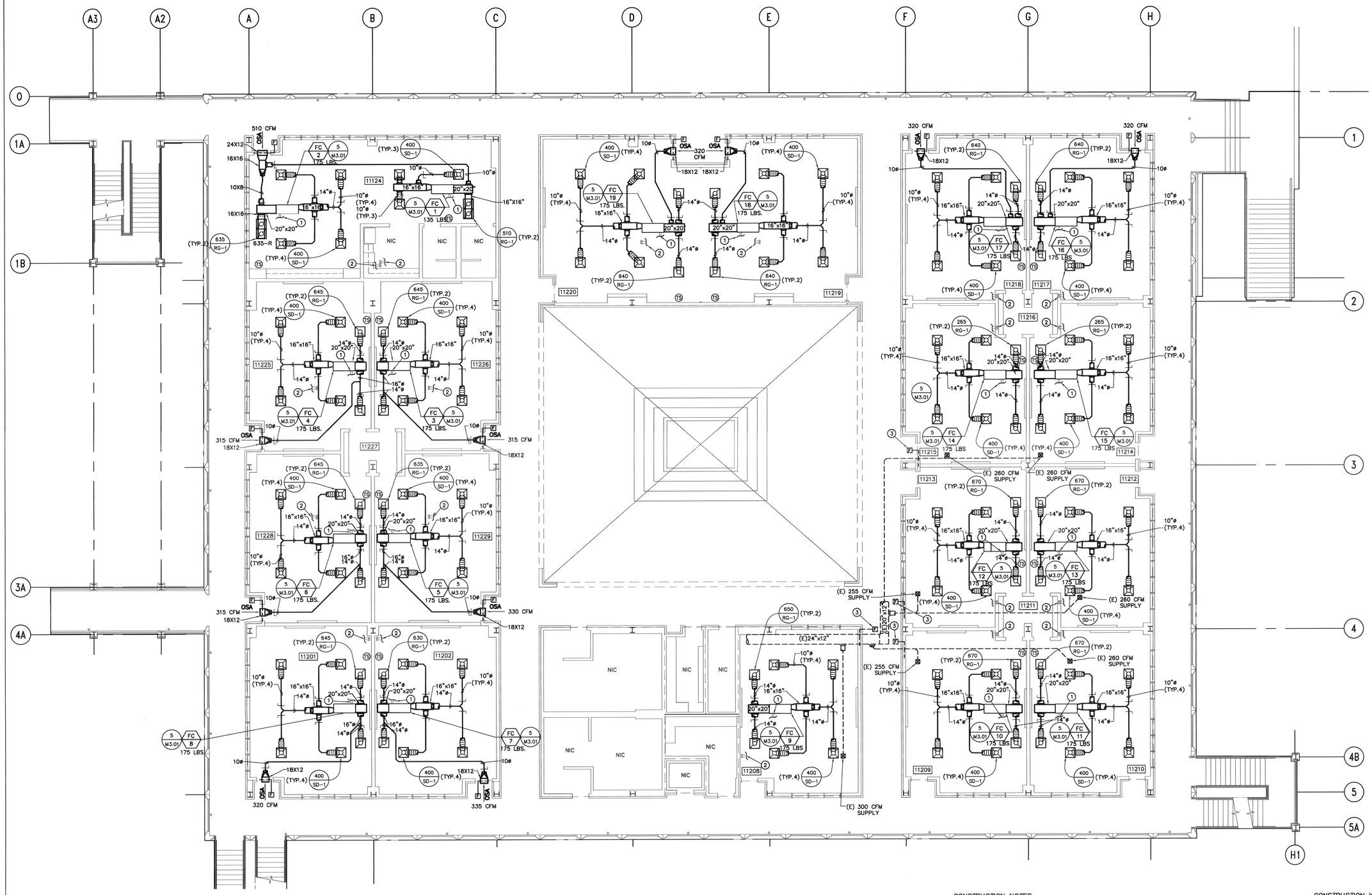
DATE	06-22-2017

DEMOLITION MECHANICAL ROOF PLAN

MD2.01



1 MECHANICAL 2ND FLOOR PLAN
SCALE: 1/8" = 1'-0"

CONSTRUCTION NOTES:

1. FIELD VERIFY ALL EXISTING DUCT DIMENSIONS INDICATED PRIOR TO FABRICATION. PROVIDE ALL TRANSITIONS AS REQUIRED TO CONNECT NEW DUCTWORK TO EXISTING.
2. COORDINATE ENTIRE INSTALLATION OF THE HVAC SYSTEM WITH THE WORK OF ALL OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. PROVIDE ALL FITTINGS, OFFSETS, AND TRANSITIONS AS REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
3. COORDINATE THE LOCATIONS OF ALL CEILING DIFFUSERS, REGISTERS AND GRILLES WITH THE ARCHITECTURAL REFLECTIVE CEILING PLAN, AND ELECTRICAL LIGHTING LAYOUT.
4. BEFORE COMMENCEMENT OF WORK, THE MECHANICAL CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS AND DIMENSIONS OF ALL EXISTING EQUIPMENT AND ELECTRICAL SERVICES IN THE AREA OF NEW CONSTRUCTION AND NOTIFY THE DISTRICT OF ANY DISCREPANCIES.
5. ALL EXISTING DUCTWORK TO BE REUSED SHALL BE THOROUGHLY CLEANED. FURNISH NEW FILTERS UPON COMPLETION FOR AIR TEST AND BALANCING.
6. CONTRACTOR TO PROVIDE AN INDEPENDENT AIR TEST AND BALANCE REPORT FROM AN AABC APPROVED COMPANY.
7. SEE 1/M5.01 FOR EMCS CONTROL WIRING.
8. IF SHOWN, ALL DUCTWORK/REGISTERS INDICATED WITH DASHED LINES ARE EXISTING TO REMAIN.
9. SEE DETAIL 11/M3.01 FOR REFRIGERANT PIPING SUPPORT.

9A. SEE DETAIL 10/M3.01 FOR DUCTWORK SUPPORT.

PLUMBING CONSTRUCTION NOTES:

10. CONTRACTOR SHALL CONNECT EXISTING CONDENSATE LINE TO NEW MECHANICAL UNIT, MODIFY AND EXTEND EXISTING PIPING AS REQUIRED. SEE DTL. 12/M3.01.
11. ALL CONDENSATE DRAIN PIPING ABOVE CELING SHALL SLOPE AT 1% UNLESS OTHERWISE NOTED.
12. BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF ALL UTILITIES AND PIPING BY PHYSICAL EXAMINATION AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
13. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES AND POINTS OF CONNECTION PRIOR TO BIDDING PROJECT.
14. WHERE PLANS INDICATE NEW EQUIPMENT CONNECTING TO EXISTING SERVICES, CONTRACTOR SHALL MODIFY AND/OR EXTEND EXISTING PIPING OR ROUGH-INS AS REQUIRED TO SUIT THE NEW EQUIPMENT.

CONSTRUCTION KEYNOTES:

(1) NEW 3/8"-RL AND 7/8"-REFRIG. VAPOR LINE FROM NEW FAN COIL UNIT.
(2) CONNECT NEW 3/8"-RL TO (E)1/2-RL RISER AND NEW 7/8"-REFRIG. VAPOR TO (E)3/4"-REFRIG. VAPOR RISER.
(3) EXISTING(E) FIRE DAMPER TO REMAIN.

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CONSTRUCTION DOCUMENTS

GLENDALE UNIFIED SCHOOL DISTRICT
HERBERT HOOVER HIGH SCHOOL- 11000
BUILDING PROP 39 - HVAC UPGRADE
651 GLENWOOD RD, GLENDALE, CA 91202

PocockDesignSolutions Inc.
REGISTERED PROFESSIONAL ENGINEER ANDREW R. GOSSMAN No. M28630 Exp. 12/0/18 MECHANICAL STATE OF CALIFORNIA
REGISTERED ARCHITECT TIMOTHY A. BALLARD No. C-21424 Exp. 8/31/19 STATE OF CALIFORNIA
hacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR LOS ANGELES CA 90012 P: 323.475.0075

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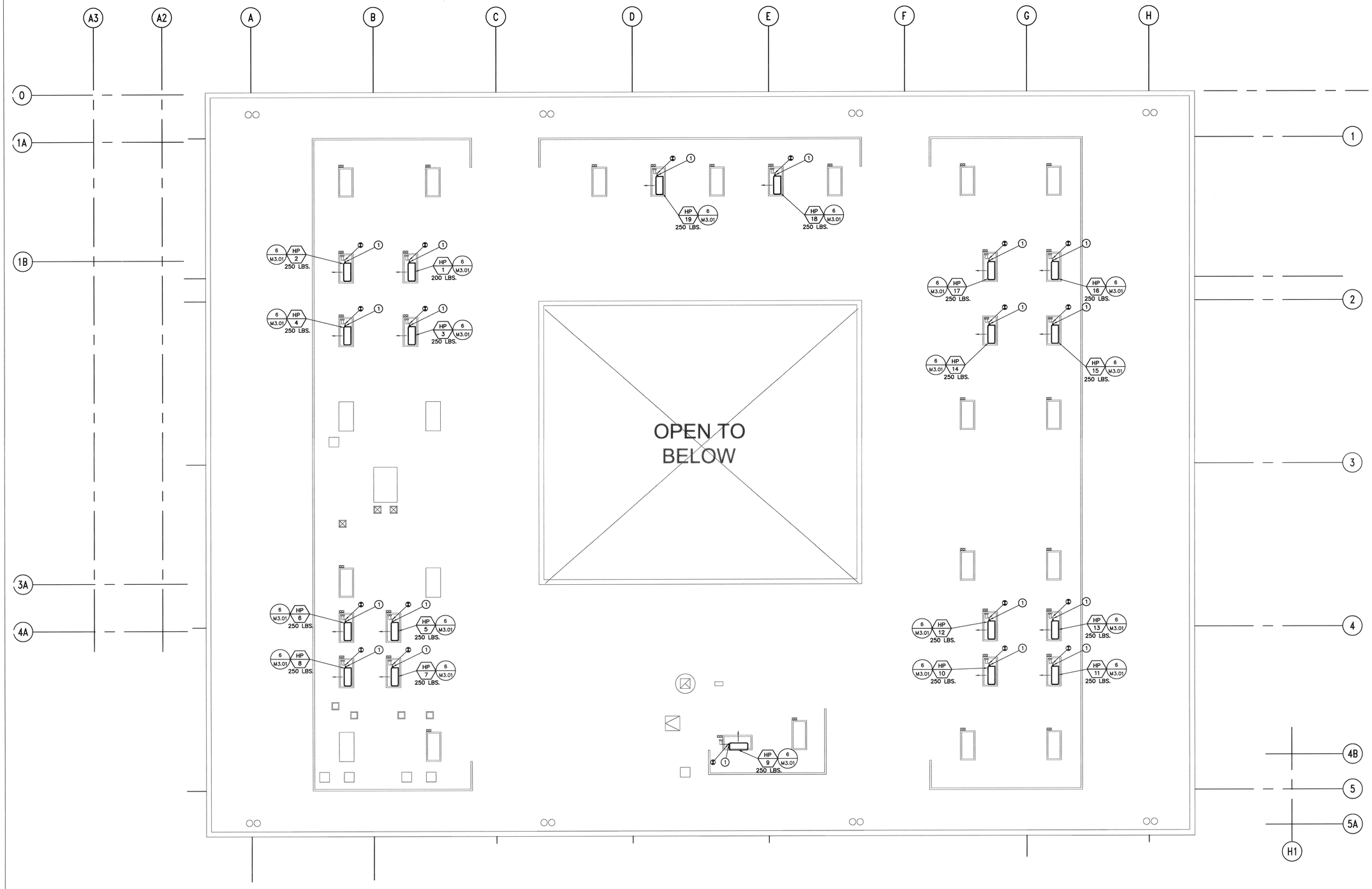
MECHANICAL 2ND FLOOR PLAN

M1.01



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

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CONSTRUCTION NOTES:

1. COORDINATE ENTIRE INSTALLATION OF THE HVAC SYSTEM WITH THE WORK OF ALL OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. PROVIDE ALL FITTINGS, OFFSETS, AND TRANSITIONS AS REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
2. BEFORE COMMENCEMENT OF WORK, THE MECHANICAL CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS AND DIMENSIONS OF ALL EXISTING EQUIPMENT AND ELECTRICAL SERVICES IN THE AREA OF NEW CONSTRUCTION AND NOTIFY THE DISTRICT OF ANY DISCREPANCIES.

CONSTRUCTION KEYNOTES:

1. CONNECT NEW 3/8"-RL TO (E)1/2-RL AND NEW 7/8"-REFRIG. VAPOR TO (E)3/4"-REFRIG. VAPOR. PROVIDE ALL NEW INSULATION WITH WEATHERPROOF JACKETING ON BOTH PIPES.

N

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651 GLENWOOD RD, GLENDALE, CA
91202

REGISTERED ARCHITECT TIMOTHY A. BALLARD No. C 21424 Exp. 8/31/17 STATE OF CALIFORNIA

PDS PocockDesignSolutions Inc.

REGISTERED PROFESSIONAL ENGINEER ANDREW R. GUSMAN No. M30639 Exp. 12/31/18 MECHANICAL STATE OF CALIFORNIA

macarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
PH 323.475.8075

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MECHANICAL ROOF PLAN

M2.01

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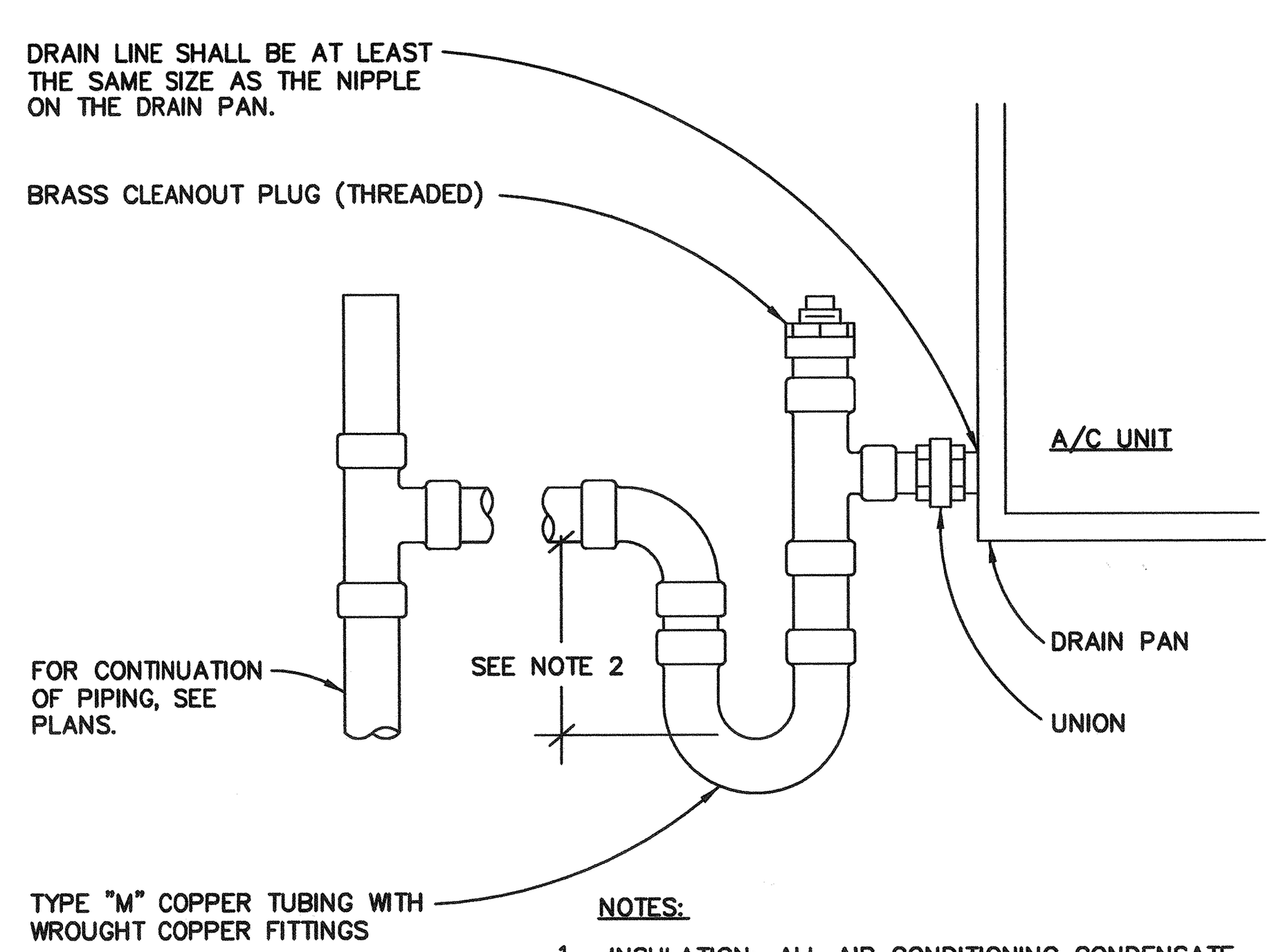
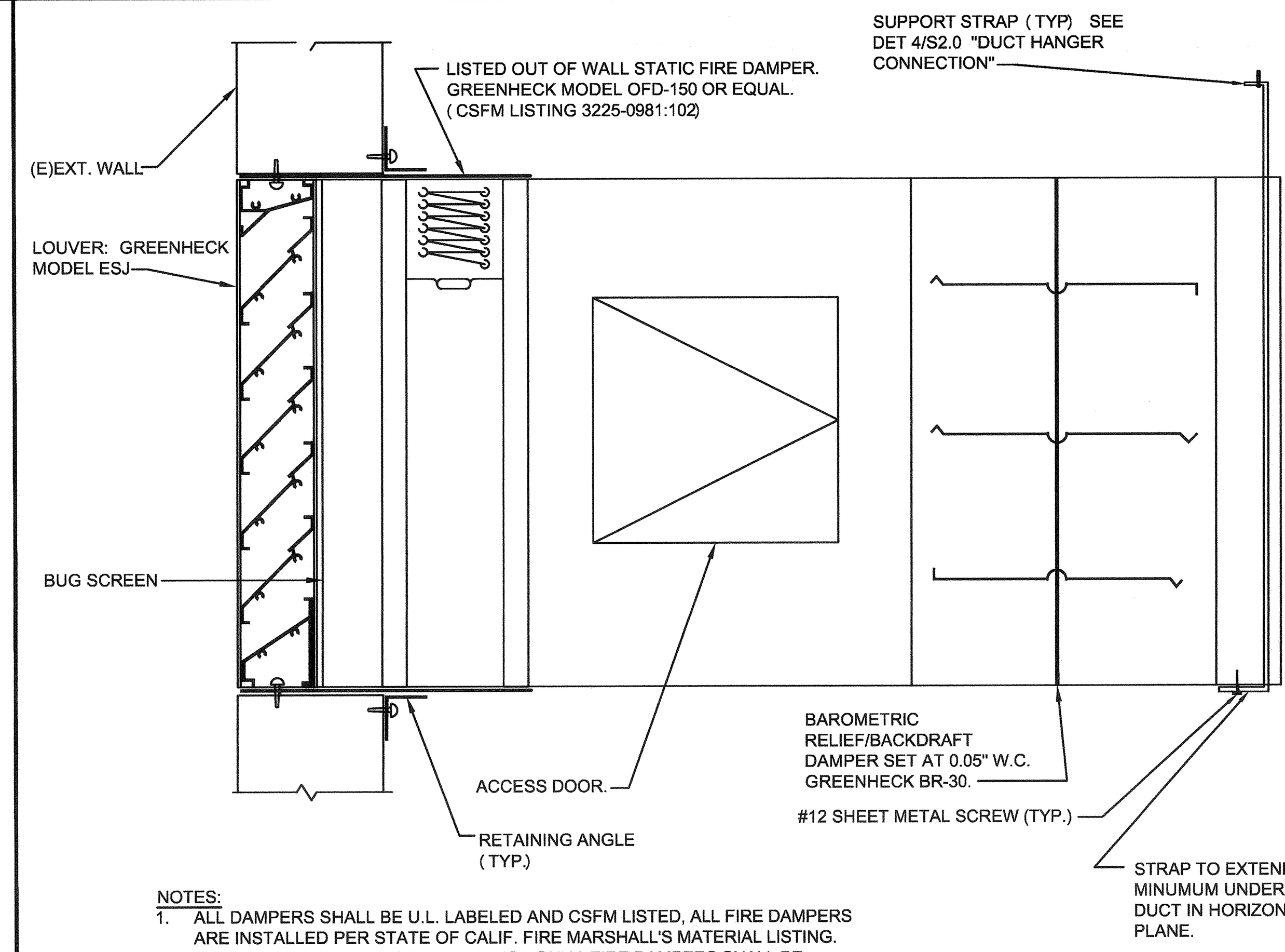


NOTES:

1. INSULATION: ALL AIR CONDITIONING CONDENSATE DRAIN PIPING SHALL BE INSULATED WITH "IMCOA" IMCOLOCK CLOSED-CELL PIPE INSULATION.
2. TRAP DEPTH SHALL BE EQUAL TO THE A/C UNIT TOTAL STATIC PRESSURE PLUS 1-INCH BUT NOT LESS THAN 2-INCHES.
3. CONDENSATE DRAINS SHALL BE TYPE "M" ASTM B88, HARD DRAWN COPPER TUBING WITH WROUGHT COPPER SWEAT FITTINGS ANSI B16.22 WITH LEAD FREE SOLDER.

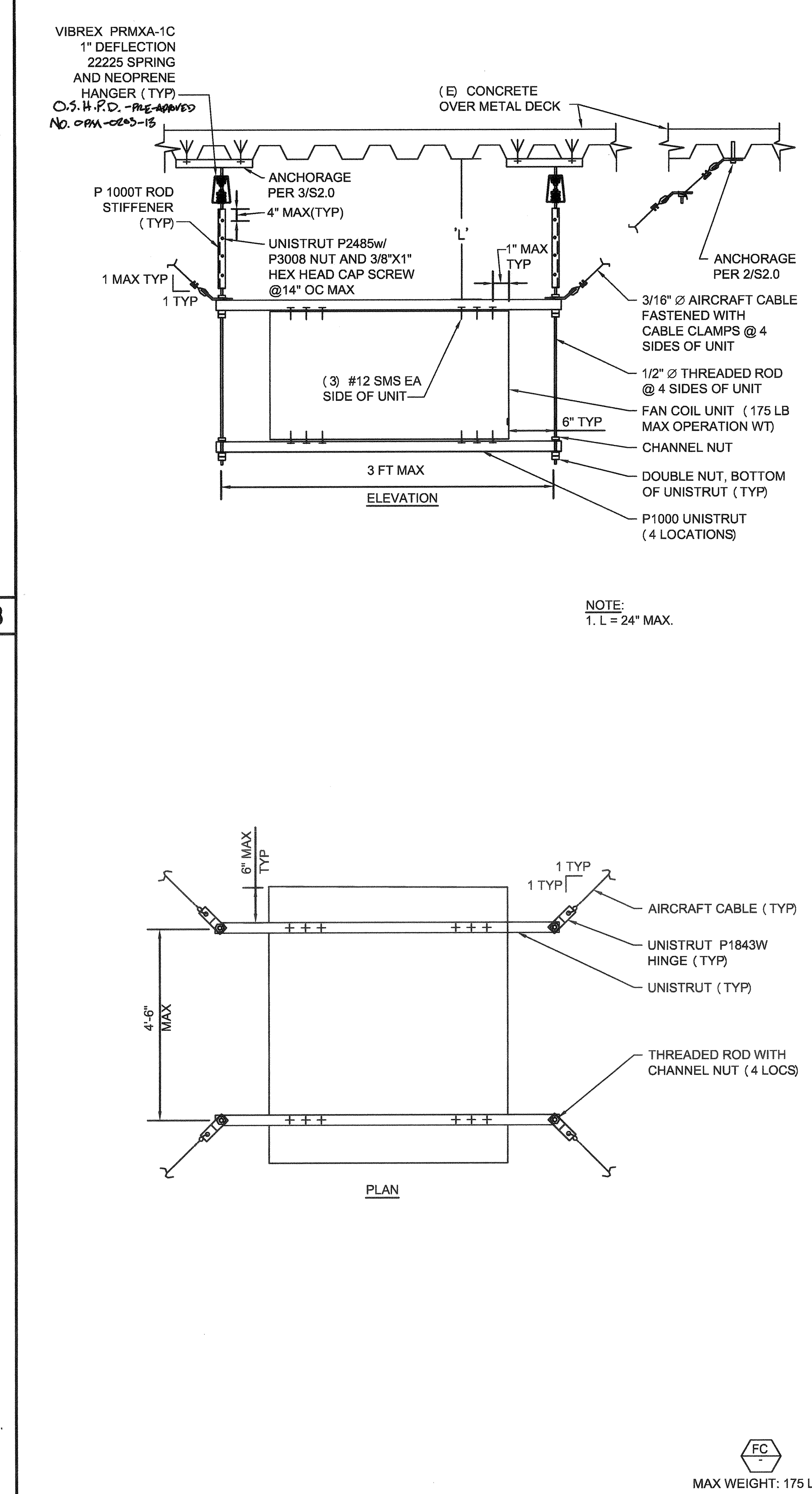
TYPICAL CONDENSATE TRAP DETAIL — SCALE NONE — 12



NOTES:

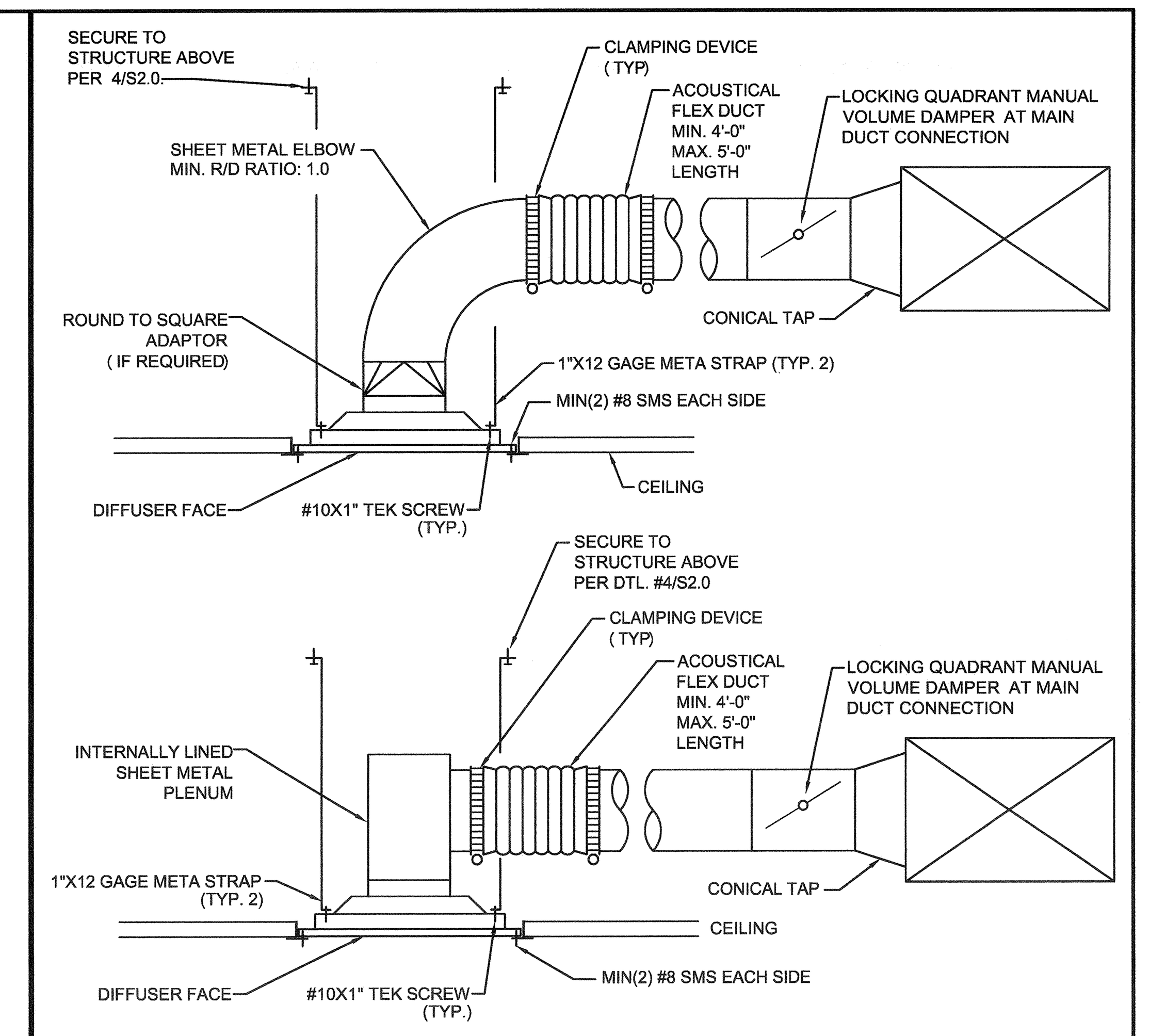
1. ALL DAMPERS SHALL BE U.L. LABELED AND CSFM LISTED, ALL FIRE DAMPERS ARE INSTALLED PER STATE OF CALIF. FIRE MARSHALL'S MATERIAL LISTING.
2. FIRE DAMPER DETAIL FOR REFERANCE ONLY. FIRE DAMPERS SHALL BE STATE FIRE MARSHALL APPROVED AND INSTALLED STRICTLY PER MANUFACTURER'S PRINTED INSTRUCTIONS. MANUFACTURE'S INSTALLATION INSTRUCTIONS SHALL BE MADE AVAILABLE TO THE INSPECTING AUTHORITIES.

TYPICAL EXTERIOR FIRE DAMPER DETAIL — SCALE NONE — 8



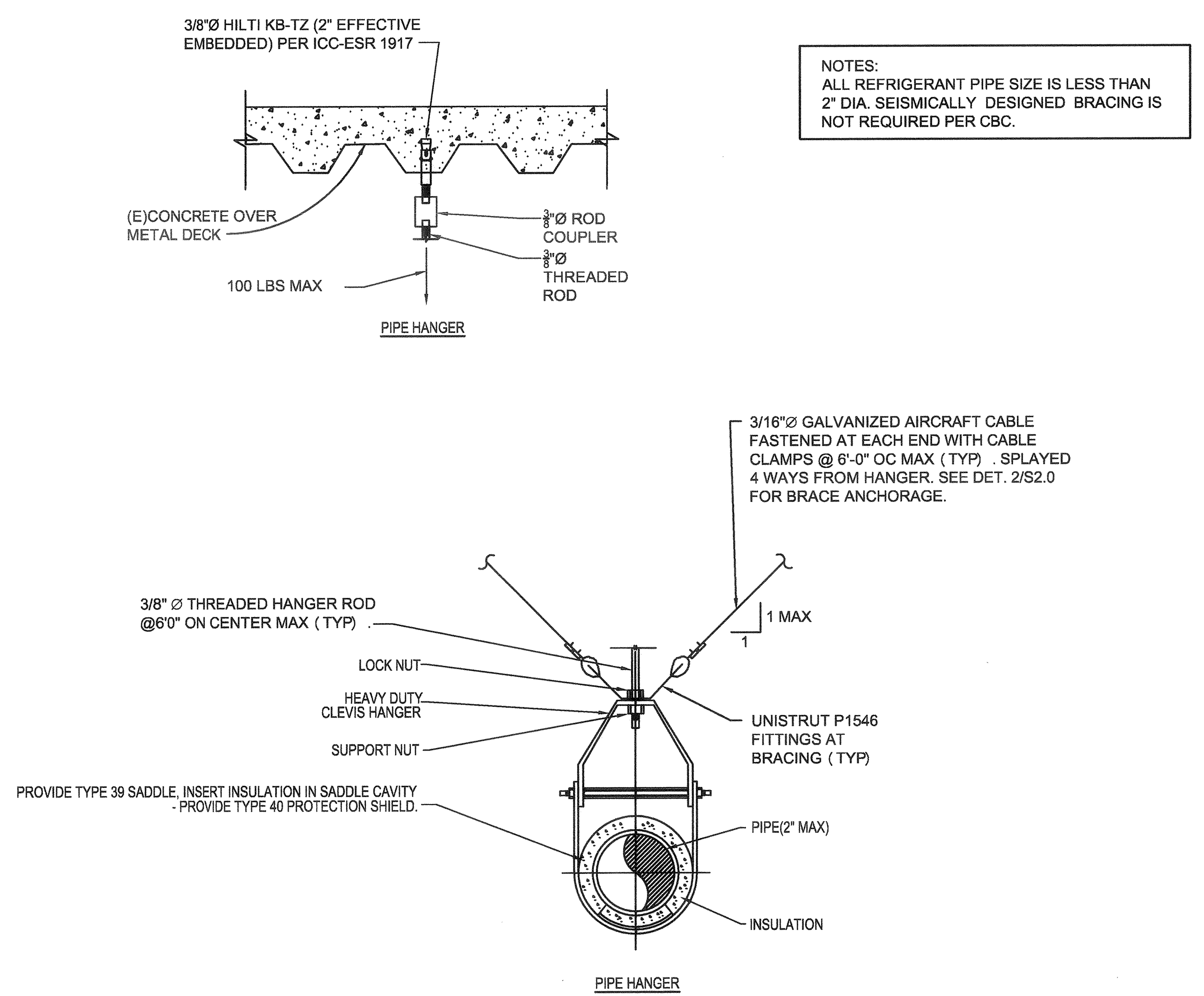
NOTE:
1. L = 24" MAX.

TYPICAL FAN COIL UNIT ANCHORAGE DETAIL — SCALE NONE — 5



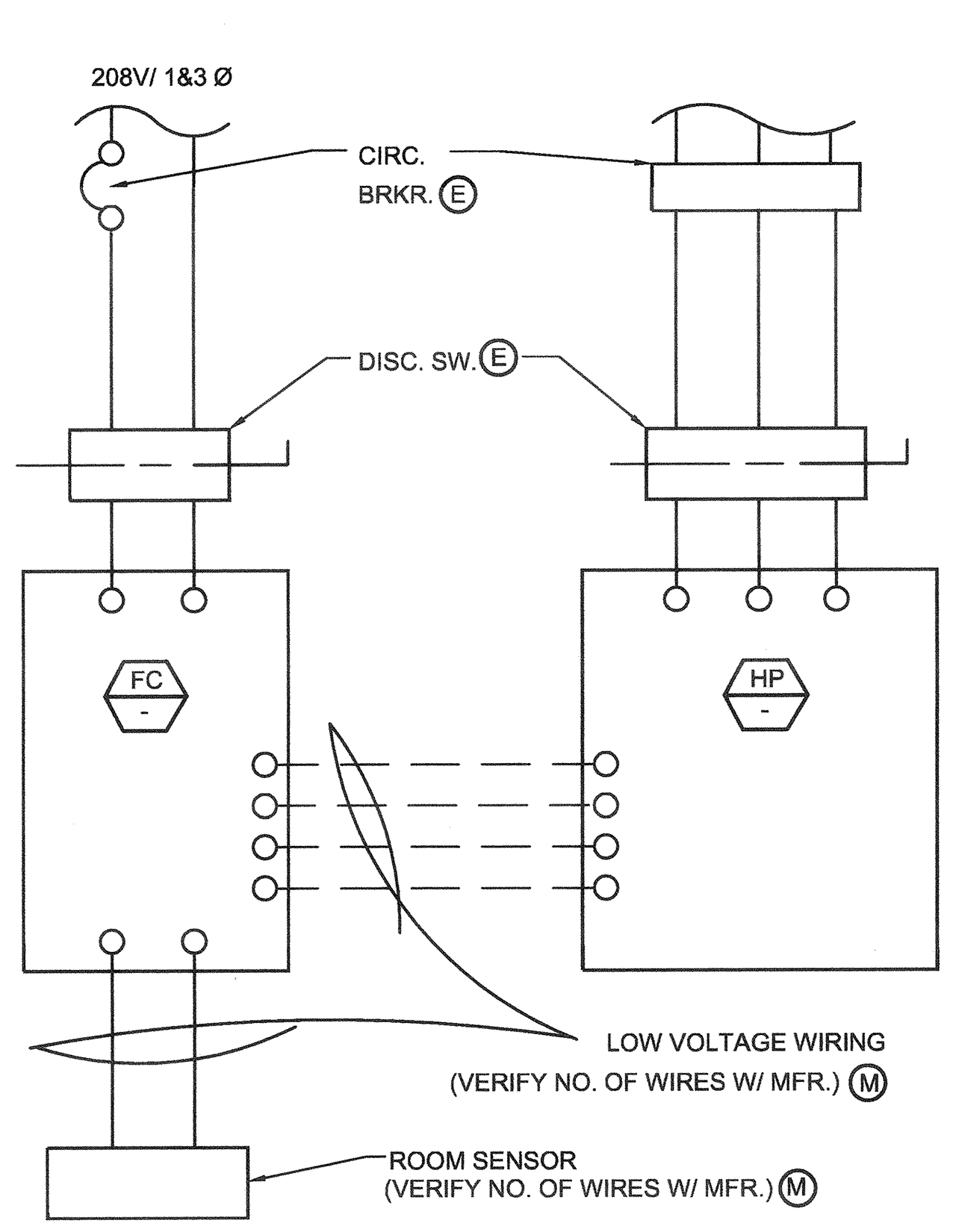
NOTE:
FLEXIBLE DUCT SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL NOT BE USED IN LIEU OF A RIGID ELBOW OR TRANSITION PER CMC REQUIREMENTS. SEE DET. 5/S2.0 FOR DUCT BRACE CONNECTION.

TYPICAL CEILING DIFFUSER ANCHORAGE DETAIL — SCALE NONE — 3

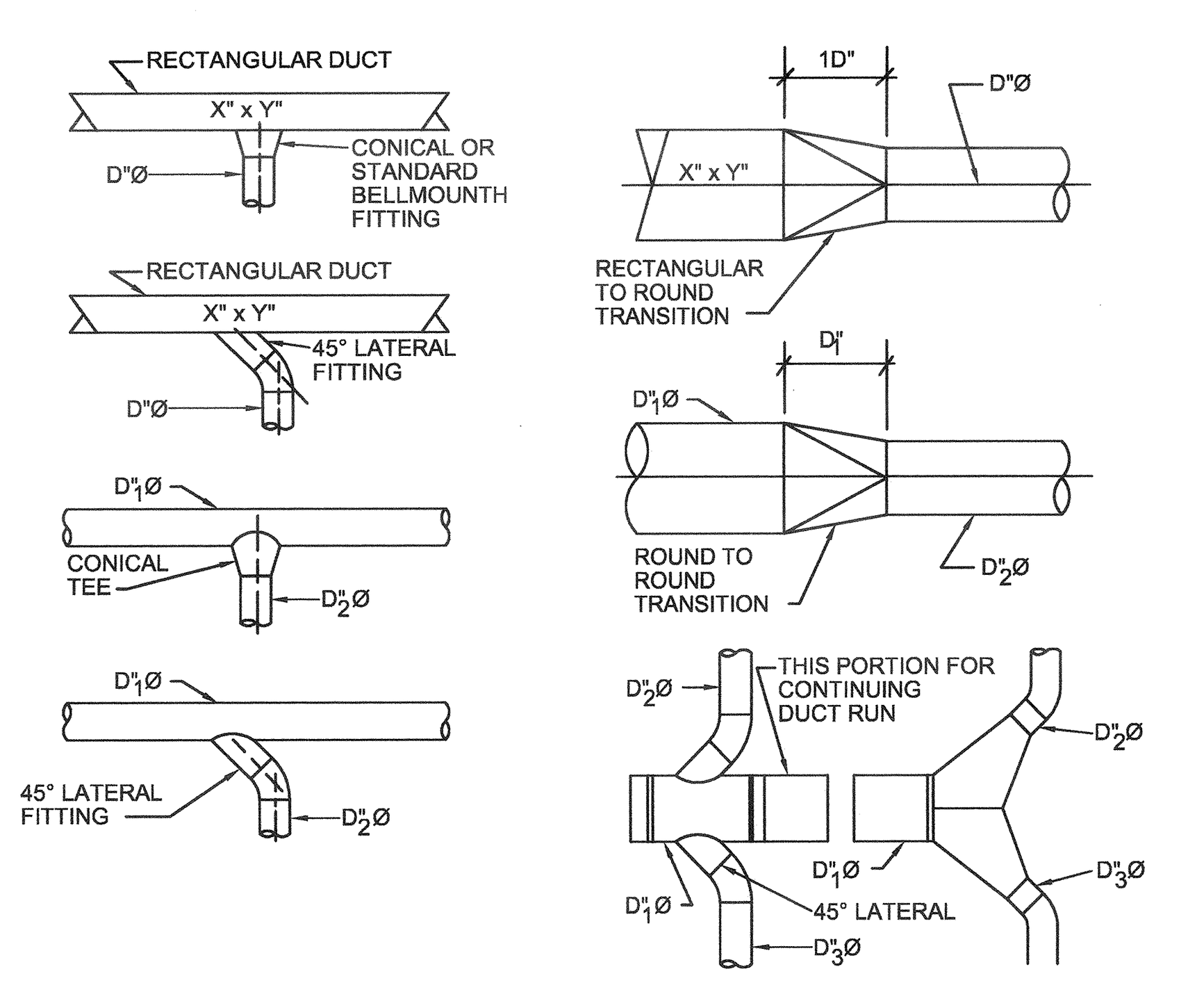


NOTES:
ALL REFRIGERANT PIPE SIZE IS LESS THAN 2" DIA. SEISMICALLY DESIGNED BRACING IS NOT REQUIRED PER CBC.

TYPICAL REFRIGERANT PIPE SUPPORT DETAIL — SCALE NONE — 11



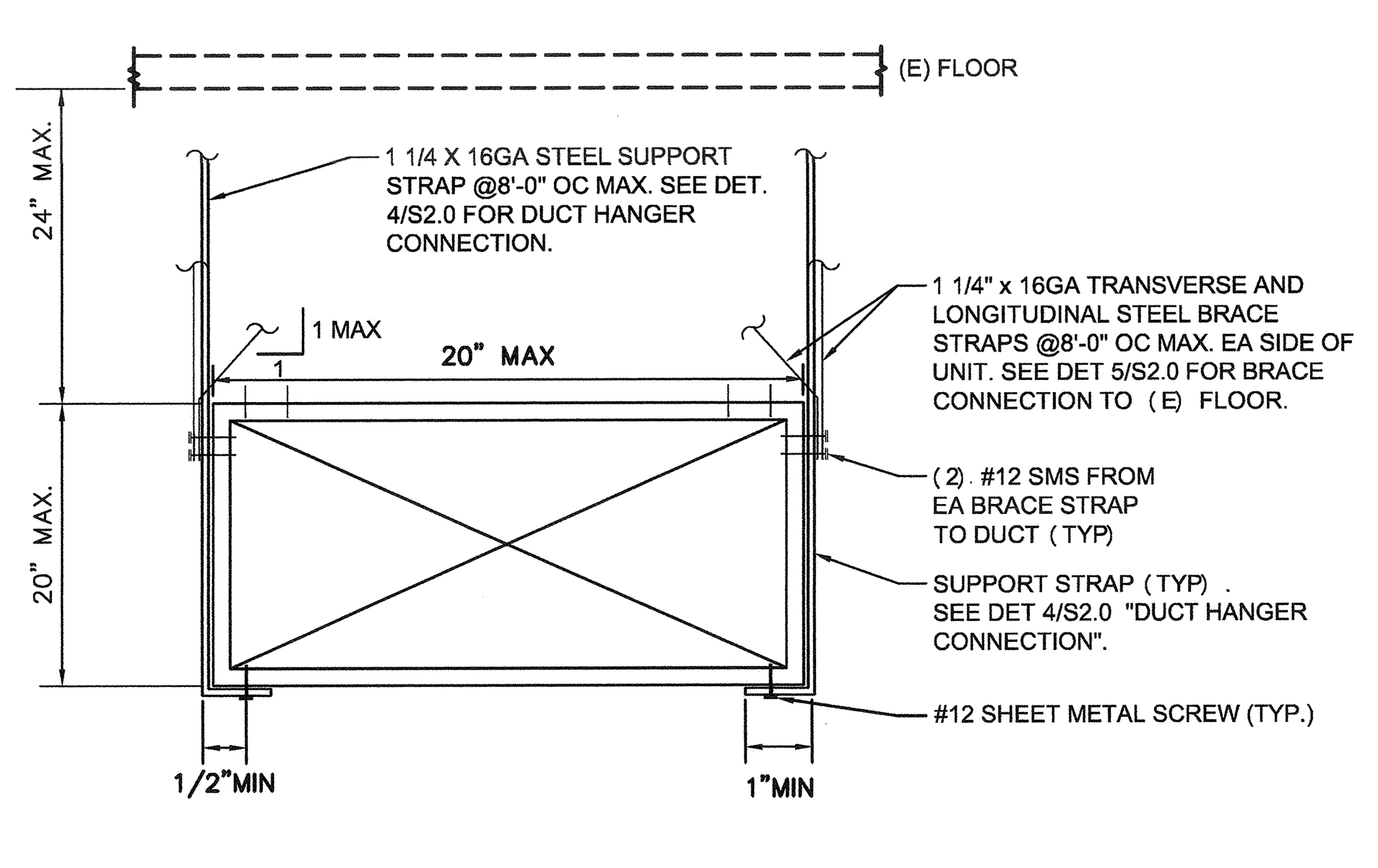
TYPICAL SPLIT SYTEM HEAT PUMP CONTROL — SCALE NONE — 7



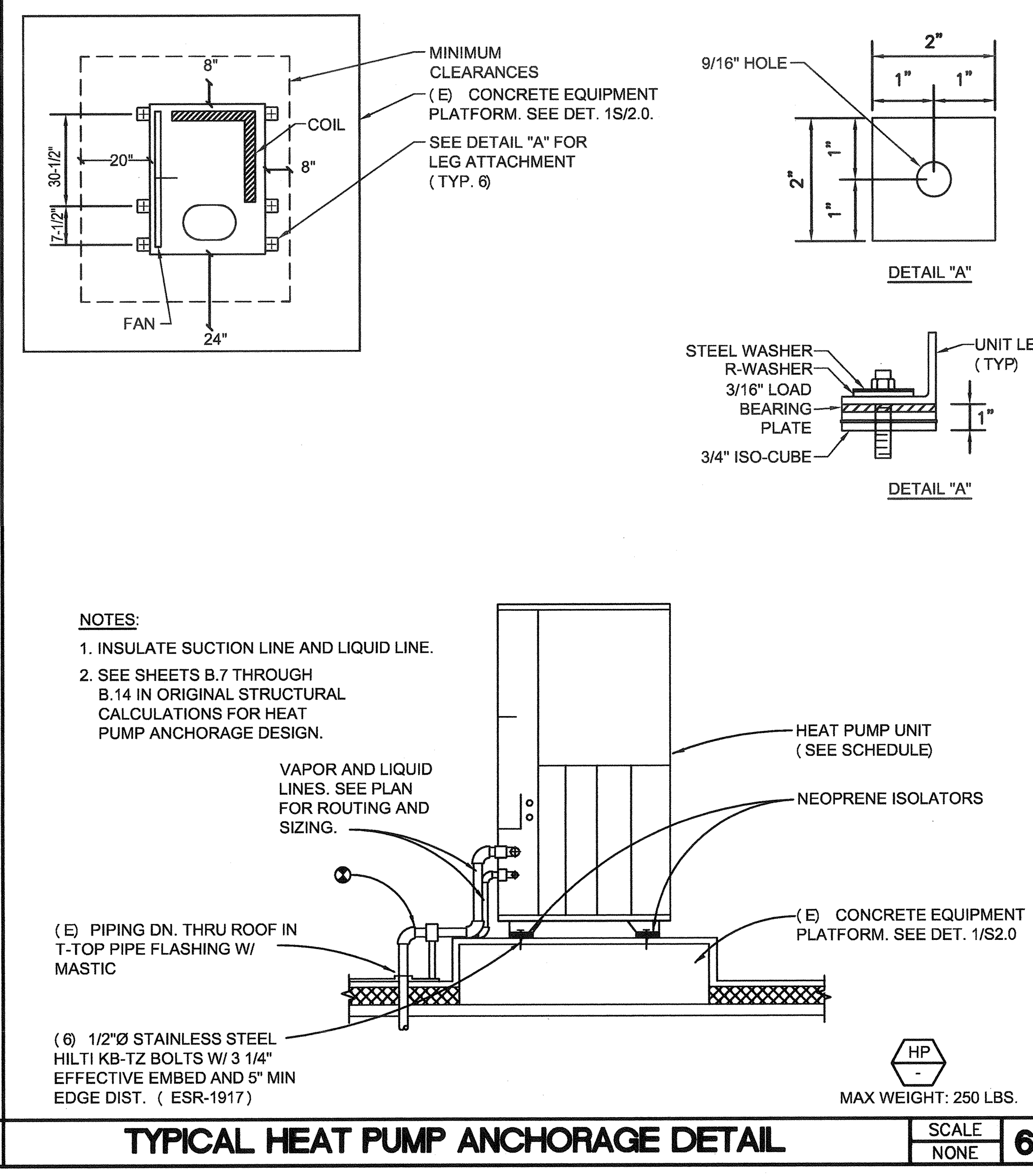
DUCT TRANSITION REQUIREMENTS — SCALE NONE — 2

NOTES:

1. PROVIDE HANGER STRAPS AT 8'-0" ON CENTER MAXIMUM.
2. BRACING IS NOT REQUIRED PROVIDED DUCT WEIGHT DOES NOT EXCEED 10 PLF AND PROVISIONS ARE MADE TO AVOID IMPACT WITH LARGER DUCTS OR OTHER MECHANICAL COMPONENTS.
3. INSTALLATION SHALL COMPLY WITH THE LATEST SMACNA STANDARDS UNLESS NOTED OTHERWISE HEREIN.



TYPICAL RECTANGULAR DUCT SUPPORT DETAIL — SCALE NONE — 10



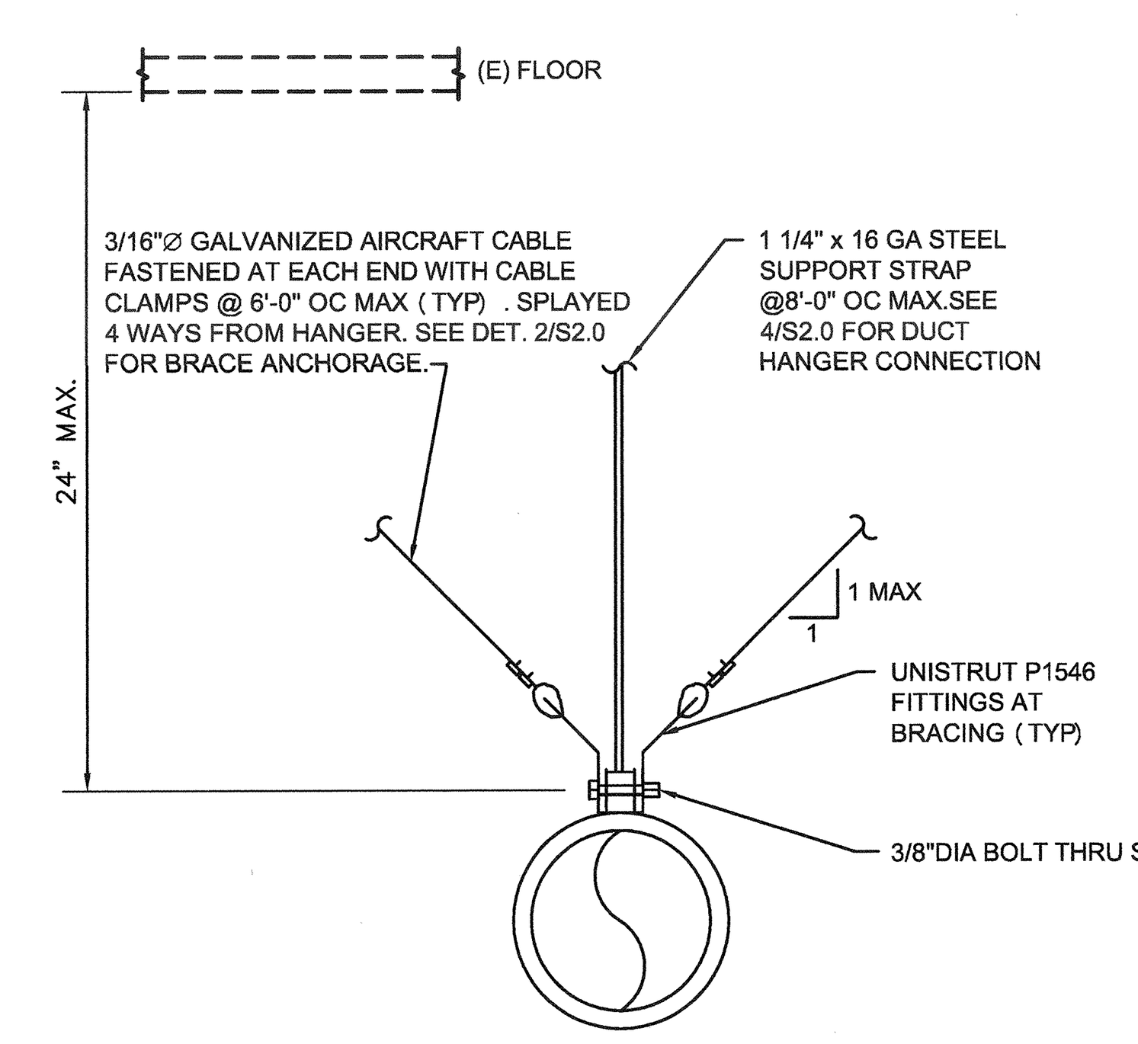
NOTES:

1. INSULATE SUCTION LINE AND LIQUID LINE.
2. SEE SHEETS B.7 THROUGH B.14 IN ORIGINAL STRUCTURAL CALCULATIONS FOR HEAT PUMP ANCHORAGE DESIGN.

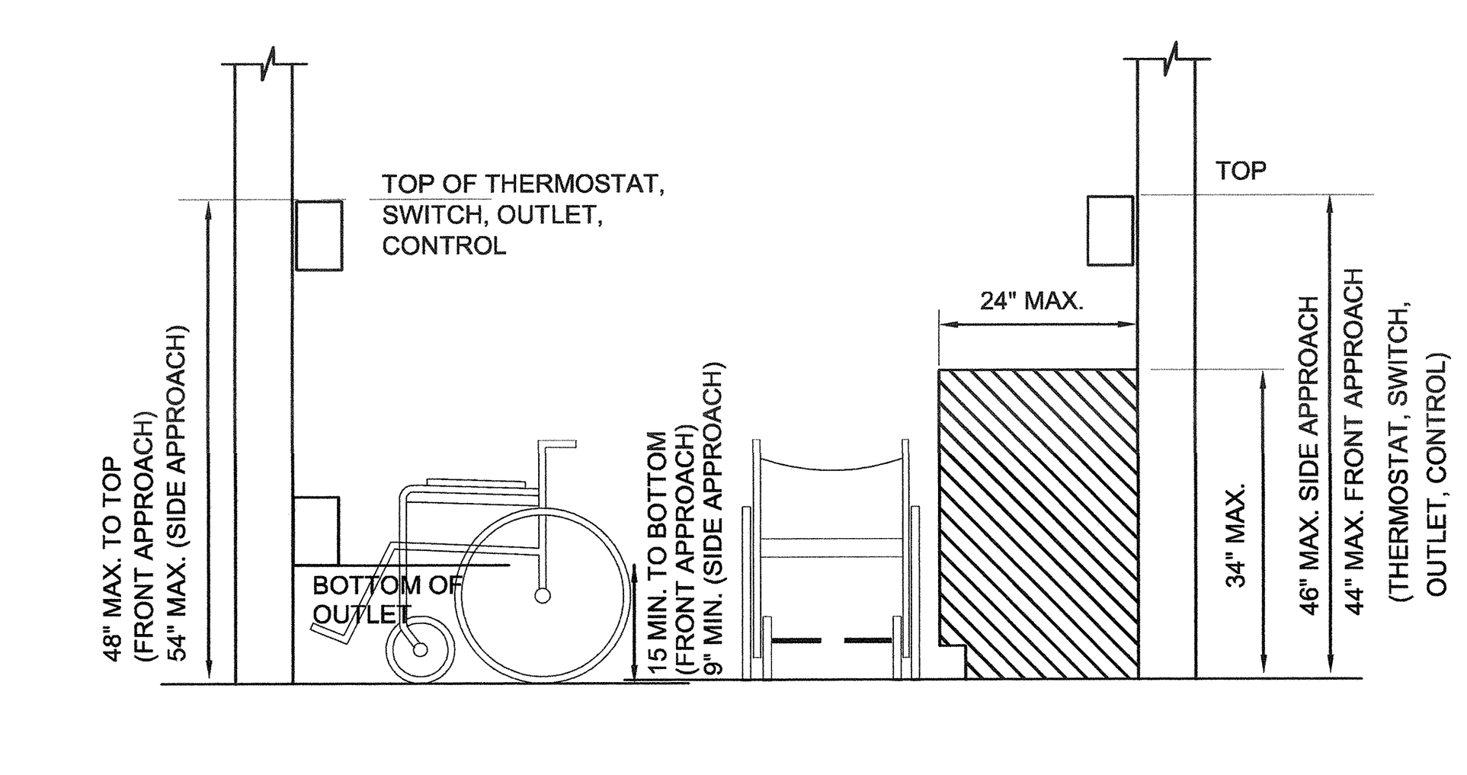
TYPICAL HEAT PUMP ANCHORAGE DETAIL — SCALE NONE — 6

NOTES:

1. PROVIDE HANGER STRAPS AT 8'-0" ON CENTER MAXIMUM.
2. BRACING IS NOT REQUIRED PROVIDED DUCT WEIGHT DOES NOT EXCEED SPLF AND PROVISIONS ARE MADE TO AVOID IMPACT WITH LARGER DUCTS OR OTHER MECHANICAL COMPONENTS.
3. INSTALLATION SHALL COMPLY WITH THE LATEST SMACNA STANDARDS UNLESS NOTED OTHERWISE HEREIN.



TYPICAL ROUND DUCT SUPPORT DETAIL — SCALE — 4



TYPICAL CONTROL DEVICE MOUNTING DETAIL — SCALE NONE — 1

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PDS
PocockDesignSolutions Inc.

GLENDALE UNIFIED SCHOOL DISTRICT
HERBERT HOOVER HIGH SCHOOL- 11000
BUILDING PROP 39 - HVAC UPGRADE
651 GLENWOOD RD, GLENDALE, CA 91202

nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR LOS ANGELES CA 90012 P: 323.475.8075

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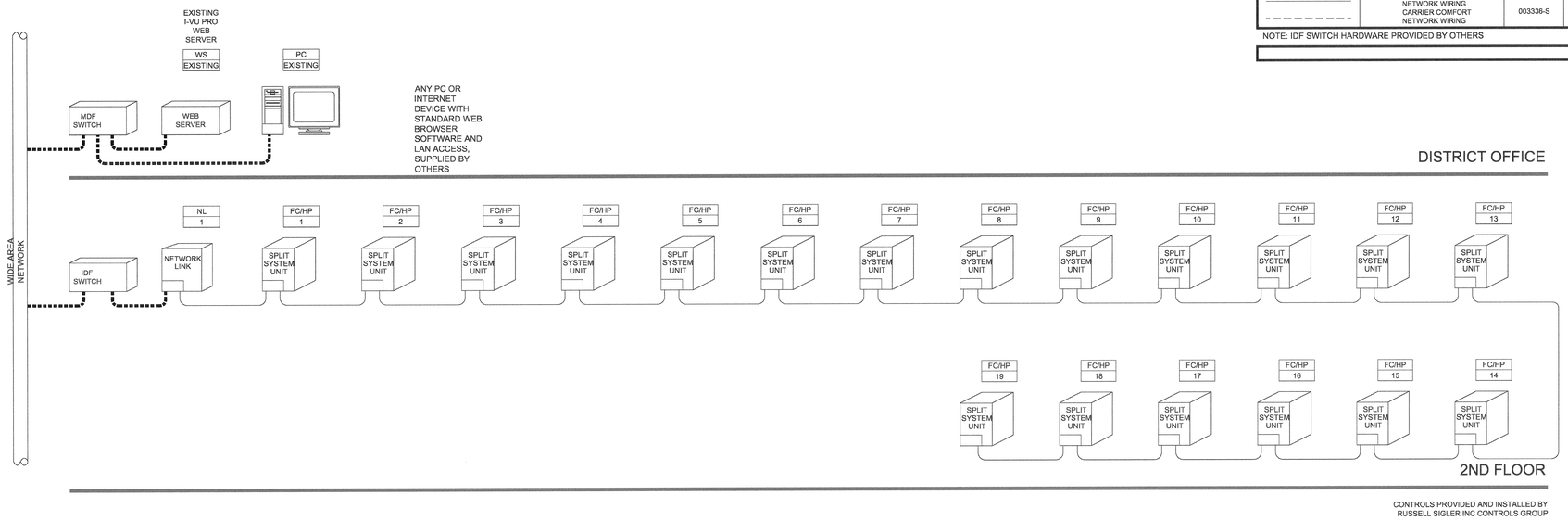
MECHANICAL DETAILS

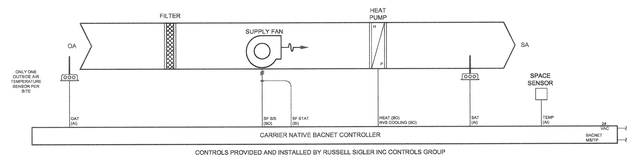
M3.01

WIRE LEGEND			
LINE STYLE	WIRE TYPE	PART NUMBER	DESCRIPTION
----------	LOCAL AREA NETWORK (CAT 5)		PROVIDED AND INSTALLED BY OTHERS
————	BACNET MS/TP NETWORK WIRING	0042002-S	24 AWG 2 COND SHIELDED, PLENUM, ORG
– – – – – –	CARRIER COMFORT NETWORK WIRING	003336-S	20 AWG 3 COND SHIELDED, PLENUM, WHT / GRN STRIPE

NOTE: IDF SWITCH HARDWARE PROVIDED BY OTHERS



1 EMCS RISER DIAGRAM
SCALE: NONE



CONTROLS PROVIDED AND INSTALLED BY RUSSELL SIGLER INC CONTROLS GROUP

Sequence of Operation

Indoor Fan
During Occupied periods, fan shall operate continuously. During Unoccupied periods, fan shall operate when the space temperature exceeds the unoccupied heating or cooling setpoints.

Single Speed
The fan operates at one speed only and provides on/off operation

Heating Mode
When space temperature is below the occupied heating setpoint, unit shall operate in the heating mode. Unit shall stage available heat stages to satisfy demand in the occupied space.

Cooling Mode
When space temperature is above occupied cooling setpoint, unit shall operate in the cooling mode. Unit shall enable available cooling stages to satisfy demand in the occupied space.

2 TYPICAL CONSTANT VOLUME SPLIT SYSTEM HEAT PUMP UNIT (FC/HP-1 TRHU FC/HP-19)
SCALE: NONE

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PocockDesignSolutions Inc.

REGISTERED PROFESSIONAL ENGINEER ANDREW R. GISSOMAN No. M29630 Exp. 3/31/18 MECHANICAL STATE OF CALIFORNIA

nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
P: 323.478.8075

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MECHANICAL CONTROL DRAWINGS

M5.01

Project Name:	Hoover HS	NRCC-PRF-01-E	Page 1 of 27
Project Address:	651 Glenwood Rd. Glendale 91202	Calculation Date/Time:	11:42, Thu, Mar 09, 2017
Compliance Scope:	ExistingAdditionAndAlteration	Input File Name:	Hoover HS 2017-03-09.cibd16x

A. PROJECT GENERAL INFORMATION

1.	Project Location (city)	Glendale	8.	Standards Version	Compliance2016
2.	CA Zip Code	91202	9.	Compliance Software (version)	EnergyPro 7.1
3.	Climate Zone	9	10.	Building Orientation (deg)	(N) 0 deg
4.	Total Conditioned Floor Area in Scope	15,185 ft²	11.	Permitted Scope of Work	ExistingAdditionAndAlteration
5.	Total Unconditioned Floor Area	0 ft²	12.	Building Type(s)	Nonresidential
6.	Total # of Stories (Habitable Above Grade)	1	13	Gas Type	NaturalGas
7.	Total # of dwelling units	0			

B. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft²-yr) § 140.1

BUILDING COMPLIES

1. Energy Component	2. Standard Design (TDV)	3. Proposed Design (TDV)	4. Compliance Margin (TDV)	5. Percent Better than Standard
Space Heating	19.08	12.51	6.57	34.4%
Space Cooling	193.00	153.00	40.00	20.7%
Indoor Fans	52.80	65.58	-12.78	-24.2%
Heat Rejection	--	--	--	--
Pumps & Misc.	1.44	--	1.44	--
Domestic Hot Water	9.92	9.92	--	0.0%
Indoor Lighting	57.48	57.48	--	0.0%
COMPLIANCE TOTAL	**333.72**	**298.49**	**35.23**	**10.6%**
Receptacle	64.21	64.21	0.0	0.0%
Process	--	--	--	--
Other Ltg	--	--	--	--
TOTAL	**397.93**	**362.70**	**35.2**	**8.9%**

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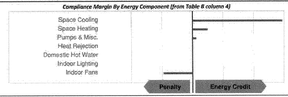
C. PRIORITY PLAN CHECK/ INSPECTION ITEMS (in order of highest to lowest TDV energy savings)

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

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



D. EXCEPTIONAL CONDITIONS

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

E. HERS VERIFICATION

This Section Does Not Apply

F. ADDITIONAL REMARKS

None

Provided

Project Name:	Hoover HS	NRCC-PRF-01-E	Page 3 of 27
Project Address:	651 Glenwood Rd. Glendale 91202	Calculation Date/Time:	11:42, Thu, Mar 09, 2017
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G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY

Identify which building components use the performance or prescriptive path for compliance. "NA"= not in project

For components that utilize the performance path, indicate the sheet number that includes mandatory notes on plans.

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

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Compliance Scope:	ExistingAdditionAndAlteration	Input File Name:	Hoover HS 2017-03-09.cibd16x

G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY

The following building components are only eligible for prescriptive compliance. Indicate which are relevant to the project.				*The following building components may have mandatory requirements per Part 6. Indicate which are relevant to the project.*			
Yes	NA	Prescriptive Requirement	Compliance Forms	Yes	NA	Mandatory Requirement	Compliance Forms
☐	☒	Lighting (Indoor Unconditioned) §140.6	NRCC-LTI-01 / 02 / 03 / 04 / 05-E	 ☐ ☐	 ☒ ☒	Commissioning: §120.8 Simple Systems Complex Systems	 NRCC-CXR-01 / 02 / 03 / 05-E NRCC-CXR-01 / 02 / 04 / 05-E
☐	☒	Lighting (Outdoor) §140.7	NRCC-LTO-01 / 02 / 03-E	☐	☒	Electrical: §130.5	NRCC-ELC-01-E
☐	☒	Lighting (Sign) §140.8	NRCC-LTS-01-E	☐	☒	Solar Ready: §110.10	NRCC-SRA-01 / 02-E
☐	☒	Solar Thermal Water Heating: §140.5	NRCC-STH-01-E	 ☐ ☐ ☐ ☐ ☐	 ☒ ☒ ☒ ☒ ☒	Covered Process: §120.6 Parking Garage Commercial Refrigeration Warehouse Refrigeration Compressed Air Process Boilers	NRCC-PRC-01-E NRCC-PRC-02-E NRCC-PRC-05-E NRCC-PRC-06/07/08-E NRCC-PRC-10-E NRCC-PRC-11-E

Project Name:	Hoover HS	NRCC-PRF-01-E	Page 5 of 27
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Compliance Scope:	ExistingAdditionAndAlteration	Input File Name:	Hoover HS 2017-03-09.cibd16x

H. CERTIFICATE OF INSTALLATION, CERTIFICATE OF ACCEPTANCE & CERTIFICATE OF VERIFICATION SUMMARY (NRCI/NRCA/NRCV) –

Documentation Author to indicate which Certificates must be submitted for the features to be recognized for compliance
(Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).
See Tables G. and H. in MCH and LTI Details Sections for Acceptance Tests and forms by equipment.

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

Project Name:	Hoover HS	NRCC-PRF-01-E	Page 6 of 27
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Compliance Scope:	ExistingAdditionAndAlteration	Input File Name:	Hoover HS 2017-03-09.cibd16x

H. CERTIFICATE OF INSTALLATION, CERTIFICATE OF ACCEPTANCE & CERTIFICATE OF VERIFICATION SUMMARY (NRCI/NRCA/NRCV) –

Documentation Author to indicate which Certificates must be submitted for the features to be recognized for compliance
(Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).
See Tables G. and H. in MCH and LTI Details Sections for Acceptance Tests and forms by equipment.

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

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H. CERTIFICATE OF INSTALLATION, CERTIFICATE OF ACCEPTANCE & CERTIFICATE OF VERIFICATION SUMMARY (NRCI/NRCA/NRCV) –

Documentation Author to indicate which Certificates must be submitted for the features to be recognized for compliance
(Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).
See Tables G. and H. in MCH and LTI Details Sections for Acceptance Tests and forms by equipment.

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

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

						Confirmed Pass	Confirmed Fail
1.	Total Conditioned Floor Area	15,185 ft²	5.	Number of Floors Above Grade	1		
2.	Total Unconditioned Floor Area	0 ft²	6.	Number of Floors Below Grade	0		
3.	Addition Conditioned Floor Area	0 ft²					
4.	Addition Unconditioned Floor Area	0 ft²					

7. Opaque Surfaces & Orientation	8. Total Gross Surface Area	9. Total Fenestration Area	10. Window to Wall Ratio	Pass	Fail
North Wall	2,220 ft²	720 ft²	32.4%	☐	☐
East Wall	2,690 ft²	720 ft²	26.8%	☐	☐
South Wall	1,890 ft²	400 ft²	21.2%	☐	☐
West Wall	2,950 ft²	960 ft²	32.5%	☐	☐
Total	**9,750 ft²**	**2,800 ft²**	**28.7%**	☐	☐
Roof	0 ft²	0 ft²	00.0%	☐	☐

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J. FENESTRATION ASSEMBLY SUMMARY § 110.6

1. Fenestration Assembly Name / Tag or I.D.	2. Fenestration Type / Product Type / Frame Type	3. Certification Method[1]	4. Assembly Method	5. Area ft²	6. Overall U-factor	7. Overall SHGC	8. Overall VT	9. Status[2]	Confirmed Pass	Confirmed Fail
Double Metal Clear	VerticalFenestration FixedWindow MetalFraming	Default Performance	SiteBuilt	2800	0.71	0.73	0.77	E	☐	☐

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

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

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

K. OPAQUE SURFACE ASSEMBLY SUMMARY § 120.7/ § 140.3

1. Surface Name	2. Surface Type	3. Area (ft²)	4. Framing Type	5. Cavity R-Value	6. Continuous R-Value	7. U-Factor / F-Factor / C-Factor	8. Status[1]	Confirmed Pass	Confirmed Fail
R-19 Wall Metal Stud6	InteriorWall	12920	Metal	19	NA	U-Factor: 0.167	E	☐	☐
R-19 Wall Metal Stud61	ExteriorWall	9750	Metal	19	NA	U-Factor: 0.183	E	☐	☐
R-0 Floor Crawlspace11	ExteriorFloor	15090	NA	0	NA	U-Factor: 0.166	E	☐	☐
R-13 Wall105	InteriorWall	580	Wood	13	NA	U-Factor: 0.095	E	☐	☐
R-19 Floor Crawlspace109	ExteriorFloor	100	Wood	19	NA	U-Factor: 0.047	E	☐	☐

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

L. ROOFING PRODUCT SUMMARY § 140.3

This Section Does Not Apply

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

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

1. Equip Name	2. Equip Type	3. System Type (Simple[3] or Complex[4])	4. Qty	5. Total Heating Output (kBtu/h)	6. Supp Heat Source (Y/N)	7. Supp Heat Output (kBtuh)	8. Total Cooling Output (kBtu/h)	9. Efficiency Cooling	9. Efficiency Heating	10. Acceptance Testing Required? (Y/N)[5]	11. Status[6]	Confirmed Pass	Confirmed Fail
HP/FC-1	SZHP (Split3Phase)	Simple	1	46	No	0	46	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐
HP/FC-2	SZHP (Split3Phase)	Simple	1	34	No	0	34	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐
HP/FC-3	SZHP (Split3Phase)	Simple	1	46	No	0	46	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐
HP/FC-4	SZHP (Split3Phase)	Simple	1	46	No	0	46	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐
HP/FC-5	SZHP (Split3Phase)	Simple	1	46	No	0	46	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐
HP/FC-6	SZHP (Split3Phase)	Simple	1	46	No	0	46	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐
HP/FC-7	SZHP (Split3Phase)	Simple	1	46	No	0	46	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐
HP/FC-8	SZHP (Split3Phase)	Simple	1	46	No	0	46	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐
HP/FC-9	SZHP (Split3Phase)	Simple	1	46	No	0	46	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐
HP/FC-10	SZHP (Split3Phase)	Simple	1	46	No	0	46	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐
HP/FC-11	SZHP (Split3Phase)	Simple	1	46	No	0	46	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐
HP/FC-12	SZHP (Split3Phase)	Simple	1	46	No	0	46	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐
HP/FC-13	SZHP (Split3Phase)	Simple	1	46	No	0	46	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐
HP/FC-16	SZHP (Split3Phase)	Simple	1	46	No	0	46	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐

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

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

1. Equip Name	2. Equip Type	3. System Type (Simple[3] or Complex[4])	4. Qty	5. Total Heating Output (kBtu/h)	6. Supp Heat Source (Y/N)	7. Supp Heat Output (kBtuh)	8. Total Cooling Output (kBtu/h)	9. Efficiency Cooling	9. Efficiency Heating	10. Acceptance Testing Required? (Y/N)[5]	11. Status[6]	Confirmed Pass	Confirmed Fail
HP/FC-14	SZHP (Split3Phase)	Simple	1	46	No	0	46	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐
HP/FC-15	SZHP (Split3Phase)	Simple	1	46	No	0	46	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐
HP/FC-17	SZHP (Split3Phase)	Simple	1	46	No	0	46	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐
HP/FC-18	SZHP (Split3Phase)	Simple	1	46	No	0	46	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐
HP/FC-19	SZHP (Split3Phase)	Simple	1	46	No	0	46	SEER-14.0 / EER-11.5	HSPF-8.2	Yes	N	☐	☐

Wet System Equipment[2] / *Pumps*

12. Equip Name	13. Equip Type	14. Qty	15. Vol (gal)	16. Rated Capacity (kBtu/h)	17. Efficiency	18. Standby Loss	19. Tank Ext. R Value	20. Qty	21. GPM	22. HP	23. VSD (Y/N)	24. Status[6]	Confirmed Pass	Confirmed Fail
Standard Gas 50 gal or Le2	Storage	1	50	40	EF: 0.575	NA	NA	NA	NA	NA	No	E	☐	☐

[1] *Dry System Equipment includes furnaces, air handling units, heat pumps, etc.*

[2] *Wet System Equipment includes boilers, chillers, cooling towers, water heaters, etc.*

[3] *Simple Systems must complete NRCC-CXR-03-E commissioning design review form*

[4] *Complex Systems must complete NRCC-CXR-04-E commissioning design review form*

[5] *A summary of which acceptance tests are applicable is provided in NRCC-PRF-MCH-DETAILS*

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

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

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

1. Equip Name	2. Outside Air CFM	3. Supply Fan CFM	3. Supply Fan HP	3. Supply Fan BHP	3. Supply Fan TSP (inch WC)	3. Supply Fan Control	4. Return Fan CFM	4. Return Fan HP	4. Return Fan BHP	4. Return Fan TSP (inch WC)	4. Return Fan Control	5. Economizer Type (if present)	Confirmed Pass	Confirmed Fail
HP/FC-1	273	1600	0.500	0.500	0.99	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP/FC-2	330	1190	0.500	0.500	1.33	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP/FC-3	308	1600	0.500	0.500	0.99	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP/FC-4	308	1600	0.500	0.500	0.99	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP/FC-5	323	1600	0.500	0.500	0.99	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP/FC-6	308	1600	0.500	0.500	0.99	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP/FC-7	328	1600	0.500	0.500	0.99	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP/FC-8	315	1600	0.500	0.500	0.99	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP/FC-9	294	1600	0.500	0.500	0.99	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP/FC-10	293	1600	0.500	0.500	0.99	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP/FC-11	308	1600	0.500	0.500	0.99	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP/FC-12	279	1600	0.500	0.500	0.99	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP/FC-13	279	1600	0.500	0.500	0.99	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP/FC-16	315	1600	0.500	0.500	0.99	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP/FC-14	279	1600	0.500	0.500	0.99	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP/FC-15	294	1600	0.500	0.500	0.99	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP/FC-17	315	1600	0.500	0.500	0.99	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP/FC-18	315	1600	0.500	0.500	0.99	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP/FC-19	315	1600	0.500	0.500	0.99	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐

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

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O. EQUIPMENT CONTROLS § 120.2

1. Equip Name	2. Equip Type	3. Controls	Confirmed Pass	Confirmed Fail
HP/FC-1	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
HP/FC-2	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
HP/FC-3	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
HP/FC-4	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
HP/FC-5	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
HP/FC-6	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
HP/FC-7	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐

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O. EQUIPMENT CONTROLS § 120.2

1. Equip Name	2. Equip Type	3. Controls	Confirmed Pass	Confirmed Fail
HP/FC-8	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
HP/FC-9	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
HP/FC-10	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
HP/FC-11	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
HP/FC-12	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
HP/FC-13	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
HP/FC-16	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐

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O. EQUIPMENT CONTROLS § 120.2

1. Equip Name	2. Equip Type	3. Controls	Confirmed Pass	Confirmed Fail
HP/FC-14	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
HP/FC-15	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
HP/FC-17	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
HP/FC-18	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
HP/FC-19	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler	☐	☐
Gas Heat Furnace1 - SHW	Service Hot Water, Primary Only	Fixed Temperature Control, No DDC	☐	☐

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

Dry System Distribution

1. Equip Name	2. Equip Type	3. Duct Leakage and Sealing Required per 140.4(l)	4. Duct Leakage will be verified per NA1 and NA2	5. Ducts Insulation R-Value	5. Ducts Location	Confirmed Pass	Confirmed Fail
HP/FC-1	SZHP	No	No	8	Unconditioned	☐	☐

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

Dry System Distribution

1. Equip Name	2. Equip Type	3. Duct Leakage and Sealing Required per 140.4(l)	4. Duct Leakage will be verified per NA1 and NA2	5. Ducts Insulation R-Value	5. Ducts Location	Confirmed Pass	Confirmed Fail
HP/FC-2	SZHP	No	No	8	Unconditioned	☐	☐
HP/FC-3	SZHP	No	No	8	Unconditioned	☐	☐
HP/FC-4	SZHP	No	No	8	Unconditioned	☐	☐
HP/FC-5	SZHP	No	No	8	Unconditioned	☐	☐
HP/FC-6	SZHP	No	No	8	Unconditioned	☐	☐
HP/FC-7	SZHP	No	No	8	Unconditioned	☐	☐
HP/FC-8	SZHP	No	No	8	Unconditioned	☐	☐
HP/FC-9	SZHP	No	No	8	Unconditioned	☐	☐
HP/FC-10	SZHP	No	No	8	Unconditioned	☐	☐
HP/FC-11	SZHP	No	No	8	Unconditioned	☐	☐
HP/FC-12	SZHP	No	No	8	Unconditioned	☐	☐
HP/FC-13	SZHP	No	No	8	Unconditioned	☐	☐
HP/FC-16	SZHP	No	No	8	Unconditioned	☐	☐
HP/FC-14	SZHP	No	No	8	Unconditioned	☐	☐
HP/FC-15	SZHP	No	No	8	Unconditioned	☐	☐
HP/FC-17	SZHP	No	No	8	Unconditioned	☐	☐
HP/FC-18	SZHP	No	No	8	Unconditioned	☐	☐
HP/FC-19	SZHP	No	No	8	Unconditioned	☐	☐

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

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

1. Occupancy Type[1]	2. Conditioned Floor Area[2] (ft²)	3. Installed Lighting Power (Watts)	4. Lighting Control Credits (Watts)	5. Additional (Custom) Allowance: Area Category Footnotes (Watts)	5. Additional (Custom) Allowance: Tailored Method (Watts)	Confirmed Pass	Confirmed Fail
						☐	☐
Lounge, Recreation	1,205	1,085	0	0	0	☐	☐
Classrooms, Lecture, Training, Vocational Areas	13,680	16,416	0	0	0	☐	☐
Commercial and Industrial Storage Areas (conditioned or unconditioned)	300	180	0	0	0	☐	☐
Building Totals:	**15,185**	**17,681**	**0**	**0**	**0**		

[1] *See Table 140.6-C*

[2] *See NRCC-LTI-01-E for unconditioned spaces*

[3] *Lighting information for existing spaces modeled is not included in the table.*

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

This Section Does Not Apply

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

S1. COVERED PROCESS SUMMARY – ENCLOSED PARKING GARAGES § 140.9

This Section Does Not Apply

S2. COVERED PROCESS SUMMARY – COMMERCIAL KITCHENS § 140.9

This Section Does Not Apply

S3. COVERED PROCESS SUMMARY – COMPUTER ROOMS § 140.9

This Section Does Not Apply

S4. COVERED PROCESS SUMMARY – LABORATORY EXHAUSTS § 140.9

This Section Does Not Apply

REVISIONS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP3 117998
AC FLS SS
Date AUG 0 7 2017

CONSTRUCTION DOCUMENTS

PocockDesignSolutions Inc.

ANDREW R. GOSSMAN
No. M35839
Exp. 3/31/18

GLENDALE UNIFIED SCHOOL DISTRICT

HERBERT HOOVER HIGH SCHOOL– 11000
BUILDING PROP 39 – HVAC UPGRADE

651 GLENWOOD RD, GLENDALE, CA
91202

TIMOTHY A. BALLARD
No. C 21424
Exp. 8\31\17

nacarchitecture.com
837 NORTH SPRING
STREET, THIRD FLOOR
LOS ANGELES CA 90012
P: 323.475.8075

NAC NO	161–16043
DRAWN	BB
CHECKED	DB
DATE	06–22–2017

TITLE 24 FORMS

M6.01

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C. OPAQUE DOOR SUMMARY

1. Opaque Door Assembly Name / Tag or I.D.	2. Door Type	3. Certification Method	4. Operation	5. Area	6. Overall U-factor	7. Status[1]	Confirmed Pass	Confirmed Fail
Metal Door22	MetalUninsulatedDoubleLayerDoor	DefaultPerformance	Swinging	420	0.700	E	☐	☐

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

NRCC-PRF-MCH-DETAILS -SECTION START-

A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2013-NRCC-MCH-03-E)*

CONDITIONED ZONE NAME	HEATING/COOLING SYSTEM ID	DESIGN PRIMARY AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM AIR FLOW (CFM)	MINIMUM PRIMARY AIR FLOW FRACTION	MAXIMUM HEATING AIR FLOW (CFM)	MAXIMUM HEATING AIR FLOW FRACTION	DDC CONTROL (Y/N)	VENT SYSTEM ID	CONDITIONED AREA (ft2)	MIN. VENT PER AREA (CFM/ft2)	DESIGN NUM. OF PEOPLE	MIN. VENT PER PERSON (CFM/person)	REQ'D VENT AIR FLOW (CFM)	DESIGN VENT AIR FLOW (CFM)	TRANSFER AIRFLOW (CFM)	DCV (Y/N)	Operable Window Interlock § 140.4(n) (Y/N)	Pass	Fail
	1. DESIGN AIR FLOWS							2. VENTILATION (§ 120.1)										Confirmed	
1-Lounge	HP/FC-1	1,600	NA	NA	NA	NA	N	HP/FC-1	545	NA	18	15.0	273	273	NA	N	NA	☐	☐
2-Lounge	HP/FC-2	1,190	NA	NA	NA	NA	N	HP/FC-2	660	NA	22	15.0	330	330	NA	N	NA	☐	☐
3-Classroom	HP/FC-3	1,600	NA	NA	NA	NA	N	HP/FC-3	820	NA	21	15.0	308	308	NA	N	NA	☐	☐
4-Classroom	HP/FC-4	1,600	NA	NA	NA	NA	N	HP/FC-4	820	NA	21	15.0	308	308	NA	N	NA	☐	☐
5-Classroom	HP/FC-5	1,426	NA	NA	NA	NA	N	HP/FC-5	820	NA	21	15.0	308	308	NA	N	NA	☐	☐
6-Storage	HP/FC-5	174	NA	NA	NA	NA	N	HP/FC-5	100	NA	0	150.0	15	15	NA	N	NA	☐	☐
7-Classroom	HP/FC-6	1,600	NA	NA	NA	NA	N	HP/FC-6	820	NA	21	15.0	308	308	NA	N	NA	☐	☐
8-Classroom	HP/FC-7	1,600	NA	NA	NA	NA	N	HP/FC-7	875	NA	22	15.0	328	328	NA	N	NA	☐	☐
9-Classroom	HP/FC-8	1,600	NA	NA	NA	NA	N	HP/FC-8	840	NA	21	15.0	315	315	NA	N	NA	☐	☐
10-Classroom	HP/FC-9	1,600	NA	NA	NA	NA	N	HP/FC-9	785	NA	20	15.0	294	294	NA	N	NA	☐	☐
11-Classroom	HP/FC-10	1,600	NA	NA	NA	NA	N	HP/FC-10	780	NA	20	15.0	293	293	NA	N	NA	☐	☐

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NRCC-PRF-ENV-DETAILS -SECTION START-

A. OPAQUE SURFACE ASSEMBLY DETAILS

1. Surface Name	2. Surface Type	3. Description of Assembly Layers	4. Notes	Confirmed Pass	Confirmed Fail
R-19 Wall Metal Stud6	InteriorWall	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Metal framed wall, 16in. OC, 5.5in., R-19 Gypsum Board - 1/2 in.		☐	☐
R-19 Wall Metal Stud61	ExteriorWall	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Metal framed wall, 16in. OC, 5.5in., R-19 Gypsum Board - 1/2 in.		☐	☐
R-0 Floor Crawlspace11	ExteriorFloor	Air - Floor - 3 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Plywood - 1/2 in. Carpet - 3/4 in.		☐	☐
R-13 Wall105	InteriorWall	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Wood framed wall, 16in. OC, 3.5in., R-13 Gypsum Board - 1/2 in.		☐	☐
R-19 Floor Crawlspace109	ExteriorFloor	Air - Floor - 3 1/2 in. Wood framed floor, 16in. OC, 5.5in., R-19 Plywood - 1/2 in. Carpet - 3/4 in.		☐	☐

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

This Section Does Not Apply

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT § 10-103

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

Documentation Author Name: Philip Murray	Signature:
Company:	
Address: 14451 Chambers Rd Suite 210	Signature Date:
City/State/Zip: Tustin CA 92780	CEA Identification (If applicable):
Phone: 949-417-3903x.112	

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

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

Responsible Envelope Designer Name:	**Signature:**	
Company:		
Address:	Date Signed:	
City/State/Zip:	Declaration Statement Type:	
Phone:	Title:	License #:
Responsible Lighting Designer Name:	**Signature: NOT IN SCOPE**	
Company:		
Address:	Date Signed:	
City/State/Zip:	Declaration Statement Type:	
Phone:	Title:	License #:
Responsible Mechanical Designer Name: Andrew Gossman	**Signature:**	
Company: Pocock Design Solutions		
Address: 14451 Chambers Rd. Suite 210	Date Signed:	
City/State/Zip: Tustin CA 92780	Declaration Statement Type:	
Phone: 9494173903	Title:	License #: M35939

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T. UNMET LOAD HOURS

Thermal Zone Name	Cooling Unmet Load Hour Limit for Thermal Zone	Proposed Cooling Unmet Load Hours	Heating Unmet Load Hour Limit for Thermal Zone	Proposed Heating Unmet Load Hours
2-Lounge	150	177.5	150	0

U. ENERGY USE SUMMARY

Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Space Heating	0.0	11.3	--	181.1	--	--
Space Cooling	67.5	55.6	11.9	--	--	--
Indoor Fans	26.7	43.1	-16.4	--	--	--
Heat Rejection	--	--	--	--	--	--
Pumps & Misc.	1.3	--	--	--	--	--
Domestic Hot Water	--	--	--	104.5	104.5	0.0
Indoor Lighting	36.2	36.2	0.0	--	--	--
COMPLIANCE TOTAL	**131.7**	**146.2**	**-14.5**	**285.6**	**104.5**	**181.1**
Receptacle	39.6	39.6	0.0	--	--	--
Process	--	--	--	--	--	--
Other Ltg	--	--	--	--	--	--
TOTAL	**171.3**	**185.8**	**-14.5**	**285.6**	**104.5**	**181.1**

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G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2013-NRCC-MCH-01-E)* § RA4

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

Test Description		MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-08A	MCH-09A	MCH-10A	MCH-11A	MCH-12A	MCH-13A	MCH-14A	MCH-15A	MCH-16A	MCH-17A	MCH-18A	Confirmed	
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Dist. Ducts	Economizer Controls	DCV	Supply Fan VAV	Valve leakage	Supply Water Temp. Reset	Hyd. Variable Flow Control	Auto Demand Shed Control	FDD for DX Units	Auto FDD for Air & Zone	Dist. Energy Storage DX AC	TES Systems	Supply Air Temp. Reset	Condenser Water Reset Controls	ECMS	Pass	Fail
HP/FC-3	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
HP/FC-4	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
HP/FC-5	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
HP/FC-6	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
HP/FC-7	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
HP/FC-8	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
HP/FC-9	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
HP/FC-10	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
HP/FC-11	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
HP/FC-12	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
HP/FC-13	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
HP/FC-16	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
HP/FC-14	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
HP/FC-15	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
HP/FC-17	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
HP/FC-18	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
HP/FC-19	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐

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

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

E. MULTI-FAMILY CENTRAL DHW SYSTEM DETAILS

This Section Does Not Apply

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

This Section Does Not Apply

G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2013-NRCC-MCH-01-E)* § RA4

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

Test Description		MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-08A	MCH-09A	MCH-10A	MCH-11A	MCH-12A	MCH-13A	MCH-14A	MCH-15A	MCH-16A	MCH-17A	MCH-18A	Confirmed	
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Dist. Ducts	Economizer Controls	DCV	Supply Fan VAV	Valve leakage	Supply Water Temp. Reset	Hyd. Variable Flow Control	Auto Demand Shed Control	FDD for DX Units	Auto FDD for Air & Zone	Dist. Energy Storage DX AC	TES Systems	Supply Air Temp. Reset	Condenser Water Reset Controls	ECMS	Pass	Fail
Gas Heat Furnace1 - SHW	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
HP/FC-1	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
HP/FC-2	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐

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B. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY § 140.4

1. System ID	2. System Type	3. Qty	4. Rated Capacity (kBtuh) Heating	Cooling	5. Economizer	6. Zone Name	7. Airflow (cfm) Design	Min.	Min. Ratio	8. Fan BHP	Cycles	ECM Motor	Confirmed Pass	Confirmed Fail
3-Classroom-Trm	Uncontrolled	1	NA	NA	NA	3-Classroom	1600	NA	NA	NA	NA	☐	☐	☐
4-Classroom-Trm	Uncontrolled	1	NA	NA	NA	4-Classroom	1600	NA	NA	NA	NA	☐	☐	☐
6-Storage-Trm	Uncontrolled	1	NA	NA	NA	6-Storage	174	NA	NA	NA	NA	☐	☐	☐
5-Classroom-Trm	Uncontrolled	1	NA	NA	NA	5-Classroom	1426	NA	NA	NA	NA	☐	☐	☐
7-Classroom-Trm	Uncontrolled	1	NA	NA	NA	7-Classroom	1600	NA	NA	NA	NA	☐	☐	☐
8-Classroom-Trm	Uncontrolled	1	NA	NA	NA	8-Classroom	1600	NA	NA	NA	NA	☐	☐	☐
9-Classroom-Trm	Uncontrolled	1	NA	NA	NA	9-Classroom	1600	NA	NA	NA	NA	☐	☐	☐
10-Classroom-Trm	Uncontrolled	1	NA	NA	NA	10-Classroom	1600	NA	NA	NA	NA	☐	☐	☐
11-Classroom-Trm	Uncontrolled	1	NA	NA	NA	11-Classroom	1600	NA	NA	NA	NA	☐	☐	☐
13-Storage-Trm	Uncontrolled	1	NA	NA	NA	13-Storage	182	NA	NA	NA	NA	☐	☐	☐
12-Classroom-Trm	Uncontrolled	1	NA	NA	NA	12-Classroom	1418	NA	NA	NA	NA	☐	☐	☐
14-Classroom-Trm	Uncontrolled	1	NA	NA	NA	14-Classroom	1600	NA	NA	NA	NA	☐	☐	☐
15-Classroom-Trm	Uncontrolled	1	NA	NA	NA	15-Classroom	1600	NA	NA	NA	NA	☐	☐	☐
16-Classroom-Trm	Uncontrolled	1	NA	NA	NA	16-Classroom	1600	NA	NA	NA	NA	☐	☐	☐
17-Classroom-Trm	Uncontrolled	1	NA	NA	NA	17-Classroom	1600	NA	NA	NA	NA	☐	☐	☐
19-Storage-Trm	Uncontrolled	1	NA	NA	NA	19-Storage	189	NA	NA	NA	NA	☐	☐	☐
18-Classroom-Trm	Uncontrolled	1	NA	NA	NA	18-Classroom	1411	NA	NA	NA	NA	☐	☐	☐
20-Classroom-Trm	Uncontrolled	1	NA	NA	NA	20-Classroom	1600	NA	NA	NA	NA	☐	☐	☐
21-Classroom-Trm	Uncontrolled	1	NA	NA	NA	21-Classroom	1600	NA	NA	NA	NA	☐	☐	☐
22-Classroom-Trm	Uncontrolled	1	NA	NA	NA	22-Classroom	1600	NA	NA	NA	NA	☐	☐	☐

C. EXHAUST FAN SUMMARY

This Section Does Not Apply

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A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2013-NRCC-MCH-03-E)*

CONDITIONED ZONE NAME	HEATING/COOLING SYSTEM ID	DESIGN PRIMARY AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM AIR FLOW (CFM)	MINIMUM PRIMARY AIR FLOW FRACTION	MAXIMUM HEATING AIR FLOW (CFM)	MAXIMUM HEATING AIR FLOW FRACTION	DDC CONTROL (Y/N)	VENT SYSTEM ID	CONDITIONED AREA (ft2)	MIN. VENT PER AREA (CFM/ft2)	DESIGN NUM. OF PEOPLE	MIN. VENT PER PERSON (CFM/person)	REQ'D VENT AIR FLOW (CFM)	DESIGN VENT AIR FLOW (CFM)	TRANSFER AIRFLOW (CFM)	DCV (Y/N)	Operable Window Interlock § 140.4(n) (Y/N)	Pass	Fail
	1. DESIGN AIR FLOWS							2. VENTILATION (§ 120.1)										Confirmed	
12-Classroom	HP/FC-11	1,418	NA	NA	NA	NA	N	HP/FC-11	780	NA	20	15.0	293	293	NA	N	NA	☐	☐
13-Storage	HP/FC-11	182	NA	NA	NA	NA	N	HP/FC-11	100	NA	0	150.0	15	15	NA	N	NA	☐	☐
14-Classroom	HP/FC-12	1,600	NA	NA	NA	NA	N	HP/FC-12	745	NA	19	15.0	279	279	NA	N	NA	☐	☐
15-Classroom	HP/FC-13	1,600	NA	NA	NA	NA	N	HP/FC-13	745	NA	19	15.0	279	279	NA	N	NA	☐	☐
16-Classroom	HP/FC-16	1,600	NA	NA	NA	NA	N	HP/FC-16	840	NA	21	15.0	315	315	NA	N	NA	☐	☐
17-Classroom	HP/FC-14	1,600	NA	NA	NA	NA	N	HP/FC-14	745	NA	19	15.0	279	279	NA	N	NA	☐	☐
18-Classroom	HP/FC-15	1,411	NA	NA	NA	NA	N	HP/FC-15	745	NA	19	15.0	279	279	NA	N	NA	☐	☐
19-Storage	HP/FC-15	189	NA	NA	NA	NA	N	HP/FC-15	100	NA	0	150.0	15	15	NA	N	NA	☐	☐
20-Classroom	HP/FC-17	1,600	NA	NA	NA	NA	N	HP/FC-17	840	NA	21	15.0	315	315	NA	N	NA	☐	☐
21-Classroom	HP/FC-18	1,600	NA	NA	NA	NA	N	HP/FC-18	840	NA	21	15.0	315	315	NA	N	NA	☐	☐
22-Classroom	HP/FC-19	1,600	NA	NA	NA	NA	N	HP/FC-19	840	NA	21	15.0	315	315	NA	N	NA	☐	☐
								TOTAL	15,185		NA		NA	NA	NA			☐	☐

B. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY § 140.4

1. System ID	2. System Type	3. Qty	4. Rated Capacity (kBtuh) Heating	Cooling	5. Economizer	6. Zone Name	7. Airflow (cfm) Design	Min.	Min. Ratio	8. Fan BHP	Cycles	ECM Motor	Confirmed Pass	Confirmed Fail
1-Lounge-Trm	Uncontrolled	1	NA	NA	NA	1-Lounge	1600	NA	NA	NA	NA	☐	☐	☐
2-Lounge-Trm	Uncontrolled	1	NA	NA	NA	2-Lounge	1190	NA	NA	NA	NA	☐	☐	☐

ENVELOPE MANDATORY MEASURES: NONRESIDENTIAL — ENV-MM

Project Name: *Hoover HS-Bldg* Date: *3/9/2017*

DESCRIPTION

Building Envelope Measures:

§110.8(a):	Installed insulating material shall have been certified by the manufacturer to comply with the California Quality Standards for insulating material, Title 20 Chapter 4, Article 3.
§110.8(c):	All Insulating Materials shall be installed in compliance with the flame spread rating and smoke density requirements of Sections 2602 and 707 of Title 24, Part 2.
§110.8(f):	The opaque portions of framed demising walls in nonresidential buildings shall have insulation with an installed R-value of no less than R-13 between framing members.
§110.7(a):	All Exterior Joints and openings in the building that are observable sources of air leakage shall be caulked, gasketed, weatherstripped or otherwise sealed.
§110.6(a):	Manufactured fenestration products and exterior doors shall have air infiltration rates not exceeding 0.3 cfm/ft.² of window area, 0.3 cfm/ft.² of door area for residential doors, 0.3 cfm/ft.² of door area for nonresidential single doors (swinging and sliding), and 1.0 cfm/ft.² for nonresidential double doors (swinging).
§110.6(a):	Fenestration U-factor shall be rated in accordance with NFRC 100, or the applicable default U-factor.
§110.6(a):	Fenestration SHGC shall be rated in accordance with NFRC 200, or NFRC 100 for site-built fenestration, or the applicable default SHGC.
§110.6(b):	Site Constructed Doors, Windows and Skylights shall be caulked between the unit and the building, and shall be weatherstripped (except for unframed glass doors and fire doors).

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

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

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

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Non-Rectangular Spaces

This Section Does Not Apply

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

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

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

5. Wall Display

This Section Does Not Apply

6. Floor Display and Task Lighting

This Section Does Not Apply

7. Combined Ornamental and Special Effects Lighting

This Section Does Not Apply

8. Very Valuable Merchandise

This Section Does Not Apply

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

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

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

Project Name:	Hoover HS	NRCC-PRF-01-E	Page 25 of 27
Project Address:	651 Glenwood Rd. Glendale 91202	Calculation Date/Time:	11:42, Thu, Mar 09, 2017
Compliance Scope:	ExistingAdditionAndAlteration	Input File Name:	Hoover HS 2017-03-09.cibd16x

H. EVAPORATIVE COOLER SUMMARY

This Section Does Not Apply

NRCC-PRF-LTI-DETAILS -SECTION START-

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

This Section Does Not Apply

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

This Section Does Not Apply

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

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

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

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

This Section Does Not Apply

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

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

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

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

Rectangular Spaces

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

REVISIONS

CONSTRUCTION DOCUMENTS

GLENDALE UNIFIED SCHOOL DISTRICT

PDS PocockDesignSolutions Inc.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP3 117998
AC FLS SS
Date AUG 07 2017

GLENDALE UNIFIED SCHOOL DISTRICT
HERBERT HOOVER HIGH SCHOOL – 11000
BUILDING PROP 39 – HVAC UPGRADE
651 GLENWOOD RD, GLENDALE, CA 91202

nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
P: 323.475.8075

NAC NO	161-16043
DRAWN	BB
CHECKED	DB
DATE	06-22-2017

TITLE 24 FORMS

M6.02

GENERAL NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO 2016 CBC STATE ELECTRICAL CODES. CODES ENFORCED BY THE AUTHORITY HAVING JURISDICTION AND DSA REQUIREMENTS. ALL ELECTRICAL MATERIAL AND EQUIPMENT SHALL BE UL LISTED.
2. MINIMUM WIRE SIZE FOR LINE VOLTAGE WIRING SHALL BE #12 AWG, 600 VOLT "THHW" OR "THHN" INSULATION, COPPER CONDUCTORS. WIRING FOR SIGNAL AND FIRE ALARM SYSTEMS SHALL BE AS NOTED ON THE DRAWINGS.
3. ALL CONDUIT SIZES SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE FOR CONDUIT FILL.
4. THE SEISMIC ANCHORAGE OF ELECTRICAL EQUIPMENT SHALL CONFORM TO CCR, TITLE 24, 2016 CBC SECTION 1632A AND TABLE 16A–0.
5. ALL CONDUIT, WIRE, DEVICES, AND BOXES ARE NEW UNLESS NOTED OTHERWISE.
6. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AT THE JOB SITE PRIOR TO SUBMITTING BID.
7. CONTRACTOR SHALL FURNISH AND INSTALL COMPLETE SYSTEMS AT THE SITE. THE SYSTEMS SHALL INCLUDE; ALL EQUIPMENT, CONDUIT CABLE, WIRE AND ALL NECESSARY ITEMS FOR THE SYSTEM TO BE OPERABLE.
8. PATCH ALL EXISTING WALLS AS NECESSARY. MATERIAL, WORKMANSHIP AND FINISH SHALL MATCH EXISTING.
9. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS WHICH ARE REQUIRED FOR THE ELECTRICAL WORK BY LEGALLY CONSTITUTED AUTHORITIES, AND SHALL DELIVER ALL CERTIFICATES TO THE DISTRICTS FACILITIES BRANCH BEFORE THE WORK IS STARTED.
10. ALL RUNS OF CONDUIT ONLY SHALL HAVE AN IDEAL CAT. #31–343 "POWER–FISH" PULL LINE INSTALLED.
11. THE DRAWINGS INDICATE THE ELECTRICAL WORK WHICH IS TO BE IN PLACE WHEN THE WORK IS COMPLETE.
12. NO CABLE SHALL BE INSTALLED PRIOR TO THE INSPECTION AND ACCEPTANCE OF A COMPLETED CONDUIT SYSTEM.
13. EXISTING CIRCUITS, CONDUIT RUNS AND OUTLET LOCATION HAVE BEEN DEVELOPED FROM THE BEST INFORMATION AVAILABLE TO THE DISTRICT AT THE TIME THE DRAWINGS WERE PREPARED. THE DISTRICT PROVIDES THIS ONLY AS A GENERAL GUIDELINE FOR THE CONVENIENCE OF BUILDERS/CONTRACTORS AND DOES NOT GUARANTEE OR WARRANT IN ANY WAY EXPRESSLY OR IMPLIED THE ACCURACY OF THESE REPRESENTATIONS. NOTHING IN THE DISCLAIMER AFFECTS THE CONTRACTORS RESPONSIBILITY TO PROVIDE ACCURATE "AS–BUILT" DRAWINGS AFTER THE COMPLETION OF THE CONTRACT.
14. AT NO TIME DURING CONSTRUCTION AND INSTALLATION MODIFICATION OF THE FIRE ALARM SYSTEM SHALL THE SCHOOL BE WITHOUT AN OPERATIONAL FIRE ALARM SYSTEM WHEN CHILDREN ARE ON CAMPUS. CHANGE OVERS MUST BE DONE AFTER SCHOOL OR ON THE WEEKENDS. THE CONTRACTOR SHALL NOTIFY THE SCHOOL SITE PERSONAL AND THE MAINTENANCE OFFICE 48 HOURS PRIOR TO ANY DISCONNECTION OR CHANGE OVER OF THE FIRE ALARM SYSTEM, OR A FIRE WATCH WILL BE REQUIRED. CBC CHAPTER 34 AND CHAPTER 14 CFC.
15. THE TERM "PULL" USED ON THE DRAWINGS SHALL BE CONSIDERED TO MEAN "FURNISH, INSTALL AND CONNECT".
16. ALL EQUIPMENT SHALL BE LISTED BY AN APPROVED TESTING AGENCY PER SPECIFICATIONS. IN ADDITION, ALL FIRE ALARM AND DETECTION EQUIPMENT SHALL BE LISTED BY THE CALIFORNIA STATE FIRE MARSHAL (CSFM).
17. ALL NEW CONDUITS INSTALLED UNDER THIS SECTION OF WORK SHALL BE 3/4 INCH MINIMUM SIZE, EXCEPT "WHIPS" TO FLUORESCENT FIXTURES IN SUSPENDED CEILING. FIXTURE "WHIPS" MAY BE 1/2" CONDUIT TO FLUORESCENT FIXTURES IN SUSPENDED CEILING.
18. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PATCH AND REPAIR ALL DAMAGE TO EXISTING FINISHES. THE AREAS OF WORK SHALL BE REPAIRED TO THE FINISH EXISTING PRIOR TO THE COMMENCEMENT OF WORK.
19. CONTRACTOR SHALL INSTALL NEW BLANK PLATES ON ALL EXISTING FLUSH OUTLETS THAT ARE ABANDONED IN PLACE. CONTRACTOR SHALL VERIFY LOCATION OF ALL ABANDONED OUTLETS AND SHALL INSTALL NEW PLATES ON ALL – EVEN THOSE NOT INDICATED OR NOTED SPECIFICALLY ON THE DRAWINGS.
20. ALL NEW OUTLETS (FOR RECEPTACLES, SWITCHES, J–BOXES, ETC.) INSTALLED IN EXISTING WALLS SHALL BE "CUT–IN" TYPE BOXES WITH FLEXIBLE CONDUIT "FISHED" INTO WALL CAVITY FROM CEILING SPACE ABOVE. ON EXISTING MASONRY WALLS (OR OTHER INACCESSIBLE TYPE WALLS) NEW OUTLETS SHALL BE SURFACE RACEWAY TYPE WITH EXPOSED SURFACE RACEWAY (WIREMOLD) OF APPROPRIATE SIZE. OBTAIN ARCHITECTS APPROVAL FOR ALL SURFACE RACEWAY LOCATIONS.
21. PLUG ALL KNOCK–OUTS WHERE CONDUITS ARE REMOVED FROM EXISTING BOXES, PANELS, SWITCHBOARDS, ENCLOSURES, ETC.
22. WHERE HVAC AND PLUMBING EQUIPMENT IS SHOWN ON ELECTRICAL DRAWINGS, IT IS FOR REFERENCE ONLY. SEE MECHANICAL DRAWINGS FOR EXACT SIZE, LOCATION, CONNECTIONS, ETC. OF ALL EQUIPMENT. ALL WORK DESIGNATED AS "ELECTRICAL" ON MECHANICAL/PLUMBING DRAWINGS SHALL BE DONE AS IF SHOWN ON THESE PLANS. VERIFY ALL LOCATIONS OF MECHANICAL EQUIPMENT WITH APPROPRIATE CONTRACTORS.
23. THE CONTRACTOR IS RESPONSIBLE FOR SEALING ALL FIRE RATED PENETRATIONS WHETHER INDICATED OR NOT.
24. IF THE CONTRACTOR BELIEVES THAT THERE ARE CONFLICTS WITHIN THESE ELECTRICAL DRAWINGS OR BETWEEN THE ELECTRICAL DRAWINGS AND THE SPECIFICATIONS, OR BETWEEN THE ELECTRICAL DRAWINGS AND ANY MECHANICAL, ARCHITECTURAL, PLUMBING OR STRUCTURAL DRAWING, BID THE MORE EXPENSIVE OR ELABORATE PROCESS OR PROCEDURE SHOWN AND CALL THE DISCREPANCY TO THE ARCHITECT'S ATTENTION. SHOULD THE DISTRICT, IN ITS DISCRETION, CHOOSE TO IMPLEMENT THE CHEAPER OR SIMPLER PROCEDURE AFTER BID OPENING, A CREDIT CHANGE ORDER WILL BE ISSUED TO THE CONTRACTOR.
25. INSTALL ALL CONDUIT BUSHINGS PRIOR TO INSTALLATION OF ANY CONDUCTORS, SEE NOTE #12.
26. THE CONTRACTOR SHALL CAREFULLY REVIEW THE SPECIFICATIONS AS THEY PERTAIN TO RIGID CONDUIT. THE SPECIFICATION REQUIREMENTS ARE VERY STRINGENT AND SUBSTANTIALLY EXCEED MINIMUM CODE REQUIREMENTS. NO DEVIATIONS WILL BE ALLOWED WHERE RIGID CONDUIT IS CALLED FOR.
27. "AS PART OF THE BASIC CONTRACT WORK UNDER THIS PROJECT, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LABEL ALL CONDUCTORS WHICH WILL REMAIN AS EXISTING SERVICE AND TO IDENTIFY THESE CIRCUITS ON THE PANEL SCHEDULES PREPARED FOR THE NEW AND EXPANDED PANEL BOXES. THE CONTRACTOR SHALL ALSO, AT NO ADDITIONAL CHARGE, TEST ALL EXISTING CONDUCTORS TO REMAIN TO VERIFY THAT THEY ARE OPERATIONAL AND CONDUCTING THE SPECIFIED VOLTAGE. FOLLOWING THE TESTING PROCEDURE, IDENTIFY ALL NOTED DISCREPANCIES TO THE ATTENTION OF THE ELECTRICAL ENGINEER FOR RESOLUTION."
28. UPON COMPLETION OF THE ELECTRICAL INSTALLATION, PATCH AND PAINT AS REQUIRED TO RESTORE WALLS AND SURFACES TO NEW CONDITION.
29. ALL EXPOSED CONDUIT, PULLBOXES, OUTLET BOXES, ETC. SHALL BE PAINTED TO MATCH SURROUNDING SURFACE. COORDINATE WITH ARCHITECT. REFER TO SPECIFICATION SECTION 09900.
30. ALL DEMOLITION SHALL COMPLY WITH CH. 34 CBC AND CHAPTER 14 CFC.

SYMBOL LIST

Symbol	Description
S	DASHED SYMBOL INDICATES EXISTING FIXTURE, OUTLET, DEVICE OR EQUIPMENT TO BE REMOVED.
$	FINE–LINED SYMBOL INDICATES EXISTING FIXTURE, OUTLET, DEVICE OR EQUIPMENT TO REMAIN.
—EX—	EXISTING CONDUIT TO BE REUSED.
—R—	EXISTING CONDUIT TO BE REMOVED IF IN AN ACCESSIBLE AREA OR TO BE ABANDONED IF IN AN INACCESSIBLE AREA.
(A)	FIXTURE TYPE AND WATTAGE PER FIXTURE LIST. TYPICAL FOR ROOM INDICATED UNLESS OTHERWISE NOTED.
	INDICATES CONTROLLING SWITCH LEG.
11a	DENOTES BRANCH CIRCUIT NUMBER SUPPLYING FIXTURE.
	RECESSED MOUNTED FLUORESCENT LIGHTING FIXTURE.
	DUPLEX RECEPTACLE, MOUNTED AT +15" U.O.N.
	DUPLEX RECEPTACLE, GFI PROTECTION AT +15" U.O.N.
	DOUBLE DUPLEX GFI RECEPTACLE MOUNTED AT +15" U.O.N.
	DOUBLE DUPLEX RECEPTACLE, MOUNTED AT +15" U.O.N.
J	FLEXIBLE CONDUIT "FISH" DOWN PARTITION WALL FROM ACCESSIBLE CEILING SPACE TO DEVICE AS INDICATED. DEVICE IS AS INDICATED ON THE PLANS.
	FLUSH MOUNTED PANELBOARD.
	SURFACE MOUNTED PANELBOARD.
	SURFACE MOUNTED CABINET, AS NOTED.
	FLUSH MOUNTED CABINET, AS NOTED.
N	NON–FUSED DISCONNECT SWITCH. SIZE AS NOTED. (NFDS)
	FUSED DISCONNECT SWITCH. SIZE AS NOTED. (FDS)
J	CODE SIZE JUNCTION BOX. 5/S OR LARGER IF REQUIRED FOR NUMBER/SIZE OF CONDUCTORS.
	PULL BOX WITH SCREW COVER, SIZE AS NOTED.
A–1,3	HOMERUN TO INDICATED PANELBOARD ("A"). NUMBERS (1,3) INDICATE BRANCH CIRCUIT NUMBERS.
3/4"–3#8+1#10 EG	INDICATES 3/4" CONDUIT WITH 3 NUMBER 8 CONDUCTORS + 1 NUMBER 10 EQUIPMENT GROUND.
3/4"–3#10+3#10(IN)+1#10 EG	INDICATES 3/4" CONDUIT WITH 3 NUMBER 10 PHASE CONDUCTORS PLUS 3 NUMBER 10 INDIVIDUAL NEUTRAL CONDUCTORS PLUS 1 NUMBER 10 EQUIPMENT GROUND.
(2) 3" 3–500KCM+1#1/0 EG	INDICATES TWO (2) 3" CONDUITS WITH THREE (3) 500 kcmil CONDUCTORS PLUS ONE (1) NUMBER 1/0 EQUIPMENT GROUNDING CONDUCTOR IN EACH CONDUIT.
	3/4" CONDUIT WITH 2#12 CONDUCTORS PLUS 1#12 E.G. CONDUCTOR
	3/4" CONDUIT WITH 3#12 CONDUCTORS PLUS 1#12 E.G. CONDUCTOR
	3/4" CONDUIT WITH 4#12 CONDUCTORS PLUS 1#12 E.G. CONDUCTOR
	3/4" CONDUIT WITH 5#12 CONDUCTORS PLUS 1#12 E.G. CONDUCTOR
	3/4" CONDUIT WITH 6#12 CONDUCTORS PLUS 1#12 E.G. CONDUCTOR
	3/4" CONDUIT WITH 7#12 CONDUCTORS PLUS 1#12 E.G. CONDUCTOR
	1" CONDUIT WITH 8#12 CONDUCTORS PLUS 1#12 E.G. CONDUCTOR
#10	THE NUMBER "10" OR "8" ADJACENT TO THE HASH MARK IN ANY CONDUIT RUN INDICATES #10 (OR #8) CONDUCTORS IN LIEU OF #12 CONDUCTORS. INCREASE CONDUIT SIZE TO ACCOMMODATE QUANTITY OF #10 (OR #8) CONDUCTORS INDICATED. EQUIPMENT GROUND CONDUCTOR SIZE SHALL ALSO INCREASE TO #10 (FOR #10 OR #8 CIRCUIT CONDUCTORS)
S	SPEAKER MOUNTED IN CEILING. REFER TO SPEAKER SCHEDULES FOR SPEAKER TYPE.
S	SPEAKER MOUNTED ON WALL AT HEIGHT INDICATED. REFER TO SPEAKER SCHEDULES FOR SPEAKER TYPE.
A	SECURITY SYSTEM SENSOR
WAP	WIRELESS ACCESS POINT.
	COMBINATION VOICE AND DATA OUTLET INSTALLED IN A FLUSH OUTLET BOX.
2	DATA OUTLET INSTALLED IN A FLUSH OUTLET BOX. NUMBER INDICATES QUANTITY OF JACKS
	VOICE OUTLET INSTALLED IN A FLUSH OUTLET BOX. INSTALL VOICE JACK(S) TO MEET THE SPECIFICATIONS AT EACH LOCATION.
TV	TELEVISION OUTLET – VERIFY EXACT LOCATION WITH ARCHITECTURAL ELEVATIONS
AC 2	MECHANICAL EQUIPMENT REFERENCE.
	CONDUIT CONCEALED IN WALL OR CEILING SPACE.
	CONDUIT CONCEALED UNDERGROUND.
	CONDUIT INSTALLED EXPOSED.
	FLEXIBLE METAL CONDUIT. INSTALL REQUIRED BRANCH CIRCUIT CONDUCTORS AND EQUIPMENT GROUND CONDUCTOR.
	3/4" X 10'–0" ELECTROLYTIC GROUND ROD, U.O.N.
	3/4" X 10'–0" ELECTROLYTIC GROUND ROD IN A YARD BOX.
	CURRENT TRANSFORMER, RATIO AS INDICATED.
KWH	KILOWATT HOUR DEMAND METER.
	DISCONNECT SWITCH.
	LOW VOLTAGE CIRCUIT BREAKER.
	POWER TRANSFORMER.
	GROUND CONNECTION.
100A	TRIP SETTING
225A	FRAME SIZE
3P	NO. OF POLES
4	ELECTRICAL NOTE REFERENCE
C / E–5.0	INDICATES DETAIL "C" ON SHEET 0E–5.0
A, AMP	AMPERE
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
C.O.	CONDUIT ONLY
EA.	EACH
EG	EQUIPMENT GROUND
EX	EXISTING
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FIB. OP.	FIBER OPTIC
GFI	GROUND–FAULT INTERRUPTER
GWP	GLENDALE WATER & POWER
IACP	INTRUSION ALARM CONTROL PANEL
IDF	INTERMEDIATE DISTRIBUTION FRAME
MDF	MAIN DISTRIBUTION FRAME
LAN	LOCAL AREA NETWORK
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
SCE	SOUTHERN CALIFORNIA EDISON
TYP	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
WP	WEATHERPROOF
+48"	MOUNTING HEIGHT ABOVE FINISHED FLOOR TO CENTER OF DEVICE.

MEP COMPONENT ANCHORAGE NOTES

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2013 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7-10 CHAPTER 13, 26 AND 30.

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

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

A. COMPONENTS WEIGHING LESS THAN 400 LBS. AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
B. COMPONENTS WEIGHING LESS THAN 20 LBS. OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 LBS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

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

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTES

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.5.6, 13.6.7, 13.6.8 AND 2013 CBC, SECTIONS 1616A.1.23, 1616A.1.24, 1616A.1.25 AND 1616A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G. SMACNA OR OSHPD OPM), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

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

MP☐ MD☐ PP ☐ E ☐ - OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OMP #) #_________.

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

EQUIPMENT ANCHORAGE NOTES

1. ALL MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE BRACED OF ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE FOLLOWING CRITERIA PER 2016 CBC, AND ASCE 07–10

$$F_p = \frac{.4 a_p\ S_{DS}\ W_p}{(R_p/I_p)} \left(1+2\frac{z}{h}\right) = 1.19 W_p$$

WHERE:

F_p = HORIZONTAL SEISMIC FORCE AT STRENGTH LOAD LEVEL 1.0E

a_p = 2.5 FOR FLEXIBLE EQUIPMENT, INCLUDING EQUIP. ON VIBRATION ISOLATORS

S_{DS} = 1.837

I_p = 1.25

R_p = 6

h = HEIGHT OF EQUIPMENT ATTACHMENT ABOVE GRADE

W_p = WEIGHT OF EQUIPMENT

2. Fp SHALL NOT BE LESS THAN $.3 S_{DS} I_p W_p = 0.71 W_p$

   Fp NEED NOT EXCEED $1.6 S_{DS} I_p W_p = 3.79 W_p$
3. ANCHORS MUST MEET REQUIREMENTS OF 2016 CBC SECTION 1616A.1.19.
4. FOR LOAD COMBINATIONS, SEE 2016 CBC.
5. ALL EQUIPMENT SHALL BE DESIGNED FOR A SIMULTANEOUS VERTICAL SEISMIC FORCE EQUAL TO + .20 S Wp = 0.32 Wp
6. ANCHORAGE OF EQUIPMENT SHALL BE PER 2013 CBC AND ASCE 07–10, TABLE 13.6–1 AND SECTION 13.6.$_{DS}$

BRANCH CIRCUIT VOLTAGE DROP TABLE

MAXIMUM BRANCH CIRCUIT LENGTH (ONE WAY) FOR VOLTAGE DROP LESS THAN 3%

NORMAL VOLTAGE	CIRCUIT RATING	WIRE SIZE (AWG)	MAX LENGTH (FT)	MAX LOAD (VA)	MAX LOAD (AMPS)	VOLTAGE DROP (%)
120 VOLTS	20 AMPS	12	100	1920	16	2.67
		10	180	1920	16	2.88
		8	275	1920	16	2.86
277 VOLTS	20 AMPS	12	250	4432	16	2.89
		10	400	4432	16	2.77
		8	625	4432	16	2.82

CONDUIT SIZING SCHEDULE

CONDUIT SIZE	AREA	40% FILL x 75%	ALLOWABLE FILL
3/4" DIAMETER CONDUIT	.53 S.I.	.53 S.I.	.159 S.I.
1" DIAMETER CONDUIT	.86 S.I.	.86 S.I.	.258 S.I.
1 1/4" DIAMETER CONDUIT	1.50 S.I.	1.50 S.I.	.450 S.I.
1 1/2" DIAMETER CONDUIT	2.04 S.I.	2.04 S.I.	.612 S.I.
2" DIAMETER CONDUIT	3.36 S.I.	3.36 S.I.	1.01 S.I.
2 1/2" DIAMETER CONDUIT	5.86 S.I.	5.86 S.I.	1.76 S.I.
3" DIAMETER CONDUIT	8.85 S.I.	8.85 S.I.	2.66 S.I.
3 1/2" DIAMETER CONDUIT	11.5 S.I.	11.5 S.I.	3.45 S.I.
4" DIAMETER CONDUIT	14.75 S.I.	14.75 S.I.	4.43 S.I.

WORKMANSHIP NOTES

1. AESTHETICS ARE A VERY IMPORTANT COMPONENT OF THIS PROJECT. INSTALLATION OF ALL ELECTRICAL WORK SHALL BE OF THE HIGHEST QUALITY AND CRAFTSMANSHIP POSSIBLE.
2. THE ELECTRICAL DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC TO THE EXTENT THAT MANY OFFSETS, BENDS, SPECIAL FITTINGS AND EXACT LOCATIONS ARE NOT INDICATED. THE CONTRACTOR SHALL CAREFULLY STUDY THE DRAWINGS AND PREMISES IN ORDER TO DETERMINE THE BEST METHODS, EXACT LOCATIONS, ROUTES, OBSTRUCTIONS, ETC. WHICH AFFECT HIS INSTALLATION. REFER TO SPECIFICATION SECTION 16000 FOR ADDITIONAL REQUIREMENTS.
3. ALL NEW CONDUIT SHALL BE INSTALLED CONCEALED IN WALLS, CEILINGS OR UNDERGROUND.
4. ANY EXPOSED CONDUITS/RACEWAYS THAT ARE ALLOWED SHALL BE INSTALLED IN LOCATIONS THAT ARE AS INCONSPICUOUS AS POSSIBLE, AND SHALL FOLLOW THE LINES OF THE STRUCTURE AS CLOSELY AS POSSIBLE. ALL EXPOSED CONDUITS, BOXES, ETC. SHALL BE PAINTED. REFER TO SPECIFICATION SECTION 09900.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP3 117998
AC FLS SS
Date AUG 0 7 2017

REGISTERED PROFESSIONAL ENGINEER ARA VARTANIANS No. E013986 EXP 6-30-18 ELECTRICAL STATE OF CALIFORNIA

REVISIONS

CONSTRUCTION DOCUMENTS

TURPIN & RATTAN 16369.MD

GLENDALE UNIFIED SCHOOL DISTRICT
HERBERT HOOVER HIGH SCHOOL - 11000 BUILDING PROP 39 - HVAC UPGRADE
651 GLENWOOD RD, GLENDALE, CA 91202

REGISTERED ARCHITECT TIMOTHY A. BALLARD No. C 21424 Exp. 8\31\17 STATE OF CALIFORNIA

NAC ARCHITECTURE
nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
P:323.475.8075

NAC NO	161-16043
DRAWN	RK
CHECKED	JK
DATE	6-28-2017

SYMBOL LIST, GENERAL NOTES

EXISTING PANEL "2A"

MOUNTING: SURFACE — ENTER CABINET AT: EXISTING — VOLTAGE: 208V, 3Ø, 3W — MAIN: M.L.O. — BUSSING: 225A

	LOCATION	ØA	ØB	ØC	LTG	REC	MIS	BKR. AMP	POLE	ABC		BKR. AMP	POLE	MIS	REC	LTG	ØA	ØB	ØC	LOCATION	
*	SPARE	–			–	–	–	20		1	2	20		–	–	–	–			SPARE	*
			–		–	–	–		2	3	4		2	–	–	–		–			
**	FC–10			600	–	–	–	15		5	6	15		–	–	–			600	FC–12	**
		600			–	–	–		2	7	8		2	–	–	–	600				
**	FC–11		600		–	–	–	15		9	10	15		–	–	–		600		FC–13	**
				600	–	–	–		2	11	12		2	–	–	–			600		
*	SPARE	–			–	–	–	20		13	14	20		–	–	–	–			SPARE	*
			–		–	–	–		2	15	16		2	–	–	–		–			
*	SPARE			–	–	–	–	20		17	18	20		–	–	–			–	SPARE	*
		–			–	–	–		2	19	20		2	–	–	–	–				
**	FC–14		600		–	–	–	15		21	22	15		–	–	–		600		FC–16	**
				600	–	–	–		2	23	24		2	–	–	–			600		
**	FC–15	600			–	–	–	15		25	26	15		–	–	–	600			FC–17	**
			600		–	–	–		2	27	28		2	–	–	–		600			
*	SPARE			–	–	–	–	20		29	30	20		–	–	–			–	SPARE	*
		–			–	–	–		2	31	32		2	–	–	–	–				
**	FC–9		600		–	–	–	15		33	34	20		–	–	–		–		SPARE	*
				600	–	–	–		2	35	36		2	–	–	–			–		
	SPACE	–			–	–	–	–	–	37	38	–	–	–	–	–	–			SPACE	
			–		–	–	–	–	–	39	40	–	–	–	–	–		–			
				–	–	–	–	–	–	41	42	–	–	–	–	–			–		
	SUBTOTAL	1,200	2,400	2,400													1,200	1,800	1,800	SUBTOTAL	

TOTAL VOLT–AMPERES/PHASE ØA= 2,400 VA ØB= 4,200 VA ØC= 4,200 VA

TOTAL PANEL VOLT–AMPERES: 10,800 VA + LCL 0 VA = 10,800 VA AMPS= 30 A

EXISTING PANEL "2B"

MOUNTING: SURFACE — ENTER CABINET AT: EXISTING — VOLTAGE: 120/208V, 3Ø, 4W — MAIN: M.L.O. — BUSSING: 225A

	LOCATION	ØA	ØB	ØC	LTG	REC	MIS	BKR. AMP	POLE	ABC		BKR. AMP	POLE	MIS	REC	LTG	ØA	ØB	ØC	LOCATION	
*	SPARE	–			–	–	–	20		1	2	20		–	–	–	–			SPARE	*
			–		–	–	–		2	3	4		2	–	–	–		–			
**	FC–7			600	–	–	–	15		5	6	15		–	–	–			600	FC–5	**
		600			–	–	–		2	7	8		2	–	–	–	600				
**	FC–8		600		–	–	–	15		9	10	15		–	–	–		600		FC–6	**
				600	–	–	–		2	11	12		2	–	–	–			600		
*	SPARE	–			–	–	–	20		13	14	20		–	–	–	–			SPARE	*
			–		–	–	–		2	15	16		2	–	–	–		–			
***	STORAGE, EQRM, CORR.			900	–	–	–	20	1	17	18	20	1	–	–	–			1080	CLASSROOM	***
	CLASSROOM	1440			–	–	–			19	20			–	–	–	900				
			900		–	–	–			21	22			–	–	–		900			
				900	–	–	–			23	24			–	–	–			900		
		1440			–	–	–			25	26			–	–	–	900				
			900		–	–	–			27	28	20		–	–	–		1250		H	
				900	–	–	–			29	30		2	–	–	–			1250		
	H	1250			–	–	–	20		31	32	20		–	–	–	1250			H	
			1250		–	–	–		2	33	34		2	–	–	–		1250			
	H			1250	–	–	–	20		35	36	20	1	–	–	–			–	SPARE	
		1250			–	–	–		2	37	38	20	1	–	–	–	–				
	SPARE		–		–	–	–	20	1	39	40	20	1	–	–	–		–			
	SPARE			–	–	–	–	20	1	41	42	20	1	–	–	–			–		
	SUBTOTAL	5,980	3,650	5,150													3,650	4,000	4,430	SUBTOTAL	

TOTAL VOLT–AMPERES/PHASE ØA= 9,630 VA ØB= 7,650 VA ØC= 9,580 VA

TOTAL PANEL VOLT–AMPERES: 26,860 VA + LCL 0 VA = 26,860 VA AMPS= 74.6 A

EXISTING WP PANEL "2D"

MOUNTING: SURFACE — ENTER CABINET AT: EXISTING — VOLTAGE: 120/208V, 3Ø, 4W — MAIN: M.L.O. — BUSSING: 225A

	LOCATION	ØA	ØB	ØC	LTG	REC	MIS	BKR. AMP	POLE	ABC		BKR. AMP	POLE	MIS	REC	LTG	ØA	ØB	ØC	LOCATION	
**	FC–1	600			–	–	–	15		1	2	20		–	–	–	–			SPARE	*
			600		–	–	–		2	3	4		2	–	–	–		–			
**	SPARE			–	–	–	–	20		5	6	15		–	–	–			600	FC–19	**
		–			–	–	–		2	7	8		2	–	–	–	600				
**	FC–2		600		–	–	–	15		9	10	15		–	–	–		600		FC–18	**
				600	–	–	–		2	11	12		2	–	–	–			600		
**	SPARE	–			–	–	–	20		13	14	20		–	–	–	–			SPARE	*
			–		–	–	–		2	15	16		2	–	–	–		–			
**	FC–3			600	–	–	–	15		17	18	20		–	–	–			–	SPARE	*
		600			–	–	–		2	19	20		2	–	–	–	–				
**	FC–4		600		–	–	–	15		21	22	20	1	–	–	–		500		COPY MACHINE	***
				600	–	–	–		2	23	24			–	–	–			500	COPY MACHINE	
**	CLASSROOM	720			–	–	–	20	1	25	26			–	–	–	1080			COMPUTER	
			900		–	–	–			27	28			–	–	–		720			
				900	–	–	–			29	30			–	–	–			720		
	KITCHEN	900			–	–	–			31	32			–	–	–	900				
	KITCHEN		900		–	–	–			33	34			–	–	–		900			
	COOK TOP			2250	–	–	–	15		35	36			–	–	–			900		
		2250			–	–	–		2	37	38	20		–	–	–	1250			HAND DRYER	
	HAND DRYER		1250		–	–	–	15		39	40		2	–	–	–		1250			
				–	–	–	–		2	41	42	20	1	–	–	–			–	SPARE	
	SUBTOTAL	5,070	4,850	6,200													3,830	3,970	3,320	SUBTOTAL	

TOTAL VOLT–AMPERES/PHASE ØA= 8,900 VA ØB= 8,820 VA ØC= 9,520 VA

TOTAL PANEL VOLT–AMPERES: 27,240 VA + LCL 0 VA = 27,240 VA AMPS= 75.6 A

EXISTING PANEL "RA"

MOUNTING: SURFACE — ENTER CABINET AT: EXISTING — VOLTAGE: 208V, 3Ø, 3W — MAIN: M.L.O. (DOUBLE LUGS) — BUSSING: 400A

	LOCATION	ØA	ØB	ØC	LTG	REC	MIS	BKR. AMP	POLE	ABC		BKR. AMP	POLE	MIS	REC	LTG	ØA	ØB	ØC	LOCATION	
*	OU–35	2232			–	–	–	30		1	2	40		–	–	–	2232			OU–33	***
			2232		–	–	–		2	3	4			–	–	–		2232			
	SPACE			–	–	–	–	–	–	5	6		3	–	–	–			2232		
*	OU–34	2232			–	–	–	30		7	8	40		–	–	–	2232			OU–32	***
			2232		–	–	–		2	9	10			–	–	–		2232			
	SPACE			–	–	–	–	–	–	11	12		3	–	–	–			2232		
***	HP–1	2232			–	–	–	30		13	14	40		–	–	–	2232			OU–20	***
			2232		–	–	–			15	16			–	–	–		2232			
				2232	–	–	–		3	17	18		3	–	–	–			2232		
*	HP–2	2232			–	–	–	30		19	20	30		–	–	–	2232			HP–19	**
			2232		–	–	–		2	21	22			–	–	–		2232			
	SPACE			–	–	–	–	–	–	23	24		3	–	–	–			2232		
***	HP–3	2232			–	–	–	30		25	26	40		–	–	–	2232			OU–21	***
			2232		–	–	–			27	28			–	–	–		2232			
				2232–	–	–	–		3	29	30		3	–	–	–			2232		
	SPACE	–			–	–	–	–	–	31	32	30		–	–	–	2232			HP–4	**
			–		–	–	–	–	–	33	34			–	–	–		2232			
				–	–	–	–	–	–	35	36		3	–	–	–			2232		
		–			–	–	–	–	–	37	38	–	–	–	–	–	–			SPACE	
			–		–	–	–	–	–	39	40	–	–	–	–	–		–			
				–	–	–	–	–	–	41	42	–	–	–	–	–			–		
	SUBTOTAL	11,160	11,160	4,464													13,392	13,392	13,392	SUBTOTAL	

TOTAL VOLT–AMPERES/PHASE ØA= 24,552 VA ØB= 24,552 VA ØC= 17,856 VA

TOTAL PANEL VOLT–AMPERES: 66,960 VA + LCL 0 VA = 66,960 VA AMPS= 186 A

EXISTING WP PANEL "RB"

MOUNTING: SURFACE — ENTER CABINET AT: EXISTING — VOLTAGE: 208V, 3Ø, 3W — MAIN: M.L.O. — BUSSING: 400A

	LOCATION	ØA	ØB	ØC	LTG	REC	MIS	BKR. AMP	POLE	ABC		BKR. AMP	POLE	MIS	REC	LTG	ØA	ØB	ØC	LOCATION	
**	EXIST (VERIFY)	2232			–	–	–	30		1	2	30		–	–	–	2232			HP–5	**
			2232		–	–	–		2	3	4			–	–	–		2232			
	SPACE			–	–	–	–	–	–	5	6		3	–	–	–			2232		
**	EXIST (VERIFY)	2232			–	–	–	20		7	8	30		–	–	–	2232			HP–6	**
			2232		–	–	–		2	9	10			–	–	–		2232			
	SPACE			–	–	–	–	–	–	11	12		3	–	–	–			2232		
***	OU–39	2232			–	–	–	40		13	14	30		–	–	–	2232			HP–8	**
			2232		–	–	–			15	16			–	–	–		2232			
				2232	–	–	–		3	17	18		3	–	–	–			2232		
***	OU–38	2232			–	–	–	40		19	20	40		–	–	–	–			SPARE	
			2232		–	–	–			21	22		2	–	–	–		–			
				2232	–	–	–		3	23	24	40		–	–	–			2232	EXIST (VERIFY)	***
**	HP–7	2232			–	–	–	30		25	26			–	–	–	2232				
			2232		–	–	–			27	28		3	–	–	–		2232			
				2232	–	–	–		3	29	30	–	–	–	–	–			–	SPACE	
	SPACE	–			–	–	–	–	–	31	32	–	–	–	–	–	–				
			–		–	–	–	–	–	33	34	–	–	–	–	–		–			
				–	–	–	–	–	–	35	36	–	–	–	–	–			–		
		–			–	–	–	–	–	37	38	–	–	–	–	–	–				
			–		–	–	–	–	–	39	40	–	–	–	–	–		–			
				–	–	–	–	–	–	41	42	–	–	–	–	–			–		
	SUBTOTAL	11,160	11,160	6,696													8,928	8,928	8,928	SUBTOTAL	

TOTAL VOLT–AMPERES/PHASE ØA= 20,088 VA ØB= 20,088 VA ØC= 15,624 VA

TOTAL PANEL VOLT–AMPERES: 55,800 VA + LCL 0 VA = 55,800 VA AMPS= 155

* EXISTING BREAKER – RE–LABEL AS SPARE.

** REMOVE EXISTING BREAKER AND INSTALL NEW BREAKER AS INDICATED.

*** EXISTING BREAKER TO REMAIN

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REVISIONS

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FILE NO. 13-H13
APPL NO. 03-117998
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DATE ___

REGISTERED PROFESSIONAL ENGINEER — VARTANIANS — No. E013986 — EXP 6-30-18 — ELECTRICAL — STATE OF CALIFORNIA

16369.MD
TURPIN & RATTAN ENGINEERING, INC.
CONSULTING ENGINEERS
2441 HONOLULU AVENUE, SUITE 200
MONTROSE, CA 91020-1823
818 / 249 / 0444 FAX 249 / 1467

GLENDALE UNIFIED SCHOOL DISTRICT
HERBERT HOOVER HIGH SCHOOL -
11000 BUILDING PROP 39 - HVAC UPGRADE
651 GLENWOOD RD, GLENDALE, CA 91202

REGISTERED ARCHITECT — TIMOTHY A. BALLARD — No. C 21424 — Exp. 8\31\17 — STATE OF CALIFORNIA

NAC ARCHITECTURE
nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
P:323.475.8075

NAC NO	161-16043
DRAWN	RK
CHECKED	JK
DATE	6-28-2017

PANEL SCHEDULES

E1.01

EXISTING PANEL "RC"

MOUNTING: SURFACE
ENTER CABINET AT: EXISTING
VOLTAGE: 208V, 3Ø, 3W
MAIN: M.L.O. (DOUBLE LUGS)
BUSSING: 400A

	LOCATION	VOLT-AMPERES ØA	VOLT-AMPERES ØB	VOLT-AMPERES ØC	LTG	REC	MIS	BKR. AMP	BKR. POLE	ABC	ABC	BKR. AMP	BKR. POLE	MIS	REC	LTG	VOLT-AMPERES ØA	VOLT-AMPERES ØB	VOLT-AMPERES ØC	LOCATION	
***	OU-25	2232			–	–	–	40		1	2	40		–	–	–	2232			OU-24	***
			2232		–	–	–			3	4			–	–	–		2232			
				2232	–	–	–		3	5	6		3	–	–	–			2232		
***	OU-26	2232			–	–	–	40		7	8	40		–	–	–	2232			OU-23	***
			2232		–	–	–			9	10			–	–	–		2232			
				2232	–	–	–		3	11	12		3	–	–	–			2232		
**	HP-17	2232			–	–	–	30		13	14	30		–	–	–	2232			HP-18	**
			2232		–	–	–			15	16			–	–	–		2232			
				2232	–	–	–		3	17	18		3	–	–	–			2232		
**	HP-16	2232			–	–	–	30		19	20	40		–	–	–	2232			OU-22	***
			2232		–	–	–			21	22			–	–	–		2232			
				2232	–	–	–		3	23	24		3	–	–	–			2232		
*	SPARE	–			–	–	–	30		25	26	30		–	–	–	2232			OU-17	***
*	SPARE		–		–	–	–		2	27	28		2	–	–	–		2232			
	SPACE			–	–	–	–	–	–	29	30	30		–	–	–			2232	HP-14	**
		–			–	–	–	–	–	31	32			–	–	–	2232				
			–		–	–	–	–	–	33	34		3	–	–	–		2232			
				–	–	–	–	–	–	35	36	30		–	–	–			2232	HP-15	**
		–			–	–	–	–	–	37	38			–	–	–	2232				
			–		–	–	–	–	–	39	40		3	–	–	–		2232			
				–	–	–	–	–	–	41	42	–	–	–	–	–			–	SPACE	
	SUBTOTAL	8,928	8,928	8,928													15,624	15,624	13,392	SUBTOTAL	

TOTAL VOLT-AMPERES/PHASE ØA= 24,552 VA ØB= 24,552 VA ØC= 22,328 VA

TOTAL PANEL VOLT-AMPERES: 71,432 VA + LCL 0 VA = 71,432 VA AMPS= 198.4 A

EXISTING PANEL "RD"

MOUNTING: SURFACE
ENTER CABINET AT: EXISTING
VOLTAGE: 208V, 3Ø, 3W
MAIN: M.L.O.
BUSSING: 400A

	LOCATION	VOLT-AMPERES ØA	VOLT-AMPERES ØB	VOLT-AMPERES ØC	LTG	REC	MIS	BKR. AMP	BKR. POLE	ABC	ABC	BKR. AMP	BKR. POLE	MIS	REC	LTG	VOLT-AMPERES ØA	VOLT-AMPERES ØB	VOLT-AMPERES ØC	LOCATION	
***	OU-27	2232			–	–	–	40		1	2	40		–	–	–	2232			OU-30	***
			2232		–	–	–			3	4			–	–	–		2232			
				2232	–	–	–		3	5	6		3	–	–	–			2232		
***	OU-30	2232			–	–	–	40		7	8	40		–	–	–	2232			OU-29	***
			2232		–	–	–			9	10			–	–	–		2232			
				2232	–	–	–		3	11	12		3	–	–	–			2232		
**	HP-9	2232			–	–	–	30		13	14	40		–	–	–	2232			OU-31	***
			2232		–	–	–			15	16			–	–	–		2232			
				2232	–	–	–		3	17	18		3	–	–	–			2232		
**	HP-12	2232			–	–	–	30		19	20	30		–	–	–	2232			HP-13	**
			2232		–	–	–			21	22			–	–	–		2232			
				2232	–	–	–		3	23	24		3	–	–	–			2232		
	EXIST (VERIFY)	3840			–	–	–	40		25	26	20		–	–	–	1920			EXIST (VERIFY)	***
			3840		–	–	–			27	28		2	–	–	–		1920			
				3840	–	–	–		3	29	30	40		–	–	–			3840	EXIST (VERIFY)	***
**	HP-10	2232			–	–	–	30		31	32		2	–	–	–	3840				
			2232		–	–	–			33	34	–	–	–	–	–		–		SPACE	
				2232	–	–	–		3	35	36	–	–	–	–	–			–		
**	HP-11	2232			–	–	–	30		37	38	–	–	–	–	–	–				
			2232		–	–	–			39	40	–	–	–	–	–		–			
				2232	–	–	–		3	41	42	–	–	–	–	–			–		
	SUBTOTAL	17,232	17,232	17,232													14,688	10,848	12,768	SUBTOTAL	

TOTAL VOLT-AMPERES/PHASE ØA= 31,920 VA ØB= 28,080 VA ØC= 30,000 VA

TOTAL PANEL VOLT-AMPERES: 90,000 VA + LCL – VA = 90,000 VA AMPS= 244 A

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HERBERT HOOVER HIGH SCHOOL -
11000 BUILDING PROP 39 - HVAC UPGRADE
651 GLENWOOD RD, GLENDALE, CA 91202

NAC ARCHITECTURE
nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012

NAC NO 161-16043
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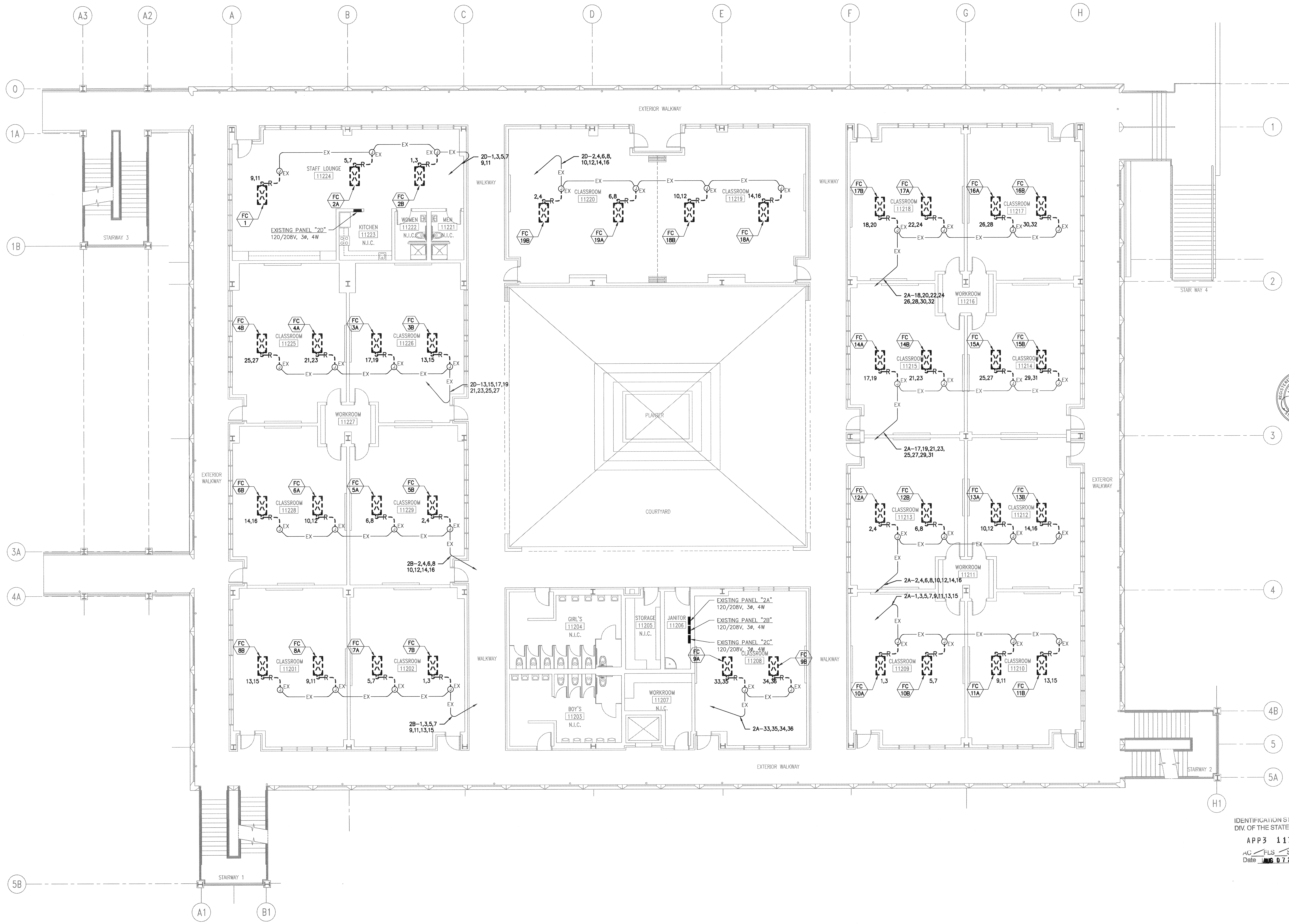
DATE 6-28-2017

ELECTRICAL DETAILS & PANEL SCHEDULES

E1.02



SECOND FLOOR PLAN - ELECTRICAL DEMOLITION

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

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LOS ANGELES CA 90012

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DRAWN	RK
CHECKED	JK
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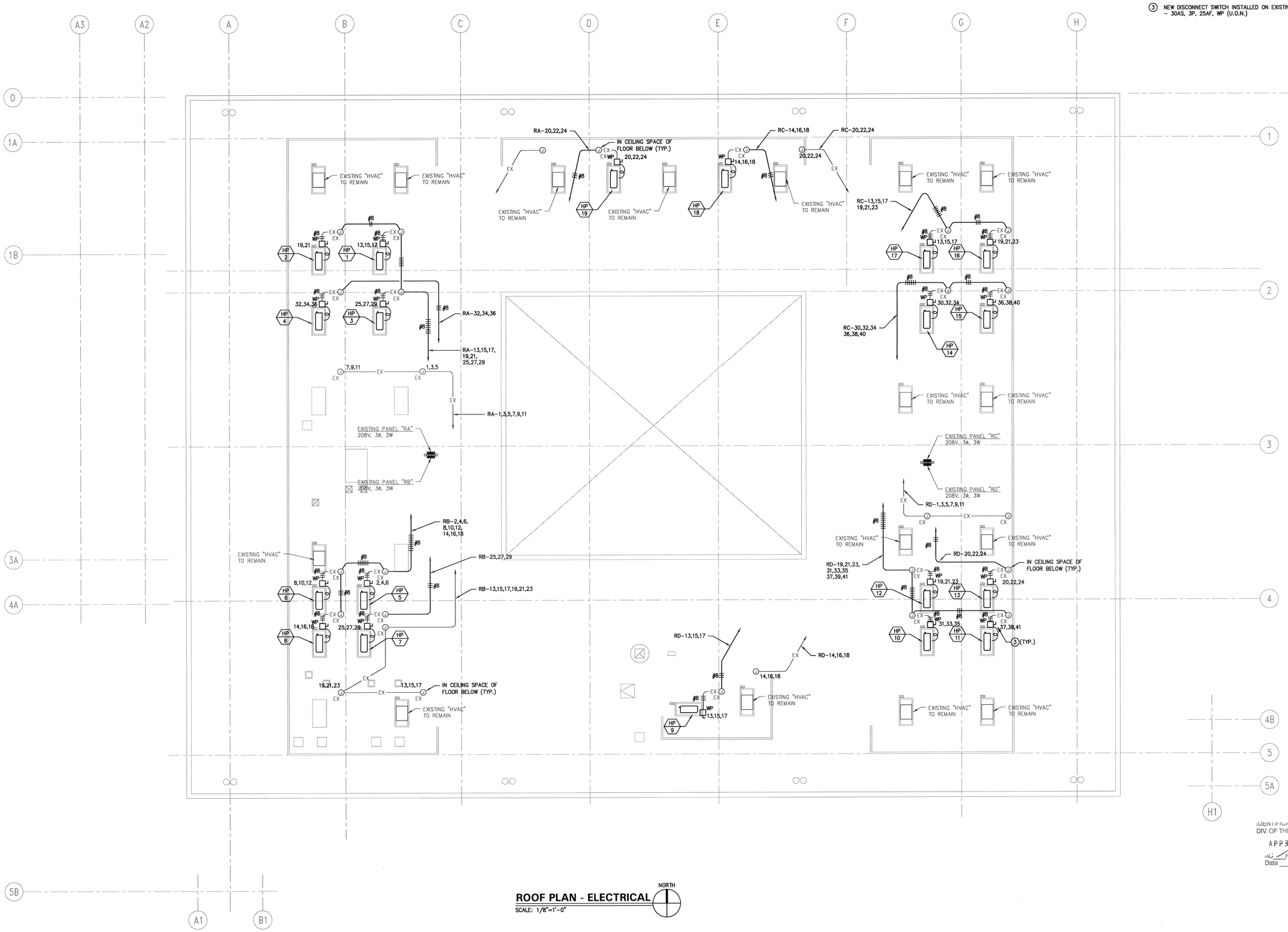
ELECTRICAL DEMOLITION

E2.01

SPECIAL NOTES - THIS SHEET ONLY

1. EXISTING JUNCTION BOX WITH EXISTING CIRCUITS/CONDUCTORS AS INDICATED. LABEL CONDUCTORS WITH CIRCUIT NUMBER INDICATED AND "TAPE-OFF" FOR FUTURE USE.
2. EXTEND EXISTING CIRCUITS INDICATED TO NEW HVAC EQUIPMENT.
3. NEW DISCONNECT SWITCH INSTALLED ON EXISTING UNISTRUT RACK – 30AS, 3P, 25AF, WP (U.O.N.)



ROOF PLAN - ELECTRICAL

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

NORTH

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP3 117998
AC FLS SS
Date MAR 6 7 2017

REVISIONS

CONSTRUCTION DOCUMENTS

IDENTIFICATION STAMP
DIVISION OF STATE ARCHITECT
OFFICE OF REGULATION SERVICES
FILE NO.
APPL NO.
AC FLS SS
DATE

REGISTERED PROFESSIONAL ENGINEER
RAY A. TARTARIAN
No. E013986
Exp. 6-30-18
ELECTRICAL
STATE OF CALIFORNIA

16369.MD
TURPIN & RATTAN
CONSULTING ENGINEERS
2141 HONOLULU AVENUE, SUITE 200
MONTROSE, CA 91020
818 / 249 / 3444 FAX 249 / 1467

GLENDALE UNIFIED SCHOOL DISTRICT
HERBERT HOOVER HIGH SCHOOL - 11000 BUILDING PROP 39 - HVAC UPGRADE
651 GLENWOOD RD, GLENDALE CA 91202

REGISTERED ARCHITECT
ROBERT A. RACANO
No. C 21424
Exp. 8-31-17
STATE OF CALIFORNIA

NAC
ARCHITECTURE
nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
P:323.475.8075

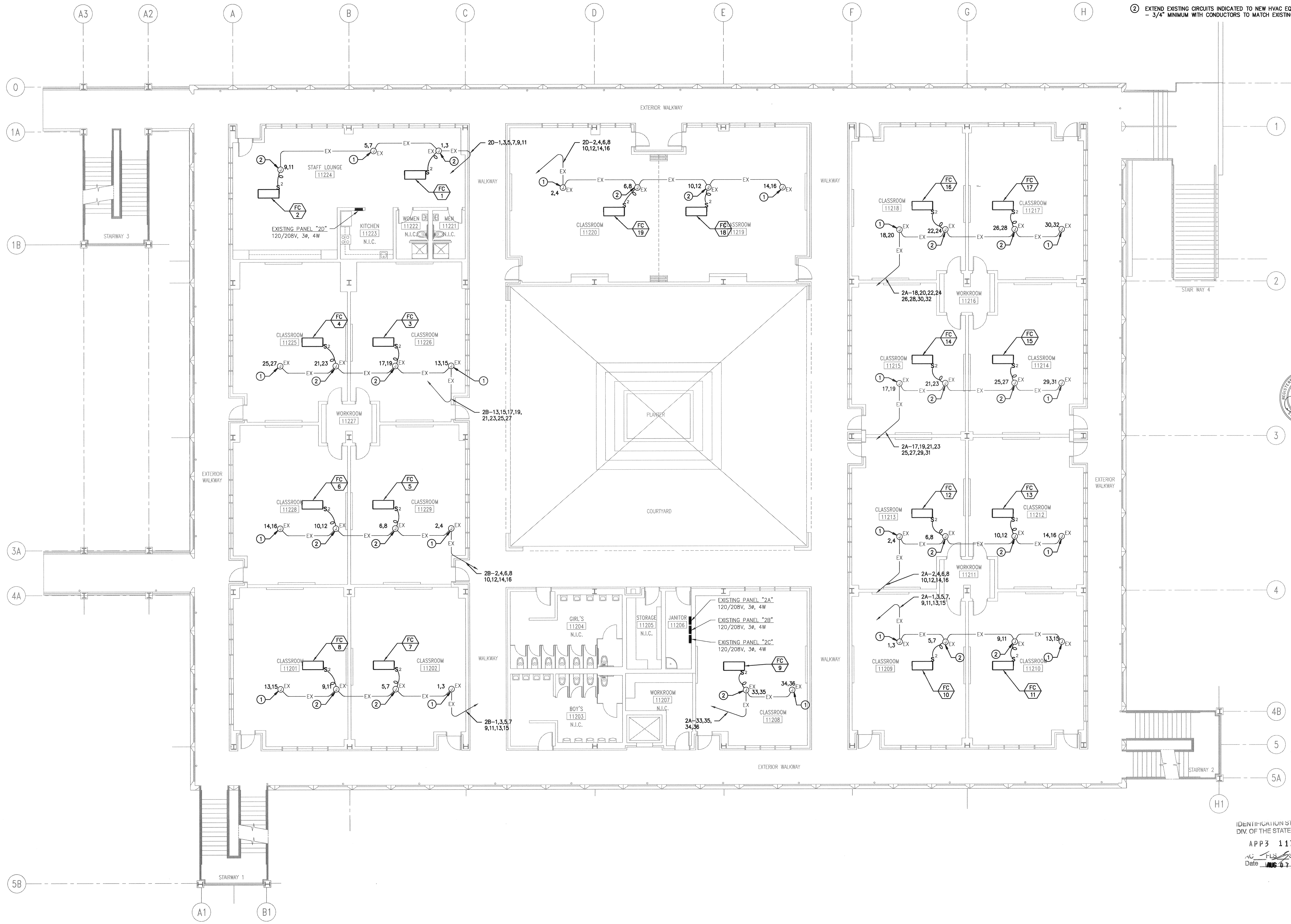
NAC NO	161-16043
DRAWN	RK
CHECKED	JK
DATE	6-28-2017

ROOF PLAN - ELECTRICAL

E3.02

SPECIAL NOTES - THIS SHEET ONLY

1. EXISTING JUNCTION BOX WITH EXISTING CIRCUITS/CONDUCTORS AS INDICATED. LABEL CONDUCTORS WITH CIRCUIT NUMBER INDICATED AND "TAPE-OFF" FOR FUTURE USE.
2. EXTEND EXISTING CIRCUITS INDICATED TO NEW HVAC EQUIPMENT. – 3/4" MINIMUM WITH CONDUCTORS TO MATCH EXISTING.



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AC FLS SS
Date AUG 0 7 2017

SECOND FLOOR PLAN - ELECTRICAL
SCALE: 1/8"=1'-0"
NORTH

REVISIONS

CONSTRUCTION DOCUMENTS

IDENTIFICATION STAMP
DIVISION OF STATE ARCHITECT
OFFICE OF REGULATION SERVICES
FILE NO. 13-H13
APPL NO. 03-117998
AC FLS SS
DATE

REGISTERED PROFESSIONAL ENGINEER
VARTANIANS
No. E013986
EXP. 6-30-18
ELECTRICAL
STATE OF CALIFORNIA

TURPIN & RATTAN 16369.MD
ENGINEERING, INC.
CONSULTING ENGINEERS
2441 HONOLULU AVENUE, SUITE 200
MONTROSE, CA 91020-1823
818 / 249 / 0444 FAX 249 / 1467

GLENDALE UNIFIED SCHOOL DISTRICT
HERBERT HOOVER HIGH SCHOOL - 11000 BUILDING PROP 39 - HVAC UPGRADE
651 GLENWOOD RD, GLENDALE, CA 91202

REGISTERED ARCHITECT
TIMOTHY A. BALLARD
No. C 21424
Exp. 8/31/17
STATE OF CALIFORNIA

NAC ARCHITECTURE
nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
P:323.475.8075

NAC NO	161-16043
DRAWN	RK
CHECKED	JK
DATE	6-28-2017

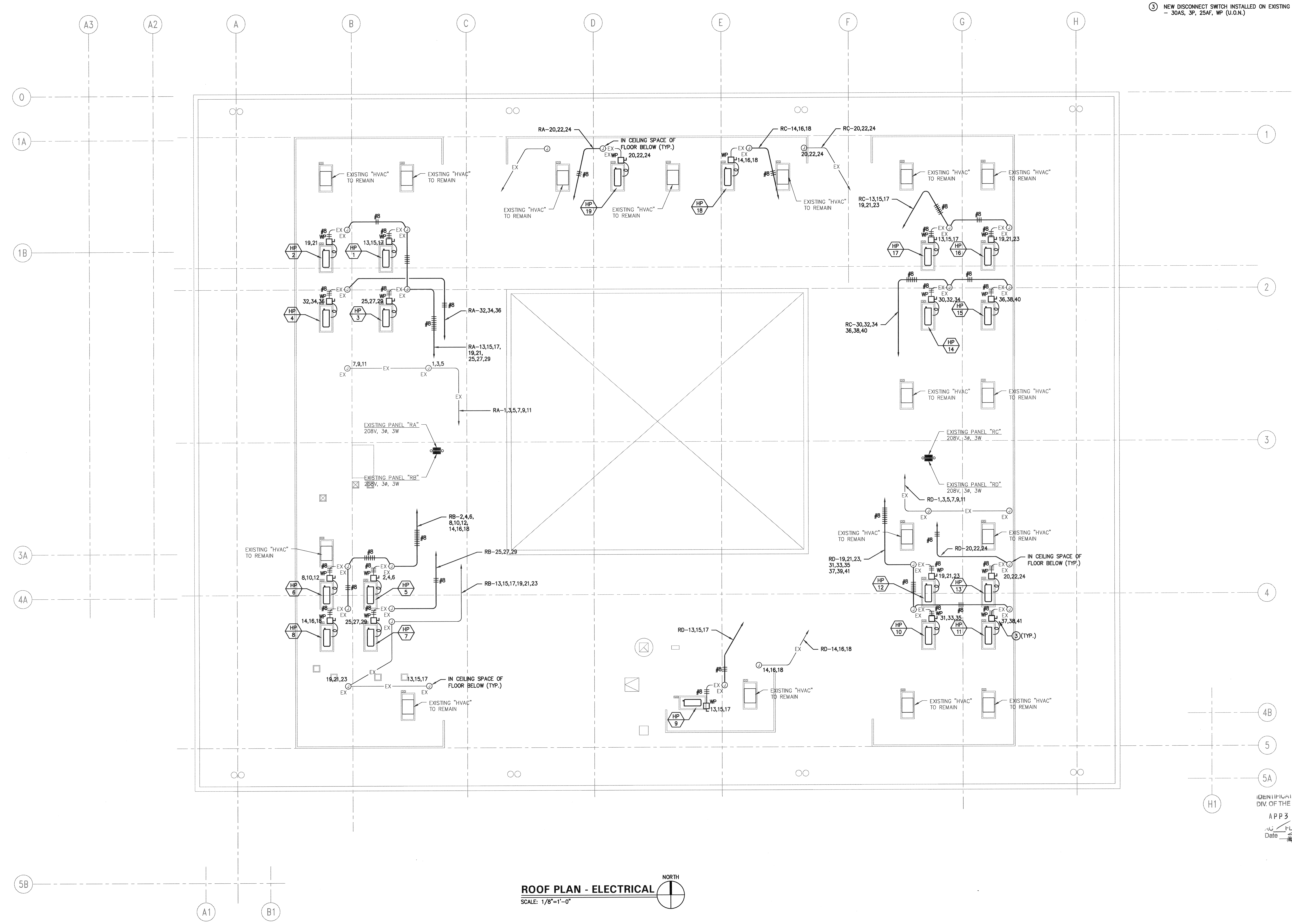
2ND FLOOR PLAN - ELECTRICAL

REVISIONS

CONSTRUCTION DOCUMENTS

SPECIAL NOTES - THIS SHEET ONLY

1. EXISTING JUNCTION BOX WITH EXISTING CIRCUITS/CONDUCTORS AS INDICATED. LABEL CONDUCTORS WITH CIRCUIT NUMBER INDICATED AND "TAPE-OFF" FOR FUTURE USE.
2. EXTEND EXISTING CIRCUITS INDICATED TO NEW HVAC EQUIPMENT.
3. NEW DISCONNECT SWITCH INSTALLED ON EXISTING UNISTRUT RACK – 30AS, 3P, 25AF, WP (U.O.N.)



ROOF PLAN - ELECTRICAL
NORTH
SCALE: 1/8"=1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP3 117998
AC FLS SS
Date 2017

GLENDALE UNIFIED SCHOOL DISTRICT
HERBERT HOOVER HIGH SCHOOL -
11000 BUILDING PROP 39 - HVAC UPGRADE
651 GLENWOOD RD, GLENDALE, CA 91202

REGISTERED ARCHITECT TIMOTHY A. BALLARD No. C 21424 Exp. 8\31\17 STATE OF CALIFORNIA

NAC
ARCHITECTURE
nacarchitecture.com
837 NORTH SPRING STREET, THIRD FLOOR
LOS ANGELES CA 90012
P:323.475.8075

NAC NO	161-16043
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ROOF PLAN - ELECTRICAL

E3.02