JEFFERSON MIDDLE SCHOOL
HVAC REPLACEMENT

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-118068 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/24/2021

PERMIT NOTES:

"THIS PERMIT DOES NOT INCLUDE ANY HIGHPILE STORAGE(PER UFC) OR RACK STORAGE OVER 8 FEET HIGH. ANY SUCH PROPOSED STORAGE WILL REQUIRE PLANS SUBMITTED FOR REVIEW AND APPROVAL AND ISSUANCE OF PERMITS." 2019 CFC ARTICLE 81.

IF THE PLANS DO NOT ACCURATELY REFLECT THE JOB CONDITIONS, OR THE CONSTRUCTION IS NOT PER THE PLANS, NO MECHANICAL INSPECTIONS WILL OCCUR UNTIL AN ADDENDUM APPROVED BY THE CITY OF FRESNO IS OBTAINED.

SCOPE NOTES

SCOPE OF WORK IS TO REPLACE EXISTING VENTILATION AND HEATING EQUIPMENT WITH PACKAGE UNIT EQUIPMENT AT CAFETERIA AND GYM BUILDINGS. NEW FIRE ALARM SYSTEM TO BE ADDED FOR AREAS OF WORK WITH NEW FACP ADDED IN ADMINISTRATION BUILDING.

PROJECT DIRECTORY

OWNER:	MADERA UNIFIED SCHOOL DISTRICT 1205 S. MADERA AVE. MADERA, CA 93637 (559) 675-4534 CURTIS MANGANAAN CurtisManganaan@maderausd.org
MECHANICAL ENGINEER:	LP ENGINEERS, INC. 895 WEST ASHLAN AVE., SUITE 101 CLOVIS, CA 93612 (559) 348-2130 GAREN LENCIONI garen@lpengr.com
ELECTRICAL ENGINEER:	JOHN CHONG ENGINEERING 1849 N. HELM AVE. #109 FRESNO, CA 93727 (559) 325-9988 JOHN CHONG jcengineer@aol.com
STRUCTURAL ENGINEER:	BROOKS RANSOM ASSOCIATES 7415 N. PALM AVE., STE. 100 FRESNO, CA 93711 (559) 449-8444 ART LOPEZ art@brooksransom.com
ARCHITECT:	DAVE BAISA ARCHITECT 10270 TARON DR. #236 ELK GROVE, CA 93757 (559) 355-0510 DAVE BAISA David@baisadesigngroup.com

CODE TABULATION

ALL WORK AND MATERIAL SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS ADOPTED AND AMENDED BY THE GOVERNING JURISDICTION.

CALIFORNIA CODE OF REGULATIONS
SAFETY, ORDERS, STATE DIVISION OF INDUSTRIAL SAFETY OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) TITLE 24, C.C.R., PART 1 ADMINISTRATION REGULATIONS.

APPLICABLE SECTIONS OF THE 2019 NON-RESIDENTIAL CALIFORNIA ENERGY STANDARDS.

TITLE 24, C.C.R., PART 1, 2019 C.A.C.
TITLE 24, C.C.R., PART 2, 2019 C.B.C.
TITLE 24, C.C.R., PART 3, 2019 C.E.C.
TITLE 24, C.C.R., PART 4, 2019 C.M.C.
TITLE 24, C.C.R., PART 5, 2019 C.P.C.
TITLE 24, C.C.R., PART 9, 2019 C.F.C.
TITLE 19, C.C.R., PUBLIC SAFETY, DIV. 1.

SEE A0.1 FOR EXPANDED CODE LISTING.

CODE SUMMARY

BUILDING CONSTRUCTION TYPE:	TYPE VB FOR CAFETERIA & TYPE FOR GYM
OCCUPANCY TYPE:	GROUP "A2/A3" FOR CAFETERIA & GYM
EXISTING TOTAL BUILDING AREA:	4,914 S.F. FOR CAFETERIA & 9,645 S.F. FOR GYM
AREA OF WORK:	3,036 S.F. FOR CAFETERIA & 8,848 S.F. FOR GYM

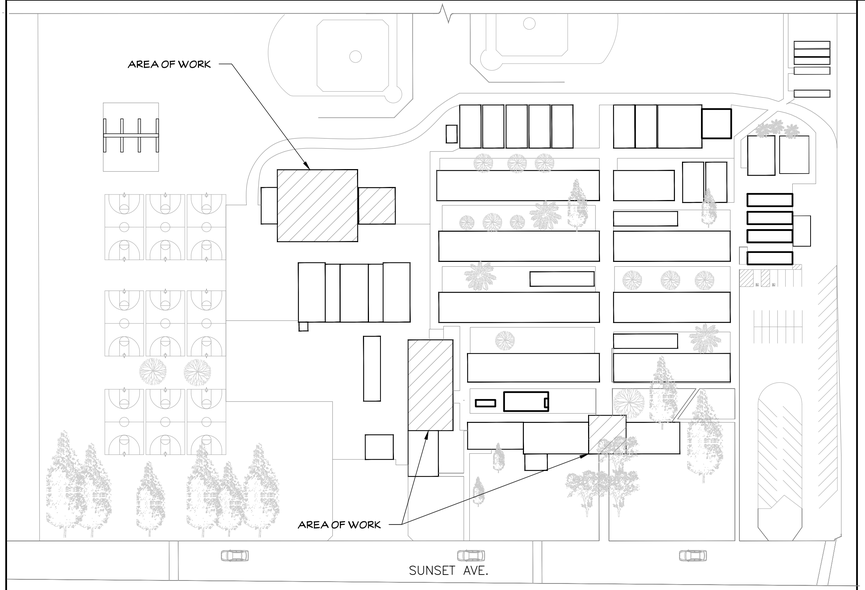
BUILDING DATA

PROJECT DESCRIPTION:	JEFFERSON MIDDLE SCHOOL HVAC REPLACEMENT AT CAFETERIA AND GYM
PROJECT ADDRESS:	1407 SUNSET AVE. MADERA, CA 93637
CONTACT:	CURTIS MANGANAAN
PHONE:	(559) 675-4534
FAX:	
E-MAIL:	CurtisManganaan@maderausd.org

FIRE NOTES

SHEET INDEX

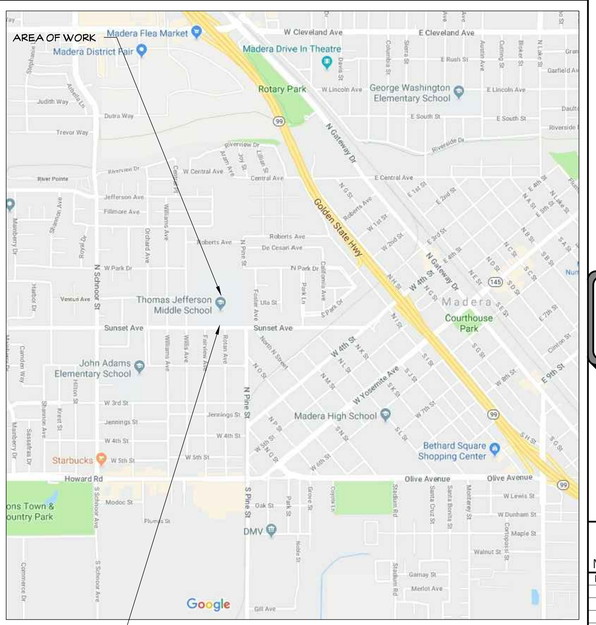
SITE MAP



NORTH

Scale: 1" = 80'-0"

VICINITY MAP



PROJECT SITE

NORTH

TITLE SHEET

SCALE: NTS

LP Engineers, Inc.
895 W. Ashlan Ave, Suite 101 Clovis, CA 93612
p 559-348-2130 - f 559-348-2131
www.lpengr.com
garen@lpengr.com

LICENSED ARCHITECT
DAVID BAISA
R. NO. C33002
REN. 4-30-23
STATE OF CALIFORNIA

DSA #: 02-118068

FILE #: 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D. 1407 SUNSET AVE, MADERA, CA 93637

No.	DATE	DESCRIPTION

REVISIONS

SHEET NAME
TITLE SHEET

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	T0.1
DRAWN BY: Dong Ngo	SCALE: AS NOTED	
CHECKED BY: K.K.	DATE: 5/18/2021	

JEFFERSON MIDDLE SCHOOL
HVAC REPLACEMENT

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-118068 INC:
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DATE: 11/24/2021

NOTES

- ALL WORK SHALL CONFORM TO 2019 TITLE 24, CALIFORNIA CODE OF REGULATION (CCR)
- FABRICATION AND INSTALLATION OF DEFERRED SUBMITTAL ITEMS SHALL NOT BE STARTED UNTIL CONTRACTORS DRAWINGS, SPECIFICATIONS, AND ENGINEERING CALCULATIONS FOR THE ACTUAL SYSTEMS TO BE INSTALLED HAVE BEEN ACCEPTED AND SIGNED BY THE ARCHITECT OR STRUCTURAL ENGINEER AND APPROVED BY THE DSA LIST DEFERRED SUBMITTAL ITEMS FOR THIS PROJECT.
- CHANGES TO THE APPROVED DRAWING AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGED DOCUMENT (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1.
- AS 'DSA CERTIFIED' CLASS 3 PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-432, PART 2, TITLE24. CCR.
- CLASS 3 INSPECTOR REQUIRED.
- A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TEST AND INSPECTIONS FOR THE PROJECT.
- THE INTENT OF THESE DRAWING AND SPECIFICATIONS IS THAT WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTIONS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXITING CONDITION SUCH AS DETERIORATION OR NON COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WERE IN THE FINISHED WORK NOT COMPLY WITH TITLE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH WORK, (SECTION 4-317(C), PART 1, TITLE 24, CCR)
- GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.
- SUBSTITUTIONS OF ANY MATERIAL, SYSTEM OR PRODUCT THAT ARE REGULATED BY DSA OR STRUCTURAL SAFETY, FIRE-LIFE SAFETY AND/OR ACCESS COMPLIANCE SHALL BE CONSIDERED AS A CONSTRUCTION CHANGE DOCUMENT OR ADDENDA, AND SHALL BE APPROVED BY DSA PRIOR TO FABRICATION AND INSTALLATION.

DEFERRED APPROVALS

NONE

NOTE

THE SUBMITTAL SHALL BE STAMPED AND SIGNED BY AN ARCHITECT OR A LICENSED DESIGN PROFESSIONAL RESPONSIBLE FOR THE ITEM. FABRICATION AND INSTALLATION OF DEFERRED APPROVAL ITEM SHALL NOT BE STARTED UNTIL DRAWINGS, SPECIFICATIONS, AND ENGINEERING CALCULATIONS (IF NEEDED) FOR THE SYSTEM HAVE BEEN ACCEPTED BY THE A/E OF RECORD AND APPROVED BY DSA (SEC. 4-3176(g), PART1)

SCOPE OF WORK

NOTE
SCOPE CONSIST OF ADDING GROUND AND ROOF MOUNTED HVAC, FA AND PATCH, REPAIR AND SUPPORTS AS SHOWN IN PLANS.

UNIQUE IDENTIFIER INFORMATION FOR DSA 153 - INSPECTION CARD BUILDING IDENTIFIER

SITE WORK INSPECTION CARD REQUIRED? ☒ YES ☐ NO

CONSTRUCTION OF:	ADDITION TO:	ALTERRATION TO:	RELOCATION OF:	RECONSTRUCTION OF:	REHABILITATION OF:	INCEMENT #	BUILDING TYPE	UNIQUE IDENTIFIER FOR INSPECTION CARD
☐	☐	☒	☐	☐	☐	N/A	GYMNASIUM	GYMNASIUM
☐	☐	☒	☐	☐	☐	N/A	ADMINISTRATION	ADMINISTRATION
☐	☐	☒	☐	☐	☐	N/A	CAFETERIA	CAFETERIA

CODE TABULATION

ALL WORK AND MATERIAL SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS ADOPTED AND ADMENDED BY THE GOVERNING JURISDICTION:

APPLICALE CODES - EFFECTIVE JANUARY 1, 2020

2019 BUILDING STANDARDS ADMINISTRATIVE CODE, TITLE 24 CCR, PART 1
2019 CALIFORNIA BUILDING CODE (CBC), TITLE 24 CCR, VOLUMES 1 & 2.
(2018 INTERNATIONAL BUILDING CODE (IBC) AND 2019 CA AMENDMENTS)
2019 CALIFORNIA ELECTRICAL CODE, TITLE 24 CCR, PART 3
(2017 NATIONAL ELECTRICAL CODE AND 2019 CALIFORNIA AMENDMENTS)
2019 CALIFORNIA MECHANICAL CODE (CMC), TITLE 24 CCR, PART 4
(2018 UNIFORM MECHANICAL CODE AND 2019 CALIFORNIA AMENDMENTS)
2019 CALIFORNIA PLUMBING CODE (CPC), TITLE 24 CCR, PART 5
(2018 UNIFORM PLUMBING CODE AND 2019 CALIFORNIA AMENDMENTS)
2019 CALIFORNIA ENERGY CODE, TITLE 24 CCR, PART 5
2019 CALIFORNIA FIRE CODE, TITLE 24 CCR, PART 9
(2018 INTERNATIONAL FIRE CODE AND 2019 CALIFORNIA AMENDMENTS)
2019 CALIFORNIA GREEN BUILDING STANDARDS CODE, TITLE 24 CCR, PART 11
2019 CALIFORNIA REFERENCED STANDARDS, TITLE 24 CCR, PART 12
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHALL REGULATIONS.

PARTIAL LIST OF - CBC CH. 35 AND CFH CH. 80

2016 NFPA 13. INSTALLATION OF SPRINKLER SYSTEMS (CA AMENDED)
2013 NFPA 14. SANDPIPES SYSTEMS (CA AMENDED)
2016 NFPA 17. DRY CHEMICAL EXTINGUISHING SYSTEMS
2016 NFPA 17A. WET CHEMICAL EXTINGUISHING SYSTEMS
2016 NFPA 20. INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION
2013 NFPA 22. WATER TANKS FOR PRIVATE FIRE PROTECTION
2016 NFPA 24. INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES
2016 NFPA 72. NATIONAL FIRE ALARM CODE (CA AMENDED), SEE UL STD 1971 FOR VISUAL DEVICES
2016 NFPA 80. FIRE DOOR & OTHER OPENING PROTECTIVES
2015 NFPA 2001. CLEAN AGENT FIRE EXTINGUISHING SYSTEMS
2005 UL 300. CLASS I HOOD FIRE SUPPRESSION SYSTEMS
2003 UL 464. AUDIBLE SIGNAL APPLIANCES
1999 UL 521. HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS
2012 ICC 300. BLEACHERS, FOLDING AND TELESCOPE SEATING AND GRANDSTANDS (ICC 300-2012)

STATEMENT OF GENERAL CONFORMANCE

FOR ARCHITECTS/ENGINEERS WHO UTILIZE PLANS, INCLUDING BUT NOT LIMITED TO, SHOP DRAWINGS PREPARED BY OTHER LICENSED DESIGN PROFESSIONALS AND/OR CONSULTANTS

(APPLICATION NO. 02-118068 FILE NO. 20-30

☒ THESE DRAWINGS OR SHEETS LISTED IN THE SHEET INDEX ON TITLE SHEET T0.1
☒ THIS DRAWING, PAGE OF SPECIFICATIONS/ CALCULATIONS

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

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

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

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

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

SIGNATURE — DATE 08/11/2021

DAVE BAISA
PRINT NAME

C33002 — LICENSE NUMBER
04.30.2023 — EXPIRATION DATE

CAFETERIA

NUMBER OF STORIES:	1
OCCUPANCY:	E
CONSTRUCTION TYPE:	A-3 Existing
FIRE SPRINKERS:	NO
FIRE ALARM:	YES
AREA CALCULATION:	No increase to existing area

GYMNASIUM

NUMBER OF STORIES:	1
OCCUPANCY:	E
CONSTRUCTION TYPE:	A-3 Existing
FIRE SPRINKERS:	NO
FIRE ALARM:	YES
AREA CALCULATION:	No increase to existing area

LP Engineers, Inc.
895 W. Ashlan Ave, Suite 101 Clovis, CA 93612
p 559-348-2130 - f 559-348-2131
www.lpengr.com
garen@lpengr.com

LICENSED ARCHITECT
DAVID BAISA
NO. C33002
REN. 4-30-23
STATE OF CALIFORNIA

DSA #: 02-118068

FILE #: 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D.
1407 SUNSET AVE.
MADERA, CA 93637

No.	DATE	DESCRIPTION
REVISIONS		

SHEET NAME
ARCHITECTURAL NOTES

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENGONI	17-1060	A0.1
DRAWN BY	SCALE	
Dong Ngo	AS NOTED	
CHECKED BY	DATE	
K.K.	5/18/2021	

CONSTRUCTION DOCUMENTS

1. SOLELY AS A CONVENIENCE TO THE OWNER, THE ARCHITECT MAY INCLUDE DOCUMENTS PREPARED BY CERTAIN CONSULTANTS (OR INCORPORATE THE RECOMMENDATION OF SAID CONSULTANTS IN DOCUMENTS PREPARED BY THE ARCHITECT) WITHIN THE SET OF DOCUMENTS ISSUED BY THE ARCHITECT IT BEING EXPRESSLY UNDERSTOOD THAT, BY SAID ISSUANCE, THE ARCHITECT ASSUMES NO LIABILITY FOR THE SERVICES OF SAID CONSULTANTS.
2. ALL WORK SHALL CONFORM TO TITLE 24. CALIFORNIA CODE OF REGULATIONS (CCR). A PROJECT INSPECTOR WITH A CLASSIFICATION 2, EMPLOYED BY THE OWNER SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, C.C.R.
3. THE BOOK OF SPECIFICATIONS ARE A PART OF THIS CONTRACT.
4. DRAWINGS ARE NOT TO BE SCALED. DIMENSIONS GOVERN.
5. PRIORITY OF DOCUMENTS: FIGURED DIMENSIONS ON DRAWINGS SHALL GOVERN, BUT WORK NOT DIMENSIONED SHALL BE AS DIRECTED. WORK NOT PARTICULARLY SHOWN OR SPECIFIED SHALL BE THE SAME AS SIMILAR PARTS THAT ARE SHOWN OR SPECIFIED. LARGE SCALE DETAILS SHALL TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS AS TO SHAPE & DETAILS OF CONSTRUCTION. SPECIFICATIONS SHALL GOVERN TO MATERIALS, WORKMANSHIP AND INSTALLATION PROCEDURES. THE SPECIFICATIONS CALLING FOR THE HIGHER QUALITY MATERIAL OR WORKMANSHIP SHALL PREVAIL. CONTRACTOR SHALL PROMPTLY NOTIFY THE ARCHITECT/ENGINEER IN WRITING, OF DRAWINGS & SPECIFICATIONS WHICH MAY BE IN CONFLICT. IN THE EVENT THAT DRAWINGS ARE SPECIFICATIONS ARE IN CONFLICT. THE MORE RESTRICTIVE, HIGHER QUALITY MATERIAL OR WORKMANSHIP SHALL PREVAIL.
6. THE TYPICAL DETAILS AND NOTES SHOWN ON THESE SHEETS SHALL APPLY IN ALL CASES UNLESS SHOWN OTHERWISE. WHERE NO DETAILS ARE SHOWN. CONSTRUCTION SHALL BE AS SHOWN FOR OTHER SIMILAR WORK. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. ALL WORK AND CONSTRUCTION SHALL COMPLY WITH APPLICABLE BUILDING CODES, REGULATIONS, AND SAFETY REQUIREMENTS.
7. COMPLIANCE WITH CFC CH. 33 (2019) - FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION.

GENERAL CONSTRUCTION

1. ALL MATERIALS AND WORK TO CONFORM TO LATEST GOVERNING BUILDING CODES AND REGULATIONS.SEE SHEET AT-I CODE TABULATIONS
2. CONTRACTOR SHALL PROVIDE PROTECTION AS NECESSARY PER CITY & LOCAL CODE REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IE CONDITIONS PRIOR TO ANY WORK AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCY. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS REQUIRED DUE TO HIS FAILURE TO DO SO. DO NOT SCALE DRAWINGS. DIMENSIONS GOVERN ANY DISCREPANCIES.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR REQUESTING ALL INSPECTIONS AND TESTS INDICATED ON THE PLANS AND SPECIFICATIONS. RECOMMENDED BY THE SOILS REPORT AND/OR REQUIRED BY ANY GOVERNMENT AGENCY. OWNER SHALL BEAR THE COSTS.
5. CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL UTILITY LINES AND STUBS TO THE BUILDING(S) AS MAY BE INDICATED ON THE PLANS.
6. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A LIST OF THE HEATING. COOLING, WATER HEATING, LIGHTING SYSTEM, AND INSTRUCTION ON HOW TO USE THEM EFFICIENTLY.
7. PRIOR TO BUILDING FINAL INSPECTION. APPLIANCE CERTIFICATE. WHICH IS PROVIDED BY APPLIANCE MANUFACTURER, MUST BE COMPLETED BY THE INSTALLER OR GENERAL CONTRACTOR AND POSTED IN A CONSPICUOUS LOCATION. (INCLUDING HVAC UNITS AND WATER HEATERS.)
8. EQUIPMENT WHICH REQUIRES PREVENTATIVE MAINTENANCE FOR EFFICIENT OPERATION MUST BE FURNISHED WITH MAINTENANCE INFORMATION.
9. AUTOMATIC FIRE SPRINKLERS MUST BE IN FULL OPERATIONAL USE PRIOR TO OCCUPANCY.
10. CONTRACTOR SHALL PROVIDE ACCESS PANELS AS REQUIRED BY PLUMBING. AIR CONDITIONING AND OTHER TRADES. AND AS REQUIRED BY CODES.
11. NO ADDITIONAL ROOF OPENINGS OR ROOF MOUNTED EQUIPMENT IS ALLOWED BEYOND THAT WHICH IS SHOWN ON THESE PLANS WITHOUT WRITTEN CONSENT OF THE ARCHITECT.
12. CONTRACTOR(S) IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING THAT ALL TRADES HAVE REVIEWED ENTIRE WORKING DOCUMENTATION AND NOT LIMITED TO SAID SPECIFIC TRADE.

EXITING REQUIREMENTS

1. ALL REQUIRED EXITS INDICATED ON PLANS SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT. FLUSH BOLTS AND SURFACE BOLTS ARE PROHIBITED.
2. EXIT SIGN WHERE INDICATED SHALL BE WORDED "EXIT" IN SIX INCHES (6") HIGH ILLUMINATED LETTERS AND SHALL CONFORM TO GOVERNING BUILDING CODES AND REGULATIONS.
3. EXIT SIGNS SHALL BE POWERED BY SEPARATE CIRCUITS. ONE OF WHICH SHALL BE SEPARATED FROM ALL OTHER CIRCUITS IN THE BUILDING AND INDEPENDENTLY CONTROLLED. REFER TO ELEC. PLANS.
4. INSTALL ADDRESS NUMBERS IN A CONSPICUOUS LOCATION ON THE BUILDING SO THAT IT CAN BE EASILY VISIBLE FROM THE STREET PER LOCAL MUNICIPAL CODE

SAFETY REQUIREMENTS

1. ALL FLOORS IN PUBLIC AREA SHALL HAVE NON-SLIP SURFACE IN COMPLIANCE WITH DIVISION 18 OF HEALTH AND SAFETY CODES OF THE STATE OF CALIFORNIA AND CHAPTER IIB OF THE CALIFORNIA BUILDING CODE
2. COMPLIANCE WITH CFC CH 33 (2019) - FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION.

ORGANIZATION

THE ORGANIZATION OF THESE DRAWINGS IS NOT INTENDED TO CONTROL THE DIVISION OF WORK AMONG SUBCONTRACTORS. IT SHALL BE THE CONSTRUCTION MANAGER'S RESPONSIBILITY TO DIVIDE THE WORK.

COPIES OF THESE DRAWINGS ARE SUPPLIED TO THE OWNER., AND THE CONTRACTOR FOR USE IN THE CONSTRUCTION OF THIS PROJECT ONLY. THE DRAWINGS ARE NOT TO BE REPRODUCED. CHANGED, OR COPIED IN ANY FORM OR MANNER WHATSOEVER., NOR ARE THEY TO BE ASSIGNED TO A THIRD PARTY WITHOUT FIRST OBTAINING THE WRITTEN PERMISSION OF S.I.M. ARCHITECTS. ALL DRAWINGS PREPARED BY S.I.M. ARCHITECTS ARE AND SHALL REMAIN THE PROPERTY OF S.I.M. ARCHITECTS.

IT IS THE INTENTION OF THE PLANS AND SPECIFICATIONS TO COVER ALL THINGS REQUIRED TO MAKE COMPLETE AND OPERATIVE SYSTEMS. CONTRACTOR IS TO FURNISH ALL LABOR., MATERIALS., TRANSPORTATION, EQUIPMENT, MISCELLANEOUS SERVICES, ETC., REQUIRED TO ACCOMPLISH THIS RESULT, ANYTHING WHICH MAY BE REASONABLY CONSTRUED AS A NECESSARY PART OF THE INSTALLATION IS TO BE INCLUDED WHETHER SPECIFICALLY SHOWN OR MENTIONED, THE ARCHITECT WILL GIVE ANY INTERPRETATIONS NECESSARY FOR THE CONTRACTOR TO PROPERLY ESTIMATE THE PROJECT.

PROJECT NOTES

1. REMOVE ALL ITEMS REQUIRED TO PERFORM THE NEW WORK AS DESCRIBED IN THIS ENTIRE SET OF DRAWINGS AND SPECIFICATIONS. WHETHER OR NOT SPECIFICALLY SHOWN ON THIS DRAWING.
2. REFER TO CIVIL. STRUCTURAL, MECHANICAL. PLUMBING. AND ELECTRICAL DRAWINGS FOR OTHER DEMOLITION WORK NOT SHOWN ON THIS DRAWING.
3. PROVIDE AND MAINTAIN INTERIOR AND EXTERIOR SHORING, BRACING, OR STRUCTURAL SUPPORT TO PRESERVE STABILITY AND PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF STRUCTURES TO BE SELECTIVELY DEMOLISHED. CEASE OPERATIONS AND NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY IF SAFETY OR STRUCTURE APPEARS TO BE ENDANGERED . TAKE PRECAUTIONS TO SUPPORT STRUCTURE UNTIL DETERMINATION IS MADE FOR CONTINUING OPERATIONS. STRENGTHEN OR ADD NEW SUPPORTS WHEN REQUIRED DURING PROGRESS OF SELECTIVE DEMOLITION.
4. SAWCUT AND REMOVE EXISTING SLAB AND FOOTINGS REQUIRED TO PERFORM NEW WORK.
5. REMOVE ALL FLOOR FINISHES AS REQUIRED TO PERFORM NEW WORK WHETHER OR NOT SPECIFICALLY SHOWN ON THIS DRAWING.
6. REMOVE ALL CEILING SYSTEMS AND ASSOCIATED INSULATION, MECHANICAL. ELECTRICAL. AND PLUMBING ITEMS TO PERFORM NEW WORK WHETHER OR NOT SPECIFICALLY SHOWN ON THIS DRAWING.
7. REMOVE DOORS. WINDOWS, LOUVERS. AND ASSOCIATED FRAMES AS REQUIRED.
8. SEE ARCHITECTURAL FLOOR PLANS, INTERIOR ELEVATIONS, AND DETAILS FOR ADDITIONAL REQUIREMENTS FOR DEMOLITION WORK.
9. ALL DEMOLITION WORK INVOLVING PLUMBING. MECHANICAL. AND ELECTRICAL WORK SHALL BE CLOSELY COORDINATED WITH THE GENERAL CONTRACTOR WHO SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGE TO THE EXISTING INSTALLATION PLANNED TO REMAIN FOR REUSE (OR AS PART OF NEW PLUMBING. MECHANICAL. AND ELECTRICAL SYSTEMS).
10. ALL NEW OPENINGS IN EXISTING MASONRY WALLS OR SLABS SHALL BE SAWCUT. DO NOT OVERCUT AT CORNERS. CHIP FROM SAWCUT TO CORNER SEE FLOOR PLANS FOR EXACT LOCATIONS. GRIND SMOOTH ALL EXPOSED CONCRETE EDGES.
11. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS AS SHOWN ON PLANS. NOTIFY THE ARCHITECT IMMEDIATELY IF THERE IS ANY DISCREPANCY BETWEEN EXISTING CONSTRUCTION AND THE DRAWINGS.
12. WHERE WALLS, PARTITIONS, CASEWORK, FIXTURES, EQUIPMENT. ETC., ARE TO BE REMOVED OR HAVE BEEN REMOVED. PATCH AND REPAIR EXISTING SURFACES AS REQUIRED TO MATCH ADJACENT UNDAMAGED SURFACES AND PROVIDE AN ACCEPTABLE SURFACE FOR SCHEDULED FINISHES.
13. REMOVE EXISTING WALL COVERING MATERIALS AND PREPARE WALLS AS REQUIRED.
14. ELECTRICAL PANEL COVERS LOCATED IN OTHER SERVICE AND UTILITY AREAS ARE TO BE REMOVED, STRIPPED OF PAINT, REPAINTED AND REINSTALLED.
15. WHERE EXISTING GYPSUM BOARD WALLS ARE PARTIALLY REMOVED AND/OR REQUIRE PATCHING OR EXTENSION. USE GYPSUM BOARD TO MATCH EXISTING ADJACENT UNDAMAGED SURFACES. EXTEND NEW PLASTER TO A NATURAL AND LOGICAL MATERIAL BREAK POINT.
16. REMOVE MISCELLANEOUS BRACKETS. CLIPS. HANGERS. NAILS. LEDGER BOARDS, WHERE REQUIRED FOR NEW WORK TO BE INSTALLED. PATCH AND REPAIR WALL SURFACES FOR SCHEDULED FINISHES.
17. WHERE EXISTING CEILINGS ARE SHOWN TO REMAIN, BUT REQUIRE REMOVAL FOR NEW WORK, SALVAGE AND REINSTALL EXISTING MATERIALS. SUSPENSION SYSTEM. ELECTRICAL. AND MECHANICAL ITEMS. ETC. RESUPPORT CEILING TO PROVIDE A STABLE SYSTEM AS REQUIRED. FURNISH ANY NEW MATERIALS AND ACCESSORIES TO MATCH EXISTING AS REQUIRED TO PROVIDE A COMPLETE AND FINISHED INSTALLATION.
18. REPLACE ATTIC/CEILING INSULATION WHERE EXISTING MATERIALS ARE DISTURBED DURING THE COURSE OF THE WORK. MATCH EXISTING MATERIALS.
19. CAP OFF ALL DEMOLISHED FIXTURE WATERIWASTE LINES, ETC. BEHIND (N) FINISHED WALLS AND FLOORS. AFTER REMOVAL OF PLUMBING FIXTURES PATCH FLOOR AND WALL AS REQUIRED(MATCH EXISTING)
20. THE CONTRACTOR SHALL BE FAMILIAR WITH EXISTING BUILDING CONDITIONS. PROPER CAUTION SHALL BE TAKEN REGARDING ANY EXISTING MATERIAL MAY CONTAIN ASBESTOS. REFER TO CALIFORNIA CONTRACTOR LICENSE LAW FOR WORKING PROCEDURES.
21. IN AS MUCH AS THE REMODELING AND/OR REHABILITATION OF AN EXISTING BUILDING REQUIRES THAT CERTAIN ASSUMPTIONS BE MADE REGARDING EXISTING CONDITIONS. AND BECAUSE SOME OF THESE ASSUMPTIONS MAY NOT BE VERIFIABLE WITHOUT EXPENDING ADDITIONAL SUMS OF MONEY. OR DESTROYING OTHERWISE ADEQUATE OR SERVICEABLE PORTIONS OF THE BUILDING, THE OWNER AGREES THAT. EXCEPT FOR NEGLIGENCE ON THE PART OF THE DESIGN PROFESSIONAL. THE OWNER WILL HOLD HARMLESS AND INDEMNIFY THE DESIGN PROFESSIONAL FROM AND AGAINST ANY AND ALL CLAIMS, DAMAGES, AWARDS, AND COSTS OF DEFENSE ARISING OUT OF THE PROFESSIONAL SERVICES PROVIDED UNDER THIS AGREEMENT.
22. REMOVE EXISTING ACCESSORIES INCLUDING. BUT NOT LIMITED TO RESTROOM ACCESSORIES. GRAB BARS. MIRRORS. MAP RAILS. HOOKS. PENCIL SHARPENERS. CHALKBOARDS. ETC.
23. IN PRE-CONSTRUCTION MEETING. CONTRACTOR TO DISCUSS WITH OWNER THE FOLLOWING ITEMS:
    A. STAGING AREAS
    B. WORK SCHEDULING
    C. LIMITS OR OWNER'S INVOLVEMENT
    D. SECURITY DURING CONSTRUCTION
24. REPAIR AND/OR REPLACE ANY AND ALL DAMAGED IRRIGATION LINES. CONTROLLERS. IE ASSOCIATED EQUIPMENT AS NECESSARY. REROUTE IRRIGATION EQUIPMENT AS INDICATED OR AS NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM.

DOCUMENT INTENSIONS

THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERNATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NONCOMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE DSA APPROVED DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. A CONSTRUCTION CHANGE DOCUMENT OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED REPAIR WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE REPAIR WORK.

DESIGN COMPLIANCE

STATEMENT OF DESIGN COMPLIANCE:

THE STATE ENERGY CONSERVATION STANDARDS APPLICABLE TO THIS PROJECT HAVE BEEN REVIEWED AND THE BUILDING DESIGNED DESCRIBED HEREIN IS IN SUBSTANTIAL CONFORMANCE.

THE APPLICABLE STATE CODE TITLE 24 HAS BEEN REVIEWED FOR THIS PROJECT AND THE BUILDING DESIGN HEREIN IS IN SUBSTANTIAL CONFORMANCE.

ASBESTOS NOTES

1. ALL DEMOLITION WORK INCLUDED IN THESE PLANS SHALL CONFORM TO THE ASBESTOS REPORT PREPARED FOR THIS CAMPUS.
2. ALL NEW CONSTRUCTION INCLUDED IN THESE PLANS SHALL CONFORM TO THE ASBESTOS REPORT PREPARED FOR THIS CAMPUS.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-118068 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/24/2021

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LICENSED ARCHITECT
DAVID BAYSINGER
NO. C33002
REN. 4-30-23
STATE OF CALIFORNIA

DSA #: 02-118068

FILE #: 20-30

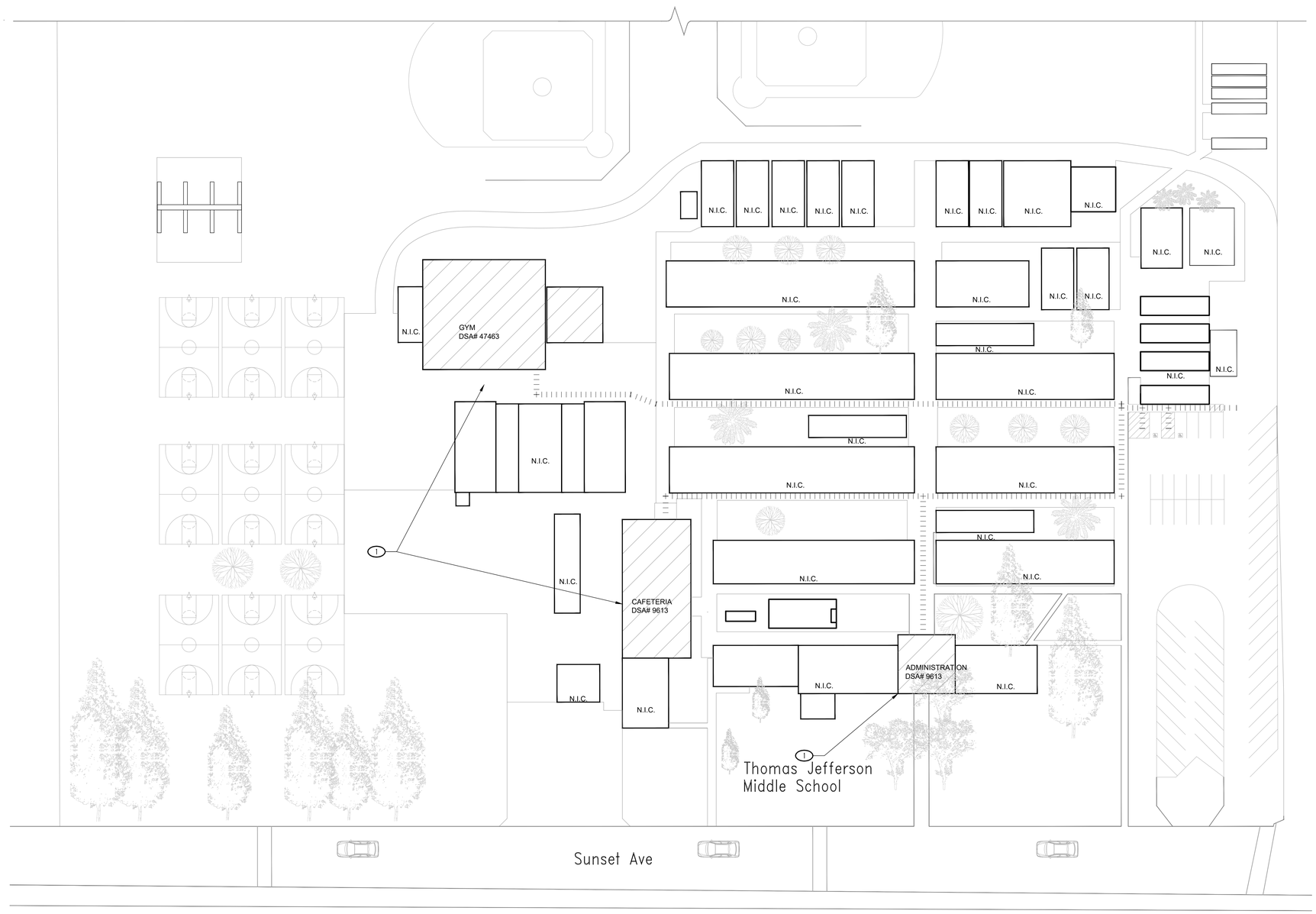
PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D.
1407 SUNSET AVE.
MADERA, CA. 93637

REVISIONS

No.	DATE	DESCRIPTION

SHEET NAME
ARCHITECTURAL NOTES

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	A0.2
DRAWN BY	SCALE	
Dong Ngo	AS NOTED	
CHECKED BY	DATE	
K.K.	5/18/2021	



NOTE:
N.I.C. = NOT IN CONTRACT.

ARCHITECTURAL SITE PLAN

SCALE: 1" = 40' - 0"

TRUE NORTH

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-118068 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/24/2021

KEY NOTES

1. HATCHED AREA'S OF BUILDINGS IS THE SCOPE OF WORK AREA'S FOR HVAC REPLACEMENT AND FIRE ALARM WORK IN ADMIN. BLDG.

PATH OF TRAVEL NOTES

1. ALL BUILDINGS CAN BE ACCESSED FROM PARKING SPACES
2. ARCHITECT HAS SURVEYED/INSPECTED "THE PATH OF TRAVEL (P.O.T.) AS INDICATED ON THE PLANS AND HAS FOUND IT TO BE, OR HAS INDICATED ON THE PLANS REMEDIAL WORK WHICH WOULD CAUSE IT TO BE, A BARRIER-FREE ACCESSIBLE ROUTE:
   - AT LEAST 48" IN WIDTH, OR AS APPROVED BY CODE
   - WITHOUT ABRUPT LEVEL CHANGES EXCEEDING 1/2" IF BEVELED AT 1:2 MAXIMUM
   - SLOPE, OR VERTICAL LEVEL CHANGES EXCEEDING 1/4"
   - WITH A FIRM, STABLE, AND SLIP RESISTANT WALKING SURFACE
   - WITH A RUNNING SLOPE OF 1:20 OR LESS, UNLESS OTHERWISE INDICATED, AND A
   - CROSS SLOPE OF 1:50 OR LESS
   - IS FREE FROM OVERHEAD OBSTRUCTIONS WITHIN 80" ABOVE WALKING SURFACE
   - AND IS FREE OF OBJECTS WHICH PROTRUDE MORE THAN 4" BETWEEN THE HEIGHTS OF 27" AND 80" ABOVE THE WALKING SURFACE.
3. ALL GATES IN PATH OF TRAVEL MUST COMPLY WITH EXIT DOOR REQUIREMENTS SECTION CBC 2019, 11B-404. PROVIDE LEVER HARDWARE, KICK PLATES, 5 lbs PRESURE TO OPERATE, 24" MIN. STRIKE SIDE CLEARANCE, 48 MAX. WIDTH, AND PANIC HARDWARE IF REQUIRED BY FIRE LIFE SAFETY.
4. THERE IS NO DROP-OFF OVER 4" AT THE EDGE OF WALK OR LANDING. IN NEW CONSTRUCTION, ALL WALKS AND ROUTES ARE CONSIDERED PATH OF TRAVEL (P.O.T.) ARCHITECT AND CONTRACTOR SHALL VERIFY THAT THE ENTIRE PATH OF TRAVEL HAS BEEN CONSTRUCTED FREE OF BARRIERS.
5. ALL ACCESSIBLE PARKING SPACES ARE LOCATED SO THAT A PERSON WITH DISABILITY IS NOT COMPELLED TO WHEEL OR WALK BEHIND ANY OTHER CAR.
6. WALKS IN PATH OF TRAVEL SHALL BE FREE OF GRATINGS WHENEVER POSSIBLE. WHEN INSTALLED, OPENINGS SHALL BE 1/2" MAXIMUM IN DIRECTION OF TRAFFIC FLOW.

ACCESSIBLE PATH OF TRAVEL:

ACCESSIBLE PATH OF TRAVEL AS INDICATED ON PLANS IS A BARRIER FREE ACCESS ROUTE WITHOUT ANY ABRUPT LEVEL CHANGES EXCEEDING 1/2" IF BEVELED AT 1:2 MAXIMUM SLOPE OR VERTICAL LEVEL CHANGES NOT EXCEEDING 1/4" MAXIMUM AND AT LEAST 48" IN WIDTH. SURFACE IS STABLE, FIRM AND SLIP RESISTANT. CROSS SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5% UNLESS OTHERWISE INDICATED. ACCESSIBLE PATH OF TRAVEL SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM AND PROTRUDING OBJECTS GREATER THEN 4" PROJECTION FROM WALL ABOVE 27" AND LESS THAN 80". ARCHITECT SHALL VERIFY THAT THERE ARE NO BARRIERS IN THE PATH OF TRAVEL.

DSA PR-15C1
DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT:

THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTION OF THE POT THAT WERE DETERMINED TO BE COMPLIANT 1) HAVE BEEN IDENTIFIED AND 2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTION OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS.

DURING CONSTRUCTION, IF POT ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS A PART OF THIS PROJECT BY MEANS OF A "CONSTRUCTION CHANGE DOCUMENT" (FORM DSA 140).

SITE LEGEND
PATH OF TRAVEL

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LICENSED ARCHITECT
DAVID BASS
NO. C33002
REN. 4-30-23
STATE OF CALIFORNIA

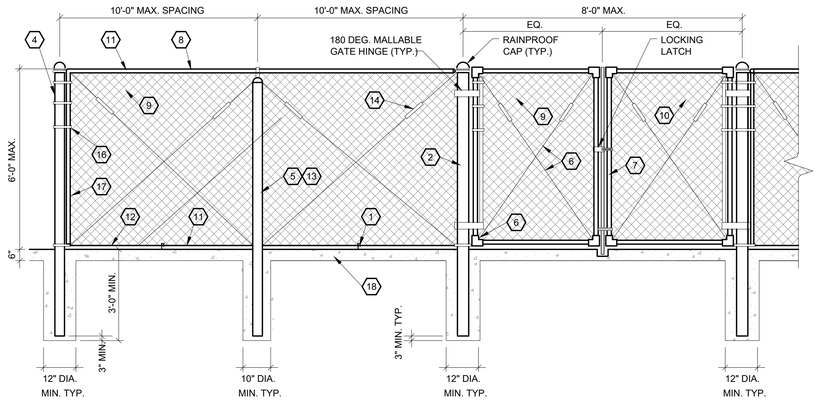
DSA #: 02-118068
FILE #: 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D.
1407 SUNSET AVE,
MADERA, CA. 93637

No.	DATE	DESCRIPTION	REVISIONS

SHEET NAME
ARCHITECTURAL SITE PLAN

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	A0.3
DRAWN BY: Dong Ngo	SCALE: AS NOTED	
CHECKED BY: K.K.	DATE: 5/18/2021	



CHAIN LINK FENCE & DOUBLE GATE

1. 3/8"X 6" GALVANIZED STEEL HOOK BOLT WITH NUT EMBEDED INT MOWSTRIP MID WAY BETWEEN POST.
2. 4 1/2" DIAG. O.D. GALVANIZED STEEL FENCE POST (10.79 LB/FT)
3. 4" DIAG. O.D. GALVANIZED STEEL GATE POST (9.1 LB/FT)
4. 27/8" O.D. GALVANIZED STEEL FENCE POST (5.79 LB/FT) END, ANGLE, CORNER AND 6'-0" HIGH POSTS.
5. 23/8" GALVANIZED STEEL LINE POST (3.65 LB/FT).
6. 2" O.D. GALVANIZED STEEL GATE FRAME (2.72 LB/FT).
7. 17/8" O.D. STEEL GATE FRAME (2.72 LB/FT).
8. 15/8" GALVANIZED STEEL HORIZONTAL RAIL (2.27 LB/FT).
9. 2" X 2" MESH X 9 GALVANIZED FENCE FABRIC WITH KNUCKLED TOP AND BOTTOM FENCE TO BE GALVANIZED BEFORE WEAVING (G.B.W.).
10. DECORATIVE SLATING TYPICAL FOR TRASH ENCLOSURE ONLY UNLESS NOTED OTHERWISE.
11. 9 GA. (0148 DIA.) GALVANIZED STEEL WIRES OR HOG RINGS AT 15" O.C. MAX. SPACING MINIMUM OF 8 TIE WIRES PER EA. 10'-0" HORIZONTAL RAIL.
12. 7 GA. (0.177 DIA.) GALVANIZED STEEL TENSION WIRE.
13. 6 GA. (0.912 DIA.) GALVANIZED STEEL POST CLIPS AT 14" MAX. SPACING MIN. OF 5 POSTS CLIP FOR 6'-0" POSTS MIN. OF 17 POST CLIPS FOR 20'-0" POSTS.
14. GALVANIZED ADJUSTABLE TURNBUCKLE FOR 3/8" DIA. TRUSS ROD.
15. 3/8" DIA. GALVANIZED STEEL ADJUSTABLE TRUSS ROD ARE REQUIRED FOR ALL GATE POSTS PANELS AND END OF CORNER POST PANELS.
16. GALVANIZED STRETCHER BAR TENSION BAND AT 12" MAX. SPACING, MIN. OF 6" TENSION BANDS FOR 6'-0" POSTS AND 20 TENSION BANDS FOR 20'-0" POSTS.
17. 1/4" X 6" GALVANIZED STRETCHER BAR.
18. 12" WIDE X 6" DEEP CONCRETE MOW STRIP BELOW ALL FENCING MATERIAL.

- PROVIDE SHOP DRAWING FOR FULLY FUNTIONAL GATE AND FENCE ASSEMBLIES. DETAILS SHOWN ARE SCHEMATIC AND GENERAL IN NATURE AND MAY NOT INDICATE ALL PARTS NECESSARY BUT REQUIRED FOR A COMPLETE FENCE/ GATE ASSEMBLY.
- WELDING SPECIAL INSPECTION NOT REQUIRED.

1 CHAIN LINK FENCING

SCALE: N.T.S.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-118068 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/24/2021

ARCHITECTURAL DETAILS

SCALE: N.T.S.

TRUE NORTH

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LICENSED ARCHITECT
DAVID BAILEY
NO. C33002
REN. 4-30-23
STATE OF CALIFORNIA

DSA #: 02-118068

FILE #: 20-30

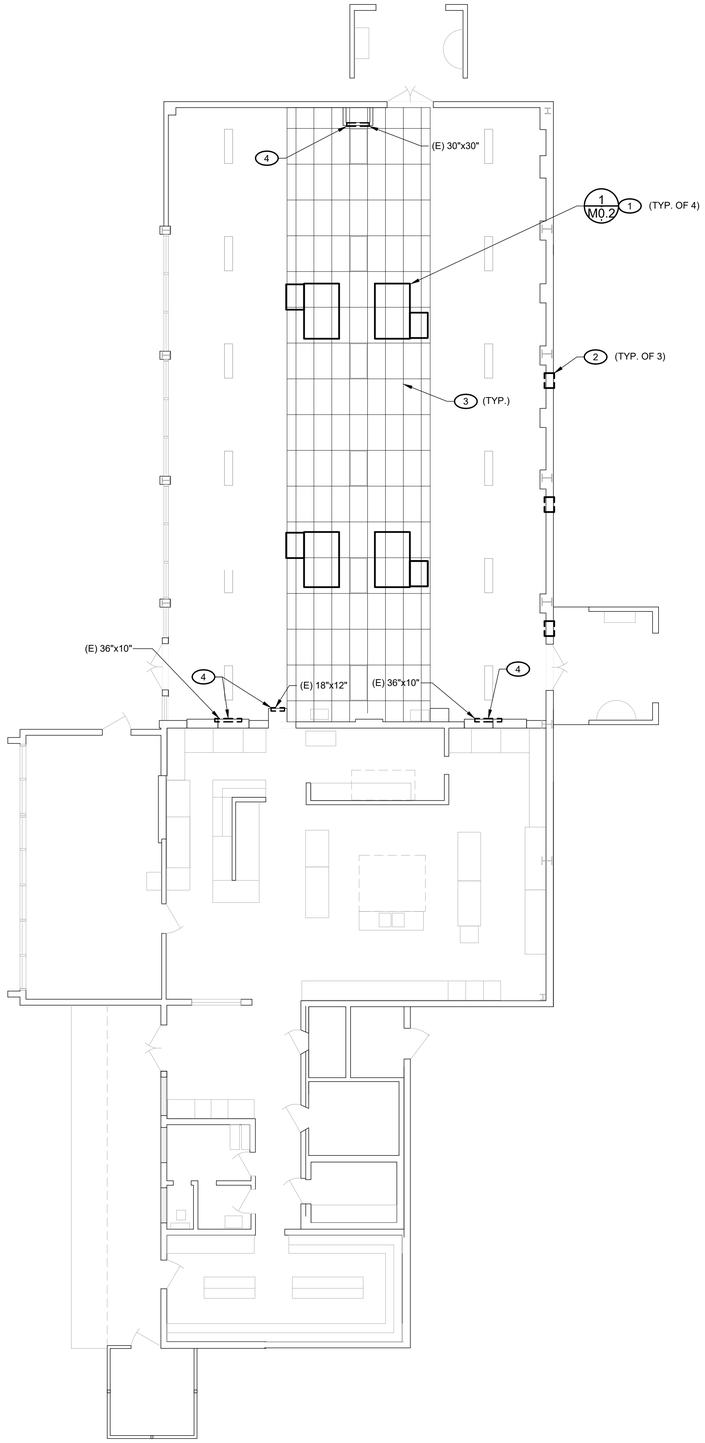
PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D.
1407 SUNSET AVE.
MADERA, CA. 93637

REVISIONS

No.	DATE	DESCRIPTION

SHEET NAME
ARCHITECTURAL DETAILS

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	A0.4
DRAWN BY	SCALE	
Dong Ngo	AS NOTED	
CHECKED BY	DATE	
K.K.	5/18/2021	



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-118068 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/24/2021

KEY NOTES

1. REMOVE (E) BUILT-UP ROOF/ ROOFING FOR INSTALLATION OF NEW ROOFTOP AC UNIT WITH 22"X16" & 15"X30" PENETRATIONS THRU ROOF. PATCH ROOFING TO MATCH (E) 18" ALL AROUND, FIELD VERIFY PRIOR TO BID.
2. PATCH 22"x22" OPENING THRU WALL WHERE DUCT WAS REMOVED TO MATCH (E) GYP. BD. INTERIOR AND STUCCO EXTERIOR, FIELD VERIFY PRIOR TO BID.
3. REMOVE AND RE-INSTALL T-BAR CEILING TILES/ GRID AS REQUIRED FOR REMOVAL OF (E) DUCT AND INSTALLATION OF NEW DUCTWORK.
4. PATCH GYP. BD. WALL TO MATCH (E) WHERE (E) GRILLE AND DUCT THRU WALL WAS REMOVED. FIELD VERIFY PRIOR TO BID.

ARCHITECTURAL FLOOR PLAN - CAFETERIA

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

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LICENSED ARCHITECT
DAVID SPATZ
NO. C33002
REN. 4-30-23
STATE OF CALIFORNIA

DSA #: 02-118068

FILE #: 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D.
1407 SUNSET AVE.
MADERA, CA 93637

No.	DATE	DESCRIPTION

REVISIONS

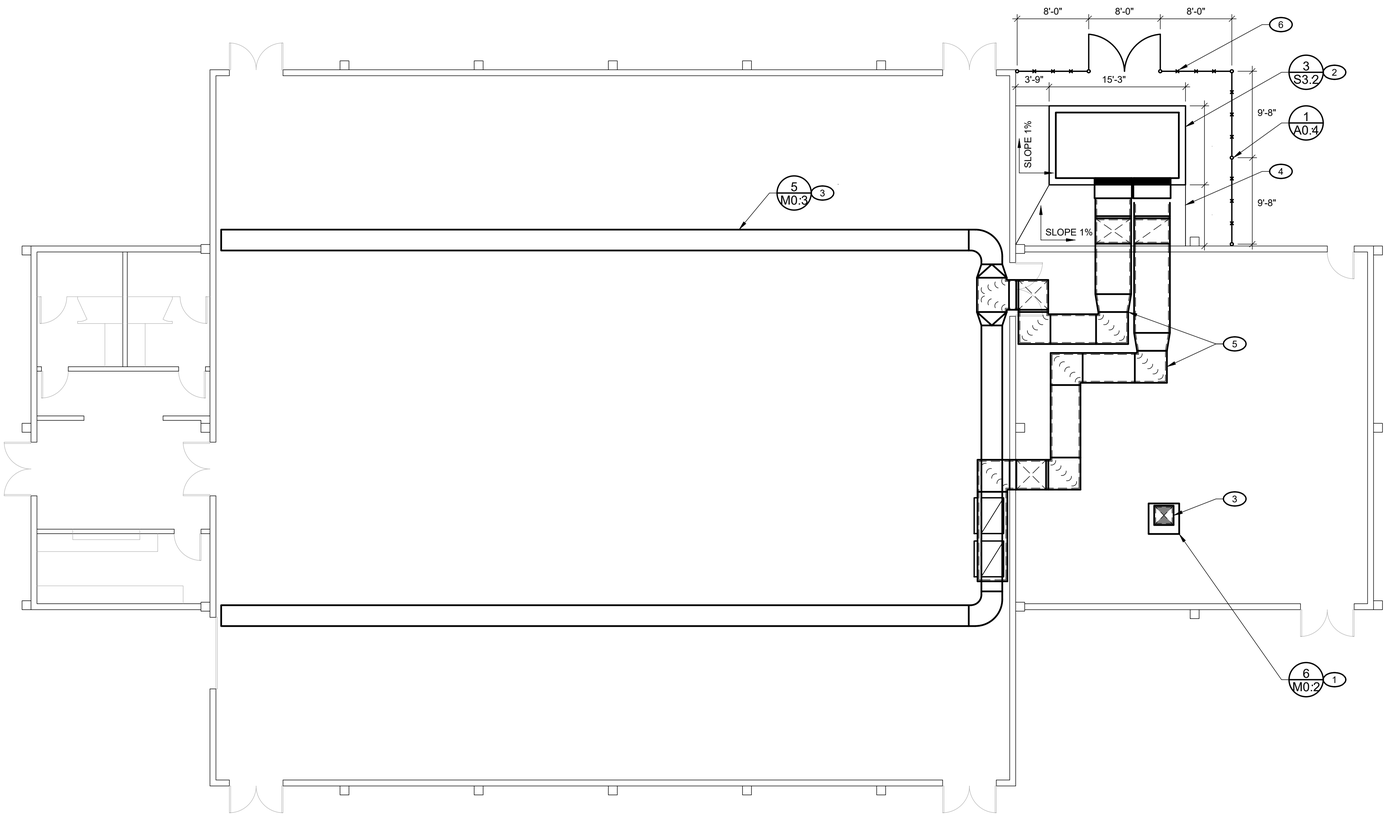
SHEET NAME
ARCHITECTURAL FLOOR PLAN - CAFETERIA

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	A1.1
DRAWN BY	SCALE	
Dong Ngo	AS NOTED	
CHECKED BY	DATE	
K.K.	5/18/2021	

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-118068 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/24/2021

KEY NOTES

1. REMOVE (E) BUILT-UP GRAVEL ROOF/ ROOFING FOR INSTALLATION OF NEW ROOFTOP EC UNIT WITH 26"X26" PENETRATION THRU ROOF. PATCH ROOFING TO MATCH (E) 18" ALL AROUND, FIELD VERIFY PRIOR TO BID.
2. PROVIDE NEW HOUSEKEEPING PAD WITH 3/4" CHAMFER ON TOP EDGE FOR NEW AC UNIT PER STRUCTURAL DRAWINGS.
3. REMOVE AND PATCH HARD GYP. BD. CEILING TO MATCH (E) AS REQUIRED FOR INSTALLATION OF DUCT/ SUPPORTS, FIELD VERIFY PRIOR TO BID.
4. PROVIDE 4" THICK CONCRETE SLAB FROM EQUIPMENT PAD TO WALL WITH 1% MINIMUM SLOPE AS SHOWN PER DIRECTION ARROWS.
5. REMOVE AND PATCH BUILT-UP GRAVEL ROOF AND HARD GYP. BD. CEILING TO MATCH (E) AS REQUIRED FOR INSTALLATION OF DUCT/ SUPPORTS, FIELD VERIFY PRIOR TO BID.
6. INSTALL 6'-0" HIGH CHAINLINK FENCE AS SHOWN WITH (2) 4'-0" GATES.



ARCHITECTURAL FLOOR PLAN - GYM

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

TRUE NORTH

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LICENSED ARCHITECT
DAVID BAISCH
NO. C33002
REN. 4-30-23
STATE OF CALIFORNIA

DSA #: 02-118068

FILE #: 20-30

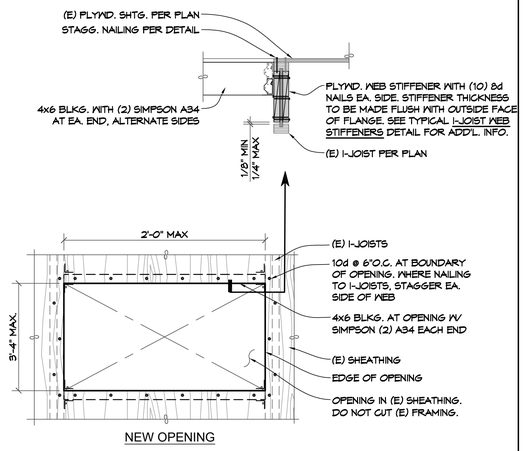
PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D.
1407 SUNSET AVE.
MADERA, CA. 93637

REVISIONS

No.	DATE	DESCRIPTION

SHEET NAME
ARCHITECTURAL FLOOR PLAN - GYM

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENGIONI	17-1060	A2.1
DRAWN BY	SCALE	
Dong Ngo	AS NOTED	
CHECKED BY	DATE	
K.K.	5/18/2021	



NEW OPENING

10 OPENING IN (E) WOOD FRMG. RETROFIT

IN EXISTING WOOD FRAMING SCALE: N.T.S.

A.B.	ANCHOR BOLT	HSS	HOLLOW STRUCTURAL SECTION
ABV.	ABOVE	HT.	HEIGHT
A.C.I.	AMERICAN CONCRETE INSTITUTE	I.B.C.	INTERNATIONAL BUILDING CODE
ADDL.	ADDITIONAL	I.C.C.	INTERNATIONAL CODE COUNCIL
A.E.S.	ARCHITECTURAL EXPOSED STEEL	IN	INCH
A.F.P.A.	AMERICAN FOREST AND PAPER ASSOCIATION	I.D.	INSIDE DIAMETER
		INT.	INTERIOR
A.I.S.C.	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	I.R.	INTERPRETATION OF REGULATIONS
		JST.	JOIST
A.I.T.C.	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION	K	KIPS
		KSI	KIPS PER SQUARE INCH
ALT.	ALTERNATE	L	ANGLE
A.P.A.	AMERICAN PLYWOOD ASSOCIATION	LBS, #	POUNDS (XXX LBS, XXX#)
ARCH.	ARCHITECT(URAL)	LL	LIVE LOAD
A.S.C.E.	AMERICAN SOCIETY OF CIVIL ENGINEERS	LLV(LLH)	LONG LEG VERTICAL (HORIZ.)
		LOC.	LOCATION
A.S.T.M.	AMERICAN SOCIETY FOR TESTING & MATERIALS	LSL	LAMINATED STRAND LUMBER
		LT. WT.	LIGHT WEIGHT
A.W.S.	AMERICAN WELDING SOCIETY	LVL	LAMINATED VENEER LUMBER
BLDG.	BUILDING	MAS.	MASONRY
BLK., BLKG.,	BLOCK, BLOCKING	MAX.	MAXIMUM
BM.	BEAM	M.B.	MACHINE BOLT
B.O.	BOTTOM OF	MFR	MANUFACTURER
BOT.	BOTTOM	MIN.	MINIMUM
C	CHANNEL	M.S.R.	MACHINE STRESS RATED
C.B.C.	CALIFORNIA BUILDING CODE	MTL.	METAL
CDX	C-D EXPOSURE 1	(N)	NEW
C.J.	CONSTRUCTION JOINT	NO., #	NUMBER, (NO. XX, #XX)
CL	CENTERLINE	N.T.S.	NOT TO SCALE
CLG.	CEILING	O/, o/	OVER
CLR.	CLEAR	O.C.	ON CENTER
C.M.U.	CONCRETE MASONRY UNIT	O.D.	OUTSIDE DIAMETER
COL.	COLUMN	O.H.	OPPOSITE HAND
CONC.	CONCRETE	OPNG.	OPENING
CONN.	CONNECTION	OP.	OPPOSITE
CONT.	CONTINUOUS	OSB	ORIENTED STRAND BOARD
CTSK.	COUNTERSINK	O.S.H.P.D.	OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
d	PENNY NAILS		
DBL.	DOUBLE	PL.	PLATE
DEMO.	DEMOLISH	P.T.	PRESSURE TREATED
DET., DTL.	DETAIL	PLYWD.	PLYWOOD
DF	DOUGLAS FIR	PSF	POUNDS PER SQUARE FOOT
DIA., Φ	DIAMETER	PSI	POUNDS PER SQUARE INCH
DIAG.	DIAGONAL	REINF.	REINFORCING
DIM.	DIMENSION	REQD.	REQUIRED
DL	DEAD LOAD	RM.	ROOM
DO	DITTO / DO OVER	SCHED.	SCHEDULE
DP	DEEP	SHTG.	SHEATHING
D.S.A.	DEPARTMENT OF STATE ARCHITECT	SHT.	SHEET
		SIM.	SIMILAR
DWG	DRAWING	SMS	SHEET METAL SCREWS
(E)	EXISTING	SPEC.	SPECIFICATION
EA.	EACH	SQ.	SQUARE
ELEV.	ELEVATION	STGR.	STAGGER
E.N.	EDGE NAILING	STD.	STANDARD
ENGR.	ENGINEER	STIFF.	STIFFENER
EQ.	EQUAL	STL.	STEEL
EQUIP.	EQUIPMENT	STRUCT.	STRUCTURAL
EXP.	EXPANSION	SYM.	SYMMETRICAL
E.W.	EACH WAY	T&B	TOP AND BOTTOM
FDN.	FOUNDATION	T&G	TONGUE AND GROOVE
F.E.M.A.	FEDERAL EMERGENCY MANAGEMENT AGENCY	THK.	THICK
		TL	TOTAL LOAD
F.F.	FINISH FLOOR	T.O.	TOP OF
FIN.	FINISH	TYP.	TYPICAL
FLR.	FLOOR	U.N.O., U.O.N.	UNLESS NOTED OTHERWISE
F.N.	FIELD NAILING	VERT.	VERTICAL
FRMG.	FRAMING	W/, W/O	WITH, WITH OUT
FT., FTG.	FOOT, FOOTING	WD	WOOD
F.V.	FIELD VERIFY	W.F.	WIDE FLANGE
GA.	GAUGE	W.C.L.I.B.	WEST COAST LUMBER INSPECTION BUREAU
GALV.	GALVANIZED		
GLB	GLUE LAMINATED BEAM	WT.	WEIGHT
H.D.	HOLDOWN	W.W.F.	WELDED WIRE FABRIC
HDR.	HEADER	W.W.A.	WELDED WIRE MESH
HGR.	HANGER	W.W.P.A.	WESTERN WOOD PRODUCTS ASSOCIATION
HORIZ.	HORIZONTAL		

12 ABBREVIATIONS

- SCALE: N.T.S.

1. ALL BOLTS SHALL BE MACHINE MADE TYPE F1554 GRADE 36 U.N.O.
2. BOLT HOLES IN WOOD SHALL BE OVERSIZED BY NOT MORE THAN 1/32".
3. ALL BOLTS AND LAG SCREWS SHALL BE PROVIDED WITH STANDARD STEEL WASHERS UNDER HEAD AND NUTS WHICH BEAR ON WOOD ACCORDING TO THE WASHER SCHEDULE BELOW, U.N.O.

WASHER SCHEDULE			
BOLT SIZE	STEEL PLATE SQUARE	MALLEABLE IRON ROUND	STANDARD CUT WASHER
1/2"Φ	2 x 2 x 1/4"	2 1/2"Φ x 1/4"	1 3/8"Φ x 7/64"
5/8"Φ	2 1/2 x 2 1/2 x 1/4"	2 3/4"Φ x 5/16"	1 3/4"Φ x 1/8"
3/4"Φ	3 x 3 x 5/16"	3"Φ x 3/8"	2"Φ x 5/32"
7/8"Φ	3 1/2 x 3 1/2 x 5/8"	3 1/2"Φ x 7/16"	2 1/4"Φ x 11/64"
1"Φ	3 3/4 x 3 3/4 x 7/16"	4"Φ x 1/2"	2 1/2"Φ x 11/64"
1 1/8"Φ	4 x 4 x 7/16"	4 1/2"Φ x 9/16"	2 3/4"Φ x 11/64"
1 1/2"Φ	4 1/4 x 4 1/4 x 1/2"	5"Φ x 5/8"	3 1/2"Φ x 3/16"

5. BOLTS AND SCREWS SHALL BE TIGHTENED AT TIME OF ERECTION AND RETIGHTENED BEFORE CLOSING IN OR AT COMPLETION OF JOB.
6. ALL EXPOSED FASTENERS SHALL HAVE ZINC-COATING CORROSION RESISTANCE.
7. ALL FASTENERS AND HARDWARE IN CONTACT WITH PRESERVATIVE-TREATED OR FIRE RETARDANT WOOD SHALL BE HOT DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. THE COATING WEIGHT FOR ZINC-COATED FASTENERS SHALL BE IN ACCORDANCE WITH A.S.T.M. A 153. EXCEPTION: FASTENERS OTHER THAN NAILS, TIMBER RIVETS, WOOD SCREWS AND LAG SCREWS SHALL BE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC COATED STEEL WITH COATING WEIGHTS IN ACCORDANCE WITH A.S.T.M. B 695, CLASS 55 MIN.
8. ALL STRUCTURAL WOOD SHALL CONFORM WITH THE FOLLOWING SPECIFICATIONS:
   - DOUGLAS FIR - LARCH — WCLIB OR WWPA RULES
   - PLYWOOD — U.S. PRODUCT STANDARD PS1-09 FOR SOFTWOOD PLYWOOD
9. MINIMUM GRADES SHALL BE AS FOLLOWS U.N.O. ON DRAWINGS:
   - STRUCTURAL FRAMING — DF NO. 1 OR BETTER
   - 4X AND LARGER AND POST — DF NO. 1 OR BETTER
   - STRUCTURAL PLYWOOD — PLYWOOD SHEATHING, GROUP 1, EXP. 1, U.N.O.
10. PREDRILL HOLES WHERE WOOD TENDS TO SPLIT.
11. WHERE LAG SCREWS ARE INDICATED, PROVIDE A FULL BODY DIAMETER LAG SCREW. THE SHANK SHALL EXTEND BEYOND THE ADJOINING MEMBER PLANE, U.N.O. LAG SCREWS SHALL NOT HAVE UPSET THREADS OR REDUCED BODY.
12. FOR LAG SCREWS, LEAD HOLE FOR THE UNTHREADED PORTION SHALL HAVE A DIAMETER EQUAL TO THE SHANK DIAMETER AND THREADED PORTION SHALL HAVE A DIAMETER EQUAL TO 65% OF THE SHANK DIAMETER. MIN. PENETRATION (NOT INCLUDING THE LENGTH OF TAPERED TIP) OF THE LAG SCREW INTO MAIN MEMBER SHALL BE EIGHT TIMES THE DIAMETER. LEAD HOLES ARE NOT REQUIRED FOR 3/8" DIAMETER LAG SCREWS PROVIDED THAT EDGE DISTANCES, END DISTANCES, AND SPACING ARE SUFFICIENT TO PREVENT UNUSUAL SPLITTING.
13. USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOB SITE DEMONSTRATION FOR EACH PROJECT AND THE APPROVAL BY THE PROJECT ARCHITECT OR STRUCTURAL ENGINEER AND D.S.A./O.S.H.P.D. THE APPROVAL IS SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE. MACHINE NAILING WILL NOT BE APPROVED IN 5/16" PLYWOOD. IF NAIL HEADS PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER OR IF MIN. ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED, THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY.

8 WOOD NOTES

- SCALE: N.T.S.

NAILING SCHEDULE [h]				
#	CONNECTION	FASTENING[a,g,i]		LOCATION
1.	JOIST TO SILL OR GIRDER	3 - 8d		TOENAIL
2.	BRIDGING TO JOIST	2 - 8d		TOENAIL EACH END
3.	BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	3 - 8d		TOENAIL
4.	RIM JOIST TO TOP PLATE	8d @ 6" o.c.		TOENAIL
5.	RAFTER TO PLATE	3 - 8d		TOENAIL
6.	1"x8" SHEATHING TO EA. BEARING	3 - 8d		FACE NAIL
7.	WIDER THAN 1"x8" SHEATHING TO EACH BEARING	3 - 8d		FACE NAIL
8.	ROOF RAFTER TO 2x RIDGE BEAM	2 - 16d 2 - 16d		TOENAIL FACE NAIL
9.	JOIST TO BAND JOIST	3 - 16d		FACE NAIL
10.	LEDGER STRIP	3 - 16d		FACE NAIL
11.	WOOD STRUCTURAL PANELS AND PARTICLEBOARD, SUBFLOOR, ROOF AND WALL SHEATHING (TO FRAMING) [b]	1/2" & LESS 19/32" TO 3/4" 7/8" TO 1"	6d [f] 8d, 6d 8d	-

a. COMMON NAILS ARE REQUIRED TO BE USED U.N.O. COMMON NAIL PROPERTIES ARE AS FOLLOWS:
   - 6d = 0.113"Φ x 2" LONG
   - 8d = 0.131"Φ x 2 1/2" LONG
   - 10d = 0.148"Φ x 3" LONG
   - 16d = 0.162"Φ x 3 1/2" LONG
   - 20d = 0.192"Φ x 4" LONG

b. NAILS SPACED AT 6" o.c. AT EDGES, 12" AT INTERMEDIATE SUPPORTS EXCEPT 6" AT SUPPORTS WHERE SPANS ARE 48" OR MORE. FOR NAILING OF WOOD STRUCTURAL PANEL AND PARTICLEBOARD DIAPHRAGMS AND SHEAR WALLS, REFER TO SECTION 2305.

f. ROOF SHEATHING APPLICATIONS, 8d ARE THE MINIMUM REQUIRED FOR WOOD STRUCTURAL PANELS.

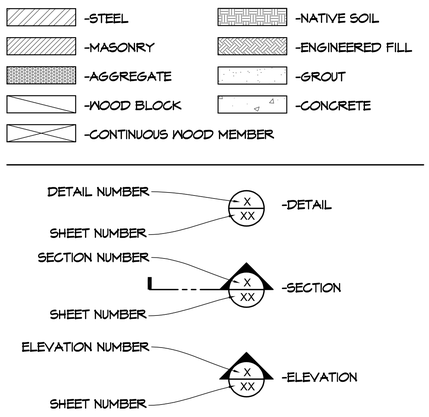
g. NAILING DRIVEN INTO PRESERVATIVE TREATED WOOD SHALL BE HOT DIPPED GALVANIZED OR EQUIVALENT.

h. THIS SCHEDULE WILL GOVERN UNLESS NOTED OTHERWISE ON PLANS.

i. FASTENERS USED FOR THE ATTACHMENT OF EXTERIOR WALL COVERINGS SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, WITH COATING PER A.S.T.M. A153.

9 NAILING SCHEDULE

PER CBC TABLE 2304.9.1 SCALE: N.T.S.



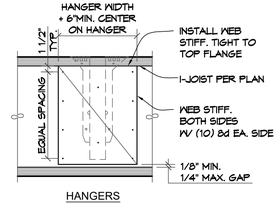
4 LEGEND AND SYMBOLS

- SCALE: N.T.S.

1. ALL CONSTRUCTION INDICATED IS NEW UNLESS SPECIFICALLY DENOTED AS EXISTING.
2. CAREFULLY EXAMINE THE CONSTRUCTION DOCUMENTS AND NOTIFY THE STRUCTURAL ENGINEER OF ANY CONFLICTS OR DISCREPANCIES WITHIN THE STRUCTURAL CONSTRUCTION DOCUMENTS AND BETWEEN ALL OTHER CONSTRUCTION DOCUMENTS AND THE EXISTING CONDITION.
3. EXISTING CONSTRUCTION INDICATED IN THE CONSTRUCTION DOCUMENTS IS BASED UPON INFORMATION SHOWN ON AVAILABLE RECORD PLANS AND/OR LIMITED VISUAL OBSERVATIONS. THE EXISTING CONSTRUCTION MAY VARY FROM THAT INDICATED ON THE CONSTRUCTION DOCUMENTS. PROVIDE ALL WORK AND MATERIALS NECESSARY TO COMPLETE THE PROJECT AS REPRESENTED IN THE CONSTRUCTION DOCUMENTS.
4. VERIFY CONSTRUCTION DOCUMENTS THE EXISTING CONSTRUCTION PRIOR TO STARTING CONSTRUCTION OR FABRICATION. DO NOT SCALE THE EXISTING RECORD PLANS.
5. PROVIDE AND MAINTAIN A COMPLETE SET OF THE EXISTING RECORD PLANS AND MAKE THEM AVAILABLE FOR USE ON JOB SITE.
6. EXISTING STRUCTURAL ELEMENTS SHALL NOT BE REMOVED OR MODIFIED UNLESS INDICATED IN THE STRUCTURAL CONSTRUCTION DOCUMENTS. IF EXISTING STRUCTURAL ELEMENTS INTERFERE WITH THE WORK INDICATED ON PLANS, OR IF UNCERTAIN THAT AN ELEMENT IS STRUCTURAL, NOTIFY STRUCTURAL ENGINEER IMMEDIATELY.
7. PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF THE EXISTING STRUCTURE AND SITE DURING DEMOLITION AND CONSTRUCTION. MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, PROVIDING ADEQUATE SHORING, BRACING, WEATHER PROTECTION AND DUST PROTECTION. THE REMOVAL OR ALTERATION OF EXISTING STRUCTURAL ELEMENTS SHALL BE PERFORMED IN A MANNER TO PREVENT DAMAGE TO THOSE ELEMENTS THAT REMAIN. SHOULD DAMAGE OCCUR TO ANY EXISTING ELEMENTS, THOSE ELEMENTS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST TO OWNER.
8. IF EXISTING STRUCTURAL ELEMENTS NOT INDICATED FOR REPLACEMENT OR REPAIR ARE DISCOVERED TO BE DAMAGED OR DIFFERENT THAN INDICATED ON THE PLANS, NOTIFY THE STRUCTURAL ENGINEER. SUCH DAMAGE OR DIFFERENCE SHALL INCLUDE, BUT NOT LIMITED TO, DRY ROT, WATER DAMAGE, INSECT DAMAGE, POOR WORKMANSHIP OR FIT-UP, BUCKLING OR EXCESSIVE DEFLECTION, SAGGING, TWISTING AND DIFFERENT SIZE, ORIENTATION, SPACING, GRADE QUALITY OR MATERIAL.
9. DO NOT CUT ANY EXISTING RE-BAR OR FRAMING MEMBERS NOT DETAILED ON STRUCTURAL CONSTRUCTION DOCUMENTS.

5 EXISTING CONDITIONS NOTES

- SCALE: N.T.S.



HANGERS

NOTES:
1. WEB STIFFENERS TO BE MFR. OR FIELD INSTALLED AT ALL BEARING AND JOIST HANGER LOCATIONS.
2. SEE MFR. SPECIFICATIONS FOR WEB STIFFENER THICKNESS AND FASTENER INFORMATION.
3. IF MFR. FASTENER INFORMATION DIFFERS FROM THIS DETAIL, FOLLOW THE MANUFACTURER'S REQUIREMENTS.

6 I-JOIST WEB STIFFENERS

- SCALE: N.T.S.

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APP: 02-118068 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/24/2021

CODE
2019 CALIFORNIA BUILDING CODE

RISK CATEGORY	TYPE III
(E) CAFETERIA BLDG. ROOF LOADS	
DEAD LOADS	16 PSF
LIVE LOAD	20 PSF
SEISMIC LOADING CRITERIA	
SEISMIC IMPORTANCE FACTOR,	1.25
MAPPED SPECTRAL ACCELERATION, MCE:	
S_{DS}	0.599
S_1	0.235
SPECTRAL RESPONSE COEFFICIENT:	
F_a	1.321
F_v	2.13
MAXIMUM CONSIDERED EARTHQUAKE RESPONSE ACCELERATIONS:	
S_{MS}	0.791
S_{M1}	0.501
DESIGN SPECTRAL RESPONSE ACCELERATIONS:	
S_{DS}	0.528
S_{D1}	0.334
SEISMIC DESIGN CATEGORY	D
WIND LOADING CRITERIA:	
BASIC WIND SPEED, V_{ult}	100 MPH
SURFACE ROUGHNESS CATEGORY	C
EXPOSURE CATEGORY	C
VELOCITY PRESSURE EXPOSURE COEFFICIENT, K_z	0.9
TOPOGRAPHIC FACTOR, K_{zt}	1.00
ENCLOSURE CLASSIFICATION	ENCLOSED DESIGN
WALL WIND LOADS, P_{net}	21.6 PSF
DESIGN UPLIFT WIND LOADS, P_{net}	16 PSF

1 DESIGN CRITERIA

- SCALE: N.T.S.

A SPECIAL INSPECTOR EMPLOYED BY THE OWNER IN ACCORDANCE WITH THE REQUIREMENTS OF THE CALIFORNIA CODE OF REGULATIONS, TITLE 24 AND SECTION 1704A.2 OF THE 2019 C.B.C. SHALL BE REQUIRED TO INSPECT THE PORTIONS OF THE PROJECT LISTED BELOW. THE SPECIAL INSPECTOR'S DUTIES ARE SPECIFICALLY DEFINED BY TITLE 24. THE SPECIAL INSPECTOR SHALL KEEP RECORDS OF INSPECTIONS AS REQUIRED IN SECTION 1704A.2.4 OF THE 2016 C.B.C. AND SUBMIT THEIR REPORTS DIRECTLY TO D.S.A./O.S.H.P.D.

REQUIRED AREAS OF INSPECTION	2019 C.B.C. REFERENCES
• STEEL	SECTIONS 1705A.2.1 AND 1705A.12.1 AND TABLE 1705A.2.3
• CONCRETE	SECTION 1705A.3 AND TABLE 1705A.3
• MASONRY	SECTIONS 1705A.4
-OCCUPANCY CATEGORY I, II OR III	TMS 402/ACI 530/ASCE 5
-OCCUPANCY CATEGORY IV	TMS 602/ACI 530.1/ASCE 6
• WOOD	SECTIONS 1705A.5 AND 1705A.11.1/1705A.12.2
• SOILS	SECTION 1705A.6 AND TABLE 1705A.6
• PILE FOUNDATIONS	SECTION 1705A.7 AND TABLE 1705A.7
• PIER FOUNDATIONS	SECTIONS 1705A.8 AND TABLE 1705A.8
• POST-INSTALLED ANCHORS	SECTION 1909A.2.7 AND I.C.C. E.S.R. REPORTS
• EPOXY ADHESIVES	SECTION 1909A.2.7 AND I.C.C. E.S.R. REPORTS

NOTE: FOR SPECIFIC REQUIREMENTS REGARDING SPECIAL INSPECTION FOR D.S.A. PROJECTS, SEE THE TESTING AND INSPECTION FORM FOR THIS PROJECT.

2 SPECIAL INSPECTION NOTES

- SCALE: N.T.S.

REGISTERED PROFESSIONAL ENGINEER
GAYLORD R. RANSOM
NO. C23186
EXPIRES
9-30-22
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DSA #: 02-118068

FILE #: 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
1407 SUNSET AVE.
M.U.S.D. MADERA, CA. 93637

No.	DATE	DESCRIPTION
REVISIONS		

SHEET NAME
TYPICAL NOTES AND DETAILS

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	S1.1
DRAWN BY: Dong Ngo	SCALE: AS NOTED	
CHECKED BY: K.K.	DATE: 6/11/2021	

10 NOT USED

-

SCALE: N.T.S.

7 SIMPSON TITEN HD

IN CONCRETE

SCALE: N.T.S.

1. SCREW ANCHORS SHALL BE TITEN HD AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, INC. 5956 WEST LAS POSITAS BOULEVARD PLEASANTON, CALIFORNIA 94588. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND I.C.C. REPORT NO. ESR-2713.
2. TEST VALUES AND INSTALLATION REQUIREMENTS SHALL BE AS FOLLOWS:

BOLT SIZE	MIN. EMBED.	EDGE DIST.	MIN. SPACING	CONC. THKS.	TORQUE TEST
3/8"	3 1/4"	3 5/8"	3"	5"	50 ft-lbs
1/2"	4"	4 1/2"		6 1/4"	65 ft-lbs
5/8"	5 1/2"	6 3/8"		8 1/2"	100 ft-lbs
3/4"	6 1/4"	7 3/8"		10"	150 ft-lbs

3. PLACEMENT GUIDELINES FOR ABOVE VALUES IN ITEM 2 REQUIRE THE FOLLOWING CONDITIONS:
   - TABLE VALUES ARE BASED ON f'_c = 2500 PSI
   - HOLES DRILLED WITH A HAND-HELD ELECTRO-PNEUMATIC ROTARY HAMMER DRILL WITH A CARBIDE-TIPPED DRILL BIT CONFORMING TO ANSI B212.15-1994.
   - PILOT HOLE MUST BE THE SAME DIAMETER AS THE SPECIFIED ANCHOR
   - HOLE IS TO BE DRILLED TO THE SPECIFIED EMBEDMENT DEPTH PLUS 1/2" (ONLY 1/4" REQUIRED FOR 3/8" SCREW)
   - ANY SEISMIC DESIGN CATEGORY PER 2019 C.B.C.
   - TENSION LOAD VALUES SHALL BE MULTIPLIED BY 0.6 FOR LIGHTWEIGHT CONCRETE
   - A.C.I. "CRACKED" CONCRETE CONDITION IS SUFFICIENT
   - HOLES SHALL BE CLEANED IN ACCORDANCE WITH ICC REPORT NO. ESR-2713
4. WHEN INSTALLING SCREW ANCHORS IN EXISTING CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A MINIMUM CLEARANCE OF ONE-INCH BETWEEN THE EXISTING REINFORCEMENT AND THE SCREW ANCHOR.
5. ANY BOLTS SHOWN ON THE APPROVED PLANS AS SCREW ANCHORS, REQUIRES SPECIAL INSPECTION IN ACCORDANCE WITH SECTION 4.4 IN THE I.C.C. REPORT. SPECIAL INSPECTION SHALL BE BY AN APPROVED TESTING AND INSPECTION AGENCY. ANY ITEMS THAT REQUIRE SCREW ANCHORS BUT ARE NOT SPECIFICALLY SHOWN ON THE APPROVED PLANS MUST BE APPROVED BY THE STRUCTURAL ENGINEER AND D.S.A./O.S.H.P.D. PRIOR TO INSTALLATION.
6. TORQUE TESTING OR PULL TESTING SHALL BE DONE IN ACCORDANCE WITH D.S.A. OR OSHPD GUIDELINES WHEN REQUIRED.

4 FOUNDATION AND CONC. NOTES

-

SCALE: N.T.S.

1. MAXIMUM SIZE AGGREGATE SHALL BE AS FOLLOWS:
   - SLAB ON GRADE: 1"
2. MINIMUM COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS SHALL BE AS FOLLOWS:
   - 4000 PSI NORMAL WEIGHT SLAB ON GRADE
3. MAXIMUM WATER CEMENT RATIOS SHALL BE AS FOLLOWS:
   - 0.45 SLAB ON GRADE
4. THE FOLLOWING ARE MINIMUM CONCRETE COVER DIMENSIONS PER ACI 318-14 SECTION 20.6.1. THEY ARE FROM FACE OF REINFORCING STEEL TO FACE OF CONCRETE.
   - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
   - CONCRETE EXPOSED TO EARTH OR WEATHER: (NO. 6 THROUGH NO. 18) 2"
     (NO. 5 AND SMALLER) 1 1/2"
5. CONSTRUCTION LOADS SHALL NOT BE PLACED ON NEW CONCRETE CONSTRUCTION FOR AT LEAST 7 DAYS AFTER CONCRETE PLACEMENT OR WITH APPROVAL BY ENGINEER.
6. ALL SPLICES IN CONTINUOUS REINFORCEMENT USED IN WALLS, FOOTINGS, ETC. SHALL HAVE A MINIMUM LAP AS DESCRIBED IN THE TYPICAL LAP SPLICE DETAIL. SPLICES IN ADJACENT BARS SHALL NOT BE LESS THAN 4'-0" APART. VERTICAL WALL BARS SHALL BE SPLICED AT OR NEAR FLOOR LINES. BARS MAY BE WIRED TOGETHER AT SPLICES OR LAPPED EXCEPT FOR TOP REINF. OF BEAM AND SLABS, OR WHERE SPECIFICALLY DETAILED TO BE SEPARATED.
7. ALL REINFORCEMENT CROSSING CONSTRUCTION JOINTS SHALL BE CONTINUOUS, OR SHALL BE MADE EFFECTIVELY CONTINUOUS BY USE OF FULLY DEVELOPED LAP SPLICES, DOWELS (WITH LAPPED SPLICES) OR APPROVED COUPLERS.
8. HORIZONTAL CONSTRUCTION JOINTS SHALL HAVE ENTIRE SURFACE REMOVED TO EXPOSE CLEAN AGGREGATE SOLIDLY EMBEDDED.
9. CONCRETE SHALL NOT BE DROPPED THROUGH REINF. STEEL (AS IN WALL) SO AS TO CAUSE SEGREGATION OF AGGREGATES. IN SUCH CASES, HOPPERS AND VERTICAL CHUTES OR TRUNKS SHALL BE USED. CHUTES OR TRUNKS SHALL BE OF VARIABLE LENGTHS SO THAT FREE UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED FIVE (5) FEET AND A SUFFICIENT NUMBER OF CHUTES AND TRUNKS SHALL BE USED TO ENSURE THE CONCRETE REMAINS LEVEL AT ALL TIMES.
10. CONTRACTOR SHALL SUBMIT PROPOSED POUR SCHEDULE FOR ENGINEER'S APPROVAL PRIOR TO THE FORMING OR POURING OF ANY CONCRETE WORK.
11. PROVIDE 3/4" CHAMFER AT EXPOSED EDGES OF CONCRETE BEAMS, COLUMNS AND WALLS UNLESS NOTED OTHERWISE.
12. ALL REINFORCING SHALL CONFORM TO A.S.T.M. A615 AND SHALL BE GRADE 40 FOR #3, GRADE 60 FOR #4 AND LARGER.

1 NOT USED

-

SCALE: N.T.S.

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DATE: 11/24/2021

11 NOT USED

-

SCALE: N.T.S.

8 OPENING IN (E) CONCRETE WALL

-

SCALE: 1" = 1'-0"

NOTE:
SEE MECHANICAL FOR REQUIRED SIZE OF OPENING AND FLASHING DETAIL

5 LAP SPLICE SCHEDULE

FOR CONCRETE

SCALE: N.T.S.

LAP LENGTH									
BAR SIZE	#3	#4	#5	#6	7#	#8	#9	#10	#11
BOTTOM BAR	16"	29"	36"	43"	62"	72"	81"	91"	101"
TOP BAR	21"	38"	47"	56"	81"	94"	105"	118"	131"

NOTES:
1. SPLICES ARE SHOWN IN INCHES AND SHALL CONFORM TO CLASS "B" SPLICES AS PER A.C.I. 318-14, FOR 3000 PSI CONCRETE.
2. SPLICE LENGTHS ASSUME THE MODIFICATION FACTORS OF A.C.I. 318-14 SECTIONS 25.1.1 ARE 1.0. FOR OTHER CONDITIONS PROVIDE SPLICE LENGTHS IN ACCORDANCE WITH A.C.I. 318-14.
3. USE THE SPLICE LENGTH GIVEN FOR TOP BARS WHEN MORE THAN 12" OF CONCRETE IS CAST BELOW HORIZONTAL BARS IN THE MEMBER. USE THE SPLICE LENGTH GIVEN FOR BOTTOM BARS FOR ALL OTHER CONDITIONS.

2 SAW CUTTING IN CONCRETE

IN CONCRETE

SCALE: N.T.S.

12 NOT USED

-

SCALE: N.T.S.

9 NOT USED

-

SCALE: N.T.S.

6 NOT USED

-

SCALE: N.T.S.

REGISTERED PROFESSIONAL ENGINEER
GAYLORD R. RANSOM
NO. S2386
EXPIRES 3-31-22
STATE OF CALIFORNIA

BROOKS RANSOM ASSOCIATES
STRUCTURAL ENGINEERS
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DSA #: 02-118068

FILE #: 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D.
1407 SUNSET AVE.
MADERA, CA, 93637

REVISIONS

No.	DATE	DESCRIPTION

SHEET NAME
TYPICAL CONCRETE NOTES AND DETAILS

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	S1.2
DRAWN BY: Dong Ngo	SCALE: AS NOTED	
CHECKED BY: K.K.	DATE: 6/11/2021	

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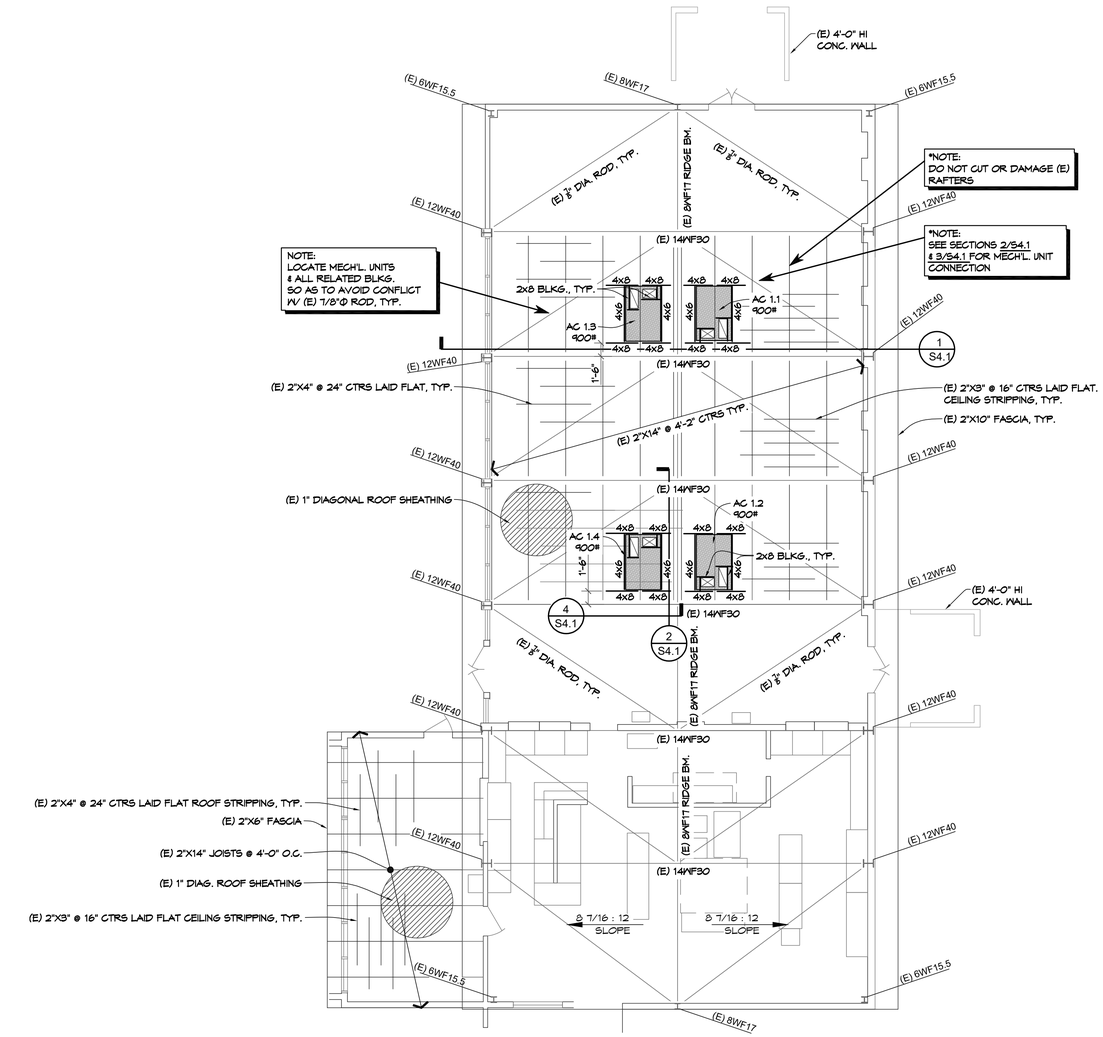
DATE: 11/24/2021



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1407 SUNSET AVE.
MADERA, CA. 93637

No.	DATE	DESCRIPTION
REVISIONS		

SHEET NAME
CAFETERIA BUILDING (E) ROOF FRAMING PLAN

REGISTERED PROFESSIONAL ENGINEER
GAYLORD R. RANSOM
NO. S2386
EXPIRES 6-30-22
STATE OF CALIFORNIA

BROOKS RANSOM ASSOCIATES
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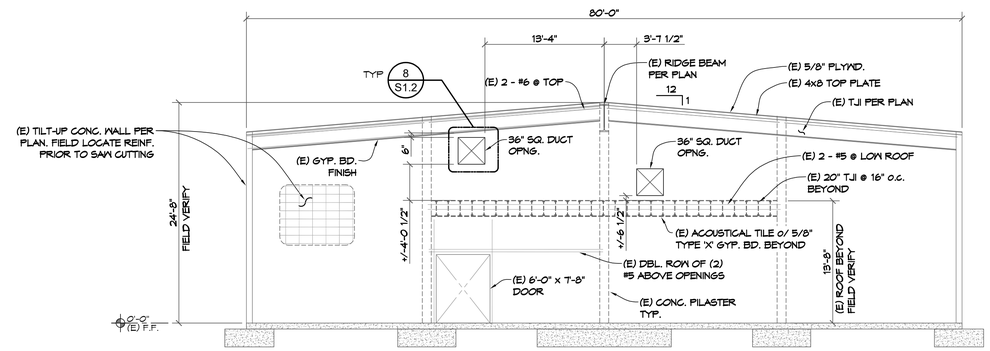
7410 N. PAUL SUITE 100
FRESNO, CALIFORNIA 93711
17426

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	S3.1
DRAWN BY: Dong Ngo	SCALE: AS NOTED	
CHECKED BY: K.K.	DATE: 6/11/2021	

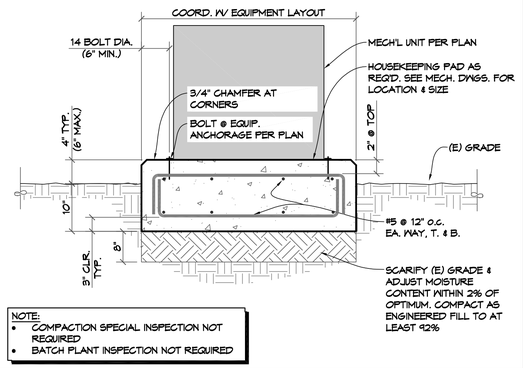
12 EXISTING ROOF FRAMING PLAN @ CAFETERIA BLDG.

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



4 (E) EAST ELEVATION at GYM

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

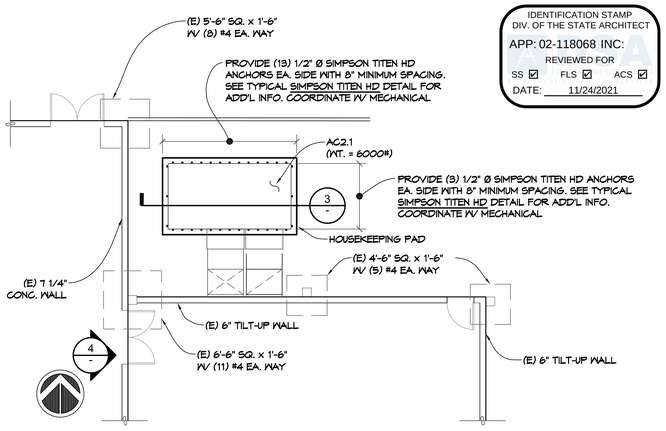


NOTE:
- COMPACTION SPECIAL INSPECTION NOT REQUIRED
- BATCH PLANT INSPECTION NOT REQUIRED

3 HOUSEKEEPING PAD

ON EXISTING GRADE

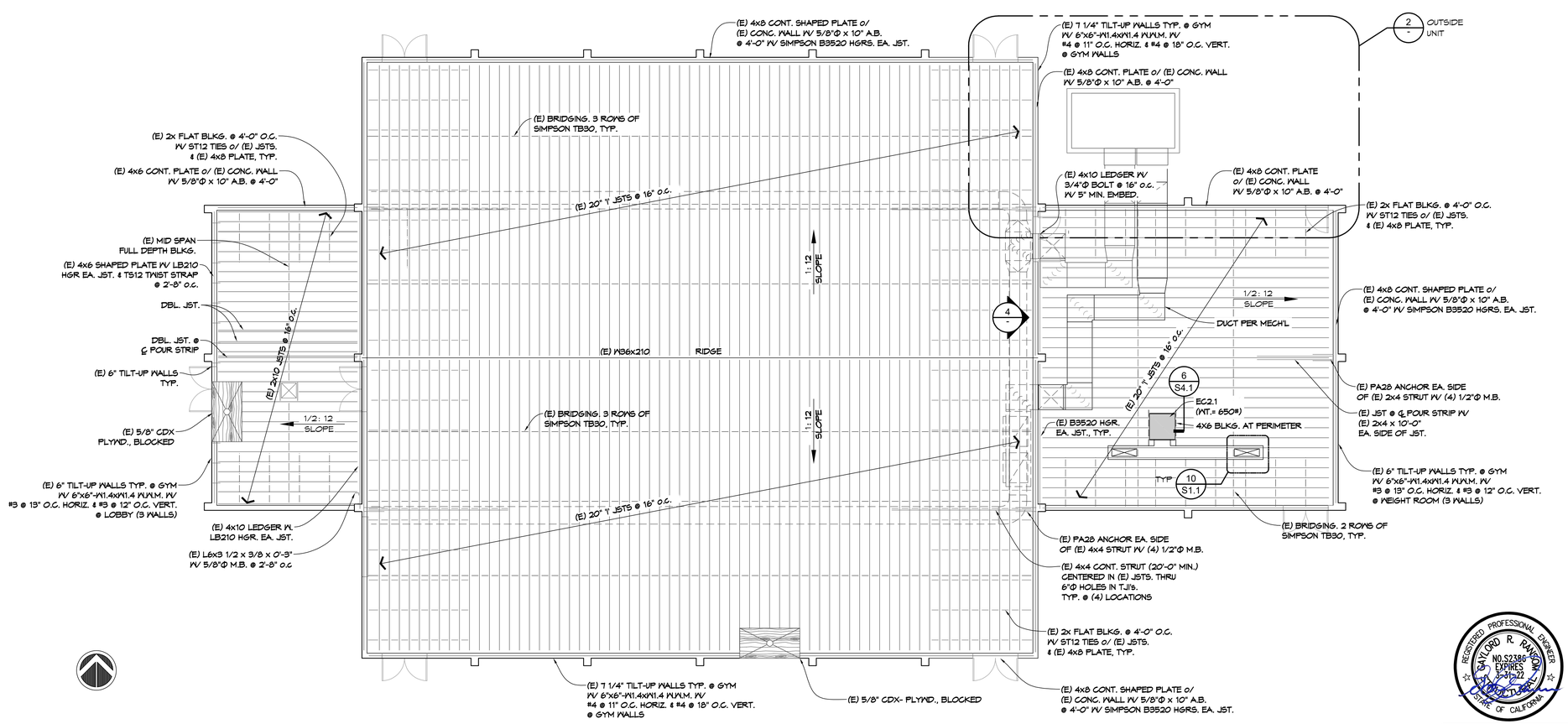
SCALE: N.T.S.



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-118068 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/24/2021

2 HOUSEKEEPING PAD PLAN

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



1 EXISTING ROOF FRAMING PLAN at GYM

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

REGISTERED PROFESSIONAL ENGINEER
GAYLORD R. RANSOM
NO. S23186
EXPIRES
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garen@lpengr.com

DSA #: 02-118068

FILE #: 20-30

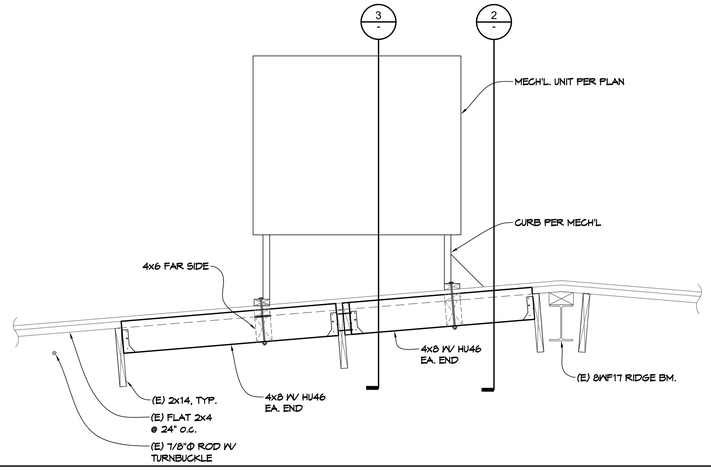
PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
1407 SUNSET AVE.
M.U.S.D. MADERA, CA. 93637

No.	DATE	DESCRIPTION

REVISIONS

SHEET NAME
GYM (E) ROOF FRAMING PLAN

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	S3.2
DRAWN BY: Dong Ngo	SCALE: AS NOTED	
CHECKED BY: K.K.	DATE: 6/11/2021	



DO NOT CUT OR DAMAGE (E) RAFTERS

4 DETAIL

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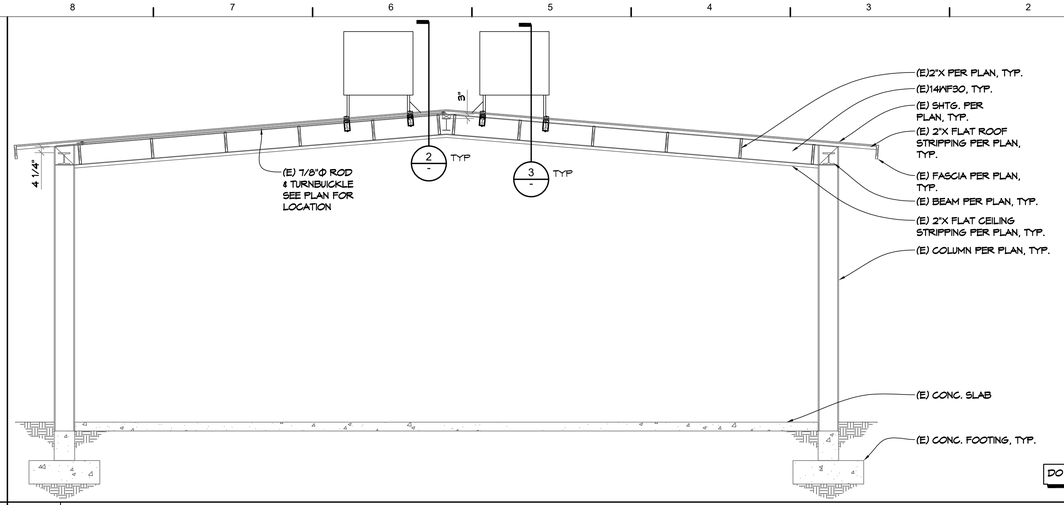
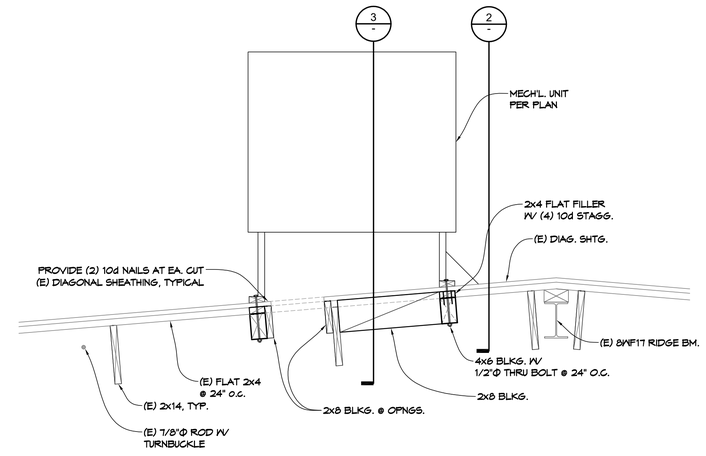


IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-118068 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/24/2021

DO NOT CUT OR DAMAGE (E) RAFTERS

1 SECTION

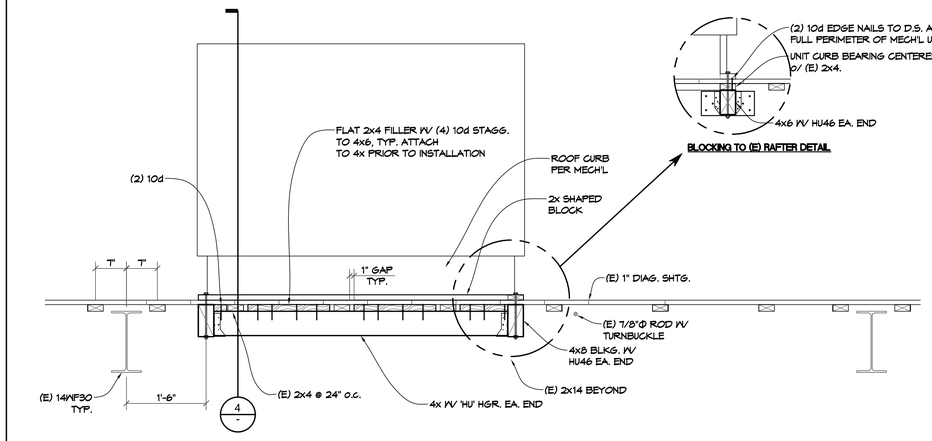
SCALE: 1/4"=1'-0"



DO NOT CUT OR DAMAGE (E) RAFTERS

5 DETAIL

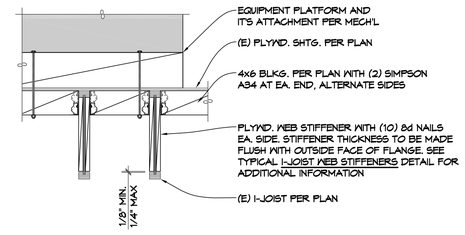
SCALE: 3/4"=1'-0"



DO NOT CUT OR DAMAGE (E) RAFTERS

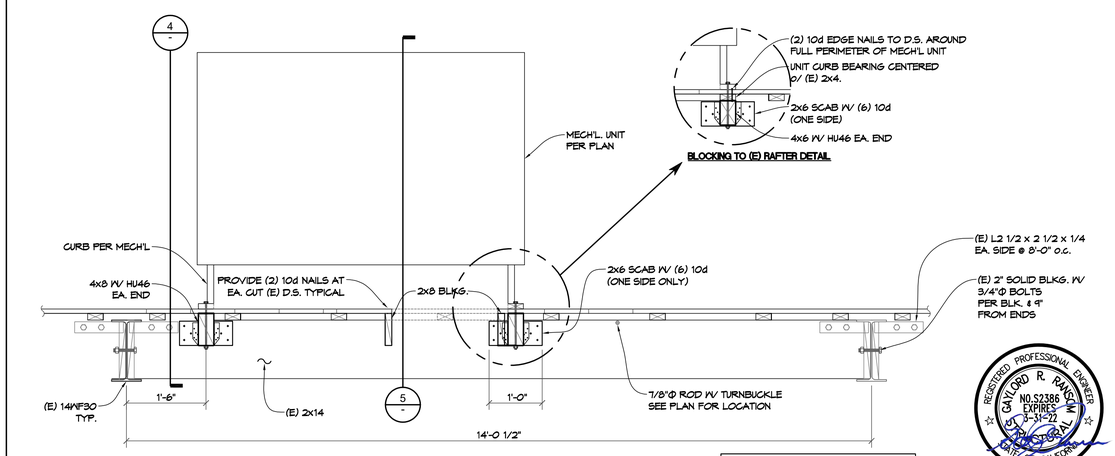
2 DETAIL

SCALE: 3/4"=1'-0"



6 DETAIL

SCALE: 3/4" = 1'-0"



DO NOT CUT OR DAMAGE (E) RAFTERS

3 DETAIL

SCALE: 3/4"=1'-0"

REGISTERED PROFESSIONAL ENGINEER
GAYLORD R. RANDS
NO. S23386
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DSA #: 02-118068

FILE #: 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
1407 SUNSET AVE.
M.U.S.D. MADERA, CA, 93637

No.	DATE	DESCRIPTION

REVISIONS

SHEET NAME
SECTIONS AND DETAILS

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	S4.1
DRAWN BY: Dong Ngo	SCALE: AS NOTED	
CHECKED BY: K.K.	DATE: 6/11/2021	

TITLE 24 NOTES

THE FOLLOWING SHALL BE REQUIRED WHETHER OR NOT SPECIFICALLY SHOWN OR MENTIONED IN DRAWINGS AND/OR SPECIFICATIONS:

1. EQUIPMENT SHALL MEET EFFICIENCY REQUIREMENTS OF TABLES 110.2-A THROUGH 110.2-K.
2. ALL AIR-COOLED, UNITARY, DX UNITS (PACKAGED, SPLIT-SYSTEM, HEAT PUMPS AND VRF) WITH ECONOMIZERS SHALL BE EQUIPPED WITH FAULT DETECTION AND DIAGNOSTICS SYSTEMS.
3. PIPE INSULATION FOR SPACE CONDITIONING AND SERVICE WATER-HEATING WITH FLUID TEMPERATURES LISTED IN TABLE 120.3-A SHALL HAVE INSULATION LEVELS AS SPECIFIED IN SUBSECTION (A) AND (B).
4. MECHANICAL HEATING AND COOLING EQUIPMENT SHALL BE THE SMALLEST SIZE, WITHIN THE AVAILABLE OPTIONS OF THE DESIRED EQUIPMENT LINE, NECESSARY TO MEET THE DESIGN HEATING AND COOLING LOADS OF THE BUILDING, AS CALCULATED ACCORDING TO THE REQUIREMENTS OF SECTION 140.4(B).
5. HVAC MOTORS FOR FANS THAT ARE LESS THAN 1 HP AND 1/12 HP OR GREATER SHALL BE ECM OR HAVE A MINIMUM MOTOR EFFICIENCY OF 70%. MOTORS SHALL ALSO HAVE MEANS TO ADJUST MOTOR SPEED FOR BALANCING OR REMOTE CONTROL.
6. ELECTRIC RESISTANCE HEATING SYSTEMS ARE NOT PROVIDED FOR SPACE HEATING.
7. IN DRIER CLIMATES AND WHEN LARGE OUTDOOR AIR FRACTIONS ARE REQUIRED, EVAPORATIVE PRE-COOLING PACKAGES WERE EVALUATED TO PRE-COOL OUTSIDE AIR AND COOL THE AIR FLOWING OVER THE DX CONDENSING UNIT.
8. ZONE EACH AIR HANDLER TO SERVE ONLY AREAS WITH COMMON LOADS TO ALLOW MORE AGGRESSIVE CONTROL STRATEGIES AND IMPROVE COMFORT. HAVE DIFFERENT AHU'S SERVING CORE VS. PERIMETER AREAS.
9. THE DESIGN ACCOMMODATES PARTIAL OCCUPANCY ENERGY SAVINGS WHEN THE OWNER'S REQUIREMENTS OR NARRATIVE DESCRIBE ANY POSSIBILITY OF PARTIAL OCCUPANCY, BY ZONING AIR HANDLERS BY FLOOR OR BY PART OF A FLOOR, OR BY INCORPORATING CONTROLLED FLOOR DAMPERS, OR VAV AIR TERMINALS GOING TOTALLY SHUT WHEN NOT OCCUPIED, ETC.
10. EACH ZONE IS CONTROLLED BY AN INDIVIDUAL THERMOSTATIC CONTROL. CONTROLS SHALL BE CAPABLE OF SETTING TEMPERATURES TO 55°F FOR HEATING AND 85°F FOR COOLING AND PROVIDE A TEMPERATURE DEADBAND OF AT LEAST 5°F IF CONTROLLING BOTH HEATING AND COOLING.
11. EACH SPACE CONDITIONING SYSTEM SHALL BE EQUIPPED WITH CONTROLS TO SHUT THE SYSTEM OFF DURING PERIODS OF NONUSE AND WILL TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN SETBACK AND SETUP TEMPERATURES WHILE KEEPING VENTILATION DAMPERS CLOSED.
12. SYSTEMS SERVING MULTIPURPOSE ROOMS LESS THAN 100 SF AND CLASSROOMS, CONFERENCE, AUDITORIUM OR MEETING CENTER ROOMS GREATER THAN 750 SF SHALL HAVE OCCUPANCY SENSORS THAT INTERFACE WITH HVAC CONTROLS TO AUTOMATICALLY SETUP THE COOLING SETPOINT BY 2F OR MORE AND SETBACK THE HEATING SETPOINT BY 2F OR MORE AND AUTOMATICALLY RESET THE MINIMUM REQUIRED VENTILATION RATE. THESE OCCUPANT SENSOR VENTILATION CONTROL DEVICES MUST MEET THE REQUIREMENTS OF SECTION 120.1(C)5.
13. OUTDOOR AIR SUPPLY AND EXHAUST EQUIPMENT SHALL BE INSTALLED WITH DAMPERS THAT AUTOMATICALLY CLOSE UPON FAN SHUTDOWN.
14. HVAC SYSTEMS WITH DDC TO THE ZONE LEVEL SHALL BE PROGRAMMED TO ALLOW CENTRALIZED DEMAND SHED FOR NON-CRITICAL ZONES.
15. ZONE CONTROLS PREVENT REHEATING, RECOOLING AND SIMULTANEOUS PROVISIONS OF HEATING AND COOLING TO THE SAME ZONE.
16. EACH WALL MOUNTED THERMOSTAT SHALL BE LOCATED AWAY FROM POTENTIAL SOURCES THAT WOULD ADVERSELY AFFECT THE READING (CLOSE TO COPIERS, DIRECT SUNLIGHT, BELOW OR ABOVE A SUPPLY AIR DIFFUSER OR CONVECTOR, ETC.). ANY THERMOSTATS MOUNTED ON EXTERIOR WALLS SHALL BE INSTALLED IN SEALED AND INSULATED JUNCTION BOXES.
17. CORNER OFFICE SHALL ALWAYS HAVE THEIR OWN THERMOSTATS, AIR TERMINAL BOXES OR FIN-TUBE RADIATORS.
18. CONTROL SEQUENCES SHALL BE LISTED FOR EQUIPMENT OPERATED BY STAND-ALONE PACKAGED CONTROLS. UNOCCUPIED SEQUENCES SHALL BE INCLUDED.
19. CONTROL SEQUENCES SHALL BE PROVIDED FOR EACH PIECE OF EQUIPMENT LISTED IN THE EQUIPMENT SCHEDULE THAT IS MONITORED OR CONTROLLED BY THE BUILDING AUTOMATION SYSTEM (BAS). UNOCCUPIED SEQUENCES SHALL BE INCLUDED.
20. OUTSIDE AIR TEMPERATURE SENSORS SHALL BE IN A COMMERCIALLY DESIGNED SOLAR SHIELD LOCATED ON A NORTH WALL OR SOME OTHER LOCATION OUT OF DIRECT SUNLIGHT AND AWAY FROM BUILDING EXHAUST OR HEAT REJECTION EQUIPMENT.
21. THE OUTDOOR AIR-VENTILATION RATE AND AIR-DISTRIBUTION ASSUMPTIONS MADE IN THE DESIGN OF THE VENTILATING SYSTEM ARE CLEARLY IDENTIFIED ON THE PLANS.
22. EACH SPACE IS DESIGNED TO HAVE NATURAL VENTILATION OR MECHANICAL VENTILATION THAT IS NO LESS THAN THE LARGER OF CONDITIONED FLOOR AREA TIMES THE REQUIREMENTS IN TABLE 120.1-A OR 15 CFM TIMES THE EXPECTED NUMBER OF OCCUPANTS.
23. THE MINIMUM AND MAXIMUM OUTDOOR AIR RATES FOR EACH AIR HANDLER ARE LISTED ON THE EQUIPMENT SCHEDULES.
24. THE OUTDOOR AIR-VENTILATION RATES ARE BASED ON PLANNED OWNER OCCUPANCY AS DEFINED IN OWNER'S DESIGN INTENT AND ARE NOT BASED ON MAXIMUM EGRESS OCCUPANCY RATES.
25. HVAC SYSTEMS THAT HAVE AN ECONOMIZER, SERVE A SPACE WITH A DESIGN OCCUPANT DENSITY GREATER THAN OR EQUAL TO 25 PEOPLE PER 1000 SF, AND ARE EITHER A SINGLE ZONE SYSTEM WITH ANY CONTROLS OR MULTIPLE ZONE SYSTEM WITH DDC CONTROLS TO THE ZONE LEVEL MUST HAVE DEMAND CONTROL VENTILATION CONTROLS. THE FOLLOWING MUST BE MET:
    A. CO2 SENSORS INSTALLED IN EACH ROOM SERVED BY SYSTEMS WITH DCV CONTROLS.
    B. CO2 SENSORS ARE LOCATED BETWEEN 3 FT AND 6 FT ABOVE THE FLOOR.
    C. CO2 CONCENTRATIONS MAINTAINED AT LESS THAN OR EQUAL TO 600 PPM PLUS OUTDOOR PPM.
    D. DURING HOURS OF EXPECTED OCCUPANCY, CONTROLS MAINTAIN THE SYSTEM VENTILATION RATE.
26. EACH COOLING FAN SYSTEM THAT HAS A DESIGN MECHANICAL COOLING CAPACITY OVER 54,000 BTU/H SHALL HAVE AN AIR ECONOMIZER OR A WATER ECONOMIZER. AIR ECONOMIZERS MUST COMPLY WITH THE HIGH LIMIT SHUTOFF CONTROLS SHOWN IN TABLE 140.4-B.
27. INTEGRATED ECONOMIZER CONTROLS SHALL BE SET UP SUCH THAT PARTIAL COOLING IS PROVIDED BY THE ECONOMIZER EVEN WHEN ADDITIONAL MECHANICAL COOLING IS REQUIRED.
28. ECONOMIZER DAMPERS SHALL BE DRIVEN BY DIRECT DRIVE ACTUATORS RATHER THAN ROD LINKAGES, WHICH CAN BE A MAJOR CAUSE OF ECONOMIZER MALFUNCTION.
29. BAROMETRIC RELIEF IS USED, IF POSSIBLE. IF NOT, RELIEF FANS (RATHER THAN RETURN FANS) SHALL BE USED IN MOST CASES.
30. OUTDOOR AND RETURN AIR SENSORS SHALL BE PROPERLY SELECTED, PROPERLY LOCATED TO PROVIDE ACCURATE AND REPEATABLE MEASUREMENTS FOR CONTROLLING ECONOMIZER OPERATION. AVERAGING SENSORS COVER THE ENTIRE DUCT OR COIL FACE AREAS.
31. ALL AIR DISTRIBUTION SYSTEM DUCTS AND PLENUMS MUST BE INSTALLED, SEALED AND INSULATED AS REQUIRED BY 120.4(A).
32. DUCT SEALING LEAKAGE RATES SHALL BE NO MORE THAN 6% OF AIR FLOW FOR NEW DUCT SYSTEMS AND NO MORE THAN 15% OF AIR FLOW FOR ALTERED EXISTING DUCT SYSTEMS.
33. DUCTS SHALL UTILIZE LOW STATIC PRESSURE DESIGN. IDENTIFY THE MOST RESTRICTIVE BRANCH FROM THE FAN TO THE LAST AIR TERMINAL UNIT. IDENTIFY POSSIBLE MEANS OF SIGNIFICANTLY REDUCING THE PRESSURE DROP. BRANCH DUCT SYSTEMS SHALL DESIGNED FOR EQUAL PRESSURE DROP, WHEN POSSIBLE.
34. DUCT BRANCHES WITH SIGNIFICANTLY DIFFERING STATIC PRESSURE REQUIREMENTS SHALL HAVE VOLUME CONTROL STRATEGICALLY PLACED TO AID IN TAB WORK.
35. FANS SHALL DISCHARGE INTO DUCT SECTIONS THAT REMAIN STRAIGHT FOR AS LONG AS POSSIBLE (IDEALLY 10 DUCT DIAMETERS) TO REDUCE FAN INEFFICIENCIES FROM SYSTEM EFFECTS.
36. DUCT VELOCITIES SHALL GENERALLY BE BELOW 2,000 FPM FOR DUCTS IN CEILING PLENUMS, 1500 FPM FOR EXPOSED DUCTS AND 3500 FPM IN MECHANICAL ROOMS AND NON-NOISE SENSITIVE SHAFTS AND DO NOT REDUCE ANY DUCT SIZES LISTED ON PLANS.
37. DUCT FRICTION RATES SHALL GENERALLY BE LESS THAN 0.25" WC PER 100 LINEAL FEET NEARER THE FAN, 0.15 TO 0.20" IN THE MAIN DUCTS AND 0.08 TO 0.12" WC/100' NEARER THE END OF THE SYSTEM. DESIGNS OVER THESE RATES SHALL BE QUESTIONED. VERY ENERGY EFFICIENT DESIGN CAN LOWER THESE VALUES BY UP TO 40%.
38. CONTRACTOR SHOP DRAWINGS SHALL BE SUFFICIENTLY DETAILED TO ENSURE THAT DISTRIBUTION SYSTEM DESIGN INTENT IS ADEQUATELY CONVEYED TO MATCH PLANS. IF SUFFICIENT DETAIL IS NOT INCLUDED IN DRAWINGS, INSTALLATIONS MAY RESULT IN SIGNIFICANTLY HIGHER PRESSURE DROPS AND HENCE HIGHER ENERGY CONSUMPTION AND OTHER OPERATING ISSUES.
39. ACCEPTANCE REQUIREMENTS ARE CLEARLY IDENTIFIED IN CONSTRUCTION DOCUMENTS.
40. COMMISSIONING MEASURES OR REQUIREMENTS ARE REFLECTED IN THE CONSTRUCTION DOCUMENTS.
41. REQUIREMENTS FOR FUNCTIONAL PERFORMANCE TESTS ARE REFLECTED IN THE CONSTRUCTION DOCUMENTS.
42. COOLING SYSTEMS IDENTIFIED IN TABLE 140.4-D SHALL HAVE FAN CONTROLS TO VARY THE INDOOR FAN AIRFLOW AS A FUNCTION OF LOAD:
    A. DX AND CHILLED WATER COOLING SYSTEMS THAT CONTROL CAPACITY BASED ON OCCUPIED SPACE TEMPERATURE SHALL HAVE A MINIMUM OF 2 STAGES OF CONTROL.
    B. SYSTEMS THAT CONTROL SPACE TEMPERATURE BY MODULATING AIRFLOW TO THE SPACE SHALL HAVE PROPORTIONAL FAN CONTROL.
    C. SYSTEMS WITH AIR SIDE ECONOMIZER SHALL HAVE A MINIMUM OF 2 SPEEDS OF FAN CONTROL DURING ECONOMIZER OPERATION.
43. FAN CABINET ENCLOSURE AND INTERNAL COMPONENTS SHALL BE SELECTED TO MINIMIZE PRESSURE DROP, E.G. FACE VELOCITY IS LESS THAN 500 FPM, LOW PRESSURE DROP COILS, FILTERS, ETC.
44. FAN WHEEL SHALL BE SELECTED FOR EFFICIENT OPERATION, E.G. LARGER DIAMETER ROTATING AT LOWER SPEED.
45. SYSTEMS THAT SERVE MULTIPLE ZONES SHALL HAVE CONTROLS THAT AUTOMATICALLY RESET SUPPLY AIR TEMPERATURE. ZONES WITH HIGH INTERNAL LOADS WITH NEAR CONSTANT AIRFLOW SHALL BE DESIGNED FOR THE ELEVATED RESET SUPPLY AIR TEMPERATURE. RESET CONTROLS SHALL BE IN RESPONSE TO BUILDING LOADS OR TO OUTDOOR AIR TEMPERATURE AND SHALL BE AT LEAST 25% OF THE DIFFERENCE BETWEEN SUPPLY AIR AND DESIGN ROOM AIR TEMPERATURE. CONTROL SEQUENCES ARE IDENTIFIED IN CONSTRUCTION DOCUMENTS.
46. SAT RESET SHALL BE ESTABLISHED WITH AN AGGRESSIVE RESET SCHEDULE OF 10F, E.G. 55F DURING WARM WEATHER AND 65F DURING COOL WEATHER.

CAL GREEN NOTES

1. TESTING AND ADJUSTING. TESTING AND ADJUSTING OF SYSTEMS SHALL BE REQUIRED FOR NEW BUILDINGS LESS THAN 10,000 SQUARE FEET OR NEW SYSTEMS TO SERVE AN ADDITION OR ALTERATION SUBJECT TO SECTION 0303.1
2. SYSTEMS. DEVELOP A WRITTEN PLAN OF PROCEDURES FOR TESTING AND ADJUSTING SYSTEMS. SYSTEMS TO BE INCLUDED FOR TESTING AND ADJUSTING SHALL INCLUDE, AS APPLICABLE TO THE PROJECT:
    A. HVAC SYSTEMS AND CONTROLS.
    B. INDOOR AND OUTDOOR LIGHTING AND CONTROLS.
    C. WATER HEATING SYSTEMS.
    D. RENEWABLE ENERGY SYSTEMS.
    E. LANDSCAPE IRRIGATION SYSTEMS.
    F. WATER REUSE SYSTEMS.
3. PROCEDURES. PERFORM TESTING AND ADJUSTING PROCEDURES IN ACCORDANCE WITH MANUFACTURE'S SPECIFICATIONS AND APPLICABLE STANDARDS ON EACH SYSTEM.
    A. HVAC BALANCING. IN ADDITION TO TESTING AND ADJUSTING, BEFORE A NEW SPACE-CONDITIONING SYSTEM SERVING A BUILDING OR SPACE IS OPERATED FOR NORMAL USE, BALANCE THE SYSTEM IN ACCORDANCE WITH THE PROCEDURES DEFINED BY THE TESTING ADJUSTING AND BALANCING BUREAU NATIONAL STANDARDS; THE NATIONAL ENVIRONMENTAL BALANCING BUREAU PROCEDURAL STANDARDS; ASSOCIATED AIR BALANCE COUNCIL NATIONAL STANDARDS OR AS APPROVED BY THE ENFORCING AGENCY.
4. REPORTING. AFTER COMPLETION OF TESTING, ADJUSTING AND BALANCING, PROVIDE A FINAL REPORT OF TESTING SIGNED BY THE INDIVIDUAL RESPONSIBLE FOR PERFORMING THESE SERVICES.
5. OPERATION AND MAINTENANCE (O & M) MANUAL. PROVIDE THE BUILDING OWNER OR REPRESENTATIVE WITH DETAILED OPERATING AND MAINTENANCE INSTRUCTIONS AND COPIES OF GUARANTIES/WARRANTIES FOR EACH SYSTEM. O & M INSTRUCTIONS SHALL BE CONSISTENT WITH OSHA REQUIREMENTS IN CCR, TITLE 8, SECTION 5142, AND OTHER RELATED REGULATIONS.
    A. INSPECTIONS AND REPORTS. INCLUDE A COPY OF ALL INSPECTION VERIFICATIONS AND REPORTS REQUIRED BY THE ENFORCING AGENCY.
6. TEMPORARY VENTILATION. THE PERMANENT HVAC SYSTEM SHALL ONLY BE USED DURING CONSTRUCTION IF NECESSARY TO CONDITION THE BUILDING WITHIN THE REQUIRED TEMPERATURE RANGE FOR MATERIAL AND EQUIPMENT INSTALLATION. IF THE HVAC SYSTEM IS USED DURING CONSTRUCTION, USE RETURN AIR FILTERS WITH A MINIMUM REPORTING VALUE (MERV) OF 8, BASED ON ASHRAE 52.2-1999 OR AN AVERAGE EFFICIENCY OF 30 PERCENT BASED ON ASHRAE 52.1-1992. REPLACE ALL FILTERS IMMEDIATELY PRIOR TO OCCUPANCY, OR, IF THE BUILDING IS OCCUPIED DURING ALTERATIONS, AT THE CONCLUSION OF CONSTRUCTION.
7. COVERING OF DUCT OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. AT THE TIME OF ROUGH INSTALLATION AND DURING STORAGE ON THE CONSTRUCTION SITE UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATION EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY ENTER THE SYSTEM.
8. FILTERS. IN MECHANICALLY VENTILATED BUILDINGS, PROVIDE REGULARLY OCCUPIED AREAS OF THE BUILDING WITH AIR FILTRATION MEDIA FOR OUTSIDE AND RETURN AIR PRIOR TO OCCUPANCY THAT PROVIDE AT LEAST A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 8. MERV 8 FILTERS SHALL BE INSTALLED PRIOR TO OCCUPANCY AND RECOMMENDATIONS FOR MAINTENANCE WITH FILTERS OF THE SAME VALUE SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE MANUAL.
    EXCEPTIONS:
    A. AN ASHRAE 10-PERCENT TO 15-PERCENT EFFICIENCY FILTER SHALL BE PERMITTED FOR AN HVAC UNIT MEETING THE 2019 CALIFORNIA ENERGY CODE HAVING 60,000 BTY/H OR LESS CAPACITY PER FAN COIL, IF THE ENERGY USE OF THE AIR DELIVERY SYSTEM IS 0.4 W/CFM OR LESS AT DESIGN AIR FLOW.
    B. EXISTING MECHANICAL EQUIPMENT.
9. OZONE DEPLETION AND GREENHOUSE GAS REDUCTIONS. INSTALLATIONS OF HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT SHALL COMPLY WITH SECTIONS 5.508.1.1 AND 5.508.1.2.
    A. CHLOROFLUOROCARBONS (CFCS). INSTALL HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT THAT DO NOT CONTAIN CFCS.
    B. HALONS. INSTALL HVAC REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT THAT DO NOT CONTAIN HALONS.

MECHANICAL GENERAL NOTES

1. MECHANICAL CONTRACTOR SHALL COORDINATE ALL DUCTWORK ROUTING WITH WORK OF OTHER TRADES AND MAKE ANY OFFSETS AS REQUIRED TO AVOID CONFLICT WITH PIPING, LIGHT FIXTURES, TRUSSES, ETC.
2. CONTRACTOR SHALL COORDINATE ALL GRILLE LOCATIONS AND CEILING TYPES PRIOR TO ORDERING GRILLES.
3. THERE ARE NO EXISTING MECHANICAL PLANS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING MECHANICAL CONDITIONS PRIOR TO PROCEEDING WITH INSTALLATION. CONTRACTOR SHALL NOTIFY ARCHITECT/ ENGINEER OF ANY EXISTING CONDITIONS WHICH CONFLICT WITH INFORMATION PROVIDED IN CONSTRUCTION DOCUMENTS.
4. IF THE PLANS DO NOT ACCURATELY REFLECT THE JOB CONDITIONS, OR THE CONSTRUCTION IS NOT PER THE PLANS, NO INSPECTION WILL OCCUR UNTIL AN ADDENDUM APPROVED BY THE DSA IS OBTAINED.

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26 AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRIC, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE: THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

1. 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.
2. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUND PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2019 CBC, SECTION 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G., OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO START OF AND DURING THE HANGING AND BRACING OF DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

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

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

MP☐MD☒PP☐E☐ OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM-0295-13).

MECHANICAL LEGEND

SYMBOL	ITEM	ABBR.
	SUPPLY AIR	SA
	RETURN AIR	RA
	EXHAUST AIR	EXH
	OUTSIDE AIR	OA
1 / M-2	DETAIL DESIGNATION DETAIL NUMBER SHEET NO. WHERE SHOWN	
AC-1	EQUIPMENT DESIGNATION UNIT ABBREVIATION NUMBER	
A 10x10-3 120, FD	GRILLE DESIGNATION NECK SIZE & BLOW FIRE DAMPER WHERE REQ'D CFM	
	ACOUSTIC LINED DUCT	
	TURNING VANES	TV
	DUCT FLEXIBLE CONNECTION	
	DUCT TURNED TOWARD	
	DUCT TURNED AWAY	
	ROUND DUCT	
	VOLUME CONTROL DAMPER	VD
	FIRE DAMPER W/ ACCESS	FD
	OPPOSED BLADE DAMPER	OBD
	BACKDRAFT DAMPER	BDD
T	THERMOSTAT AT 48" AFF TO TOP OF BOX	
S	SWITCH AT 48" TO TOP OF BOX	
(E)	EXISTING	EXIST.
(N)	NEW	NEW
	OUTSIDE AIR	OSA
	PIPE RISER	
	PIPE DROP	
S	SMOKE DETECTOR	
FSD	FIRE SMOKE DAMPER	FSD
R	REMOTE SENSOR	
C	CARBON DIOXIDE SENSOR	CO2
	BOTTOM OF DUCT	BOD
	ABOVE FINISHED FLOOR	AFF
▲	FIRE WALL PENETRATION	

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-118068 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/24/2021

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REGISTERED PROFESSIONAL ENGINEER
GAREN M. LENCIONI
NO. 33380
REN. 6/30
MECHANICAL
STATE OF CALIFORNIA

DSA #: 02-118068

FILE #: 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
1407 SUNSET AVE,
M.U.S.D. MADERA, CA. 93637

REVISIONS

No.	DATE	DESCRIPTION

SHEET NAME
MECHANICAL LEGEND AND NOTES

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	M0.1
DRAWN BY: Dong Ngo	SCALE: AS NOTED	
CHECKED BY: K.K.	DATE: 5/18/2021	

MECHANICAL LEGEND AND NOTES

SCALE: NTS

EVAP. COOLER SCHEDULE

NUMBER		EC-2.1	
TYPE		SIDE DRAFT	
MOUNTING		ROOF	
VOLTS/PHASE		120/1	
HORSEPOWER		1	
UNIT AMPS		15.1	
MOTOR SPEEDS		1	
B L O W E R	RATED CFM	5400	
	E.S.P. (IN.WC.)	0.20	
	DRIVE	BELT	
	RPM	375	
P U M P	VOLTS/PHASE	120/1	
	AMPS/WATTS	0.8/44	
	BLEED-OFF (GPH)	-	
	PUMP MODEL NO.	-	
	HORSEPOWER	-	
SERVICE		GYMNASIUM	
CONTROL		SWITCH	
ACCESSORIES		SEE NOTES	
OPER. WT. (LBS.)		650	
MANUFACTURER		ARCTIC CIRCLE	
MODEL		ED830	

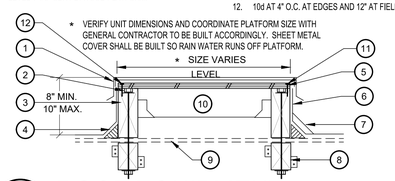
NOTES:
1. PROVIDE FACTORY AUTOMATIC FILL KIT.
2. CONTROL BY FAN ON/PUMP & FAN ON/OFF SWITCH.
3. PROVIDE ALL PURPOSE WATER FILTER #AP10PCL. TO BE INSTALLED BY PLUMBING CONTRACTOR ON CW CONNECTION.
4. INTERLOCK FAN WITH (E) EF-2 & 3 TO COME ON WHEN FAN IS ON.

AIR DISTRIBUTION SCHEDULE

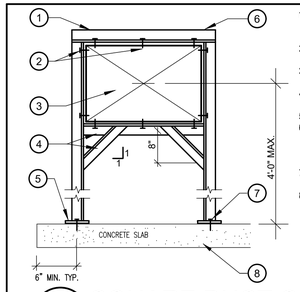
SYMBOL	TYPE	DESCRIPTION
A	SIDEWALL SUPPLY	DOUBLE DEFLECTION HORIZONTAL FRONT GRILLE (5" DOWN) WITH 1/2" BLADE SPACING AND FRAME FOR WALL MOUNTING. TITUS MODEL 1700.
B	CEILING RETURN	PERFORATED FACE GRILLE WITH FRAME FOR T-BAR CEILING FLUSH FACE MOUNTING. TITUS MODEL PAR-3.
C	SIDEWALL RETURN	SINGLE DEFECTION FIXED HORIZONTAL 14 GA. BLADE GRILLE WITH 1/2" SPACING AND 16 GA. FRAME FOR SURFACE MOUNTING AND SUPPORT BARS AT 6" O.C. TITUS MODEL 33RL
D	SIDEWALL RELIEF	SINGLE DEFECTION FIXED HORIZONTAL 14 GA. BLADE GRILLE WITH 1/2" SPACING AND 16 GA. FRAME FOR SURFACE MOUNTING AND SUPPORT BARS AT 6" O.C. PROVIDE BACKDRAFT DAMPER BEHIND. TITUS MODEL 33RL
E	CEILING RELIEF	EGGCRATE GRILLE WITH 1/2"x1/2"x1/2" GRID, FRAME FOR SURFACE MOUNTING. TITUS MODEL 50F-1.
F	RELIEF HOOD	16" HIGH LOUVERED PENTHOUSE ROOFTOP HOOD WITH BAROMETRIC RELIEF DAMPERS AND REMOVABLE COVER LINED WITH INSULATION. ALUMINUM CONSTRUCTION WITH BIRDSCREEN PROVIDED. GREENHECK MODEL WRH.
G	CEILING SUPPLY	16" HIGH LOUVERED PENTHOUSE ROOFTOP HOOD WITH BAROMETRIC RELIEF DAMPERS AND REMOVABLE COVER LINED WITH INSULATION. ALUMINUM CONSTRUCTION WITH BIRDSCREEN PROVIDED. GREENHECK MODEL WRH.

NOTES:
1. EQUIVALENT MODELS OF ANEMOSTAT, PRICE, KRUEGER, ENVIRONMENTAL AIR PRODUCTS OR J & J ARE ACCEPTABLE. REFER TO THE MECHANICAL PLANS FOR NECK SIZE, CFM, AIR DIFFUSION PATTERN AND FIRE/ SMOKE DAMPER, IF REQUIRED.
2. INTERIOR OF ALL GRILLES SHALL BE PAINTED FLAT BLACK.

1. 20 GA. GALV. SHT MTL. COVER, LAP, FOLD, & SOLDER ALL HORIZ. JOINTS.
2. 1/2" DIA. ALL THREAD ROD W/ DOUBLE NUT & WASHER EACH END, @ 24" O.C. (MIN. 2 EA. SIDE WITHIN 9" OF EA. END OF RAIL.)
3. 6x D.F. SUPPORT RAIL ALL AROUND. SHAPED FOR ROOF SLOPE.
4. CANT-STRIP ON ALL SIDES.
5. LEVEL 1-1/8" CDX PLYWOOD PLATFORM.
6. ROOFING UP UNDER CAP. ROOF OVER ENTIRE TOP OF PLATFORM.
7. CRICKET AS NEEDED.
8. 4x6 BLOCKING W/ (2) A34 EACH END (STAGGER VERTICALLY).
9. (E) ROOF.
10. 2x6 CROSS BRACING w/ U26 HANGER BRACKET AT 12" O.C.
11. COUNTERSINK BOLT HEAD AND WASHER.
12. 10d AT 4" O.C. AT EDGES AND 12" AT FIELD.

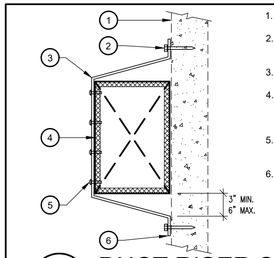


7 M0.2 ROOF EQUIPMENT PLATFORM — NTS



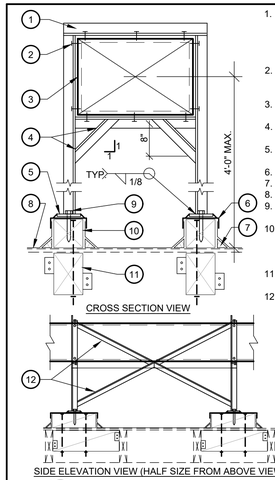
1. 1-1/4" x 1-1/4" x 1/8" WELDED ANGLE IRON FRAME (3 SIDES) PAINT FLAT BLACK. 1/8" FILLET OR BEVEL WELD.
2. #14 SM SCREWS @ EACH CORNER WITH EQUAL SPACING @ 8" O.C.
3. GALVANIZED SHEET METAL DUCT, SEE MECH. PLAN FOR SIZE.
4. 1-1/4" x 1-1/4" x 1/8" WELDED ANGLE IRON SUPPORTS. PAINT FLAT BLACK.
5. 3" x 3" x 1/8" PLATE WELDED TO FRAME.
6. PROVIDE ANGLE IRON SUPPORT AS FOLLOWS: (1) WITHIN 12" OF DUCT TO A/C UNIT CONNECTION, EQUAL SPACING 5'-0" O.C.
7. 3/8"Ø SIMPSON TITEN HD BOLT TO SLAB, SEE DETAIL 7/S1.2.
8. 4" CONC. SLAB ON GRADE W/#4 @ 12"O.C. EACH WAY AT MID DEPTH, MIN.

8 M0.2 SQUARE DUCT ON SLAB SUPPORT — NTS



1. (E) CONCRETE WALL, SEE STRUCTURAL DWGS.
2. 3/8"Ø SIMPSON TITEN HD ANCHOR BOLT, SEE SETAIL 7/S1.2.
3. 1" x 18 GA. GALV. S.M. STRAP AT 6'-0" O.C.
4. ACOUSTIC LINED GALVANIZED SHEET METAL DUCT RISER, SEE MECHANICAL PLAN FOR SIZE.
5. WELD, BOLT OR (MIN.) #8 SHEET METAL SCREW, (8" O.C.)
6. 1" x 18 GA. GALV. S.M. LEG, (MAXIMUM LENGTH 3")

9 M0.2 DUCT RISER SUPPORT — NTS

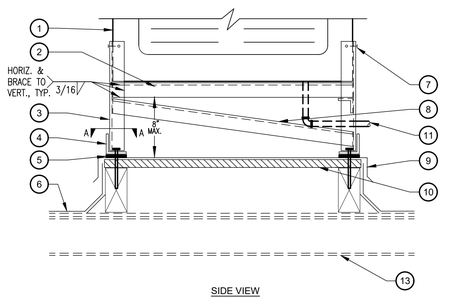


1. 1-1/4"X1-1/4"X1/8" WELDED ANGLE IRON FRAME (3 SIDES), PAINT FLAT BLACK. (1) WITHIN 12" OF DUCT UNIT CONNECTION & EQUAL SPACING 5'-0" O.C.
2. #14 SM SCREWS @ EACH CORNER WITH EQUAL SPACING @ 8" O.C. SET IN SILICONE.
3. ACOUSTIC LINED GALV. S.M. DUCT, SEE MECH. PLAN FOR SIZE.
4. 1-1/4"x1-1/4"x1/8" WELDED ANGLE IRON, PAINT FLAT BLACK.
5. 3"x3"x1/8" PLATE WELDED TO FRAME, SILICONE SEAL.
6. 24 GA. GALV. S.M. FLASHING.
7. CANT STRIP.
8. ROOFING, SEE ARCH. DWGS.
9. 3/8"Ø LAG BOLT WITH 3" PENETRATION AND SILICONE SEALANT, (TYP.)
10. 4"x4"x1'-0" REDWOOD BLOCK W/ (2) 1/2"Ø x10" THRU BOLT W/ NUT & LOCK WASHER, COUNTERSINK/ CTR. INTO BLOCK.
11. 4x6 BLKG. W/ (2) A34 EACH END (STAGGER VERTICALLY).
12. 1-1/4"x1-1/4"x1/8" WELDED ANGLE IRON CROSS BRACING LATERAL SUPPORTS, PAINT FLAT BLACK.

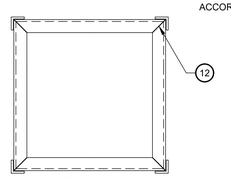
10 M0.2 DUCT ON ROOF SUPPORT — NTS

5 M0.2 NOT USED — NTS

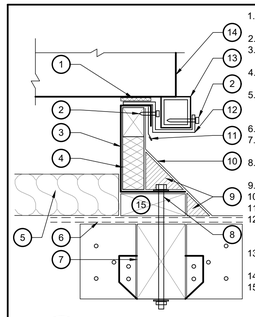
1. EVAP. COOLER.
2. L2"x2"x1/4" WELDED AT ALL CONNECTIONS, TYP. 4 SIDES.
3. WELDED L2"x2"x1/4" VERTICAL EA. CORNER.
4. L2-1/2"x2-1/2"x1/4"x0'-4" W/ 1/4"Ø SIMPSON SDS SCREW W/ 2-1/2" MIN. EMB. INTO WD. STRUCT.
5. 1/4" THICK NEOPRENE PADS BETWEEN RUNNER AND PLATFORM.
6. (E) BUILT-UP ROOF, PATCH AROUND.
7. #10 TEK SCREWS ABOVE WATER LINE, TYP. OF 8, (2) EA. CORNER.
8. L2"x2"x1/4" CROSS BRACE WELDED TO SUPPORT, TYP. 4 SIDES.
9. 24 GA. S.M. COVER OVER PLATFORM.
10. PLATFORM, SEE DETAIL 7/M0.2.
11. DRAIN PIPE.
12. CHAMFER ENDS AS REQUIRED.
13. FINISHED CEILING.



NOTE: VERIFY UNIT DIMENSIONS AND COORDINATE PLATFORM SIZE WITH GENERAL CONTRACTOR TO BE BUILT ACCORDINGLY.



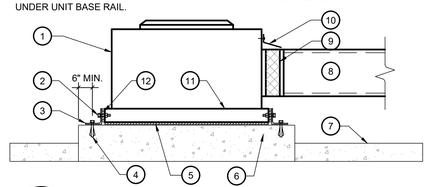
6 M0.2 EVAP. COOLER SUPPORT — NTS



1. 2"X 1/4" CONTINUOUS DENSE NEOPRENE SPONGE GASKET.
2. #10x1/2" TEK SCREWS, (4) PER CLIP.
3. METAL ROOF CURB. (FURNISHED WITH A/C UNIT)
4. 1-1/2" RIGID INSULATION COMPATIBLE WITH ROOFING.
5. MINIMUM R-13 BATT INSULATION. (ONLY WHEN BUILDING ENVELOPE INSULATION IS ON TOP OF ROOF).
6. (E) ROOF.
7. 4x6 BLOCKING, SEE STRUCT. DETAILS 2 & 3/S4.1.
8. 1/2"Ø BOLT WITH WASHER & NUT THRU STRUCTURE @ 24" O.C.
9. CANT STRIP.
10. BUILT-UP ROOFING, PATCH AROUND.
11. GALVANIZED S/M FLASHING.
12. MANUFACTURER'S HOLD DOWN S-CLIP, 16 GA. GALVANIZED STEEL. (TYPICAL OF 4) (ONE PER CORNER).
13. UNIT BASE RAIL, SEE MANUFACTURER'S CUT SHEET.
14. AIR CONDITIONING UNIT.
15. 2X WOOD LEVELING BLOCK SHAPED TO MATCH ROOF SLOPE.

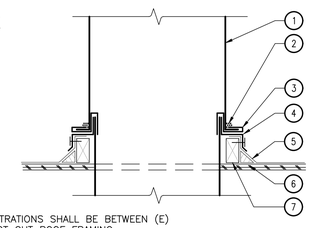
1 M0.2 A/C CURB MOUNTING — NTS

1. AIR CONDITIONING UNIT, SEE MECH. PLAN.
2. 1/2"Ø x 2" BOLT WITH NUT AND LOCK WASHER CENTERED IN EACH CLIP.
3. 2"x2"x1/4" ANGLE IRON CLIP, MIN. 2" LONG, LOCATE AT 8" O.C. AND TO AVOID ACCESS PANELS, SEE DETAIL 2/S3.2 FOR QTY.
4. 1/2"Ø SIMPSON TITEN HD BOLT CENTERED IN EA. CLIP AT 8" O.C. SEE DETAIL 7/S1.2 FOR SIMPSON TITEN HD ANCHORS. (TYP.)
5. 1/4" CONTINUOUS NEOPRENE STRIP UNDER UNIT BASE RAIL.
6. 14" CONCRETE HOUSEKEEPING PAD, SEE DETAIL 3/S3.2
7. 4" THICK CONCRETE SLAB.
8. ACOUSTIC LINED GALV. S/M DUCT.
9. FLEXIBLE DUCT CONNECTION.
10. GALV. S/M RAIN COVER, SEE DETAIL 4/M0.2.
11. PERMENANTLY ATTACHED UNIT BASE RAIL, SEE A/C UNIT MANUFACTURER'S CUT SHT.
12. 1/4" NEOPRENE PAD.



2 M0.2 A/C TO SLAB DETAIL — NTS

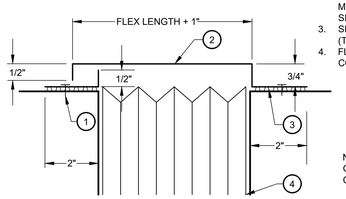
1. DUCT THRU ROOF. SEE PLAN FOR SIZE.
2. MASTIC CEMENT ALL JOINTS AND SEAMS.
3. 2" G-LOCK.
4. 24 GA. FLASHING.
5. ROOFING.
6. CANT STRIP.
7. 2x FRAMING.



NOTE:
ALL DUCT PENETRATIONS SHALL BE BETWEEN (E) FRAMING, DO NOT CUT ROOF FRAMING.

3 M0.2 DUCT THRU ROOF — NTS

1. SHEET METAL SCREWS @ 16" O.C. SET IN MASTIC. (TYP.)
2. 24 GAUGE GALV. SHEET METAL (COVER, TOP & SIDES).
3. SEAL W/MASTIC (TYPICAL).
4. FLEXIBLE DUCT CONNECTION.



NOTE: TO BE INSTALLED ON ALL FLEXIBLE DUCT CONNECTIONS.

4 M0.2 SHEET METAL COVER FOR FLEXIBLE DUCT CONNECTION — NTS

ROOFTOP UNIT SCHEDULE

NUMBER		AC-1.1 & 1.2	AC-1.3 & 1.4	AC-2.1	
DISCHARGE SA & RA		VERTICAL	VERTICAL	HORIZONTAL	
VOLTS/PHASE		460/3	460/3	460/3	
RLA/MCA		10.0/11.0	12.0/13.0	78.4/84.0	
MAX. OCP		15	15	100	
IER/EER/SEER		-/12.6/16.0	-/12.3/16.0	11.9/9.8/-	
AFUE %		81.0	81.0	81.0	
B L O W E R	HP	1.0	1.0	15.0	
	DESIGN BHP	0.65	0.84	12.89	
	SUPPLY AIR CFM	1600	2000	14000	
	E.S.P. (IN. W.C.)	0.6	0.6	1.0	
	MIN. O.S.A. CFM	150/CO2	200/CO2	1060/CO2	
	DRIVE	BELT	BELT	BELT	
	COOLING TYPE	DX	DX	DX	
C O O L I N G	TOTAL CAP. (MBH)	44.4	56.5	394.9	
	SENS. CAP. (MBH)	33.2	43.9	357.7	
	E.A. DB (°F)	80.8	80.8	82.0	
	E.A. WB (°F)	67.1	67.1	67.1	
	AMB. TEMP. (°F)	105	105	105	
H E A T	HEATING TYPE	GAS	GAS	GAS	
	HEAT LEVEL			LOW	
	INPUT (MBH)	67.0	67.0	400.0	
	OUTPUT (MBH)	53.0	53.0	324.0	
	FUEL	NAT. GAS	NAT. GAS	NATURAL GAS	
E L E C T R I C A L	EXH. ESP (IN. WC)	–	–	-	
	VOLTS/PHASE	–	–	-	
	HP/BHP	–	–	-	
FILTER SIZE RA (IN.)		(2) 16x25x2	(4) 16x16x2	(8) 16x25x2 (4) 20x25x2 (10) 20x24x2	
FILTER TYPE		SEE SPEC.	SEE SPEC.	SEE SPEC.	
SERVICE		SEE PLAN	SEE PLAN	LECTURE	
ACCESSORIES		SEE NOTES	SEE NOTES	SEE NOTES	
OPER. WT. (LBS.)		800	850	6000	
MANUFACTURER		CARRIER	CARRIER	CARRIER	
MODEL		48GCDM05A2A6	48GCDM06A2A6	48A4T035-PG621KK	

NOTES:
1. PROVIDE T-24 COMPLIANT VENSTAR T8900 WIFI PROGRAMMABLE THERMOSTAT WITH OCCUPANT CONTROLLED SMART AND DEMAND SHED CONTROLS.
2. PROVIDE THERMOSTAT AND CO2 SENSOR WITH LOCKING COVER.
3. PROVIDE 100% MODULATING ECONOMIZER WITH DIFFERENTIAL DRY BULB TEMPERATURE SENSOR AND BAROMETRIC RELIEF. PROVIDE AUTOMATIC FAULT DETECTION AND DIAGNOSTICS.
4. PROVIDE WALL MOUNTED CO2 SENSOR TO CONTROL OUTSIDE AIR REQUIRED, CFM LISTED IS MINIMUM OUTSIDE AIR SETTING.
5. PROVIDE OVERALL FIRE ALARM/ SMOKE DETECTION SYSTEM TO SHUT-OFF THE UNITS POWER UPON DETECTION OF SMOKE. DETECTOR PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. INSTALL IN STRICT ACCORDANCE WITH THE 2019 CMC, SECTION 608.1. A SMOKE DETECTOR TEST WILL BE REQUIRED.
6. PROVIDE DUCT FLEX CONNECTIONS AT DUCT CONNECTIONS WITH TRANSITIONS AS REQUIRED.
7. BYPASS UNITS ANTI-RECYCLE TIMER WHEN ANTI-RECYCLE FUNCTION IS INCLUDED IN THE THERMOSTAT.
8. PROVIDE ANTI-RECYCLE TIMER, CRANKCASE HEATER, LOW AMBIENT KIT AND HIGH CAPACITY FILTER RACK.
9. PROVIDE FACTORY MOUNTED DISCONNECT SWITCH.
10. PROVIDE & INSTALL FACTORY CONDENSER COIL GUARDS.
11. PROVIDE FACTORY MICROMETL 14" HIGH CURB FOR AC-1.1 THRU 1.4.
12. PROVIDE FLUE EXTENSION TO 3" ABOVE THE TOP OF UNIT. TERMINATE WITH FACTORY DEFLECTOR.
13. AC-2.1 COMES WITH 800 MBH INPUT 5-STAGE HEATER. CONTRACTOR WILL NEED TO FIELD LOCK OUT THE (2) HIGH STAGES FOR A MAXIMUM INPUT OF 400 MBH AND PROVIDE PLASTIC LAMINATE LABEL STATING, "HIGH HEAT LOCKED OUT FOR 400 MBH INPUT.'

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-118068 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/24/2021

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REGISTERED PROFESSIONAL ENGINEER
GAREN M. LENCIONI
NO. 33380
REN. 6-30-22
MECHANICAL
STATE OF CALIFORNIA

DSA #: 02-118068

FILE #: 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D.
1407 SUNSET AVE.
MADERA, CA. 93637

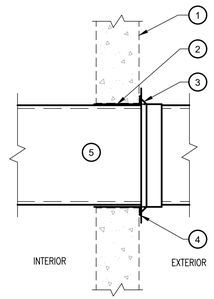
No.	DATE	DESCRIPTION	REVISIONS

SHEET NAME
MECHANICAL SCHEDULES AND DETAILS

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	M0.2
DRAWN BY	SCALE	
Dong Ngo	AS NOTED	
CHECKED BY	DATE	
K.K.	5/18/2021	

MECHANICAL SCHEDULES AND DETAILS

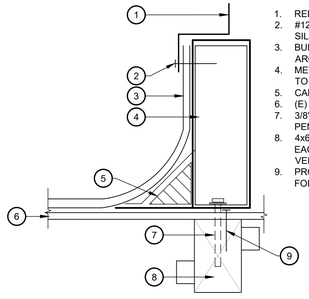
SCALE: NTS



1. (E) EXTERIOR CONC. WALL.
2. NEW WALL PENETRATION WITH 24 GA. GALV. SHEET METAL SLEEVE WITH SILICONE SEALENT. SEE DETAIL 4/S3.2 FOR STRUCT. PENETRATION REQUIREMENTS.
3. 24 GA. GALV. SHEET METAL FLASHING SOLDER TO DUCT.
4. SILICONE SEAL. WATERTIGHT, ALL AROUND.
5. ACOUSTIC LINED GALV. SHEET METAL DUCT. SEE MECH PLAN.

6 M0.3 DUCT THRU CONC. WALL

NTS

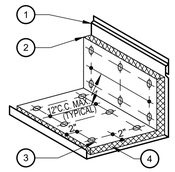


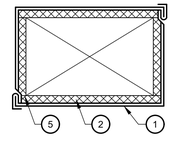
1. RELIEF HOOD.
2. #12 SMS LAG SCREW SET IN SILICONE, TYP. TWO PER SIDE.
3. BUILT UP ROOFING, PATCH ALL AROUND.
4. METAL CURB BY EQUIP. MANUF. TO MATCH ROOF SLOPE.
5. CANT STRIP.
6. (E) ROOF.
7. 3/8"Ø LAG BOLT W/ 3" PENETRATION, (1) EA. SIDE.
8. 4x6 BLOCKING WITH (2) A34 EACH END (STAGGER VERTICALLY).
9. PROVIDE 10d STAGG. AT 6" O.C. FOR EACH BLOCK.

7 M0.3 RELIEF HOOD CURB

NTS

1. GALVANIZED SHEET METAL DUCT.
2. ACOUSTIC DUCT LINER, LINER TO BE ADHERED TO DUCT WITH 100% ADHESIVE. (MIRACLE PF96)
3. NOT MORE THAN 2" FROM EDGE OF DUCT LINER.
4. ALL ENDS OF LINER TO BE COATED WITH ADHESIVE. (MIRACLE PF96) ENDS OF LINER SHALL BE BUTTED FIRMLY TOGETHER.
5. TOP AND BOTTOM SECTIONS OF LINER SHALL OVERLAP THE SIDES.





METAL FASTENERS: OMARK INSUL-PINS. DURA DYNE FASTENERS OR GRIP NAILS.

GRIP NAILS SHALL BE INSTALLED BY "GRIP-NAIL AIR HAMMER" OR BY AUTOMATIC FASTENER EQUIPMENT.

3 M0.3 ACOUSTIC LINED DUCTS

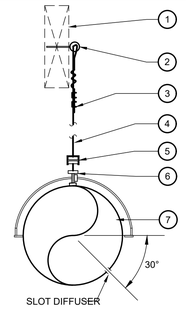
NTS

DIMENSION OF LONGEST SIDE, INCHES	SHEET METAL GAGE (ALL FOUR SIDES)	MINIMUM REINFORCING ANGLE SIZE AND MAXIMUM LONGITUDINAL SPACING BETWEEN TRANSVERSE JOINTS &/OR INTERMEDIATE REINFORCING	TRANSVERSE REINFORCING (1) AT JOINTS				
			MIN. HT. IN.	DRIVE SLIP / PLAIN S SLIP	HEMMED S SLIP	ALTER'NT BAR SLIP	REIN-FORCED BAR SLIP
				RECOM-MENDED GAGE	RECOM-MENDED GAGE	RECOM-MENDED GAGE	RECOM-MENDED GAGE
UP THRU 12	26	NONE REQUIRED	1	26	26	24	24
13 - 18	24	NONE REQUIRED	1	24	24	24	24
19 - 30	24	1" x 1" x 1/8" @ 60 IN.	1		24	24	24
31 - 42	22	1" x 1" x 1/8" @ 60 IN.	1			22	22
43 - 60	20	1" x 1" x 1/8" @ 60 IN.	1				20
61 & ABOVE	18	1" x 1" x 1/8" @ 60 IN.	1				18

(1) TRANSVERSE REINFORCING SIZE IS DETERMINED BY DIMENSION OF SIDE TO WHICH ANGLE IS APPLIED.

4 M0.3 DUCT CONSTRUCTION STANDARDS

NTS

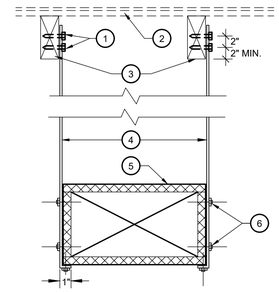


1. (E) ROOF FRAMING AT 24" O.C.
2. 1/4"Ø EYEBOLT W/ 1-1/2" MIN. PENETRATION, CENTER IN (E) 2x FRAMING MEMBER.
3. 1/8" DIA. AIRCRAFT CABLE W/ (3) WRAPS AND (2) U-CLAMPS WITHIN 6" OF BOLT.
4. CABLE SUPPORT SUPPLIED WITH DUCTSOX AT 6'-0" O.C. MAX.
5. ALUMINUM FLUSH MOUNT TRACK SUPPLIED WITH DUCTSOX.
6. SNAP TAB SUPPLIED WITH DUCTSOX (3X1 SUSPENSION SYSTEM).
7. TYPICAL DUCTSOX (MAX. 5 LBS. PER FOOT).

NOTE:
1. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
2. CABLE SUPPORT AND SNAP TAB QUANTITY VARIES WITH DUCT SIZE, SEE MANUFACTURER'S REQUIREMENTS.

5 M0.3 FABRIC DUCT SUPPORT

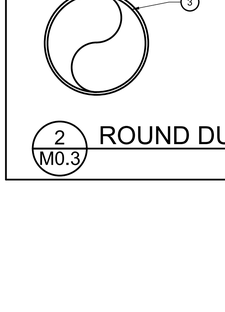
NTS



1. #10 CADMIUM PLATED WOOD SCREWS W/ 1-1/4" MIN. PENETRATION, (TYPICAL).
2. (E) ROOF.
3. (E) WOOD FRAMING MEMBER OR BLKG., SEE STRUCT. DWGS.
4. 1" X 18 GA. GALV. SHEET METAL STRAP @ 8'-0" O.C.
5. ACOUSTIC LINED GALVANIZED SHEET METAL DUCT - SEE MECHANICAL PLAN FOR SIZE.
6. #10 X 3/4" SELF TAPPING CADMIUM PLATED SHEET METAL SCREWS TO ANCHOR STRAPS TO DUCT. ALL STRAPS TO BE TIGHT AGAINST DUCT AND SUPPORT MEMBERS. (TYPICAL)

1 M0.3 RECTANGULAR DUCT SUPPORT

NTS



1. 1"x22 GA. GALV. S.M. STRAP, ATTACH TO (E) STRUCTURE WITH (2) #10x1-1/4" CADMIUM PLATED WOOD SCREWS.
2. 1/4"Ø THRU BOLT WITH LOCK WASHER AND NUT.
3. ROUND DUCTWORK, SEE PLAN FOR SIZE.

NOTES:
A. DUCT SUPPORTS SHALL BE 10'-0" O.C.
B. ALL DUCTS ARE LESS THAN 28"Ø, NO LATERAL BRACING REQUIRED.
C. PROVIDE LATERAL BRACING IF DUCTS ARE NOT FREE TO SWING 45 DEGREES.

2 M0.3 ROUND DUCT SUPPORT

NTS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-118068 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/24/2021

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REGISTERED PROFESSIONAL ENGINEER
GAREN M. LENGIONI
NO. 33380
REN. 8/31/22
MECHANICAL
STATE OF CALIFORNIA

DSA #: 02-118068

FILE #: 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D.
1407 SUNSET AVE.
MADERA, CA. 93637

REVISIONS

No.	DATE	DESCRIPTION

SHEET NAME
MECHANICAL DETAILS

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENGIONI	17-1060	M0.3
DRAWN BY: Dong Ngo	SCALE: AS NOTED	
CHECKED BY: K.K.	DATE: 5/18/2021	

MECHANICAL DETAILS

SCALE: NTS

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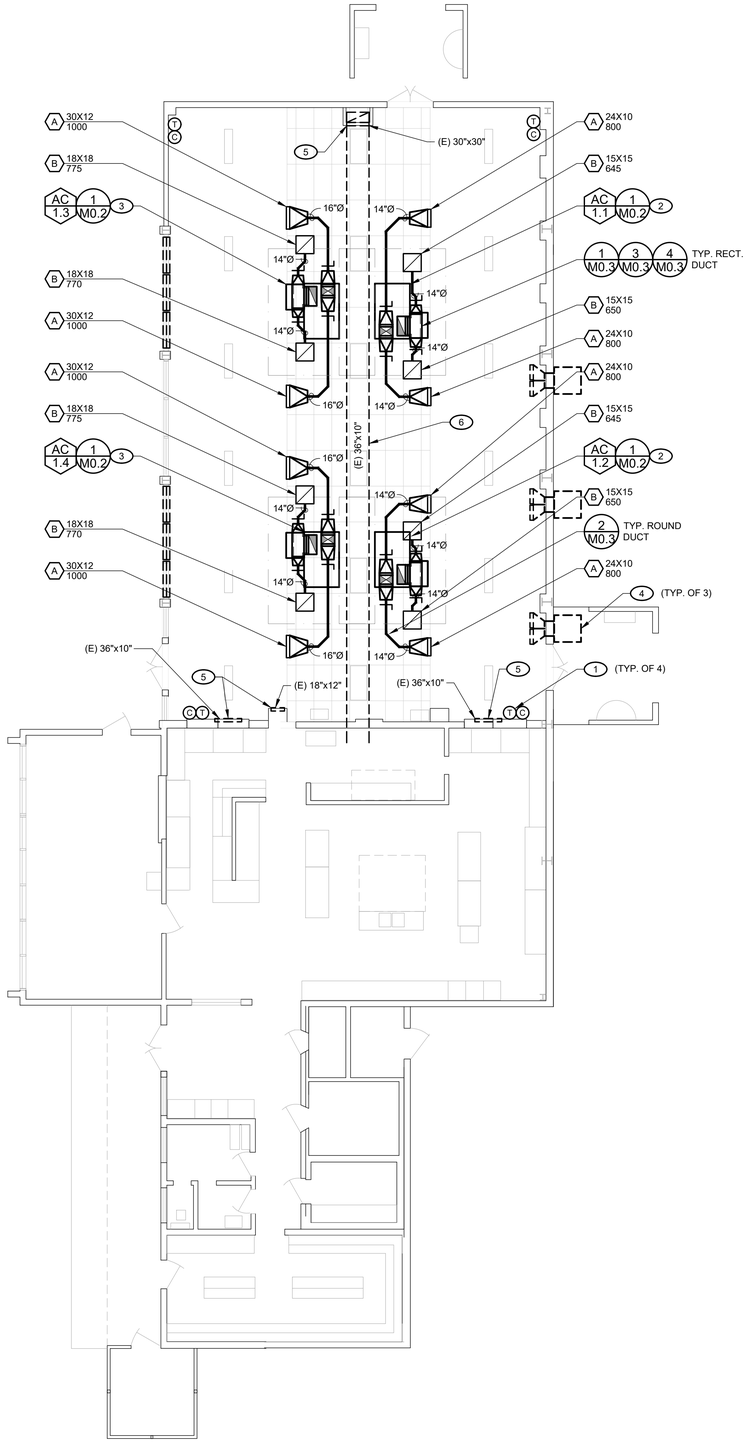

KEY NOTES

1. THERMOSTAT & CO2 SENSOR MOUNTED AT 48" AFF TO TOP OF BOX. ALL WIRE SHALL BE CONCEALED IN WALL OR ATTIC WHEN POSSIBLE AND SHALL BE INSIDE CONDUIT.
2. 18"X12" SA & 11"X26" RA DUCT FLEX CONNECTIONS. PROVIDE DUCT TRANSITIONS WITHIN ROOF CURB TO 14"X18" ACOUSTIC LINED DUCTS THRU ROOF, ELBOW OVER IN ATTIC WITH TURNING VANES, TRANSITION TO ROUND AND EXTEND AS SHOWN.
3. 18"X12" SA & 11"X26" RA DUCT FLEX CONNECTIONS. PROVIDE DUCT TRANSITIONS WITHIN ROOF CURB TO 14"X22" ACOUSTIC LINED DUCTS THRU ROOF, ELBOW OVER IN ATTIC WITH TURNING VANES, TRANSITION TO ROUND AND EXTEND AS SHOWN.
4. REMOVE (E) WALL MOUNT EVAP. COOLER, 20"x20" DUCT THRU WALL, DUCT TRANSITION AND (2) 20"x20" SUPPLY GRILLES. PATCH WALL TO MATCH (E), FIELD VERIFY PRIOR TO BID.
5. REMOVE (E) WALL GRILLE AND DUCT THRU WALL, CAP AIR TIGHT AND ABANDON IN PLACE. PATCH WALL TO MATCH (E). FIELD VERIFY PRIOR TO BID.
6. (E) DUCT IN ATTIC TO BE REMOVED TO ALLOW FOR NEW PIPING TO BE INSTALLED. ABANDON IN PLACE REMAINING DUCT AND UNIT. FIELD VERIFY PRIOR TO BID.

MECHANICAL FLOOR PLAN - CAFETERIA

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

TRUE NORTH

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STATE OF CALIFORNIA

DSA #: 02-118068

FILE #: 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D.
1407 SUNSET AVE.
MADERA, CA 93637

REVISIONS

No.	DATE	DESCRIPTION

SHEET NAME
MECHANICAL FLOOR PLAN - CAFETERIA

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	M1.1
DRAWN BY	SCALE	
Dong Ngo	AS NOTED	
CHECKED BY	DATE	
K.K.	5/18/2021	

IDENTIFICATION STAMP
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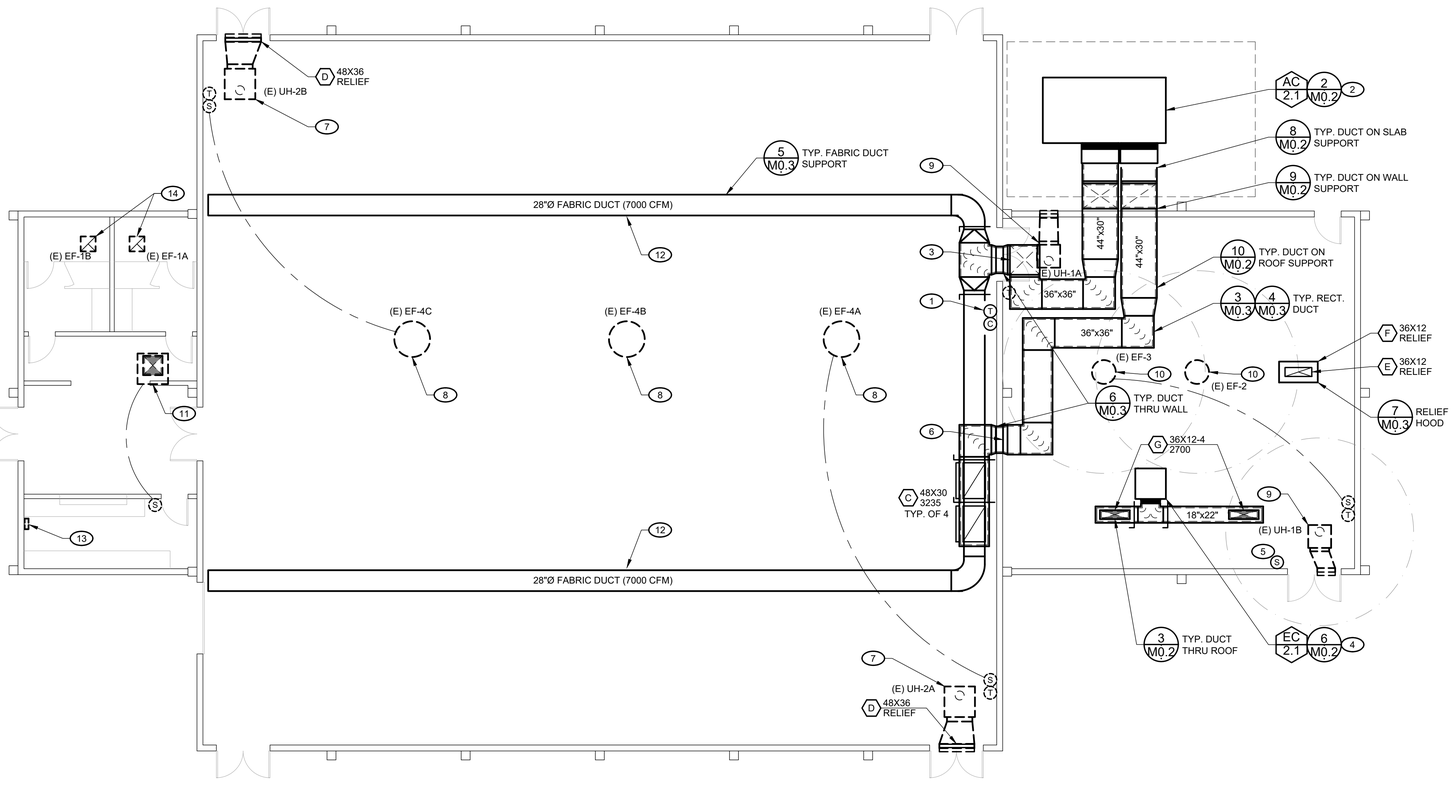
APP: 02-118068 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/24/2021



KEY NOTES

1. THERMOSTAT & CO2 SENSOR MOUNTED AT 48" AFF TO TOP OF BOX. ALL WIRE SHALL BE IN CONDUIT EXPOSED ON CONC. WALL. ROUTE STRAIGHT UP TO CEILING, THEN ROUTE ALONG BOTTOM OR SIDE OF SA DUCT THRU WALL AND EXTEND WITH DUCT TO UNIT. PAINT ALL CONDUIT TO MATCH FINISHES.
2. (2) 48"x13" SA (BELOW) & (2) 48"x13" RA (ABOVE) DUCT FLEX CONNECTIONS. PROVIDE DUCT TRANSITIONS AND OFFSETS TO 44"x30" ACOUSTIC LINED DUCTS, RISE UP EXPOSED ON WALL TO ROOF WITH TURNING VANES IN ELBOWS AND EXTEND ON LOWER ROOF AS SHOWN.
3. 36"x36" SA ACOUSTIC LINED DUCT RISER WITH ELBOW OVER, TRANSITION TO 32"x32", PENETRATE THRU WALL AT 0'-6" BELOW CEILING, TRANSITION BACK TO 36"x36", TEE IN OPPOSITE DIRECTIONS, TRANSITION TO FABRIC DUCT AND EXTEND AS SHOWN. PAINT ALL GALV. DUCT IN AND OUTSIDE OF GYM TO MATCH WALLS.
4. 22"x22" SA DUCT FLEX CONNECTION WITH 22"x22" DOUBLE WALL DUCT TEE TO 18"x22" DUCTS IN EACH DIRECTION WITH 36"x9" DUCT DROPS THRU ROOF TO DIFFUSER AT CEILING. INTERIOR DUCT SHALL BE STAINLESS STEEL ALONG WITH PLAQUE CONSTRUCTION.
5. EVAP. COOLER SWITCH MOUNTED AT 48" AFF. ALL WIRE SHALL BE IN CONDUIT EXPOSED ON WALL. ROUTE STRAIGHT UP TO CEILING AND EXTEND ALONG CEILING TO ROOF PENETRATION AT UNIT. PAINT ALL CONDUIT TO MATCH FINISHES.
6. 36"x36" RA ACOUSTIC LINED DUCT TRANSITION TO 32"x32", THEN PENETRATE THRU WALL AT 0'-6" BELOW SA DUCT, TRANSITION BACK TO 36"x36", ELBOW OVER AND EXTEND AS SHOWN WITH (2) GRILLES ON BOTTOM OF DUCT AND (2) GRILLES ON SIDE OF DUCT. PAINT ALL DUCT AND GRILLES IN AND OUTSIDE OF GYM TO MATCH WALLS.
7. REMOVE (E) SUSPENDED FURNACE, CONTROLS AND ALL ASSOCIATED FLUE PIPING & SUPPORTS TO JUST BELOW FINISHED CEILING. CAP ENDS OF PIPING AIR TIGHT. REMOVE (E) DUCT BACK TO 48"x36" INTAKE LOUVER. LOUVER TO REMAIN FOR NEW RELIEF. PRIME AND PAINT REMAINING SUPPORT AND PIPING STUB-OUTS TO MATCH CEILING.
8. (E) ROOF EXHAUST FAN TO BE ABANDONED IN PLACE. DISCONNECT POWER AND CONTROLS.
9. (E) SUSPENDED FURNACE TO REMAIN.
10. (E) ROOF EXHAUST FAN TO REMAIN. INTERLOCK WITH EVAP. COOLER SO IT COMES ON WHEN SUPPLY BLOWER COMES ON. (E) EF-2 IS ALSO INTERLOCKED WITH (E) FURNACES AND (E) EF-3 IS CONNECTED TO SWITCH.
11. (E) EVAP. COOLER ON ROOF TO REMAIN.
12. PROVIDE LOGO ON SIDE OF FABRIC DUCT WITH UP TO (4) COLORS, DISTRICT TO PROVIDE LOGO. FABRIC COLOR TO ALSO BE SELECTED BY DISTRICT.
13. (E) TIME CLOCK TO REMAIN.
14. (E) CEILING EXHAUST FAN TO REMAIN.

TRUE NORTH

MECHANICAL FLOOR PLAN - GYM

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

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STATE OF CALIFORNIA

DSA #: 02-118068

FILE #: 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D.
1407 SUNSET AVE.
MADERA, CA. 93637

REVISIONS

No.	DATE	DESCRIPTION

SHEET NAME
MECHANICAL FLOOR PLAN - GYM

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	M2.1
DRAWN BY: Dong Ngo	SCALE: AS NOTED	
CHECKED BY: K.K.	DATE: 5/18/2021	

Project Name:	Jefferson Middle School - Cafeteria	NRCC-PRF-01-E	Page 6 of 15
Project Address:	1407 Sunset Avenue Madera 93637	Calculation Date/Time:	10:49, Fri, Jun 05, 2020
Input File Name:	17-1060 Jefferson MS - Cafeteria v8.cibd19x		

K5. SYSTEM FEATURES §120.2

1	2	3	4	5	6
System Name	**Optimum Start**	**Window Interlocks per §140.4(n)**	**Evaporative Cooling**	**Heat Recovery**	**Other Controls**
AC-1.1 & AC-1.2	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	1 Zones With CO2Sensor Vent. Control, No DDC Differential Drybulb Economizer No Supply Air Temp. Control
AC-1.3 & AC-1.4	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	1 Zones With CO2Sensor Vent. Control, No DDC Differential Drybulb Economizer No Supply Air Temp. Control

Notes: This table includes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are documented on the NRCC-MCH-E.

K6. MECHANICAL VENTILATION AND REHEAT §120.1

1	2	3	4	5	6	7	8	9
Zone Name	**Mechanical Ventilation**							**DCV or Occupant Sensor Controls, or Both**
	Ventilation Function	**# hotel rooms**	**# of people**	**# of bedrooms**	**Supply OA CFM**	**Exhaust CFM**	**Conditioned Area (sf)**	
1-Cafeteria (North)	Food Service - Cafeteria/fast-food dining	0	50.61	0	759	0	1518	NA
2-Cafeteria (South)	Food Service - Cafeteria/fast-food dining	0	50.61	0	759	0	1518	NA

K7. DISTRIBUTION SUMMARY §120.4/140.4(l)

This Section Does Not Apply

Multifamily or Hotel/Motel Occupancy? (if "Yes", see DOMESTIC/SERVICE HOT WATER SYSTEM SUMMARY)	No
Does the Project include Zonal Systems?	No

Project Name:	Jefferson Middle School - Cafeteria	NRCC-PRF-01-E	Page 7 of 15
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K8. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY § 140.4

1	2	3	4	5	6	7	8	9	10	11	12
System ID	**Zone Name**	**System Type**	**Rated Capacity (kBtuh)**		**Airflow (cfm)**			**Fan**			
			Heating	**Cooling**	**Design**	**Min.**	**Min. Ratio**	**BHP**	**Watts**	**Cycles**	**ECM Motor**
1-Cafeteria (North)-Trm	1-Cafeteria (North)	Uncontrolled	NA	NA	3200	NA	0.00	NA	NA	NA	☐
2-Cafeteria (South)-Trm	2-Cafeteria (South)	Uncontrolled	NA	NA	2000	NA	0.00	NA	NA	NA	☐

K9. EVAPORATIVE COOLER SUMMARY

This Section Does Not Apply

L. DOMESTIC/SERVICE HOT WATER SYSTEM SUMMARY

L1. DHW EQUIPMENT SUMMARY

This Section Does Not Apply

L2. MULTI-FAMILY CENTRAL DHW SYSTEM DETAILS

This Section Does Not Apply

L3. SOLAR HOT WATER HEATING SUMMARY

This Section Does Not Apply

M. COVERED PROCESS SUMMARY §140.9

This Section Does Not Apply

N. INDOOR LIGHTING SUMMARY §140.6

Project Name:	Jefferson Middle School - Cafeteria	NRCC-PRF-01-E	Page 8 of 15
Project Address:	1407 Sunset Avenue Madera 93637	Calculation Date/Time:	10:49, Fri, Jun 05, 2020
Input File Name:	17-1060 Jefferson MS - Cafeteria v8.cibd19x		

N1. INDOOR CONDITIONED LIGHTING GENERAL INFO § 140.6[1]

						Confirmed	
1	2	3	4	5		Pass	Fail
Occupancy Type [1]	**Conditioned Floor Area [2] (ft^2)**	**Installed Lighting Power (Watts)**	**Lighting Control Credits (Watts)**	**Additional (Custom) Allowance**			
				Area Category Footnotes (Watts)	**Tailored Method (Watts)**	☐	☐
Dining Area (Cafetaria/Fast Food)	3,036	1,214	0	0	0	☐	☐
Building Totals:	**3,036**	**1,214**	**0**	**0**	**0**		

[1] *See Table 140.6-C*
[2] *See NRCC-LTI-01-E for unconditioned spaces*
[3] *Lighting information for existing spaces modeled is not included in the table*

N2. INDOOR CONDITIONED LIGHTING SCHEDULE § 130.0

This Section Does Not Apply

N3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS § 140.6

This Section Does Not Apply

N4: INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROLS § 130.1

This Section Does Not Apply

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

N5. TAILORED METHOD CONDITIONED LIGHTING POWER ALLOWANCE SUMMARY AND CHECKLIST § 140.6

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

N6. GENERAL LIGHTING POWER § 140.6-D

This Section Does Not Apply

Project Name:	Jefferson Middle School - Cafeteria	NRCC-PRF-01-E	Page 3 of 15
Project Address:	1407 Sunset Avenue Madera 93637	Calculation Date/Time:	10:49, Fri, Jun 05, 2020
Input File Name:	17-1060 Jefferson MS - Cafeteria v8.cibd19x		

F. ADDITIONAL REMARKS

This Section Does Not Apply

G. ENVELOPE GENERAL INFORMATION

1	2	3	4
Opaque Surfaces & Orientation	**Total Gross Surface Area (ft^2)**	**Total Fenestration Area (ft^2)**	**Window to Wall Ratio (%)**
North-Facing[1]	654 ft^2	0 ft^2	00.0%
East-Facing[2]	1,046 ft^2	0 ft^2	00.0%
South-Facing[3]	0 ft^2	0 ft^2	00.0%
West-Facing[4]	1,038 ft^2	181 ft^2	17.4%
Total	**2,738 ft^2**	**181 ft^2**	**06.6%**
Roof	3,036 ft^2	0 ft^2	00.0%

Notes:
[1] *North-Facing is oriented to within 45 degrees of true north, including 45°00'00" east of north (NE), but excluding 45°00'00" west of north (NW).*
[2] *East-Facing is oriented to within 45 degrees of true east, including 45°00'00" south of east (SE), but excluding 45°00'00" north of east (NE).*
[3] *South-Facing is oriented to within 45 degrees of true south, including 45°00'00" west of south (SW), but excluding 45°00'00" east of south (SE).*
[4] *West-Facing is oriented to within 45 degrees of true west, including 45°00'00" north of due west (NW), but excluding 45°00'00" south of west (SW).*

H. FENESTRATION ASSEMBLY SUMMARY §110.6

1.	2.	3.	4.	5.	6.	7.	8.	9.
Fenestration Assembly Name / Tag or I.D.	**Fenestration Type / Product Type / Frame Type**	**Certification Method[1]**	**Assembly Method**	**Area ft^2**	**Overall U-factor**	**Overall SHGC**	**Overall VT**	**Status[2]**
Single Metal Tinted	VerticalFenestration FixedWindow MetalFraming	Default Performance	SiteBuilt	181	1.19	0.68	0.77	E

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

Project Name:	Jefferson Middle School - Cafeteria	NRCC-PRF-01-E	Page 4 of 15
Project Address:	1407 Sunset Avenue Madera 93637	Calculation Date/Time:	10:49, Fri, Jun 05, 2020
Input File Name:	17-1060 Jefferson MS - Cafeteria v8.cibd19x		

I. ENVELOPE DETAILS §120.7 & §140.3

I1. OPAQUE SURFACE ASSEMBLY SUMMARY

1	2	3	4	5	6	7	8	9
Surface Name	**Surface Type**	**Description of Assembly Layers**	**Area (ft^2)**	**Framing Type**	**Cavity R-Value**	**Continuous R-Value**	**U-Factor / F-Factor / C-Factor**	**Status[1]**
Slab On Grade6	UndergroundFloor	Slab Type = UnheatedSlabOnGrade Insulation Orientation = None Insulation R-Value = R0	3036	NA	0	NA	F-Factor: 0.730	E
R-11 Roof Cathedral8	Roof	Asphalt shingles - 1/4 in. Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Wood framed roof, 16in. OC, 3.5in., R-11 Gypsum Board - 1/2 in.	3036	Wood	11	NA	U-Factor: 0.078	E
Brick Wall10	ExteriorWall	Brick - 48 lb/ft3 - 3 5/8 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more	2738	NA	0	NA	U-Factor: 0.239	E

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

I2. OVERHANG DETAILS

This Section Does Not Apply

I3. OPAQUE DOOR SUMMARY

1	2	3
Assembly Name	**Overall U-factor**	**Status[1]**
Metal Door12	0.700	E

J. CRRC ROOFING PRODUCT SUMMARY S140.3

This Section Does Not Apply

K. HVAC SYSTEM SUMMARY §110.1 & §110.2

Project Name:	Jefferson Middle School - Cafeteria	NRCC-PRF-01-E	Page 5 of 15
Project Address:	1407 Sunset Avenue Madera 93637	Calculation Date/Time:	10:49, Fri, Jun 05, 2020
Input File Name:	17-1060 Jefferson MS - Cafeteria v8.cibd19x		

K1. Dry System Equipment (furnaces, air handling units, heat pumps, VRF, etc.)

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

1	2	3	4	5	6	7	8	9	10
Equipment Name	**Equipment Type**	**Qty**	**Heating**				**Cooling**		**Status[2]**
			Total Heating Output (kBtu/h)	**Supp Heat Source (Y/N)**	**Supp Heat Output (kBtuh)**	**Efficiency**	**Total Cooling Output (kBtu/h)**	**Efficiency**	
AC-1.1 & AC-1.2	SZAC (Packaged3Phase)	2	53	No	0	AFUE-81.0	43	SEER-16.00 / EER-12.60	N
AC-1.3 & AC-1.4	SZAC (Packaged3Phase)	1	53	No	0	AFUE-81.0	54	SEER-16.00 / EER-12.30	N

Status: N - New, A – Altered, E – Existing

K2. ECONOMIZER & FAN SYSTEMS SUMMARY §140.4[1]

1	2	3	4	5	6	7	8	9	10	11	12	13
Name or Item Tag	**System Type packaged, DOAS, etc.**	**Design OA**	**Supply Fan**				**Return Fan**				**Economizer Type (if present)**	**Status[2]**
		CFM	**CFM**	**BHP**	**Watts**	**Control**	**CFM**	**BHP**	**Watts**	**Control**		
AC-1.1 & AC-1.2	SZAC	380	1600	0.650	566.8	ConstantVolume	NA	NA	NA	NA	DifferentialDryBulb	N
AC-1.3 & AC-1.4	SZAC	759	2000	0.840	732.5	ConstantVolume	NA	NA	NA	NA	DifferentialDryBulb	N

Status: N - New, A – Altered, E – Existing

K3. EXHAUST FAN SUMMARY

This Section Does Not Apply

K4. Wet System Equipment(boilers,chillers,cooling towers,etc.)

This Section Does Not Apply

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Project Address:	1407 Sunset Avenue Madera 93637	Calculation Date/Time:	10:49, Fri, Jun 05, 2020
Input File Name:	17-1060 Jefferson MS - Cafeteria v8.cibd19x		

A. GENERAL INFORMATION

1.	Project Location (city)	Madera	**8.**	Standards Version	Compliance2019
2.	CA Zip Code	93637	**9.**	Compliance Software (version)	EnergyPro 8.1
3.	Climate Zone	13	**10.**	Weather File	FRESNO_723890_CZ2010.epw
4.	Total Conditioned Floor Area in Scope	3,036 ft^2	**11.**	Building Orientation (deg)	(N) 0 deg
5.	Total Unconditioned Floor Area	0 ft^2	**12.**	Permitted Scope of Work	ExistingAlteration
6.	Total # of Stories (Habitable Above Grade)	1	13	Building Type(s)	Nonresidential
7.	Total # of dwelling units	0	14	Gas Type	NaturalGas

B. PROJECT SUMMARY

Table Instructions: Table B shows which building components are included in the performance calculation. If indicated as not included, the project must show compliance prescriptively if within permit application.

Building Components Complying via Performance				Building Components Complying Prescriptively	
Envelope	☐ Performance ☒ Not Included	Covered Process: Commercial Kitchens	☐ Performance ☒ Not Included	*The following building components are ONLY eligible for prescriptive compliance and should be documented on the NRCC form listed if within the scope of the permit application (i.e. compliance will not be shown on the NRCC-PRF-E).*	
Mechanical	☒ Performance ☐ Not Included	Covered Process: Computer Rooms	☐ Performance ☒ Not Included	Indoor Lighting (Unconditioned)§140.6	*NRCC-LTI -E is required*
Domestic Hot Water	☐ Performance ☒ Not Included	Covered Process: Laboratory Exhaust	☐ Performance ☒ Not Included	Outdoor Lighting §140.7	*NRCC-LTO-E is required*
				Sign Lighting §140.8	*NRCC -LTS-E is required*
				Mandatory Measures	
Lighting (Indoor Conditioned)	☒ Performance			*Electrical power systems, commissioning and solar ready requirements are mandatory and should be documented on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E.)*	
	☐ Not Included			Electrical Power Distribution §110.11	*NRCC-ELC-E is required*
Solar Thermal Water Heating	☐ Performance			Commissioning §120.8	*NRCC-CXR-E is required*
	☒ Not Included			Solar Ready §110.10	*NRCC-SRA-E is required*

Project Name:	Jefferson Middle School - Cafeteria	NRCC-PRF-01-E	Page 2 of 15
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C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft^2-yr)

COMPLIES

Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Space Heating	50.67	34.82	15.85
Space Cooling	219.75	149.43	70.32
Indoor Fans	229.72	129.54	100.18
Heat Rejection	--	--	--
Pumps & Misc.	--	--	--
Domestic Hot Water	78.62	78.62	--
Indoor Lighting	55.75	55.75	--
ENERGY STANDARDS COMPLIANCE TOTAL	**634.51**	**448.16**	**186.35 (29.4%)**

[1] *Notes: The number in parenthesis following the Compliance Margin in column 4. represents the Percent Better than Standard.*

C2. RESULTS FOR 'ABOVE CODE' QUALIFICATIONS[1]

☐ This project is pursuing CalGreen Tier 1 ☐ This project is pursuing CalGreen Tier 2

Miscellaneous Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Receptacle	74.09	74.09	--
Process	54.82	54.82	--
Other Ltg	--	--	--
Process Motors	--	--	--
COMPLIANCE TOTAL PLUS MISCELLANEOUS COMPONENTS	**763.42**	**577.07**	**186.4 (24.4%)**

[1] *Notes: This table is used to document compliance with programs OTHER THAN Title 24 Part 6, if applicable.*

D. EXCEPTIONAL CONDITIONS

The building does not include service water heating. Verify that service water heating is not required and is not included in the design.

E. HERS VERIFICATION

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below.

ENERGY COMPLIANCE - CAFETERIA

SCALE: N.T.S.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-118068 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/24/2021

LP Engineers, Inc.
895 W. Ashlan Ave, Suite 101 Clovis, CA 93612
p 559-348-2130 - f 559-348-2131
www.lpengr.com
garen@lpengr.com

REGISTERED PROFESSIONAL ENGINEER
GAREN M. LENCIONI
NO. 33380
REN. 6-30-22
MECHANICAL
STATE OF CALIFORNIA

DSA #: 02-118068

FILE #: 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D.
1407 SUNSET AVE.
MADERA, CA 93637

No.	DATE	DESCRIPTION
REVISIONS		

SHEET NAME
ENERGY COMPLIANCE - CAFETERIA

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	EC1.1
DRAWN BY: Dong Ngo	SCALE: AS NOTED	
CHECKED BY: K.K.	DATE: 5/18/2021	

Project Name:	Jefferson Middle School - Cafeteria	NRCC-PRF-01-E	Page 14 of 15
Project Address:	1407 Sunset Avenue Madera 93637	Calculation Date/Time:	10:49, Fri, Jun 05, 2020
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Q. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents bust be retained and provided to the building inspector during construction and can be found online at: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCV/

Building Component	YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
Mechanical	☐	☒	NRCV-MCH-04-H Duct Leakage Test	☐	☐
	☐	☒	NRCV-MCH-24-H Enclosure Air Leakage	☐	☐
	☐	☒	NRCV-MCH-27 Indoor Air Quality & Mechanical Ventilation	☐	☐
	☐	☒	NRCV-MCH-32-H Local Mechanical Exhaust	☐	☐
Plumbing	☐	☒	NRCV-PLB-21-H - HERS verified central systems in high-rise residential, hotel/motel application	☐	☐
	☐	☒	NRCV-PLB-22-H - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application	☐	☐

R. UNMET LOAD HOURS

This Section Does Not Apply

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Garen Lencioni	Signature: Garen Lencioni
Company: Leaf Engineers	
Address: 895 West Ashlan Avenue, Suite 101	Signature Date: 2020-06-05
City/State/Zip: Clovis CA 93612	CEA/ HERS Certification Identification (if applicable):
Phone: 559-319-1537	

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 Envelope Designer Name:	Signature: NOT IN SCOPE	
Company:		
Address:	Date Signed:	
City/State/Zip:		
Phone:	Title:	License #:
Responsible Lighting Designer Name:	Signature:	
Company:		
Address:	Date Signed:	
City/State/Zip:		
Phone:	Title:	License #:
Responsible Mechanical Designer Name: Garen Lencioni	Signature: Garen Lencioni	
Company: LP Engineers, Inc.		
Address: 895 West Ashlan Avenue, Suite 101	Date Signed: 4-14-2021	
City/State/Zip: Clovis CA 93612		
Phone: (559) 348-2130	Title: Mech. Engr.	License #: M33380

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O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents bust be retained and provided to the building inspector during construction and can be found online at: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Building Component	YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
Envelope	☒	☐	NRCI-ENV-01-E - Must be submitted for all buildings	☐	☐
Mechanical	☒	☐	NRCI-MCH-01-E - Must be submitted for all buildings	☐	☐
Plumbing	☐	☒	NRCI-PLB-01-E - Must be submitted for all buildings	☐	☐
	☐	☒	NRCI-PLB-02-E - Must be submitted for high-rise residential and hotel/ motel central hot water distribution systems to be recognized for compliance	☐	☐
	☐	☒	NRCI-PLB-03-E - Must be submitted for high-rise residential and hotel/motel single dwelling unit hot water system distribution systems to be recognized for compliance	☐	☐
	☐	☒	NRCI-PLB-21-E - Must be HERS verified for central systems in high-rise residential hotel/ motel application	☐	☐
	☐	☒	NRCI-PLB-22-E - Must be HERS verified for single dwelling unit systems in high-rise residential, hotel/motel application	☐	☐
	☐	☒	NRCI-STH-01-E - Must be submitted for solar hot water heating systems	☐	☐
Indoor Lighting	☐	☒	NRCI-LTI-01-E - Must be submitted for all buildings	☐	☐
	☐	☒	NRCI-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS) to be recognized for compliance	☐	☐
	☐	☒	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance	☐	☐
	☐	☒	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance	☐	☐
	☐	☒	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance	☐	☐
Covered Process	☐	☒	NRCI-PRC-01-E - Must be submitted for all Covered Processes	☐	☐

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P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit:https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Building Component	YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
Envelope	☒	☐	NRCA-ENV-02-F - NRFC label verification for fenestration	☐	☐
	☐	☐	NRCA-ENV-03-F - Daylighting Design PAFs	☐	☐
Indoor Lighting	☐	☒	NRCA-LTI-02-A - Occupancy Sensors and Automatic Time Switch Controls	☐	☐
	☐	☒	NRCA-LTI-03-A - Automatic Daylight Controls	☐	☐
	☐	☒	NRCA-LTI-04-A - Demand Responsive Lighting Controls	☐	☐
	☐	☒	NRCA-LTI-05-A - Institutional Tuning Power Adjustment Factor (PAF)	☐	☐
Covered Process	☐	☒	NRCA-PRC-02-F - Kitchen Exhaust	☐	☐
	☐	☒	NRCA-PRC-03-F - Garage Exhaust	☐	☐
	☐	☒	NRCA-PRC-12-F – Elevator Lighting and Ventilation Controls	☐	☐
	☐	☒	NRCA-PRC-13-F –Escalator and Moving Walkways Speed Control	☐	☐
	☐	☒	NRCA-PRC-14-F – Lab Exhaust Ventilation System	☐	☐
	☐	☒	NRCA-PRC-15-F - Fume Hood Automatic Sash Closures System	☐	☐

Project Name:	Jefferson Middle School - Cafeteria	NRCC-PRF-01-E	Page 13 of 15
Project Address:	1407 Sunset Avenue Madera 93637	Calculation Date/Time:	10:49, Fri, Jun 05, 2020
Input File Name:	17-1060 Jefferson MS - Cafeteria v8.cibd19x		

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit:https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Building Component	YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
Mechanical	☒	☐	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap	☐	☐
	☒	☐	NRCA-MCH-03-A Constant Volume Single Zone HVAC	☐	☐
	☐	☒	NRCA-MCH-04(a)-H Air Distribution Duct Leakage - HERS Verification required	☐	☐
	☐	☐	NRCA-MCH-04(b)-A Air Distribution Duct Leakage - ATT only	☐	☐
	☒	☐	NRCA-MCH-05-A Air Economizer Controls	☐	☐
	☒	☐	NRCA-MCH-06-A Demand Control Ventilation Systems Acceptance must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)3) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints	☐	☐
	☐	☒	NRCA-MCH-07-A Supply Fan Variable Flow Controls	☐	☐
	☐	☒	NRCA-MCH-08-A Valve Leakage Test	☐	☐
	☐	☒	NRCA-MCH-09-A Supply Water Temperature Reset Controls	☐	☐
	☐	☒	NRCA-MCH-10-A Hydronic System Variable Flow Controls	☐	☐
	☐	☒	NRCA-MCH-11-A Automatic Demand Shed Controls	☐	☐
	☒	☐	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	☐	☐
	☐	☒	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance	☐	☐
	☐	☒	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance	☐	☐
	☐	☒	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance	☐	☐
	☐	☒	NRCA-MCH-16-A Supply Air Temperature Reset Controls	☐	☐
	☐	☒	NRCA-MCH-17-A Condenser Water Temperature Reset Controls	☐	☐
	☐	☒	NRCA-MCH-18 Energy Management Control Systems	☐	☐
	☐	☒	NRCA-MCH-19 Occupancy Sensor Controls	☐	☐

ENERGY COMPLIANCE - CAFETERIA

SCALE: N.T.S.

Project Name:	Jefferson Middle School - Cafeteria	NRCC-PRF-01-E	Page 9 of 15
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N7. GENERAL LIGHTING FROM SPECIAL FUNCTION AREAS § 140.6(c) 3H

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

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

N8. ROOM CAVITY RATIO

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

Non-Rectangular Spaces

This Section Does Not Apply

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

N9. ADDITIONAL "USE IT OR LOSE IT"

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

N10. Wall Display

This Section Does Not Apply

N11. Floor Display and Task Lighting

This Section Does Not Apply

N12. Combined Ornamental and Special Effects Lighting

This Section Does Not Apply

Project Name:	Jefferson Middle School - Cafeteria	NRCC-PRF-01-E	Page 10 of 15
Project Address:	1407 Sunset Avenue Madera 93637	Calculation Date/Time:	10:49, Fri, Jun 05, 2020
Input File Name:	17-1060 Jefferson MS - Cafeteria v8.cibd19x		

N13. Very Valuable Merchandise

This Section Does Not Apply

N14. INDOOR & OUTDOOR LIGHTING ACCEPTANCE TESTS & FORMS § 130.4

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

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

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-118068 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/24/2021

LP Engineers, Inc.
895 W. Ashlan Ave, Suite 101 Clovis, CA 93612
p 559-348-2130 - f 559-348-2131
www.lpengr.com
garen@lpengr.com

REGISTERED PROFESSIONAL ENGINEER
GAREN M. LENCIONI
NO. 33380
REN. 8/31
MECHANICAL
STATE OF CALIFORNIA

DSA #: 02-118068

FILE #: 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
1407 SUNSET AVE.
M.U.S.D. MADERA, CA. 93637

REVISIONS

No.	DATE	DESCRIPTION

SHEET NAME
ENERGY COMPLIANCE - CAFETERIA

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	EC1.2
DRAWN BY: Dong Ngo	SCALE: AS NOTED	
CHECKED BY: K.K.	DATE: 5/18/2021	

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

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Jefferson Middle School - Gymnasium	**Report Page:**	**(Page 6 of 9)**
Project Address:	1407 Sunset Avenue	**Date Prepared:**	6/8/2020

J. VENTILATION AND INDOOR AIR QUALITY

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

[6] *§120.2(ei3 requires systems serving rooms that are required by §130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by §130.1(c).*

K. TERMINAL BOX CONTROLS

This section does not apply to this project.

L. DISTRIBUTION (DUCTWORK and PIPING)

This section does not apply to this project.

M. COOLING TOWERS

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Yes	No	Form/Title	Field Inspector Pass	Field Inspector Fail
●	○	NRCI-MCH-01-E - Must be submitted for all buildings	☐	☐

Registration Number: — Registration Date/Time: — Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance — Report Version: 2019.0.001, Schema Version: rev 20190401 — Report Generated: 2020-06-08 09:01:50

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

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Jefferson Middle School - Gymnasium	**Report Page:**	**(Page 7 of 9)**
Project Address:	1407 Sunset Avenue	**Date Prepared:**	6/8/2020

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Yes	No	Form/Title	Field Inspector Pass	Field Inspector Fail
●	○	NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.	☐	☐
●	○	NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically move to "Yes". If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".	☐	☐
○	●	NRCA-MCH-04-A - Air Distribution Duct Leakage	☐	☐
●	○	NRCA-MCH-05-A - Air Economizer Controls	☐	☐
●	○	NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)3) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO_2) concentration setpoints.	☐	☐
○	●	NRCA-MCH-07-A Supply Fan Variable Flow Controls	☐	☐
○	●	NRCA-MCH-08-A Valve Leakage Test	☐	☐
○	●	NRCA-MCH-09-A Supply Water Temperature Reset Controls	☐	☐
○	●	NRCA-MCH-10-A Hydronic System Variable Flow Controls	☐	☐
○	●	NRCA-MCH-11-A Automatic Demand Shed Controls	☐	☐
●	○	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	☐	☐
○	●	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance	☐	☐
○	●	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance NOTE: This form does not automatically move to "Yes". If Distributed Energy System DX AC Systems are included in teh scope permit applicant should move this form to "Yes".	☐	☐
○	●	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance NOTE: This form does not automatically move to "Yes". If Chilled water Storage, Ice-on-Coil Internal Melt, Ice-on-Coil External melt, Ice Harvester, Brine, Ice-Slurry, Eutecti Salt, Clathrate Hydrate Slurry (CHS), Cryogenic or Encapsulated (Ice Ball) Systems are included in the scope, permit applicant should move this form to 'Yes".	☐	☐
○	●	NRCA-MCH-16-A Supply Air Temperature Reset Controls	☐	☐
○	●	NRCA-MCH-17-A Condenser Water Temperature Reset Controls	☐	☐
○	●	NRCA-MCH-18-A Energy Management Control Systems	☐	☐

Registration Number: — Registration Date/Time: — Registration Provider: Energysoft

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

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
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O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

○	●	NRCA-MCH-19-A Occupancy Sensor Controls	☐	☐
○	●	NRCA-MCH-20 Multi-Family Ventilation	☐	☐
○	●	NRCA-MCH-21 Multi-Family Envelope Leakage	☐	☐

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

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

Yes	No	Form/Title	Field Inspector Pass	Field Inspector Fail
○	●	NRCV-MCH-04-H Duct Leakage Test *NOTE: Must be completed by a HERS Rater*	☐	☐
○	●	NRCV-MCH-24 Enclosure Air Leakage Worksheet *NOTE: Must be completed by a HERS Rater*	☐	☐
○	●	NRCV-MCH-27 High-rise Resdential *NOTE: Must be completed by a HERS Rater*	☐	☐
○	●	NRCV-MCH-32 Local Mechanical Exhaust *NOTE: Must be completed by a HERS Rater*	☐	☐

Q. MANDATORY MEASURES DOCUMENTATION LOCATION

This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

01	02
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block[1]	Yes
	Plan sheet or construction document location
	M-Sheets

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F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

This table is used to demonstrate compliance for mechanical equipment with mandatory requirements found in §110.1 and §110.2(a) and prescriptive requirements found in §140.4(a), §140.4(b) and §140.4(k) or §141.0(b)2 for alterations.

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

01	02	03	04	05	06	07	08	09	10	11
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 & Title 20	Smallest Size Available[1] §140.4(a)	Equipment Sizing per Mechanical Schedule (Btu/h) §140.4 (a&b)						
				Heating Output[1,2,3]			Cooling Output[1,2,3]		Load Calculations[3,4]	
				Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load	Total Sensible Cooling Load
AC-2.1	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	324	324	0	367.61	357.7	350.38	338.61

[1] *FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per §140.4(a). Healthcare facilities are excepted.*

[2] *It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.*

[3] *If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.*

[4] *Authority Having Jurisdiction may ask for load calculations used for compliance per §140.4(b).*

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))

01	02	03	04	05	06	07	08	09
Name or Item Tag	Size Category (Btu/h)	Heating Mode				Cooling Mode		
		Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
AC-2.1	240,000		CombustionEfficiency	0.80	0.81	EER IEER	9.8 11.4	9.8 11.9

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G. PUMPS

This section does not apply to this project.

H. FAN SYSTEMS & AIR ECONOMIZERS

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

System Name:	AC-2.1	**Economizer:**[1]	Differential Temperature	**Economizer Controls:**	Designed per and (m)	**System Fan Type:**	Fixed Flow
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	14000	BHP	12.89		
Total System Design Supply Airflow (CFM):			14000	Total System Design (BJHP:	12.89	**Maximum System Fan Power (BJHP:**	13.16

[1] *FOOTNOTES: Computer room economizers must meet requirements of §140.9(a) and will be documented on the NRCC-PRC-E document.*

[2] *If total filter pressure drop (SPa) is greater than 1 in WC, or 245 Pascal then enter it and total fan pressure drop across the fan (SPJ) for system.*

I. SYSTEM CONTROLS

This table is used to demonstrate compliance with mandatory controls in §110.2 and §120.2 and prescriptive controls in §140.4(f) and (n) or requirements in §141.0(b)2E for altered space conditioning systems.

01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft²)	Thermostats §110.2(b) & (c)[1], §120.2(a)or §141.0(b)2E	Shut-Off Controls §120.2(e)	Isolation Zone Controls §120.2(g)	Demand Response §120.2(b)	Supply Air Temp. Reset §140.4(f)	Window Interlocks per §140.4(n)
AC-2.1	Single zone	<= 25,000 ft²	Energy Management System (EMS)	NA: 7 day per	4 Hour Timer	EMCS	NA: Alteration	NA: Alteration Project

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

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I. SYSTEM CONTROLS

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

J. VENTILATION AND INDOOR AIR QUALITY

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

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

Nonresidential and Hotel/ Motel Ventilation Systems

04	05			06		07	
System Name	AC-2.1	System Design OA CFM Airflow[1]	3495	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))	
08	09	10	11	12	13	14	15	16
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [4]
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV / Occ Sensor / Provided per §120.1(d)4
Gymnasium	Multiuse assembly-	6989.1			3494.6	0	0	DCV / Occ Sensor / Provided per §120.1(d)4

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

[2] *Air filtration requirements apply to the following three system types per §120.1(c)1A : space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.*

[3] *Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.*

[4] *See Standards Tables 120.1-A and 120.1-B.*

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ENERGY COMPLIANCE - GYM

SCALE: N.T.S.

STATE OF CALIFORNIA
Mechanical Systems
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CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
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This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)2 for alterations .

A. GENERAL INFORMATION

01	Project Location (city)	Madera	04	Total Conditioned Floor Area	6989.1
02	Climate Zone	13	05	Total Unconditioned Floor Area	0
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	1
☐	Office (B)	☐ Retail (M)	☐	Non-refrigerated Warehouse (S)	
☐	Hotel/ Motel Guest Rooms (R-1)	☐ School (E)	☐	Healthcare Facility (H)	
☐	High-Rise Residential (R-2/R-3)	☐ Relocatable Class Bldg (E)	☒	Other (write in)	See Table J

B. PROJECT SCOPE

This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)2 for alterations .

01	02	03
Air System(s)	Wet System Components	Dry System Components
☒ Heating Air System	☐ Water Economizer	☒ Air Economizer
☒ Cooling Air System	☐ Pumps	☐ Electric Resistance Heat
Mechanical Controls	☐ System Piping	☒ Fan Systems
☒ Mechanical Controls	☐ Cooling Towers	☐ Ductwork
	☐ Chillers	☒ Ventilation
	☐ Boilers	☐ Zonal Systems/ Terminal Boxes

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CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
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C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D., or the table indicated as not compliant for guidance.

01		02		03		04		05		06		07		08		09
System Summary §110.1, §110.2, §140.4	AND	Pumps §140.4(k)	AND	Fans/ Economizers §140.4(c), §140.4(e)	AND	System Controls §110.2, §120.2, §140.4(f)	AND	Ventilation §120.1	AND	Terminal Box Controls §140.4(d)	AND	Distribution §120.3, §140.4(l)	AND	Cooling Towers §110.2(e)2		Compliance Results
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)		
No	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND		AND		AND	DOES NOT COMPLY
Mandatory Measures Compliance (See Table Q for Details)														COMPLIES		

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-118068 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/24/2021

LP Engineers, Inc.
895 W. Ashlan Ave, Suite 101 Clovis, CA 93612
p 559-348-2130 - f 559-348-2131
www.lpengr.com
garen@lpengr.com

REGISTERED PROFESSIONAL ENGINEER — GAREN M. LENCIONI — NO. 33380 — REN. 6/30/22 — MECHANICAL — STATE OF CALIFORNIA

DSA #: 02-118068

FILE #: 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D. — 1407 SUNSET AVE, MADERA, CA, 93637

REVISIONS

No.	DATE	DESCRIPTION

SHEET NAME
ENERGY COMPLIANCE - GYM

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	EC2.1
DRAWN BY: Dong Ngo	SCALE: AS NOTED	
CHECKED BY: K.K.	DATE: 5/18/2021	

STATE OF CALIFORNIA

Mechanical Systems

NRCC-MCH-E

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Jefferson Middle School - Gymnasium	**Report Page:**	**(Page 9 of 9)**
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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Garen Lencioni	Documentation Author Signature: Garen Lencioni
Company: Leaf Engineers	Signature Date: 4-14-2021
Address: 895 West Ashlan Avenue, Suite 101	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Clovis CA 93612	Phone: 559-319-1537

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: Garen Lencioni	Responsible Designer Signature: Garen Lencioni
Company: LP Engineers, Inc.	Date Signed: 2020-06-08
Address: 895 West Ashlan Avenue, Suite 101	License: M33380
City/State/Zip: Clovis CA 93612	Phone: (559) 348-2130

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time:

Report Version: 2019.0.001
Schema Version: rev 20190401

Registration Provider: Energysoft

Report Generated: 2020-06-08 09:01:50

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ENERGY COMPLIANCE - GYM

SCALE: N.T.S.

LP Engineers, Inc.
895 W. Ashlan Ave, Suite 101 Clovis, CA 93612
p 559-348-2130 - f 559-348-2131
www.lpengr.com
garen@lpengr.com

REGISTERED PROFESSIONAL ENGINEER
GAREN M. LENCIONI
NO. 33380
REN. 8/31/21
MECHANICAL
STATE OF CALIFORNIA

DSA #: 02-118068

FILE #: 20-30

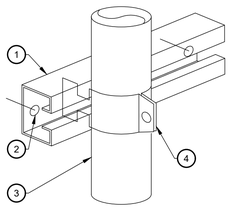
PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D.
1407 SUNSET AVE.
MADERA, CA. 93637

No.	DATE	DESCRIPTION

REVISIONS

SHEET NAME
ENERGY COMPLIANCE - GYM

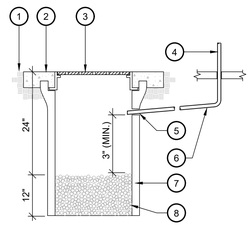
PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	EC2.2
DRAWN BY: Dong Ngo	SCALE: AS NOTED	
CHECKED BY: K.K.	DATE: 5/18/2021	



1. P1000 UNISTRUT CHANNEL AT 10'-0" MAX. SPACING AND WITHIN 1'-0" OF EACH CHANGE OF DIRECTION (LENGTH AS REQ'D.).
2. SECURE EACH END TO FRAMED WALL WITH 3/8" SELF TAPPING SCREWS W/ MIN. 1-1/2" PENETRATION INTO CENTER OF (E) FRAMING OR INTO CONC. SLAB WITH (2) 3/8"Ø SIMPSON TITEN HD ANCHOR, SEE DETAIL 7/S1.2.
3. GAS PIPING, PRIME AND PAINT TO MATCH FINISHED SURFACE.
4. SECURE PIPING TO SUPPORT WITH UNISTRUT P1100 PIPE CLAMP.

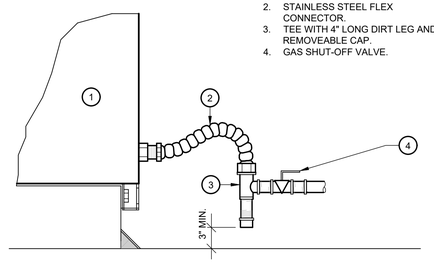
NOTE: PRIME AND PAINT ALL SUPPORTS AND PIPING WHERE EXPOSED ON BUILDING TO MATCH BUILDING.

6 / P0.1 PIPE SUPPORT DETAIL (TYPICAL FOR VERTICAL OR HORIZONTAL) NTS



1. FINISHED GRADE.
2. CAST CONCRETE AROUND UNPAVED AREA.
3. CAST IRON TRAFFIC GRATE WITH RETAINING BOLTS.
4. SEE PLUMBING PLAN FOR SIZE AND ROUTING.
5. SEAL AROUND PIPE DRAIN LINE.
6. PITCH 1/8"/LIN. FT BELOW GRADE. LINE SHALL ENTER CATCH BASIN A MIN. OF 3" ABOVE GRAVEL.
7. BELL OF 12" DIA CONCRETE PIPE.
8. GRAVEL BED

3 / P0.1 DRAIN CATCH BASIN NTS



1. AC UNIT.
2. STAINLESS STEEL FLEX CONNECTOR.
3. TEE WITH 4" LONG DIRT LEG AND REMOVEABLE CAP.
4. GAS SHUT-OFF VALVE.

1 / P0.1 AC UNIT GAS CONNECTION NTS

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26 AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRIC, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

1. 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.
2. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUND PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2019 CBC, SECTION 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G., OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO START OF AND DURING THE HANGING AND BRACING OF DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

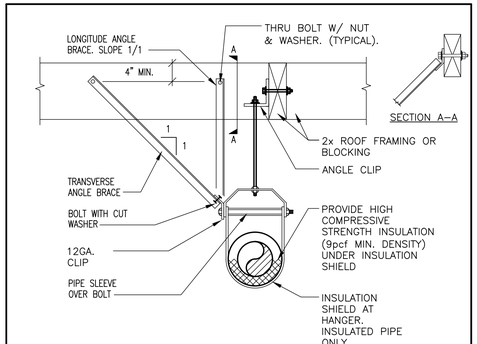
MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

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

MP☐MD☐PP☒E☐ OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM-0295-13).

PLUMBING LEGEND

SYMBOL	ITEM	ABBR.
S-1	FIXTURE DESIGNATION UNIT ABBREVIATION NUMBER	
1-P-1	DETAIL DESIGNATION DETAIL NUMBER SHEET NO. WHERE SHOWN	
	DOMESTIC COLD WATER	CW
	DOMESTIC HOT WATER	HW
	DOMESTIC HW RETURN	HWR
	EXISTING PIPING	
	POINT OF CONNECTION	POC
C	CONDENSATE DRAIN	
	SHUT-OFF VALVE IN BOX	SOV
	PIPING RISE	
	PIPING DROP	
S W	SOIL OR WASTE	S OR W
V	VENT	V
	VENT THRU ROOF	VTR
FCO	FLOOR CLEANOUT	FCO
COTG	CLEANOUT TO GRADE	COTG
	WALL CLEANOUT	WCO
	HOSE BIBB	HB
RD	ROOF DRAIN	RD
OD	OVERFLOW DRAIN	OD
	DOWN SPOUT	DS
	UNDERGROUND	UG
TP	TRAP PRIMER	TP
SD	STORM DRAIN	SD
(E)	EXISTING	EXIST.
(N)	NEW	NEW
	UNDERFLOOR	UF
	OVERHEAD	OH
R	RELIEF	
D	DRAIN	
	CONDENSATE DRAIN CLEAN OUT	CO
SC	SECONDARY CONDENSATE DRAIN	
FC	FURNACE CONDENSATE	
	GAS SHUT OFF VALVE	GSOV
	CONDENSATE DRAIN TRAP	CDT
LPG	LIQUIFIED PETROLEUM GAS	LPG
G	NATURAL GAS	G
	FIRE SPRINKLER RISER	FSR
FSL	FIRE SPRINKLER LINE	FSL
	FIRE DEPARTMENT CONNECTION	FDC
	FINISHED FLOOR	FF
	FLOW LINE	FL



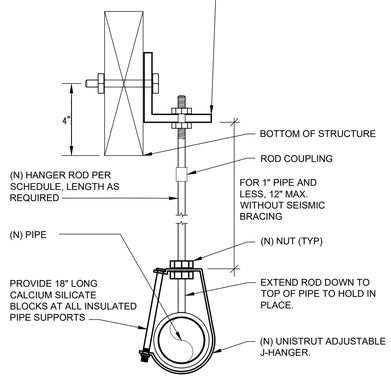
SEE TABLE BELOW FOR ALL ANGLE & BOLT SIZES WITH SPACING REQUIREMENTS.

PIPE SIZE	* ANGLE BRACE	ROD SIZE	MAX. VERT. SUPPORT SPACING	MAX. TRANS./ LONGITUDE SUPPORT SPACING	ANCHOR BOLT SIZE	ANGLE CLIP
1/2"	2" x 2" x 16 GA	3/8"	5'	10'	3/8"	2" x 2" x 2" x 1/8"
3/4"	2" x 2" x 16 GA	3/8"	6'	12'	3/8"	2" x 2" x 2" x 1/8"
1"	2" x 2" x 16 GA	3/8"	7'	14'	3/8"	3" x 3" x 3" x 1/4"
1-1/4"	2" x 2" x 16 GA	3/8"	8'	16'	3/8"	3" x 3" x 3" x 1/4"
1-1/2"	2" x 2" x 16 GA	3/8"	9'	18'	3/8"	3" x 3" x 3" x 1/4"
2"	2" x 2" x 16 GA	3/8"	10'	20'	3/8"	3" x 3" x 3" x 1/4"
2-1/2"	2" x 2" x 16 GA	3/8"	10'	22'	3/8"	3" x 3" x 3" x 1/4"
3", 4"	2-1/2" x 2-1/2" x 16 GA	3/8"	11'	24'	1/2"	3" x 3" x 3" x 1/4"
5", 6"	2-1/2" x 2-1/2" x 16 GA	1/2"	12'	30'	3/4"	5" x 5" x 5" x 1/4"
8"	3" x 3" x 12 GA	5/8"	15'	30'	2 – 5/8"	5" x 5" x 5" x 1/4"
10"	3" x 3" x 12 GA	3/4"	15'	30'	2 – 3/4"	5" x 5" x 5" x 1/4"

* 1-5/8"x1-5/8"x 12GA. CHANNEL MAY BE USED

7 / P0.1 PIPE SEISMIC BRACING DETAIL NTS

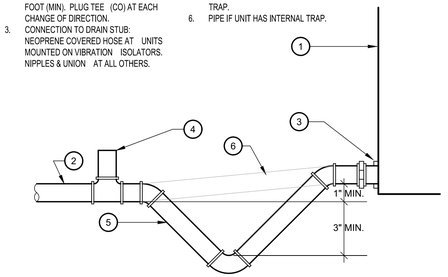
HANGER ROD ATTACHMENT
AT 2X FRAMING: USE 3"x3"x3"x1/4" ANGLE WITH DOUBLE NUT. ATTACH ANGLE TO STRUCTURE WITH THRU BOLT AND NUT.



HANGER ROD	MAX. PIPE SIZE	BOLT AND NUT SIZE	MAX. SUPPORT SPACING
3/8"Ø	1/2"Ø	3/8"Ø	6'-0" O.C.
3/8"Ø	3/4"Ø-1"Ø	3/8"Ø	8'-0" O.C.
3/8"Ø	1-1/4"Ø-2"Ø	USE DETAIL 7/P0.1	
1/2"Ø	3"Ø-4"Ø	USE DETAIL 7/P0.1	

4 / P0.1 PIPE SUPPORT & TABLE NTS

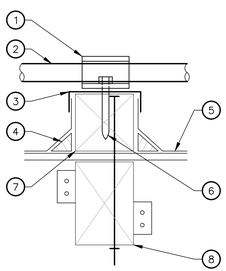
1. COOLING COIL CASING.
2. SLOPE HORIZONTAL LINES 1/8" PER FOOT (MIN). PLUG TEE (CO) AT EACH CHANGE OF DIRECTION.
3. CONNECTION TO DRAIN STUB: NEOPRENE COVERED HOSE AT UNITS MOUNTED ON VIBRATION ISOLATORS. NIPPLES & UNION AT ALL OTHERS.
4. OPEN NIPPLE.
5. DELETE WHERE UNIT HAS INTERNAL TRAP.
6. PIPE IF UNIT HAS INTERNAL TRAP.



2 / P0.1 CONDENSATE DRAIN CONNECTION NTS

GENERAL PLUMBING NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO PROCEEDING WITH INSTALLATION. CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER OF ANY EXISTING CONDITIONS WHICH CONFLICT WITH INFORMATION PROVIDED IN CONSTRUCTION DOCUMENTS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL PIPE ROUTING WITH WORK OF OTHER TRADES AND MAKE ANY OFFSETS AS REQUIRED TO AVOID CONFLICT WITH DUCTWORK, LIGHT FIXTURES, SKYLIGHTS, ETC.
3. PLUMBING CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR FOR ALL GAS AND CONDENSATE DRAIN CONNECTIONS TO MECHANICAL EQUIPMENT.
4. THERE ARE NO EXISTING PLUMBING PLANS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING PLUMBING CONDITIONS PRIOR TO PROCEEDING WITH INSTALLATION. CONTRACTOR SHALL NOTIFY ARCHITECT/ ENGINEER OF ANY EXISTING CONDITIONS WHICH CONFLICT WITH INFORMATION PROVIDED IN CONSTRUCTION DOCUMENTS.
5. IF THE PLANS DO NOT ACCURATELY REFLECT THE JOB CONDITIONS, OR THE CONSTRUCTION IS NOT PER THE PLANS, NO INSPECTION WILL OCCUR UNTIL AN ADDENDUM APPROVED BY THE DSA IS OBTAINED.



1. PIPE CLAMP, (SIZE TO MATCH PIPE DIAMETER.
2. PIPE, SEE PLAN FOR SIZE.
3. 24 GA. GALV. S.M. FLASHING.
4. CANT STRIP.
5. ROOFING, SEE ARCH. DWGS.
6. 3/8"ø LAG BOLT WITH 3" PENETRATION AND SILICONE SEALANT. (TYP. OF 2)
7. 4"x4"x1'–0" REDWOOD BLOCK W/ (2) 1/2"øx10" THRU BOLT W/ NUT & LOCK WASHER, COUNTERSINK/ CTR. INTO BLOCK.
8. 4x6 BLKG. W/ (2) A34 EACH END (STAGGER VERTICALLY).

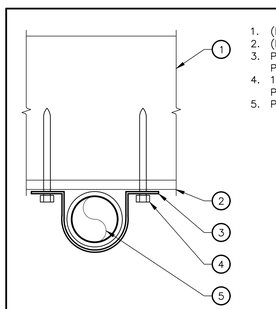
PIPE SUPPORT SPACING:

1/2"	5' O.C.
3/4"	6' O.C.
1"	7' O.C.
1-1/4"	8' O.C.
1-1/2"	9' O.C.
2" & 2–1/2"	10' O.C.
3" & 4"	11' O.C.

8 / P0.1 PIPE ON ROOF SUPPORT NTS

NOTE:
SIGN TO BE CONSPICUOUSLY LOCATED ABOVE BUILDING GAS SHUTOFF VALVE AS INDICATED ON FLOOR PLAN.

5 / P0.1 GAS VALVE SIGN DETAIL NTS



1. (E) CEILING FRAMING.
2. (E) FINISHED CEILING.
3. PIPE CLAMP, (SIZE TO MATCH PIPE DIAMETER.
4. 1/4"ø LAG BOLT WITH 2" PENETRATION, (TYP. OF 2)
5. PIPE, SEE PLAN FOR SIZE.

9 / P0.1 PIPE ON CEILING SUPPORT NTS

LP Engineers, Inc.
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REGISTERED PROFESSIONAL ENGINEER
GAREN M. LENCIONI
NO. 33380
REN. 6/30/22
MECHANICAL
STATE OF CALIFORNIA

DSA #: 02-118068

FILE #: 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D.
1407 SUNSET AVE.
MADERA, CA. 93637

REVISIONS

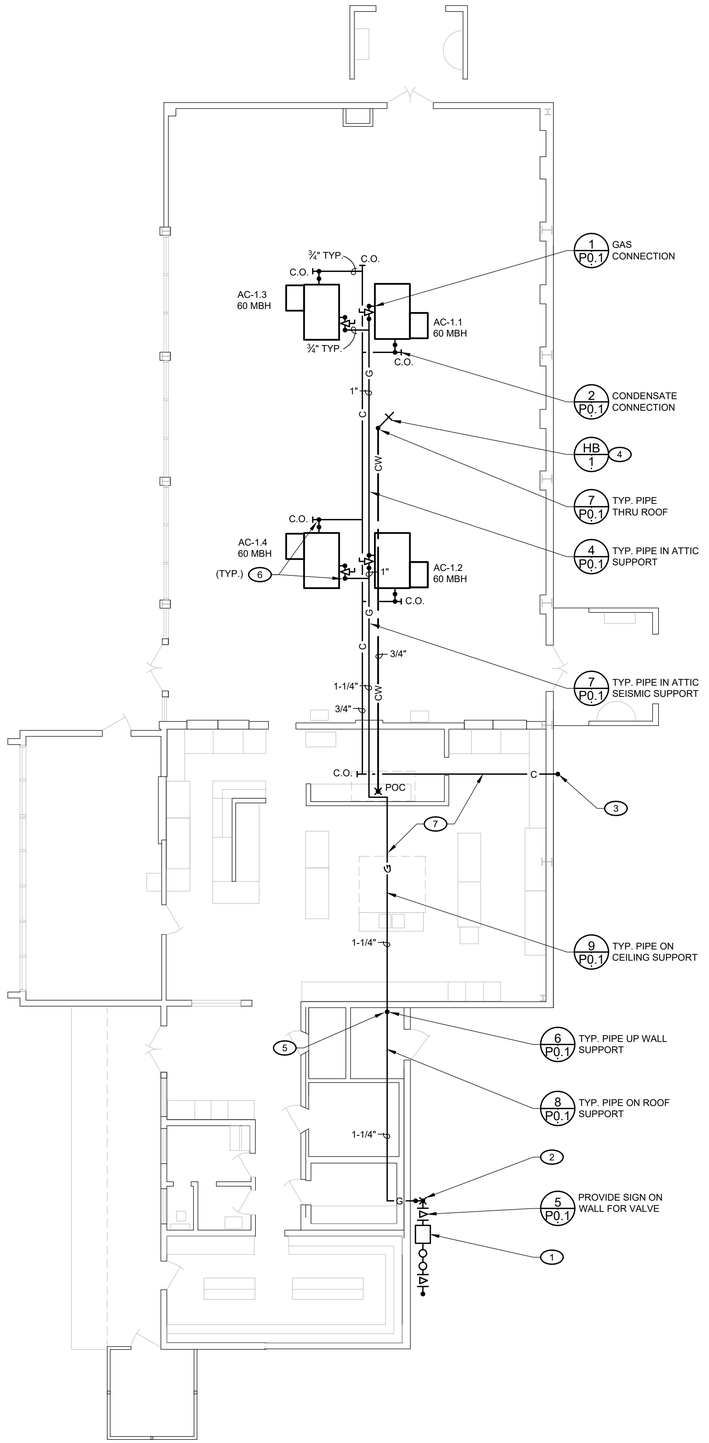
No.	DATE	DESCRIPTION

SHEET NAME
PLUMBING LEGEND, NOTES AND DETAILS

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	P0.1
DRAWN BY	SCALE	
Dong Ngo	AS NOTED	
CHECKED BY	DATE	
K.K.	5/18/2021	

PLUMBING LEGEND, NOTES AND DETAILS

SCALE: NTS



KEY NOTES

1. (E) GAS METER. PROVIDE NEW EARTHQUAKE VALVE ON MAIN HIGH PRESSURE SIDE OF METER, FIELD VERIFY SIZE.
2. POC AT (E) 2" GAS LINE AT METER. ROUTE GAS LINE EXPOSED UP WALL, AROUND OVERHANG AND ON TOP OF LOWER ROOF. PIPING SIZED PER 2019 C.P.C. TABLE 1216.2(1) AT 125 FOOT COLUMN. TOTAL DEMAND 240 MBH/218 CFH.
3. ROUTE (N) 3/4" CONDENSATE DRAIN FROM TOP OF LOWER ROOF, AROUND ROOF OVERHANG, DOWN EXPOSED ON WALL AND FINISH 12" ABOVE GRADE.
4. DROP 3/4" CW PIPE THRU ROOF, EXTEND AS SHOWN AND CONNECT TO (E) 1" CW PIPE IN ATTIC.
5. GAS PIPE RISES FROM LOWER ROOF EXPOSED ON WALL, PENETRATE THRU WALL ABOVE CEILING AND EXTEND IN ATTIC TO RISERS THRU ROOF.
6. 3/4" PIPE THRU ROOF.
7. THESE PIPE ROUTE EXPOSED ON CEILING. PRIME AND PAINT TO MATCH CEILING.

PLUMBING FLOOR PLAN - CAFETERIA

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

TRUE NORTH

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No.	DATE	DESCRIPTION
REVISIONS		

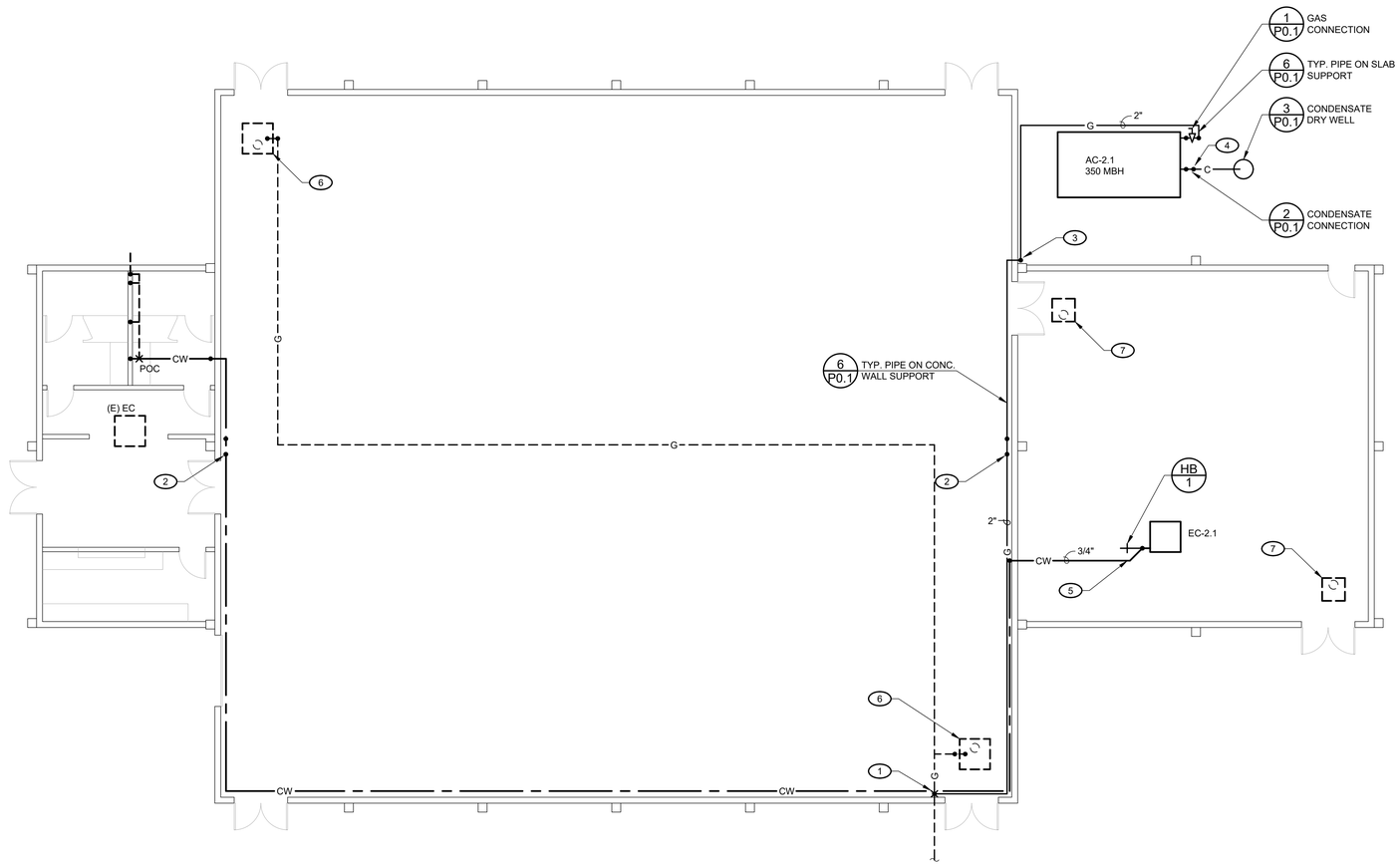
SHEET NAME
PLUMBING FLOOR PLAN - CAFETERIA

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENGIONI	17-1060	P1.1
DRAWN BY: Dong Ngo	SCALE: AS NOTED	
CHECKED BY: K.K.	DATE: 5/18/2021	

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-118068 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/24/2021

KEY NOTES

1. POC AT (E) 2" GAS LINE AT CEILING. ROUTE NEW PIPE ALONG CEILING NEAR EXTERIOR WALL AS SHOWN. PIPING SIZED PER 2019 C.P.C. TABLE 1216.2(1) AT 550 FOOT COLUMN. TOTAL DEMAND 350 MBH/318 CFH.
2. ROUTE PIPE DOWN UNDER RIDGE BEAM AND BACK UP TO BELOW CEILING. PRIME AND PAINT TO MATCH CEILING.
3. ROUTE 2" GAS LINE DOWN EXTERIOR FACE OF WALL TO SLAB AND EXTEND TO UNIT CONNECTION. PRIME AND PAINT TO MATCH WALL.
4. ROUTE 1" CONDENSATE DRAIN DOWN TO BELOW GRADE AND EXTEND TO DRYWELL.
5. ROUTE 3/4" CW ON ROOF, CORE THRU WALL, RISE UP WALL, ROUTE ALONG WALL BELOW GAS PIPE AS HIGH AS POSSIBLE AROUND PERIMETER OF BUILDING, CORE THRU WALL, DROP BACK DOWN EXPOSED ON EXTERIOR DOWN THRU ROOF, ROUTE IN ATTIC AND CONNECT TO (E) 3/4" CW PIPE AT (E) 3/4" PIPE. PRIME AND PAINT TO MATCH WALL.
6. REMOVE (E) FURNACE GAS PIPING TO JUST BELOW CEILING AND PROVIDE AIR TIGHT CAP. PRIME AND PAINT REMAINING PIPE AND GAS CAP TO MATCH CEILING.
7. (E) FURNACE TO REMAIN.



PLUMBING FLOOR PLAN - GYM

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

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REVISIONS

No.	DATE	DESCRIPTION

SHEET NAME
PLUMBING FLOOR PLAN - GYM

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
GAREN LENCIONI	17-1060	P2.1
DRAWN BY: Dong Ngo	SCALE: AS NOTED	
CHECKED BY: K.K.	DATE: 5/18/2021	

ELECTRICAL SYMBOLS

- A-1 — HOME RUN MINIMUM 3/4" CONDUIT SIZE PER CEC TABLE 3B
- BRANCH CIRCUIT NO.
- NUMBER OF CONDUCTORS SIZE PER PANEL SCHEDULE
- LIGHT FIXTURE WITH J-BOX
- 2 o A — FIXTURE TYPE; SWITCHING; BRANCH CIRCUIT
- DISTRIBUTION PANEL
- TERMINAL CABINET
- JUNCTION BOX
- WALL BRACKET OUTLET
- FLUORESCENT FIXTURE
- CEILING OUTLET
- 3 — BRANCH CIRCUIT NO.; DUPLEX OUTLET AT +18"AFF TO THE BOTTOM OF OUTLET BOX U.N.O
- FLOURPLEX CONVENIENCE OUTLET AT +18"AFF TO THE BOTTOM OF OUTLET BOX U.N.O
- W.P. — WEATHERPROOF OUTLET AT +18"AFF TO THE BOTTOM OF OUTLET BOX U.N.O
- I.G — ISOLATE GROUND OUTLET AT +18"AFF TO THE BOTTOM OF OUTLET BOX U.N.O
- GF I — OUTLET WITH GROUND FAULT INTERRUPTER AT +18"AFF TO THE BOTTOM OF OUTLET BOX U.N.O
- 220V DEDICATE OUTLET AT +18"AFF TO THE BOTTOM OF OUTLET BOX U.N.O
- WALL SWITCH +48" AFF TO TOP OF OUTLET BOX
- CONDUIT RUN UNDER FLOOR
- CONDUIT RUN IN CEILING AND IN WALL
- MOTOR DISCONNECT FUSED SWITCH
- C — CONDUIT RACEWAY
- (N) — NEW
- (E) — EXISTING TO REMAIN IN SERVICE

ELECTRICAL ABBREVIATIONS

A	AMPERES
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AH	AIR HANDLER
AIC	AMPERES INTERRUPTING CAPACITY
AMP	AMPERES
A/C	AIR CONDITIONER
BKBD	BACKBOARD
C	CONDUIT
CB	CIRCUIT BREAKER
CU	COPPER
CCTV	CLOSED CIRCUIT TELEVISION
CEIL	CEILING
CKT	CIRCUIT
COMM	COMMUNICATION
CONT	CONTINUED
DIST	DISTRIBUTION
EDF	ELECTRIC DRINKING FOUNTAIN
EMB	EMBEDMENT
EMT	ELECTRICAL METALLIC TUBING
EXP	EXPANSION
FACP	FIRE ALARM CONTROL PANEL
FCI	FAN COIL UNIT
GFI	GROUND FAULT INTERRUPTED
GND	GROUND
GRC	GALVANIZED RIGID CONDUIT
IC	INTERCOM
IMC	INTERMEDIATE METALLIC CONDUIT
KVA	KILOVOLTAMPERE
LAN	LOCAL AREA NETWORK
LTG	LIGHTING
MLO	MAIN LUGS ONLY
MSBD	MAIN SWITCHBOARD
MT'D	MOUNTED
NFD	NON FUSED DISCONNECT
N/L	NIGHT LIGHT
PA	PUBLIC ADDRESS
PB	PULL BOX
PNL	ELECTRICAL LIGHTING OR POWER PANEL
PVC	POLYVINYL CHLORIDE
P.G.& E.	PACIFIC GAS & ELECTRIC
RC	RELAY CABINET
REC	RECEPTACLE
REQ'D	REQUIREMENT
STD	STANDARD(S)
SW	SWITCH
SWBD	SWITCHBOARD
TC	TERMINAL CABINET
TEL	TELEPHONE
TERM	TERMINAL
TV	TELEVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
T/C	TIME CLOCK
UTP	UNTWIST PAIR
U.O.N.	UNLESS OTHERWISE NOTED
V	VOLTS
WH	WATER HEATER
WP	WEATHERPROOF

MEP COMPONENT ANCHORAGE NOTES

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAILS IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1.18 THROUGH 1617A. 1.26 AND ASCE 7-10 CHAPTER 13, 26 AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOVABLE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENTS IS REQUIRED TO BE RESTRAINED IN A MANNER PROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMNET IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

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

THE ANCHORAGE OF ALL MECHANICAL , ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OF STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

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

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

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

APPLICABLE CODES:

TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHALL REGULATIONS
TITLE 24 CCR, PART 1 – 2019 BUILDING STANDARDS ADMINISTRATIVE CODE
TITLE 24 CCR, PART 2 – 2019 CALIFORNIA BUILDING CODE, VOL. 1 & 2 (CBC) (2019 IBC, AS AMENDED BY CA.)
TITLE 24 CCR, PART 3 – 2019 ELECTRICAL CODE (CEC) (2019 NEC, AS AMENDED BY CA.)
TITLE 24 CCR, PART 4 – 2019 CALIFORNIA MECHANICAL CODE (CMC) (2019 IAPMO UMC, AS AMENDED BY CA.)
TITLE 24 CCR, PART 5 – 2019 CALIFORNIA PLUMBING CODE (CPC) (2019 IAPMO UPC, AS AMENDED BY CA.)
TITLE 24 CCR, PART 6 – 2019 CALIFORNIA ENERGY CODE
TITLE 24 CCR, PART 7 – 2019 CALIFORNIA ELEVATOR SAFETY CONSTRUCTION CODE
TITLE 24 CCR, PART 9 – 2019 CALIFORNIA FIRE CODE (CC) (2019 IFCM AS AMENDED BY CA.)
TITLE 24 CCR, PART 12– 2019 CALIFORNIA REFERENCED STANDARDS (PARTIAL LIST – SEE CBC CH. 35 AND CFC CH. 45)
2019 NFPA 13, INSTALLATION OF SPRINKLER SYSTEM (CA. AMENDED)
2019 NFPA 14, DRY CHEMICAL EXTINGUISHING SYSTEMS
2019 NFPA 17A, WET CHEMICAL EXTINGUISHING SYSTEMS
2019 NFPA 20, INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION
2019 NFPA 25, INSPECTION, TESTING, MAINTENANCE OF WATER-BASE FIRE PROTECTION SYSTEMS (CA. AMENDED)
2019 NFPA 72, NATIONAL FIRE ALARM CODE (CA. AMENDED); SEE UL STD 1971 FOR "VISUAL DEVICES"

U.S.A. – UNDERGROUND SERVICE ALERT
CALL BEFORE YOU DIG: 1-800-642-2444

THE LOCATION OF EXISTING UNDERGROUND UTILITIES WERE TAKEN FORM SOURCES BELIEVED TO BE RELIABLE. HOWEVER, THEY HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THIS ENGINEER. THE CONTRACTORS SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTIFY OWNER 72 HOURS PRIOR TO ANY EXCAVATION

CODE RULES AND REGULATIONS

ALL WORK AND MATERIAL SHALL BE IN FULL ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE STATE FIRE MARSHAL, THE CALIFORNIA ELECTRICAL CODE, THE SAFETY ORDERS OF THE DIVISION OF INDUSTRIAL SAFETY AND OTHER APPLICABLE STATE LAWS OR REGULATIONS. NOTHING IN THESE PLANS OR SPECIFICATIONS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES OR OTHERS APPLICABLE TO THIS SUBJECT. CAC 2019, CBC 2019, CMC 2019, CPC 2019, CEC 2019, NFPA, STATE OF CALIFORNIA ENERGY CONSERVATION REGULATION, TITLE 24 2019.

FIRE ALARM NOTES

1) APPLICABLE STANDARD 2019 NFPA 72
2) INSTALLATION OF THE SYSTEMS SHALL NOT BE STARTED UNTIL DETAILED DESIGN DOCUMENTS AND SPECIFICATION, INCLUDING STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM HAS BEEN APPROVED BY DSA.
3) COMPLETION OF THE INSTALLATION OF THE SYSTEMS, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF A DSA PROJECT INSPECTOR.
4) A STAMPED SET OF APPROVED FIRE ALARM DESIGN DOCUMENTS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION.
5) ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND THE ARCHITECT/ENGINEER OF THE PROJECT.
6) DSA, ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE FINAL INSPECTION AND /OR TESTING.
7) PENETRATIONS THROUGH RATED ASSEMBLIES, REQUIRING OPENING PROTECTION SHALL BE PROVIDED WITH A PENETRATION FIRE STOP SYSTEM AS IDENTIFIED IN CBC CHAPTER 7, UL OR OTHER LAB TESTING CRITERIA. APPROVED TYPE OF MATERIALS SHALL BE IDENTIFIED WITHIN THE SPECIFICATION WITHIN THE FIRE ALARM SECTION.
8) WALL MOUNTED VISUAL NOTIFICATION DEVICES SHALL HAVE THEIR BOTTOMS MOUNTED AT 80" MINIMUM AND 96" MAXIMUM FROM FINISHED FLOOR.
9) WALL MOUNTED AUDIBLE NOTIFICATION DEVICES SHALL HAVE THEIR TOPS MOUNTED AT 90" MINIMUM AND 100" MAXIMUM FROM FINISHED FLOOR AND NO CLOSER THEN 6" TO A HORIZONTAL STRUCTURE.
10) AUDIBLE DEVICES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 DECIBELS (Dba) AVOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 Dba ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEASE 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPIAVLE SPACE WITHIN THE BUILDING.
11) AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN.
12) THE CONTRACTOR SHALL ADJUST/INSTALL ALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
13) VISUAL DEVICES SHOULD NOT EXCEED 2 FLASHES PER SECOND AND SHOULD NOT BE SLOWER THAN 1 FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELLA. VISUAL DEVICES WITHIN 55' FROM EACH OTHER SHALL BE SYNCHRONIZED.
14) UNDERGROUND AND EXTERIOR CONDUITS TO HAVE WATERTIGHT FITTINGS AND WIRE TO BE APPROVAL FOR WET LOCATIONS.
15) ALL FIRE ALARM WIRING SHALL BE FLP OR FPLP (FIRE POWER LIMITED OR FIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE THHN OR THWN.
16) PER CEC STANDARDS, ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE DEVICE. DO NOT SPLICE THE WIRE. ALL BOXES TO BE SIZED PER CEC.
17) SMOKE DETECTORS SHALL NOT BE ANY CLOSER THAN 1' FROM FIRE SPRINKLERS OR 3' FROM ANY SUPPLY DIFFUSER. IN AREA OF CONSTRUCTION OR POSSIBLE DAMAGE/CONTAMINATION ON NEWLY INSTALLED FIRE ALARM DEVICES SHALL BE COVERED UNTIL THAT AREA IS READY TO BE TURNED OVER TO THE OWNER.
18) ALL FIRE ALARM CIRCUITS SHALL BE IN CONDUIT, SURFACE RACEWAY OR OPEN RUN ABOVE CEILINGS, UNDER FLOORS AND IN WALLS IN A NEAT AND PROTECTED MANOR AS INDICATED ON DESIGN DOCUMENTS. EXPOSED CIRCUITS ARE ONLY PERMITTED WHEN NOTED AS EXPOSED ON DESIGN DOCUMENTS.
19) FIRE ALARM PANEL, REMOTES, AND COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURERS SPECIFICATIONS. NO SINGLE DEVICE SHALL EXCEED THE WEIGHT OF 20 LBS. WITHOUT SPECIAL MOUNTING DETAILS.
20) A DEDICATED BRANCH CIRCUIT SHALL BE PROVIDED FOR FIRE ALARM EQUIPMENT. THIS CIRCUIT SHALL BE ENERGIZED FROM THE COMMON USE AREA PANEL AND SHALL HAVE NO OTHER OUTLETS. THE BREAKER SHALL HAVE A RED LOCKING DEVICE TO BLOCK THE HANDLE IN THE "ON" POSITION. THE CIRCUIT BREAKER SHALL BE LABELED "FIRE ALARM CIRCUIT CONTROL". CIRCUIT ID TO BE LABELED AT FIRE PANEL/EXTENDERS.
21) THE INSTALLING CONTRACTOR SHALL PROVIDE A RECORD OF COMPLETION PER NFPA 72, FIGURE 10.18.2.1.1.
22) CONTROL PANELS, REMOTE ANNUNCIATORS SHALL BE INSTALLED WITH THEIR BOTTOMS MOUNTED AT 48'
23) THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 901.6.2.
24) SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST.
25) OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING CONTRACT OR PROVISIONS.

PROJECT NOTES

1. SOURCE OF POWER HAS BEEN INVESTIGATED AND IS ADEQUATE FOR THE ADDITIONAL LOAD.
2. SITE INSPECTOR IS TO WITNESS AND VERIFY GROUNDING TEST
3. CONTRACTOR TO MONITOR EXISTING FIRE ALARM SYSTEM IF IT IS INTERRUPTED OR DISCONNECTED.

ELECTRICAL GENERAL NOTES

1. VERIFY EXACT LOCATIONS OF ALL ELECTRICAL EQUIPMENT ON SITE BEFORE STARTING WORK.
2. ELECTRICAL CONTRACTOR SHALL APPRISE HIMSELF OF ALL EXISTING ELECTRICAL CONDITIONS AT SITE PRIOR TO BID.
3. ELECTRICAL CONTRACTOR TO HOOK UP ALL MOTOR CONTROL SYSTEM AS PER MECHANICAL & PLUMBING PLANS.
4. CIRCUIT BREAKERS USED TO SWITCH FLUORESCENT FIXTURES TO BE APPROVED FOR SWITCHING DUTY.
5. PROVIDE MINIMUM 36" WORK CLEARANCE IN FRONT AND 30" WIDE WORK SPACE FOR SERVICE / PANEL / EQUIPMENT.
6. ALL EQUIPMENT TO HAVE TESTING LABORATORY LABEL ATTACHED. (UL, OSA, ...)
7. SWITCHES TO BE MAXIMUM OF +48"AFF AT TOP AND A MINIMUM OF +36"AFF TO BOTTOM OF THE OUTLET BOX (UNO).
8. RECEPTACLE TO BE A MINIMUM OF 18" TO BOTTOM FROM FINISH FLOOR (AFF). UNLESS NOTED OTHERWISE (UNO).
9. PROVIDE WEATHERPROOF (WP) GROUND FAULT INTERRUPTED (GFI) RECEPTACLE WITHIN 25 FEET OF ALL HVAC UNITS ON ROOF.
10. GROUND ALL ELECTRICAL EQUIPMENT AS PER TITLE 24 AND CALIFORNIA ELECTRICAL CODE (CEC), SECTION 250-50.
11. LED AND FLUORESCENT BALLASTS SHALL MEET THE CERTIFICATION REQUIREMENTS OF ARTICLE 2-5314 (A) OF CALIFORNIA ENERGY STANDARDS, TITLE 24.
12. SURFACE MOUNTED FIXTURES SHALL BE SECURED TO BLDG. STRUCTURE, NO TOGGLE BOLTS SHALL BE ALLOWED.
13. PENETRATIONS OF FIRE RATED WALLS, CEILINGS OR FLOOR SHALL COMPLY WITH UBC REQUIREMENTS.
14. NO BACK TO BACK RECEPTACLES SHALL BE INSTALLED IN FIREWALLS. MAINTAIN HORIZONTAL SEPARATION OF 24" BETWEEN RECEPTACLES.
15. EXACT LOCATION OF ALL EQUIP, SWITCH, DATA OUTLET, PHONE JACK AND RECEPTACLE ETC. TO BE VERIFY WITH OWNER IN FIELD.
16. ALL WIRING SHALL BE INSTALLED IN CONDUIT RACEWAY. PVC SCH. 40 CONDUIT BELOW GRADE, EMT CONDUIT CONCEAL IN WALL AND ABOVE CEILING, RIGID STEEL CONDUIT ON EXTERIOR WALL OR ROOF.
17. THE LOCATION AND ROUTE OF CONDUITS AND RACEWAYS IN ALL ELECTRICAL DRAWINGS IN THESE SET OF DOCUMENT ARE SCHEMATIC. ALL CONDUIT RACEWAYS SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO THE BUILDING STRUCTURE WITH THE MINIMUM LENGTH AS POSSIBLE.
18. ELECTRICAL CONTRACTOR SHALL FILED VERIFY ALL EXISTING OVERHEAD AND UNDERGROUND UTILITY SERVICE SUCH AS POWER, TELEPHONE, CATV, GAS, WATER AND SEWER; PROVIDE MINIMUM SEPARATION CLEARANCE PER UTILITY COMPANY REQUIREMENT FOR ALL NEW ELECTRICAL EQUIPMENT AND WIRING INSTALLATION.
19. ELECTRICAL CONTRACTOR SHALL ARRANGE A MEETING WITH LOW VOLTAGE CONTRACTORS (FIRE, SECURITY, TELEPHONE, COMPUTER AND CATV), REVIEW THEIR EQUIPMENT AND DRAWINGS, INCLUDING ALL ELECTRICAL REQUIREMENT IN HIS SCOPE OF WORK BEFORE SUBMITTING THE BID.
20. 110V 20A BRANCH CIRCUIT SHALL BE DEDICATED NEUTRAL AND GROUNDING CONDUCTOR, SEE PANEL SCHEDULES.
21. OUTLET BOXES BETWEEN INTERIOR ROOMS CANNOT OCCUPY THE SAME BAY OF WALL STUDS, OTHERWISE PROVIDE SEALING MATERIAL FOR SOUND CONTROL PURPOSE.

GENERAL DEMOLITION NOTES

1. REFER TO ARCHITECTURAL, MECHANICAL AND PLUMBING DEMOLITION PLANS, DISCONNECT THE ELECTRICAL DEVICES TO BE REMOVED. REMOVE ASSOCIATED CONDUIT AND WIRING. PROVIDE JUNCTION AND CAP THE EXISTING CIRCUITS FOR FUTURE USE.
2. REFER TO ARCHITECTURAL, MECHANICAL AND PLUMBING DEMOLITION PLANS, DISCONNECT THE ELECTRICAL DEVICES TO BE RELOCATED, REINSTALL THE RELOCATED ELECTRICAL DEVICES PER ORIGINAL CONDITION AND CONTROL REQUIREMENT. PROVIDE PULL BOX AND JUNCTION BOX AS REQUIRED TO EXTEND THE EXISTING BRANCH CIRCUITS TO THE NEW LOCATION PER PLANS. PROVIDE NEW CONDUIT AND CONDUCTORS AS REQUIRED.

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APP: 02-118068 INC:
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DATE: 11/24/2021

SHEET INDEX

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REGISTERED PROFESSIONAL ENGINEER GAREN M. LENGIAN NO. 33380 REN. 6-30-22 MECHANICAL STATE OF CALIFORNIA

DSA # 02-118068
FILE # 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D.
1407 SUNSET AVE.
MADERA, CA, 93637

REVISIONS

No.	DATE	DESCRIPTION

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SHEET NAME
SYMBOLS AND NOTES

PROJECT ENGINEER	
PROJECT NUMBER	17-1060
DRAWN BY	
SCALE	AS NOTED
CHECKED BY	
DATE	8/24/2020

SHEET NUMBER
E0.1

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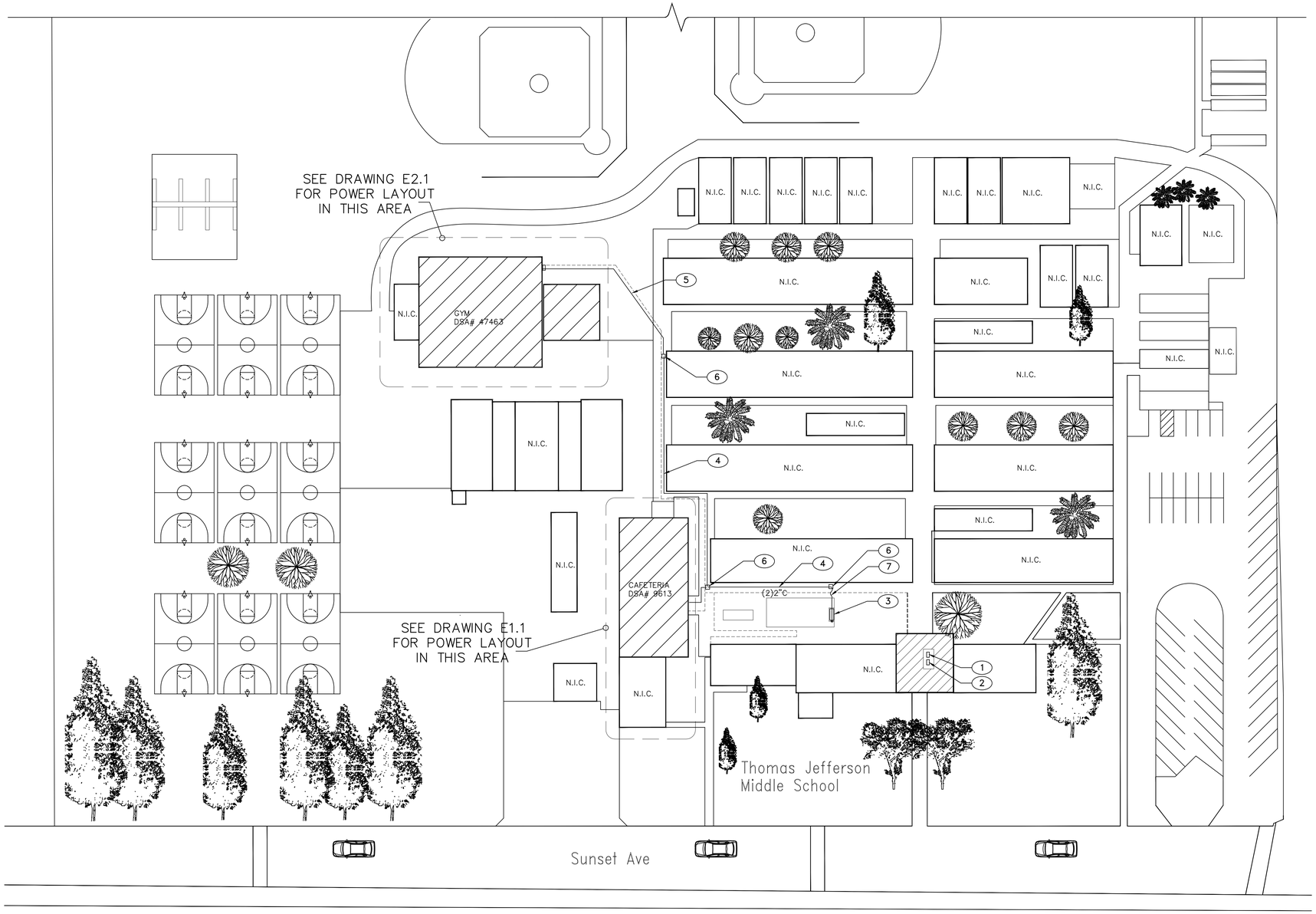

KEY NOTES

1. APPROXIMATE LOCATION FOR EXISTING ADDRESSABLE FIRE ALARM CONTROL PANEL TO REMAIN. PROVIDE CONNECTION TO NEW FIRE ALARM DEVICES PER PLANS, UPDATE NEW FIRE ZONE MAP AND PROGRAM NEW DEVICES INFORMATION, MEASURE ACTUAL LOAD CURRENT AND VOLTAGE DROP FOR EACH NAC SIGNAL CIRCUITS, AND FACP STANDBY CURRENT AND ALARM CURRENT. SEND THE REPORT TO OWNER AND ENGINEER FOR REVIEW, AND PLASTIC LAMINATED ONE COPY INSIDE FACP CABINET DOOR.
2. FURNISH AND INSTALL A NEW FIRE ALARM DIGITAL VOICE COMMAND CENTER AND INTER CONNECT TO THE EXISTING FIRE ALARM CONTROL PANEL. SURFACE MOUNT NEXT TO (E) FACP IN ADMIN OFFICE. PROVIDE FIREMAN HAND SET PHONE INSIDE CABINET. PROVIDE POWER CONNECTION AND CONNECT TO EXISTING FACP DEDICATED CIRCUIT. SEE FA RISER DIAGRAM. FIELD VERIFY EXACT LOCATION.
3. EXISTING 1600A 480V SWITCHBOARD TO REMAIN. PROVIDE NEW MATCHING BREAKER AND POWER CONNECTION FOR NEW HVAC EQUIPMENT PER PLANS. PROVIDE OVERHEAD SURFACE CONDUIT FOR NEW CONDUITS AND FEEDERS INSTALLATION. FIELD VERIFY LOCATION.
4. NEW 2" EMT CONDUIT WITH NEW POWER FEEDER ON COVER WALKWAY. SEE DETAIL 2/E3.2 AND SINGLE LINE DIAGRAM 1/E3.2.
5. NEW UNDERGROUND 2" PVC CONDUIT WITH NEW POWER FEEDER. SAW CUT AND PATCH EXISTING FLOOR AS REQUIRED. SEE SINGLE LINE DIAGRAM 1/E3.2 AND DETAIL 10/E3.2.
6. FURNISH AND INSTALL A NEW FIRE ALARM JUNCTION BOX ON COVER WALKWAY, 12"x12"x4" NEMA3R WITH NEW CONDUIT AND POWER FEEDERS PER PLANS.
7. FURNISH AND INSTALL NEW WP FLEX CONDUIT BETWEEN COVER WALKWAY AND EQUIPMENT YARD CMU WALL.

SITE PLAN – POWER

SCALE: 1" = 40' – 0"

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		REVISIONS

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SITE PLAN - POWER

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
DRAWN BY	17-1060	E0.2
CHECKED BY	SCALE AS NOTED	
	DATE 8/24/2020	

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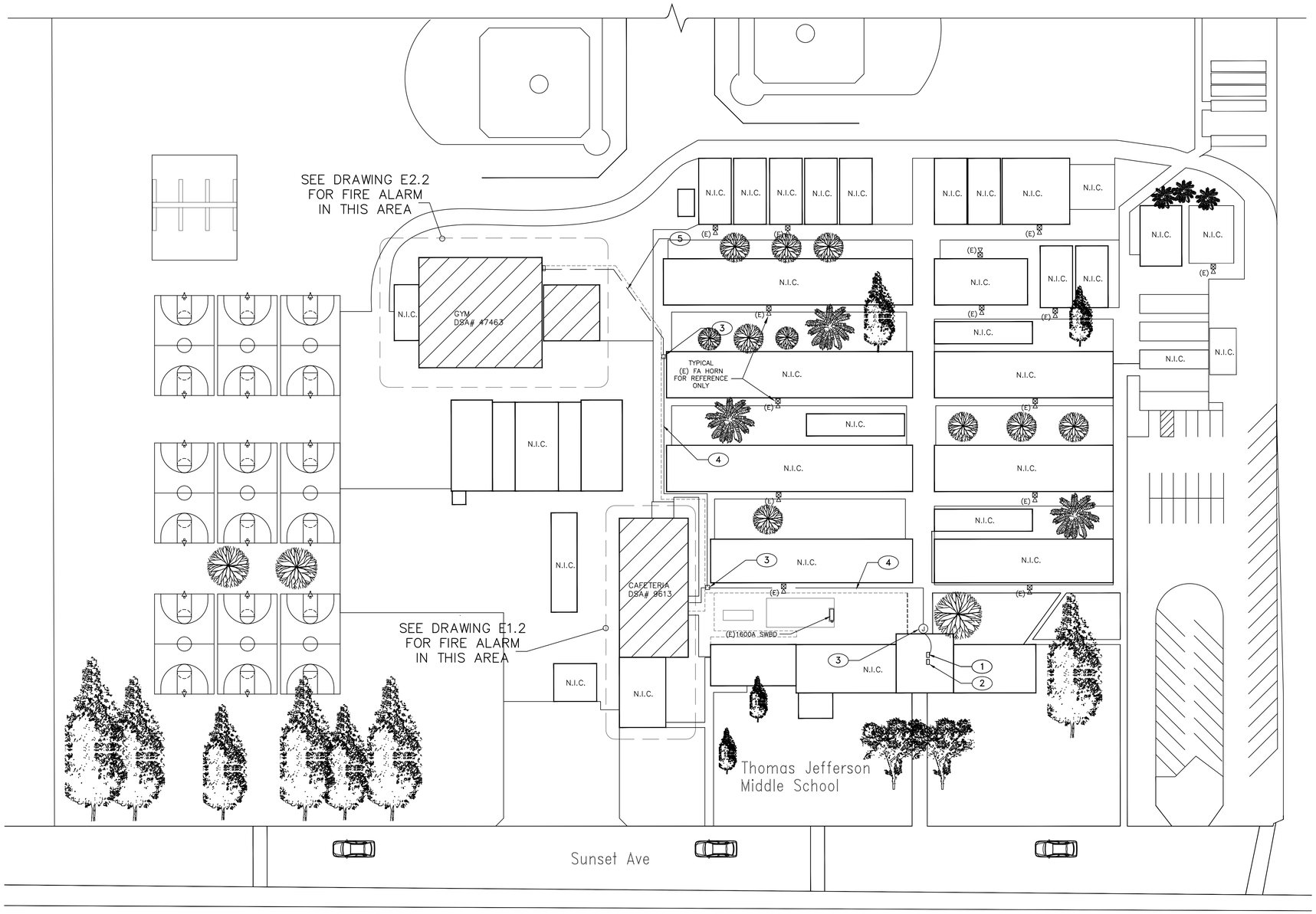

KEY NOTES

1. APPROXIMATE LOCATION FOR EXISTING ADDRESSABLE FIRE ALARM CONTROL PANEL TO REMAIN. PROVIDE CONNECTION TO NEW FIRE ALARM DEVICES PER PLANS, UPDATE NEW FIRE ZONE MAP AND PROGRAM NEW DEVICES INFORMATION, MEASURE ACTUAL LOAD CURRENT AND VOLTAGE DROP FOR EACH NAC SIGNAL CIRCUITS, AND FACP STANDBY CURRENT AND ALARM CURRENT. SEND THE REPORT TO OWNER AND ENGINEER FOR REVIEW, AND PLASTIC LAMINATED ONE COPY INSIDE FACP CABINET DOOR.
2. FURNISH AND INSTALL A NEW FIRE ALARM DIGITAL VOICE COMMAND CENTER AND INTER CONNECT TO THE EXISTING FIRE ALARM CONTROL PANEL. SURFACE MOUNT NEXT TO (E) FACP IN ADMIN OFFICE. PROVIDE FIREMAN HAND SET PHONE INSIDE CABINET. SEE FA RISER DIAGRAM. FIELD VERIFY EXACT LOCATION.
3. FURNISH AND INSTALL A NEW FIRE ALARM JUNCTION BOX ON COVER WALKWAY, 4"x4"x4" NEMA3R WITH NEW CONDUIT AND FA CABLE TO NEW FA DEVICES PER PLANS.
4. NEW 1" EMT CONDUIT WITH NEW FA CABLE ON COVER WALKWAY. SEE DETAIL 2/E3.2.
5. NEW UNDERGROUND 2" PVC CONDUIT WITH NEW FA CABLE. SAW CUT AND PATCH EXISTING FLOOR AS REQUIRED. SEE DETAIL 10/E3.2.

SITE PLAN – FIRE ALARM

SCALE: 1" = 40' – 0"

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SHEET NAME
SITE PLAN - FIRE ALARM

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
	17-1060	E0.3
DRAWN BY	SCALE	
	AS NOTED	
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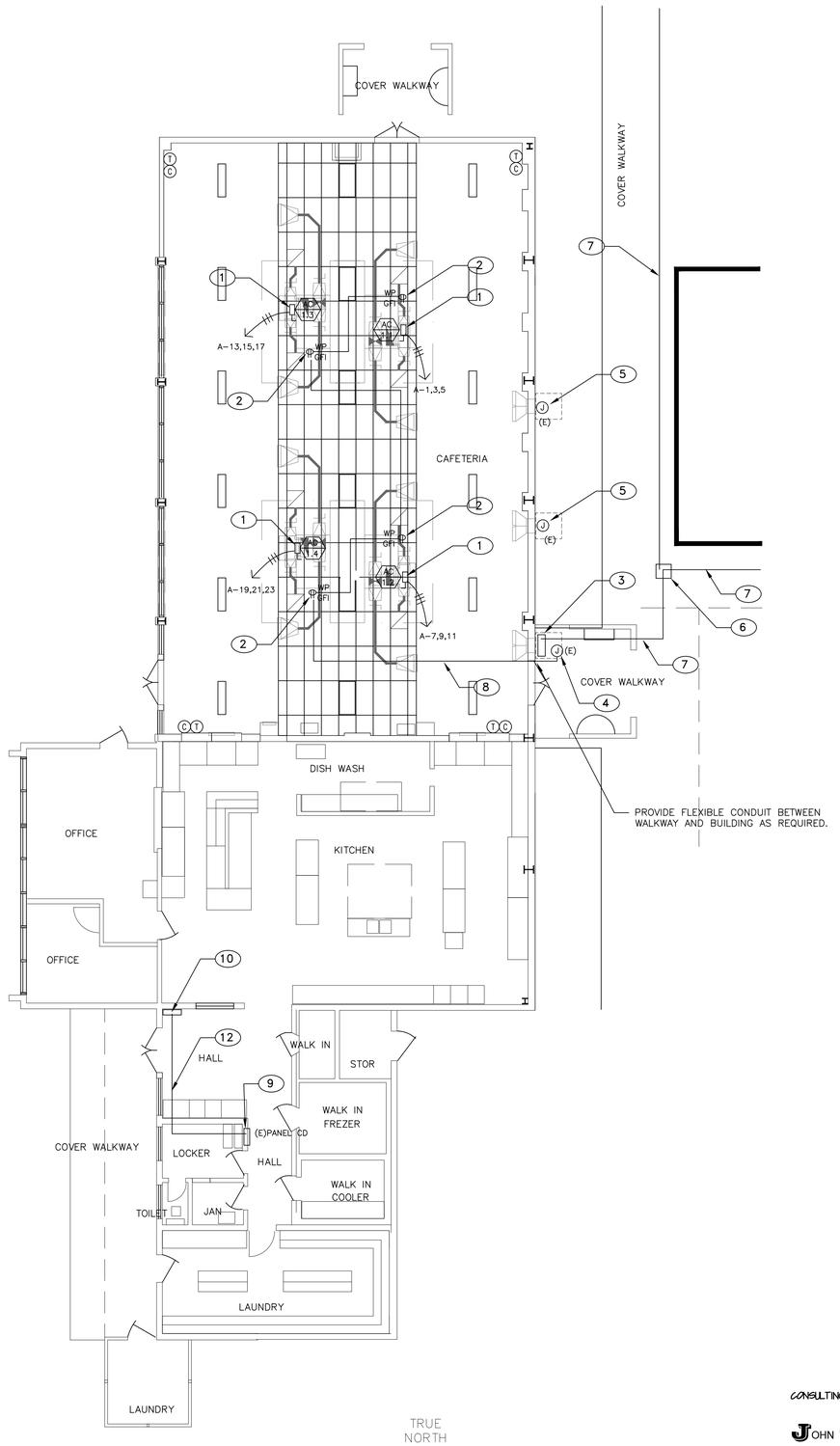
	8/24/2020	



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POWER PLAN – CAFETERIA

SCALE: 1/8" = 1' – 0"

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KEY NOTES

1. PROVIDE WP DISCONNECT SWITCH AND POWER CONNECTION FOR NEW HVAC UNIT ON ROOF. PROVIDE SHUT TRIP BREAKER FOR POWER SHUT DOWN WHEN CO OR SMOKE IS DETECTED INSIDE BUILDING, PROVIDE INTERLOCK WIRING TO FACP. SEE MECH PLANS FOR POC LOCATION AND ALL REQUIREMENT.
2. PROVIDE WP GFCI OUTLET ON ROOF, FIELD VERIFY LOCATION WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.
3. PROVIDE NEW PANEL AND SURFACE MOUNTED ON EXTERIOR WALL, SEE DETAIL 6/E3.2 AND SINGLE LINE DIAGRAM.
4. DISCONNECT EXISTING WATER COOLER CIRCUIT, REUSE EXISTING CIRCUIT FOR NEW GFCI OUTLETS ON ROOF PER PLANS.
5. DISCONNECT EXISTING WATER COOLER CIRCUIT, REMOVE ASSOCIATED CONDUITS AND WIRING. PULL OUT EXISTING CONDUCTORS FROM THE SOURCE PANEL AND UPDATED PANEL DIRECTOR AS "SPARE".
6. 12"x12"x4" NEMA 3R PULL CAN ABOVE COVER WALKWAY, SEE SITE PLAN AND FIELD VERIFY EXACT LOCATION.
7. NEW CONDUITS AND WIRING ABOVE COVER WALKWAY. SEE DETAIL 2/E3.2.
8. NEW CONDUITS AND WIRING ON ROOF. SEE DETAIL 2/E3.2.
9. PROVIDE NEW CIRCUIT BREAKER AND DEDICATED CIRCUIT FOR NEW FA VOICE AND NAC SIGNAL BOOSTER PANEL. PROVIDE MECHANICAL LOCK ON CIRCUIT BREAKER AND UPDATED EXISTING PANEL DIRECTORY AS REQUIRED.
10. FURNISH AND INSTALL A NEW FA BOOSTER PANEL, PROVIDE 120V DEDICATED CIRCUIT AND POWER CONNECTION AS REQUIRED.
11. NEW CONDUITS AND WIRING UNDER CANOPY. FIELD VERIFY LOCATION.
12. PROVIDE WIREMOLD #V500 RACEWAY SYSTEM. FIELD VERIFY LOCATION.

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REVISIONS

No.	DATE	DESCRIPTION

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POWER PLAN - CAFETERIA

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
	17-1060	E1.1
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	AS NOTED	
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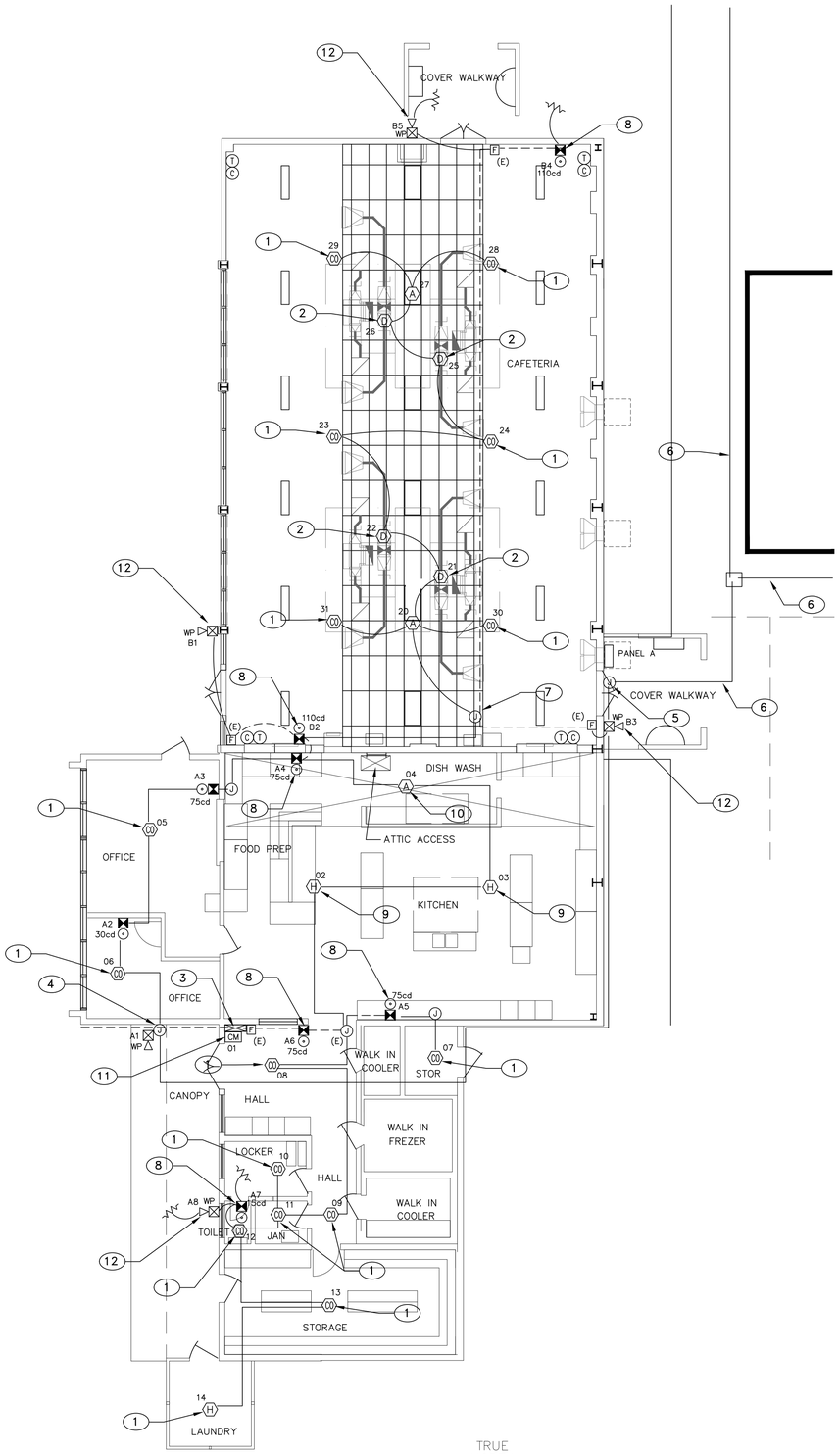

FIRE ALARM PLAN – CAFETERIA

SCALE: 1/8" = 1' – 0"

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KEY NOTES

1. NEW CEILING MOUNTED CO & SMOKE COMBO DETECTOR, PROVIDE WIREMOLD #V500 STEEL RACEWAY SYSTEM FOR EXPOSED WIRING INSTALLATION. NO EMT ALLOW ON INTERIOR WALL AND CEILING.
2. FURNISH AND INSTALL DUCT SMOKE DETECTOR INSIDE SUPPLY AIR DUCT, PROVIDE 110V POWER CONNECTION AND INTERLOCK WIRING WITH FIRE ALARM CONTROL PANEL, HVAC UNIT WILL BE POWER SHUT DOWN WHEN CO OR SMOKE ARE DETECTED INSIDE BUILDING.
3. INTERCEPT EXISTING FIRE ALARM CONDUIT AND WIRING, INSTALL A NEW VOICE AND NAC SIGNAL BOOSTER PANEL PER PLANS. PROVIDE 110V DEDICATED CIRCUIT. SEE FA RISER DIAGRAM 1/E3.1.
4. INTERCEPT EXISTING FA CONDUIT AND WIRING UNDER EAVE, INSTALL A NEW FA TC SURFACE MOUNTED ON EXTERIOR WALL, NEMA 3R 4"x4"x4", PROVIDE NEW EXTERIOR FA SPEAKER PER PLANS. FIELD VERIFY LOCATION.
5. NEW 4"X4"X4" NENA3R FATC ABOVE COVER WALKWAY, PROVIDE INTERLOCK WIRING TO HVAC SHUT TRIP BREAKER. FIELD VERIFY LOCATION.
6. NEW CONDUIT AND WIRING ON COVER WALKWAY, SEE DETAIL 2/E3.2
7. INTERCEPT EXISTING FA CONDUIT AND WIRING ABOVE T–BAR CEILING, INSTALL A NEW JUNCTION BOX AND NEW INITIATING CIRCUITS PER PLANS. FIELD VERIFY LOCATION.
8. REPLACE EXISTING FA HORN STROBE IN PLACE WITH NEW SPEAKER STROBE PER PLANS, REUSE EXISTING WIREMODE RACEWAY AND CONDUCTORS FOR NEW STROBE CIRCUIT, INSTALL NEW VOICE CIRCUIT CABLE. FIELD VERIFY LOCATION.
9. NEW CEILING MOUNTED HEAT DETECTOR, PROVIDE WIREMOLD #V500 STEEL RACEWAY SYSTEM FOR EXPOSED WIRING INSTALLATION. NO EMT ALLOW ON INTERIOR WALL AND CEILING.
10. NEW ATTIC HEAT DETECTOR, PROVIDE EMT CONDUIT AND WIRING INSTALLATION. FIELD VERIFY LOCATION.
11. INSTALL FA CONTROL MODULE ABOVE NEW BOOSTER PANEL, PROVIDE INTERLOCK WIRING TO HVAC SHUT TRIP BREAKERS. SEE RISER DIAGRAM 1/E3.1.
12. PROVIDE NEW SPEAKER STROBE PER PLANS, INSTALL NEW VOICE CIRCUIT CABLE. FIELD VERIFY LOCATION.

LEGEND

- NEW CEILING CO/SMOKE COMBO DETECTOR
- NEW ATTIC HEAT DETECTOR
- NEW DUCT SMOKE DETECTOR
- (E) EXISTING WALL MOUNTED HORN STROBE TO REMAIN. ALL EXISTING FA SIGNAL CIRCUITS TO REMAIN, NO WORK, SHOWN FOR REFERENCE.
- F (E) EXISTING MANUAL PULL STATION TO REMAIN. ALL EXISTING FA INITIATING CIRCUITS TO REMAIN, NO WORK, SHOWN FOR REFERENCE.
- CM NEW CONTROL MODULA

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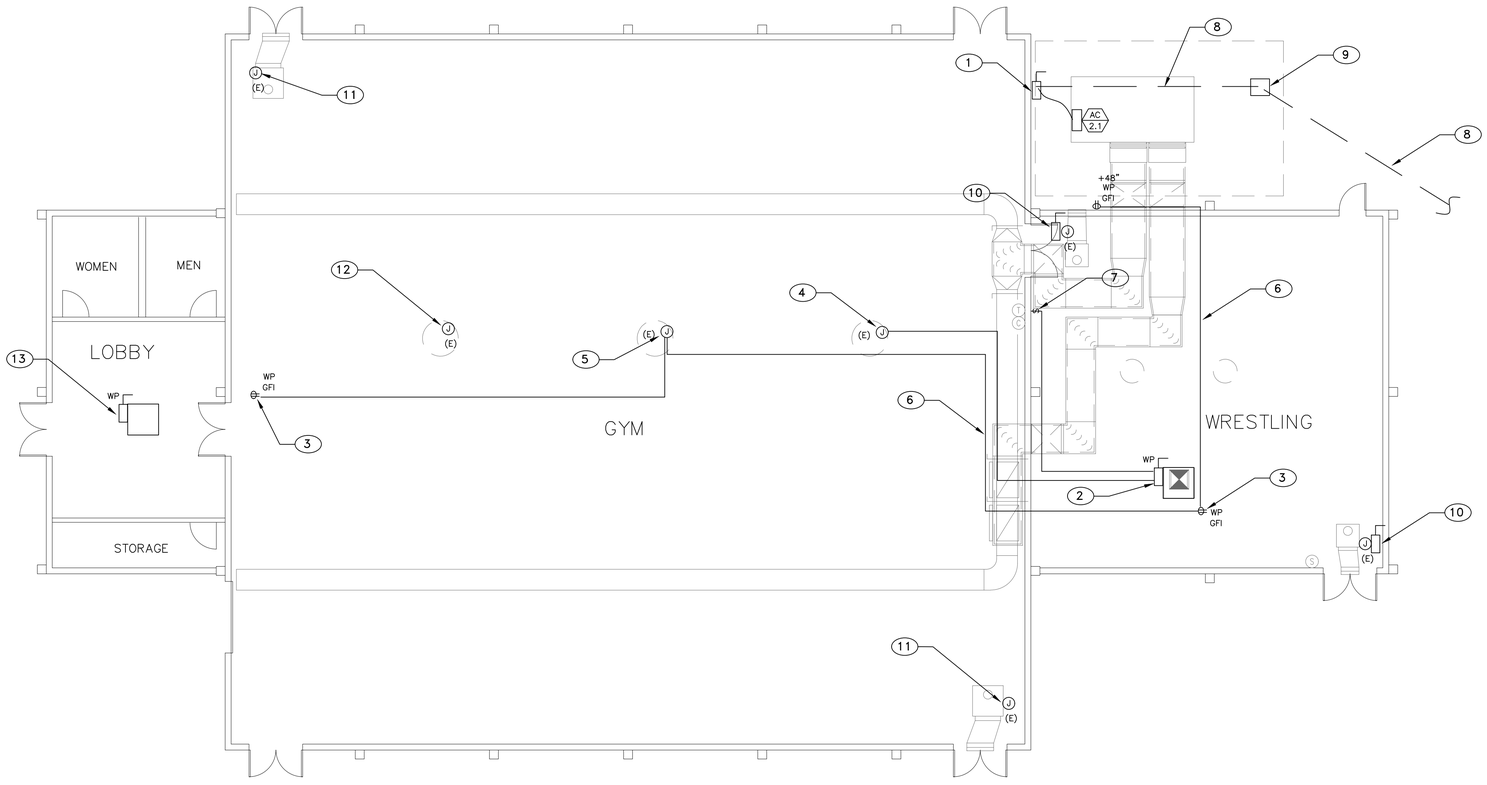
1407 SUNSET AVE,
MADERA, CA, 93637

No.	DATE	DESCRIPTION

REVISIONS

SHEET NAME
FIRE ALARM PLAN - CAFETERIA

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
	17–1060	E1.2
DRAWN BY	SCALE	
	AS NOTED	
CHECKED BY	DATE	
	8/24/2020	



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-118068 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/24/2021

KEY NOTES

1. FURNISH AND INSTALL A WEATHERPROOF NON FUSED DISCONNECT SWITCH WITH 100A 480V 3 POLE SHUT TRIP BREAKER, PROVIDE POWER CONNECTION FOR NEW HVAC UNIT ON GROUND AND INTERLOCK WIRING TO FIRE ALARM CONTROL PANEL, HVAC UNIT WILL BE POWER SHUT TRIP WHEN CO OR SMOKE ARE DETECTED INSIDE BUILDING. SEE MECH PLANS FOR POINT OF CONNECTION LOCATION AND ALL REQUIREMENT. SEE DETAIL 5/E3.2 7/E3.2 8/E3.2 9/E3.2.
2. FURNISH AND INSTALL A WEATHERPROOF NON FUSED DISCONNECT SWITCH WITH 20A 120V 1 POLE SHUT TRIP BREAKER, PROVIDE POWER CONNECTION FOR NEW EVAP COOLER ON ROOF AND PROVIDE INTERLOCK WIRING TO FIRE ALARM CONTROL PANEL, EVAP COOLER WILL BE POWER SHUT TRIP WHEN CO OR SMOKE ARE DETECTED INSIDE BUILDING. SEE MECH PLANS FOR POINT OF CONNECTION LOCATION AND ALL REQUIREMENT.
3. PROVIDE WP GFCI OUTLET ON ROOF, FIELD VERIFY LOCATION WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.
4. DISCONNECT EXISTING ROOF EXHAUST FAN, REUSE EXISTING CIRCUIT FOR NEW EVAP COOLER ON ROOF PER PLANS.
5. DISCONNECT EXISTING ROOF EXHAUST FAN, REUSE EXISTING CIRCUIT FOR NEW GFCI OUTLETS ON ROOF PER PLANS.
6. NEW CONDUITS AND WIRING ON ROOF. SEE DETAIL 2/E3.2.
7. NEW CONTROL SWITCH ON INTERIOR WALL WITH WIREMOLD #V500 RACEWAY SYSTEM, CORE DRILL AND SEAL ROOF DECK FOR CONDUIT PENETRATION, PROVIDE ROOF JACK AND WP FLEX CONDUIT ON ROOF. SEE MECHANICAL PLANS FOR CONTROL REQUIREMENT.
8. NEW UNDERGROUND CONDUITS AND WIRING, SAW CUT AND BACK FILL EXISTING FLOOR AS REQUIRED. SEE POWER SITE PLAN E0.2 FOR MORE INFORMATION. SEE DETAIL 10/E3.2.
9. PROVIDE N30 PULL BOX FOR NEW UNDERGROUND CONDUIT AND WIRING INSTALLATION. SEE DETAIL 4/E3.2.
10. EXISTING SUSPENDED FURNACE TO REMAIN, PROVIDE NON FUSED DISCONNECT SWITCH WITH 20A 120V 1 POLE SHUT TRIP BREAKER, AND INTERLOCK WIRING TO FIRE ALARM CONTROL PANEL, FURNACE WILL BE POWER SHUT TRIP WHEN CO OR SMOKE ARE DETECTED INSIDE BUILDING. FIELD VERIFY POINT OF CONNECTION LOCATION AND ALL REQUIREMENT.
11. DISCONNECT EXISTING SUSPENDED FURNACE, CAP ALL EXISTING CIRCUIT AND CONTROL WIRING AS REQUIRED.
12. DISCONNECT EXISTING ROOF EXHAUST FAN, CAP ALL EXISTING CIRCUIT AND CONTROL WIRING AS REQUIRED.
13. EXISTING EVAP COOLER TO REMAIN, PROVIDE NON FUSED DISCONNECT SWITCH WITH 20A 120V 1 POLE SHUT TRIP BREAKER, AND INTERLOCK WIRING TO FIRE ALARM CONTROL PANEL, EVAP COOLER WILL BE POWER SHUT TRIP WHEN CO OR SMOKE ARE DETECTED INSIDE BUILDING. FIELD VERIFY POINT OF CONNECTION LOCATION AND ALL REQUIREMENT.

POWER PLAN – GYM

SCALE: 1/8" = 1' – 0"

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STATE OF CALIFORNIA

DSA # 02-118068
FILE # 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D.
1407 SUNSET AVE,
MADERA, CA, 93637

REVISIONS

No.	DATE	DESCRIPTION

SHEET NAME
POWER PLAN - GYM

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
	17-1060	E2.1
DRAWN BY	SCALE	
	AS NOTED	
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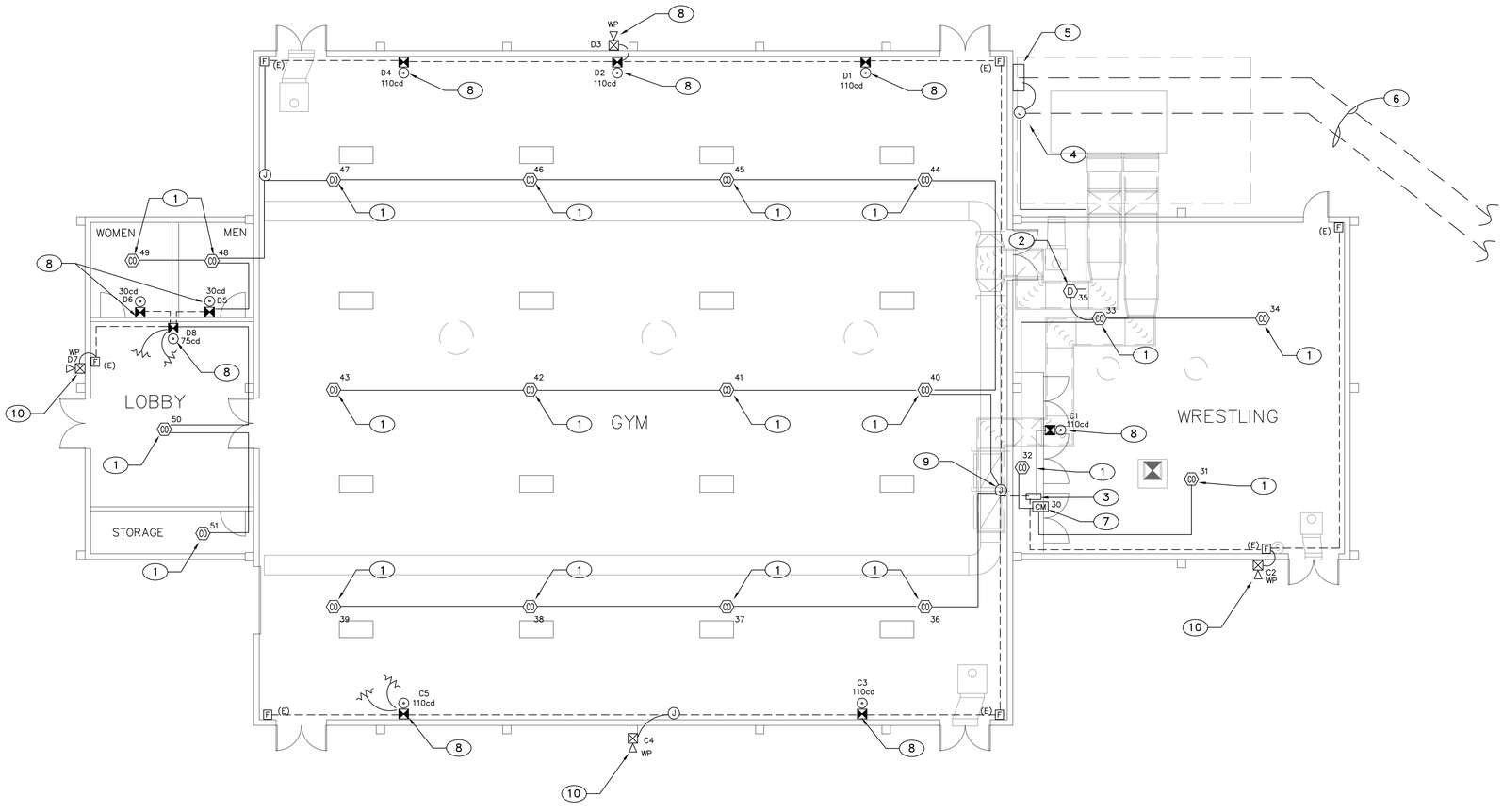

KEY NOTES

1. NEW CEILING MOUNTED CO & SMOKE COMBO DETECTOR, PROVIDE WIREMOLD #700 STEEL RACEWAY SYSTEM FOR EXPOSED WIRING INSTALLATION. NO EMT ALLOW ON INTERIOR WALL AND CEILING.
2. FURNISH AND INSTALL DUCT SMOKE DETECTOR INSIDE SUPPLY AIR DUCT, PROVIDE 110V POWER CONNECTION AND INTERLOCK WIRING WITH FIRE ALARM CONTROL PANEL, HVAC UNIT WILL BE POWER SHUT DOWN WHEN CO OR SMOKE ARE DETECTED INSIDE BUILDING.
3. REPLACE EXISTING FA SIGNAL BOOSTER PANEL IN PLACE WITH A NEW VOICE AND SIGNAL COMBO BOOSTER PANEL, RECONNECT TO EXISTING DEDICATED CIRCUIT. SEE RISER DIAGRAM 1/E3.1.
4. NEW 4"X4"X4" NEMA3R FATC ON EXTERIOR WALL, PROVIDE INTERLOCK WIRING TO HVAC SHUT TRIP BREAKER. FIELD VERIFY LOCATION.
5. NEW HVAC DISCONNECT SWITCH WITH SHUT TRIP BREAKER, PROVIDE INTERLOCK WIRING WITH FACP. FIELD VERIFY LOCATION.
6. NEW UNDERGROUND CONDUITS AND WIRING, SEE SITE PLAN E0.2.
7. INSTALL FA CONTROL MODULE ABOVE NEW BOOSTER PANEL, PROVIDE INTERLOCK WIRING TO HVAC SHUT TRIP BREAKERS. SEE RISER DIAGRAM 1/E3.1.
8. REPLACE EXISTING FA HORN STROBE IN PLACE WITH NEW SPEAKER STROBE PER PLANS, REUSE EXISTING WIREMODE RACEWAY AND CONDUCTORS FOR NEW STROBE CIRCUIT, INSTALL NEW VOICE CIRCUIT CABLE. FIELD VERIFY LOCATION.
9. INTERCEPT EXISTING FA CONDUIT AND WIRING, INSTALL A NEW JUNCTION BOX AND NEW INITIATING CIRCUITS PER PLANS. FIELD VERIFY LOCATION.
10. PROVIDE NEW SPEAKER STROBE PER PLANS, INSTALL NEW VOICE CIRCUIT CABLE. FIELD VERIFY LOCATION.

LEGEND

- NEW CEILING CO/SMOKE COMBO DETECTOR
- NEW DUCT SMOKE DETECTOR
- (E) EXISTING WALL MOUNTED HORN STROBE TO REMAIN. ALL EXISTING FA SIGNAL CIRCUITS TO REMAIN, NO WORK, SHOWN FOR REFERENCE.
- (E) EXISTING MANUAL PULL STATION TO REMAIN. ALL EXISTING FA INITIATING CIRCUITS TO REMAIN, NO WORK, SHOWN FOR REFERENCE.
- CM NEW CONTROL MODULA

SEE DETAIL 3/E3.2 FOR FA DEVICES MOUNTING HEIGHT

FIRE ALARM PLAN – GYM

SCALE: 1/8" = 1' – 0"

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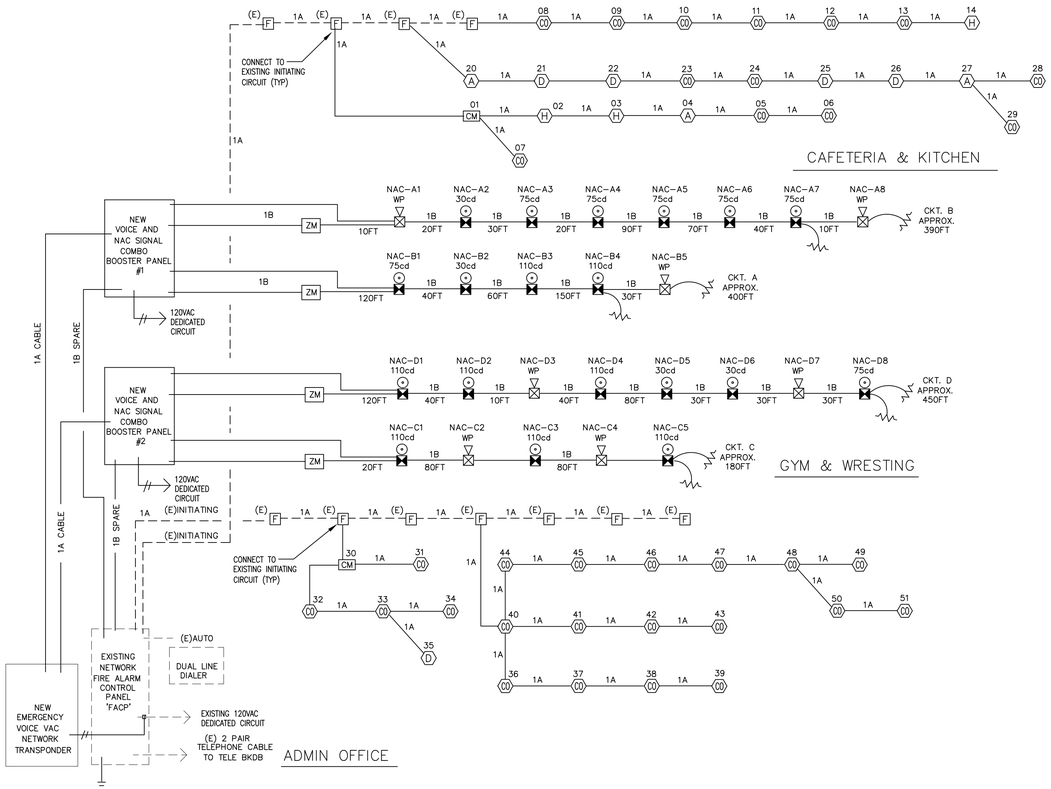
No.	DATE	DESCRIPTION
REVISIONS		

SHEET NAME
FIRE ALARM PLAN - GYM

PROJECT ENGINEER	
DRAWN BY	
CHECKED BY	
PROJECT NUMBER	17-1060
SCALE	AS NOTED
DATE	8/24/2020

SHEET NUMBER
E2.2



NOTES:

1. RISER DIAGRAM IS DIAGRAMMATIC. SEE FIRE ALARM FLOOR PLAN AND FIELD VERIFY EXACT ROUTING AS REQUIRED.
2. ALL INTERIOR FIRE ALARM CONDUCTORS ARE INSTALLED IN EMT CONDUIT AND CONCEAL ABOVE CEILING OR INSIDE WALL WITH 3/4"C.
3. FIRE ALARM CONDUCTOR CANNOT SPLICE INSIDE PULL BOX. CONDUCTOR MUST BE CONTINUE RUN BETWEEN FIRE ALARM DEVICES BACK BOX OR TERMINAL CABINET.

1 FIRE ALARM RISER DIAGRAM

N.T.S

BATTERY POWER CALCULATIONS
NEW NAC SIGNAL & AUDIO BOOSTER PANEL #1

DEVICE	NO. OF DEVICE	CURRENT PER DEVICE STANDBY	CURRENT PER DEVICE ALARM	STANDBY CURRENT	ALARM CURRENT
UNIT	1	0.075A	0.175A	0.075A	0.175A
OUTDOOR SPEAKER	1	--	0.050A	--	0.150A
VISUAL 15cd	0	--	0.025A	--	0.000A
AUDIO/VISUAL 15/75cd	0	--	0.041A	--	0.000A
AUDIO/VISUAL 15cd	1	--	0.093A	--	0.093A
AUDIO/VISUAL 30cd	1	--	0.114A	--	0.114A
AUDIO/VISUAL 75cd	4	--	0.157A	--	0.628A
AUDIO/VISUAL 110cd	2	--	0.197A	--	0.394A
SYNC MODULES	2	--	0.035A	--	0.070A
1/4 W SPEAKER	8	--	0.010A	--	0.080A
SUB-TOTAL				0.075A	1.704A

24 HOUR STANDBY CURRENT	1.800AH
15 MINUTE ALARM CURRENT (0.25 HR)	0.426AH
SUBTOTAL	2.226AH
20% SAFETY FACTOR	0.445AH
TOTAL AMPS-HRS REQUIRED	2.671AH

PROVIDE BATTERY WITH (2) NEW 12AH BATTERY

BATTERY POWER CALCULATIONS
NEW NAC SIGNAL & AUDIO BOOSTER PANEL #2

DEVICE	NO. OF DEVICE	CURRENT PER DEVICE STANDBY	CURRENT PER DEVICE ALARM	STANDBY CURRENT	ALARM CURRENT
UNIT	1	0.075A	0.175A	0.075A	0.175A
OUTDOOR SPEAKER	1	--	0.050A	--	0.050A
VISUAL 15cd	0	--	0.025A	--	0.000A
AUDIO/VISUAL 15/75cd	0	--	0.041A	--	0.000A
AUDIO/VISUAL 15cd	0	--	0.093A	--	0.000A
AUDIO/VISUAL 30cd	2	--	0.114A	--	0.228A
AUDIO/VISUAL 75cd	1	--	0.157A	--	0.157A
AUDIO/VISUAL 110cd	6	--	0.197A	--	1.182A
SYNC MODULES	2	--	0.035A	--	0.070A
1/4 W SPEAKER	9	--	0.010A	--	0.090A
SUB-TOTAL				0.075A	1.195A

24 HOUR STANDBY CURRENT	1.800AH
15 MINUTE ALARM CURRENT (0.25 HR)	0.488AH
SUBTOTAL	2.288AH
20% SAFETY FACTOR	0.458AH
TOTAL AMPS-HRS REQUIRED	2.746AH

PROVIDE BATTERY WITH (2) NEW 12AH BATTERY

BATTERY POWER CALCULATIONS
NEW VOICE EVACUATION PANEL

DEVICE	NO. OF DEVICE	CURRENT PER DEVICE STANDBY	CURRENT PER DEVICE ALARM	STANDBY CURRENT	ALARM CURRENT
UNIT	1	0.130A	1.0A	0.130A	1.0A
AMPLIFIER	1	0.130A	1.0A	0.260A	2.0A
SUB-TOTAL				0.390A	3.0A

24 HOUR STANDBY CURRENT	3.120AH
15 MINUTE ALARM CURRENT (0.25 HR)	0.250AH
SUBTOTAL	3.370AH
20% SAFETY FACTOR	0.674AH
TOTAL NEW AMPS-HRS REQUIRED	4.044AH

REPLACE EXISTING BATTERY WITH (2)12AH BATTERIES

BATTERY POWER CALCULATIONS
EXISTING MASTER FACP
IN EXISTING ADMIN BUILDING

DEVICE	NO. OF DEVICE	CURRENT PER DEVICE STANDBY	CURRENT PER DEVICE ALARM	STANDBY CURRENT	ALARM CURRENT
EXISTING UNIT ESTIMATE LOAD				0.250A	3.65A
NEW CO/SMOKE HEAT	46	0.0003A	0.0065A	0.0138A	0.299A
NEW VOICE VAC PANEL	1	0.120A	0.100A	0.120A	0.100A
SUB-TOTAL				0.384A	4.049A

24 HOUR STANDBY CURRENT	9.211AH
15 MINUTE ALARM CURRENT (0.25 HR)	1.012AH
SUBTOTAL	10.223AH
20% SAFETY FACTOR	2.045AH
TOTAL AMPS-HRS REQUIRED	12.268AH

REPLACE EXISTING BATTERY WITH NEW (2) 18AH BATTERY

DURING THE FINAL TESTING, MEASURE EXACT STANDBY AND ALARM CURRENT, VOLTAGE DROP FOR EACH SIGNAL CIRCUITS. SEND OWNER AND ENGINEER ONE COPY RECORD FOR REVIEW, AND PLASTIC LAMINATED ONE COPY INSIDE CABINET DOOR.

F.A SYSTEM SCOPE OF WORK

1. PROVIDE AUTOMATIC FIRE ALARM SYSTEM AND DEVICES FOR THE EXISTING CAFETERIA & GYM BUILDINGS PER PLANS.
2. INSTALL NEW SIGNAL & VOICE COMBO BOOSTER PANELS PER PLANS.
3. INSTALL A NEW EMERGENCY VOICE EVACUATION PANEL IN ADMIN. OFFICE AND NEXT TO EXISTING FACP. PROVIDE FIRE MAN HAND SET PHONE INSIDE CABINET.
4. REPLACE EXISTING NAC SIGNAL HORN STROBE DEVICES IN CAFETERIA AND GYM BUILDING WITH NEW SPEAKER STROBE.
5. EXISTING FACP IN ADMIN. OFFICE IS 24VDC ADDRESSABLE, AND CLASS B WIRING SYSTEM. AND WITH OFF SITE MONITORING SERVICE VIA AUTO DUAL LINE DIALER AND TELEPHONE LINES.
6. DURING THE FINAL TESTING, MEASURE ALL FIRE ALARM CURRENTS, VOLTAGE DROP FOR EACH SIGNAL CIRCUITS. SEND OWNER AND ENGINEER ONE COPY RECORD FOR REVIEW, AND PLASTIC LAMINATED ONE COPY INSIDE FACP CABINET DOOR.

FA CABLE SCHEDULE

TYPE	DESCRIPTION
A	INITIALING CIRCUIT CABLE 2#16 AWG SOLID COPPER PVC JACKET POWER LIMITED FPLR CABLE, FOR INDOOR AND OUTDOOR VIA MIN. 3/4" CONDUIT INSTALLATION
B	NAC SIGNAL CIRCUIT CABLE 2#12 AWG SOLID COPPER PVC JACKET POWER LIMITED FPLR CABLE, AND SPEAKER CIRCUIT CABLE 2#16 SHIELDED COPPER PVC JACKET POWER LIMITED FPLR CABLE FOR INDOOR AND OUTDOOR VIA MIN. 3/4" CONDUIT INSTALLATION

VOLTAGE DROP CALCULATION

WORST CASE VOLTAGE DROP AT THE LAST DEVICE

VD = VOLTAGE DROP
I = TOTAL LOAD
K = 21.6
L = DISTANCE TO THE LOAD
CM = CIRCULAR MILLS (CROOS SECTION OF 12 AWG = 6530)
V = VOLTAGE (24vdc)

$$VD = \frac{K * I * 2L}{CM}$$

	AMPERES	APPROX LENGTH	RESISTIVITY Ω/KM	WIRE AWG	AREA CM	VOLTS DROPPED	% VOLTS DROP
CKT. # A	0.665A	400'	21.6	12	6530	0.8799V	3.7%
CKT. # B	0.546A	390'	21.6	12	6530	0.7044V	2.9%
CKT. # C	0.591A	180'	21.6	12	6530	0.3519V	1.5%
CKT. # D	1.026A	450'	21.6	12	6530	1.5272V	7.2%

FA SEQUENCE OF OPERATIONS

	FIRE RATED WALL FIRE ANSOL PNL	KITCHEN HOOD FIRE ANSOL PNL	SMOKE DETECTORS	CO DETECTORS TEMPORAL 4 PATTERN	HEAT DETECTORS	SUPERVISORY	TROUBLE	POWER FAILURE	PULL STATION	DUCT SMOKE DETECTOR	SPRINKLER FLOW TAMPER SWITCH	FIRE SMOKE DAMPER
AUDIO VISUAL DEVICE	X	X	X	X	X				X	X	X	X
OFF-SITE MONITORING CERTIFY AGENCY	X	X	X	X	X	X	X	X	X	X	X	X
CONTROL PANEL	X	X	X	X	X	X	X	X	X	X	X	X
REMOTE ANNUNCIATOR	X	X	X	X	X	X	X	X	X	X	X	X
HVAC SHUT DOWN										X		X

F.A. MONITORING NOTES

1. THE AUTOMATIC FIRE ALARM SYSTEMS SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION AS REQUIRED BY NFPA 72 AND AMENDED EITHER UUFX OR UUJS BY UNDERWRITERS OF FACTORY MUTUAL RESEARCH APPROVAL STANDARD 3011. SUPERVISION OF SYSTEM AND LEASED TELEPHONE LINES SHALL BY ARRANGED BY OWNER.

SEISMIC ANCHORAGE

1. TO COMPLY WITH 2019 CBC, SECTIONS 1617A.1.18 THROUGH 1617A. 1.26 AND ASCE 7-10 CHAPTER 13, 26 AND 30.
2. SEE MEP COMPONENT ANCHORAGE NOTES ON E0.1. WHERE ANCHORAGE DETAILS ARE NOT SHOWN ON THE DRAWINGS, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ELECTRICAL ENGINEER AND THE FIELD ENGINEER OF THE DIVISION OF THE STATE ARCHITECT.

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FIRE ALARM SYMBOLS AND SCHEDULE

ITEM	DESCRIPTION	MODEL NUMBER	CSFM NUMBER	MOUNT	BACK BOX
FACP	EXISTING FIRE ALARM CONTROL PANEL IN ADMIN OFFICE	GAMEWELL - FCI #E3 SERIES	7165-1703:176	+60"	CABINET
VAC	EMERGENCY VOICE VAC SYSTEM WITH NETWORK TRANSPONDER INTERFACE WITH FACP AND REMOTE FIREMAN HAND SET PHONE	GAMEWELL - FCI #INX #LOC-TEL	7165-1703:125	+60"	CABINET
	NAC SIGNAL AND AUDIO BOOSTER PANEL	WHEELOCK #SPB-80/4	6911-0785:157	+60"	EQUIPMENT CABINET
F	EXISTING ADDRESSABLE MANUAL PULL STATION TO REMAIN SHOWN FOR REFERENCE	GAMEWELL - FCI #MS-95 # AMM-2F	7150-1703:0100 7300-1703:102	+60"	4"SQ X 2 1/2"D
15cd 30cd 75cd	SPEAKER STROBE WITH EVACUATION SPEAKER 15cd 30cd 75cd 110cd TEMPORAL CODE 3	COOPER #LSPSTW	7125-0785:175	+80"	4"SQ X 2 1/2"D
WP	OUTDOOR EVACUATION SPEAKER WITH WEATHERPROOF BOX TEMPORAL CODE 3	COOPER #LSPSTW	7125-0785:175	+90"	4"SQ X 2 1/2"D
CO	ADDRESSABLE CEILING CO SMOKE COMBO DETECTOR WITH BASE	FCI MCS-COF FCI B210LP	7275-1703:0175	CEILING	4"SQ X 2 1/2"D
H	ADDRESSABLE CEILING HEAT DETECTOR 135°F TEMP WITH BASE	FCI ATD-L2F BASE-ADB-FL	7270-1703:0115 7300-1653:0109	CEILING	4"SQ X 2 1/2"D
A	ADDRESSABLE ATTIC HEAT DETECTOR 190°F TEMP WITH BASE	FCI ATD-HL2F BASE-ADB-FL	7270-1703:0115 7300-1653:0109	ATTIC	4"SQ X 2 1/2"D
D	ADDRESSABLE DUCT SMOKE DETECTOR WTH HOUSING AND RELAYS REMOTE RESET KEY	FCI D4120 FCI RTS151KEY	3242-1653:0207	CEILING	4"SQ X 2 1/2"D
CM	ADDRESSABLE CONTROL MODULES	FCI # AOM-2RF	7300-1703:102	ATTIC	4"SQ X 2 1/2"D
ZM	SYNC MODULES	WHEELOCK #DSM 12/24-R	7300-0785:132	FIRST DEVICE	FATC
	FIRE ALARM CABLES POWER LIMITED	WEST PENN WIRE 975 998 AQ227	7161-0859:0101		
-\/\/-	END OF LINE RESISTOR	N/A	N/A	LAST DEVICE	4"SQ X 2 1/2"D

COMPLETE AUTOMATIC FIRE ALARM PLAN SUBMITTAL

1. THE FIRE ALARM SYSTEM SHOWN ON THESE PLANS WOULD BE SUBMITTED AND APPROVED BY DIVISION OF THE STATE ARCHITECT. ANY SUBSTITUTION OF THE FIRE ALARM SYSTEM SHALL BE RESUBMITTED TO THE ARCHITECT AND ENGINEERS FOR REVIEW AND APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL FEE AND CHARGER.
2. THE AUTOMATIC FIRE ALARM SYSTEM SHALL COVER ALL ROOMS AND AREAS AND UPON ACTIVATION OF AN INITIATING DEVICE ALERT ALL OCCUPANTS AND TRANSMIT THE ALARM, SUPERVISORY, AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION. (EXCEPTION: SMOKE DETECTORS ARE NOT REQUIRED IN NON-ACCESSIBLE AREAS AS DEFINED IN EMERGENCY EXPRESS TERMS OF PROPOSED S.F.M. AMENDMENTS TO 2019 C.F.C.

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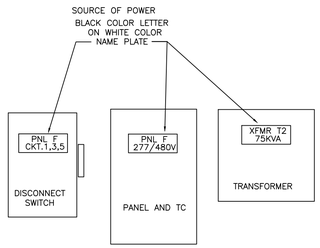


8 NAME PLATE DETAIL

N.T.S

NOT USED

7

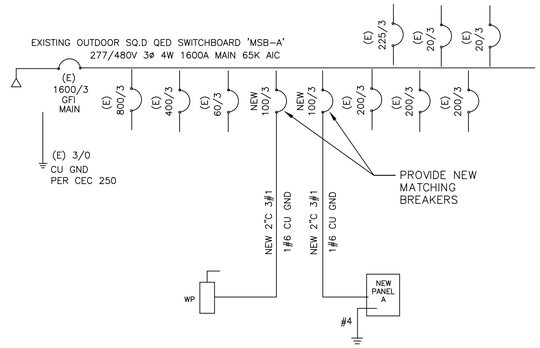
PANEL A

BOLT ON BREAKER | 277/480V 3ø 4W | 100 AMP MAIN BREAKER | EXTERIOR WALL | 14,000 AIC | SURFACE | NEMA 3R

CKT	SERVING	NOTE	GND	WIRE AWG	AMP POLE	TOTAL LOAD KW øA	øB	øC	AMP POLE	WIRE AWG	GND	NOTE	SERVING	CKT
1	AC 1.1	3	12	12	15/3	3.0							SPACE	2
3							3.0							4
5								3.0						6
7	AC 1.2	3	12	12	15/3	3.0								8
9							3.0							10
11								3.0						12
13	AC 1.3	3	12	12	15/3	3.6	0.5							14
15							3.6							16
17								3.6						18
19	AC 1.4	3	12	12	15/3	3.6								20
21							3.6							22
23								3.6						24
						6KW	6KW	6KW						
						22A	22A	22A						

NOTES:
1. PROVIDE CIRCUIT DIRECTORY INSIDE PANEL
2. PROVIDE ARC FLASH LABEL ON PANEL DOOR
3. PROVIDE SHUT TRIP BREAKER AND INTERLOCK WITH FACP

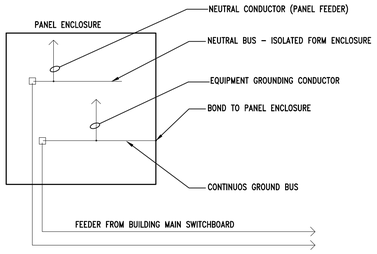
LOAD SUMMARY
LIGHTING/CONTINUOUS LOADS 125% : 54 KVA
RECEPTACLES (FIRST 10KVA 100%) : 0 KVA
RECEPTACLES (OVER 10KVA 50%) : 0 KVA
HVAC / MISC LOADS 100% : 0 KVA
LARGEST MOTOR LOADS 25% : 0 KVA
TOTAL KVA DEMAND : 54 KVA (150AMP)



NOTES:
1. PROVIDE NEW MATCHING BREAKERS, FEEDERS AND PANELS PER PLANS.
2. ALL NEW CONDUCTOR SHALL BE 75°C THWN-2 COPPER IN CONDUIT. (AMPACITY FOR CONDUCTOR SELECTION MUST BE DETERMINED/DERATED BY THE ALLOWED TERMINATION RATINGS MARKED/APPROVED ON EACH DEVICES, MOTOR, APPLIANCE, XFMR O.C.P.C. PANEL, ETC. CONDUCTORS INSTALLED IN U.G OR WET LOCATIONS SHALL BE MARKER 'W'. PER 2019 CEC 110-14(C)(1).)
3. ALL WIRING OVER 100 VOLT SHALL BE INSTALLED IN RACEWAY CONDUIT, EMT ABOVE GRADE, PVC SCH. 40 BELOW GRAD AND STEEL CONDUIT ON EXPOSE SURFACE BELOW 8' AFF. FOR PHYSICAL PROTECTION.
4. STEEL BACK BOX SHALL BE PROVIDE FOR ALL NEW ELECTRICAL DEWICES SUCH AS SWITCH, OUTLET AND CONDUCTOR SPLICE.
5. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO VERIFY THE EXISTING SWITCHBOARD AND PANELS ARE INSTALL PER ONE LINE DIAGRAM PRIOR TO WORKING, AND REPORT TO ENGINEERS IF ANY DISCREPANCY ARE FOUND.

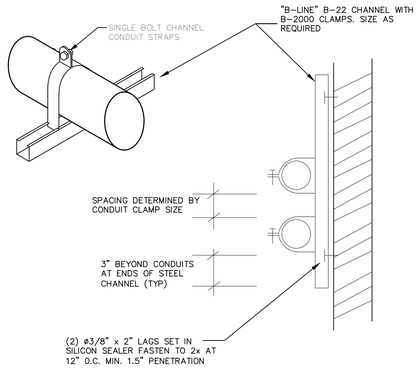
1 SINGLE LINE DIAGRAM

N.T.S



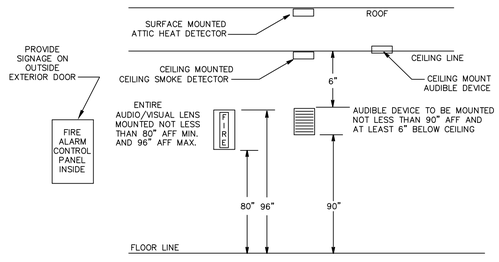
9 PANEL GROUNDING DETAIL

N.T.S



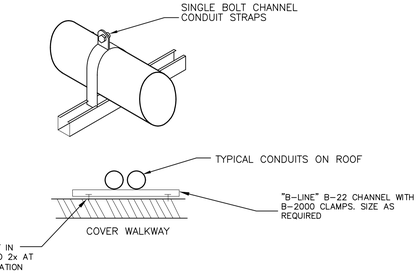
5 CONDUIT SUPPORT DETAIL

N.T.S



3 TYPICAL FIRE ALARM DEVICES MT'D DETAIL

N.T.S.



2 ROOF CONDUIT MOUNTING DETAIL

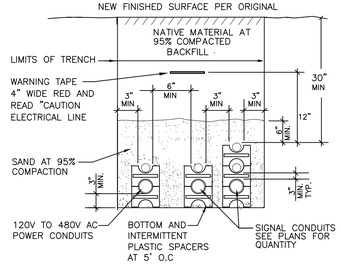
NTS

RESTORE NEW FINISHED SURFACE PER ORIGINAL CONDITION AS FOLLOW:

STRUCTURES, BUILDING SLABS, WALKWAYS, AND STEPS: COMPACT TOP 6" OF SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL AT 92% MAX. RELATIVE COMPACTION. COMPACT UPPER 2' OF BACKFILL IN UTILITIES TRENCHES OR OTHER EXCAVATION TO 92% MIN. RELATIVE COMPACTION. PATCH CONCRETE CURBS/WALKS TO MATCH EXISTING AND SURROUNDING FINISH GRADE.

LAWN OR UNPAVED AREAS: COMPACT TOP 6" OF SUBGRADE MATERIAL AT 85% RELATIVE COMPACTION. RESTORE LANDSCAPING TO MATCH EXISTING.

PAVEMENTS: COMPACT TOP 6" SUBGRADE IMMEDIATELY BENEATH THE BASE COURSE AT 95% MIN. RELATIVE COMPACTION. PATCH AC PAVEMENT TO MATCH EXISTING.

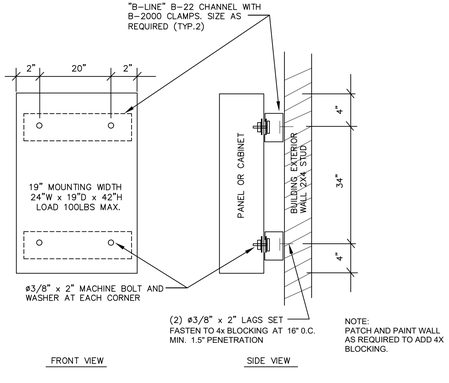


IF CONDUITS ARE INSTALLED IN A FILL AREA, THE TOP OF THE FILL MUST BE A MIN. OF 30" ABOVE THE DESIGN CONDUITS ELEVATION BEFORE THE CONDUITS IS INSTALLED.

ELECTRICAL CONDUITS SHALL BE MIN. 12" FROM OTHER UTILITY PIPES IN JOIN TRENCH, NO UTILITY PIPES ARE ALLOWED INSTALLED ON THE TOP OF ELECTRICAL CONDUITS.

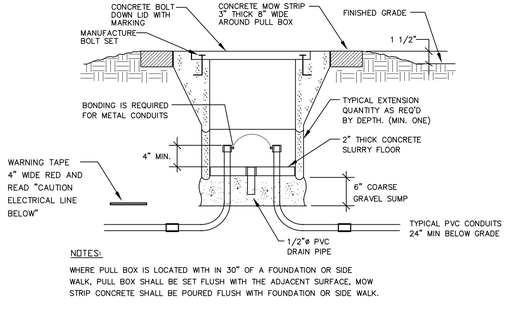
10 CONDUIT TRENCH DETAIL

N.T.S



6 PANEL AND CABINET MOUNTING DETAIL

N.T.S



NOTES:
WHERE PULL BOX IS LOCATED WITH IN 30" OF A FOUNDATION OR SIDE WALK, PULL BOX SHALL BE SET FLUSH WITH THE ADJACENT SURFACE, MOW STRIP CONCRETE SHALL BE POURED FLUSH WITH FOUNDATION OR SIDE WALK.

4 PULL BOX AT OPEN YARD DETAIL

N.T.S

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FILE # 20-30

PROJECT NAME
JEFFERSON M. S. - HVAC REPLACEMENT
M.U.S.D.
1407 SUNSET AVE.
MADERA, CA. 93637

No.	DATE	DESCRIPTION
		REVISIONS

SHEET NAME
SINGLE LINE DIAGRAM AND DETAILS

PROJECT ENGINEER	PROJECT NUMBER	SHEET NUMBER
	17-1060	E3.2
DRAWN BY	SCALE	
	AS NOTED	
CHECKED BY	DATE	
	8/24/2020	