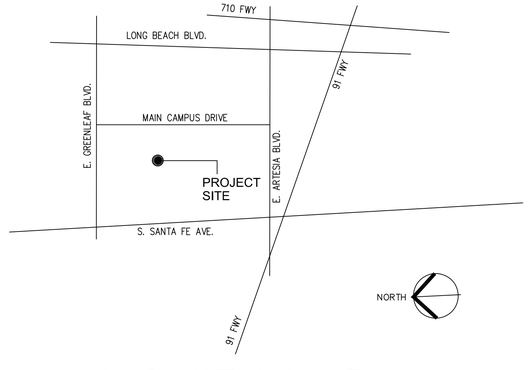
HVAC ADDITIONS TO MUSIC BUILDING
COMPTON COLLEGE
1111 E. ARTESIA BLVD., COMPTON, CA. 90221

DRAWING INDEX

TYPE OF CONSTRUCTION

BUILDING "B" TYPE V B E OCCUPANCY NON FIRE SPRINKLERED



VICINITY MAP

APPLICABLE CODES

2016 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE
CALIFORNIA CODE OF REGULATIONS
(CCR) TITLE 24, PART 1

2016 CALIFORNIA BUILDING CODE (CBC) (2015 INTERNATIONAL BUILDING CODE
CALIFORNIA CODE OF REGULATIONS (IBC) VOLUMES 1-2 W/ 2016
(CCR) TITLE 24, PART 2 CALIFORNIA AMENDMENTS)

2016 CALIFORNIA ELECTRICAL CODE (CEC) (2014 NATIONAL ELECTRIC CODE
CALIFORNIA CODE OF REGULATIONS (NEC) W/ 2016 CALIFORNIA AMENDMENTS
(CCR) TITLE 24, PART 3

2016 CALIFORNIA MECHANICAL CODE (CMC) (2015 UNIFORM MECHANICAL CODE
CALIFORNIA CODE OF REGULATIONS (CMC) W/ 2016 CALIFORNIA AMENDMENTS
(CCR) TITLE 24, PART 4

2016 CALIFORNIA PLUMBING CODE (CPC) (2015 UNIFORM PLUMBING CODE
CALIFORNIA CODE OF REGULATIONS (CPC) 2016 W/ CALIFORNIA AMENDMENTS
(CCR) TITLE 24, PART 5

2013 ASME A17.1(w/A17.1a/CSA B44a-08 ADDENDA)
SAFETY CODE FOR ESCALATORS
AND ELEVATORS

2016 CALIFORNIA FIRE CODE (CFC) (2015 INTERNATIONAL FIRE CODE
CALIFORNIA CODE OF REGULATIONS (IFC) W/ 2016 CALIFORNIA AMENDMENTS
(CCR) TITLE 24, PART 9

2016 CALIFORNIA REFERENCED
STANDARDS CODE
CALIFORNIA CODE OF REGULATIONS
(CCR) TITLE 24, PART 12

AMERICANS WITH DISABILITIES ACT (ADA)
ACCESSIBILITY GUIDELINES FOR
BUILDINGS AND FACILITIES (ADAAG)

CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, CALIFORNIA STATE ACCESSIBILITY STANDARDS

STATE FIRE MARSHAL REGULATIONS (AS AMMENDED TO DATE) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 19, 2016 EDITION

2016 CALIFORNIA ENERGY CODE (CEC)
(CCR) TITLE 24, PART 6
2016 CALIFORNIA GREEN BUILDING STANDARDS CODE
(CCR) TITLE 24, PART 11
APPLICABLE NFPA STANDARDS

NFPA 13	–	AUTOMATIC SPRINKLER SYSTEMS, 2016 EDITION
NFPA 14	–	STANDPIPE SYSTEMS, 2013 EDITION
NFPA 17	–	DRY CHEMICAL SYSTEMS, 2013 EDITION
NFPA 17a	–	WET CHEMICAL SYSTEMS, 2013 EDITION
NFPA 24	–	PRIVATE FIRE MAINS, 2016 EDITION
NFPA 70E	–	STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE, 2015 EDITION
NFPA 72	–	NATIONAL FIRE ALARM CODE WITH CALIFORNIA AMENDMENTS, 2016 EDITION SEE UL STD. 1971 FOR "VISUAL DEVICES"
NFPA 80	–	FIRE DOOR AND OTHER OPENING PROTECTIVES, 2016 EDITION
NFPA 92	–	STANDARD FOR SMOKE CONTROL SYSTEMS, 2015 EDITION
NFPA 253	–	CRITICAL RADIANT FLUX OF FLOOR COVERING SYSTEMS, 2015 EDITION
NFPA 2001	–	CLEAN AGENT FIRE EXTINGUISHING SYSTEMS, 2015 EDITION
UL464	–	AUDIBLE SIGNAL APPLIANCES, 2003 EDITION
UL521	–	HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS, 1999 EDITION

REFERENCE CODE SECTION FOR NFPA STANDARDS – 2016 CBC (SFM).
SEE CHAPTER 35 FOR STATE OF CALIFORNIA AMENDMENTS TO NFPA STANDARDS

PROJECT TEAM

PROJECT ADDRESS
COMPTON COLLEGE
1111 E. ARTESIA BLVD.
COMPTON, CA. 90221

OWNER
COMPTON COMMUNITY COLLEGE DISTRICT
1111 E. ARTESIA BLVD.
COMPTON, CA. 90221
(310) 900-1600 Ext. 2606
lowens@compton.edu

ELECTRICAL ENGINEER
R.F. HAWKINS CONSULTING
2357 NAPLES AVENUE
MENTONE, CA 92359
(909) 522-4518
design@rfhawkinsconsulting.com

MECHANICAL ENGINEER
PAIS CONSULTING GROUP
18 PINE HILL
LADERA RANCH, CA 92694
(949) 610-9675
iliepais@gmail.com

STRUCTURAL ENGINEER
NEXT STEP DESIGN
26170 ENTERPRISE WAY SUITE 400
LAKE FOREST, CA 92630
(949) 215-3339
scott@NSD.biz

SCOPE OF WORK

THE SCOPE OF THE WORK AS STATED BELOW IS FOR DSA PLAN REVIEW PURPOSES ONLY AND DOES NOT CONSTITUTE A DETAILED AND FULL EXPLANATION OF THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

SELECTIVE DEMOLITION OF EXISTING HVAC EQUIPMENT AND THE INSTALLATION OF NEW HVAC EQUIPMENT.

SELECTIVE DEMOLITION OF EXISTING ELECTRICAL RELATED TO THE HVAC EQUIPMENT AND INSTALLATION OF NEW DUCTS NEW CONDUIT, CABLING AS REQUIRED TO RESTORE OPERATION OF THE HVAC SYSTEM.

ANY REPAIRS OR NEW INSTALLATION AND PENETRATIONS TO ROOF SHALL BE PER SPECIFICATIONS AND ADHERE TO ALL REQUIREMENTS OF THE DISTRICT STANDARD ROOFING SYSTEM.

INSTALLATION OF NEW AUTOMATIC FIRE ALARM SYSTEM.

DSA APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED AS THE CERTIFICATION OF COMPLIANCE FOR THE FOLLOWING BUILDINGS AS REQUIRED BY THE FIELD ACT, EDUCATION CODE SECTION 17280-17316 AND SECTIONS 81130-81147. REFER TO E1.0 SITE PLAN.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 03-119660 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/25/2019

RFHC
RF Hawkins Consulting
2357 Naples Avenue
Mentone, CA 92359-9635
Tel: (909) 522-4518
design@rfhawkinsconsulting.com

CONSULTANT
next step DESIGN, INC
26170 ENTERPRISE WAY SUITE 400
LAKE FOREST, CA 92630
PHONE: (949) 215-3339
FAX: (949) 457-9375

REGISTERED PROFESSIONAL ENGINEER
L. SCOTT BETANCOURT
S.E. 4296
STRUCTURAL
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
REED R. STOUT
No. E010752
Exp. 6/30/21
ELECTRICAL
STATE OF CALIFORNIA

HVAC ADDITIONS TO MUSIC BLDG.
COMPTON COMMUNITY COLLEGE DISTRICT
COMPTON COLLEGE
1111 E. ARTESIA BLVD.
COMPTON, CA. 90221

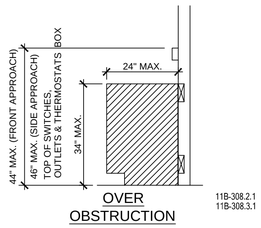
NO	DATE	BY	DESCRIPTION

REVISIONS

DRAWN: JC	CHECKED: RFH
DATE: 8/31/2018	SCALE: AS NOTED
PROJECT NUMBER: 17-302	

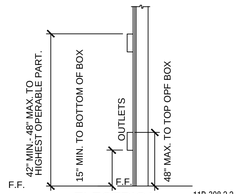
TITLE SHEET

DRAWING NUMBER : T0.0



OVER OBSTRUCTION

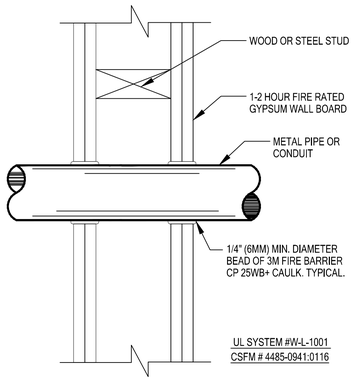
11B-308.2.1
11B-308.3.1



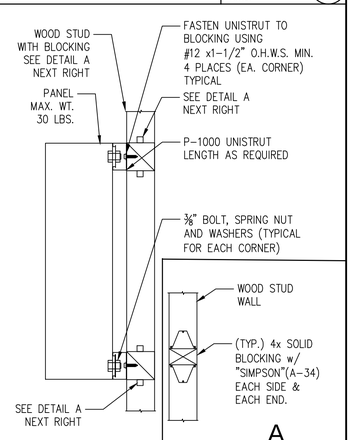
ELECTRICAL MOUNTING HEIGHTS

11B-308.2.2
11B-308.3.2

MTG. HT DET. — SCALE N.T.S. — 1



FIRESTOP DET. — SCALE N.T.S. — 2



SURFACE PNL. MTG. — SCALE N.T.S. — 4

GENERAL NOTES:

1. VERIFY EXISTING SITE CONDITIONS, SERVICE REQUIREMENTS (ELECTRICAL, INTEGRATED COMMUNICATIONS AND FIRE ALARM) AND EXACT LOCATIONS OF SERVICE FACILITIES BEFORE SUBMITTING BID. SUBMITTAL OF BID INDICATES CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS, ACTUAL PHYSICAL LOCATIONS, AND WORK TO BE PERFORMED.
2. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC. FOR A COMPLETE AND PROPERLY OPERATING ELECTRICAL SYSTEM.
3. CONSTRUCTION TERMINOLOGY, AND THE STANDARDS AND ACCEPTABLE METHODS OF INSTALLATION REQUIRED BY THESE CONTRACT DOCUMENTS ARE BASED ON PUBLISHED STANDARDS OF N.E.C.A. (NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION), NATIONAL ELECTRICAL SAFETY CODE, AMERICAN NATIONAL STANDARDS INSTITUTE DOCUMENTS, NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION, UNDERWRITERS LABORATORIES, AND THE CALIFORNIA ELECTRICAL CODE. SUBMITTAL OF BID INDICATES THE CONTRACTOR IS COGNIZANT OF THESE STANDARDS AND THE REQUIREMENTS NECESSARY TO PERFORM ALL THE WORK AS SET FORTH IN THESE CONTRACT DOCUMENTS.
4. ALL WORK THAT REQUIRES SERVICE INTERRUPTION TO ANY BUILDING ON THE CAMPUS SHALL BE COORDINATED WITH THE DISTRICT A MINIMUM OF (7) DAYS IN ADVANCE AND SHALL NOT OCCUR DURING SCHOOL HOURS. WORK FOR THIS PROJECT SHALL NOT BE PERFORMED DURING SCHOOL HOURS, INCLUDING AFTER HOURS PROGRAMS AND/OR EVENTS. INCLUDE ALL COSTS FOR SHIFT DIFFERENTIAL, WEEKEND, OVERTIME, OR HOLIDAYS, IN BASE BID FOR THIS PROJECT. C.C.C.D. WILL NOT BE RESPONSIBLE FOR ANY PREMIUM PAY FOR THIS PROJECT.
5. THESE PLANS ARE DIAGRAMMATIC ONLY, FOLLOW AS CLOSELY AS POSSIBLE AND REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS, STRUCTURAL DETAILS, EXACT EQUIPMENT AND OUTLET LOCATIONS. ALTHOUGH NOT SHOWN, CONTRACTOR SHALL PROVIDE ALL J-BOXES, PULL BOXES, ELLS, OFFSETS ETC., FOR A COMPLETE CODE APPROVED INSTALLATION. FOOTAGE SHOWN ON ELECTRICAL SINGLE LINES AND RISER DIAGRAMS ARE FOR CALCULATION PURPOSES ONLY AND ARE NOT FOR BIDDING PURPOSES OR MATERIAL TAKEOFF. ALL LOCATIONS OF EVERY OUTLET SHALL BE VERIFIED PRIOR TO ROUGH-IN.
6. THE CONNECTION METHOD SHOWN IS FOR BIDDING PURPOSES. THIS CONTRACTOR SHALL COORDINATE AND PROVIDE, FROM ACTUAL BUILDING SHOP DRAWINGS, THE CONNECTION SHOWN ON THOSE DRAWINGS.
7. EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN COMPLIANCE WITH OSHA,
8. ALL MATERIALS SHALL BE NEW, AND OF THE SAME MANUFACTURER FOR EACH CLASS OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORIES FOR THE USE AND ENVIRONMENT, AND SHALL BEAR THE INSPECTION LABEL WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH THE APPROVAL OF THE DIVISION OF INDUSTRIAL SAFETY, AND ALL GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY A.N.S.I., U.L., N.E.M.A. AND N.B.F.U. INSTALL PER MANUFACTURERS' RECOMMENDATIONS. ALL EXTERIOR EQUIPMENT SHALL BE WEATHERPROOF.
9. SUBSTITUTIONS OF SPECIFIED MATERIALS ARE IN ACCORDANCE WITH THE GENERAL CONDITIONS. APPROVAL OF EQUAL MATERIALS PRIOR TO BID ARE BY WRITTEN ADDENDUM ONLY OR AS STATED ON THE PLANS.
10. SUBMIT SHOP DRAWINGS FOR ALL MAJOR PIECES OF ELECTRICAL EQUIPMENT INCLUDING BUT NOT LIMITED TO: ELECTRICAL COMPONENTS.
11. CONTRACTOR SHALL PERFORM HIS WORK IN ACCORDANCE WITH ALL GOVERNING STATE, COUNTY, LOCAL CODES, O.S.H.A. AND THE 2016 CALIFORNIA ELECTRICAL CODE (CEC).
12. THE COMPLETE ELECTRICAL SYSTEM SHALL BE GROUNDED IN ACCORDANCE WITH THE 2016 CALIFORNIA ELECTRICAL CODE (C.E.C), ART. #250, AND AS SHOWN ON THE DRAWINGS. AT THE REQUEST OF AND IN THE PRESENCE OF THE AUTHORIZED INSPECTOR, THE CONTRACTOR SHALL PROVIDE SYSTEM RESISTANCE READINGS.
13. PENETRATIONS TO FIRE-RATED MATERIALS SHALL BE RESTORED TO EQUAL RATING AS REQUIRED BY THE STATE FIRE MARSHAL.
14. CONDUCTORS SHALL BE CODE GRADE, 600 VOLT CLASS, COPPER, MARKED 24" ALONG ITS LENGTH SHOWING MANUFACTURER'S NAME, MAXIMUM ALLOWABLE VOLTAGE AND SIZE. CONDUCTORS SHALL BE TYPE "THWN" (WET) OR "THHN" (DRY). DELIVER THE WIRE TO THE SITE IN UNBROKEN PACKAGES.
15. CONDUIT SHOWN AS EXPOSED OR APPROVED FOR EXPOSED INSTALLATION SHALL BE INTERMEDIATE METALLIC CONDUIT (I.M.C.), OR RIGID GALVANIZED STEEL (RGS), SECURED WITH TWO HOLE MALLEABLE PIPE STRAPS AND SCREWS. ALL BOXES AND FITTINGS SHALL BE SUPPORTED AND SECURED IN COMPLIANCE WITH THE 2016 CALIFORNIA ELECTRICAL CODE (C.E.C.) ART. #370.
16. P.V.C. CONDUIT, WITH CODE SIZED GROUND, SHALL BE USED UNDERGROUND ONLY, IF APPROVED BY LOCAL CODE. INSTALL PER LOCAL CODE REQUIREMENTS. ALL CONDUIT SWEEPS AND RISERS SHALL BE I.M.C. OR RGS, WITH HALF-LAPPED TAPE COVERING OR FACTORY APPLIED PVC COATING. ROUTE UNDERGROUND CONDUITS AROUND PROPOSED BUILDING LOCATIONS.
17. ALL CONDUIT ONLY (C.O.) SHALL HAVE A 1/4" PULL WIRE OR ROPE.
18. USE ONLY COMPETENT AND SKILLED PERSONNEL AND PERFORM ALL WORK, INCLUDING AESTHETIC AS WELL AS ELECTRICAL AND MECHANICAL ASPECTS TO STANDARDS CONSISTENT WITH THE BEST PRACTICES OF THE TRADE.
19. UNLESS SPECIFICALLY SHOWN ON THESE PLANS NO STRUCTURAL MEMBER SHALL BE CUT, DRILLED NOR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND THE DISTRICT STRUCTURAL ENGINEER FROM THE DIVISION OF THE STATE ARCHITECT.
20. THE SEISMIC ANCHORAGE OF MECHANICAL AND ELECTRICAL EQUIPMENT SHALL CONFORM TO C.C.R. TITLE 24, 2013 C.B.C. SECTION 1632A AND ASCE 7-10, ANCHORAGE DETAILS FOR ROOF/FLOOR MOUNTED EQUIPMENT SHALL BE SHOWN ON PLANS.
21. WHERE IT BECOMES NECESSARY TO DRILL INTO OR CUT THROUGH ANY EXISTING FLOORS, WALLS OR CEILINGS TO PERMIT THE INSTALLATION OF ANY WORK UNDER THIS CONTRACT, OR TO REPAIR ANY DEFECTS THAT MAY APPEAR TO THE EXPIRATION OF THE WARRANTY, SUCH CUTTING AND PATCHING SHALL BE PERFORMED BY TRADESMEN EXPERIENCED IN THE WORK REQUIRED. CONTRACTOR SHALL PAY FOR ALL COSTS REQUIRED FOR CUTTING OR REPAIRING. ALL FINISHES SHALL MATCH EXISTING OR NEW ADJACENT SURFACES. THIS WILL INCLUDE REPLACING SEAM TO SEAM OR COMPLETE SURFACE REPLACEMENT TO MATCH EXISTING OR NEW SURFACES.
22. 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 THRU 1616A.1.26 AND ASCE 7-10 CHAPTER 13, 26 AND 30.
    - A. ALL PERMANENT EQUIPMENT AND COMPONENTS.
    - B. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
    - C. 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 ATTACHMENT OF THE FOLLOWING MECHANICAL AND ELECTRICAL EQUIPMENT 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 STRUCTURAL ENGINEER OF RECORD AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.
23. PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 THE BRACING AND ATTACHMENTS TO THE STRUCTURE SHALL BE DETAILED ON THE APPROVED DRAWINGS OR THEY SHALL COMPLY WITH ONE OF THE OSHPD PRE-APPROVALS (OPM#) AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318, APPENDIX D. COPIES OF THE MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF HANGING AND BRACING OF PIPE, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.
24. PROVIDE ENGRAVED PLASTIC NAMEPLATES FOR ALL ELECTRICAL PANELS, INTERIOR & EXTERIOR JUNCTION BOXES EXISTING AND NEW. PLATES SHALL BE 3 PLY, OR PERMENANT ADHESIVE TAPE ONLY AS MANUFACTURED BY 3M IS PERMITTED.
25. PROVIDE THE OWNER WITH THREE (3) SETS OF COMPLETE ELECTRICAL "AS-BUILT" REPRODUCIBLE DRAWINGS AT THE COMPLETION OF THE JOB, SHOWING ACTUAL DEPTHS OF UNDERGROUND RUNS AND ALL LOCATIONS. ALL BROCHURES, OPERATING MANUALS, CATALOGS, SHOP DRAWINGS, ETC, SHALL BE TURNED OVER TO THE OWNER AT PROJECT COMPLETION. DRAWINGS SHALL BE IN CAD & PDF FORMAT. REFER TO SPECIFICATIONS. "AS-BUILT" DRAWINGS SHALL BE AVAILABLE ON SITE AND ALL CHANGES DOCUMENTED AND "RED LINED" DIALY FOR REVIEW. I.O.R. SHALL BE NOTIFIED OF ANY CHANGES PRIOR TO INSPECTIONS.
26. COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER DATE OF ACCEPTANCE BY OWNER. ANY WORK, MATERIAL OR EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR.
27. WHERE A CONFLICT OCCURS BETWEEN THESE NOTES AND ELECTRICAL SPECIFICATION ISSUED AS A PART OF THESE DOCUMENTS, THE MORE STRINGENT REQUIREMENT SHALL PREVAIL.
28. ALL LOW VOLTAGE ELECTRONIC SYSTEMS CONDUCTORS AND EQUIPMENT SHALL BE PROVIDED BY AN ELECTRONIC SYSTEMS CONTRACTOR WHO HOLDS A VALID C-7 LICENSE. EQUIPMENT SHALL MATCH EXISTING AND SHALL BE INSTALLED IN ACCORDANCE WITH SPECIFICATIONS PROVIDED BY THE FACTORY AUTHORIZED DISTRIBUTOR OF THE EXISTING SYSTEM. NEW COMPONENTS INSTALLED ON EXISTING SYSTEM SHALL BE COVERED BY FULL WRITTEN WARRANTY, FOR ALL PARTS AND INSTALLATION, FOR ENTIRE SYSTEM. CABLE SPLICES IN UNDERGROUND PULL BOXES ARE ABSOLUTELY PROHIBITED. SYSTEMS APPLICABLE TO THIS SECTION ARE AS NOTED: INTERCOM/PUBLIC ADDRESS, TELEPHONE, CLOCK, ENERGY MANAGEMENT, INTRUSION ALARM, FIRE ALARM, TELEVISION, AND DATA .
29. ALL UNDERGROUND CONDUITS TO HAVE FULL ENCASEMENT WITH SLURRY MIX, 3" AROUND WITH 2" SEPARATION BETWEEN CONDUITS. MAINTAIN 12" SEPARATION BETWEEN POWER AND SYSTEMS CONDUITS. PROVIDE 24" NATIVE COVER ABOVE ENCASEMENT IN NON-TRAFFIC AREAS. PROVIDE SLURRY ENCASEMENT TO SUB-GRADE IN CONCRETE OR ASPHALT AREAS.
30. PROVIDE 12" OF 3/4" ROCK BELOW UNDERGROUND PULL BOXES.
31. ALL EXISTING SERVICES INTERUPTED DURING AND NOT PART OF DEMOLITION SHALL BE RESTORED TO NORMAL CONDITION.
32. THESE DRAWINGS DO NOT CONTAIN THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.
33. CONTRACTOR SHALL NOT SCALE DRAWINGS. ALL MEASUREMENTS SHALL BE FIELD VERIFIED.
34. ALL WORK SHOWN ON THESE DRAWINGS SHALL COMPLY WITH THE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
35. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR A CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY TITLE 24, CCR, PART 1, SECTION 4-338.
36. LOCATIONS OF ALL UTILITIES SHOWN ARE APPROXIMATE AND CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON THIS SITE TO AVOID INTERCEPTING EXISTING PIPING OR CONDUITS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WETHER SHOWN HEREON OR NOT AND TO PROTECT THEM FROM DAMAGE. THE ENGINEER IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN OR DETAILED AND INSTALLED BY ANY OTHER CONTRACT. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER SHOULD ANY UNIDENTIFIED CONDITIONS BE DISCOVERED. THE CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE PROSECUTION OF THIS WORK.
37. CONTRACTOR TO NOTIFY THE CONSTRUCTION MANAGER PRIOR TO ANY EXCAVATION.
38. THESE DOCUMENTS AND THE IDEAS AND DESIGNS INCORPORATED HEREIRIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF R. F. HAWKINS CONSULTING, AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF R. F. HAWKINS CONSULTING.
39. THE WORK SHOWN ON THESE DRAWINGS AS EXISTING AS EXISTING CONDITIONS WAS PREPARED FROM INFORMATION FURNISHED BY THE OWNER. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, R. F. HAWKINS CONSULTING, IS NOT RESPONSIBLE FOR THE ACCURACY OR ADEQUACY OF ANY WORK SHOWN AS EXISTING NOR IS R. F. HAWKINS CONSULTING RESPONSIBLE FOR ANY ERRORS OR EMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THESE DRAWINGS AS A RESULT.
40. EACH BIDDER SHALL POSSESS AT THE TIME OF BID A CLASS B, LICENSE PER PUBLIC CONTRACT CODE SECTION 3300 AND BUSINESS AND PROFESSIONS CODE SECTION 7028.15. THE SUCCESSFUL BIDDER MUST MAINTAIN THE LICENSE THROUGHOUT THE DURATION OF THE CONTRACT. THE BIDDER SHALL COMPLY WITH SENATE BILL 854 FOR LABOR COMPLIANCE.
41. FIRE SAFETY DURING CONSTRUCTION
    - A. GENERAL: FIRE SAFETY DURING CONSTRUCTION SHALL COMPLY WITH 2016 CALIFORNIA FIRE CODE (CFC) , 2016 CALIFORNIA CODE OF REGULATONS (CCR) TITLE 24, PART 9, CHAPTER 33.
    - B. ACCESS ROADS: FIRE DEPARTMENT ACCESS ROADS SHALL BE ESTABLISHED AND AND MAINTAINED IN ACCORDANCE WITH ARTICLE 9, SECTION 902.
    - C. WATER SUPPLY: WATER MAINS AND HYDRANTS SHALL BE OPERATIONAL IN ACCORDANCE WITH ARTICLE 9,SECTION 903.
    - D. BUILDING ACCESS: ACCESS TO BUILDINGS FOR THE PURPOSE OF FIREFIGHTING SHALL PURPOSE OF FIREFIGHTING SHALL BE PROVIDED. CONSTRUCTION MATERIAL SHALL NOT BLOCK ACCESS TO BUILDINGS, HYDRANTS OR FIRE APPLIANCES.
    - E. FIRE WATCH: MAINTAIN FIRE WATCH AT ALL TIMES WHEN EXISTING FIRE PROTECTION SYSTEMS ARE SHUT DOWN FOR ALTERATIONS AND UPGRADES. FIRE WATCH SHALL REMAIN IN EFFECT UNTIL EXISTING FIRE PROTECTION SYSTEMS ARE RETURNED TO SERVICE. FIRE WATCH TO BE PROVIDED BY M.V.U.S.D. FOR DURATION OF SCHEDULE AS NOTED IN GENERAL CONDITIONS. VERIFY WITH LOCAL FIRE AUTHORITY FOR ANY ADDITIONAL REQUIREMENTS.
42. PENETRATIONS TO FIRE RATED MATERIALS OR ASSEMBLIES SHALL BE RESTORED TO SHALL BE RESTORED TO EQUAL RATING. FIRE STOP SYSTEMS AS LISTED BY UNDERWRITERS LABORATORIES SHALL BE INSTALLED PER FIRE RESISTANCE DIRECTORY. FIRE STOP SYSTEMS SHALL BE AS SPECIFIED.
43. INSPECTOR OF RECORD REQUIREMENTS
    - A. ONE OR MORE INSPECTORS EMPLOYED BY THE DISTRICT (OWNER) IN ACCORDANCE WITH THE REQUIREMENTS OF TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS WILL BE ASSIGNED AND SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE INSPECTORS DUTIES ARE SPECIFICALLY DEFINED IN SECTION 4-342 OF SAID TITLE 24, PART 1 AND IN ADDITION SHALL BE STIPULATED IN INTERPRETATION OF REGULATION DOCUMENT IR A-8.
    - B. INSPECTOR SHALL BE CERTIFIED AS A CLASS [2] INSPECTOR THROUGH THE DIVISION OF THE STATE ARCHITECT INSPECTOR EXAMINATION PROGRAM. INSPECTOR SHALL ALSO BE SPECIFICALLY APPROVED BY THE DIVISION OF THE STATE ARCHITECT FOR THIS PROJECT AT LEAST 10 DAYS PRIOR TO THE START OF ANY WORK FOR THIS PROJECT.
44. EXACT LOCATION OF EQUIPMENT/DEVICES SHALL BE COORDINATED IN FIELD PRIOR TO INSTALLATION TO AVOID INTERFERENCE WITH EXISTING EQUIPMENT.
45. ALL ELECTRICAL EQUIPMENT,PANELS, AND CONDUCTORS SHALL BE INSTALLED AS INDICATED IN PLANS AND SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
46. PROVIDE ACCESS PANELS AS REQUIRED IN HARD CEILINGS OR WALLS AND PATCH CEILINGS TO MATCH EXISTING MATERIAL AND FINISH. ACCESS PANELS SHALL BE KARP MODEL #DSC-214M FOR GENERAL PURPOSE, MODEL #KRP-150FR FOR FIRE RATED CONDITIONS, OR EQUAL. SIZE TO BE 24"x24" MINIMUM.
47. WHERE EXISTING SUSPENDED CEILINGS ARE REQUIRED TO BE REMOVED, REPLACE THE CEILING TO MEET CURRENT CODE REQUIREMENTS.
48. CONDUIT SUPPORTED BY SUSPENDED CEILING WIRES SHALL HAVE NEW CEILING WIRES INSTALLED, INDEPENTDANT OF CEILING OR FIXTURE SUPPORTS, PER CODE.
49. EXPOSED CONDUIT IF REQUIRED ON INTERIOR OF BUILDING TO BE WIREMOLD WITH ALL NECESSARY FITTINGS AND STRAPS. VERIFY LOCATION WITH ENGINEER PRIOR TO INSTALL.
50. REMOVE ALL CONSTRUCTION DEBRIS ON A DAILY BASIS. PROVIDE NECESSARY CONTAINERS TO DISPOSE OF DEBRIS. KEEP ALL CONSTRUCTION AREAS CLEAN.
51. ALL EXISTING FURNITURE, EQUIPMENT, CELING TILES ETC. MOVED DURING OFF TIME HOURS SHALL BE PROTECTED AND PLACED BACK (CLEAN) IN ORIGINAL LOCATION PRIOR TO NEXT DAY OF SCHOOL .
52. INSTALLATION OF THE ELECTRICAL SYSTEM SHALL NOT START UNTIL PLANS AND SPECIFICATIONS ARE APPROVED BY THE DIVISION OF THE STATE ARCHITECT.
53. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.
54. COMPLY WITH ALL REQUIREMENTS OF NFPA 72 E.

ELECTRICAL SYMBOLS LIST:

- MAIN SWITCHBOARD REFER TO SINGLE LINE DIAGRAM.
- DISTRIBUTION PANEL REFER TO SINGLE LINE DIAGRAM.
- FLUSH MOUNTED ELECTRICAL PANELBOARD. REFER TO PANEL SCHEDULE.
- SURFACE MOUNTED ELECTRICAL PANELBOARD. REFER TO PANEL SCHEDULE.
- DUPLEX RECEPTACLE, WALL MOUNTED + 15" A.F.F. TO BOTTOM OF BOX OR AS NOTED.
- QUADPLEX RECEPTACLE, WALL MOUNTED + 15" A.F.F. TO BOTTOM OF BOX OR AS NOTED.
- F — FUSED DISCONNECT, SIZE AND NEMA RATING AS NOTED ON PLANS.
- P — PULLBOX, SIZED PER N.E.C. OR AS NOTED. CONCRETE WITH BOLT DOWN COVER.
- J — JUNCTION BOX, ACCESSIBLE AND MOUNTED FOR THE APPLICATION DENOTED ON PLANS.
- A-1,3,5 — HOME RUN TO PANEL. LETTER DESIGNATES PANEL, NUMBER INDICATES CIRCUITS.
- CONDUIT RUN CONCEALED, IN WALLS, FLOOR, OR ABOVE CEILING.
- CONDUIT RUN CONCEALED BELOW GRADE, 3/4"C MINIMUM.
- X — CONDUIT RUN EXPOSED
- CONDUIT STUB OUT, CAP & MARK.
- BRANCH CIRCUIT WIRING, 2 #12 IN 1/2" CONDUIT (C) OR AS NOTED OR SYMBOLIZED
  - 1/2"C-3 #12
  - 3/4"C-6 #12
  - 3/4"C-4 #12
  - 3/4"C-7 #12
  - 3/4"C-5 #12
  - 3/4"C-8 #12
- SURFACE MOUNTED LOCKABLE TERMINAL CABINET W/ TERMINAL STRIPS AS REQUIRED.
- TELEPHONE TERMINAL BACKBOARD SIZED AS NOTED
- AH / 2 — MECHANICAL EQUIPMENT CALLOUT, "AH" INDICATES UNIT TYPE AND "2" INDICATES UNIT NUMBER. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION AND FULL RATING.
- 3 / E0.1 — DETAIL CALLOUT, "3" INDICATES DETAIL NUMBER "E0.1" INDICATES SHEET NUMBER.
- 2 — PLAN NOTE REFERENCE,
- 4 — REVISION REFERENCE.

MH	MOUNTING HEIGHT
WP	WEATHERPROOF, NEMA 3R
PROVIDE	FURNISH, INSTALLED AND CONNECTED, COMPLETE.
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
EM	EMERGENCY
C	CONDUIT
EG	EQUIPMENT GROUND (GREEN)
I.C.S.	INTEGRATED COMMUNICATIONS SYSTEM RACK
ICD	COMMUNICATIONS WALL DISPLAY
(E)	EXISTING TO REMAIN
(ER)	EXISTING, TO BE REMOVED.
(ERR)	EXISTING, TO BE REMOVED AND RELOCATED.
UG	UNDERGROUND
GEC	GROUNDING ELECTRODE CONDUCTOR
C.E.C.	CALIFORNIA ELECTRICAL CODE
U.O.N.	UNLESS OTHERWISE NOTED

GENERAL DEMOLITION NOTES:

1. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER, PRIOR TO REMOVAL OF EXISTING EQUIPMENT, PANELS, CONDUCTORS/CABLING AND TURN OVER REMOVED ITEMS THAT THE OWNER REQUESTS IN AS FOUND CONDITION. ITEMS ARE TO BE BOXED AND IDENTIFIED.
2. ALL EXISTING CONDUIT AS SHOWN ON PLANS WERE TAKEN FROM OWNERS RECORD DRAWINGS. THE CONTRACTOR IS RESPONSIBLE TO VERIFY EXISTING LOCATION AND ROUTING OF CONDUITS.
3. REMOVE EXISTING CABLING/CONDUCTORS FROM EXISTING FEEDER CONDUIT. CLEAN EXISTING UNDERGROUND CONDUIT AND MANDREL TO INSURE INTEGRITY, WITNESSED BY I.O.R. FOR FUTURE USE. SEAL ALL ENDS OF CONDUITS.
4. PROVIDE BLANK COVERS ON ALL EXISTING OUTLETS NOT BEING REUSED. MATCH EXISTING COVERS IN TYPE AND COLOR.
5. WHERE EXISTING EQUIPMENT, BOXES, CONDUIT ETC. IS REMOVED, REPAIR EXISTING SURFACES TO MATCH SURROUNDING AREA.

SERVICE INTERRUPTION NOTES:

1. THE CONTRACTOR SHALL PROVIDE CONTINUOUS ELECTRICAL SERVICE TO CAMPUS AS REQUIRED. PROVIDE ALL COSTS FOR BACK-UP POWER IN BID. CONTRACTOR WILL PROVIDE A SCHEDULE FOR ANY SERVICE INTERRUPTION AND NOTIFY THE DISTRICT (7) DAYS IN ADVANCE PRIOR TO SHUT-DOWN.
2. NON ESSENTIAL ELECTRICAL SERVICE MAY BE SCHEDULED FOR INTERRUPTION OF UN-OCCUPIED BUILDINGS WITH PRIOR APPROVAL OF DISTRICT.

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RFHC
RF Hawkins Consulting
2357 Naples Avenue
Mentone, CA 92359-9635
Tel: (909) 522-4518
design@rfhawkinsconsulting.com

CONSULTANT
next step DESIGN, INC ER
26170 ENTERPRISE WAY SUITE 400
LAKE FOREST, CA 92630
PHONE: (949) 215-3339
FAX: (949) 457-9375
NSD JOB #: 08-328

REGISTERED PROFESSIONAL ENGINEER — J. SCOTT BETANCOURT — S.E. 4296 — STRUCTURAL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — REED R. STOUT — No. E010752 Exp 8/30/21 — ELECTRICAL — STATE OF CALIFORNIA

HVAC ADDITIONS TO MUSIC BLDG.

COMPTON COMMUNITY COLLEGE DISTRICT
COMPTON COLLEGE
1111 E. ARTESIA BLVD.
COMPTON, CA. 90221

NO	DATE	BY	DESCRIPTION
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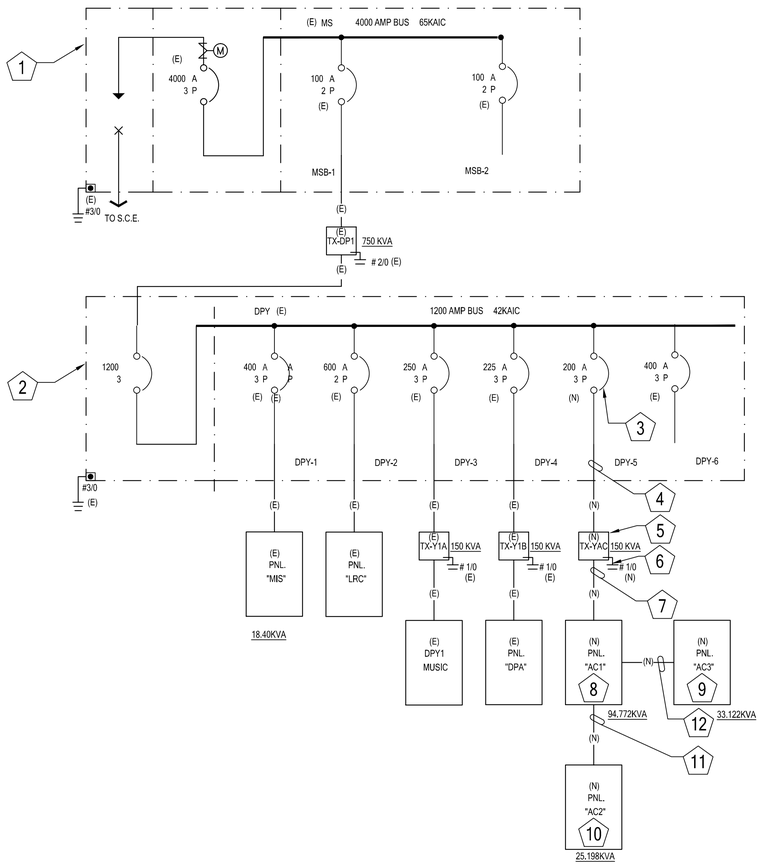
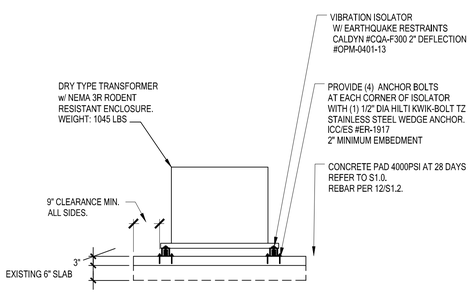
REVISIONS

DRAWN: JC	CHECKED: RFH
DATE: 8/31/2018	SCALE: AS NOTED
PROJECT NUMBER: 17-302	

GENERAL NOTES, SYMBOLS LIST & DETAILS

DRAWING NUMBER : E0.1





TRANSFORMER MTG. DETAIL — SCALE N.T.S. — 1

SINGLE LINE DIAGRAM NOTES:

1. EXISTING MAIN SWITCH BOARD "MS" NEMA 3R. 12 KV 3 PHASE 4 WIRE 4000 AMP 65000 AIC NEMA 3R.
2. EXISTING DISTRIBUTION PANELBOARD "DPY1" NEMA 1. 120/208 VOLT 3 PHASE 4 WIRE 1200 AMP 42000 AIC NEMA 3R.
3. PROVIDE NEW SQUARE D CIRCUIT BEAKER, AMPERAGE AS NOTED. MATCH EXISTING IN TYPE, RATING & CHARECTERISTICS.
4. 2-1/2" C. w/ (4) #3/0 & (1) #4 E/G.
5. DRY TRANSFORMER KVA AS NOTED. 480V 3ø TO 120/208V 3ø 4W NEMA 1. PROVIDE ELECTROSTATICALLY SHIELDED AND ISOLATED TRANSFORMER WITH "K" FACTOR RATING OF 4.0 FOR NON-LINEAR LOADS. REFER TO DET. 1.
6. PROVIDE 3/4"x10'-0" COPPER GROUND ROD. #3/0 TO BLDG. COLD WATER & GROUND ROD.
7. (2) 3" C. w/ (4) #3/0 & (1) #1/0 E/G IN EACH CONDUIT.
8. PANELBOARD "AC1". NEMA 1 SURFACE 120/208 VOLT 3 PHASE 4 WIRE 400 AMP 22000 AIC NEMA 1. REFER TO PANEL SCHEDULE.
9. PANELBOARD "AC2". NEMA 1 SURFACE 120/240 VOLT 1 PHASE 3 WIRE 100 AMP 10000 AIC NEMA 1. REFER TO PANEL SCHEDULE.
10. PANELBOARD "AC3". NEMA 3R SURFACE 120/240 VOLT 1 PHASE 3 WIRE 1025AMP 10000 AIC NEMA 1. REFER TO PANEL SCHEDULE.
11. 1-1/2"" C. w/ (4) #1& (1) #6 E/G.
12. 2" C. w/ (4) #1/0 & (1) #4 E/G.

SCHEDULE FOR PANEL: "AC1"
REMARKS: 42 CIRCUIT PANEL COPPER BUSS
BUSSING AMPS: 400 VOLTAGE: 120/208 PHASE: 3 WIRE: 4 NEMA: 1
MAINS: 225A M.L.O. MOUNTING: SURFACE AIC RATING: 22,000

	LOAD DESCRIPTION	V/A			AMP	PHASE	AMP	V/A			LOAD DESCRIPTION	
1	CU-4	2790			40	A	100	9715			PANEL AC2	2
3	"		2790		3/P	B	3/P		8721		"	4
5	"			2790	–	C	125			6762	"	6
7	CU-5	2790			40	A	3/P	11758			PANEL AC3	8
9	"		2790		3/P	B	20		10546		"	10
11	"			2790	–	C	20			10818	"	12
13	CU-6	3744			50	A	20	540			SPARE	14
15	"		3744		3/P	B	20		540		SPARE	16
17	"			3744	–	C	20			540	SPARE	18
19	FC-4	707			20	A	20	*			SPACE	20
21	"		707		2/P	B	20		*		SPACE	22
23	FC-5			707	20	C	20			*	SPACE	24
25	"	707			2/P	A	20	*			SPACE	26
27	FC-6		1344		20	B	20		*		SPACE	28
29	"			1344	3/P	C	20			*	SPACE	30
31	"	1344			–	A	20	*			SPACE	32
33	SPACE		*		20	B	20		*		SPACE	34
35	SPACE			*	20	C	20			*	SPACE	36
37	SPACE	*			20	A	20	*			SPACE	38
39	SPACE		*		20	B	20		*		SPACE	40
41	SPACE			*	20	C	20			*	SPACE	42
	V/A SUB-TOTAL:	12082	11375	11375				22013	19807	18120	V/A SUB-TOTAL:	

VOLTAMPS: PHASE A: 34095 PHASE B: 31182 PHASE C: 29495 TOTAL CONNECTED VA: 94772
(CONTINUOUS VA (94772) x 1.25 :+ (REMAINDER x 1.00) = 118465 TOTAL DEMAND VA: 118465 TL AMPS: 329.06

SCHEDULE FOR PANEL: "AC2"
REMARKS: 30 CIRCUIT PANEL COPPER BUSS
BUSSING AMPS: 100 VOLTAGE: 120/208 PHASE: 3 WIRE: 4 NEMA: 1
MAINS: 100A M.C.B. MOUNTING: SURFACE AIC RATING: 10,000
*PROVIDE LOCK-ON DEVICE,PAINT BREAKER HANDLE "RED"

	LOAD DESCRIPTION	V/A			AMP	PHASE	AMP	V/A			LOAD DESCRIPTION	
1	HP-Y1	2319			50	A	30	1986			CU-1	2
3	"		2319		2/P	B	2/P		1986		"	4
5	CU-2			1986	30	C	20			1352	FC-1.1	6
7	"	1986			2/P	A	2/P	1352			"	8
9	FC-2		1352		20	B	20		1352		FC-1.2	10
11	"			1352	2/P	C	2/P			1352	"	12
* 13	FIRE ALARM CONTROL PANEL	360			20	A	20	1352			FC-1.3	14
* 15	FIRE ALARM POWER SUPPLY		360		20	B	2/P		1352		"	16
17	SPARE			360	20	C	20			360	SPARE	18
19	SPACE	*			20	A	20	360			SPARE	20
21	SPACE		*		20	B	20		*		SPACE	22
23	SPACE			*	20	C	20			*	SPACE	24
25	SPACE	*			20	A	20	*			SPACE	26
27	SPACE		*		20	B	20		*		SPACE	28
29	SPACE			*	20	C	20			*	SPACE	30
	V/A SUB-TOTAL:	4665	4031	3698				5050	4690	3064	V/A SUB-TOTAL:	

VOLTAMPS: PHASE A: 9715 PHASE B: 8721 PHASE C: 6762 TOTAL CONNECTED VA: 25198
(CONTINUOUS VA (25198) x 1.25 : + (REMAINDER x 1.00) = TOTAL DEMAND VA: 31498 TL AMPS: 87.49

SCHEDULE FOR PANEL: "AC3"
REMARKS: 30 CIRCUIT PANEL COPPER BUSS
BUSSING AMPS: 125 VOLTAGE: 120/208 PHASE: 3 WIRE: 4 NEMA: 1
MAINS: 125A M.C.B. MOUNTING: SURFACE AIC RATING: 10,000

	LOAD DESCRIPTION	V/A			AMP	PHASE	AMP	V/A			LOAD DESCRIPTION	
1	FC-3.1	1352			20	A	50	2319			HP-Y2	2
3	"		1352		2/P	B	2/P		2319		"	4
5	FC-3.2			1352	20	C	50			2319	HP-Y3	6
7	"	1352			2/P	A	2/P	2319			"	8
9	FC-3.3		1352		20	B	50		2819		CU-3	10
11	"			1352	2/P	C	2/P			2819	"	12
13	FC-3.4	1352			20	A	20	1352			FC-3.6	14
15	"		1352		2/P	B	2/P		1352		"	16
17	FC-3.5			1352	20	C	20			360	SPARE	18
19	"	1352			2/P	A	20	360			SPARE	20
21	SPACE		*		20	B	20		*		SPACE	22
23	SPACE			*	20	C	20			*	SPACE	24
25	SPACE	*			20	A	20	*			SPACE	26
27	SPACE		*		20	B	20		*		SPACE	28
29	SPACE			*	20	C	20			*	SPACE	30
	V/A SUB-TOTAL:	5408	4056	4056				6350	6490	5498	V/A SUB-TOTAL:	

VOLTAMPS: PHASE A: 11758 PHASE B: 10546 PHASE C: 10818 TOTAL CONNECTED VA: 33122
(CONTINUOUS VA (31222) x 1.25 :+ (REMAINDER x 1.00) = 41403 TOTAL DEMAND VA: 41403 TL AMPS: 115.01

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RFHC
RF Hawkins Consulting
2357 Naples Avenue
Mentone, CA 92359-9635
Tel: (909) 522-4518
design@rfhawkinsconsulting.com

CONSULTANT
next step DESIGN, INC
26170 ENTERPRISE WAY SUITE 400
LAKE FOREST, CA 92630
PHONE: (949) 215-3339
FAX: (949) 457-9375
NSD JOB #: 08-328

REGISTERED PROFESSIONAL ENGINEER L. SCOTT BETANCOURT S.E. 4296 STRUCTURAL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER REED R. STOUT No. E010752 Exp 6/30/21 ELECTRICAL STATE OF CALIFORNIA

HVAC ADDITIONS TO MUSIC BLDG.
COMPTON COMMUNITY COLLEGE DISTRICT
COMPTON COLLEGE
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COMPTON, CA. 90221

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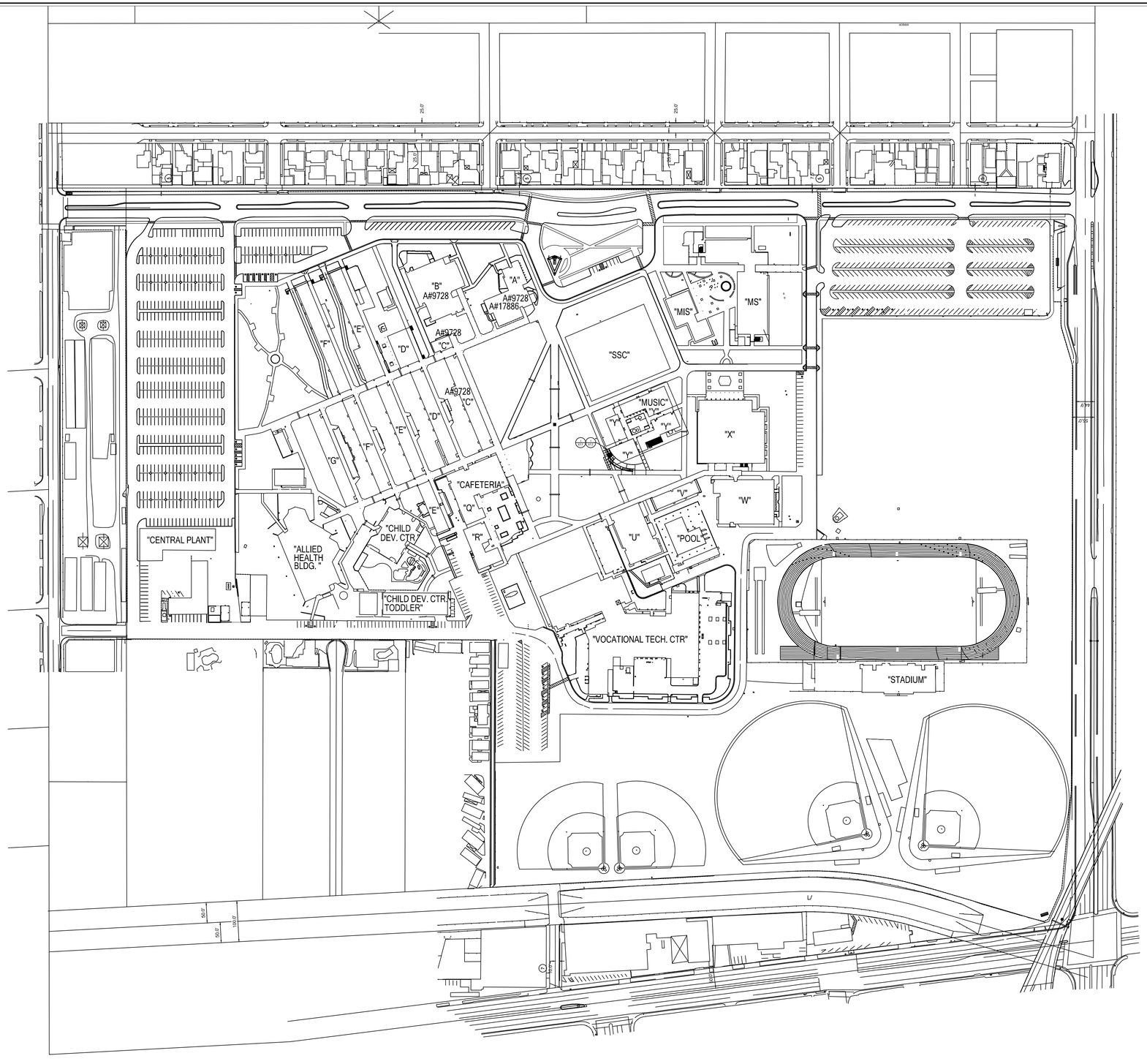
REVISIONS

DRAWN: JC CHECKED: RFH
DATE: 8/31/2018 SCALE: AS NOTED
PROJECT NUMBER: 17-302

SINGLE LINE DIAGRAM & PANEL SCHEDULE

DRAWING NUMBER : E0.2



BUILDING A#'s

BLDG. A	A#9728
BLDG. A	A#17886
BLDG. B	A#9728
BLDG. C	A#2999
BLDG. C	A#9728
BLDG. D	A#9728
BLDG. E	A#2454
BLDG. E	A#9728
BLDG. F	A#9728
BLDG. G	A#9728
BLDG. Q	A#3139
BLDG. R	A#4703
BLDG. U	A#27842
BLDG. W	A#
BLDG. X	A#4713
BLDG. X	A#20290
BLDG. Y	A#16578
BLDG. Y	A#115541
ALLIED HEALTH	A#
CENTRAL PLANT	A#113210
CHILD DEV. CTR.	A#42100
CHILD DEV. CTR.	A#104777
INFANT,TODDLER LEARNING RES.	A#10517
MS	A#69120
MIS	A#69120
SSC	A#105117
STADIUM	A#32362

N

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SITE PLAN

DRAWING NUMBER : E1.0

ELECTRICAL FLOOR PLAN NOTES:

1. EXISTING DISTRIBUTION PANEL "Y" 277/480V 3 PHASE 4 WIRE NEMA 3R. REFER TO S.L.D. E0.2.
2. 200A 480V 3P NON-FUSED DISCONNECT NEMA 1. REFER TO S.L.D. E0.2. ROUTE FEEDER TO DB "Y" ON EXTERIOR OF BUILDING.
3. TRANSFORMER "TX-AC1" 150 KVA 480V-120/208V 150KVA 3 PHASE 4 WIRE. REFER TO S.L.D. E0.2.
4. PANEL "AC1" 400A 120/208V 3 PHASE 4 WIRE REFER TO S.L.D. E0.2.
5. PANEL "AC2" 100A 120/208V 3 PHASE 4 WIRE REFER TO S.L.D. E0.2. ROUTE FEEDER TO PANEL "AC1" ON EXTERIOR OF BUILDING.
6. PANEL "AC3" 125A 120/208V 3 PHASE 4 WIRE REFER TO S.L.D. E0.2. ROUTE FEEDER TO PANEL "AC1" THRU ATTIC OF BUILDING.
7. REFER TO MECHANICAL DRAWINGS AND PROVIDE 3/4C. TO FANCOIL FOR CONTROL & THERMOSTATS.
8. ROUTE CONDUIT TO PANELS & THERMOSTATS THRU ATTIC IN CONCEALED SPACES.

CU-5 208V 1ø
FLA = 23.25A MCA = 28.8A MOCP = 50A
60A 250V 3 POLE NEMA 3R
FUSED DISCONNECT w/ 40A T.D. FUSES
3/4" C. w/ (3) #6 & (1) #10 E/G (7)
TO PANEL: AC1-7,9,11

CU-4 208V 1ø
FLA = 23.25A MCA = 28.8A MOCP = 50A
60A 250V 3 POLE NEMA 3R
FUSED DISCONNECT w/ 40A T.D. FUSES
3/4" C. w/ (2) #6 & (1) #10 E/G (7)
TO PANEL: AC1-1,3,5

CU-6 208V 3ø
FLA = 31.2A MCA = 39.0A MOCP = 50A
60A 250V 3 POLE NEMA 3R
FUSED DISCONNECT w/ 40A T.D. FUSES
3/4" C. w/ (2) #6 & (1) #10 E/G (7)
TO PANEL: AC1-13,15,17

FC-6 208V 3ø
FLA = 11.2A MCA = 14.0A MOCP = 20A
30A 250V 3 POLE NEMA 1
FUSED DISCONNECT w/ 20A T.D. FUSES
3/4" C. w/ (3) #10 & (1)#10 E/G (8)
TO PANEL: AC1-27,29,31

FC-4 208V 1ø
FLA = 8.5A MCA = 10.6A MOCP = 20A
30A 250V 2 POLE NEMA 1
FUSED DISCONNECT w/ 20A T.D. FUSES
3/4" C. w/ (2) #10 & (1)#10 E/G (8)
TO PANEL: AC1-19,21

FC-5 208V 1ø
FLA = 8.5A MCA = 10.6A MOCP = 20A
60A 250V 2 POLE NEMA 1
FUSED DISCONNECT w/ 20A T.D. FUSES
3/4" C. w/ (2) #10 & (1)#10 E/G (8)
TO PANEL: AC1-23,25

HP-Y1 208V 1ø
FLA = 22.3A MCA = 35.00A MOCP = 50A
60A 250V 2 POLE NEMA 3R
FUSED DISCONNECT w/ 40A T.D. FUSES
3/4" C. w/ (2) #6 & (1) #10 E/G (7)
TO PANEL: AC2-1,3

FC-1.1 208V 1ø
FLA = 11.0A MCA = 13.04A MOCP = 15A
30A 250V 2 POLE NEMA 1
FUSED DISCONNECT w/ 15A T.D. FUSES
1/2" C. w/ (2) #12 & (1)#12 E/G (8)
TO PANEL: AC2-6,8

FC-1.2 208V 1ø
FLA = 11.0A MCA = 13.04A MOCP = 15A
30A 250V 2 POLE NEMA 1
FUSED DISCONNECT w/ 15A T.D. FUSES
1/2" C. w/ (2) #12 & (1)#12 E/G (8)
TO PANEL: AC2-10,12

CU-1 208V 1ø
FLA = 19.1A MCA = 23.88A MOCP = 30A
30A 250V 2 POLE NEMA 3R
FUSED DISCONNECT w/ 25A T.D. FUSES
3/4" C. w/ (2) #10 & (1)#10 E/G (7)
TO PANEL: AC2-2,4

CU-2 208V 1ø
FLA = 19.1A MCA = 23.88A MOCP = 30A
60A 250V 2 POLE NEMA 3R
FUSED DISCONNECT w/ 25A T.D. FUSES
3/4" C. w/ (2) #10& (1)#10 E/G (7)
TO PANEL: AC2-5,7

FC-1.3 208V 1ø
FLA = 11.0A MCA = 13.04A MOCP = 15A
30A 250V 2 POLE NEMA 1
FUSED DISCONNECT w/ 15A T.D. FUSES
1/2" C. w/ (2) #12 & (1)#12 E/G (8)
TO PANEL: AC2-6,8

FC-2 208V 1ø
FLA = 11.0A MCA = 13.04A MOCP = 15A
30A 250V 2 POLE NEMA 1
FUSED DISCONNECT w/ 15A T.D. FUSES
1/2" C. w/ (2) #12 & (1)#12 E/G (8)
TO PANEL: AC2-9-11

FC-3.1 208V 1ø
FLA = 11.0A MCA = 13.04A MOCP = 15A
30A 250V 2 POLE NEMA 1
FUSED DISCONNECT w/ 15A T.D. FUSES
1/2" C. w/ (2) #12 & (1)#12 E/G (8)
TO PANEL: AC3-1,3

FC-3.6 208V 1ø
FLA = 11.0A MCA = 13.04A MOCP = 15A
30A 250V 2 POLE NEMA 1
FUSED DISCONNECT w/ 15A T.D. FUSES
1/2" C. w/ (2) #12 & (1)#12 E/G (8)
TO PANEL: AC-14,16

FC-3.2 208V 1ø
FLA = 11.0A MCA = 13.04A MOCP = 15A
30A 250V 2 POLE NEMA 1
FUSED DISCONNECT w/ 15A T.D. FUSES
1/2" C. w/ (2) #12 & (1)#12 E/G (8)
TO PANEL: AC2-5,7

HP-Y2 208V 1ø
FLA = 22.3A MCA = 35.00A MOCP = 50A
60A 250V 2 POLE NEMA 3R
FUSED DISCONNECT w/ 40A T.D. FUSES
3/4" C. w/ (2) #6 & (1) #10 E/G (8)
TO PANEL: AC3-2,4

HP-Y3 208V 1ø
FLA = 22.3A MCA = 35.00A MOCP = 50A
60A 250V 2 POLE NEMA 3R
FUSED DISCONNECT w/ 40A T.D. FUSES
3/4" C. w/ (2) #6 & (1) #10 E/G (8)
TO PANEL: AC3-6,8

CU-3 240V 1ø
FLA = 27.11A MCA = 32.01A MOCP = 40A
60A 250V 2 POLE NEMA 3R
FUSED DISCONNECT w/ 40A T.D. FUSES
3/4" C. w/ (2) #6 & (1) #10 E/G (7)
TO PANEL: AC3-10,12

FC-3.5 208V 1ø
FLA = 11.0A MCA = 13.04A MOCP = 15A
30A 250V 2 POLE NEMA 1
FUSED DISCONNECT w/ 15A T.D. FUSES
1/2" C. w/ (2) #12 & (1)#12 E/G (8)
TO PANEL: AC3-17,19

FC-3.4 208V 1ø
FLA = 11.0A MCA = 13.04A MOCP = 15A
30A 250V 2 POLE NEMA 1
FUSED DISCONNECT w/ 15A T.D. FUSES
1/2" C. w/ (2) #12 & (1)#12 E/G (8)
TO PANEL: AC3-13,15

FC-3.3 208V 1ø
FLA = 11.0A MCA = 13.04A MOCP = 15A
30A 250V 2 POLE NEMA 1
FUSED DISCONNECT w/ 15A T.D. FUSES
1/2" C. w/ (2) #12 & (1)#12 E/G (2)
TO PANEL: AC3-9,11

ELECTRICAL FLOOR PLAN
BUILDING "MUSIC" 1/8"=1'-0"

N

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 03-119660 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/25/2019

RFHC
RF Hawkins Consulting
2357 Naples Avenue
Mentone, CA 92359-9635
Tel: (909) 522-4518
design@rfhawkinsconsulting.com

CONSULTANT
next step DESIGN, INC ER
26170 ENTERPRISE WAY SUITE 400
LAKE FOREST, CA 92630
PHONE: (949) 215-3339
FAX: (949) 457-9375
NSD JOB #: 08-328

REGISTERED PROFESSIONAL ENGINEER
J. SCOTT BETANCOURT
S.E. 4296
STRUCTURAL
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
REED R. STOUT
No. E010752
Exp.8/20/21
ELECTRICAL
STATE OF CALIFORNIA

HVAC ADDITIONS TO MUSIC BLDG.

COMPTON COMMUNITY COLLEGE DISTRICT
COMPTON COLLEGE
1111 E. ARTESIA BLVD.
COMPTON, CA. 90221

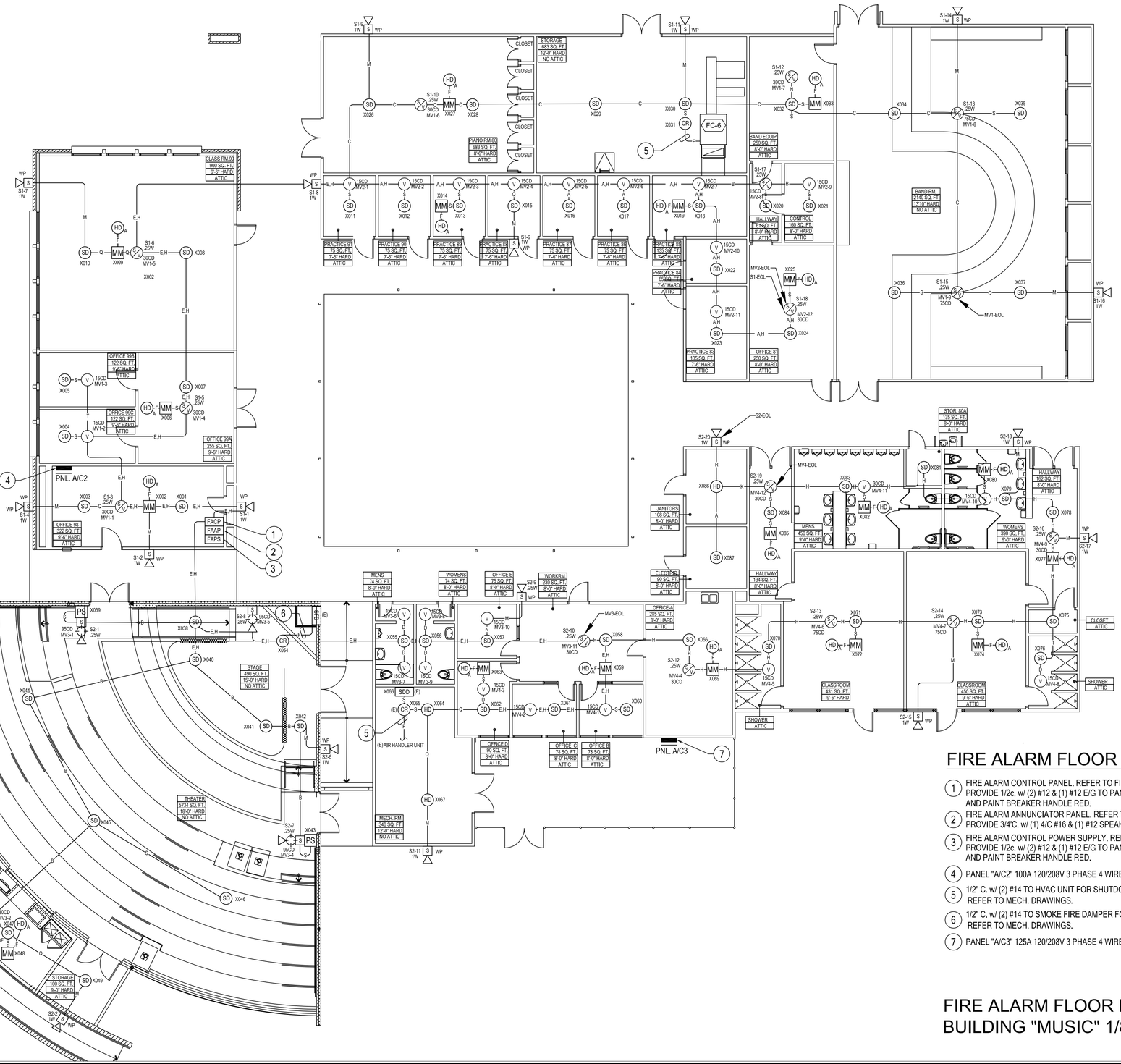
NO	DATE	BY	DESCRIPTION

REVISIONS

DRAWN: JC	CHECKED: RFH
DATE: 8/31/2018	SCALE: AS NOTED
PROJECT NUMBER: 17-302	

ELECTRICAL FLOOR & ROOF PLANS

DRAWING NUMBER : E1.1



FIRE ALARM FLOOR PLAN NOTES:

1. FIRE ALARM CONTROL PANEL. REFER TO FIRE ALARM SUBMITTAL. PROVIDE 1/2c. w/ (2) #12 & (1) #12 E/G TO PANEL "AC2-13". PROVIDE LOCK-ON DEVICE AND PAINT BREAKER HANDLE RED.
2. FIRE ALARM ANNUNCIATOR PANEL. REFER TO FIRE ALARM SUBMITTAL. PROVIDE 3/4"C. w/ (1) 4/C #16 & (1) #12 SPEAKER CABLE TO FACP.
3. FIRE ALARM CONTROL POWER SUPPLY. REFER TO FIRE ALARM SUBMITTAL. PROVIDE 1/2c. w/ (2) #12 & (1) #12 E/G TO PANEL "AC2-15". PROVIDE LOCK-ON DEVICE AND PAINT BREAKER HANDLE RED.
4. PANEL "A/C2" 100A 120/208V 3 PHASE 4 WIRE. REFER TO SINGLE LINE DIAGRAM.
5. 1/2" C. w/ (2) #14 TO HVAC UNIT FOR SHUTDOWN UPON FIRE ALARM ACTIVATION. REFER TO MECH. DRAWINGS.
6. 1/2" C. w/ (2) #14 TO SMOKE FIRE DAMPER FOR SHUTDOWN UPON FIRE ALARM ACTIVATION. REFER TO MECH. DRAWINGS.
7. PANEL "A/C3" 125A 120/208V 3 PHASE 4 WIRE. REFER TO SINGLE LINE DIAGRAM.

FIRE ALARM FLOOR PLAN
BUILDING "MUSIC" 1/8"=1'-0"

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PHONE: (949) 215-3339
FAX: (949) 457-9375

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L. SCOTT BETANCOURT
S.E. 4296
STRUCTURAL
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
ALLEN R. STOUT
No. E010752
Exp. 8/30/21
ELECTRICAL
STATE OF CALIFORNIA

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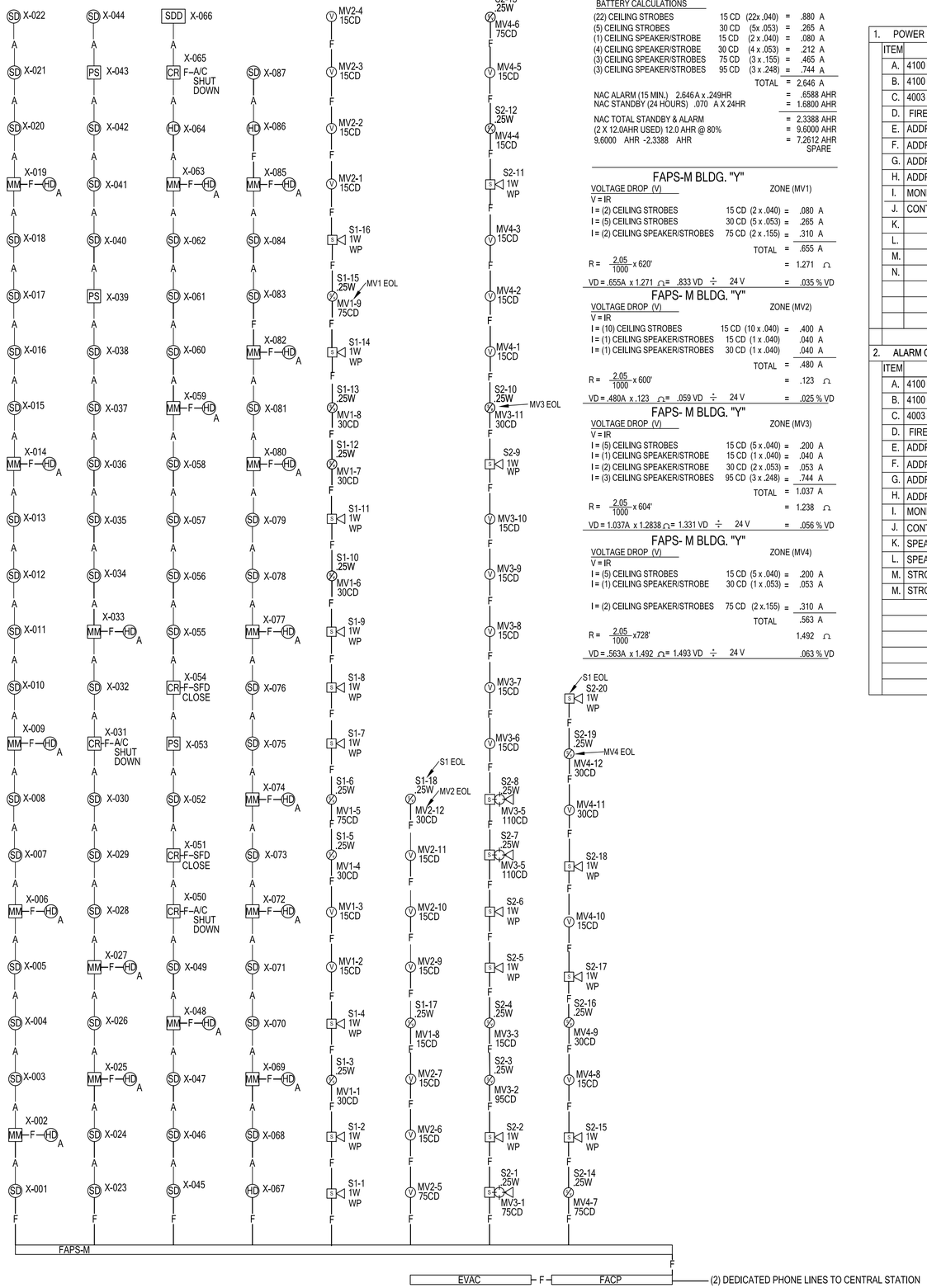
DATE: 8/31/2018	SCALE: AS NOTED
PROJECT NUMBER: 17-302	

FIRE ALARM
FLOOR PLAN

DRAWING NUMBER : E2.1



FAPS-C BLDG. "M"

BATTERY CALCULATIONS

(22) CEILING STROBES	15 CD	(22x .040)	=	.880 A
(5) CEILING STROBES	30 CD	(5x .053)	=	.265 A
(1) CEILING SPEAKER/STROBE	15 CD	(2 x .040)	=	.080 A
(4) CEILING SPEAKER/STROBE	30 CD	(4 x .053)	=	.212 A
(3) CEILING SPEAKER/STROBES	75 CD	(3 x .155)	=	.465 A
(3) CEILING SPEAKER/STROBES	95 CD	(3 x .248)	=	.744 A
		TOTAL	=	2.646 A
NAC ALARM (15 MIN.) 2.646A x .249HR			=	.6588 AHR
NAC STANDBY (24 HOURS) .070 A X 24HR			=	1.6800 AHR
NAC TOTAL STANDBY & ALARM			=	2.3388 AHR
(2 X 12.0AHR USED) 12.0 AHR @ 80%			=	9.6000 AHR
9.6000 AHR -2.3388 AHR			=	7.2612 AHR SPARE

FAPS-M BLDG. "Y"

ZONE (MV1)

VOLTAGE DROP (V)

V = IR

I = (2) CEILING STROBES	15 CD	(2 x .040)	=	.080 A
I = (5) CEILING STROBES	30 CD	(5 x .053)	=	.265 A
I = (2) CEILING SPEAKER/STROBES	75 CD	(2 x .155)	=	.310 A
		TOTAL	=	.655 A

R = $\frac{2.05}{1000}$ x 620' = 1.271 Ω

VD = .655A x 1.271 Ω = .833 VD ÷ 24 V = .035 % VD

FAPS- M BLDG. "Y"

ZONE (MV2)

VOLTAGE DROP (V)

V = IR

I = (10) CEILING STROBES	15 CD	(10 x .040)	=	.400 A
I = (1) CEILING SPEAKER/STROBES	15 CD	(1 x .040)		.040 A
I = (1) CEILING SPEAKER/STROBES	30 CD	(1 x .040)		.040 A
		TOTAL	=	.480 A

R = $\frac{2.05}{1000}$ x 600' = .123 Ω

VD = .480A x .123 Ω = .059 VD ÷ 24 V = .025 % VD

FAPS- M BLDG. "Y"

ZONE (MV3)

VOLTAGE DROP (V)

V = IR

I = (5) CEILING STROBES	15 CD	(5 x .040)	=	.200 A
I = (1) CEILING SPEAKER/STROBE	15 CD	(1 x .040)	=	.040 A
I = (2) CEILING SPEAKER/STROBE	30 CD	(2 x .053)	=	.053 A
I = (3) CEILING SPEAKER/STROBES	95 CD	(3 x .248)	=	.744 A
		TOTAL	=	1.037 A

R = $\frac{2.05}{1000}$ x 604' = 1.238 Ω

VD = 1.037A x 1.2838 Ω = 1.331 VD ÷ 24 V = .056 % VD

FAPS- M BLDG. "Y"

ZONE (MV4)

VOLTAGE DROP (V)

V = IR

I = (5) CEILING STROBES	15 CD	(5 x .040)	=	.200 A
I = (1) CEILING SPEAKER/STROBE	30 CD	(1 x .053)	=	.053 A
I = (2) CEILING SPEAKER/STROBES	75 CD	(2 x.155)	=	.310 A
		TOTAL		.563 A

R = $\frac{2.05}{1000}$ x728' = 1.492 Ω

VD = .563A x 1.492 Ω = 1.493 VD ÷ 24 V = .063 % VD

FACP "C" BATTERY CALCULATIONS

1. POWER FAILURE CONDITION (STANDBY FOR 24 HOURS)

ITEM	DESCRIPTION	QTY.	AMPS	TOTAL AMPS
A.	4100 FIRE ALARM CONTROL CIRCUIT BOARD	1	.4450	.4450
B.	4100 UDACT	1	.0400	.0400
C.	4003 EVAC CONTROL PANEL	1	.1300	.1300
D.	FIRE ALARM ANNUNCIATOR PANEL	1	.3000	.3000
E.	ADDRESSABLE PULL STATION	3	.0008	.0024
F.	ADDRESSABLE SMOKE DETECTOR	57	.0008	.0456
G.	ADDRESSABLE SMOKE DUCT DETECTOR	1	.0008	.0008
H.	ADDRESSABLE HEAT DETECTOR	3	.0008	.0024
I.	MONITOR MODULES	18	.0008	.0144
J.	CONTROL MODULES	5	.0008	.0040
K.				
L.				
M.				
N.				
			STANDBY AMPS TOTAL	.9846 A
			24 HR. STANDBY	X 24 HR
			STAND BY AHR TOTAL	23.6304 AHR

2. ALARM CONDITION DURING POWER FAILURE FOR 5 MINUTES (.083)

ITEM	DESCRIPTION	QTY.	AMPS	TOTAL AMPS
A.	4100 FIRE ALARM CONTROL CIRCUIT BOARD	1	.5000	.5000
B.	4100 UDACT	1	.0400	.0400
C.	4003 EVAC CONTROL PANEL	1	.1300	.1300
D.	FIRE ALARM ANNUNCIATOR PANEL	1	.3000	.3000
E.	ADDRESSABLE PULL STATION	3	.0010	.0030
F.	ADDRESSABLE SMOKE DETECTOR	57	.0010	.0570
G.	ADDRESSABLE SMOKE DUCT DETECTOR	1	.0010	.0010
H.	ADDRESSABLE HEAT DETECTOR	3	.0010	.0030
I.	MONITOR MODULES	18	.0010	.0180
J.	CONTROL RELAY	5	.0010	.0050
K.	SPEAKERS .25W	20	.0038	.0760
L.	SPEAKERS 1 W	18	.0070	.1260
M.	STROBES (REFER TO FAPS-M CALCS.)			
M.	STROBES/STROBES (REFER TO FAPS-M CALCS.)			
			ALARM CONDITION TOTAL AMPS	1.2590
			15 MINUTE OPERATION	x .25 HR
			SUB TOTAL	.3148 AHR
			GRAND TOTAL (STAND BY & ALARM)	23.9452 AHR
			(2) BAT-12500 BATTERY USED 50AHR @ 80%	40.0000 AHR
			SPARE CAPACITY	16.0548 AHR

AMP BLDG. "Y"

(BLDG. Y NAC CIRCUIT)

ZONE (S1)

VOLTAGE DROP (V)

V = IR

I = (9) SPEAKER/STROBE	.25W	(9 x .0036)	=	.0324 A
(9) SPEAKER WP	1.0W	(9 x .007)	=	.0630 A
		TOTAL	=	.0953 A

R = $\frac{4.016}{1000}$ x 670' = 2.690 Ω

V = .0953A x 2.690 Ω = .2564 VD ÷ 70 V = .00366 % VD

AMP BLDG. "Y"

(BLDG. C NAC CIRCUIT)

ZONE (S2)

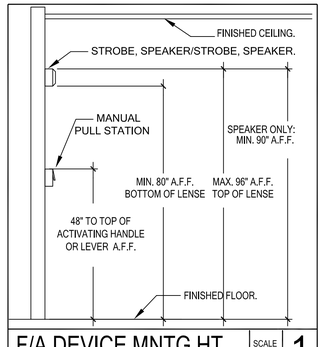
VOLTAGE DROP (V)

V = IR

I = (11) SPEAKER/STROBE	.25W	(11 x .0036)	=	.0396 A
(9) SPEAKER WP	1.0W	(9 x .007)	=	.0630 A
		TOTAL	=	.1026 A

R = $\frac{4.016}{1000}$ x 810' = 3.251 Ω

V = .1026A x 3.251 Ω = .3336 VD ÷ 70 V = .00477 % VD



F/A DEVICE MNTG HT. SCALE N.T.S. 1

FIRE ALARM GENERAL NOTES:

1. NEWSYSTEM IS A SIMPLEX 4100, AUTOMATIC ACTIVATED, ADDRESSABLE POWER LIMITED, 24V DC, SUPERVISED FIRE ALARM SYSTEM WITH SUPPLEMENTAL MANUAL PROTECTION IN COMPLIANCE WITH CALIFORNIA BUILDING CODE SECTION 907, THE 2016 CALIFORNIA ELECTRICAL CODE, 2016 NFPA 72 AND 2016 CALIFORNIA FIRE CODE, INCLUDE ALL PROGRAMMING.
2. FIRE ALARM CABLE SPLICES IN UNDERGROUND PULL BOXES ARE ABSOLUTELY PROHIBITED.
3. ALL FIRE ALARM CONDUIT SHALL BE 3/4"C. UNLESS NOTED OTHERWISE. ALL FIRE ALARM CONDUCTORS SHALL BE INSTALLED IN AN APPROVED RACEWAY.
4. ALL CONDUCTORS SHALL BE #12 THWN 600V FOR ALL ALARM AND FA DEVICE POWER CIRCUITS UNLESS NOTED OTHERWISE.
5. ALL CONDUCTORS SHALL BE #18 T.S.P. 600 VOLT FOR ALL INITIATING CIRCUITS UNLESS NOTED OTHERWISE.
6. CONTRACTOR SHALL FIELD VERIFY NEW DEVICES AND MATCH EXISTING PRIOR TO ROUGH-IN.
7. COLOR CODING OF CONDUCTORS AS RECOMMENDED BY MANUFACTURERS REPRESENTATIVE AND AS INDICATED BELOW:
   FIRE ALARM PULL STATIONS - (1) DARK BLUE (NEG.), (1) ORANGE (POS.)
   FIRE ALARM SMOKE - (1) LT. BLUE (NEG.), (1) YELLOW (POS.)
   FIRE ALARM AUDIBLE - (1) BLACK (NEG.), (1) RED (POS.)
   FIRE ALARM VISUALS - (1) GRAY (NEG.), (1) PINK (POS.)
8. UPON COMPLETION OF THE FIRE ALARM SYSTEM INSTALLATION, THE SYSTEM SHALL BE TESTED IN THE PRESENCE OF AND IN A MANNER ACCEPTABLE TO THE DSA/PROJECT INSPECTOR OF RECORD (IOR). THE LOCAL FIRE AUTHORITY SHALL BE NOTIFIED OF DATE AND TIME OF FINAL FIRE ALARM TESTING AND SHALL ASSIST/WITNESS SUCH TESTING WHEN ABLE.
9. FIRE ALARM CONTRACTOR SHALL SUPPLY ALL NECESSARY TEST EQUIPMENT TO PERFORM REQUIRED TESTING INCLUDING A "SOUND LEVEL METER" TO CHECK THE ACCEPTABLE LEVELS OF AUDIBLE DEVICES. ALL NORMALLY OCCUPIED AREAS SHALL BE PROVIDED WITH A FIRE ALARM AUDIBLE LEVEL AT 15dba ABOVE AMBIENT NOISE LEVELS. PROVIDE INTELLIGIBILITY TEST FOR ALL AREAS OF COVERAGE.
10. FIRE ALARM CONTRACTOR SHALL PERFORM AN "END OF LINE RESISTENCE" TEST IN THE PRESENCE OF THE "IOR" FOR EACH CIRCUIT AND IT SHALL NOT EXCEED 10% OF THE 24 VOLT SYSTEM. EACH COMPONENT IN THE SYSTEM SHALL NOT EXCEED THE LISTED MANUFACTURER'S MINIMUM OPERATING VOLTAGE. THE LOOP RESISTANCE TEST INCLUDES ALL INITIATING AND INDICATING (NOTIFICATION APPLIANCE) CIRCUITS.
11. IOR SHALL VERIFY THAT ALL STROBE APPLIANCES FLASH AT A RATE OF NOT EXCEEDING TWO FLASHES PER SECOND, NOR BE LESS THAN ONE FLASH PER SECOND.
12. FIRE ALARM CONTRACTOR SHALL PROVIDE ALL TEST RESULTS AND A "RECORD OF COMPLETION" TO THE IOR AFTER COMPLETION OF OPERATIONAL ACCEPTANCE TESTS (2016 NFPA 72, SECTION 10.4.1, SECTION 1-7.2.2 & FIGURE 1-7.2.1) TO THE ARCHITECT, ENGINEER, DSA, PROJECT INSPECTOR (IOR), OWNER AND TO THE LOCAL FIRE AUTHORITY HAVING JURISDICTION.
13. EVERY NEW FIRE ALARM SYSTEM SHALL PROVIDE A DOCUMENTATION CABINET, INSTALLED AT THE SYSTEM CONTROL PANEL OR OTHER APPROVED LOCATION. DOCUMENTS", ALL RECORD AND TESTING DOCUMENTATION SHALL BE STORED IN THE CABINET. CONTENTS SHALL BE ACCESSIBLE BY AUTHORIZED PERSONNEL ONLY. WHERE CABINET IS INSTALLED IN A LOCATION OTHER THAN THE SYSTEM CONTROL UNIT, IT'S LOCATION SHALL BE IDENTIFIED AT THE SYSTEM CONTROL UNIT. SYSTEM DOCUMENTS AS APPLICABLE:
    RECORD DRAWINGS/AS-BUILTS, EQUPMENT CUT SHEETS AND CSFM LISTINGS
    ALTERNATIVE MEANS AND METHODS, PERFORMANCE BASED DESIGN DOCUMENTATION
    SYSTEM RECORD OF COMPLETION & ANY SUPPLEMENTAL INSPECTION AND TESTING DOCUMENTATION,EMERGENCY RESPONSE PLAN,EVALUATION DOCUMENTATION
    RISK ANALYSIS DOCUMENTATION,SOFTWARE & FIRMWARE CONTROL DOCUMENTATION

SEQUENCE OF OPERATIONS

ACTION \ DEVICE	MANUAL PULL STATION	AREA SMOKE DETECTOR	AREA HEAT DETECTOR	SMOKE DUCT DETECTOR	A/C POWER FAILURE	LOW BATTERY
SOUND ALARM THROUGHOUT BLDG.	YES	YES	YES	YES	NO	NO
REPORT TO CENTRAL STATION	YES	YES	YES	YES	YES	YES
ANNUNCIATE AT PANEL AND ANNUNCIATOR	YES	YES	YES	YES	YES	YES
CLOSE SMOKE FIRE DAMPERS HVAC SHUTDOWN	NO	YES	YES	YES	YES	YES
TONE FOLLOWED BY VOICE EVACUATION	YES	YES	YES	YES	NO	NO
SOUND TROUBLE BUZZER	ON WIRING FAULT	ON WIRING FAULT	ON WIRING FAULT	ON WIRING FAULT	YES	YES

EQUIPMENT LISTING

SYMBOL	MANUFACTURER & MODEL #	DESCRIPTION	CSFM #
FACP	SIMPLEX 4100-9114	FIRE ALARM CONTROL PANEL W/ 2 SLC LOOP CARDS, W/ DIGITAL ALARM COMMUNICATOR TRANSMITTER	7165-0026:0251
EVAC	SIMPLEX 4003EC	FIRE ALARM VOICE EVAC AMPLIFIER PANEL	6911-0026:0332
FAPS	SIMPLEX 4009	FIRE ALARM POWER SUPPLY	7300-0026:0368
(E) PS	SIMPLEX 4099-9021	FIRE ALARM PULL STATION	7150-0026:0224
(E) SDD	SIMPLEX 4098-9756 SIMPLEX 4098-9714	FIRE ALARM DUCT SMOKE DETECTOR HOUSING FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR	3240-0026:0241 7272-0026:0218
SD	SIMPLEX 4098-9714 (BASE) 4098-9792	FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR SURFACE CEILING	7272-0026:0218 7300-0026:0217
HD	SIMPLEX 4098-9733 (BASE) 4098-9792	FIRE ALARM HEAT DETECTOR SURFACE CEILING	7272-0026:0216 7300-0026:0217
HD A	SYSTEM SENSOR 5602	FIRE ALARM HEAT DETECTOR 194 DEG. FIXED "A" INDICATES MOUNTED IN ATTIC	7270-1653:0167
MM	IAM 4090-9001	FIRE ALARM MONITOR MODULE SURFACE CEILING	7300-0026:0223
CR	IAM 4090-9002	FIRE ALARM CONTROL MODULE SURFACE CEILING	7300-0026:0223
V 15	EXCEDER LSTRC3 CANDELA AS NOTED	FIRE ALARM STROBE CEILING MOUNTED	7125-0785:0169
.25W S/V 75	EXCEDER LSPSTRC3 CANDELA& WATTS AS NOTED	FIRE ALARM SPEAKER/STROBE CEILING MOUNT	7125-0785:0175
1 W S WP	WHEELOCK ET1010 W/ WBB BACKBOX	FIRE ALARM WEATHERPROOF SPEAKER	7320-0785:0105

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LAKE FOREST, CA 92630
PHONE: (949) 215-3339
FAX: (949) 457-9375
NSD JOB # 06-328

REGISTERED PROFESSIONAL ENGINEER L. SCOTT BETANCOURT S.E. 4296 STRUCTURAL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER ALFRED R. STOLL No. E010752 Exp.6/30/21 ELECTRICAL STATE OF CALIFORNIA

HVAC ADDITIONS TO MUSIC BLDG.

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COMPTON COLLEGE
1111 E. ARTESIA BLVD.
COMPTON, CA. 90221

NO	DATE	BY	DESCRIPTION

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DRAWN: JC CHECKED: RFH
DATE: 8/31/2018 SCALE: AS NOTED
PROJECT NUMBER: 17-302

FIRE ALARM SUBMITTAL

DRAWING NUMBER : E2.2

LEGEND

SYMBOL	ABBR.	DESCRIPTION
	-	SUPPLY AIR RISER
	-	RETURN AIR RISER
	-	EXHAUST AIR RISER
	SAG	SUPPLY AIR GRILLE
	RAG	RETURN AIR GRILLE
	EAG	EXHAUST AIR GRILLE
	SWR	SIDEWALL REGISTER
	(L)	LINED DUCTWORK
	-	FLEXIBLE CONNECTION
	FC	FLEXIBLE CONNECTION
	-	NEW DUCT (SEE PLAN)
	MVD	MANUAL VOLUME DAMPER
	BDD	BACKDRAFT DAMPER
U.C.	UC	UNDERCUT DOOR 3/4"
SFD	SFD	SMOKE / FIRE DAMPER
	FD	FIRE DAMPER
T	T-STAT	THERMOSTAT
S	S	SWITCH
	W/	WITH
	S/M	SHEET METAL
	G.C.	GENERAL CONTRACTOR
	VTR	VENT THRU ROOF
	O/C	ON CENTER
E	E	ITEMS FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AS SPECIFIED ON THE ELECTRICAL CONTRACT DOCUMENTS
M	M	ITEMS FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR AS SPECIFIED ON THE MECHANICAL CONTRACT DOCUMENTS
EM	EM	ITEMS FURNISHED BY ELECTRICAL CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR
ME	ME	ITEMS FURNISHED BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR

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. 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.

3. 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.

4. 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.

5. ALL DIMENSIONS SHOWN ON THESE PLANS ARE APPROXIMATE AND MUST BE CONFIRMED ON SITE.

6. PRIOR TO OCCUPANCY, THE ENTIRE H.V.A.C. SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH "AABC" OR "NEEB" STANDARDS BY AN INDEPENDENT THIRD PARTY AIR BALANCE CONTRACTOR MEMBER OF "AABC" OR "NEBB". 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 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.

7. FOR INACCESSIBLE AREAS THE CONTRACTOR SHALL PROVIDE ACCESS PANELS TO 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.

8. COORDINATE THE LOCATION OF ALL ROOF OPENINGS AND THE LOCATION OF ALL ROOF MOUNTED EQUIPMENT WITH THE STRUCTURAL AND ARCHITECTURAL PLANS PRIOR TO ANY INSTALLATION.

9. 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.

10. 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.

11. MAINTENANCE LABEL SHALL BE AFFIXED TO ALL MECHANICAL EQUIPMENT AND A MAINTENANCE MANUAL SHALL BE PROVIDED FOR THE OWNER'S USE.

12. PROVIDE MERV 13 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.

13. 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 SHALL ACCESSIBLE FOR CLEANING OR REPLACEMENT.

14. ALL EQUIPMENT WITH MOVING PARTS SHALL BE PROVIDED WITH FLEXIBLE DUCT AND PIPE CONNECTION.

15. ALL HVAC EQUIPMENT SHALL BE CERTIFIED BY THE CALIFORNIA ENERGY COMMISSION TO COMPLY WITH LATEST EFFICIENCY STANDARDS.

16. AC UNITS PROVIDED WITH ECONOMY CYCLE DAMPERS SHALL HAVE DAMPERS SET UP TO CLOSE AUTOMATICALLY ON FAN SHUTDOWN.

17. PROVIDE MANUAL VOLUME DAMPERS AND BACKDRAFT DAMPERS FOR FRESH AIR INTAKES ON ALL AIR HANDLING EQUIPMENT AND EXHAUST FANS SERVING CONDITIONED SPACES. EXCEPTION: EQUIPMENT WITH FACTORY ECONOMIZERS.

18. 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.

19. ALL AIR HANDLING EQUIPMENT SERVING CONDITIONED SPACES SHALL PROVIDE CONTINUOUS FRESH AIR TO SPACES IN OCCUPIED MODE.

20. CONTRACTOR SHALL VERIFY ALL CLEARANCES AND AVAILABLE SPACE FOR DUCTWORK PRIOR TO ORDERING AND / OR FABRICATING MATERIAL.

21. CONTRACTOR TO SUBMIT ALL EQUIPMENT, DUCTWORK, AIR DISTRIBUTION DEVICES, AND OTHER ACCESSORIES TO THE ENGINEER FOR APPROVAL PRIOR TO ANY ANY ORDERING OF SUCH ITEMS.

22. CONTRACTOR SHALL BE RESPONSIBLE FOR COMMISSIONING OF EQUIPMENT AS STIPULATED ON MECH-1-C FORM ON PLANS UNLESS NOTED OTHERWISE.

23. PAINT EXPOSED SURFACE, 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

24. NOT USED.

25. ALL LINE AND LOW 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.

26. ALL LOW VOLTAGE CONDUIT AND WIRING AS APPLICABLE, INCLUDING FINAL CONNECTIONS, SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR AS INDICATED ON MECHANICAL DRAWINGS OR SPECIFIED IN THE MECHANICAL SECTION OF THE SPECIFICATIONS.

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

   B) WHERE THE CONTROLS CONTRACTOR IS RETAINED 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

   4) ALL CONTROL WIRING SHALL BE INSTALLED IN MIN. 3/4" CONDUIT.

27. ELECTRICAL CONTRACTOR SHALL PROVIDE REQUIRED RELAY ACCESSORIES FOR CONNECTION OF 120 VOLT, 1 PHASE VENTILATING EQUIPMENT TO 277 VOLT, 1 PHASE LIGHTING AS APPLICABLE.

28. NOT USED.

   NOTES:

   1) THERMOSTATS THAT ARE PART OF ANY 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 CONTRACTOR THAT SHALL BE APPROVED BY THE ENGINEER AND ARCHITECT.

29. LINE VOLTAGE THERMOSTATS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR.

30. 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.

31. CONTROLS SHALL BE PROVIDED TO PROVIDE THE MINIMUM RATE OF OUTDOOR AIR REQUIRED BY THE STATE ENERGY REGULATIONS.

AIR DISTRIBUTION

32. 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 UNIFORM MECHANICAL CODE, OR THE APPLICABLE STANDARDS ADOPTED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION.

33. ALL FLEXIBLE DUCTWORK SHALL NOT EXCEED FIVE FEET IN LENGTH TO RESPECTIVE DIFFUSERS, GRILLES, AND REGISTERS, OR OTHER AIR DEVICES.

34. PROVIDE SEISMIC RESTRAINTS TO ALL DUCTWORK, PIPE, AND EQUIPMENT SUPPORTS IN ACCORDANCE WITH THE LATEST SMACNA GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS. SUSPENDED EQUIPMENT SHALL BE PROVIDED WITH SEISMIC ANCHORAGE AND ISOLATION SUPPORTS.

35. ALL DUCTS TURNS IN SUPPLY, RETURN, AND EXHAUST DUCTS SHALL HAVE TURNING VANES UNLESS OTHERWISE NOTED.

36. ALL INSULATION SHALL HAVE A FLAME SPREAD OF NOT MORE THAN 25 AND A SMOKE DENSITY NOT EXCEEDING 50.

37. 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.

38. DUCTWORK HANDLING CONDITIONED AIR SHALL BE INSULATED OR LINED AS INDICATED ON DRAWINGS. SUPPLY AND RETURN DUCT INSULATION SHALL BE MIN 3" 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 C.E.C., OTHERWISE PROVIDE R-8.0 WHEN LOCATED IN CONDITIONED ATTIC SPACES ABOVE CEILING. 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 C.M.C. CHAPTER 6 REQUIREMENTS. PROVIDE PIPING AND DUCT INSULATION IN ACCORDANCE WITH THE LATEST STANDARDS OF THE CALIFORNIA ENERGY COMMISSION.

39. 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/WAL 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 CALIFORNIA BUILDING CODE.

   D) CONTRACTOR SHALL FURNISH FLUSH MOUNTED FIRE AND / OR SMOKE DAMPERS, SO THAT THAT DAMPER DO NOT EXTEND PASS WALLS, FOR AREAS WITHOUT CEILINGS FOR QUALITY WORKMANSHIP.

40. NOT USED.

41. ALL DUCT WORK PASSING THROUGH FIRE RATED CORRIDORS AND LOBBIES SHALL BE MIN. 26 GAGE SHEET METAL CONSTRUCTION.

42. ALL DUCTWORK, PIPING, CONDUIT, & ETC. PENETRATING FIRE RATED CONSTRUCTION SHALL HAVE APPROVED FIRE STOPPING.

43. CONTRACTOR SHALL STUDY COMPLETELY AND THOROUGHLY THE DESIGN OF THE ENTIRE AIR CONDITIONING SYSTEM, AND VERIFY THE CONSTRUCTABILITY WITH OTHER TRADES PRIOR TO BID. NOTIFY THE ARCHITECT AND ENGINEER IMMEDIATELY IF THERE IS A CONFLICT. ALL CONSTRUCTABILITY ISSUES ARISE AFTER BID SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO EXCEPTION.

44. UNLESS SPECIFICALLY SHOWN ON THESE PLANS NO STRUCTURAL MEMBERS SHALL BE CUT, DRILLED NOR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND THE DISTRICT STRUCTURAL ENGINEER FROM THE DIVISION OF THE STATE ARCHITECT.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 03-119660 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/25/2019

RFHC
RF Hawkins Consulting
2357 Naples Avenue
Mentone, CA 92359-9635
Tel: (909) 522-4518
design@rfhawkinsconsulting.com

CONSULTANT
pais
consulting group
18 Pine Hill Lane
Ladera Ranch, CA 92694
phone: 949.610.9675

REGISTERED PROFESSIONAL ENGINEER — SCOTT BETANCOURT — No. S.E. 4296 — STRUCTURAL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — PHILIP E. PAIS — No. M36549 Exp. 9/30/19 — MECHANICAL — STATE OF CALIFORNIA

HVAC ADDITIONS TO MUSIC BLDG.

COMPTON COMMUNITY COLLEGE DISTRICT
COMPTON COLLEGE
1111 E. ARTESIA BLVD.
COMPTON, CA. 90221

NO	DATE	BY	DESCRIPTION
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REVISIONS

DRAWN: IZ	CHECKED: IP
DATE: 8/31/2018	SCALE: AS NOTED
PROJECT NUMBER: 17-302	

MECHANICAL GENERAL NOTES, LEGEND

DRAWING NUMBER : M0.1

PACKAGED HEAT PUMP UNIT SCHEDULE (WALL INSTALLED) - MUSIC BUILDING

SYMBOL	MANUFACTURER & MODEL	LOCATION	AREA SERVED	NOMINAL TONAGE	CFM	EXT. S.P.	SUPPLY FAN HP	OSA CFM	COOLING			HEATING		ELECTRICAL							WEIGHT			NOTES	ANCHORAGE DETAIL
									TOTAL (mbh)	SENSIBLE (mbh)	IEER	CAPCITY (mbh)	COP	V	PH	HZ	MCA	MOCP	FLA	LRA		CURB	TOTAL		
HP-Y1	BARD W48HA-A	WALL BUILDING "Y"	CLASSROOM Y-	4.0	1,600	0.3	1/2	470	43.9	34.5	10.0	42.5	3.17	208	1	60	35	50			551	-	551	1,2, 3, 4, 5, 6, 7, 8, 9	8 S-4
HP-Y2	BARD W48HA-A	WALL BUILDING "Y"	CLASSROOM Y-	4.0	1,600	0.3	1/2	470	43.9	34.5	10.0	42.5	3.17	208	1	60	35	50	22.3	117	551	-	551	1,2, 3, 4, 5, 6, 7, 8, 9	8 S-4
HP-Y3	BARD W48HA-A	WALL BUILDING "Y"	CLASSROOM Y-	4.0	1,600	0.3	1/2	470	43.9	34.5	10.0	42.5	3.17	208	1	60	35	50	22.3	117	551	-	551	1,2, 3, 4, 5, 6, 7, 8, 9	8 S-4

NOTES:

1. HORIZONTAL DISCHARGE, WALL MOUNTED HEAT PUMP WITH OUTSIDE AIR AND BAROMETRIC RELIEF HOOD , TIME GUARD II CONTROL CIRCUIT, LOW AMBIENT KIT AND AND CRANKCASE HEATER
2. PROVIDE WITH R410A REFRIGERANT.
3. PROVIDE GLASS FIBER DISPOSABLE MEDIA IN METAL FRAMES, SIZED PER MANUFACTURER WITH MINIMUM ARRESTANCE ACCORDING TO ASHRAE 52.1, AND A MINIMUM EFFICIENCY REPORTING VALUE (MERV) ACCORDING TO ASHRAE 52.2
4. PROVIDE FIELD INSTALLED DISCONNECT SWITCH. SEE ELECTRICAL DRAWINGS.
5. PROVIDE FAN STATUS AND PRESSURE DIFFERENTIAL SENSOR FILTER STATUS.
6. AREAS WITH UNIT SUPPLYING MORE THAN 2,000 CFM SHALL BE EQUIPPED WITH TOTAL COVERAGE DETECTION SYSTEM, ABLE TO SHUT DOWN UNIT(S) WITHIN COVERAGE AREA AND SEND SIGNAL TO BUILDING FIRE ALARM PANEL PER 2016 CMC, SECTION 608. SEE FIRE ALARM DRAWINGS FOR COMPLETE WIRING AND UNIT SHUT DOWN SEQUENCE.
7. PROVIDED WITH REFRIGERATION SERVICE PORTS, FITTED WITH LOCKING TYPE TAMPER RESISTANT CAP OR SHALL BE PROTECTED FROM UNAUTHORIZED ACCESS IN ACCORDANCE WITH 2016 CMC, SECTION 1105.11.
8. PROVIDE AUTOMATED LOGIC CONTROLLER. COORDINATE WITH CONTROLS CONTRACTOR.
9. WALL MOUNT HEAT PUMP WITH OUTSIDE AIR AND BAROMETRIC RELIEF HOOD , LOW AMBIENT KIT AND AND CRANKCASE HEATER.

INDOOR FAN COIL UNIT SCHEDULE - MUSIC BUILDING

SYMBOL	SERVICE	MANUFACTURER	MODEL	CFM	EXT. S.P."	MOTOR HP	ELECTRICAL			MCA	MOCP	OSA CFM	FILTERS	WGT. LBS.	REMARKS	ANCHORAGE DETAIL
							VOLT	PH.	HZ							
FAU-4	SEE PLAN	CARRIER	FV4C	1600	0.8	3/4	208/ 230	1	60	8.5	15	-	FILTER BANK, MERV 8	207	INTERLOCK WITH CU-4, PROVIDE AUXILIARY CONDENSATE OVERFLOW SAFETY SWITCH 'LITLE GIANT" MODEL ACS-5 WITH AUDIBLE ALARM FOR CONDENSATE DRAIN LINE.	3 M2.1
FAU-5	SEE PLAN	CARRIER	FV4C	1600	1.0	3/4	208/ 230	1	60	8.5	15	-	FILTER BANK, MERV 8	207	INTERLOCK WITH CU-5, PROVIDE AUXILIARY CONDENSATE OVERFLOW SAFETY SWITCH 'LITLE GIANT" MODEL ACS-5 WITH AUDIBLE ALARM FOR CONDENSATE DRAIN LINE.	3 M2.1
FAU-6	SEE PLAN	CARRIER	40RUQ	4000	1.2	3.7	208/ 230	3	60	14	20	-	FILTER BANK, MERV 8	427	INTERLOCK WITH CU-6, PROVIDE AUXILIARY CONDENSATE OVERFLOW SAFETY SWITCH 'LITLE GIANT" MODEL ACS-5 WITH AUDIBLE ALARM FOR CONDENSATE DRAIN LINE.	3 M2.1

OUTDOOR HEAT PUMP UNIT SCHEDULE - MUSIC BUILDING

SYMBOL	SERVICE	MANUFACTURER	MODEL	COOLING		HEATING			ELECTRICAL			COMP. RLA	COMP. LRA	COND. FAN FLA	MCA	MOCP	WGT. LBS.	REMARKS	ANCHORAGE DETAIL
				TOTAL	SEER/EER	INPUT	OUTPUT	EFF.	V	P	HZ								
CU-4	SEE PLAN	CARRIER	25HHA448	45.34 MBTUH	15.0 / 12.0	-	47.05 MBTUH	3.96 COP	208/ 230	3	60	21.8	117.0	1.45	28.8	50	276	INTERLOCK WITH FAU-4, PROVIDE WITH 6" CONCRETE EQUIPMENT PAD AND MOUNTING BRACKETS. REFRIGERANT PIPES SHALL BE SIZED AND INSTALLED PER MANUFACTURER'S RECOMMENDATION BASED ON TOTAL LENGTH BETWEEN INDOOR AND OUTDOOR UNIT.	2 S-3, 5 S-3
CU-5	SEE PLAN	CARRIER	25HHA448	45.34 MBTUH	15.0 / 12.0	-	47.05 MBTUH	3.96 COP	208/ 230	3	60	21.8	117.0	1.45	28.8	50	276	INTERLOCK WITH FAU-5, PROVIDE WITH 6" CONCRETE EQUIPMENT PAD AND MOUNTING BRACKETS. REFRIGERANT PIPES SHALL BE SIZED AND INSTALLED PER MANUFACTURER'S RECOMMENDATION BASED ON TOTAL LENGTH BETWEEN INDOOR AND OUTDOOR UNIT.	2 S-3, 5 S-3
CU-6	SEE PLAN	CARRIER	38AUQ012	119.00 MBTUH	13.8 / 11.0	-	104.48 MBTUH	3.3 COP	208/ 230	3	60	15.9	110	-	39	50	575	INTERLOCK WITH FAU-6, PROVIDE WITH 6" CONCRETE EQUIPMENT PAD AND MOUNTING BRACKETS. REFRIGERANT PIPES SHALL BE SIZED AND INSTALLED PER MANUFACTURER'S RECOMMENDATION BASED ON TOTAL LENGTH BETWEEN INDOOR AND OUTDOOR UNIT.	2 S-3, 5 S-3

NOTES:

1. HEAT PUMP SPLIT SYSTEM WITH R410A REFRIGERANT.
2. PROVIDE WITH FACTORY INSTALLED FILTER DRIER, HIGH-LOW PRESSURE SWITCH, TIME GUARD, CRANCKCASE HEATER, SOLENOID VALVE, SIGHT GLASS, EXPANSION VALE AND EQUALIZER LINE.
3. PROVIDE GLASS FIBER DISPOSABLE MEDIA IN METAL FRAMES, SIZED PER MANUFACTURER WITH MINIMUM ARRESTANCE ACCORDING TO ASHRAE 52.1, AND A MINIMUM EFFICIENCY REPORTING VALUE (MERV) ACCORDING TO ASHRAE 52.2
4. FILTER KIT CONVERSION.
5. PROVIDE FIELD INSTALLED DISCONNECT SWITCH. SEE ELECTRICAL DRAWINGS.
6. UNITS SHALL BE EQUIPPED WITH TOTAL COVERAGE SMOKE DETECTION SYSTEM, ABLE TO SHUT DOWN UNIT(S) WITHIN COVERAGE AREA AND SEND SIGNAL TO BUILDING FIRE ALARM PANEL PER 2016 CMC, SECTION 608. SEE FIRE ALARM DRAWINGS FOR COMPLETE WIRING AND UNIT SHUT DOWN SEQUENCE.
7. HORIZONTAL SUCTION LINES TO BE PITCHED TOWARD COMPRESSOR MINIMUM 1/2" FOR EACH 10 FEET. PROVIDE 1" FOAM INSULATION TO ALL SUCTION PIPES ARE REQUIRED. PROVIDE LONG TURN ELLS ON ALL REFRIGERANT PIPING TURNS. PROVIDE SIGHT GLASS AT CONDENSING UNIT AND PRESSURE TAPS AT FAN COIL UNIT. FOR EXACT INSTALLATION SEE MANUFACTURER'S RECOMMENDED PIPING DETAIL.
7. PROVIDED WITH REFRIGERATION SERVICE PORTS, FITTED WITH LOCKING TYPE TAMPER RESISTANT CAP OR SHALL BE PROTECTED FROM UNAUTHORIZED ACCESS IN ACCORDANCE WITH 2016 CMC, SECTION 1105.11.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 03-119660 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/25/2019

RFHC
RF Hawkins Consulting
2357 Naples Avenue
Mentone, CA 92359-9635
Tel: (909) 522-4518
design@rfhawkinsconsulting.com

CONSULTANT
pais consulting group
18 Pine Hill Lane
Ladera Ranch, CA 92694
phone: 949.610.9675

REGISTERED PROFESSIONAL ENGINEER SCOTT BETANCOURT S.E. 4296 STRUCTURAL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER ILIE PAIS No. M36549 Exp. 9/30/19 MECHANICAL STATE OF CALIFORNIA

HVAC ADDITIONS TO MUSIC BLDG.

COMPTON COMMUNITY COLLEGE DISTRICT
COMPTON COLLEGE
1111 E. ARTESIA BLVD.
COMPTON, CA. 90221

NO	DATE	BY	DESCRIPTION
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REVISIONS

DRAWN: IZ | CHECKED: IP
DATE: 8/31/2018 | SCALE: AS NOTED
PROJECT NUMBER: 17-302

MECHANICAL SCHEDULES

DRAWING NUMBER : M0.2

OFFICES - VRF SPLIT SYSTEM UNIT SCHEDULE - FAN COIL (INDOOR) - MUSIC BUILDING

SYMBOL	SERVICE	MANUFACTURER	MODEL	CFM	EXT. S.P."	MOTOR HP	ELECTRICAL VOLT	PH.	HZ	MCA	MOCP	OSA CFM	WGT. LBS.	REMARKS	ANCHORAGE DETAIL
FC-1.1	OFFICE #1	LG	ARNU073SEL2	163	0.3	1/2	208	1	60	13.4	15	-	20	PROVIDE WITH PROGRAMMABLE DIGITAL THERMOSTAT, MOUNTING BRACKETS, R410, CONDENSATE OVERFLOW ACCESSORIES.	3 S-4
FC-1.2	OFFICE #2	LG	ARNU073SEL2	163	0.5	1/2	208	1	60	13.4	15	-	20	PROVIDE WITH PROGRAMMABLE DIGITAL THERMOSTAT, MOUNTING BRACKETS, R410, CONDENSATE OVERFLOW ACCESSORIES.	3 S-4
FC-1.3	OFFICE #3	LG	ARNU073SEL2	200	0.3	1/2	208	1	60	13.4	15	-	20	PROVIDE WITH PROGRAMMABLE DIGITAL THERMOSTAT, MOUNTING BRACKETS, R410, CONDENSATE OVERFLOW ACCESSORIES.	3 S-4
FC-3.1	OFFICE #4	LG	ARNU073SEL2	200	0.3	1/2	208	1	60	13.4	15	-	20	PROVIDE WITH PROGRAMMABLE DIGITAL THERMOSTAT, MOUNTING BRACKETS, R410, CONDENSATE OVERFLOW ACCESSORIES.	3 S-4
FC-3.2	OFFICE #5	LG	ARNU073SEL2	200	0.3	1/2	208	1	60	13.4	15	-	20	PROVIDE WITH PROGRAMMABLE DIGITAL THERMOSTAT, MOUNTING BRACKETS, R410, CONDENSATE OVERFLOW ACCESSORIES.	3 S-4
FC-3.3	OFFICE #6	LG	ARNU073SEL2	200	0.3	1/2	208	1	60	13.4	15	-	20	PROVIDE WITH PROGRAMMABLE DIGITAL THERMOSTAT, MOUNTING BRACKETS, R410, CONDENSATE OVERFLOW ACCESSORIES.	3 S-4
FC-3.4	OFFICE #7	LG	ARNU073SEL2	200	0.3	1/2	208	1	60	13.4	15	-	20	PROVIDE WITH PROGRAMMABLE DIGITAL THERMOSTAT, MOUNTING BRACKETS, R410, CONDENSATE OVERFLOW ACCESSORIES.	3 S-4
FC-3.5	OFFICE #8	LG	ARNU073SEL2	200	0.3	1/2	208	1	60	13.4	15	-	20	PROVIDE WITH PROGRAMMABLE DIGITAL THERMOSTAT, MOUNTING BRACKETS, R410, CONDENSATE OVERFLOW ACCESSORIES.	3 S-4
FC-3.6	OFFICE #9	LG	ARNU073SEL2	200	0.3	1/2	208	1	60	13.4	15	-	20	PROVIDE WITH PROGRAMMABLE DIGITAL THERMOSTAT, MOUNTING BRACKETS, R410, CONDENSATE OVERFLOW ACCESSORIES.	3 S-4

OFFICES - VRF SPLIT SYSTEM UNIT SCHEDULE - CONDENSING (OUTDOOR) - MUSIC BUILDING

SYMBOL	SERVICE	MANUFACTURER	MODEL	NOMINAL TONS	EER	IEER	ELECTRICAL POWER	FLA	MOCP	MOCP	WGT. LBS.	REMARKS	ANCHORAGE DETAIL
CU-1	FC-1.1, FC-1.2, FC-1.3	LG MULTI V	ARUB024GSS4	2	10.8	20	208-230 / 60 / 1	19.1	23.2	35	540	PROVIDE COMPLETE WITH CONCRETE EQUIPMENT PAD AND MOUNTING BRACKETS. REFRIGERANT PIPES SHALL BE SIZED AND INSTALLED PER MANUFACTURER'S RECOMMENDATION BASED ON TOTAL LENGTH BETWEEN INDOOR AND OUTDOOR UNIT.	3 S-3 / 5 S-3
CU-3	FC-3.1, FC-3.2, FC-3.3, FC-3.4, FC-3.5, FC-3.6	LG MULTI V	ARUB060GSS4	5	10.8	20	208-230 / 60 / 1	28.4	31.6	40	628	PROVIDE COMPLETE WITH CONCRETE EQUIPMENT PAD AND MOUNTING BRACKETS. REFRIGERANT PIPES SHALL BE SIZED AND INSTALLED PER MANUFACTURER'S RECOMMENDATION BASED ON TOTAL LENGTH BETWEEN INDOOR AND OUTDOOR UNIT.	1 S-3 / 5 S-3

DATA ROOM - SPLIT SYSTEM UNIT SCHEDULE - FAN COIL (INDOOR) - MUSIC BUILDING

SYMBOL	SERVICE	MANUFACTURER	MODEL	CFM	EXT. S.P."	MOTOR HP	ELECTRICAL VOLT	PH.	HZ	MCA	MOCP	OSA CFM	WGT. LBS.	REMARKS	ANCHORAGE DETAIL
FC-2	DATA ROOM	LG MULTI V S	ARNU123SJA4	200	0.3	1/2	208	1	60	13.4	15	-	20	PROVIDE WITH PROGRAMMABLE DIGITAL THERMOSTAT, MOUNTING BRACKETS, R410, TXV, SECONDARY DRAIN PAN AND CONDENSATE OVERFLOW SAFETY SWITCH, SLIM DUCT CONNECTOR KIT.	3 S-4

DATA ROOM - SPLIT SYSTEM UNIT SCHEDULE - CONDENSING (OUTDOOR) - MUSIC BUILDING

SYMBOL	SERVICE	MANUFACTURER	MODEL	NOMINAL TONS	EER	IEER	ELECTRICAL POWER	FLA	MOCP	MOCP	WGT. LBS.	REMARKS	ANCHORAGE DETAIL
CU-2	FC-2	LG MULTI V S	ARUN024GSS4	2	10.8	20	208-230 / 60 / 1	19.1	23.2	35	540	PROVIDE COMPLETE WITH CONCRETE EQUIPMENT PAD AND MOUNTING BRACKETS. REFRIGERANT PIPES SHALL BE SIZED AND INSTALLED PER MANUFACTURER'S RECOMMENDATION BASED ON TOTAL LENGTH BETWEEN INDOOR AND OUTDOOR UNIT.	3 S-3 / 5 S-3

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 03-119660 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/25/2019

RFHC
RF Hawkins Consulting
2357 Naples Avenue
Mentone, CA 92359-9635
Tel: (909) 522-4518
design@rfhawkinsconsulting.com

CONSULTANT
pais consulting group
18 Pine Hill Lane
Ladera Ranch, CA 92694
phone: 949.610.9675

REGISTERED PROFESSIONAL ENGINEER — SCOTT BETANCOURT — No. S.E. 4296 — STRUCTURAL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — PHILIP PAIS — No. M36549 Exp. 9/30/19 — MECHANICAL — STATE OF CALIFORNIA

HVAC ADDITIONS TO MUSIC BLDG.

COMPTON COMMUNITY COLLEGE DISTRICT
COMPTON COLLEGE
1111 E. ARTESIA BLVD.
COMPTON, CA. 90221

NO	DATE	BY	DESCRIPTION

REVISIONS

DRAWN: IZ | CHECKED: IP
DATE: 8/31/2018 | SCALE: AS NOTED
PROJECT NUMBER: 17-302

MECHANICAL SCHEDULES

DRAWING NUMBER : M0.3

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CEC-NRCC-MCH-01-E (Revised 01/16)
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-01-E
Mechanical Systems	(Page 3 of 4)
Project Name: HVAC ADDITIONS TO CAFETERIA BUILDING 'Y'	Date Prepared: 01.16.2019

C. MECHANICAL HVAC ACCEPTANCE FORMS (check box for required compliance documents)

Test Performed By:

Designer:
This compliance document is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for HVAC systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. All equipment of the same type that requires a test, list the equipment description and the number of systems.

Installing Contractor:
The contractor who installed the equipment is responsible to either conduct the acceptance test themselves or have a qualified entity run the test for them. If more than one person has responsibility for the acceptance testing, each person shall sign and submit the Certificate of Acceptance applicable to the portion of the construction or installation for which they are responsible.

Enforcement Agency:
Plancheck – The NRCC-MCH-01-E compliance document is not considered a completed document and is not to be accepted by the building department unless the correct boxes are checked.
Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.

Test Description		MCH-12-A	MCH-13-A	MCH-14-A	MCH-15-A	MCH-16-A	MCH-17-A	MCH-18-A
Equipment Requiring Testing or Verification	# of Units	Fault Detection & Diagnostics for DX Units	Automatic Fault Detection & Diagnostics for Air & Zone	Distributed Energy Storage DX AC Systems	Thermal Energy Storage (TES) Systems	Supply Air Temperature Reset Controls	Condenser Water Reset Controls	ECMS
HP-Y1	1	☒	☐	☐	☐	☒	☐	☐
HP-Y2	1	☒	☐	☐	☐	☒	☐	☐
HP-Y3	1	☒	☐	☐	☐	☒	☐	☐
FAU-4/CU-4	1	☒	☐	☐	☐	☒	☐	☐
FAU-5/CU-5	1	☒	☐	☐	☐	☒	☐	☐
FAU-6/CU-6	1	☒	☐	☐	☐	☒	☐	☐
		☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CEC-NRCC-MCH-01-E (Revised 01/16)
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-01-E
Mechanical Systems	(Page 1 of 4)
Project Name: HVAC ADDITIONS TO CAFETERIA BUILDING 'Y'	Date Prepared: 01.16.2019

A. MECHANICAL COMPLIANCE DOCUMENTS & WORKSHEETS (check box if worksheet is included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, refer to the 2016 Nonresidential Manual
Note: The Enforcement Agency may require all forms to be incorporated onto the building plans.

YES	NO	Comp. Doc./Worksheet #	Title
☒	☐	NRCC-MCH-01-E (Part 1 of 3)	Certificate of Compliance, Declaration. Required on plans for all submittals.
☒	☐	NRCC-MCH-01-E (Part 2 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-02-A to 11-A). Required on plans for all submittals.
☒	☐	NRCC-MCH-01-E (Part 3 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-12-A to 18-A). Required on plans where applicable.
☐	☒	NRCC-MCH-02-E (Part 1 of 2)	Mechanical Dry Equipment Summary is required for all submittals with Central Air Systems. It is optional on plans.
☐	☒	NRCC-MCH-02-E (Part 2 of 2)	Mechanical Wet Equipment Summary is required for all submittals with chilled water, hot water or condenser water systems. It is optional on plans.
☒	☐	NRCC-MCH-03-E	Mechanical Ventilation and Reheat is required for all submittals with multiple zone heating and cooling systems. It is optional on plans.
☐	☒	NRCC-MCH-07-E (Part 1 of 2)	Power Consumption of Fans. Required on plans where applicable
☐	☒	NRCC-MCH-07-E (Part 2 of 2)	Power Consumption of Fans, Declaration. Required on plans where applicable

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CEC-NRCC-MCH-01-E (Revised 01/16)
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-01-E
Mechanical Systems	(Page 4 of 4)
Project Name: HVAC ADDITIONS TO CAFETERIA BUILDING 'Q'	Date Prepared: 01.16.2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: ILIE PAIS	Documentation Author Signature:
Company: RFHC	Signature Date: 01.16.2019
Address: 2357 NAPLES AVENUE	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: MENTONE, CA 92359-9635	Phone: (949) 610-9675

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: ILIE PAIS	Responsible Designer Signature:
Company : RFHC	Date Signed: 01.16.2019
Address: 2357 NAPLES AVENUE	License: M-36549
City/State/Zip: MENTONE, CA 92359-9635	Phone: (949) 610-9675

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CEC-NRCC-MCH-01-E (Revised 01/16)
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-01-E
Mechanical Systems	(Page 2 of 4)
Project Name: HVAC ADDITIONS TO CAFETERIA BUILDING 'Y'	Date Prepared: 01.16.2019

B. MECHANICAL HVAC ACCEPTANCE FORMS (check box for required compliance documents)

Test Performed By:

Designer:
This compliance document is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for HVAC systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. All equipment of the same type that requires a test, list the equipment description and the number of systems.

Installing Contractor:
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Enforcement Agency:
Plancheck – The NRCC-MCH-01-E compliance document is not considered a completed document and is not to be accepted by the building department unless the correct boxes are checked.
Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.

Test Description		MCH-02-A	MCH-03-A	MCH-04-A	MCH-05-A	MCH-06-A	MCH-07-A	MCH-08-A	MCH-09-A	MCH-10-A	MCH-11-A
Equipment Requiring Testing or Verification	# of Units	Outdoor Air	Single Zone Unitary	Air Distribution Ducts	Economizer Controls	Demand Control Ventilation (DCV)	Supply Fan VAV	Valve Leakage Test	Supply Water Temp. Reset	Hydronic System Variable Flow Control	Automatic Demand Shed Control
HP-K1	1	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐
HP-K2	1	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐
HP-K3	1	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐
FAU-4/CU-4	1	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐
FAU-5/CU-5	1	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐
FAU-6/CU-6	1	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 03-119660 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/25/2019

RFHC
RF Hawkins Consulting
2357 Naples Avenue
Mentone, CA 92359-9635
Tel: (909) 522-4518
design@rfhawkinsconsulting.com

CONSULTANT
pais
consulting group
18 Pine Hill Lane
Ladera Ranch, CA 92694
phone: 949.610.9675

REGISTERED PROFESSIONAL ENGINEER
ILIE PAIS
No. M36549
Exp. 9/30/19
MECHANICAL
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
J. SCOTT BETANCOURT
S.E. 4296
STRUCTURAL
STATE OF CALIFORNIA

HVAC ADDITIONS TO MUSIC BLDG.
COMPTON COMMUNITY COLLEGE DISTRICT
COMPTON COLLEGE
1111 E. ARTESIA BLVD.
COMPTON, CA. 90221

NO	DATE	BY	DESCRIPTION
			REVISIONS

DRAWN: IZ CHECKED: IP
DATE: 8/31/2018 SCALE: AS NOTED
PROJECT NUMBER: 17-302

BUILDING 'Y'
TITLE-24
COMPLIANCE

DRAWING NUMBER : M0.4

STATE OF CALIFORNIA
HVAC SYSTEM REQUIREMENTS
CEC-NRCC-MCH-02-E (Revised 06/14) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-02-E
HVAC Wet System Requirements	(Page 3 of 3)
Project Name: HVAC ADDITIONS TO CAFETERIA BUILDING 'Y'	Date Prepared: 01.16.2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: ILIE PAIS	Documentation Author Signature:
Company: RFHC	Signature Date: 01.16.2019
Address: 2357 NAPLES AVENUE	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: MENTONE, CA 92359-9635	Phone: (949) 610-9675

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
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Responsible Designer Name: ILIE PAIS	Responsible Designer Signature:
Company : RFHC	Date Signed: 01.16.2019
Address: 2357 NAPLES AVENUE	License: M-36549
City/State/Zip: MENTONE, CA 92359-9635	Phone: (949) 610-9675

STATE OF CALIFORNIA
HVAC DRY & WET SYSTEM REQUIREMENTS
CEC-NRCC-MCH-02-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-02-E
HVAC Dry & Wet System Requirements	(Page 1 of 3)
Project Name: HVAC ADDITIONS TO CAFETERIA BUILDING 'Y'	Date Prepared: 01.16.2019

A. Equipment Tags and System Description[1] – Dry Systems		FAU-4/CU-4	FAU-4/CU-4	FAU-4/CU-4
MANDATORY MEASURES	***T-24 Sections***	***Reference to the Requirements in the Contract Documents[2]***		
Heating Equipment Efficiency[3]	110.1 or 110.2(a)	M0.2	M0.2	M0.2
Cooling Equipment Efficiency[3]	110.1 or 110.2(a)	M0.2	M0.2	M0.2
HVAC or Heat Pump Thermostats	110.2(b), 110.2(c)	Heat Pump	Heat Pump	Heat Pump
Furnace Standby Loss Control	110.2(d)	N/A	N/A	N/A
Low Leakage AHUs	110.2(f)	N/A	N/A	N/A
Ventilation[4]	120.1(b)	M0.2	M0.2	M0.2
Demand Control Ventilation[5]	120.1(c)4	N/A	N/A	N/A
Occupant Sensor Ventilation Control[6]	120.1(c)5, 120.2(e)3	N/A	N/A	N/A
Shutoff and Reset Controls[7]	120.2(e)	N/A	N/A	N/A
Outdoor Air and Exhaust Damper Control	120.2(f)	M1.1	M1.1	M1.1
Isolation Zones	120.2(g)	N/A	N/A	N/A
Automatic Demand Shed Controls	120.2(h)	N/A	N/A	N/A
Economizer FDD	120.2(i)	N/A	N/A	N/A
Duct Insulation	120.4	M0.1	M0.1	M0.1
PRESCRIPTIVE MEASURES				
Equipment is sized in conformance with 140.4(a & b)	140.4(a & b)	Y/N	Y/N	Y/N
Supply Fan Pressure Control	140.4(c)	N	N	N
Simultaneous Heat/Cool[8]	140.4(d)	N	N	N
Economizer	140.4(e)	N	N	N
Heat and Cool Air Supply Reset	140.4(f)	N	N	N
Electric Resistance Heating[9]	140.4(g)	N	N	N
Duct Leakage Sealing and Testing[10]	140.4(l)	N	N	N

Notes:
1. Provide equipment tags (e.g. AHU 1 to 10) and system description (e.g. Single Duct VAV reheat) as appropriate. Multiple units with common requirements can be grouped together.
2. Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where each requirement is specified. Enter "N/A" if the requirement is not applicable to this system.
3. The referenced plans and specifications must include all of the following information: equipment tag, equipment nominal capacity, Title 24 minimum efficiency requirements, and actual rated equipment efficiencies. Where multiple efficiency requirements are applicable (e.g. full- and part-load) include all. Where appliance standards apply (110.1), identify where equipment is required to be listed per Title 20 1601 et seq.
4. Identify where the ventilation requirements are documented for each central HVAC system. Include references to both central unit schedules and sequences of operation. If one or more spaces is naturally ventilated identify where this is documented in the plans and specifications. Multiple zone central air systems must also provide a MCH-03-E compliance document.
5. If one or more spaces has demand controlled ventilation identify where it is specified including the sensor specifications and the sequence of operation.
6. If one or more space has occupant sensor ventilation control identify where it is specified including the sensor specifications and the sequence of operation
7. If the system is DDC identify the sequences for the system start/stop, optimal start, setback (if required) and setup (if required). For all systems identify the specification for the thermostats and time clocks (if applicable).
8. Identify where the heating, cooling and deadband airflows are scheduled for this system. Include a reference to the specification of the zone controls. Provide a MCH-03-E compliance document.
9. Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.
10. If duct leakage sealing and testing is required, a MCH-04-A compliance document must be submitted.

STATE OF CALIFORNIA
HVAC DRY & WET SYSTEM REQUIREMENTS
CEC-NRCC-MCH-02-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-02-E
HVAC Dry & Wet System Requirements	(Page 1 of 3)
Project Name: HVAC ADDITIONS TO CAFETERIA BUILDING 'Y'	Date Prepared: 01.16.2019

A. Equipment Tags and System Description[1] – Dry Systems		HP-Y1	HP-Y2	HP-Y3
MANDATORY MEASURES	***T-24 Sections***	***Reference to the Requirements in the Contract Documents[2]***		
Heating Equipment Efficiency[3]	110.1 or 110.2(a)	M0.2	M0.2	M0.2
Cooling Equipment Efficiency[3]	110.1 or 110.2(a)	M0.2	M0.2	M0.2
HVAC or Heat Pump Thermostats	110.2(b), 110.2(c)	Heat Pump	Heat Pump	Heat Pump
Furnace Standby Loss Control	110.2(d)	N/A	N/A	N/A
Low Leakage AHUs	110.2(f)	N/A	N/A	N/A
Ventilation[4]	120.1(b)	M0.2	M0.2	M0.2
Demand Control Ventilation[5]	120.1(c)4	N/A	N/A	N/A
Occupant Sensor Ventilation Control[6]	120.1(c)5, 120.2(e)3	N/A	N/A	N/A
Shutoff and Reset Controls[7]	120.2(e)	N/A	N/A	N/A
Outdoor Air and Exhaust Damper Control	120.2(f)	M1.1	M1.1	M1.1
Isolation Zones	120.2(g)	N/A	N/A	N/A
Automatic Demand Shed Controls	120.2(h)	N/A	N/A	N/A
Economizer FDD	120.2(i)	N/A	N/A	N/A
Duct Insulation	120.4	M0.1	M0.1	M0.1
PRESCRIPTIVE MEASURES				
Equipment is sized in conformance with 140.4(a & b)	140.4(a & b)	Y/N	Y/N	Y/N
Supply Fan Pressure Control	140.4(c)	N	N	N
Simultaneous Heat/Cool[8]	140.4(d)	N	N	N
Economizer	140.4(e)	N	N	N
Heat and Cool Air Supply Reset	140.4(f)	N	N	N
Electric Resistance Heating[9]	140.4(g)	N	N	N
Duct Leakage Sealing and Testing[10]	140.4(l)	N	N	N

Notes:
1. Provide equipment tags (e.g. AHU 1 to 10) and system description (e.g. Single Duct VAV reheat) as appropriate. Multiple units with common requirements can be grouped together.
2. Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where each requirement is specified. Enter "N/A" if the requirement is not applicable to this system.
3. The referenced plans and specifications must include all of the following information: equipment tag, equipment nominal capacity, Title 24 minimum efficiency requirements, and actual rated equipment efficiencies. Where multiple efficiency requirements are applicable (e.g. full- and part-load) include all. Where appliance standards apply (110.1), identify where equipment is required to be listed per Title 20 1601 et seq.
4. Identify where the ventilation requirements are documented for each central HVAC system. Include references to both central unit schedules and sequences of operation. If one or more spaces is naturally ventilated identify where this is documented in the plans and specifications. Multiple zone central air systems must also provide a MCH-03-E compliance document.
5. If one or more spaces has demand controlled ventilation identify where it is specified including the sensor specifications and the sequence of operation.
6. If one or more space has occupant sensor ventilation control identify where it is specified including the sensor specifications and the sequence of operation
7. If the system is DDC identify the sequences for the system start/stop, optimal start, setback (if required) and setup (if required). For all systems identify the specification for the thermostats and time clocks (if applicable).
8. Identify where the heating, cooling and deadband airflows are scheduled for this system. Include a reference to the specification of the zone controls. Provide a MCH-03-E compliance document.
9. Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.
10. If duct leakage sealing and testing is required, a MCH-04-A compliance document must be submitted.

STATE OF CALIFORNIA
MECHANICAL VENTILATION AND REHEAT
CEC-NRCC-MCH-03-E (Revised 05/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-03-E
Mechanical Ventilation & Reheat	(Page 2 of 2)
Project Name: HVAC ADDITIONS TO CAFETERIA BUILDING 'Y'	Date Prepared: 01.16.2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: ILIE PAIS	Documentation Author Signature:
Company: RFHC	Signature Date: 01.16.2019
Address: 2357 NAPLES AVENUE	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: MENTONE, CA 92359-9635	Phone: (949) 610-9675

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: ILIE PAIS	Responsible Designer Signature:
Company : RFHC	Date Signed: 01.16.2019
Address: 2357 NAPLES AVENUE	License: M-36549
City/State/Zip: MENTONE, CA 92359-9635	Phone: (949) 610-9675

STATE OF CALIFORNIA
MECHANICAL VENTILATION AND REHEAT
CEC-NRCC-MCH-03-E (Revised 05/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-03-E
Mechanical Ventilation & Reheat	(Page 1 of 2)
Project Name: HVAC ADDITIONS TO CAFETERIA BUILDING 'Y'	Date Prepared: 01.16.2019

A. Mechanical Ventilation and Reheat

ACTUAL DESIGN INFO (FROM EQUIPMENT SCHEDULES, ETC)						AREA BASIS			OCCUPANCY BASIS			ROOM BASIS	MINIMUM		VAV Reheated Primary Air CFM			VAV Deadband Primary Air CFM		
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21
ZONE / SYSTEM / VAV BOX TAG	DESIGN PRIMARY COOLING AIRFLOW (CFM)	DESIGN PRIMARY DEADBAND AIRFLOW (CFM)	DESIGN PRIMARY HEATING AIRFLOW (CFM)	CNTRL TYPE DDC (Y/N)	TRANSFER AIRFLOW (CFM)	CONDITIONED AREA (ft²)	MIN CFM PER AREA	MIN CFM BY AREA	NUM. OF PEOPLE	CFM PER PERSON	MIN CFM BY OCCUPANT	MIN. CFM BY ROOM	REQ'D VENT AIRFLOW (CFM)	COMPLIES?	PERCENTAGE BASED DESIGN PRIMARY COOLING AIR (CFM)	MAXIMUM REHEAT (CFM)	COMPLIES?	% BASED DESIGN PRIMARY COOLING AIR (CFM)	MAX DEAD-BAND AIRFLOW (CFM)	COMPLIES?
HP-Y1	1,600	N/A	1,600	N	N/A	1,100	0.15	165	31	15	465	165	465	☒ Pass ☐ Fail	N/A	N/A	☐ Pass ☐ Fail ☒ N/A	N/A	N/A	☐ Pass ☐ Fail ☒ N/A
HP-Y2	1,600	N/A	1,600	N	N/A	900	0.15	135	31	15	465	135	465	☒ Pass ☐ Fail	N/A	N/A	☐ Pass ☐ Fail ☒ N/A	N/A	N/A	☐ Pass ☐ Fail ☒ N/A
HP-Y3	1,600	N/A	1,600	N	N/A	900	0.15	135	31	15	465	135	465	☒ Pass ☐ Fail	N/A	N/A	☐ Pass ☐ Fail ☒ N/A	N/A	N/A	☐ Pass ☐ Fail ☒ N/A
FAU-4	1,600	N/A	1,600	N	N/A	720	0.15	108	31	15	105	165	465	☒ Pass ☐ Fail	N/A	N/A	☐ Pass ☐ Fail ☒ N/A	N/A	N/A	☐ Pass ☐ Fail ☒ N/A
FAU-5	1,600	N/A	1,600	N	N/A	880	0.15	132	31	15	465	132	465	☒ Pass ☐ Fail	N/A	N/A	☐ Pass ☐ Fail ☒ N/A	N/A	N/A	☐ Pass ☐ Fail ☒ N/A
FAU-6	4,000	N/A	4,000	N	N/A	2,810	0.15	422	62	15	930	422	930	☒ Pass ☐ Fail	N/A	N/A	☐ Pass ☐ Fail ☒ N/A	N/A	N/A	☐ Pass ☐ Fail ☒ N/A
														☐ Pass ☐ Fail			☐ Pass ☐ Fail ☐ N/A			☐ Pass ☐ Fail ☐ N/A

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APP. 03-119660 INC:
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DATE: 10/25/2019

RFHC
RF Hawkins Consulting
2357 Naples Avenue
Mentone, CA 92359-9635
Tel: (909) 522-4518
design@rfhawkinsconsulting.com

CONSULTANT
pais
consulting group
18 Pine Hill Lane
Ladera Ranch, CA 92694
phone: 949.610.9675

REGISTERED PROFESSIONAL ENGINEER — J. SCOTT BETANCOURT — S.E. 4296 — STRUCTURAL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — ILIE PAIS — No. M36549 Exp. 9/30/19 — MECHANICAL — STATE OF CALIFORNIA

HVAC ADDITIONS TO MUSIC BLDG.
COMPTON COMMUNITY COLLEGE DISTRICT
COMPTON COLLEGE
111 E. ARTESIA BLVD.
COMPTON, CA. 90221

NO	DATE	BY	DESCRIPTION
			REVISIONS

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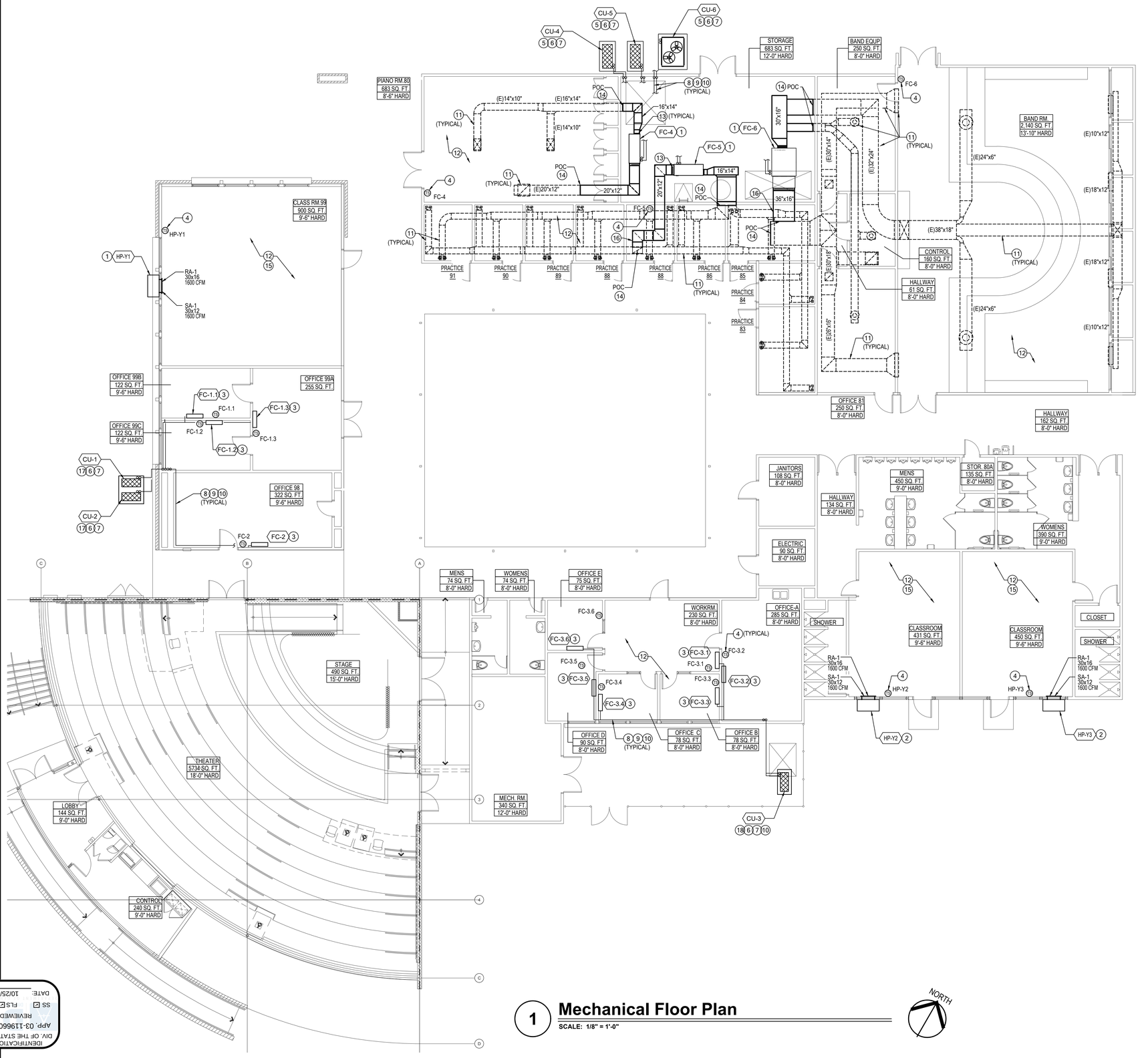
DATE: 8/31/2018	SCALE: AS NOTED
PROJECT NUMBER: 17-302	

BUILDING 'Y'
TITLE-24
COMPLIANCE

DRAWING NUMBER : M0.5



1. PLAN NOTES:
2. FRESH AIR INTAKES SHALL BE 10'-0" MIN. AWAY FROM ALL EXHAUST OUTLETS, PLUMBING VENTS, AND FLUES.
3. CONTRACTOR SHALL COORDINATE EXACT EQUIPMENT, DUCTWORK AND PIPING SIZES AND LOCATIONS WITH OTHER TRADES PRIOR TO INSTALLATION.
   MAINTAIN MANUFACTURER MIN. CLEARANCES ON ALL ROOF-TOP MECHANICAL EQUIPMENT.
4. THE MINIMUM VENTILATION RATES IN BREATHING ZONES SHALL BE IN CONFORMANCE WITH CALIFORNIA MECHANICAL CODE TABLE 4-1 AND/OR CALIFORNIA ENERGY CODE TABLE 121-A.
5. DUCT SIZES SHOWN ON PLAN ARE INSIDE DIMENSIONS.
6. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS WITHIN 30 DAYS OF AWARD OF CONTRACT. IF SHOP DRAWINGS ARE NOT PROVIDED TO THE ENGINEER FOR APPROVAL, AND ANY CONFLICTS OCCUR BETWEEN TRADES, DURING CONSTRUCTION, & ETC. THEN, THE CONTRACTOR SHALL BE RESPONSIBLE AND BEAR ALL COST INCURRED FOR ANY REVISIONS, AT NO ADDITIONAL COST TO THE CLIENT. THE ARCHITECT AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY PRIOR TO FABRICATION AND INSTALLATION OF ANY CONFLICTS BETWEEN TRADES, DURING CONSTRUCTION, & ETC.

PLAN KEY NOTES:

1. HORIZONTAL INDOOR FAN COIL UNIT, SUSPENDED FROM STRUCTURE ABOVE. REFER TO DETAIL 3/M2.1 AND STRUCTURAL DRAWINGS. CONTRACTOR TO VERIFY EXISTING FIELD CONDITION TO PROVIDE ALL REQUIRED CLEARANCES PRIOR TO INSTALLATION.
2. VERTICAL WALL MOUNTED HEAT PUMP, REFER TO STRUCTURAL DRAWINGS FOR INSTALLATION DETAIL. CONTRACTOR TO VERIFY EXISTING FIELD CONDITION TO PROVIDE ALL REQUIRED CLEARANCES PRIOR TO INSTALLATION.
3. WALL MOUNTED FAN COIL. CONTRACTOR TO VERIFY EXISTING FIELD CONDITION TO PROVIDE ALL REQUIRED CLEARANCES PRIOR TO INSTALLATION.
4. INSTALL NEW ROOM TEMPERATURE SENSOR PER DETAIL 1/M2.1. CONTRACTOR TO VERIFY EXISTING FIELD CONDITION TO PROVIDE ALL REQUIRED CLEARANCES PRIOR TO BID.
5. 4" HIGH & 12" BELOW GRADE CONCRETE PAD FOR OUTDOOR CONDENSER UNIT PER DETAIL 2/S-3.
6. PROVIDE LOCKING CAPS ON ACCESSIBLE A/C/ REFRIGERATION PORTS PER CMC 1106.3.1.
7. PROVIDE WORKING CLEARANCE AT A/C/ DISCONNECT: 30" CLEAR SPACE IN FRONT.
8. PROVIDE REFRIGERANT PIPING FROM OUTDOOR A/C UNIT TO INDOOR FAN COIL. REFRIGERATION PIPING LINES SHALL BE INSULATED AND SIZED BY A/C UNIT MANUFACTURER, BASED UPON DETERMINATION OF ACTUAL DEVELOPED LENGTH BETWEEN OUTDOOR AND INDOOR UNITS.
9. REFRIGERANT PIPING FROM OUTDOOR A/C UNIT TO INDOOR FAN COIL SHALL BE INSTALLED AS HIGH AS POSSIBLE AND SECURED AT WALL. PROVIDE COVER FOR ALL EXPOSED PIPING AND PAINT TO MATCH WALL.
10. EXACT PIPING LOCATION SHALL BE VERIFIED IN FIELD AND SHALL BE COORDINATED WITH ALL EXISTING ROOM EQUIPMENT AND FIXTURES PRIOR TO INSTALLATION.
11. EXISTING SUPPLY AND RETURN AIR DUCTWORK AND AIR OUTLET DEVICES SHALL BE COMPLETELY CLEANED.
12. EXISTING HVAC ROOM CONTROL TO BE REMOVED. CONTRACTOR TO REPAIR WALL TO MATCH EXISTING ADJACENT SURFACE.
13. PROVIDE FLEX CONNECTION.
14. EXACT POINT OF CONNECTION AND EXISTING DUCT SIZE SHALL BE VERIFIED IN FIELD AND SHALL BE COORDINATED WITH ALL EXISTING ROOM EQUIPMENT AND FIXTURES PRIOR TO INSTALLATION.
15. ALL NON-FUNCTIONAL EXISTING CEILING GRILLES/ DIFFUSERS SHALL BE REMOVED, CAP DUCTWORK AND REPLACE AND REPAIR CEILING TO MATCH EXISTING.
16. INSTALL DUCTWORK ABOVE EXISTING CEILING. REMOVE AND REPLACE CEILING TO MATCH EXISTING AS REQUIRED.
17. 4" HIGH & 12" BELOW GRADE CONCRETE PAD FOR OUTDOOR CONDENSER UNIT PER DETAIL 3/S-3.
18. 5" HIGH CONCRETE PAD FOR OUTDOOR CONDENSER UNIT PER DETAILS 1/S-3 AND 4/S-3.

1 Mechanical Floor Plan

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

NORTH

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DATE: 10/25/2019

RFHC
RF Hawkins Consulting
2357 Naples Avenue
Mentone, CA 92359-9635
Tel: (909) 522-4518
design@rfhawkinsconsulting.com

CONSULTANT
pais
consulting group
18 Pine Hill Lane
Ladera Ranch, CA 92694
phone: 949.610.9675

REGISTERED PROFESSIONAL ENGINEER SCOTT BETANCOURT S.E. 4296 STRUCTURAL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER No. M36549 Exp. 9/30/19 MECHANICAL STATE OF CALIFORNIA

HVAC ADDITIONS TO MUSIC BLDG.

COMPTON COMMUNITY COLLEGE DISTRICT
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1111 E. ARTESIA BLVD.
COMPTON, CA. 90221

NO	DATE	BY	DESCRIPTION

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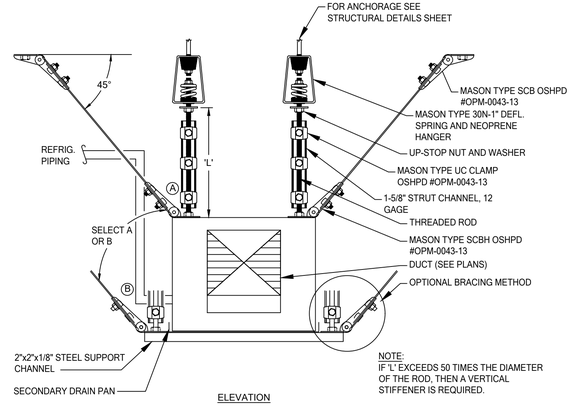
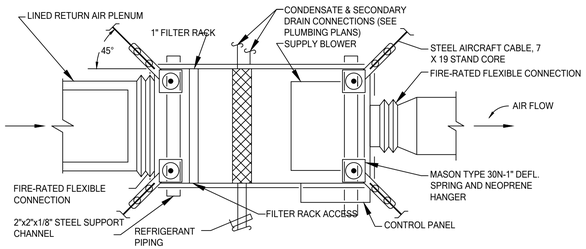
PROJECT NUMBER: 17-302	

MECHANICAL PLANS

DRAWING NUMBER : M1.1



ELEVATION



PLAN VIEW

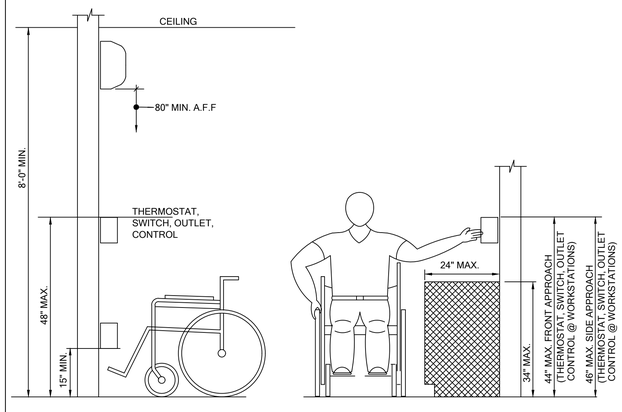
FAU-4 FAU-5 FAU-6

MAXIMUM EQUIPMENT WEIGHT	MASON SCB/SCBH SIZE	STEEL CABLE DIA.	MINIMUM ROD DIAMETER	MASON UC SIZE/ SPACING	SEISMIC ANCHORAGE		
					LT. WT. CONC. DECK	WOOD	STEEL
100	0	3/32	3/8	1/22"	3/8" Dia x 3" Embed.	3/8" Dia x 3" Embed.	3/8
150	1	1/8	3/8	1/22"	1/2" Dia x 4" Embed.	1/2" Dia x 4" Embed.	1/2
250	1	1/8	1/2	1/31"	N/A	1/2" Dia x 4" Embed.	1/2
330	2	3/16	5/8	2/39"	5/8" Dia x 5" Embed.	5/8" Dia x 5" Embed.	5/8
600	2	3/16	5/8	2/39"	(2) 5/8" Dia x 5" Emb.	N/A	5/8

MAX. WEIGHTS BASED ON Ca = O.66. INCREASE WEIGHTS BY 50% FOR Ca =0.44, INTERPOLATE FOR VALUES IN BETWEEN.

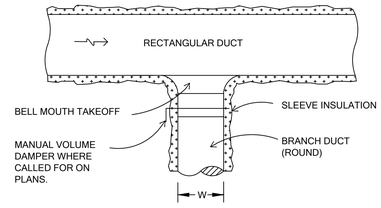
DX FAN COIL MOUNTING DETAIL

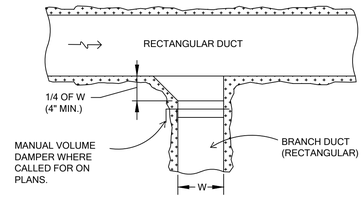
SCALE NONE | 3



CONTROL DEVICE MOUNTING DETAIL

SCALE NONE | 1





BRANCH TAKEOFF (REC)

SCALE NONE | 2

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RFHC
RF Hawkins Consulting
2357 Naples Avenue
Mentone, CA 92359-9635
Tel: (909) 522-4518
design@rfhawkinsconsulting.com

CONSULTANT

pais
consulting group
18 Pine Hill Lane
Ladera Ranch, CA 92694
phone: 949.610.9675

EGISTERED PROFESSIONAL ENGINEER
SCOTT BETANCOURT
S.E. 4296
STRUCTURAL
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
PAIS
No. M36549
Exp. 9/30/19
MECHANICAL
STATE OF CALIFORNIA

HVAC ADDITIONS TO MUSIC BLDG.

COMPTON COMMUNITY COLLEGE DISTRICT
COMPTON COLLEGE
1111 E. ARTESIA BLVD.
COMPTON, CA. 90221

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PROJECT NUMBER: 17-302	

MECHANICAL DETAILS

DRAWING NUMBER : M2.1

SEISMIC ANCHORAGE NOTES

EQUIPMENT ANCHORAGE NOTE:

ALL MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE ANCHORED OR BRACED TO MEET THE HORIZONTAL AND VERTICAL FORCES PRESCRIBED IN THE 2010 CBC, SECTION 1614A.1.13 AND ASCE 7-05 SECTIONS 13.3, 13.4, 13.6, AND CHAPTER 6.

THE ATTACHMENTS OF THE FOLLOWING ITEMS SHALL BE DESIGNED TO RESIST THE FORCES PRESCRIBED ABOVE, BUT NEED NOT TO BE DETAILED ON THE PLANS, AND THE PROJECT INSPECTOR WILL VERIFY THAT THESE ITEMS (EQUIPMENT) HAVE BEEN ANCHORED:

A. EQUIPMENT WEIGHING LESS THAN 400 POUNDS SUPPORTED DIRECTLY ON THE FLOOR OR ROOF.

B. FURNITURE REQUIRED TO BE ATTACHED IN ACCORDANCE WITH ASCE 7-05, SECTION 13.5

C. TEMPORARY OR MOVABLE EQUIPMENT WITH FLEXIBLE CONNECTION TO POWER OR UTILITIES.

D. EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUPPORTED BY VIBRATION ISOLATORS.

E. EQUIPMENT WEIGHING LESS THAN 20 POUNDS 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 MECHANICAL/ELECTRICAL ENGINEER. THESE ITEMS (EQUIPMENT) HAVE BEEN ANCHORED.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE:

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM SHALL BE BRACED TO RESIST THE FORCES PRESCRIBED IN ASCE 7-05 SECTION 13.3 AS DEFINED IN ASCE 7-05 SECTION 13.6.8, 13.6.7, 13.6.5.5 ITEM 6.

THE BRACING ATTACHEMENTS TO THE STRUCTURE SHALL COMPLY WITH ONE OF THE OSHPD PRE- APPROVALS WITH AN OPA #, SUCH AS MASON INDUSTRIES (OPA 349), OR ISAT (OPA 485) AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318, APPENDIX D.

COPIES OF THE MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO START OF HANGING AND BRACING OF THE PIPE, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS.

THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
	S OR W	SOIL OR WASTE ABOVE FLOOR
	S OR W	SOIL OR WASTE BELOW FLOOR OR GRADE
	V	SANITARY VENT
	CW	COLD WATER
	HW	HOT WATER
CD	CD	CONDENSATE DRAIN
OCD	OCD	OVERFLOW CONDENSATE DRAIN
TP	TP	TRAP PRIMER
	SOV	SHUT-OFF VALVE
	SOV/GC	SHUT-OFF VALVE OR GAS COCK IN YARD BOX
	FCO	FLOOR CLEANOUT
	WCO	WALL CLEANOUT
		RISER UP
		RISER DOWN
	ABV	ABOVE
	BEL	BELOW
	CLG	CEILING
	CONT	CONTINUATION
	DN	DOWN
	EXIST	EXISTING
	FLR	FLOOR
	FFE	FINISH FLOOR ELEVATION
	HDR	HEADER
	I.E.	INVERT ELEVATION
	POC	POINT OF CONNECTION
	PLCS	PLACES
	SLVE	SLEEVE
	VTR	VENT THRU ROOF
	YB	YARD BOX

GENERAL NOTES

1. BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF ALL UTILITIES AND PIPING, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
2. ALL VALVES, UNIONS, ETC. TO BE SAME SIZE AS PIPE UNLESS OTHERWISE INDICATED ON DRAWINGS.
3. ALL PLUMBING FIXTURE VENTS TO TERMINATE A MINIMUM OF 12 INCHES FROM ANY VERTICAL SURFACE AND 10 FEET FROM ANY OUTSIDE AIR INTAKES.
4. CONNECTION BETWEEN INCOMPATIBLE MATERIALS ABOVE GRADE AND INSIDE BUILDING SHALL BE MADE WITH TWO (2) DIELECTRIC UNIONS SEPARATED BY A TWELVE INCH (12") SECTION OF RED BRASS PIPE.
5. ALL CLEANOUTS SHALL BE INSTALLED WHERE READILY ACCESSIBLE. THE CONTRACTOR SHALL COORDINATE ALL CLEANOUT LOCATIONS WITH EQUIPMENT, CABINETS, ETC., AND THE ARCHITECT PRIOR TO ANY INSTALLATION.
6. ALL PLUMBING WORK SHALL BE INSTALLED SO AS TO AVOID INTERFERENCE WITH ELECTRICAL AND MECHANICAL EQUIPMENT AND STRUCTURAL FRAMING.
7. ALL WORK AND MATERIAL SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH CALIFORNIA PLUMBING CODE 2013.
8. ANY ALTERATIONS TO A STRUCTURAL MEMBER, SUCH AS CUTTING, BORING, BRAZING, DRILLING, WELDING, ETC. SHALL HAVE PRIOR WRITTEN APPROVAL OF ARCHITECT AND STRUCTURAL ENGINEER.
9. INSULATION (SEE SPECIFICATION FOR TYPE REQUIRED) AND COVERING ON PIPE AND TUBING SHALL HAVE A FLAME SPREAD RATING NOT TO EXCEED 25 AND A SMOKE DENSITY NOT TO EXCEED 50 WHEN TESTED IN ACCORDANCE WITH 2013 U.B.C. STANDARD NO. 8-1.
10. THE SEISMIC ANCHORAGE OF MECHANICAL AND ELECTRIC EQUIPMENT SHALL CONFORM TO ASCE 7-05 CHAPTER 13 TITLE 24 PART 5.

    THE SEISMIC BRACING AND ANCHORAGE OF PIPING AND EQUIPMENT SHALL CONFORM TO SEISMIC HAZARD LEVEL "AA" TYPICAL AND BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING SYSTEMS" PUBLISHED BY SMACNA WITH SUPPLEMENT 2000 AND APPOVED BY THE DSA.

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RF Hawkins Consulting
2357 Naples Avenue
Mentone, CA 92359-9635
Tel: (909) 522-4518
design@rfhawkinsconsulting.com

CONSULTANT
pais
consulting group
18 Pine Hill Lane
Ladera Ranch, CA 92694
phone: 949.610.9675

REGISTERED PROFESSIONAL ENGINEER J. SCOTT BETANCOURT S.E. 4296 STRUCTURAL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER ILIE PAIS No. M36549 Exp. 9/30/19 MECHANICAL STATE OF CALIFORNIA

HVAC ADDITIONS TO MUSIC BLDG.
COMPTON COMMUNITY COLLEGE DISTRICT
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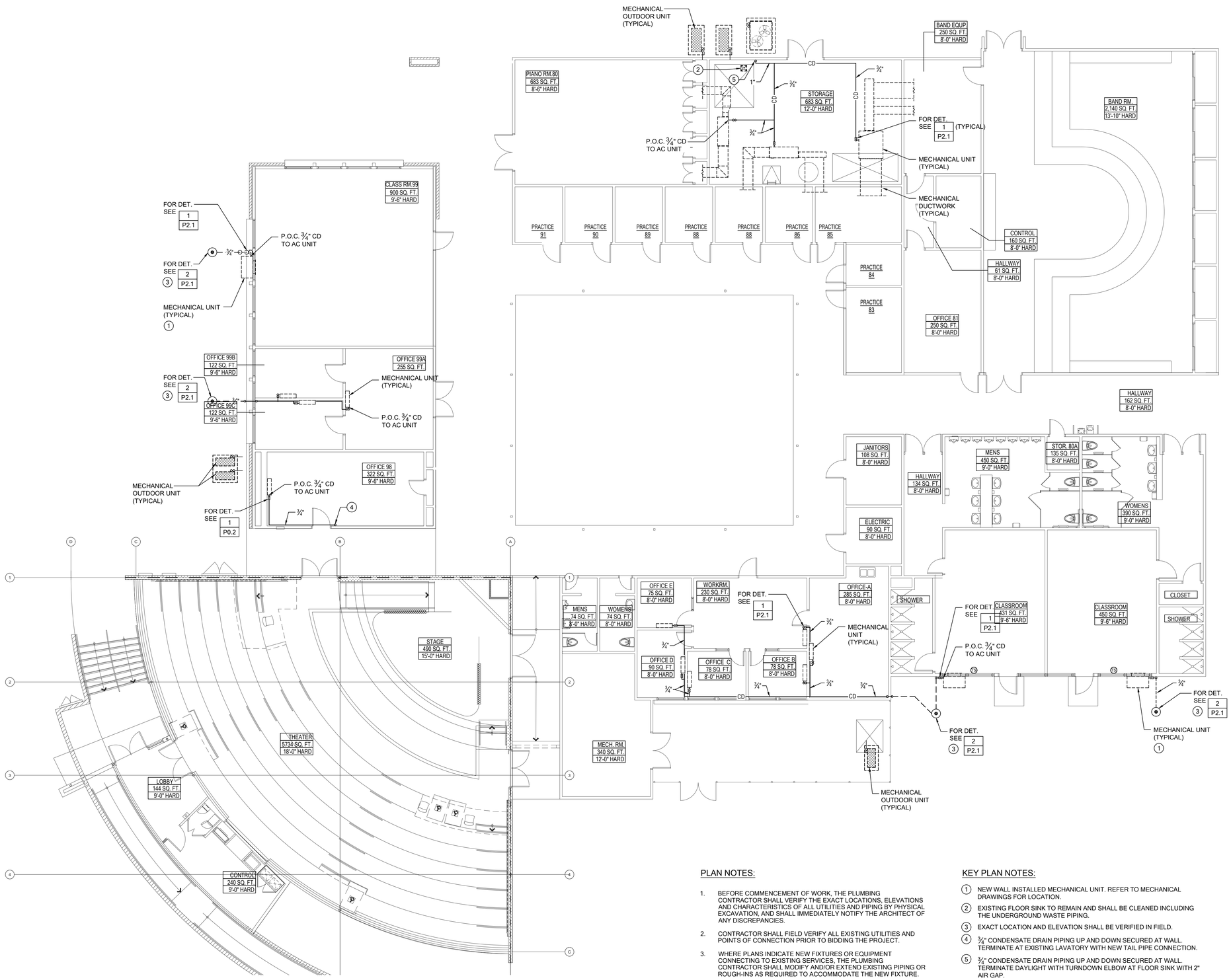
PLUMBING GENERAL NOTES, LEGEND & DETAILS

DRAWING NUMBER : P0.1



1 Plumbing Floor Plan

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

NORTH

PLAN NOTES:

1. BEFORE COMMENCEMENT OF WORK, THE PLUMBING CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF ALL UTILITIES AND PIPING BY PHYSICAL EXCAVATION, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES AND POINTS OF CONNECTION PRIOR TO BIDDING THE PROJECT.
3. WHERE PLANS INDICATE NEW FIXTURES OR EQUIPMENT CONNECTING TO EXISTING SERVICES, THE PLUMBING CONTRACTOR SHALL MODIFY AND/OR EXTEND EXISTING PIPING OR ROUGH-INS AS REQUIRED TO ACCOMMODATE THE NEW FIXTURE.
4. ALL SLEEVES THRU MASONRY WALLS AND FOOTINGS SHALL BE MINIMUM TWO PIPES SIZES LARGER THAN THE PIPE GOING THRU IT, PROVIDE ALL SLEEVES.
5. ALL CONDENSATE DRAIN PIPING ABOVE CEILING SHALL SLOPE AT 1% UNLESS OTHERWISE NOTED.

KEY PLAN NOTES:

1. NEW WALL INSTALLED MECHANICAL UNIT. REFER TO MECHANICAL DRAWINGS FOR LOCATION.
2. EXISTING FLOOR SINK TO REMAIN AND SHALL BE CLEANED INCLUDING THE UNDERGROUND WASTE PIPING.
3. EXACT LOCATION AND ELEVATION SHALL BE VERIFIED IN FIELD.
4. ¾" CONDENSATE DRAIN PIPING UP AND DOWN SECURED AT WALL. TERMINATE AT EXISTING LAVATORY WITH NEW TAIL PIPE CONNECTION.
5. ¾" CONDENSATE DRAIN PIPING UP AND DOWN SECURED AT WALL. TERMINATE DAYLIGHT WITH TURNDOWN ELBOW AT FLOOR SINK WITH 2" AIR GAP.

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CONSULTANT

pais
consulting group
18 Pine Hill Lane
Ladera Ranch, CA 92694
phone: 949.610.9675

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REGISTERED PROFESSIONAL ENGINEER KIE PAIS No. M36549 Exp. 9/30/19 MECHANICAL STATE OF CALIFORNIA

HVAC ADDITIONS TO MUSIC BLDG.

COMPTON COMMUNITY COLLEGE DISTRICT
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PLUMBING FLOOR PLAN

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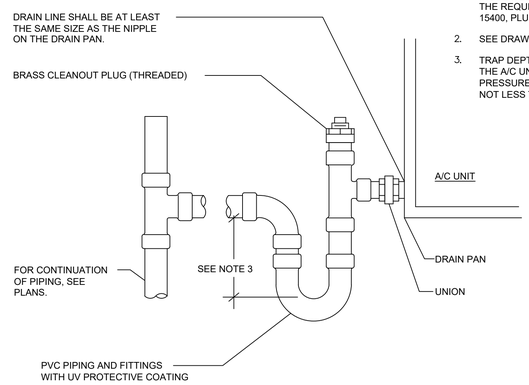
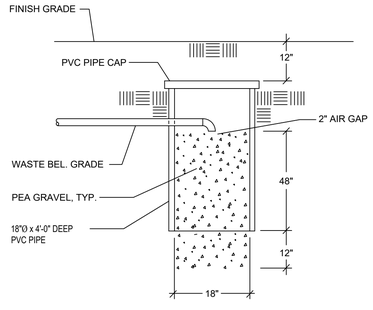


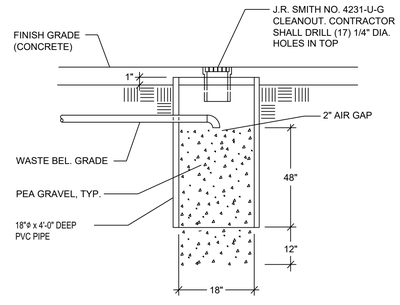
NOTES:

1. ALL CONDENSATE DRAIN LINES INSIDE BUILDING SHALL BE INSULATED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 15400, PLUMBING SPECIFICATIONS.
2. SEE DRAWING FOR SIZES.
3. TRAP DEPTH SHALL BE EQUAL TO THE A/C UNIT TOTAL STATIC PRESSURE PLUS 1-INCH BUT NOT LESS THAN 2-INCHES.

CONDENSATE TRAP DETAIL	SCALE	1
	NONE	



LANDSCAPE



HARDSCAPE

DRYWELL DETAIL	SCALE	2
	NONE	

RFHC
RF Hawkins Consulting
2357 Naples Avenue
Mentone, CA 92359-9635
Tel: (909) 522-4518
design@rfhawkinsconsulting.com

CONSULTANT
pais
consulting group
18 Pine Hill Lane
Ladera Ranch, CA 92694
phone: 949.610.9675

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 03-119660 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/25/2019

REGISTERED PROFESSIONAL ENGINEER — SCOTT BETANCOURT — S.E. 4296 — STRUCTURAL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — LIE PAIS — No. M36549 Exp. 9/30/19 — MECHANICAL — STATE OF CALIFORNIA

HVAC ADDITIONS TO MUSIC BLDG.

COMPTON COMMUNITY COLLEGE DISTRICT
COMPTON COLLEGE
1111 E. ARTESIA BLVD.
COMPTON, CA. 90221

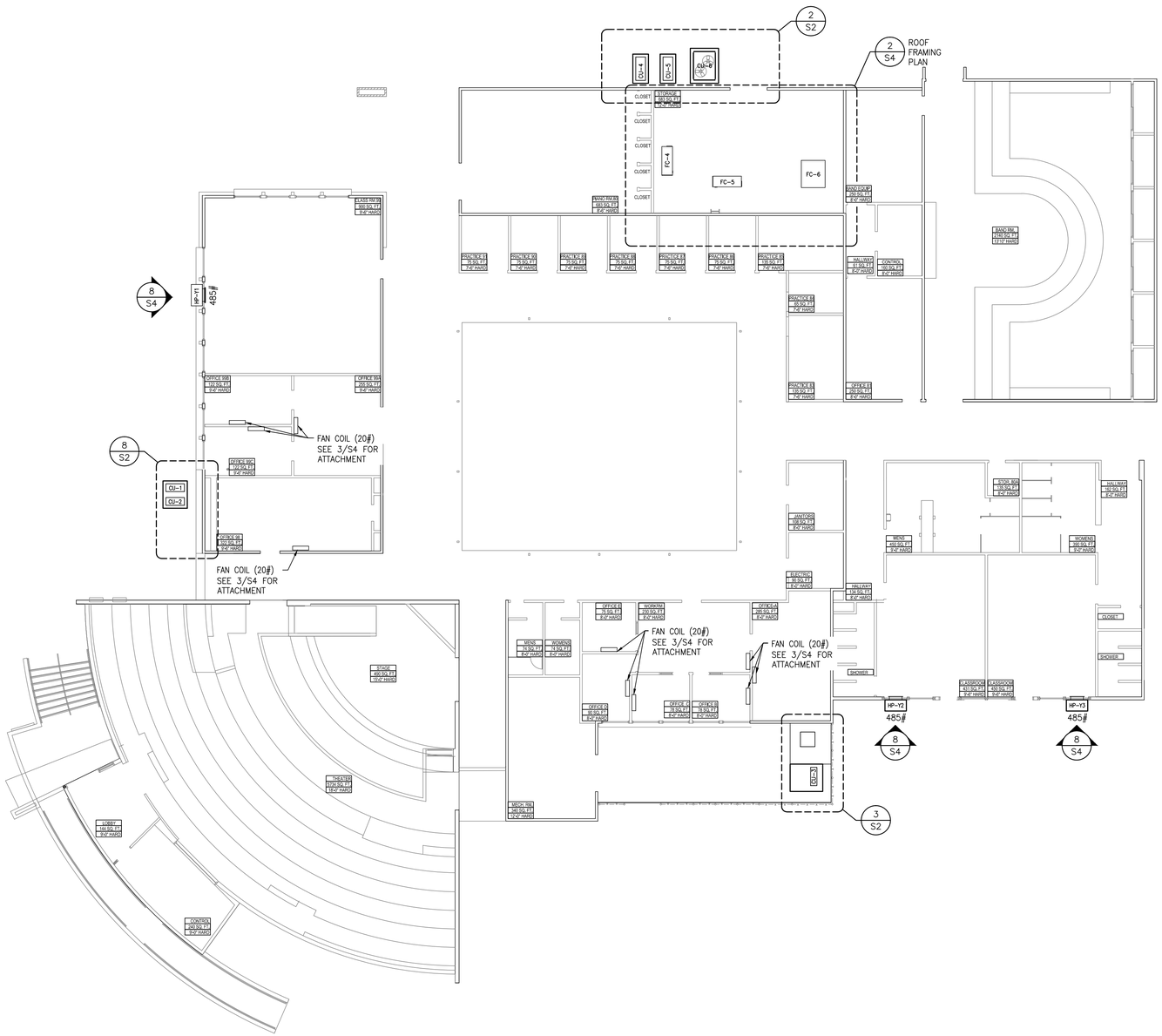
NO	DATE	BY	DESCRIPTION

REVISIONS

DRAWN: IZ	CHECKED: IP
DATE: 8/31/2018	SCALE: AS NOTED
PROJECT NUMBER: 17-302	

PLUMBING DETAILS

DRAWING NUMBER : P2.1



MUSIC FIRST FLOOR PLAN

SCALE: 3/32"=1'

0 1' 5' 10' 20'

3

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RFHC
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2357 Naples Avenue
Mentone, CA 92359-9635
Tel: (909) 522-4518
design@rfhawkinsconsulting.com

CONSULTANT
next step DESIGN, INC
26170 ENTERPRISE WAY SUITE 400
LAKE FOREST, CA 92630
PHONE: (949) 215-3339
FAX: (949) 457-9375
NSD JOB #: 08-328

REGISTERED PROFESSIONAL ENGINEER
L. SCOTT BETANCOURT
S.E. 4296
STRUCTURAL
STATE OF CALIFORNIA

HVAC ADDITIONS TO MUSIC BLDG.

COMPTON COMMUNITY
COLLEGE DISTRICT
COMPTON COLLEGE
1111 E. ARTESIA BLVD.
COMPTON, CA. 90221

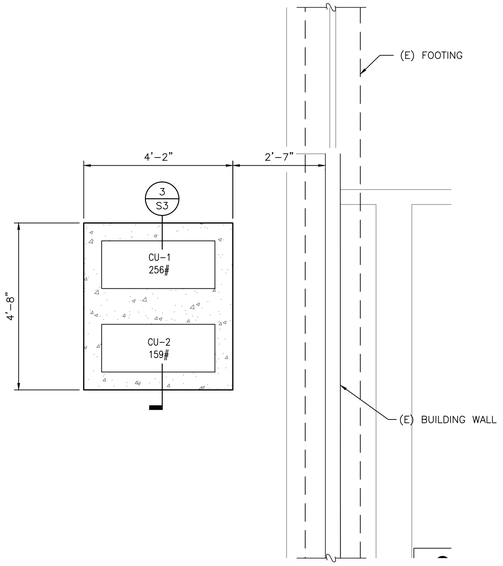
NO	DATE	BY	DESCRIPTION
1	02/22/19	SB	100% CD
2			
3			
4			

REVISIONS

DRAWN: GMB	CHECKED: SB
DATE: 02/22/19	SCALE: AS NOTED
PROJECT NUMBER: AS NOTED	

MUSIC FIRST
FLOOR PLAN

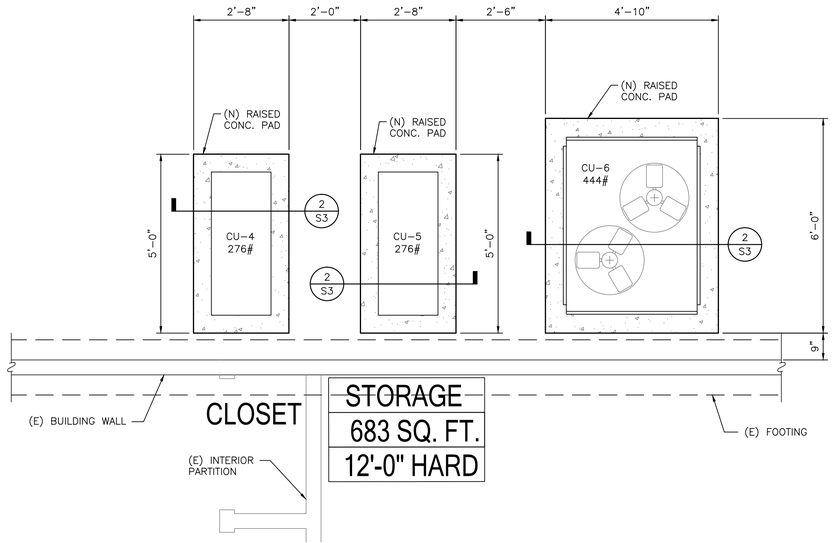
DRAWING NUMBER : S-1



ENLARGED PARTIAL FOUNDATION PLAN

SCALE: 1/2"=1'-0" (0 1' 2')

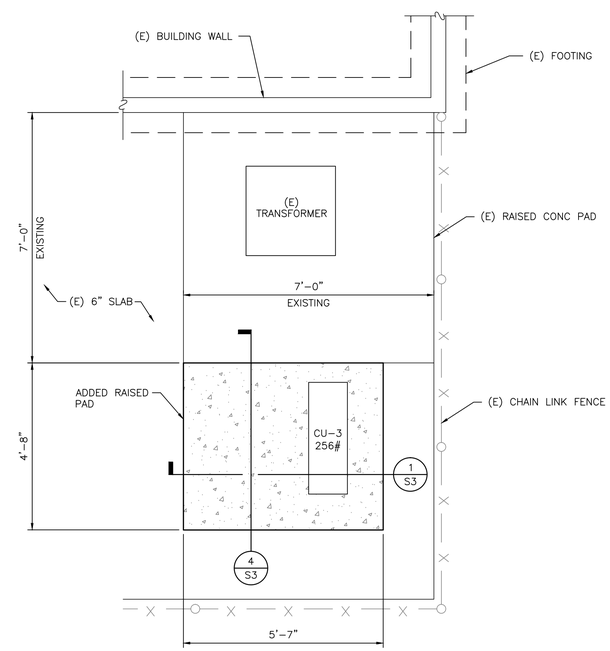
8



ENLARGED PARTIAL FOUNDATION PLAN

SCALE: 1/2"=1'-0" (0 1' 2')

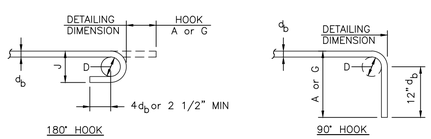
2



ENLARGED PARTIAL FOUNDATION PLAN

SCALE: 1/2"=1'-0" (0 1' 2')

3



END HOOKS – ALL GRADES

BAR SIZE	D	180° HOOKS		90° HOOKS
		A or G	J	A or G
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	1'-0"
#7	5 1/4"	10"	7"	1'-2"
#8	6"	11"	8"	1'-4"
#9	9 1/2"	1'-3"	11 3/4"	1'-7"
#10	10 3/4"	1'-5"	1'-1 1/4"	1'-10"
#11	12"	1'-7"	1'-2 3/4"	2'-0"
#14	18 1/4"	2'-3"	1'-9 3/4"	2'-7"
#18	24"	3'-0"	2'-4 1/2"	3'-5"

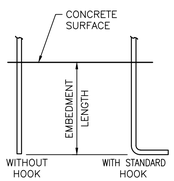
STANDARD HOOK DIMENSIONS

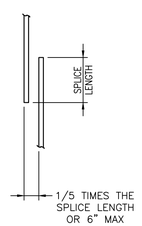
12

BAR SCHEDULE

REINFORCEMENT = GRADE 60			
BAR SIZE	EMBEDMENT		SPLICE LENGTH
	WITHOUT HOOK	WITH HOOK	
# 3	12"	8"	1'-9"
# 4	1'-2"	10"	2'-4"
# 5	1'-5"	1'-0"	2'-10"
# 6	1'-9"	1'-3"	3'-5"
# 7	2'-0"	1'-5"	5'-0"
# 8	2'-3"	1'-7"	5'-9"
# 9	2'-7"	1'-10"	6'-5"
# 10	2'-10"	2'-0"	7'-2"

NOTES:
1. THE ABOVE LENGTHS ARE FOR CAST-IN-PLACE AND PRECAST CONCRETE 2,000 PSI OR GREATER
2. ALL REINFORCING STEEL LAPS OR SPLICES SHALL BE AS INDICATED ON PLAN. WHERE LAP OR SPLICE LOCATIONS ARE NOT SPECIFICALLY INDICATED, LAPS OR SPLICES SHALL BE STAGGERED AT LEAST 2'-0" o.c.





REBAR EMBEDMENT AND SPLICES IN CONCRETE

9

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NO	DATE	BY	DESCRIPTION
△	02/22/19	SB	100% CD
△			
△			
△			

REVISIONS

DRAWN: GMB | CHECKED: SB
DATE: 02/22/19 | SCALE: AS NOTED
PROJECT NUMBER: AS NOTED

ENLARGED FOUNDATION PLANS

DRAWING NUMBER : S-2

GENERAL NOTES:

1. DESIGN CRITERIA:

DESIGN CODE: 2016 CALIFORNIA BUILDING CODE (CBC)			
S_S = 1.67	R = 2	OCCUPANCY CAT	= 2
S_1 = .611	C_S = ..557	SITE CLASS	= D
F_a = 1.00	RHO = 1.3	S.F.R.S.	= LT FRAMED WALLS, OTHER THAN PLYWOOD
F_v = 1.50	V = .517xW	ANALYSIS PROCEDURE	= E.L.F.A.
SDS= 1.11	SDC = D	WIND SPEED	= 85 M.P.H. (A.S.D.)
SD1= .611			110 M.P.H. (L.R.F.D.)
I = 1.5		WIND EXPOSURE	= B

2. ALL MATERIALS AND WORK PERFORMED SHALL CONFORM WITH THE REQUIREMENTS OF THE 2016 CBC AND GOVERNING BUILDING ORDINANCES.
3. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES.
4. WHERE A SECTION OR TYPICAL DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
5. NO CHANGES ARE TO BE MADE TO THESE PLANS WITHOUT THE KNOWLEDGE AND WRITTEN CONSENT OF THIS ENGINEER. UNAUTHORIZED CHANGES RENDER THESE DRAWINGS VOID.
6. ANY REFERENCE TO THE WORDS APPROVED, OR APPROVAL IN THESE DOCUMENTS SHALL BE HERE DEFINED TO MEAN GENERAL ACCEPTANCE OR REVIEW AND SHALL NOT RELIEVE THE CONTRACTOR AND/OR HIS SUB-CONTRACTORS OF ANY LIABILITY IN FURNISHING THE REQUIRED MATERIALS OR LABOR SPECIFIED.
7. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES INCLUDING BUT, NOT LIMITED TO BRACING & SHORING. OBSERVATION VISITS TO THE SITE BY FIELD REPRESENTATIVES OF THE ARCHITECT OR ENGINEER SHALL NOT INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES.
8. GENERAL CONTRACTOR SHALL VISIT THE JOB SITE AND VERIFY ALL GRADES, DIMENSIONS, AND CONDITIONS PRIOR TO BIDDING AND COMMENCING CONSTRUCTION. ALL DIMENSIONS CONTROLLED BY EXISTING CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE SITE.
9. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT, AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT IN CONJUNCTION WITH THE EXECUTION OF THIS WORK.
10. GENERAL CONTRACTOR SHALL NOTIFY THE ENGINEER AND ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES FOUND WITHIN THE CONTRACT DOCUMENTS, PRIOR TO STARTING WORK.

CONCRETE:

1. ALL CONCRETE MATERIALS AND WORKMANSHIP SHALL CONFORM TO CHAPTER 19A OF THE CODE AND TO ALL REQUIREMENTS OF ACI 301-05, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", EXCEPT AS MODIFIED BY THE SUPPLEMENT REQUIREMENTS BELOW.
2. MIX DESIGN REQUIREMENTS:
   A. CEMENT SHALL BE TYPE II.
   B. COMPRESSIVE STRENGTH = 3.000 PSI.
   C. CONCRETE SLUMP SHALL NOT EXCEED 5".
3. ALL REINFORCING STEEL SHALL BE SECURED IN POSITION AND INSPECTED BY THE BUILDING OFFICIAL PRIOR TO PLACING CONCRETE.
4. SEE DETAIL 9/S2 FOR REBAR SPLICES AND EMBEDMENT IN CONCRETE.

REINFORCING STEEL:

1. REINFORCING STEEL SHALL CONFORM TO ASTM A-615 GRADE 60 UNLESS OTHERWISE NOTED.
2. BARS SHALL BE CLEAN OF MUD, OIL, OR OTHER COATINGS LIKELY TO IMPAIR BONDING.
3. ALL REINFORCING SHALL BE SECURED IN PLACE PRIOR TO INSPECTIONS, PLACING CONCRETE, OR GROUTING MASONRY.
4. REINFORCING STEEL SHALL BE SPLICED AS SHOWN OR NOTED. SPLICES AT OTHER LOCATIONS SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER. ALL VERTICAL WALL REINFORCEMENT SHALL BE CONTINUOUS BETWEEN SPLICE LOCATIONS SHOWN IN THE DETAILS.
5. SEE DETAIL 12/S2 FOR STANDARD BAR BEND DIMENSIONS.

STRUCTURAL STEEL:

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE LATEST REVISED EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION, WHICH INCLUDES THE SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, THE CODE OF STANDARD PRACTICE AND THE AWS STRUCTURAL WELDING CODE.
2. STRUCTURAL STEEL SHOP DRAWINGS SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO FABRICATION.
3. MATERIAL SPECIFICATIONS:

W SHAPES:	ASTM A992 GRADE 50
C, M, ANGLE, BARS, AND PLATES:	ASTM 36
TUBE STEEL:	ASTM A500, GRADE B
PIPE COLUMNS:	ASTM A53, GRADE B

4. GROUTING OF COLUMN BASE PLATES: BASE PLATES SHALL BE DRYPACKED OR GROUTED WITH NON-SHRINK GROUT. MINIMUM COMPRESSIVE STRENGTH SHALL BE 4,000 PSI AT 28 DAYS. ALL SURFACES SHALL BE PROPERLY CLEANED OF FOREIGN MATERIAL PRIOR TO THE GROUTING.
5. ALL WELDING SHALL BE ACCOMPLISHED USING THE SHIELDED METAL ARC WELDING PROCESS WITH E70XX ELECTRODES OR THE SUBMERGED ARC WELDING PROCESS WITH E7X-EXXX ELECTRODES. LOW HYDROGEN ELECTRODES SHALL BE USED AND KEPT DRY, AND PARENT METALS SHALL BE PREHEATED IN ACCORDANCE WITH AWS STANDARDS.
6. ALL WELDING SHALL BE INSPECTED IN ACCORDANCE WITH AISC 360, TABLES N5.4-1, N5.4-2, AND N5.4-3. WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS.
7. ALL EXPOSED WELDS SHALL BE FILLED AND GROUND SMOOTH WHERE METAL COULD COME IN CONTACT WITH THE PUBLIC.
8. ALL SHOP AND FIELD BOLTED CONNECTIONS SHALL BE IN ACCORDANCE WITH ASTM A-307 USING UNFINISHED AMERICAN STANDARD REGULAR BOLTS, UNLESS OTHERWISE NOTED.
9. NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THRU STRUCTURAL STEEL MEMBERS. BOLT HOLES SHALL CONFORM TO AISC SPECIFICATION, AND SHALL BE STANDARD HOLES UNLESS OTHERWISE NOTED. NO CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT PRIOR CONSENT OF THIS ENGINEER.

FRAMING LUMBER:

1. ALL VISUALLY GRADED FRAMING LUMBER SHALL CONFORM TO THE GRADING RULES SET FORTH BY THE WEST COAST LUMBER INSPECTION BUREAU (WCLIB) OR THE WESTERN WOOD PRODUCTS ASSOCIATION (WWPA). EACH PIECE SHALL BEAR THE GRADE STAMP OF AN APPROVED GRADING AGENCY, EXCEPT EXPOSED LUMBER SHALL BEAR NO MARKINGS WHICH WILL BE VISIBLE AFTER INSTALLATION.
2. FRAMING LUMBER SHALL BE DOUGLAS FIR-LARCH, UNLESS OTHERWISE NOTED. 2x AND 4x SAWN LUMBER SHALL HAVE A MOISTURE CONTENT NOT MORE THAN 19% AT TIME OF FABRICATION. THE FOLLOWING GRADES SHALL BE THE MINIMUM ACCEPTABLE GRADES, UNLESS OTHERWISE NOTED.

ITEM	MINIMUM GRADE
STUDS:	
2" THICK, 4" WIDE (STUD HT = 8'-1" MAX)	NO. 2
2" THICK, 4" TO 6" WIDE	NO. 2
STRUCTURAL JOISTS AND LIGHT FRAMING:	
2" TO 4" THICK, 4" AND WIDER	NO. 1
BEAMS AND STRINGERS:	
5" AND THICKER, 6" AND WIDER	NO. 1
POST AND TIMBERS:	
5" x 5" AND LARGER	NO. 1

3. STRUCTURAL PLYWOOD SHALL CONFORM TO U.S. PRODUCT STANDARD PS 1-07. STRUCTURAL USE PANELS SHALL CONFORM TO PS 2-04 (APA PRP-108). APA GRADE STAMP SHALL BE PROVIDED ON ALL SHEATHING. SHEATHING SHALL BE EXPOSURE 1 (EXTERIOR GLUE). INSTALL WITH FACE GRAIN ACROSS SUPPORTS EXCEPT WHERE NOTED ON PLANS OR DETAILS. PROVIDE GAPS AT ALL EDGES AS RECOMMENDED BY APA. ROOF AND FLOOR SHEATHING AND SHEAR WALL PANELS SHALL BE IN PLACE AND INSPECTED BY THE BUILDING OFFICIAL PRIOR TO COVERING.
4. FRAMING HARDWARE SHALL BE SIMPSON "STRONG TIE" OR EQUAL, UNLESS OTHERWISE NOTED. SUBSTITUTIONS SHALL BEAR ICC APPROVAL.
5. NAILING NOTES:
   A. ALL NAILS SHALL BE COMMON NAILS IN CONFORMANCE WITH FEDERAL SPECIFICATIONFF-N-105B, UNLESS OTHERWISE SPECIFIED ON DRAWINGS. SINKERS SHALL NOT BE SUBSTITUTED UNLESS SPECIFICALLY APPROVED BY THIS ENGINEER.
   B. ALL NAILS EXPOSED TO THE WEATHER SHALL BE GALVANIZED.
   C. TOE NAILS SHALL BE DRIVEN AT AN ANGLE OF 30 DEGREES TO THE PIECE SURFACE AND BE STARTED AT 1/3 THE LENGTH FROM THE EDGE OF THE PIECE.
7. WOOD SCREWS SHALL BE IN CONFORMANCE WITH A.N.S.I. B18.6.1.
8. BOLTS AND LAG SCREWS SHALL CONFORM TO A.N.S.I. B18.2.1. ALL BOLTS THRU WOOD SHALL HAVE STANDARD CUT WASHERS EXCEPT WHERE METAL SIDE PLATES ARE SPECIFIED. BOLT HOLES SHALL BE BORED 1/32" TO 1/16" LARGER THAT THE BOLT DIAMETER, UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL INSTALL A SIMPSON BP-5/8-S WITH (4) SDS 1/4 x 1 1/2 SCREWS AT ALL HOLES LARGER THAN 1/16" OVERSIZED AT NO ADDITIONAL COST. ALL BOLTS SHALL BE RETIGHTENED PRIOR TO APPLICATION OF PLASTER, PLYWOOD, ETC.
9. ALL WOOD BEARING ON CONCRETE OR MASONRY IF LESS THAT 4'-0" ABOVE GRADE SHALL BE PRESSURE TREATED DOUGLAS FIR.
10. STRUCTURAL MEMBERS SHALL NOT BE CUT FOR PIPES, ETC. UNLESS SPECIFICALLY NOTED OR DETAILED.

SPECIAL INSPECTION REQUIREMENTS:

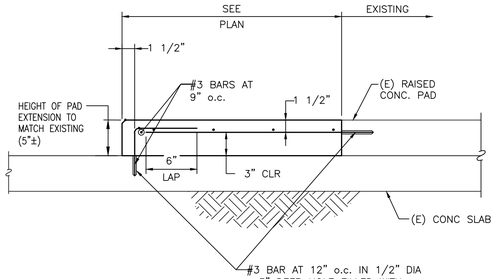
1. ALL WORK SHALL CONFORM TO TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
2. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGED DOCUMENT APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
3. A PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR; CLASS 2.

ABBREVIATIONS:

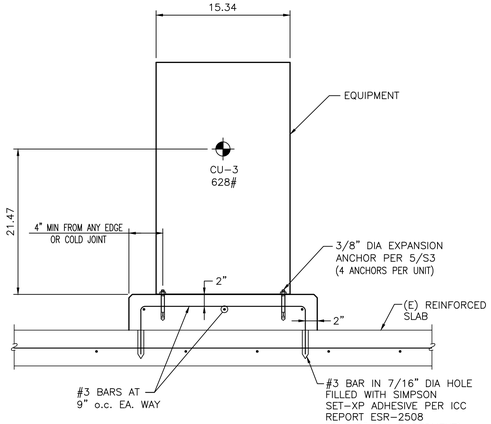
AB	– ANCHOR BOLT	ID	– INSIDE DIAMETER
AFF	– ABOVE FINISH FLOOR	MB	– MACHINE BOLT
BLK	– BLOCK	MFR	– MANUFACTURER
BN	– BOUNDARY NAILING	MIN	– MINIMUM
BTM	– BOTTOM	(N)	– NEW
CJ	– CEILING JOIST	NS	– NEAR SIDE
CLR	– CLEAR	NTS	– NOT TO SCALE
CONC	– CONCRETE	o.c.	– ON CENTER
CONT	– CONTINUOUS	OD	– OUTSIDE DIAMETER
DIM	– DIMENSION	OH	– OPPOSITE HAND
DBL	– DOUBLE	PLCS	– PLACES
DF	– DOUGLAS FIR	PLY	– PLYWOOD
DIA	– DIAMETER	PT	– PRESSURE TREATED
(E)	– EXISTING	REINF	– REINFORCEMENT
EA.	– EACH	REQ'D	– REQUIRED
EN	– EDGE NAILING	RR	– ROOF RAFTER
EQ	– EQUAL	SHT'G	– SHEATHING
EQUIP	– EQUIPMENT	SIM	– SIMILAR
FDN	– FOUNDATION	SQ	– SQUARE
FN	– FIELD NAILING	STD	– STANDARD
FRP	– FIBER REINFORCED PLASTIC	STIFF	– STIFFENER
FS	– FAR SIDE	THK	– THICK
FTG	– FOOTING	T.O.	– TOP OF
GLB	– GLU-LAM BEAM	TS	– TUBE STEEL
HD	– HOLD DOWN	TYP	– TYPICAL
HORIZ	– HORIZONTAL	UON	– UNLESS OTHERWISE NOTED
		VERT	– VERTICAL

CONSTRUCTION NOTES

NOTE:
CABINET NOT SHOWN FOR CLARITY
SEE 1/S3 FOR CABINET ANCHORAGE

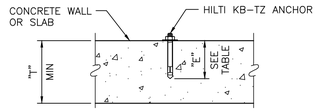


RAISED PAD EXTENSION | **4**



RAISED CONC. PAD ON EXISTING SLAB | **1**

NOTES:
1. SUBSTITUTION OF A HILTI KWIK BOLT TZ ANCHOR WITH OTHER EXPANSION ANCHORS MANUFACTURED BY HILTI OR BY OTHER MANUFACTURERS IS NOT ALLOWED WITHOUT THE WRITTEN APPROVAL OF THIS ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL BEAR THE ENTIRE COST OF REPLACEMENT OF NON-APPROVED ANCHORS.
2. THE CONTRACTOR SHALL ACCURATELY LOCATE ALL EXISTING REINFORCING BY X-RAY OR EQUIVALENT METHODS. NO REBAR OR TENDONS SHALL BE CUT. ALL EXPENSES RELATED TO REPAIR OF CUT REBAR OR TENDONS SHALL BE ENTIRELY AT THE EXPENSE OF THE CONTRACTOR.
3. SPECIAL INSPECTION IS REQUIRED FOR INSTALLATION OF ANCHORS.
4. INSTALLATION OF CONCRETE ANCHORS IN MASONRY IS NOT ALLOWED.
5. USE STAINLESS STEEL FOR EXPOSED APPLICATIONS. CARBON STEEL SHALL BE USED FOR INTERIOR APPLICATIONS ONLY.

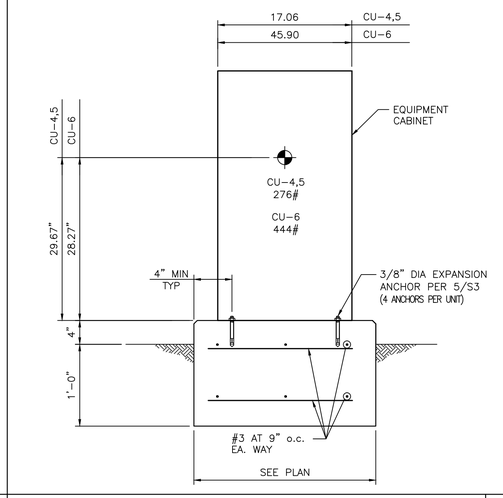


ANCHOR SCHEDULE (1)

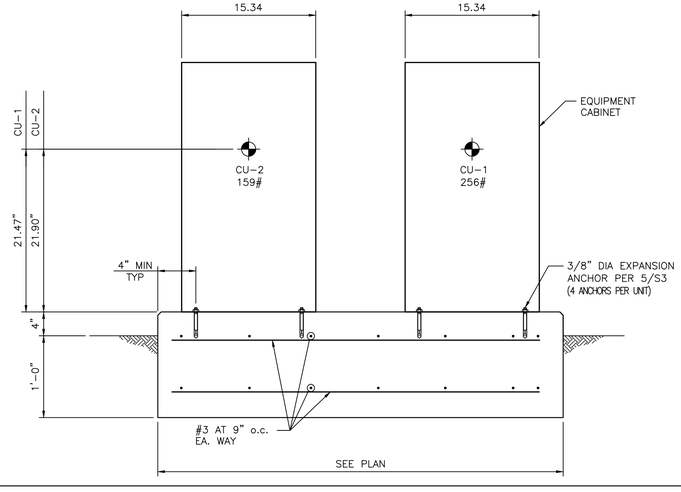
BOLT DIA	HOLE DIA	"E" EMBEDMENT	"h" THICKNESS
3/8"	3/8"	2"	4"
1/2"	1/2"	3 1/4"	6"
5/8"	5/8"	4"	6"
3/4"	3/4"	4 3/4"	8"

(1) INFORMATION SHOWN IN THIS TABLE IS IN ACCORDANCE WITH ICC REPORT ESR-1917.

HILTI KWIK BOLT TZ EXPANSION ANCHOR | **5**



EQUIPMENT PAD | **2**



EQUIPMENT PAD | **3**

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LAKE FOREST, CA 92630
PHONE: (949) 215-3339
FAX: (949) 457-9375
NSD JOB #: 08-328

REGISTERED PROFESSIONAL ENGINEER
L. SCOTT BETANCOURT
S.E. 4296
STRUCTURAL
STATE OF CALIFORNIA

HVAC ADDITIONS TO MUSIC BLDG.

COMPTON COMMUNITY COLLEGE DISTRICT
COMPTON COLLEGE
1111 E. ARTESIA BLVD.
COMPTON, CA. 90221

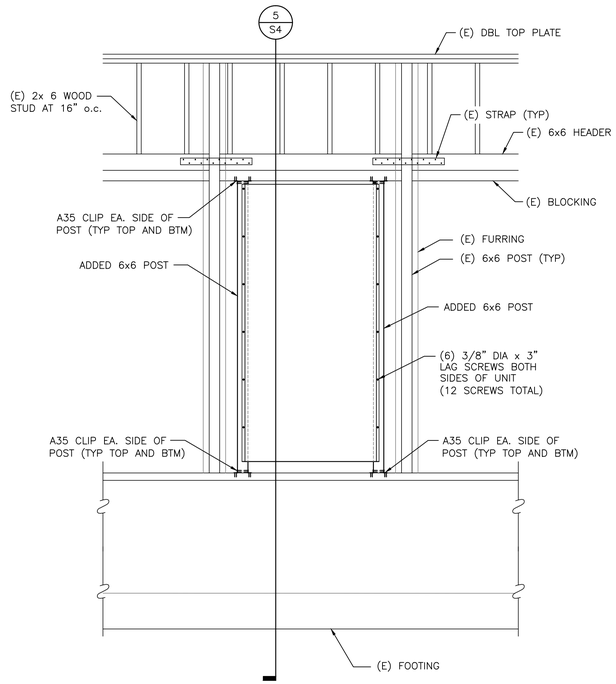
NO	DATE	BY	DESCRIPTION
1	02/22/19	SB	100% CD
2			
3			
4			

REVISIONS

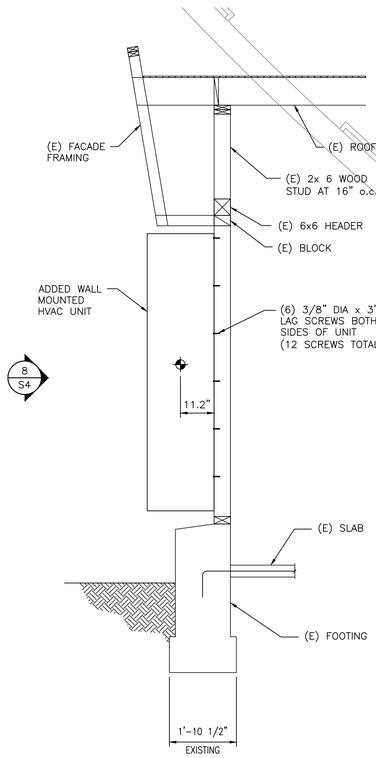
DRAWN: GMB	CHECKED: SB
DATE: 02/22/19	SCALE: AS NOTED
PROJECT NUMBER: AS NOTED	

CONSTRUCTION DETAILS

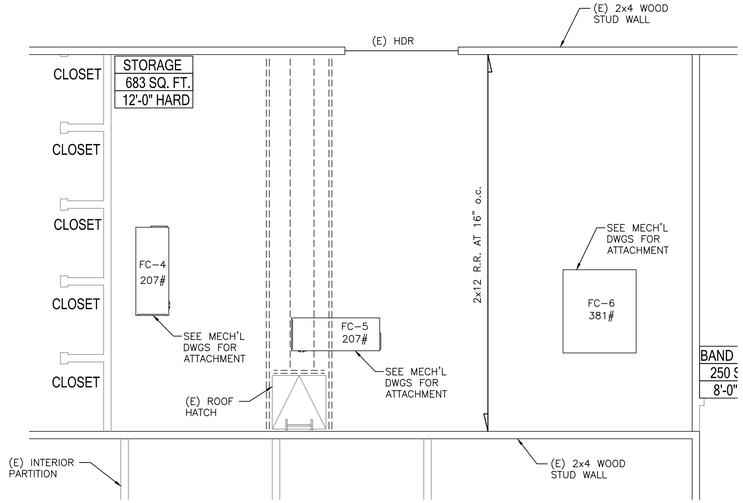
DRAWING NUMBER : S-3



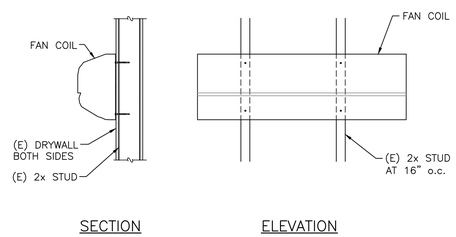
WALL MOUNTED HVAC ELEVATION 8



WALL MOUNTED HVAC SECTION 5



PARTIAL ROOF FRAMING PLAN NORTH SCALE: 1/4"=1'-0" 0 1' 4' 8' 2



FAN COIL ANCHORAGE 3

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 03-119660 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/25/2019

RFHC
RF Hawkins Consulting
2357 Naples Avenue
Mentone, CA 92359-9635
Tel: (909) 522-4518
design@rfhawkinsconsulting.com

CONSULTANT
next step DESIGN, INC
26170 ENTERPRISE WAY SUITE 400
LAKE FOREST, CA 92630
PHONE: (949) 215-3339
FAX: (949) 457-9375
NSD JOB #: 08-328

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L. SCOTT BETANCOURT
S.E. 4296
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COMPTON, CA. 90221

NO	DATE	BY	DESCRIPTION
△	02/22/19	SB	100% CD
△			
△			
△			

REVISIONS

DRAWN: GMB	CHECKED: SB
DATE: 02/22/19	SCALE: AS NOTED
PROJECT NUMBER: AS NOTED	

CONSTRUCTION DETAILS

DRAWING NUMBER : S-4

12 9 6