PROJECT:

Madera South High School – HVAC Improvement
Madera Unified School District

Date: 01/29/2025
NET POSITIVE Project No.: 1337
Client Project No.: **Base Bid 1**
DSA File No.: 20-H3
DSA Appl. No.: 02-122086

The following additions, deletions and revisions to the plans, specifications and Addenda shall become a part of the plans and specifications. It is the responsibility of the General Contractor to submit the information contained in this addendum to all subcontractors and suppliers. The Bidder shall acknowledge receipt of the Addendum in the Bid Proposal. (Addendum number of pages: **4** pages + **21** drawings + **0** attachments = **25** total pages).

DRAWINGS:

01-01: **DRAWINGS, SHEET G001 – COVER SHEET,** revise as follows:

A. Remove Drawing Sheet No. G001 in its entirety and replace with Addenda Drawing No. G001 AD01-01.
   a. Revise Project Description.

01-02: **DRAWINGS, SHEET M002 – MECHANICAL SCHEDULE,** revise as follows:

A. Remove Drawing Sheet No. M002 in its entirety and replace with Addenda Drawing No. M002 AD01-02.
   a. Revise Mechanical Schedules.

01-03: **DRAWINGS, SHEET M500 – MECHANICAL ROOF PLAN – EAST GYM,** revise as follows:

A. Remove Drawing Sheet No. M500 in its entirety and replace with Addenda Drawing No. M500 AD01-03.
   a. Revise Keynotes.

01-04: **DRAWINGS, SHEET M501 – MECHANICAL ROOF PLAN – EAST GYM,** revise as follows:

A. Remove Drawing Sheet No. M501 in its entirety and replace with Addenda Drawing No. M501 AD01-04.

01-05: **DRAWINGS, SHEET M510 – MECHANICAL DEMOLITION ROOF PLAN – WEST GYM,** revise as follows:

A. Remove Drawing Sheet No. M510 in its entirety and replace with Addenda Drawing No. M510 AD01-05.
   a. Revise Keynotes.

01-06: **DRAWINGS, SHEET M511 – MECHANICAL ROOF PLAN – WEST GYM,** revise as follows:

A. Remove Drawing Sheet No. M511 in its entirety and replace with Addenda Drawing No. M511 AD01-06.

01-07: **DRAWINGS, SHEET M520 – MECHANICAL ROOF PLAN – LOCKER ROOMS** revise as follows:

A. Remove Drawing Sheet No. M520 in its entirety and replace with Addenda Drawing No. M520 AD01-07.

01-08: **DRAWINGS, SHEET M800 – MECHANICAL DETAILS,** revise as follows:

A. Remove Drawing Sheet No. M800 in its entirety and replace with Addenda Drawing No. M800 AD01-08.
   a. Revise Detail 1 and Detail 4.
   b. Removed Details 5, 6, 7, and 9.

01-09: **DRAWINGS, SHEET A800 – DETAILS,** revise as follows:

A. Add Drawing Sheet A800 AD01-09 to Bid Set Drawings.

01-10: **DRAWINGS, SHEET S100 – GENERAL NOTES,** revise as follows:

A. Remove Drawing Sheet No. S100 in its entirety and replace with Addenda Drawing No. S100 AD01-10.

01-11: **DRAWINGS, SHEET S500 – PARTIAL ROOF FRAMING PLAN – EAST GYM,** revise as follows:

A. Remove Drawing Sheet No. S500 in its entirety and replace with Addenda Drawing No. S500 AD01-11.

01-12: **DRAWINGS, SHEET S510 – PARTIAL ROOF FRAMING PLAN – WEST GYM,** revise as follows:

A. Remove Drawing Sheet No. S510 in its entirety and replace with Addenda Drawing No. S510 AD01-12.

01-13: **DRAWINGS, SHEET S520 – PARTIAL ROOF FRAMING PLAN – LOCKER ROOMS,** revise as follows:

A. Remove Drawing Sheet No. S520 in its entirety and replace with Addenda Drawing No. S520 AD01-13.

01-14: **DRAWINGS, SHEET E2.0 – OVERALL SITE PLAN,** revise as follows:

A. Remove Drawing Sheet No. E2.0 in its entirety and replace with Addenda Drawing No. E2.0 AD01-14.

01-15: **DRAWINGS, SHEET E2.1 – SITE POWER PLAN,** revise as follows:

A. Remove Drawing Sheet No. E2.1 in its entirety and replace with Addenda Drawing No. E2.1 AD01-15.

01-16: **DRAWINGS, SHEET E2.2 – ROOF DEMOLITION PLAN – EAST GYM,** revise as follows:

A. Remove Drawing Sheet No. E2.2 in its entirety and replace with Addenda Drawing No. E2.2 AD01-16.

01-17: **DRAWINGS, SHEET E2.3 – ROOF POWER PLAN – EAST GYM,** revise as follows:

A. Remove Drawing Sheet No. E2.3 in its entirety and replace with Addenda Drawing No. E2.3 AD01-17.

01-18: **DRAWINGS, SHEET E2.4 – ROOF DEMOLITION PLAN – WEST GYM,** revise as follows:

A. Remove Drawing Sheet No. E2.4 in its entirety and replace with Addenda Drawing No. E2.4 AD01-18.

01-19: **DRAWINGS, SHEET E2.5 – ROOF POWER PLAN – WEST GYM,** revise as follows:

A. Remove Drawing Sheet No. E2.5 in its entirety and replace with Addenda Drawing No. E2.5 AD01-19.

01-20: **DRAWINGS, SHEET E2.6 – ROOF POWER PLAN – LOCKER ROOMS,** revise as follows:

A. Add Drawing Sheet E2.6 AD01-20 to Bid Set Drawings.

01-21: **DRAWINGS, SHEET E3.0 – DETAILS & SCHEDULE,** revise as follows:

A. Remove Drawing Sheet No. E3.0 in its entirety and replace with Addenda Drawing No. E3.0 AD01-21.

END OF ADDENDUM NO. 01

Signed: Amador Camacho Jr

Digitally signed by Amador Camacho Jr
DN: C=US, E=acamacho@npceng.com, O=Net Positive Consulting Engineers, CN=Amador Camacho Jr
Reason: I am the author of this document
Date: 2025.01.31 09:44:52-08'00'

Amador Camacho Jr, PMP
Construction Administration Engineer

HVAC IMPROVEMENTS
AT
MADERA SOUTH HIGH SCHOOL
MADERA UNIFIED SCHOOL DISTRICT

705 W PECAN AVE, MADERA, CA 93637

DSA FILE NO: 20-H3 | PTN: 65243-160 | DSA APP. NO. 02-122086

GENERAL

PROJECT ADDRESS:
705 W PECAN AVE, MADERA, CA 93637

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF THE REMOVAL AND REPLACEMENT OF TWO (2) ROOFTOP AIR HANDLER UNITS AT THE EAST GYM, FOUR (4) ROOFTOP AIR HANDLER UNITS AT THE LOCKER ROOMS, AND TWO (2) ROOFTOP AIR HANDLER UNITS AT THE WEST GYM. RELATED SCOPE INCLUDES EQUIPMENT INSTALLATION, DUCTWORK, GAS PIPING, HYDRONIC PIPING, ELECTRICAL PANELS, ELECTRICAL POWER, AND CONTROLS.

ENFORCING AGENCY

DIVISION OF THE STATE ARCHITECT / OFFICE OF REGULATION SERVICES (DSA / ORS), SACRAMENTO OFFICE
AMERICAN WITH DISABILITIES ACT AND THE CALIFORNIA TITLE 24 ACCESSIBILITY GUIDELINES

FLOOD ZONE INFORMATION

FLOOD ZONE DESIGNATION: ZONE X
AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE OF FLOOD. FLOOD INSURANCE RATE MAP (FIRM) PANEL DESIGNATION: 06029C1817E EFFECTIVE DATE OF (FIRM): SEPTEMBER 26, 2008 BASE FLOOD ELEVATION (BFE): NOT REQUIRED APPLICABLE COMMUNITY ORDINANCE SECTION: NOT REQUIRED

DEFERRED SUBMITTALS

NONE.

GOVERNING CODES

2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR
2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR
2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR
2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR
2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR
2022 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 CCR
2022 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR
2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 CCR
2022 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 CCR
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
NFPA 13-22 STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS (AS AMENDED)
NFPA 24-19 INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES (AS AMENDED)
NFPA 25-13CA (CALIFORNIA NFPA 25 EDITION) INSPECTION, TESTING, AND MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS
NFPA 72-22 NATIONAL FIRE ALARM AND SIGNALING CODE (AS AMENDED)

FOR A LIST OF APPLICABLE STANDARDS, INCLUDING CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS, REFER TO CBC CHAPTER 35 AND CFC CHAPTER 80.

THE CALIFORNIA ENERGY CODE SECTION 10-103 REQUIRES ACCEPTANCE TESTING ON ALL NEWLY INSTALLED LIGHTING CONTROLS, MECHANICAL SYSTEMS, ENVELOPES, AND PROCESS EQUIPMENT AFTER INSTALLATION AND BEFORE PROJECT COMPLETION. AN ACCEPTANCE TEST IS A FUNCTIONAL PERFORMANCE TEST TO HELP ENSURE THAT NEWLY INSTALLED EQUIPMENT IS OPERATING AND IN COMPLIANCE WITH THE ENERGY CODE.

LIGHTING CONTROLS ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (ATT).

MECHANICAL SYSTEM ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED MECHANICAL ATT FOR PROJECTS SUBMITTED ON OR AFTER OCTOBER 1, 2021.

ENVELOPE AND PROCESS EQUIPMENT ACCEPTANCE TESTS SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR, ENGINEER/ARCHITECT OF RECORD OR THE OWNER'S AGENT.

A LISTING OF CERTIFIED ATT CAN BE FOUND AT:
HTTPS://WWW.ENERGY.CA.GOV/PROGRAMS-AND-TOPICS/PROGRAMS/ACCEPTANCE-TEST-TECHNICIAN-CERTIFICATION-PROVIDER-PROGRAM/ACCEPTANCE.
THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE BUILDER OR INSTALLING CONTRACTOR UNTIL THE CONSTRUCTION/INSTALLATION OF THE SPECIFIED SYSTEMS CONFORM AND PASS THE REQUIRED ACCEPTANCE CRITERIA.

PROJECT INSPECTORS WILL COLLECT THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TESTS HAVE BEEN COMPLETED.

GENERAL NOTES

1. A COPY TITLE 24 C.C.R. PARTS 1 TO 5 SHALL BE KEPT ON THE JOB SITE AT ALL TIMES. ALL WORK SHALL CONFORM TO 2022 TITLE 2024, CALIFORNIA CODE OF REGULATIONS (CCR).
2. CHANGES TO THE STRUCTURAL, ACCESSIBILITY OR FIRE AND LIFE-SAFETY PORTIONS OF THE APPROVED PLANS AND SPECIFICATIONS AFTER THE WORK HAS BEEN LET SHALL BE MADE BY A CONSTRUCTION CHANGE DOCUMENT (CCD) AS REQUIRED IN SECTION 4-338, PART I, CAC, AND SHALL BE SUBMITTED TO, AND APPROVED BY DSA PRIOR TO COMMENCEMENT OF THE WORK. CONSTRUCTION CHANGE DOCUMENTS SHALL BE PREPARED AND SUBMITTED TO DSA IN COMPLIANCE WITH DSA INTERPRETATION OF REGULATION IR A-6.
3. ALL TESTS TO CONFORM TO THE REQUIREMENTS OF TITLE 24 SECTION 4-335, PART 1, AND APPROVED T & I SHEET.
4. TESTS OF MATERIALS AND TESTING LABORATORY SHALL BE IN ACCORDANCE WITH TITLE 24 SECTION 4-335, PART I, AND THE DISTRICT SHALL EMPLOY AND PAY THE LABORATORY. COSTS OF RETEST MAY BE BACK CHARGED TO THE CONTRACTOR.
5. DSA SHALL BE NOTIFIED AT THE START OF CONSTRUCTION AND PRIOR TO THE PLACEMENT OF THE CONCRETE PER TITLE 24 SECTION 4-331, PART I.
6. A "DSA CERTIFIED" PROJECT INSPECTOR CLASS 3 MIN. 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 4-342, PART 1, TITLE 24 CCR.
7. SUPERVISION OF CONSTRUCTION BY DSA SHALL BE IN ACCORDANCE WITH TITLE 24 SECTION 4-334, PART 1.
8. CONTRACTOR, INSPECTOR, ARCHITECT, AND ENGINEERS SHALL SUBMIT VERIFIED REPORTS (FORM SSS-6) IN ACCORDANCE WITH TITLE 24 SECTION 4-336, PART I.
9. THE ARCHITECT AND THE STRUCTURAL ENGINEER SHALL PERFORM THEIR DUTIES IN ACCORDANCE WITH TITLE 24 SECTION 4-333(a) AND 4-341, PART I.
10. THE CONTRACTOR SHALL PERFORM HIS DUTIES IN ACCORDANCE WITH TITLE 24 SECTION 4-343, PART I.
11. SUBSTITUTIONS AND REQUESTS FOR INFORMATION AFFECTING STRUCTURAL SAFETY, FIRE AND LIFE SAFETY OR ACCESS COMPLIANCE SHALL BE APPROVED BY DSA PRIOR TO FABRICATION OR USE.
12. ADDENDA MUST BE SIGNED BY ARCHITECT AND APPROVED BY DSA.
13. NO CHANGES OR REVISIONS SHALL BE MADE FOLLOWING WRITTEN APPROVAL WHICH AFFECTS ACCESS COMPLIANCE ITEMS UNLESS SUCH CHANGES OR REVISIONS ARE SUBMITTED TO THE DSA FOR APPROVAL.
14. SUBSTITUTIONS AFFECTING DSA REGULATED ITEMS SHALL BE SUBMITTED AS A CONSTRUCTION CHANGE DOCUMENT OR ADDENDA, AND SHALL BE APPROVED BY DSA PRIOR TO FABRICATION AND INSTALLATION.
15. CONSTRUCTION CHANGE DOCUMENTS MUST BE SIGNED BY THE FOLLOWING: • ARCHITECT OR ENGINEER OF RECORD • STRUCTURAL ENGINEER (WHEN APPLICABLE) • DELEGATED PROFESSIONAL ENGINEER.
16. MATERIALS AND THEIR INSTALLATION SHALL COMPLY WITH APPLICABLE CODES, STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
17. THESE PLANS AND SPECIFICATIONS WILL COMPLY WITH CFC CHAPTER 33-FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION. THE CONTRACTOR SHALL COMPLY W/ CFC CHAPTER-33 FIRE SAFETY DURING CONSTRUCTION AND DEMO.
18. DSA IS NOT SUBJECT TO ARBITRATION.
19. THIS PROJECT IS A HVAC ONLY PROJECT AND IS EXEMPT FROM ACCESSIBILITY UPGRADES UNDER 11B-202.4 EXCEPTION 7.
20. WHERE PAINT WORK IS INDICATED ON PLANS, COMPLETE PAINT WORK IN ACCORDANCE WITH PAINT SPECIFICATIONS.
21. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATION, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. (SECTION 4-317(C), PART 1, TITLE 24, CCR).
22. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.

GENERAL

MECHANICAL

ARCHITECTURAL

STRUCTURAL

ELECTRICAL

NUMBER OF SHEETS = 25

SHEET INDEX

PROJECT INFORMATION

PROJECT DIRECTORY

OWNER
MADERA UNIFIED SCHOOL DISTRICT

1902 HOWARD RD,
MADERA, CA 93637
(559) 675-4548

CONTACT: ROSALIND COX
EMAIL: ROSALINDCOX@MADERAUSD.ORG

MECHANICAL ENGINEER
NET POSITIVE CONSULTING ENGINEERS

1446 TOLLHOUSE RD, SUITE 102
CLOVIS, CA 93611
(559) 940-7293

CONTACT: JONATHAN SCHLUNDT, PE
EMAIL: JSCHLUNDT@NPCENG.COM
LICENSE #: M35955

ARCHITECT
TETER, INC.

7535 N. PALM, SUITE 201
FRESNO, CA 93711
(559) 437-0887

CONTACT: AYA SHITANISHI
EMAIL: AYA.SHITANISHI@TETERAE.COM
LICENSE #: C34089

ELECTRICAL ENGINEER
REFIK ELECTRICAL ENGINEERS

1500 SHAW AVE.
CLOVIS, CA, 93611
(559) 242-6477

CONTACT: STEFFAN KIFER, PE
EMAIL: STEFFANKIFER@REFIKENGINEERING.COM
LICENSE #: E23239

STRUCTURAL ENGINEER
PROVOST & PRITCHARD CONSULTING GROUP

286 W. CROMWELL AVE.,
FRESNO, CA 93711
(559) 449-2700

CONTACT: ROBBY GOTTSELIG, SE
EMAIL: RGOTTSELIG@PPENG.COM
LICENSE #: S6790

REVIEW BY:

DRAWN BY:

ARCHITECT'S STATEMENT

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.: 02-122086 FILE NO.: 20-H3

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

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

THE STATEMENT OF GENERAL CONFORMANCE "SHALL NOT BE CONSTRUED AS RELIEVING ME OF MY RIGHTS, DUTIES, AND RESPONSIBILITIES UNDER SECTIONS 17302 AND 81138 OF THE EDUCATION CODE AND SECTIONS 4-336, 4-341, AND 4-344* OF TITLE 24, PART I.

I CERTIFY THAT:

☒ ALL DRAWINGS OR SHEETS LISTED ON THE COVER OR INDEX
☐ THIS DRAWING OR PAGE

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

ARCHITECT'S SIGNATURE 05/13/2024
AYA SHITANISHI
ARCHITECT OF RECORD
TETER, INC.

C34089 1.31.2025
LICENSE NUMBER EXPIRATION DATE

VICINITY MAP

TETER, INC.
FRESNO HEADQUARTERS
VISALIA | BAKERSFIELD | MODESTO | SAN LUIS OBISPO
ARCHITECTS ENGINEERS CONNECTED

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 02-122086 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 01/08/2025

NET POSITIVE consulting engineers
www.NPCeng.com
559.940.7293

REGISTERED PROFESSIONAL ENGINEER
No. C34089
CIVIL
STATE OF CALIFORNIA

REVISIONS:

Symbol	Description
1 11/27/2024	CCD 001

Symbol	Description

Symbol	Description

PROJECT NAME:
HVAC IMPROVEMENTS AT
MADERA SOUTH HIGH SCHOOL
MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637

PROJECT NO.: 1337

DATE: 05/13/2024

SHEET TITLE:
COVER SHEET

SHEET NO:
G001

AD01-01

MECHANICAL SCHEDULES

AIR HANDLER SCHEDULE

DESIGNATION		HC-1A	HC-1B	HC-2A	HC-2B	HC-3A	HC-3B
REFRIGERANT		R454B	R454B	R454B	R454B	R410	R410
VOLTS / PHASE		460 / 3	460 / 3	460 / 3	460 / 3	460 / 3	460 / 3
F.L.A.						44	44
MCA / MOCP (AMPS)		76 / 90	76 / 90	89 / 110	89 / 110	42.4 / 50	42.4 / 50
IEER / EER @ ARI		14.3 / 9.8	14.3 / 9.8	13.4 / 9.8	13.4 / 9.8	16.4 / 11.4	16.4 / 11.4
BLOWER	SUPPLY AIR (CFM)	12000	12000	14000	14000	8000	8000
	EXT. S P (IN. WC)	2.0	2.0	2.0	2.0	1.0	1.0
	MIN. O.S.A. (CFM)	2125	2125	4075	4075	4475	4475
	DCV MIN. O.S.A. (CFM)	925	925	1255	1255	-	-
	HP / BHP	15 / 10.2	15 / 10.2	20 / 14.57	20 / 14.57	7.5 / 3.95	7.5 / 3.95
	RPM	1021	1021	1103	1103	1768	1768
	DRIVE	VFD	VFD	VFD	VFD	AXIAL	AXIAL
COOLING	NOMINAL TONS	30	30	35	35	20	20
	SENSIBLE (MBH)	237.8	237.8	286.6	286.6	167.05	167.05
	TOTAL (MBH)	289.4	289.4	354.0	354.0	225.28	225.28
	EADB / EAWB (oF)	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67
	AMBIENT AIR (oF)	105	105	105	105	105	105
HEATING	INPUT CAP. (MBH)	262.5 / 350	262.5 / 350	262.5 / 350	262.5 / 350	176 / 220	176 / 220
	OUTPUT CAP. (MBH)	283.5	283.5	283.5	283.5	142 / 178	142 / 178
	FUEL	GAS	GAS	GAS	GAS	GAS	GAS
	HEATING CONTROL	2 STAGE	2 STAGE	2 STAGE	2 STAGE	2 STAGE	2 STAGE
FILTER TYPE		MERV 13	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13
MANUFACTURER		CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER
TYPE		SAV	SAV	SAV	SAV	SAV	SAV
MODEL NUMBER		48K3AF30-2E6A0B6A0	48K3AF30-2E6A0B6A0	48K3AF34-3E6A0B6A0	48K3AF34-3E6A0B6A0	48GCDM24A2M6-0A0A0	48GCDM24A2M6-0A0A0
SERVICE		EAST GYM	EAST GYM	WEST GYM	WEST GYM	LOCKER ROOMS	LOCKER ROOMS
MOUNTING DETAIL		5	5	5	5	5	5
OPER. WT (LBS)		4050	4050	4150	4150	2970	2970
(E) UNIT OPER. WT. (LBS)		9090	9090	9500	9500	7500	7500
ACCESSORIES		1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4

1. MANUFACTURER'S ULTRA-LOW LEAK ECONOMIZER WITH BAROMETRIC RELIEF & FAULT DETECTION DIAGNOSTICS.
2. MANUFACTURER'S HAIL GUARD.
3. MANUFACTURER'S PHASE MONITOR.
4. MANUFACTURER'S DIGITAL COMPRESSOR.
5. MOUNT PER DETAIL 1/M800.

EXHAUST FAN SCHEDULE

DESIGNATION	EF-1A	EF-1B	EF-3A	EF-3B	EF-8A	EF-8B	EF-8C	EF-8D
CFM	8000	8000	12000	12000	7000	7000	7000	7000
EXT. S P (IN. WC)	1.75	1.75	0.50	0.50	1.75	1.75	1.75	1.75
(E) HP/ (E) BHP	7 / 5.83	7 / 5.83	2 / 1.9	2 / 1.9	1 / -	1 / -	1 / -	1 / -
HP/ BHP	5 / 4.2	5 / 4.2	2 / 1.92	2 / 1.92	5 / 3.7	5 / 3.7	5 / 3.7	5 / 3.7
(E) VOLTS/ (E) PHASE	460/3	460/3	460/3	460/3	208 /1	208 /1	208 /1	208 /1
VOLTS/ PHASE	460/3	460/3	460/3	460/3	460/3	460/3	460/3	460/3
RPM	850	850	319	319	1121	1121	1121	1121
TIP SPEED (FT/MIN) / SONES	1616 / 18.9	1616 / 18.9	3716 / 10.5	3716 / 10.5	1837 / 31	1837 / 31	1837 / 31	1837 / 31
DRIVE	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT
MOUNTING	ROOF	ROOF	ROOF	ROOF	ROOF	ROOF	ROOF	ROOF
MANUFACTURER	GREENHECK	GREENHECK	COOK	COOK	GREENHECK	GREENHECK	GREENHECK	GREENHECK
TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
MODEL NUMBER	G-300-C-VGD	G-300-C-VGD	445HLC-B	445HLC-B	G-240-VG	G-240-VG	G-240-VG	G-240-VG
CONTROL	INTL. W/ CAH-1A	INTL. W/ CAH-1A	INTL. W/ MUA-1A	INTL. W/ MUA-1A	2	2	2	2
LOCATION	LOCKER ROOMS	LOCKER ROOMS	EAST GYM	EAST GYM	WEST GYM	WEST GYM	WEST GYM	WEST GYM
OPER. WT. (LBS)	320	320	333	333	223	223	223	223
EXISTING OPER. WT. (LBS)	1750	1750	700	700	500	500	500	500
ACCESSORIES	3, 4	3, 4	1, 4	1, 4	1, 4	1, 4	1, 4	1, 4

1. PROVIDE BACKDRAFT DAMPER, ROUND DUCT CONNECTOR, AND SPEED CONTROLLER.
2. INTERLOCKED WITH CAH-2A (HIGH SPEED ONLY).
3. PROVIDE SPEED CONTROLLER.
4. MOUNT PER DETAIL 4/M800.

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 02-122086 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 01/08/2025

NET POSITIVE
consulting
engineers
www.NPCeng.com
559.940.7293

REVISIONS:

Symbol	Description
1	CCD 001
11/27/2024	

Symbol	Description

Symbol	Description

PROJECT NAME:
HVAC IMPROVEMENTS AT
MADERA SOUTH HIGH SCHOOL
MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637

PROJECT NO: 1337

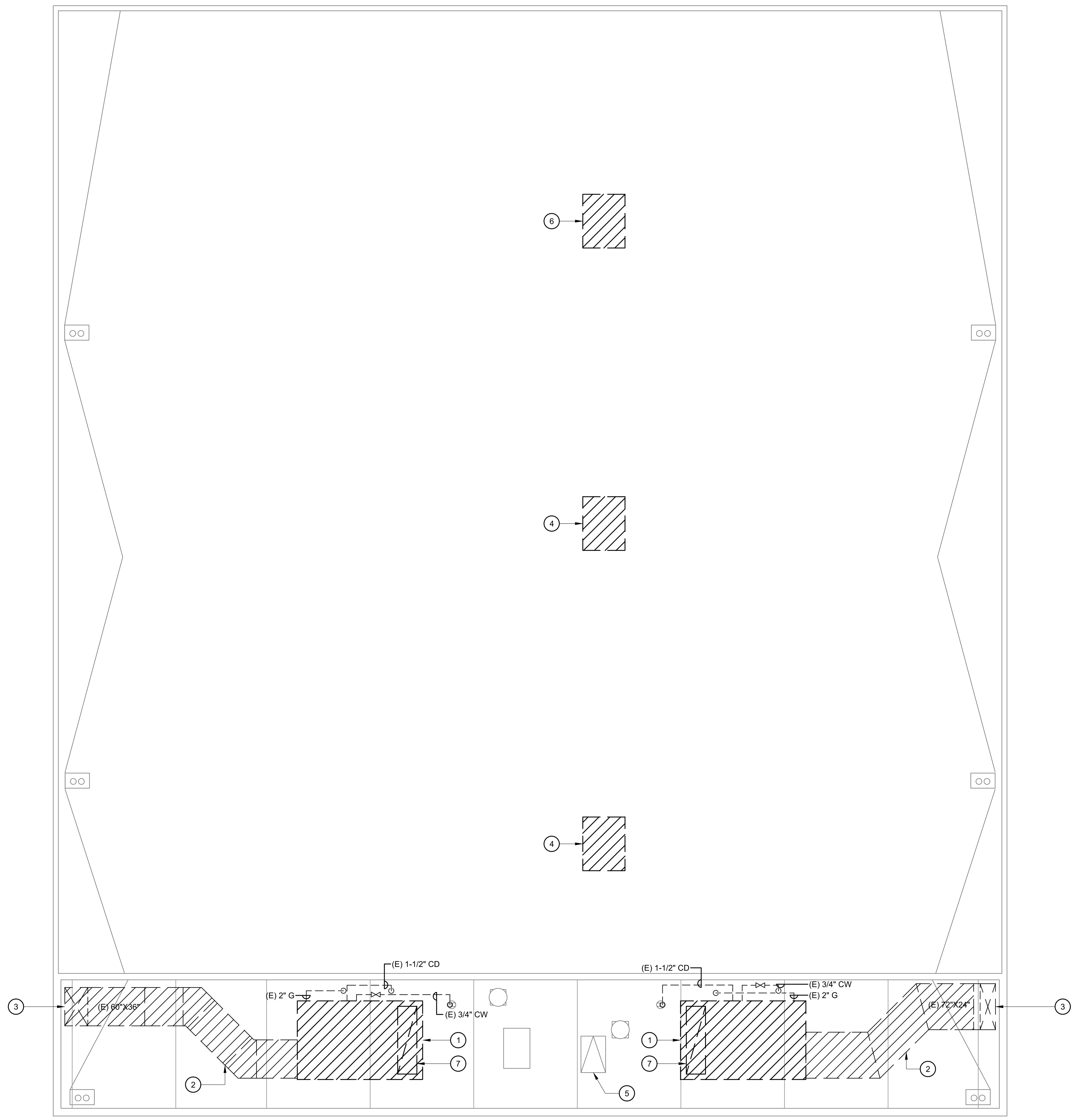
DATE: 05/13/2024

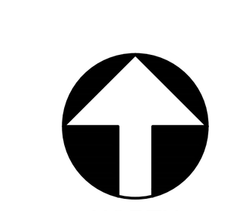
SHEET TITLE:
MECHANICAL SCHEDULES

SHEET NO:
M002

AD01-02

DRAWN BY:
REVIEW BY:





MECHANICAL DEMOLITION ROOF PLAN - EAST GYM

1/8" = 1'-0"

1

KEYNOTES

1. REMOVE (E) MUA UNIT, CURB, AND CW LINE. PRESERVE GAS AND CONDENSATE FOR CONNECTION TO (N) HC UNIT.
2. REMOVE (E) DUCTWORK WHERE SHOWN HATCHED.
3. REMOVE SUPPLY DUCTWORK DOWN THRU ROOF. PATCH BACK AND WATERPROOF ROOF TO MATCH EXISTING CONDITIONS PER DETAIL 3/A800. PRESERVE SUPPLY AIR DUCTWORK BELOW ROOF FOR CONNECTION TO (N) SUPPLY AIR DUCTWORK FROM (N) HC UNIT.
4. REMOVE (E) EF. PRESERVE (E) CURB FOR INSTALLATION OF (N) EF.
5. (E) ROOF ACCESS HATCH.
6. REMOVE (E) EF. PATCH CURB WATERTIGHT AND ABANDON IN PLACE PER DETAIL 5/A800.
7. REMOVE RETURN DUCTWORK DOWN THRU ROOF. PATCH BACK AND WATERPROOF ROOF TO MATCH EXISTING CONDITIONS PER DETAIL 3/A800.

1

GENERAL NOTES

1. ALL PARAPETS ARE NOT LESS THAN 42" ABOVE THE ROOF SURFACE.

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APP: 02-122086 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 01/08/2025

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REVISIONS:

Symbol	Description

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Symbol	Description

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Symbol	Description

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PROJECT NAME:

HVAC IMPROVEMENTS AT
MADERA SOUTH HIGH SCHOOL
MADERA UNIFIED SCHOOL DISTRICT

705 W PECAN AVE, MADERA, CA 93637

PROJECT NO: 1337

DATE: 05/13/2024

SHEET TITLE:

MECHANICAL ROOF PLAN - EAST GYM

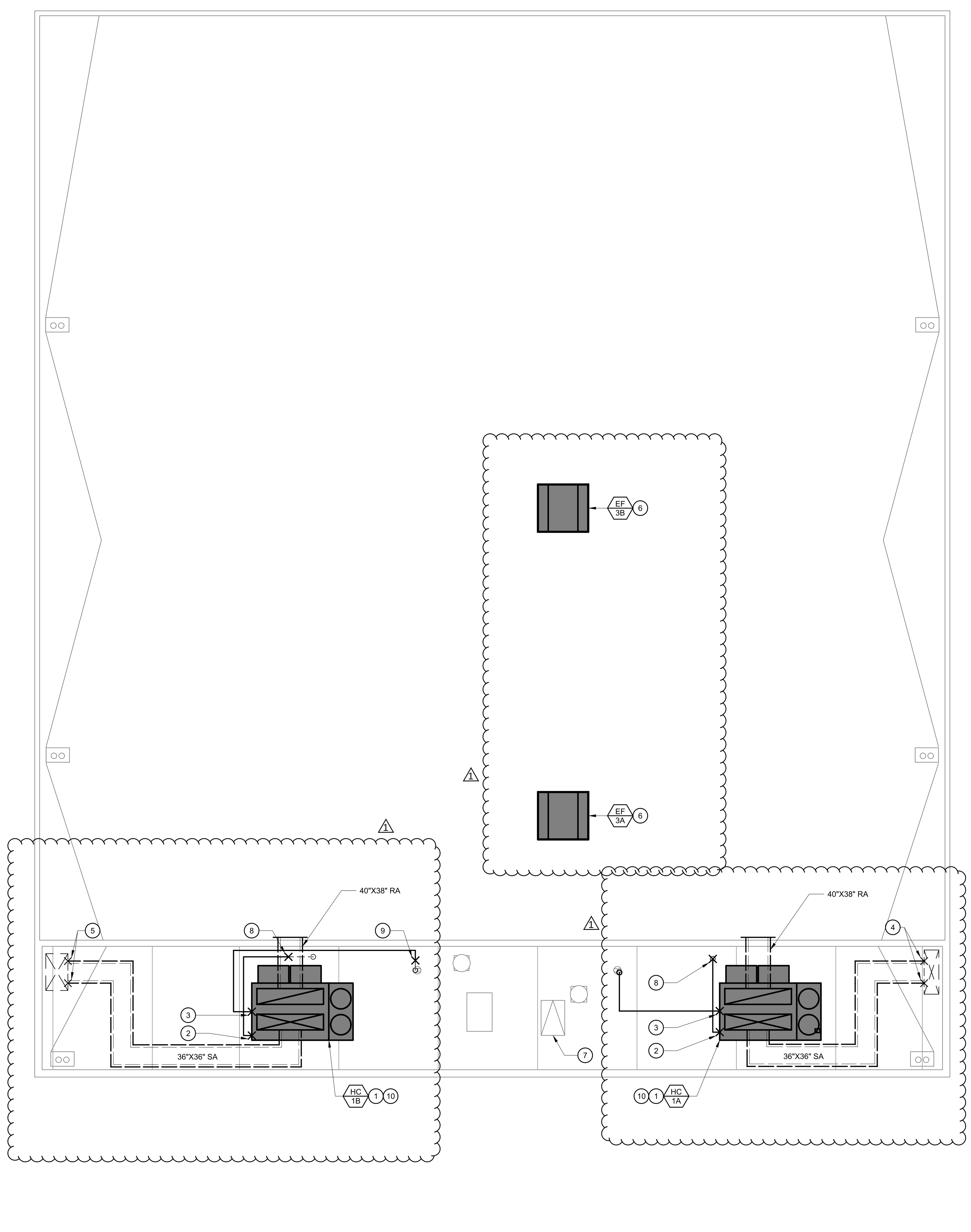
SHEET NO:

M500

DRAWN BY:

REVIEW BY:

AD01-03



MECHANICAL ROOF PLAN - EAST GYM

1/8" = 1'-0"

1

KEYNOTES (#)

1. INSTALL (N) HC UNIT ON (N) CURB PER DETAIL 1/M800. NEW CURB PER DETAIL 1/A800.
2. POC OF (N) 2" G TO (N) HC UNIT PER DETAIL 2/M800.
3. POC OF (N) 1-1/2" CD TO (N) HC UNIT PER DETAIL 3/M800.
4. POC OF (E) 72" X 24" SA DUCT TO (N) 36" X 36" SA DUCT, BELOW ROOF.
5. POC OF (E) 60 X 36" SA DUCT TO (N) 36" X 36" SA DUCT BELOW ROOF.
6. MOUNT (N) EF ON (E) CURB PER DETAIL 4/M800.
7. (E) ROOF ACCESS HATCH.
8. POC OF (N) 2" G TO (E) 2" G.
9. POC OF (N) 1-1/2" CD TO (E) 1-1/2" CD.
10. (N) SA AND RA DUCTWORK FROM (N) UNIT TO DROP DOWN THROUGH ROOF. REFER TO DETAIL 2/S500 FOR (N) ROOF PENETRATION.

1

GENERAL NOTES

1. ALL PARAPETS ARE NOT LESS THAN 42" ABOVE THE ROOF SURFACE.

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REGISTERED PROFESSIONAL ENGINEER
JONATHAN C. SCHLINK
M35955
Exp. 06-30-26
MECHANICAL
STATE OF CALIFORNIA

REVISIONS:

Symbol	Description
1 11/27/2024	CCD 001

Symbol	Description
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Symbol	Description
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PROJECT NAME:
HVAC IMPROVEMENTS AT
MADERA SOUTH HIGH SCHOOL
MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637
PROJECT NO: 1337

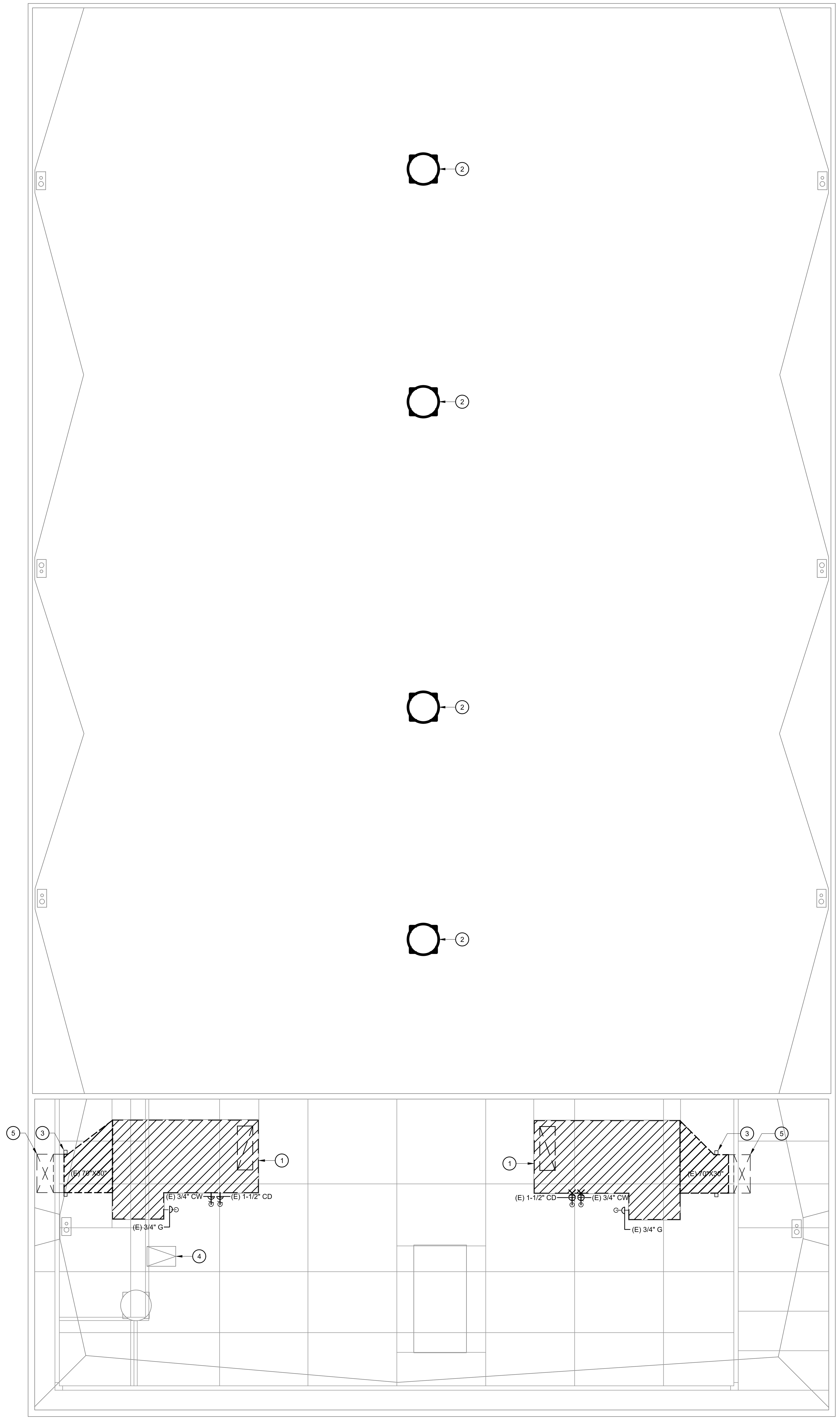
DATE: 05/13/2024

SHEET TITLE:
MECHANICAL ROOF PLAN - EAST GYM

SHEET NO:
M501

REVIEW BY:
DRAWN BY:

AD01-04



MECHANICAL DEMOLITION ROOF PLAN - WEST GYM

1/8" = 1'-0"

1

KEYNOTES

1. REMOVE (E) AIR HANDLER AND (E) PLATFORM. PATCH BACK ROOFING AS REQUIRED TO MATCH (E) CONDITIONS. PRESERVE (E) GAS AND CONDENSATE PIPING FOR REROUTING AND CONNECTION TO (N) UNIT.
2. REMOVE (E) EF. PRESERVE (E) CURB FOR INSTALLATION OF (N) EF.
3. (E) DUCT SUPPORT TO REMAIN FOR REUSE WITH (N) DUCTWORK.
4. (E) ROOF ACCESS HATCH.
5. REMOVE SUPPLY DUCTWORK DOWN THRU ROOF. PATCH BACK AND WATERPROOF ROOF TO MATCH EXISTING CONDITIONS PER DETAIL 3/A800. PRESERVE SUPPLY AIR DUCTWORK BELOW ROOF FOR CONNECTION TO (N) SUPPLY AIR DUCTWORK FROM (N) HC UNIT.
6. REMOVE RA DUCTWORK DOWN THRU ROOF. PATCH BACK AND WATERPROOF ROOF TO MATCH EXISTING CONDITIONS PER DETAIL 3/A800. PRESERVE SUPPLY AIR DUCTWORK BELOW ROOF FOR CONNECTION TO (N) SUPPLY AIR DUCTWORK FROM (N) HC UNIT.

1

GENERAL NOTES

1. ALL PARAPETS ARE NOT LESS THAN 42" ABOVE THE ROOF SURFACE.

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Exp. 06-30-26

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PROJECT NAME:
HVAC IMPROVEMENTS AT
MADERA SOUTH HIGH SCHOOL
MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637
PROJECT NO: 1337

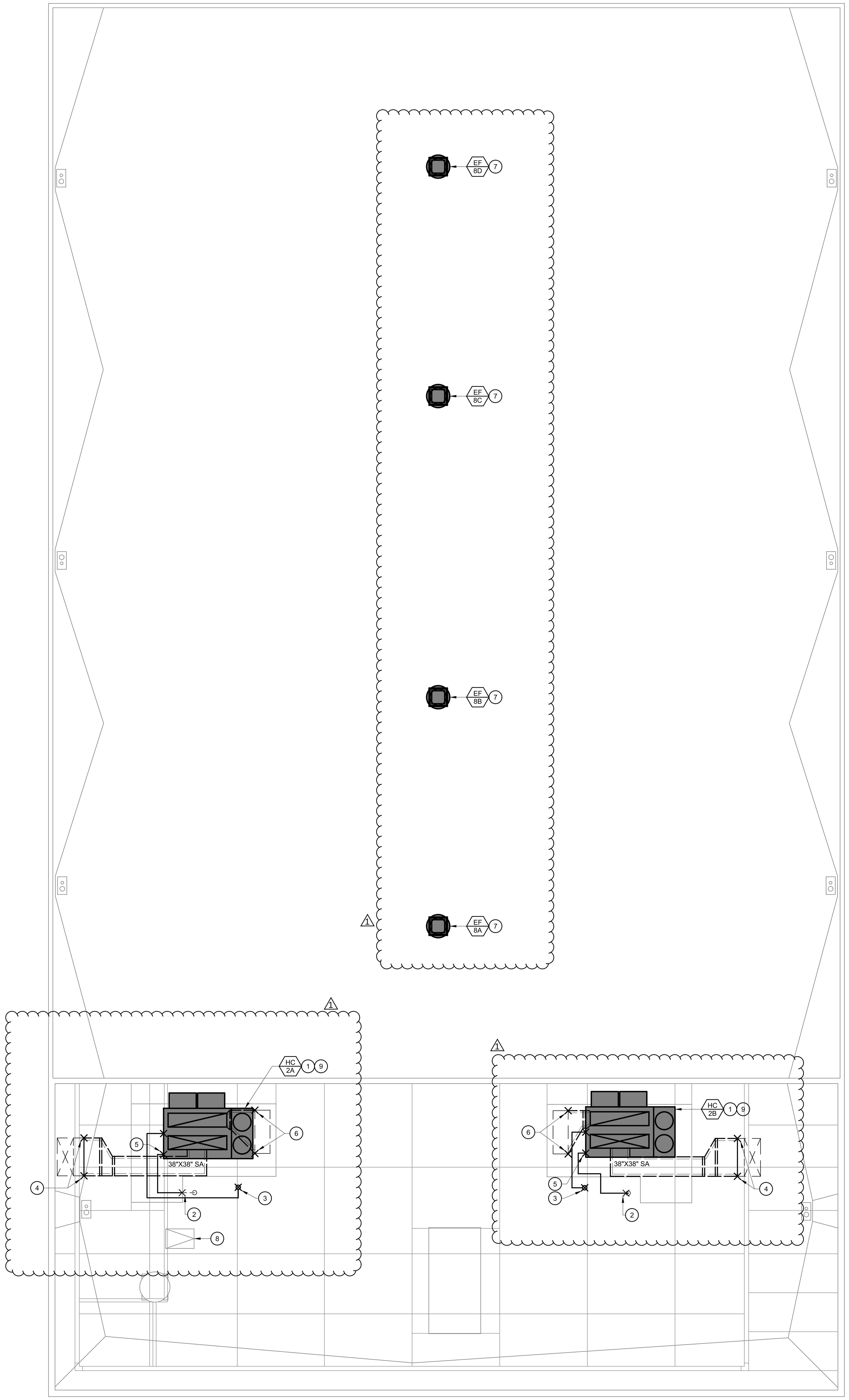
DATE: 05/13/2024

SHEET TITLE:
MECHANICAL DEMOLITION ROOF PLAN - WEST GYM

SHEET NO:
M510

DRAWN BY:
REVIEW BY:

AD01-05



NORTH

MECHANICAL ROOF PLAN - WEST GYM

1/8" = 1'-0" 1

KEYNOTES

1. INSTALL (N) HC UNIT ON (N) CURB PER DETAIL 1/M800. CONNECT (N) 3/4" G AND (N) 1-1/2" CD TO (N) PACKAGE UNIT.
2. POC (N) 3/4" G TO (E) 3/4" G ABOVE ROOF.
3. POC (N) 1-1/2" CD TO (E) 1-1/2" CD RISER ABOVE ROOF AND ROUTE TO (N) HC UNIT PER DETAIL 3/M800.
4. TRANSITION (N) 38"x38" SA DUCT FROM (N) HC UNIT TO (E) 70" X 30" SA DUCTWORK BELOW ROOF.
5. CONNECT (N) 3/4" G TO (N) HC UNIT PER DETAIL 2/M800.
6. TRANSITION (N) 40"x40" RA OPENING TO (E) 80"x16" RA DUCT BELOW ROOF.
7. INSTALL (N) EF ON (E) CURB PER DETAIL 4/M800.
8. (E) ROOF ACCESS HATCH.
9. (N) SA AND RA DUCTWORK FROM (N) UNIT TO DROP DOWN THROUGH ROOF. REFER TO DETAIL 1/S510 FOR (N) ROOF PENETRATION.

GENERAL NOTES

1. ALL PARAPETS ARE NOT LESS THAN 42" ABOVE THE ROOF SURFACE.

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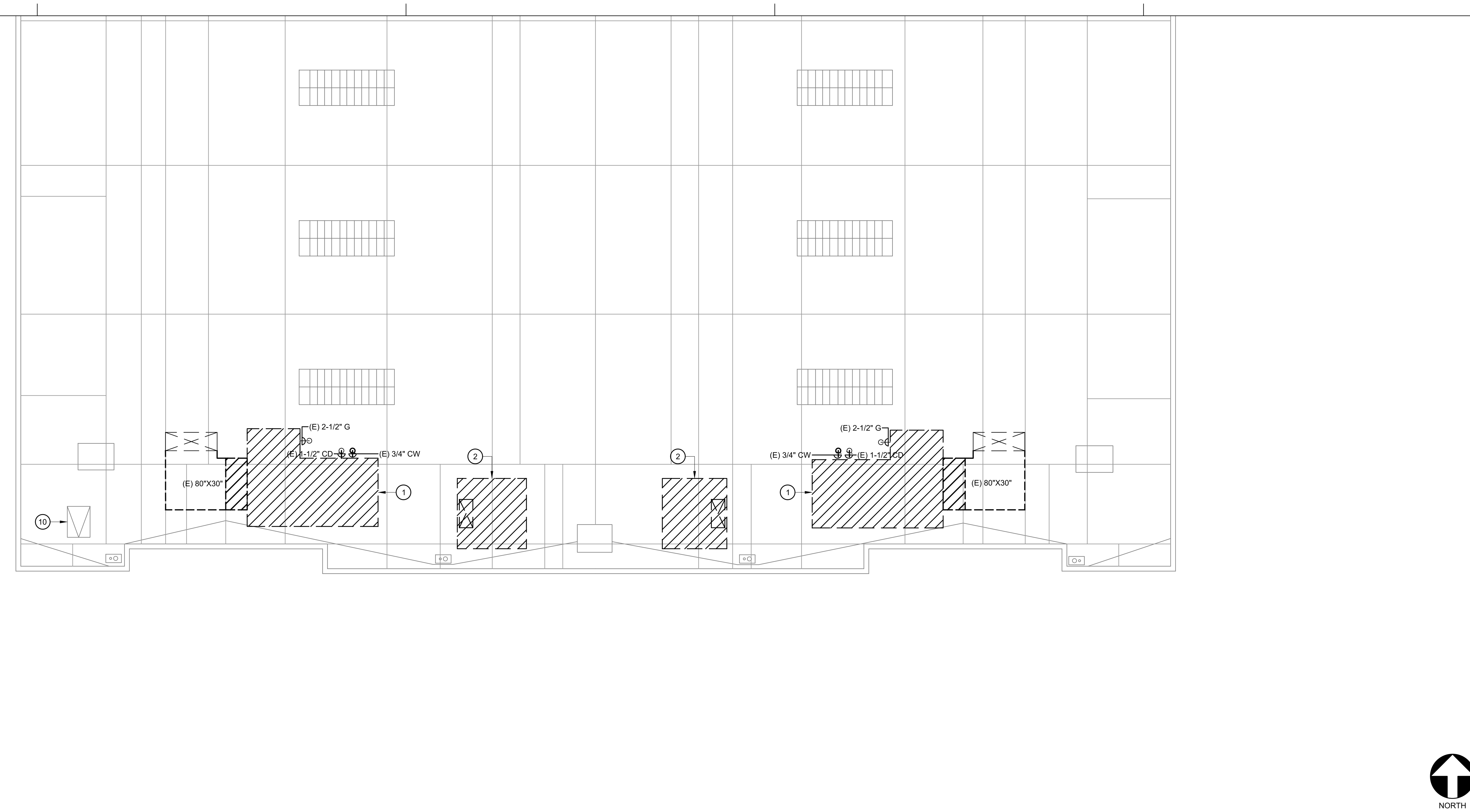
PROJECT NAME:
HVAC IMPROVEMENTS AT
MADERA SOUTH HIGH SCHOOL
MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637
PROJECT NO: 1337

DATE: 05/13/2024
SHEET TITLE:
MECHANICAL ROOF PLAN - WEST GYM

SHEET NO:
M511

REVIEW BY:
DRAWN BY:

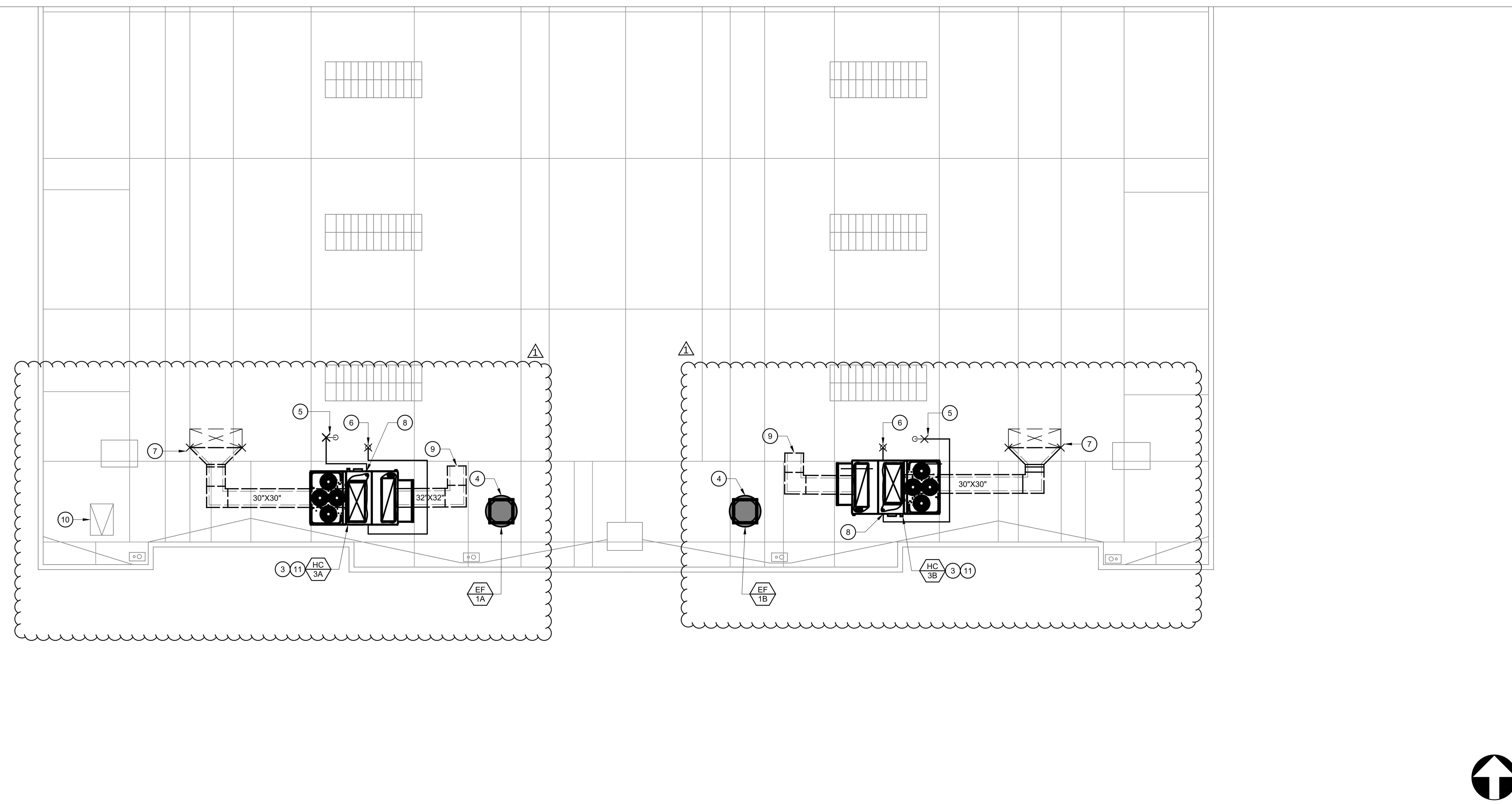
AD01-06



MECHANICAL DEMOLITION ROOF PLAN - LOCKER ROOMS

1/8" = 1'-0"

1



MECHANICAL ROOF PLAN - LOCKER ROOMS

1/8" = 1'-0"

2

KEYNOTES (#)

1. REMOVE (E) AIR HANDLER, (E) PLATFORM, AND COLD WATER. PRESERVE (E) G AND (E) CD FOR INSTALL OF (N) HC UNIT.
2. REMOVE (E) EXHAUST FAN AND (E) PLATFORM.
3. INSTALL (N) HC UNIT ON (N) CURB PER DETAIL 1/M800. REFER TO DETAIL 1/M800 FOR (N) CURB.
4. INSTALL (N) EXHAUST FAN ON (N) CURB PER DETAIL 4/M800. REFER TO DETAIL 1/M800 FOR (N) CURB.
5. POC (N) 2-1/2" G TO (E) 2-1/2" G ABOVE ROOF.
6. POC (N) 1-1/2" CD TO (E) 1-1/2" CD ABOVE ROOF. ROUTE (N) 1-1/2" CD TO (N) HC UNIT PER DETAIL 3/M800.
7. POC (N) 30"x30" SA DUCT TO (E) 80" X 30" SA DUCT BELOW ROOF.
8. POC (N) 2-1/2" G TO (N) AIR HANDLER PER DETAIL 2/M800.
9. (N) 32"x32" RA DUCT TO TERMINATE IN LOCKER SPACE WITH 1/2"x1/2" METAL SCREEN.
10. (E) ROOF ACCESS HATCH.
11. (N) SA AND RA DUCTWORK FROM (N) UNIT TO DROP DOWN THROUGH ROOF. REFER TO DETAIL 2/S520 FOR (N) ROOF PENETRATION.

1

GENERAL NOTES

1. ALL PARAPETS ARE NOT LESS THAN 42" ABOVE THE ROOF SURFACE.

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APP: 02-122086 INC:
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REGISTERED PROFESSIONAL ENGINEER
JONATHAN C. SCHLUNTZ
M35055
Exp. 06-30-26
MECHANICAL
STATE OF CALIFORNIA

REVISIONS:

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1 11/27/2024	CCD 001
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Symbol	Description
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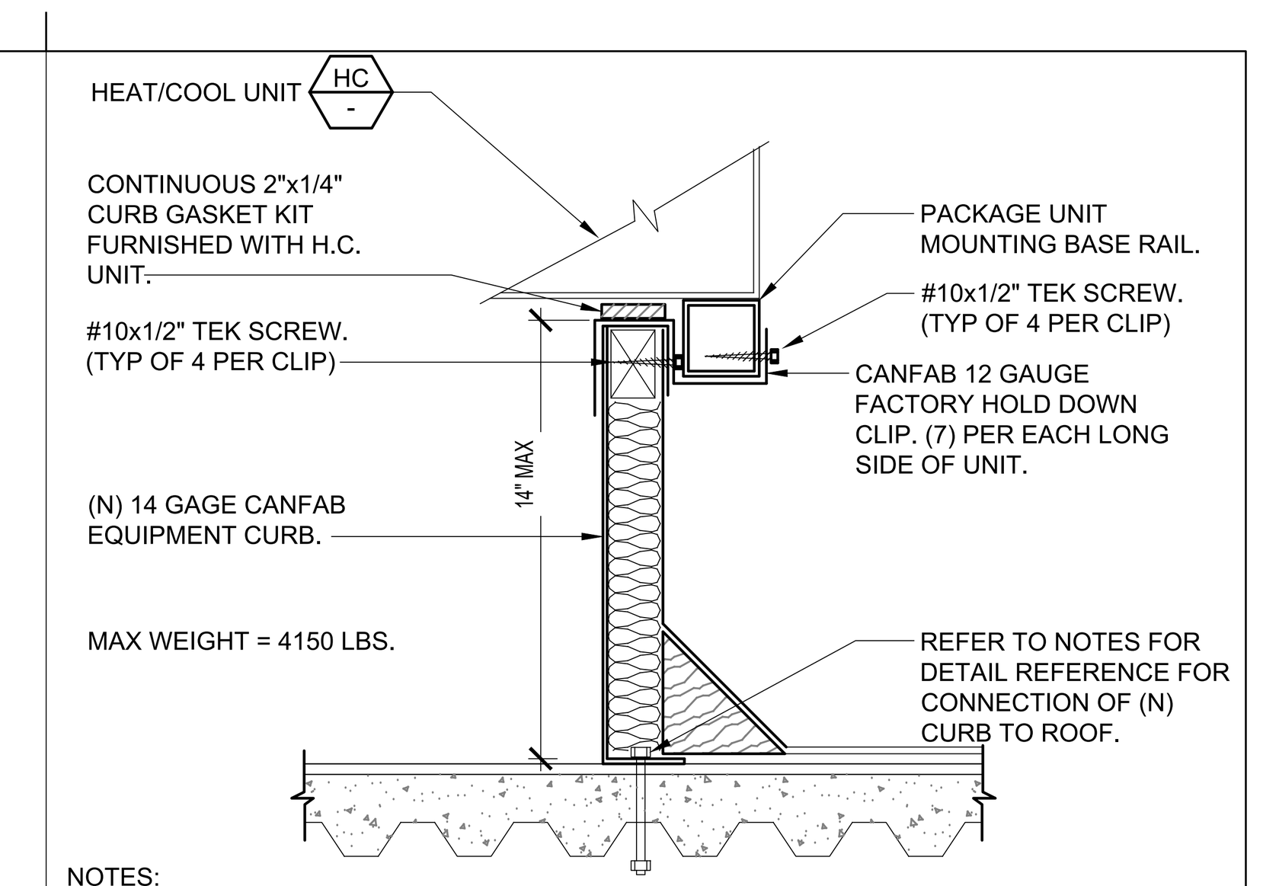
PROJECT NAME:
HVAC IMPROVEMENTS AT
MADERA SOUTH HIGH SCHOOL
MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637
PROJECT NO: 1337

DATE: 05/13/2024
SHEET TITLE:
MECHANICAL ROOF PLAN - LOCKER ROOMS

SHEET NO:
M520

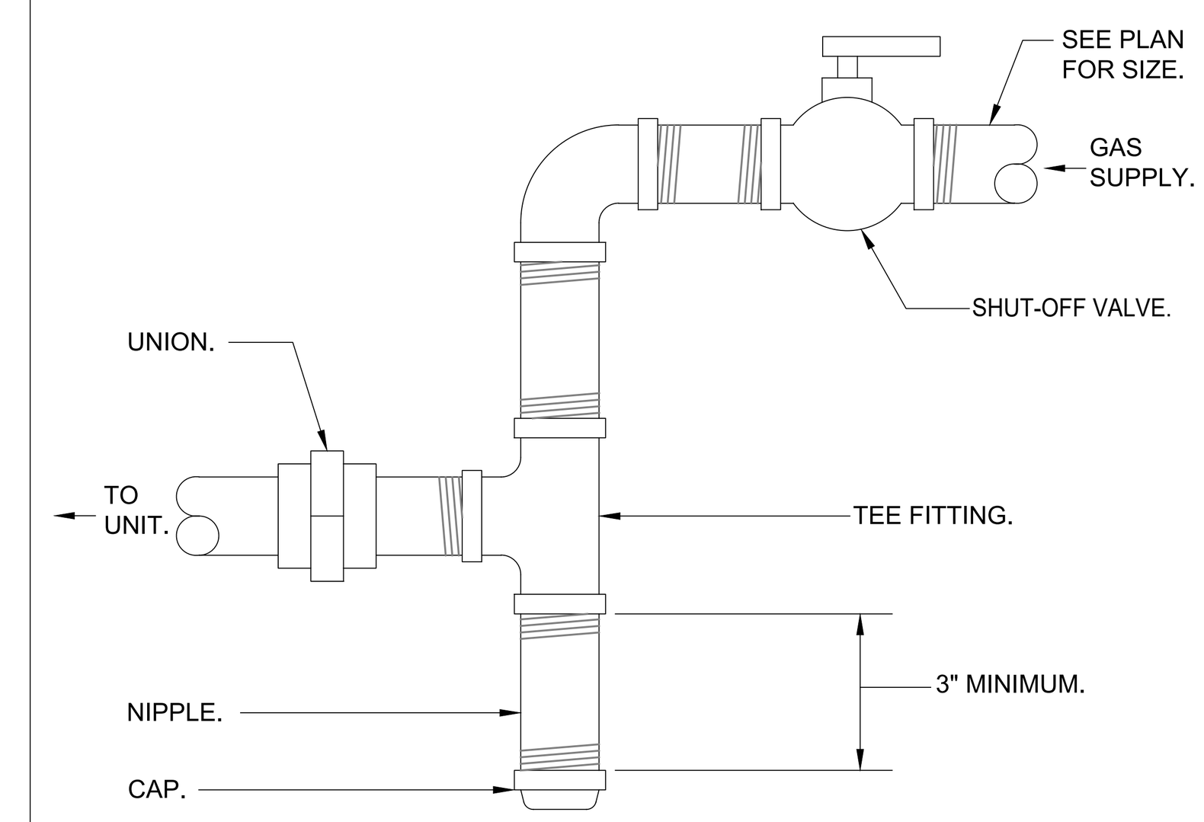
REVIEW BY:
DRAWN BY:

AD01-07

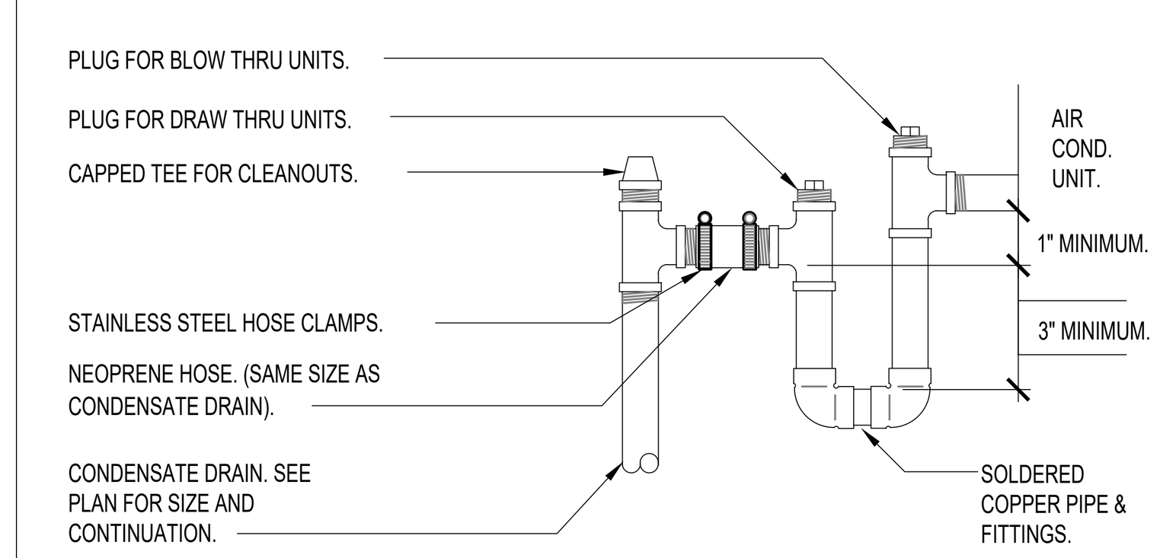


NOTES:
1. FOR EAST GYM REFER TO DETAIL 2/S500.
2. FOR WEST GYM REFER TO DETAIL 1/S510.
3. FOR LOCKER ROOM REFER TO DETAIL 2/S520.

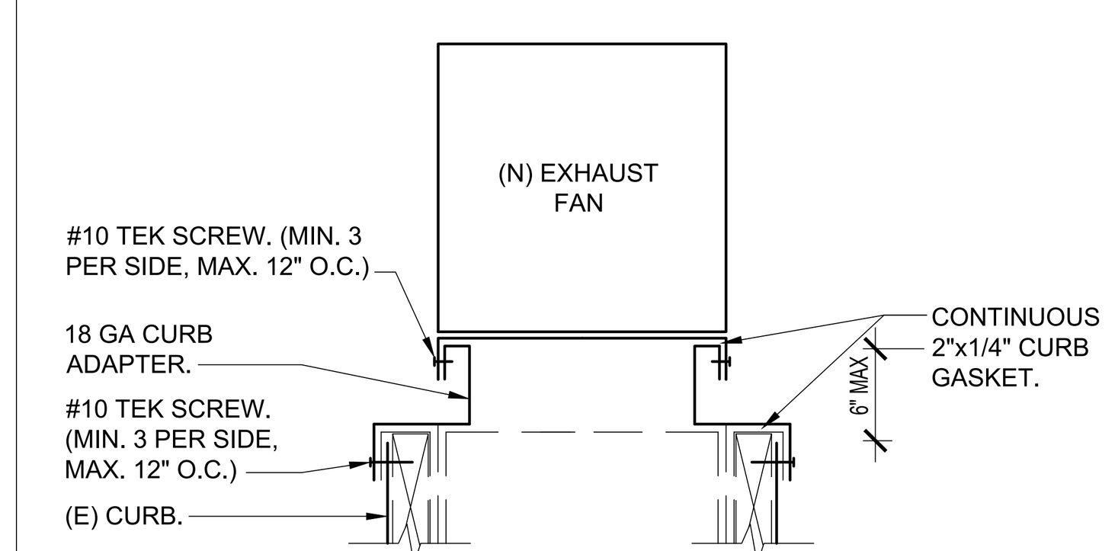
6 | PACKAGE UNIT ON (N) CURB | NTS | 1



7 | GAS DIRT LEG | NTS | 2



8 | CONDENSATE DRAIN CONNECTION DETAIL | NTS | 3



NTS | 9 | CURB ADAPTER FOR EF | NTS | 4

10 | NTS | 5

26 | 21 | 16 | 11
27 | 22 | 17 | 12
28 | 23 | 18 | 13
29 | 24 | 19 | 14
30 | 25 | 20 | 15

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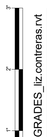
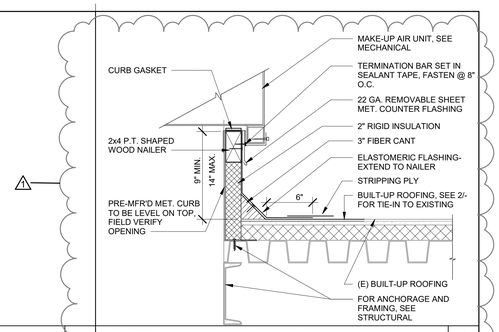
PROJECT NAME:
HVAC IMPROVEMENTS AT
MADERA SOUTH HIGH SCHOOL
MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637
PROJECT NO: 1337

DATE: 05/13/2024
SHEET TITLE:
MECHANICAL DETAILS

SHEET NO:
M800

AD01-08





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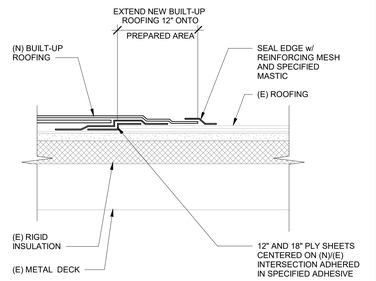
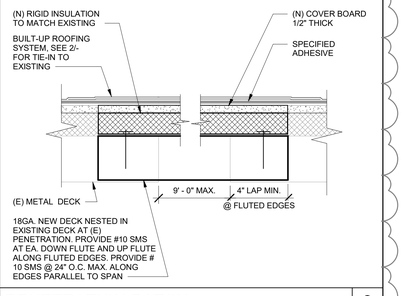
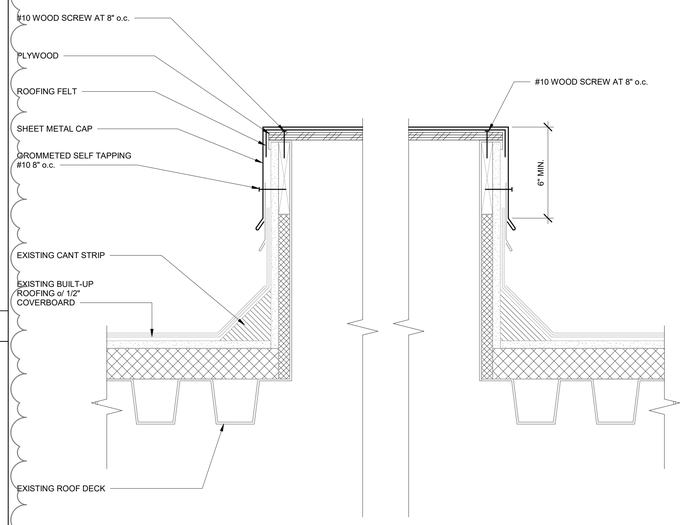
(N)ROOF HVAC EQUIP. CURB 1 1/2" = 1'-0" 1



ROOFING TIE IN 3" = 1'-0" 2



PENETRATION PATCH 3" = 1'-0" 3



ROOF EXHAUST FAN CAP 3" = 1'-0" 5

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1	11/26/24	Revision 1

TETER, INC.
FRESNO HEADQUARTERS
VISALIA | BAKERSFIELD | MODESTO | SAN LUIS OBISPO
ARCHITECTS ENGINEERS CONNECTED

HVAC IMPROVEMENTS AT
MADERA SOUTH HIGH SCHOOL
MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637

DRAWING TITLE
DETAILS

PROJECT NO.
23-12939

DRAWING
A800

AD01-09

4. STRUCTURAL STEEL AND MISCELLANEOUS METALS

A. GENERAL:
1. FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH ACCEPTED PRACTICES OF THE A.I.S.C.
2. STEEL TO BE TESTED WILL BE INDICATED IN THE SPECIFICATIONS AND THE DSA-103. IDENTIFICATION BT MILL CERT. IS ACCEPTED UNLESS NOTED.
3. WELDING OF STRUCTURAL STEEL SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE A.W.S. "STRUCTURAL WELDING CODE" (AWS D1. 1:2020). ALL WELDS USED IN MEMBERS AND CONNECTIONS OF THE SEISMIC FORCE RESISTING SYSTEM AND ARE DESIGNATED AS "DEMAND CRITICAL" SHALL BE MADE WITH FILLER METALS MEETING THE REQUIREMENTS SPECIFIED IN CLAUSE 6.1, 6.2, AND 6.3 OF STRUCTURAL WELDING CODE - SEISMIC SUPPLEMENT (AWS D1.8:2016).
4. WELDING PROCEDURE SPECIFICATIONS "WPS" SHALL BE SUBMITTED TO THE SPECIAL INSPECTOR FOR ALL WELD TYPES USED ON THE PROJECT. SPECIAL INSPECTOR SHALL PROVIDE A LETTER TO THE SEOR INDICATING THEIR OFFICE HAS REVIEWED AND APPROVED ALL WELDING PROCEDURES.
5. WELDERS CERTIFICATES SHALL BE SUBMITTED TO THE PROJECT INSPECTOR PRIOR TO STARTING WORK. WELDERS SHALL BE QUALIFIED BY AWS CERTIFICATION FOR THE TYPE OF WORK TO BE DONE.
6. ALL WELDING SHALL BE SUBJECT TO SPECIAL INSPECTION.
7. BOLT HOLE SIZES SHALL COMPLY WITH THE AISC. BOLT HOLES SHALL BE MAX 1/16" OVERSIZE U.N.O.
8. FIELD WELDING IS SUBJECT TO SPECIAL INSPECTION.
9. FABRICATION SHALL NOT TAKE PLACE UNTIL SHOP DRAWINGS HAVE BEEN RECEIVED, RETURNED, AND ISSUES IN QUESTION HAVE BEEN RESOLVED. REFER TO SECTION C. FABRICATION PRIOR TO SHOP DRAWING RETURN SHALL BE AT CONTRACTORS RISK, UNLESS OTHERWISE APPROVED. (1)

B. MATERIALS:
1. STRUCTURAL STEEL
   a. CHANNELS, ANGLES & BASE PLATES - ASTM A36, Gr. A
2. MISC. METALS - ASTM A36
3. STANDARD BOLTS - ASTM A307, Gr. A - TYPICAL UNLESS NOTED OTHERWISE.
4. STANDARD NUTS - ASTM A563 - TYPICAL UNLESS NOTED OTHERWISE.
5. WASHERS - AS REQUIRED BY THE AISC, RCSC, SECTION 6 - USE OF WASHERS.
6. WELDING ROD - HEAVILY COATED, CONFORMING WITH A.W.S. "SPECIFICATIONS FOR ARC WELDING". ELECTRODES OF CLASSIFICATION NUMBERS SUITABLE FOR THE WORK TO BE DONE.

C. SHOP DRAWING SUBMITTALS:
1. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION. SEE SPECIFICATIONS FOR SUBMITTALS REQUIRED.
2. SHOP DRAWINGS SHALL NOT BE PREPARED UNTIL ALL CONDITIONS HAVE BEEN VERIFIED.
3. DETAILER SHALL SUBMIT RFI'S FOR ISSUES REQUIRING RESOLUTION FOR COMPLETION OF SHOP DRAWINGS. MINOR ISSUES MAY BE CLOUDED IN THE SHOP DRAWINGS.
4. FABRICATOR SHALL SUBMIT SHOP DRAWINGS IN MULTIPLE SUBMITTALS OF SIZES TO ALLOW FOR ARCHITECT/ENGINEER REVIEW IN THE SPECIFIED ALLOTTED TIME (SEE SPECIFICATIONS).
5. FABRICATOR SHALL BE RESPONSIBLE FOR DETERMINING THE SIZE AND ORDER OF SHOP DRAWINGS TO ALLOW FOR INCREMENTING THE WORK WITHIN THE FABRICATION SCHEDULES.
6. SHOP DRAWING PREPARATION SHALL INCLUDE A CONTINGENCY TO ALLOW FOR MINOR REVISIONS RESULTING FROM ARCHITECTS' AND ENGINEERS' REVIEW.
7. IF SUBMITTALS ARE IN SIZES TOO LARGE TO REVIEW IN THE TIME ALLOTTED PER THE SPECIFICATIONS, SUBMITTAL WILL BE RETURNED FOR CORRECTIONS AND RE-SUBMITTAL WILL BE REQUIRED.

D. THE QUANTITY, TYPES AND LOCATIONS OF ROOF AND FLOOR MOUNTED EQUIPMENT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE VERIFIED.

E. FRAMING AND DETAILS SHOWN IN THESE DRAWINGS FOR THE SUPPORT OF ROOF AND/OR FLOOR MOUNTED EQUIPMENT AND OPENINGS IN ROOF AND/OR FLOOR DECKS ARE TYPICAL CONDITIONS. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL, MECHANICAL, PLUMBING ELECTRICAL AND OTHER CONTRACT DOCUMENTS FOR EQUIPMENT AND OPENING LOCATIONS, SIZES AND MOUNTING REQUIREMENTS.

F. LOCATIONS OF ROOF AND FLOOR EQUIPMENT AND ASSOCIATED OPENINGS IN THE FRAMING SHALL BE COORDINATED AND VERIFIED WITH ALL RELATED DOCUMENTS. LOCATIONS OF EQUIPMENT SHOWN ON THE STRUCTURAL DRAWINGS ARE GENERAL REPRESENTATIONS FOR REQUIRED FRAMING.

G. CONTRACTOR SHALL VERIFY AND ACCEPT ALL STEEL BEAM CAMBERS PRIOR TO INSTALLATION. VERIFICATION OF CAMBER SHALL BE WITH THE BEAM ON ITS SIDE IN AN UNLOADED CONDITION.

2. STRUCTURAL WOOD

A. MATERIALS: (UNLESS OTHERWISE NOTED ON DRAWINGS)
1. ALL DIMENSIONED LUMBER: DOUGLAS FIR #1
2. L.V.L. MATERIAL: 1.9E-DF/LP/WH LAMINATED VENEER LUMBER PER ICC ESR-1387
3. L.S.L. MATERIAL: 1.7E LAMINATED STRAND LUMBER PER ICC ESR-1387.
4. WOOD STRUCTURAL PANELS (PLYWOOD OR ORIENTED STRAND BOARD (OSB)): EACH PANEL SHALL BE IDENTIFIED WITH THE GRADE TRADEMARK OF THE APA. INSTALL ROOF PLYWOOD w/ FACE-GRAIN PERPENDICULAR TO SUPPORT FRAMING.

B. MACHINE BOLTS & LAG SCREWS:
1. BOLTS AND NUTS: ASTM A307
2. WASHERS: STANDARD CUT WASHERS SHALL BE FURNISHED AT EACH BOLT HEAD AND NUT PLACED NEXT TO WOOD.
3. BOLT HOLES: MINIMUM 1/32" TO MAXIMUM 1/16" LARGER THAN BOLTS, ACCURATELY LOCATED. OVERSIZE OR SLOTTED HOLES NOT PERMITTED UNLESS SPECIFICALLY DETAILED ON DRAWINGS.
4. LAG SCREWS: LEAD HOLE FOR THREADED PORTION SHALL BE 70% OF SHANK DIAMETER WITH A DEPTH EQUAL TO THE LENGTH OF SCREW AND CLEARANCE HOLE FOR UNTHREADED PORTION SHALL EQUAL THE DIAMETER AND LENGTH OF THE SCREW SHANK.

C. WOOD SCREWS: ANSI/ASME STANDARD B18.6.1
1. CONNECTION WOOD TO WOOD: WOOD SCREWS MAY BE PRE-DRILLED. THE LEAD HOLE RECEIVING THE SHANK SHALL BE NO MORE THAN 7/8 OF THE SHANK DIAMETER. THE LEAD HOLE RECEIVING THE THREADED PORTION SHALL BE NO MORE THAN 7/8 DIAMETER OF THE SHANK AT THE THREADED PORTION.
2. WOOD SCREWS SHALL NOT HAVE UPSET THREADS. DECKING SCREWS ARE NOT ALLOWED. SOAP OR OTHER LUBRICANT SHALL BE USED ON WOOD SCREWS TO FACILITATE INSERTION.
3. CONNECTING PLYWOOD TO LIGHT GAUGE STEEL: USE SELF-DRILLING, FLAT PHILLIPS HEAD, ZINC-PLATED STEEL SCREWS.
4. CONNECTING PLYWOOD TO STEEL SHAPES: USE THREAD CUTTING, FLAT PHILLIPS HEAD, ZINC-PLATED STEEL SCREWS.

D. FASTENERS , INCLUDING ANCHOR BOLTS, IN CONTACT WITH PRESSURE TREATED MATERIAL: FASTENERS SHALL BE OF HOT DIPPED ZINC-COATED GALVANIZED STEEL (ASTM A 153). FASTENERS OTHER THAN NAILS, WOOD SCREWS AND LAG SCREWS SHALL BE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC COATED STEEL (ASTM B 695, CLASS 55 MIN.)

E. NAILED JOINTS: USE ONLY COMMON WIRE NAILS OR SPIKES. FOR MINIMUM REQUIREMENTS, REFER TO THE TYPICAL FASTENING SCHEDULE. (SINKERS AND BOX NAILS ARE NOT ALLOWED). PRE-DRILL HOLES WHERE WOOD TENDS TO SPLIT.

F. MISC. METAL CONNECTORS: ALL SHEET METAL CONNECTORS USED FOR CONNECTING STRUCTURAL WOOD MEMBERS SHALL HAVE C.B.C. APPROVAL AND CONNECTORS SHALL BE GALVANIZED.

G. CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR MISC. BLOCKING, FURRING, SHIMS, ETC. FOR ATTACHMENT OF FINISHES AND ORNAMENTAL ITEMS.

H. ALL SOLID SAWN LUMBER SHALL BE SEASONED LUMBER WITH A 19% MAX. MOISTURE CONTENT AT TIME OF INSTALLATION. WOOD PIECES EXCESSIVELY SPLIT, BENT OR DISTORTED SHALL BE REJECTED.

3. LIGHT-GAUGE STEEL FRAMING

1. DESIGN OF LIGHT-GAUGE STEEL HAS BEEN BASED ON THE 2022 CBC, CHAPTER 22A - DIVISION V. ALL WORK SHALL CONFORM TO THE CALIFORNIA BUILDING CODE AND THE AISI NAS.

2. ALL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE MECHANICAL, ELECTRICAL, AND ALL OTHER CONTRACT DRAWINGS AND SPECIFICATIONS.

3. DIMENSIONS SHOWN SHALL TAKE PRECEDENCE OVER SCALE ON PLANS, SECTIONS, AND DETAILS. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OR ENGINEER IN RESPONSIBLE CHARGE OF THE PROJECT IMMEDIATELY.

4. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FLOOR OR ROOF FRAMING MEMBERS. LOAD SHALL NOT EXCEED DESIGN LIVE LOAD.

5. ALL STUD,JOIST AND MISCELLANEOUS MATERIAL SHALL HAVE STIFFENED FLANGES WITH 90° RETURNS AND SHALL BE MANUFACTURED IN ACCORDANCE WITH THE LATEST AISI SPECIFICATION. MATERIAL SHALL CONFORM TO THE FOLLOWING:

MATERIAL STRENGTH:

16 GAUGE AND HEAVIER - 50 KSI MIN. YIELD
ASTM A653 SS CASE 1 OR 3 (GALV.)

MATERIAL THICKNESS:

12 GA. = .1017"
14 GA. = .0713"
16 GA. = .0566"
18 GA. = .0451"
20 GA. = .0346"

6. FASTENERS"
METAL-TO-METAL: SELF TAPPING SHEET METAL SCREWS. (1)

METAL-TO-METAL

SCREW SIZE	NOMINAL DIAMETER
#8	.161"
#10	.183"
#12	.209"

7. ALL COMPONENTS SHALL BE CUT SQUARELY OR AS REQUIRED FOR AN ANGULAR FIT TO RECEIVING MEMBERS. BENT, DISTORTED OR OTHERWISE DAMAGED COMPONENTS SHALL NOT BE USED.

8. ALL BOLTS INSTALLED IN LIGHT-GAUGE STEEL SHALL BE ASTM A-309 W/ STANDARD BOLT HOLES = BOLT DIA.+1/16"

9. MANUFACTURER SHALL BE A MEMBER OF THE MSMA - METAL STUD MANUFACTURERS ASSOC. SECTIONS OF METAL COMPONENTS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES. IN COMPLIANCE WITH ICC ESR-3064P.

1. GENERAL NOTES

A. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE SECTIONS OF THE CALIFORNIA BUILDING CODE (CBC), 2022 EDITION, AND ALL OTHER PUBLICATIONS AND STANDARDS LISTED HEREIN.

B. ALL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND ALL OTHER CONTRACT DRAWINGS AND SPECIFICATIONS.

C. DETAILS SHOWN ON STRUCTURAL DRAWINGS ARE TYPICAL. SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS. CONDITIONS NOT COMPATIBLE TO THE DETAILS PROVIDED SHALL BE REPORTED TO THE ARCHITECT.

D. DIMENSIONS SHOWN SHALL TAKE PRECEDENCE OVER SCALE ON PLANS, SECTIONS AND DETAILS. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY.

E. NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

F. FRAMING AND DETAIL CONDITIONS SPECIFIED BY THESE DRAWINGS SHALL NOT BE MODIFIED WITHOUT APPROVED WRITTEN DOCUMENTATION FROM THE ENGINEER AND ARCHITECT. CONTRACTOR SHALL NOT PROCEED WITH CONSTRUCTION OF CONDITIONS NOT APPROVED.

G. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FLOOR OR ROOF FRAMING MEMBERS. LOAD SHALL NOT EXCEED DESIGN LIVE LOAD.

H. DESIGN LOADING: PER CBC, 2022 EDITION.

I. CONSTRUCTION DOCUMENTS SHALL CONSIST OF THE "APPROVED" DRAWINGS, SPECIFICATIONS AND ADDENDUM BEARING THE STAMP AND SIGNATURE OF THE ARCHITECT AND THE APPROVAL STAMP OF THE JURISDICTIONAL BUILDING DEPARTMENT. STRUCTURAL CALCULATIONS ARE NOT PART OF THE CONSTRUCTION DOCUMENTS AND SHALL NOT BE USED FOR CONSTRUCTION PURPOSES.

J. ALL WORK SHALL BE PERFORMED FROM THE "APPROVED" DOCUMENTS ONLY. A FULL SET OF APPROVED DOCUMENTS SHALL BE KEPT ON SITE DURING ALL CONSTRUCTION PHASES.

K. CONTRACTOR TO NOTIFY E.O.R. PRIOR TO MODIFYING ANY EXISTING FRAMING BEYOND REMOVAL OF EXISTING UNIT BLOCKING.

L. DESIGN DATA CONDITIONS AS LISTED BELOW.

WIND DESIGN DATA	
ULTIMATE WIND SPEED (3 SECOND GUST)	100 mph
WIND EXPOSURE CATEGORY	C
RISK CATEGORY	III

SEISMIC DESIGN DATA	
SEISMIC IMPORTANCE FACTOR (I)	1.25
RISK CATEGORY	III
MAPPED SPECTRAL RESPONSE	S_s = 0.608 S_1 = 0.237
SITE CLASS	D (DEFAULT)
SPECTRAL RESPONSE COEFFICIENTS	S_{DS} = 0.533
SEISMIC DESIGN CATEGORY	D

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PROJECT NAME:
HVAC IMPROVEMENTS AT
MADERA SOUTH HIGH SCHOOL
MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637
PROJECT NO: 1337

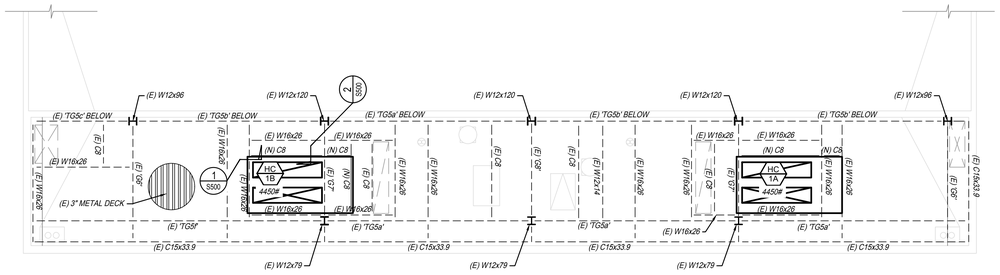
No. S6790

PROVOST & PRITCHARD
PARRISH HANSEN
STRUCTURAL DIVISION
455 W FIR AVENUE
CLOVIS, CALIFORNIA 93611
559/449-2700 FAX 559/449-2715
https://provostandpritchard.com/

DATE: 04/26/2024
SHEET TITLE:
GENERAL NOTES

SHEET NO:
S100

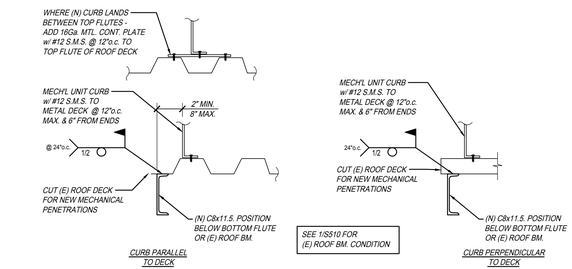
AD01-10



NOTES
1) NAMED MEMBERS, DENOTED WITH APOSTRAPHES, ARE TAPERED THREE-PLATE MEMBERS.
2) 'C8' DENOTES C8x11.5

PARTIAL ROOF FRAMING PLAN - EAST GYM

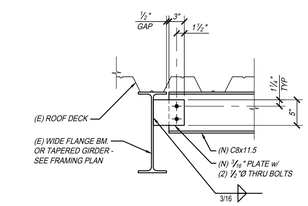
SCALE: 1/8"=1'-0"



(N) OPNG. IN MTL. DECK @ UNITS

SCALE: 1" = 1'-0"

DET03 2 S500



(N) C8 CONN.

SCALE: 1" = 1'-0"

DET01 1 S500

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MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637

PROJECT NO: 1337

DATE: 04/26/2024

SHEET TITLE:
PARTIAL ROOF FRAMING PLAN - EAST GYM

SHEET NO:
S500

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ROBERT F. GUTIERREZ
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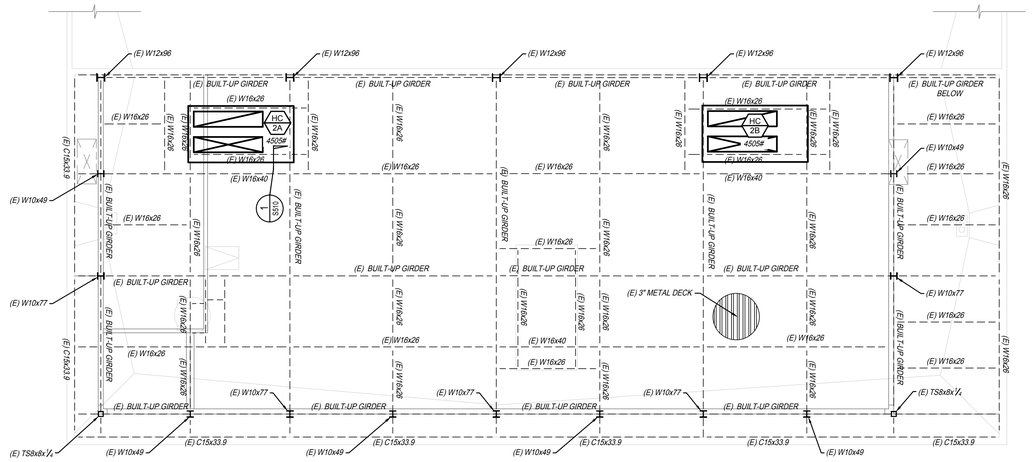
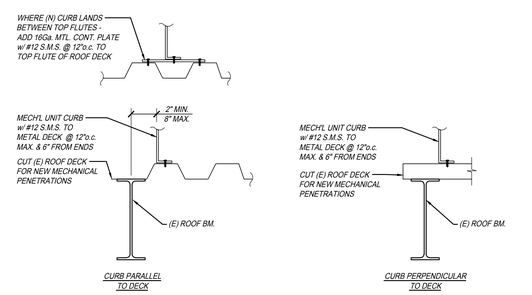
AD01-11



PARTIAL ROOF FRAMING PLAN - WEST GYM

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



MECH. CURB TO METL. DECK

SCALE: 1" = 1'-0"

1 / S510 — DET04

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MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637

PROJECT NO: 1337

DATE: 04/26/2024

SHEET TITLE:
PARTIAL ROOF FRAMING PLAN - WEST GYM

SHEET NO:
S510

REGISTERED PROFESSIONAL ENGINEER JEFFREY F. GOTTSCHALK No. S6790 STRUCTURAL STATE OF CALIFORNIA

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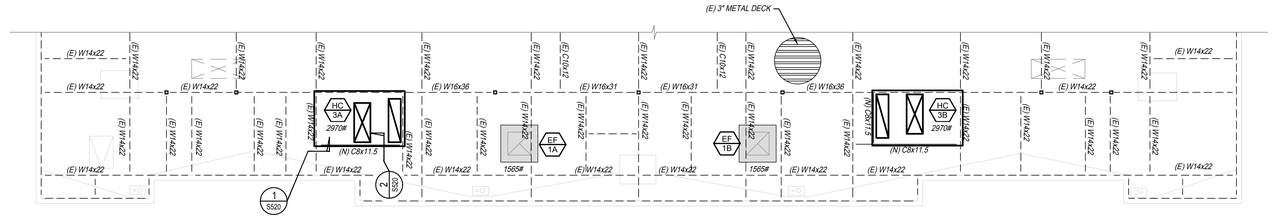
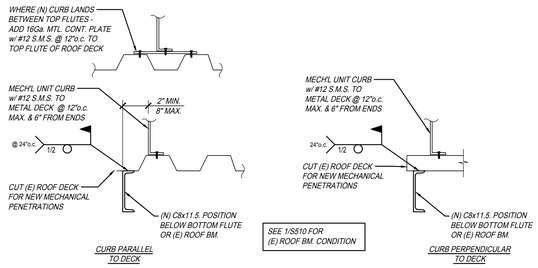


PARTIAL ROOF FRAMING PLAN - LOCKER ROOM

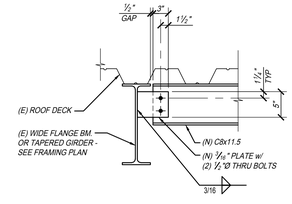
SCALE: 1/8"=1'-0"



(N) OPNG. IN MTL. DECK @ UNITS

SCALE: 1" = 1'-0"

DET03 S520 (2)



(N) C8 CONN.

SCALE: 1" = 1'-0"

DET01(2) S520 (1)

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MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637

PROJECT NO: 1337

DATE: 04/26/2024

SHEET TITLE:
PARTIAL ROOF FRAMING PLAN - LOCKER ROOMS

SHEET NO:
S520

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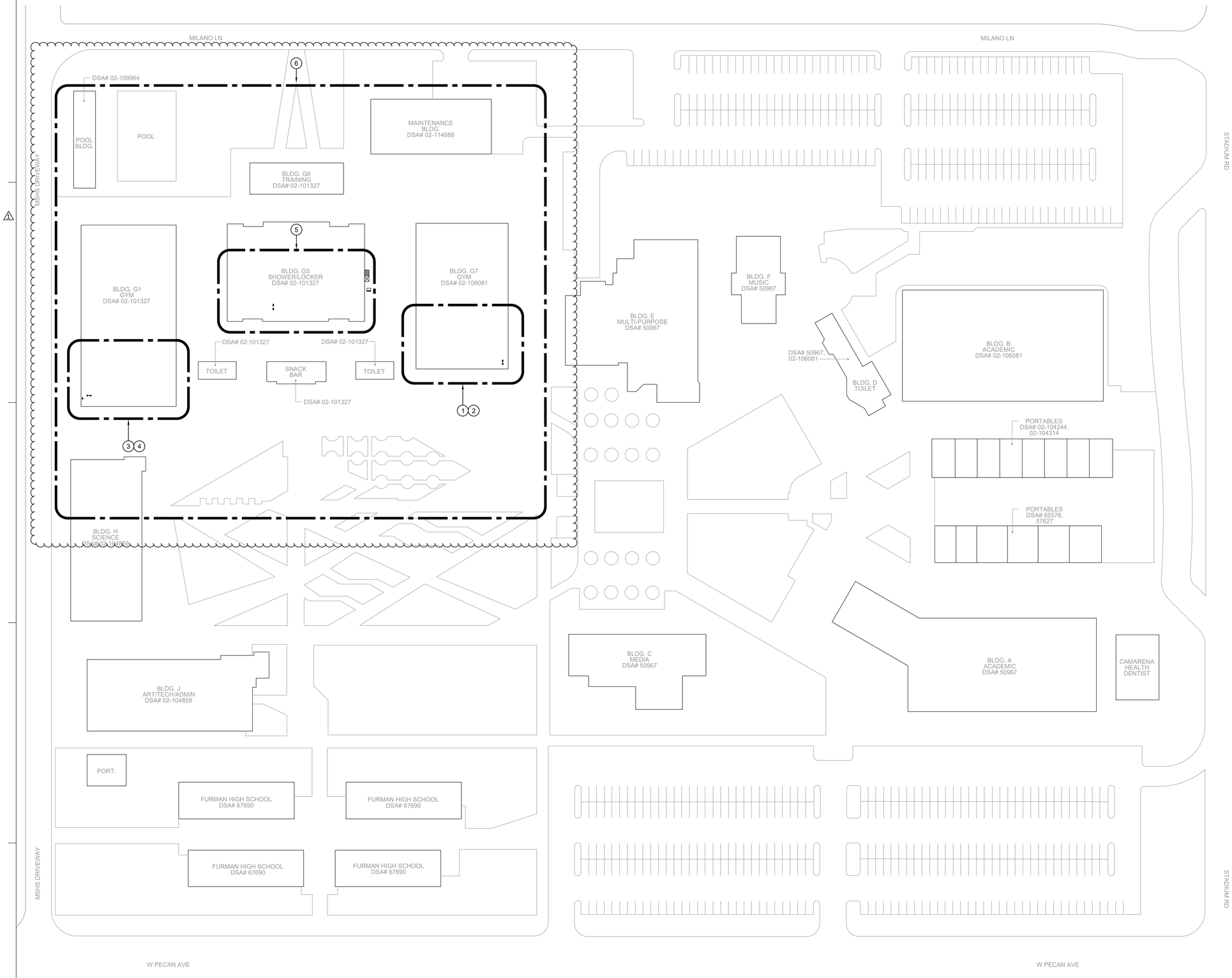
AD01-13



KEYNOTES:

1. FOR WORK IN THIS AREA, SEE ROOF DEMOLITION PLAN - EAST GYM ON SHEET [E2.2].
2. FOR WORK IN THIS AREA, SEE ROOF POWER PLAN - EAST GYM ON SHEET [E2.3]. ⚠1
3. FOR WORK IN THIS AREA, SEE ROOF DEMOLITION PLAN - WEST GYM ON SHEET [E2.4].
4. FOR WORK IN THIS AREA, SEE ROOF POWER PLAN - WEST GYM ON SHEET [E2.5].
5. FOR WORK IN THIS AREA, SEE LOCKER ROOMS ROOF POWER PLAN ON SHEET [E2.6].
6. FOR WORK IN THIS AREA, SEE SITE POWER PLAN ON SHEET [E2.1].

⚠1

OVERALL SITE PLAN — 1" = 60'-0" — 1

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REGISTERED PROFESSIONAL ENGINEER
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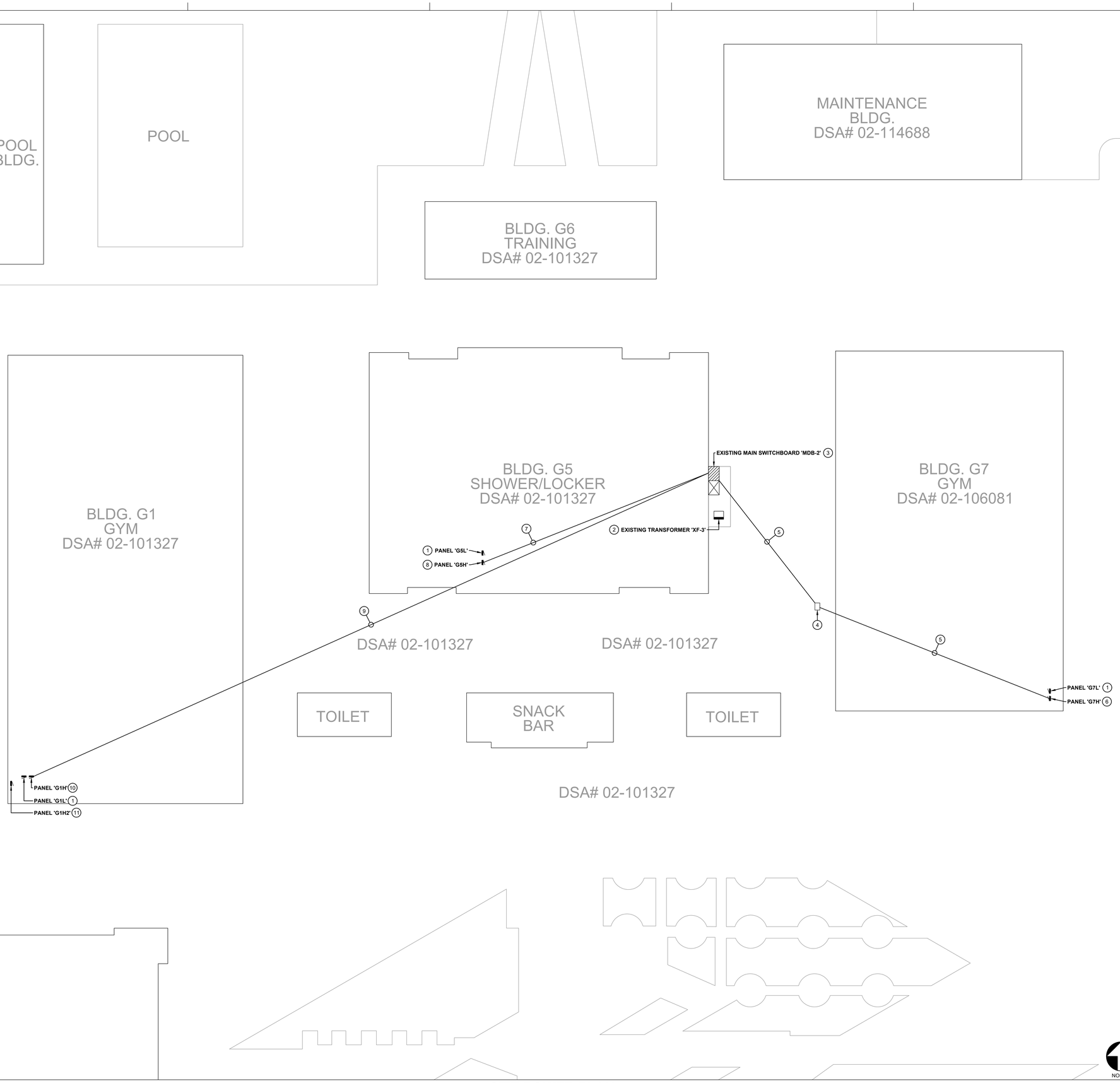
MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637
PROJECT NO: 223-0165.1337

DATE: 05/02/2024
SHEET TITLE:
OVERALL SITE PLAN
SHEET NO:
E2.0

AD01-14



KEYNOTES:

1. EXISTING PANEL SHOWN FOR REFERENCE.
2. EXISTING TRANSFORMER SHOWN FOR REFERENCE.
3. PRESERVE EXISTING MAIN SWITCHBOARD 'MDB-2'. REPLACE EXISTING 300A/3P CIRCUIT BREAKER FOR PANEL 'G1H' WITH NEW 400A/3P CIRCUIT BREAKER. REPLACE EXISTING 250A/3P CIRCUIT BREAKER FOR PANEL 'G7H' WITH NEW 300A/3P CIRCUIT BREAKER.
4. PRESERVE EXISTING PULLBOX.
5. IN EXISTING CONDUIT, REPLACE EXISTING CONDUCTORS WITH NEW CONDUCTORS MIN. (1) 3"C WITH 4#350 MCM CU AND 1#4 CU GND.
6. PRESERVE EXISTING DISTRIBUTION PANEL. REPLACE EXISTING 225A/3P MAIN CIRCUIT BREAKER WITH NEW 300A/3P MAIN CIRCUIT BREAKER. SEE DEMO AND POWER ROOF PLAN ON SHEETS [E2.2]/[E2.3] AND PANEL SCHEDULE ON [E/E3.0] FOR MORE INFORMATION.
7. PRESERVE EXISTING CONDUIT AND CONDUCTORS. (NO CHANGES)
8. PRESERVE EXISTING DISTRIBUTION PANEL. SEE DEMO AND POWER ROOF PLAN ON SHEETS [E2.6] AND PANEL SCHEDULE ON [D/E3.0] FOR MORE INFORMATION.
9. IN EXISTING CONDUIT, REPLACE EXISTING CONDUCTORS WITH NEW CONDUCTORS MIN. (1) 4"C WITH 4#500 MCM CU AND 1#4 CU GND.
10. PRESERVE EXISTING DISTRIBUTION PANEL. REPLACE EXISTING 300A/3P MAIN CIRCUIT BREAKER WITH NEW 400A/3P MAIN CIRCUIT BREAKER. SEE DEMO AND POWER ROOF PLAN ON SHEETS [E2.4]/[E2.5] AND PANEL SCHEDULE ON [C/E3.0] FOR MORE INFORMATION.
11. NEW DISTRIBUTION PANEL 'G1H2'. SEE SHEET [E2.5] AND PANEL SCHEDULE ON [F/E3.0] FOR MORE INFORMATION.

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MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637
PROJECT NO: 223-0165.1337

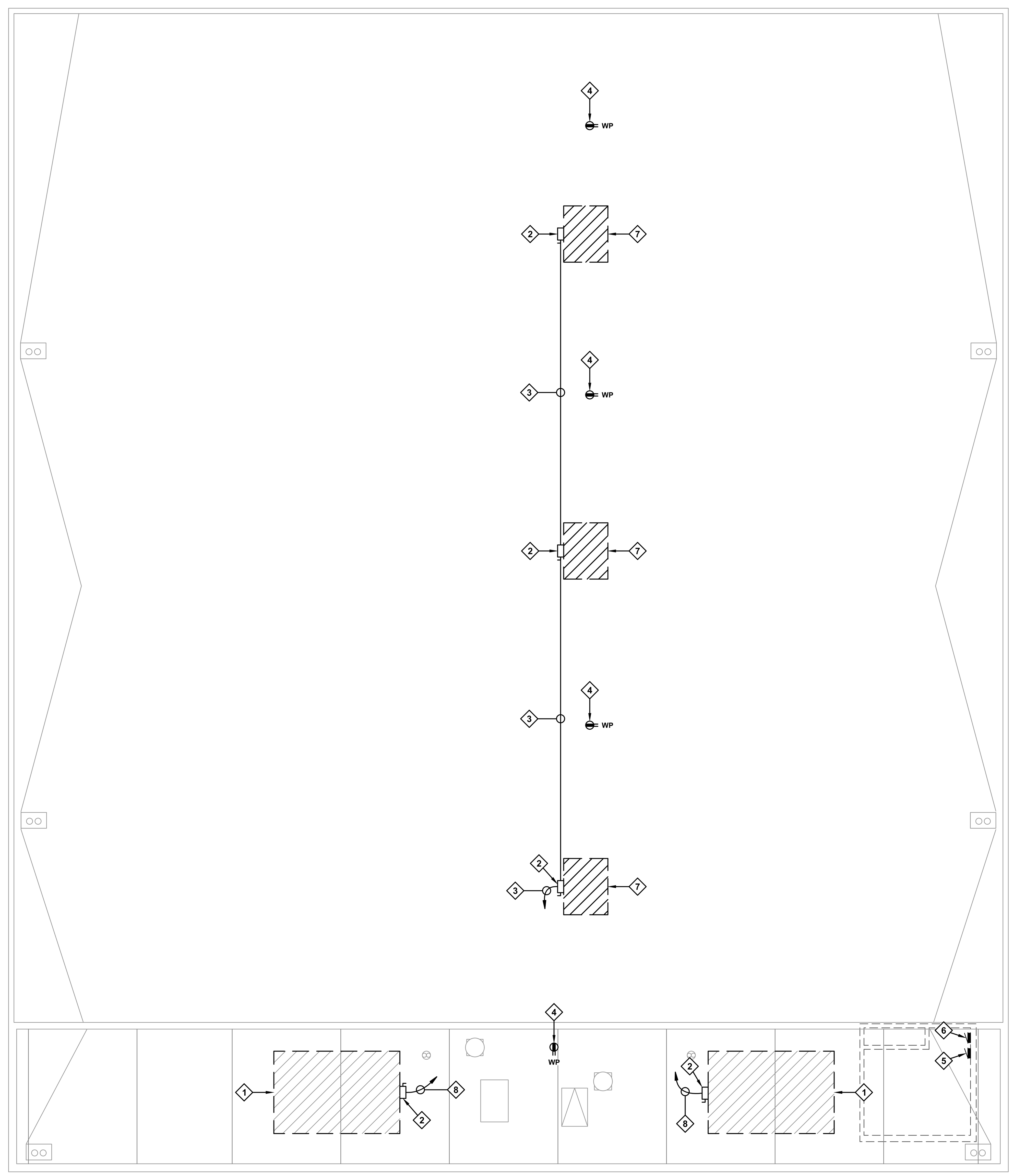
DATE: 05/02/2024
SHEET TITLE:
SITE POWER PLAN

SHEET NO:
E2.1

NORTH

SITE POWER PLAN 1" = 60'-0" 1

AD01-15



ROOF DEMOLITION PLAN - EAST GYM

1/8" = 1'-0"

1

DEMOLITION KEYNOTES:

1. DISCONNECT EXISTING MAKE UP AIR UNIT FOR DEMOLITION. DEMO EXISTING CONDUIT AND CONDUCTORS BETWEEN DISCONNECT AND MECHANICAL UNIT.
2. DEMO EXISTING ROOFTOP MECHANICAL UNIT DISCONNECT.
3. PRESERVE EXISTING CONDUIT AND DEMO EXISTING CONDUCTORS.
4. PRESERVE EXISTING ROOFTOP WEATHER RESISTANT GFCI RECEPTACLE.
5. PRESERVE EXISTING PANEL 'G7H', LOCATED IN ELECTRICAL ROOM. DEMO EXISTING 225A/3P MAIN CIRCUIT BREAKER.
6. PRESERVE EXISTING PANEL 'G7L', LOCATED IN ELECTRICAL ROOM.
7. DISCONNECT EXISTING EXHAUST FAN FOR DEMOLITION. DEMO EXISTING CONDUIT AND CONDUCTORS BETWEEN DISCONNECT AND MECHANICAL UNIT.
8. DEMO EXISTING CONDUIT AND CONDUCTORS.

1

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PROJECT NAME:
HVAC IMPROVEMENTS AT
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MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637
PROJECT NO: 223-0165.1337

DATE: 05/02/2024

SHEET TITLE:
ROOF DEMOLITION PLAN - EAST GYM

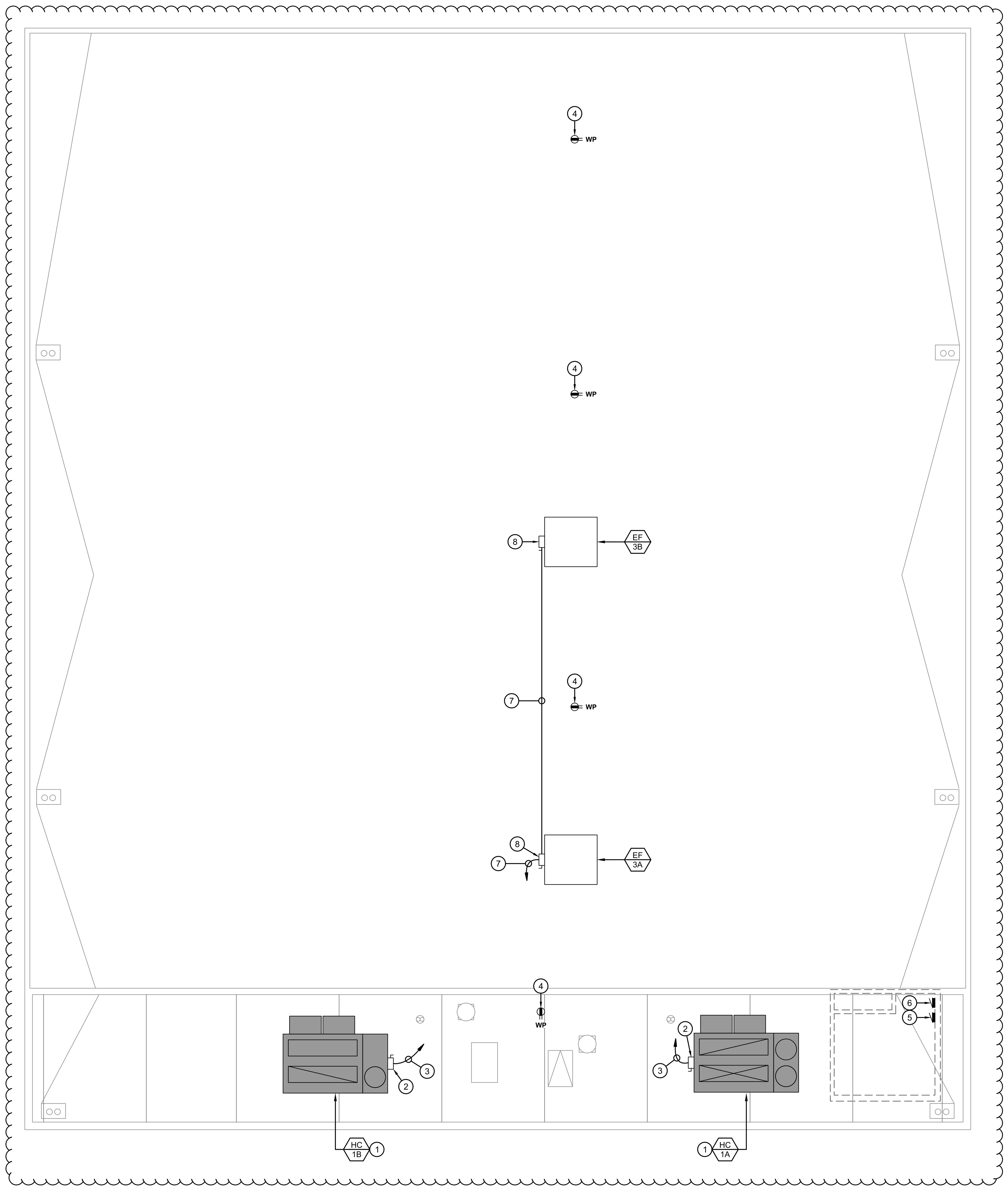
SHEET NO:
E2.2

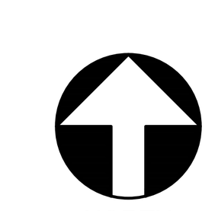
AD01-16

POWER KEYNOTES:

1. NEW AIR HANDLER. TERMINATE NEW AIR HANDLER BRANCH CIRCUIT PER MANUFACTURER'S REQUIREMENTS.
2. PROVIDE NEW 100A, 600V, 3-POLE, NEMA 3R FUSED DISCONNECT. SIZE FUSES PER MECHANICAL UNIT NAMEPLATE. PROVIDE (1) 1" FLEX CONDUIT WITH 3#4 CU AND 1#8 CU GND BETWEEN NEW DISCONNECT AND NEW AIR HANDLER.
3. PROVIDE (1) 1"C WITH 3#4 CU AND 1#8 CU GND.
4. EXISTING ROOFTOP WEATHER RESISTANT GFCI RECEPTACLE.
5. EXISTING PANEL 'G7H', LOCATED IN ELECTRICAL ROOM. REPLACE EXISTING 225A/3P MAIN CIRCUIT BREAKER WITH 300A/3P MAIN CIRCUIT BREAKER. SEE PANEL SCHEDULE ON SHEET [E/E3.0].
6. EXISTING PANEL 'G7L', LOCATED IN ELECTRICAL ROOM (NO CHANGES).
7. PROVIDE NEW CONDUCTORS IN EXISTING CONDUIT MIN. 3/4"C WITH 3#12 CU AND 1#12 CU GND. FIELD VERIFY EXISTING CONDUIT SIZE. TERMINATE ON EXISTING CIRCUIT BREAKER.
8. PROVIDE NEW 30A, 600V, 3-POLE, NEMA 3R FUSED DISCONNECT. SIZE FUSES PER MECHANICAL UNIT NAMEPLATE. PROVIDE (1) 3/4" FLEX CONDUIT WITH 3#12 CU AND 1#12 CU GND BETWEEN NEW DISCONNECT AND NEW EXHAUST FAN. INTERLOCK EXHAUST FANS PER MECHANICAL PLANS.

1





ROOF POWER PLAN - EAST GYM

1/8" = 1'-0"

1

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No. E23239

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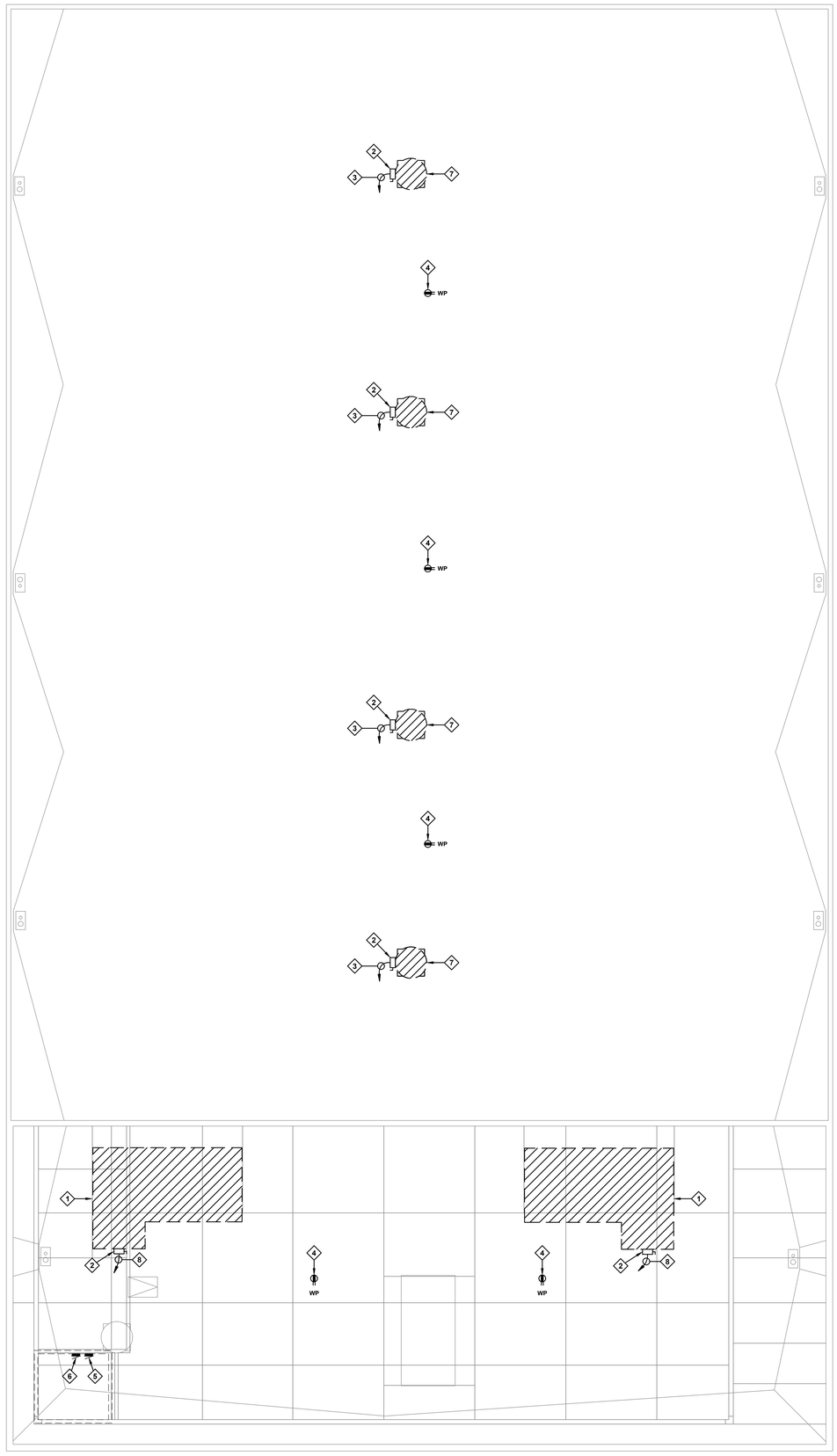
MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637
PROJECT NO: 223-0165.1337

DATE: 05/02/2024

SHEET TITLE:
ROOF POWER PLAN - EAST GYM

SHEET NO:
E2.3

AD01-17



DEMOLITION KEYNOTES:

1. DISCONNECT EXISTING AIR HANDLER FOR DEMOLITION. DEMO EXISTING CONDUIT AND CONDUCTORS BETWEEN DISCONNECT AND MECHANICAL UNIT.
2. DEMO EXISTING ROOFTOP MECHANICAL UNIT DISCONNECT.
3. PRESERVE EXISTING CONDUIT AND DEMO EXISTING CONDUCTORS.
4. PRESERVE EXISTING ROOFTOP WEATHER RESISTANT GFCI RECEPTACLE.
5. PRESERVE EXISTING PANEL 'G1H', LOCATED IN ELECTRICAL ROOM. VERIFY EXISTING 'CAH' CIRCUITS 25/27/29 AND 31/33/35 SERVE EXISTING 'CAH' UNITS BEING REPLACED. DEMO EXISTING 'CAH' BREAKERS. DEMO EXISTING 300A/3P MAIN CIRCUIT BREAKER.

   PRESERVE EXISTING PANEL 'G1L', LOCATED IN ELECTRICAL ROOM. VERIFY EXISTING 'EF' CIRCUITS 4/6, 8/10, 12/14, AND 16/18 SERVE EXISTING 'EF' UNITS BEING REPLACED. DEMO EXISTING 'EF' BREAKERS.
6. DISCONNECT EXISTING EXHAUST FAN FOR DEMOLITION. DEMO EXISTING CONDUIT AND CONDUCTORS BETWEEN DISCONNECT AND MECHANICAL UNIT.
7. DEMO EXISTING CONDUIT AND CONDUCTORS.

NORTH

ROOF DEMOLITION PLAN - WEST GYM

1/8" = 1'-0" | 1

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 02-122086 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 01/08/2025

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REVISIONS:

Symbol	Description
1	CCD 001
11/27/2024	

Symbol	Description

Symbol	Description

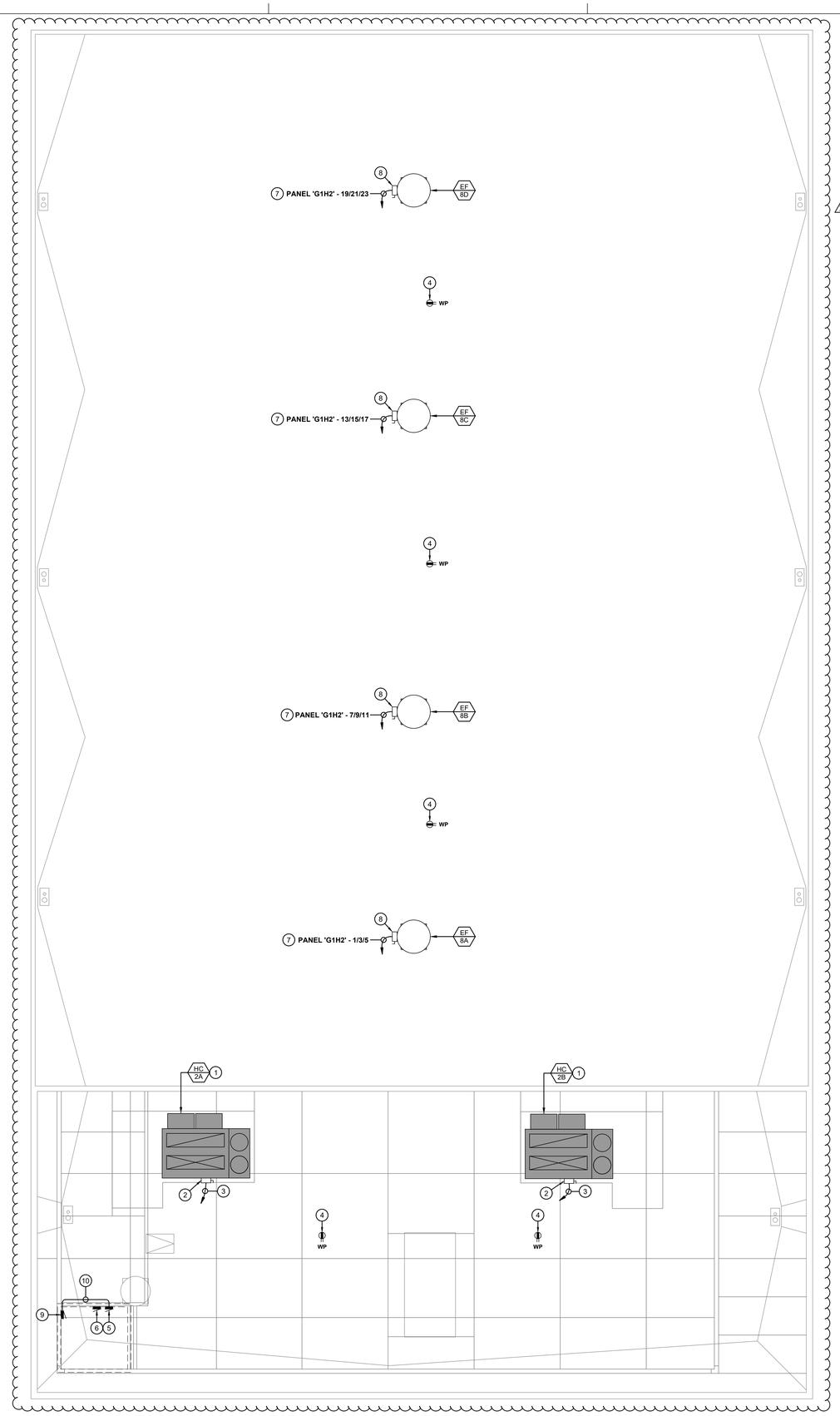
REGISTERED PROFESSIONAL ENGINEER
STEVEN R. REFIK
No. E23239
ELECTRICAL
STATE OF CALIFORNIA

REFIK
ELECTRICAL ENGINEERS
1500 SHAW AVENUE
CLOVIS, CA 93611
(559) 484-2049

PROJECT NAME:
HVAC IMPROVEMENTS AT
MADERA SOUTH HIGH SCHOOL
MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637
PROJECT NO: 223-0165.1337

DATE: 05/02/2024
SHEET TITLE:
ROOF DEMOLITION PLAN - WEST GYM
SHEET NO:
E2.4

AD01-18



POWER KEYNOTES:

1. NEW AIR HANDLER. TERMINATE NEW AIR HANDLER BRANCH CIRCUIT PER MANUFACTURER'S REQUIREMENTS.
2. PROVIDE NEW 200A, 600V, 3-POLE, NEMA 3R FUSED DISCONNECT. SIZE FUSES PER MECHANICAL UNIT NAMEPLATE. PROVIDE (1) 1-1/4" FLEX CONDUIT WITH 3#2 CU AND 1#6 CU GND BETWEEN NEW DISCONNECT AND NEW AIR HANDLER.
3. PROVIDE (1) 1-1/4"C WITH 3#2 CU AND 1#6 CU GND.
4. EXISTING ROOFTOP WEATHER RESISTANT GFCI RECEPTACLE.
5. EXISTING PANEL 'G1H', LOCATED IN ELECTRICAL ROOM. REPLACE EXISTING 40A/3P AIR HANDLER BRANCH CIRCUIT BREAKERS WITH 110A/3P CIRCUIT BREAKERS. REPLACE EXISTING 300A/3P MAIN CIRCUIT BREAKER WITH 400A/3P CIRCUIT BREAKER. SEE PANEL SCHEDULE ON SHEET [C/E3.0].
6. EXISTING PANEL 'G1L', LOCATED IN ELECTRICAL ROOM.
7. PROVIDE NEW CONDUCTORS IN EXISTING CONDUIT. FIELD VERIFY EXISTING CONDUIT SIZE PRIOR TO CONSTRUCTION. IN ELECTRICAL ROOM, INTERCEPT AND EXTEND EXISTING CONDUIT TO NEW PANEL 'G1H2'. MIN. 3/4"C WITH 3#12 CU AND 1#12 CU GND. TERMINATE ON NEW CIRCUIT BREAKER.
8. PROVIDE NEW 30A, 600V, 3-POLE, NEMA 3R FUSED DISCONNECT. SIZE FUSES PER MECHANICAL UNIT NAMEPLATE. PROVIDE (1) 3/4" FLEX CONDUIT WITH 3#12 CU AND 1#12 CU GND BETWEEN NEW DISCONNECT SWITCH AND NEW EXHAUST FAN.
9. PROVIDE 100A MAIN, 100A BUS, 277/480V, 3Ø, NEMA 1 DISTRIBUTION PANEL 'G1H2'. SEE PANEL SCHEDULE ON SHEET [F/E3.0].
10. PROVIDE (1) 1-1/4"C WITH 4#3 CU AND 1#8 CU GND.

1

NORTH

ROOF POWER PLAN - WEST GYM

1/8" = 1'-0" | 1

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11/27/2024	

Symbol	Description

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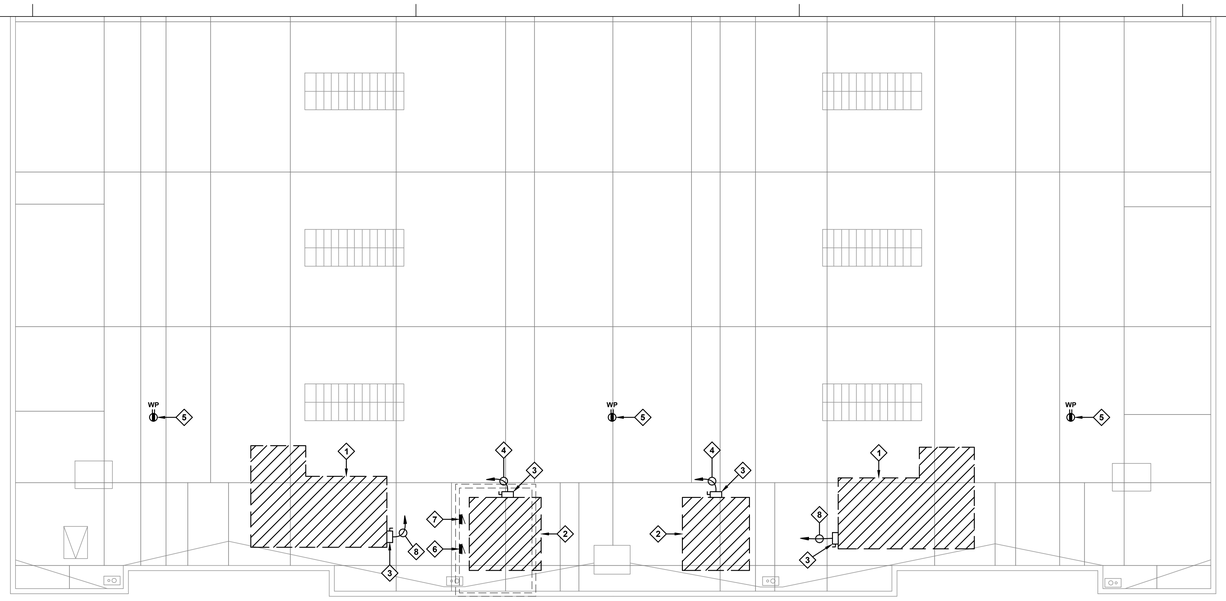
MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637
PROJECT NO: 223-0165.1337

DATE: 05/02/2024
SHEET TITLE:
ROOF POWER PLAN - WEST GYM
SHEET NO:
E2.5

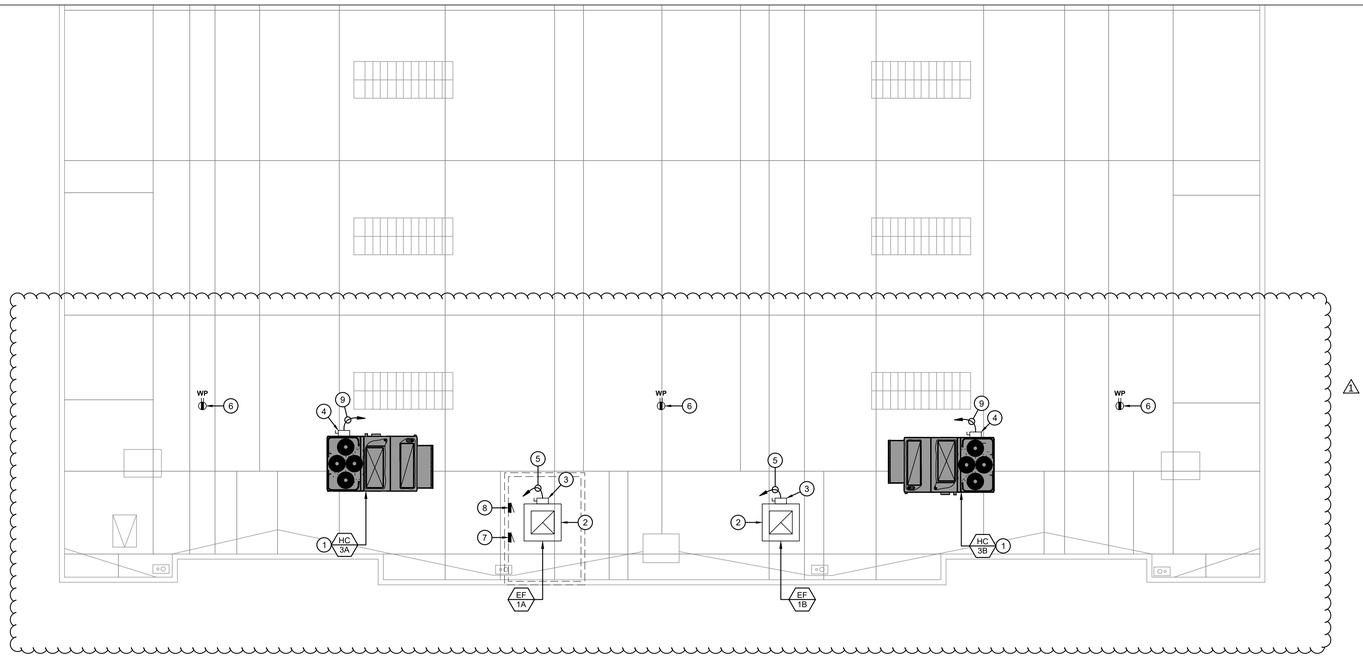
AD01-19



NORTH

ROOF DEMOLITION PLAN - LOCKER ROOMS

1/8" = 1'-0" | 1



NORTH

ROOF POWER PLAN - LOCKER ROOMS

1/8" = 1'-0" | 2

DEMOLITION KEYNOTES:

1. DISCONNECT EXISTING AIR HANDLER FOR DEMOLITION. DEMO EXISTING CONDUIT AND CONDUCTORS BETWEEN DISCONNECT AND MECHANICAL UNIT.
2. DISCONNECT EXISTING AIR HANDLER EXHAUST FAN FOR DEMOLITION. DEMO EXISTING CONDUIT AND CONDUCTORS BETWEEN DISCONNECT AND MECHANICAL UNIT.
3. DEMO EXISTING ROOFTOP MECHANICAL UNIT DISCONNECT.
4. PRESERVE EXISTING CONDUIT AND DEMO EXISTING CONDUCTOR.
5. PRESERVE EXISTING ROOFTOP WEATHER RESISTANT GFCI RECEPTACLE.
6. PRESERVE EXISTING PANEL 'G5H', LOCATED IN ELECTRICAL ROOM. DEMO EXISTING 40A/3P AIR HANDLER CIRCUIT BREAKERS.
7. PRESERVE EXISTING PANEL 'G5L', LOCATED IN ELECTRICAL ROOM.
8. DEMO EXISTING CONDUIT AND CONDUCTORS.

POWER KEYNOTES:

1. NEW AIR HANDLER. TERMINATE NEW AIR HANDLER BRANCH CIRCUIT PER MANUFACTURER'S REQUIREMENTS.
2. NEW AIR HANDLER EXHAUST FAN. TERMINATE NEW AIR HANDLER EXHAUST FAN BRANCH CIRCUIT PER MANUFACTURER'S REQUIREMENTS.
3. PROVIDE NEW 30A, 600V, 3-POLE, NEMA 3R FUSED DISCONNECT. SIZE FUSES PER MECHANICAL UNIT NAMEPLATE. PROVIDE (1) 3/4" FLEX CONDUIT WITH NEW CONDUCTORS BETWEEN NEW DISCONNECT AND NEW EXHAUST FAN, MIN. 3#12 CU AND 1#12 CU GND.
4. PROVIDE NEW 60A, 600V, 3-POLE, NEMA 3R FUSED DISCONNECT. SIZE FUSES PER MECHANICAL UNIT NAMEPLATE. PROVIDE (1) 3/4" FLEX CONDUIT WITH NEW CONDUCTORS BETWEEN NEW DISCONNECT AND NEW AIR HANDLER MIN. 3#8 CU AND 1#10 CU GND.
5. IN EXISTING CONDUIT, PROVIDE NEW CONDUCTORS FROM EXHAUST FAN TO DISTRIBUTION PANEL 'G5H', MIN. 3/4"C WITH 3#12 CU AND 1#12 CU GND. TERMINATE ON EXISTING CIRCUIT BREAKER. SEE DETAILS [A/E3.0] & [B/E3.0].
6. EXISTING ROOFTOP WEATHER RESISTANT GFCI RECEPTACLE.
7. PRESERVE EXISTING PANEL 'G5H', LOCATED IN ELECTRICAL ROOM. RING-OUT & PROVIDE PANEL REGISTER FOR EXISTING CIRCUITS.
8. PRESERVE EXISTING PANEL 'G5L', LOCATED IN ELECTRICAL ROOM. (NO CHANGES)
9. PROVIDE NEW 3/4"C WITH 3#8 CU AND 1#10 CU GND FROM AIR HANDLER UNIT TO DISTRIBUTION PANEL 'G5H'. SEE DETAILS [A/E3.0] & [B/E3.0].

1

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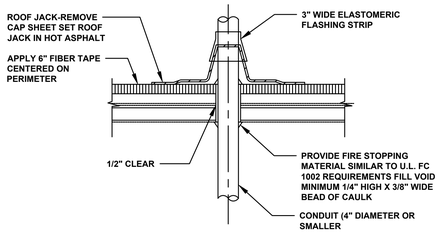
PROJECT NO: 223-0165.1337

DATE: 05/02/2024

SHEET TITLE:
ROOF POWER PLAN - LOCKER ROOMS

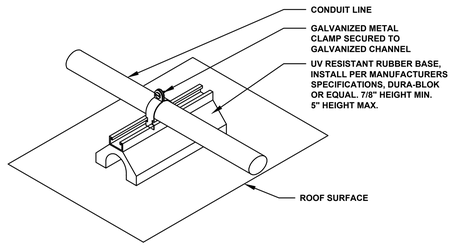
SHEET NO:
E2.6

AD01-20



DETAIL NOTE:
SIMILAR TO U.L. FIRE RESISTANCE DIRECTORY SYSTEM F-C-1002

A E3.0 CONDUIT THRU ROOF DETAIL
NO SCALE



B E3.0 ROOF PIPE SUPPORT
NO SCALE

Site Name:	*MUSD Madera South HS*						**MANUFACTURER:**	*GE*													
Panel Name:	*G1H*						**PHASE:**	3					**WIRE:**			4					
VOLTAGE:	277/ 480	Volts AC					**BUS RATING:**	400 AMPS													
MAIN BREAKER:	400 AMPS						**KAIC:**	22													
MOUNT:	*Surface*																				
ENCLOSURE TYPE:	*NEMA 1*																				
PANEL STATUS:	*Existing*																				

CKT	LOAD DESCRIPTION	BREAKER AMPS	BREAKER POLES	BREAKER STATUS	SERVICE LOAD VA	DEMAND FACTOR	USAGE FACTOR	PHASE A VA	PHASE B VA	PHASE C VA	USAGE FACTOR	DEMAND FACTOR	SERVICE LOAD VA	BREAKER STATUS	BREAKER POLES	BREAKER AMPS	LOAD DESCRIPTION	CKT
1	East Gym Lights	20	1	Ex.	2300	1.00	1.00	*4600*			1.00	1.00	2300	Ex.	1	20	West Gym Lights	2
3	East Gym Lights	20	1	Ex.	2300	1.00	1.00		*4600*		1.00	1.00	2300	Ex.	1	20	West Gym Lights	4
5	East Gym Lights	20	1	Ex.	2000	1.00	1.00			*4000*	1.00	1.00	2000	Ex.	1	20	West Gym Lights	6
7	East Gym Lights	20	1	Ex.	2000	1.00	1.00	*4000*			1.00	1.00	2000	Ex.	1	20	West Gym Lights	8
9	Center Gym Lights	20	1	Ex.	2000	1.00	1.00		*4000*		1.00	1.00	2000	Ex.	1	20	Center Gym Lights	10
11	Center Gym Lights	20	1	Ex.	2000	1.00	1.00			*4000*	1.00	1.00	2000	Ex.	1	20	Center Gym Lights	12
13	Center Gym Lights	20	1	Ex.	1500	1.00	1.00	*3000*			1.00	1.00	1500	Ex.	1	20	Center Gym Lights	14
15	Center Gym Lights	20	1	Ex.	1500	1.00	1.00		*3000*		1.00	1.00	1500	Ex.	1	20	Center Gym Lights	16
17	Center Gym Lights	20	1	Ex.	2000	1.00	1.00			*4000*	1.00	1.00	2000	Ex.	1	20	Center Gym Lights	18
19	Center Gym Lights	20	1	Ex.	2000	1.00	1.00	*4000*			1.00	1.00	2000	Ex.	1	20	Center Gym Lights	20
21	Spare	20	1	Ex.		1.00	1.00		*4094*		1.00	1.00	4094	Ex.	1	20	East Soffit Gym Lights	22
23	Spare	20	1	Ex.		1.00	1.00			*3090*	1.00	1.00	3090	Ex.	1	20	Rm. 102, 103, 104 Lights	24
25	HC-2A	110	3	New	24665	1.00	1.00	*33089*			1.00	1.00	8424	New	3	100	Sub Panel 'G1H2	26
27					24665	1.00	1.00		*33089*		1.00	1.00	8424					28
29					24665	1.00	1.00			*33089*	1.00	1.00	8424					30
31	HC-2B	110	3	New	24665	1.00	1.00	*24665*			1.00	1.00		Ex.	1	20	Spare	32
33					24665	1.00	1.00		*24665*		1.00	1.00		Ex.	1	20	Spare	34
35					24665	1.00	1.00			*29165*	1.00	1.00	4500	Ex.	1	40	Lighting Invterter System	36
37	Transformer 'TG1'	70	3	Ex.	7120	1.00	1.00	*16538*			1.00	1.00	9418	Ex.	3	40	Package Air Cond. Unit (HC-4)	38
39					8220	1.00	1.00		*17638*		1.00	1.00	9418					40
41					6860	1.00	1.00			*16278*	1.00	1.00	9418					42
								PHASE A	*PHASE B*	*PHASE C*								
								89892	*91086*	*93622*	VA							
										TOTAL	KVA	274.60						
											AMPS	330.29						

C E3.0 PANEL 'G1H' SCHEDULE
NO SCALE

Site Name:	*MUSD Madera South HS*						**MANUFACTURER:**	*GE*													
Panel Name:	*G5H*						**PHASE:**	3					**WIRE:**			4					
VOLTAGE:	277/ 480	Volts AC					**BUS RATING:**	225 AMPS													
MAIN BREAKER:	225 AMPS						**KAIC:**	22													
MOUNT:	*Surface*																				
ENCLOSURE TYPE:	*NEMA 1*																				
PANEL STATUS:	*Existing*																				

CKT	LOAD DESCRIPTION	BREAKER AMPS	BREAKER POLES	BREAKER STATUS	SERVICE LOAD VA	DEMAND FACTOR	USAGE FACTOR	PHASE A VA	PHASE B VA	PHASE C VA	USAGE FACTOR	DEMAND FACTOR	SERVICE LOAD VA	BREAKER STATUS	BREAKER POLES	BREAKER AMPS	LOAD DESCRIPTION	CKT
1	Lights, N.E.	20	1	Ex.	2330	1.00	1.00	*4028*			1.00	1.00	1698	Ex.	1	20	Lights, S.E.	2
3	Lights, N.W.	20	1	Ex.	1090	1.00	1.00		*1704*		1.00	1.00	614	Ex.	1	20	Lights, S.W.	4
5	Lights, S. Shower	20	1	Ex.	3602	1.00	1.00			*7204*	1.00	1.00	3602	Ex.	1	20	Lights, N. Shower	6
7	Walkway Lights on P.C. & T.C.	20	1	Ex.	815	1.00	1.00	*815*			1.00	1.00		Ex.	1	20	Spare	8
9	Walkway Lights on P.C. & T.C.	20	1	Ex.	1200	1.00	1.00		*1200*		1.00	1.00		Ex.	1	20	Spare	10
11	Spare	20	1	Ex.		1.00	1.00			*0*	1.00	1.00		Ex.	1	20	Spare	12
13	Spare	30	1	Ex.		1.00	1.00	*11751*			1.00	1.00	11751					14
15	Spare	20	1	Ex.		1.00	1.00		*11751*		1.00	1.00	11751	New	3	50	HC-3A	16
17	Spare	20	1	Ex.		1.00	1.00			*11751*	1.00	1.00	11751					18
19	Spare	20	1	Ex.		1.00	1.00	*11751*			1.00	1.00	11751					20
21	Spare	20	1	Ex.		1.00	1.00		*11751*		1.00	1.00	11751	New	3	50	HC-3B	22
23	Spare	20	1	Ex.		1.00	1.00			*11751*	1.00	1.00	11751					24
25	EF-6A	15	3	Ex.	943	1.00	1.00	*3049*			1.00	1.00	2106					26
27					943	1.00	1.00		*3049*		1.00	1.00	2106	New	3	20	EF-1A	28
29					943	1.00	1.00			*3049*	1.00	1.00	2106					30
31	EF-6A	15	3	Ex.	943	1.00	1.00	*3049*			1.00	1.00	2106					32
33					943	1.00	1.00		*3049*		1.00	1.00	2106	New	3	20	EF-1B	34
35					943	1.00	1.00			*3049*	1.00	1.00	2106					36
37	Transformer 'TG5'	100	3	Ex.	14406	1.00	1.00	*14406*			1.00	1.00		Ex.	1	20	Unlabeled	38
39					14110	1.00	1.00		*14110*		1.00	1.00		Ex.	1	20	Unlabeled	40
41					10716	1.00	1.00			*10716*	1.00	1.00		Ex.	1	20	Unlabeled	42
								PHASE A	*PHASE B*	*PHASE C*								
								48849	*46614*	*47520*	VA							
										TOTAL	KVA	142.98						
											AMPS	171.98						

D E3.0 PANEL 'G5H' SCHEDULE
NO SCALE

Site Name:	*MUSD Madera South HS*						**MANUFACTURER:**	*SQUARE D OR EQUAL*													
Panel Name:	*G7H*						**PHASE:**	3					**WIRE:**			4					
VOLTAGE:	277/ 480	Volts AC					**BUS RATING:**	400 AMPS													
MAIN BREAKER:	300 AMPS						**KAIC:**	22													
MOUNT:	*Surface*																				
ENCLOSURE TYPE:	*NEMA 1*																				
PANEL STATUS:	*New*																				

CKT	LOAD DESCRIPTION	BREAKER AMPS	BREAKER POLES	BREAKER STATUS	SERVICE LOAD VA	DEMAND FACTOR	USAGE FACTOR	PHASE A VA	PHASE B VA	PHASE C VA	USAGE FACTOR	DEMAND FACTOR	SERVICE LOAD VA	BREAKER STATUS	BREAKER POLES	BREAKER AMPS	LOAD DESCRIPTION	CKT
1	South Gym Lights	20	1	Ex.	2760	1.00	1.00	*5520*			1.00	1.00	2760	Ex.	1	20	North Gym Lights	2
3	West Gym Lights	20	1	Ex.	2415	1.00	1.00		*4830*		1.00	1.00	2415	Ex.	1	20	East Gym Lights	4
5	South Center Gym Lights	20	1	Ex.	2150	1.00	1.00			*5160*	1.00	1.00	3010	Ex.	1	20	East Gym Lights	6
7	South Center Gym Lights	20	1	Ex.	2150	1.00	1.00	*3030*			1.00	1.00	880	Ex.	1	20	Center Gym Lights	8
9	North Center Gym Lights	20	1	Ex.	2150	1.00	1.00		*5160*		1.00	1.00	3010	Ex.	1	20	West Center Gym Lights	10
11	North Center Gym Lights	20	1	Ex.	2150	1.00	1.00			*2150*	1.00	1.00		Ex.	1	20	Spare	12
13	LCP G7	20	1	Ex.	360	1.00	1.00	*360*			1.00	1.00		Ex.	1	20	Spare	14
15	Spare	20	1	Ex.		1.00	1.00		*0*		1.00	1.00		Ex.	1	20	Spare	16
17	Spare	20	1	Ex.		1.00	1.00			*0*	1.00	1.00		Ex.	1	20	Spare	18
19	Spare	20	1	Ex.		1.00	1.00	*1035*			1.00	1.00	1035	Ex.	1	20	Weight Rm. Lights	20
21	Wrestling & Ele. Rm. Lights	20	1	Ex.	100	1.00	1.00		*1636*		1.00	1.00	1536	Ex.	1	20	Exterior Lights on TC & PC	22
23	Weight Rm. Exit Lights	20	1	Ex.	150	1.00	1.00			*150*	1.00	1.00		Ex.	1	20	Spare	24
25	HC-1A	90	3	New	21063	1.00	1.00	*42126*			1.00	1.00	21063					26
27					21063	1.00	1.00		*42126*		1.00	1.00	21063	New	3	90	HC-1B	28
29					21063	1.00	1.00			*42126*	1.00	1.00	21063					30
31	Exhaust Fans (EF-3A, EF-3B)	20	3	Ex.	1884	1.00	1.00	*1884*			1.00	1.00		Ex.	1	20	Spare	32
33					1884	1.00	1.00		*1884*		1.00	1.00		Ex.	1	20	Spare	34
35					1884	1.00	1.00			*6384*	1.00	1.00	4500	Ex.	1	30	Invterter	36
37	Transformer 'TG7'	70	3	Ex.	8083	1.00	1.00	*9413*			1.00	1.00	1330					38
39					8764	1.00	1.00		*10094*		1.00	1.00	1330	Ex.	3	15	Exhaust Fan (EF-2)	40
41					7943	1.00	1.00			*9273*	1.00	1.00	1330					42
								PHASE A	*PHASE B*	*PHASE C*								
								63368	*65730*	*65243*	VA							
										TOTAL	KVA	194.34						
											AMPS	233.76						

E E3.0 PANEL 'G7H' SCHEDULE
NO SCALE

Site Name:	*MUSD Madera South HS*						**MANUFACTURER:**	*SQUARE D OR EQUAL*													
Panel Name:	*G7H2*						**PHASE:**	3					**WIRE:**			4					
VOLTAGE:	277/ 480	Volts AC					**BUS RATING:**	100 AMPS													
MAIN BREAKER:	100 AMPS						**KAIC:**	22													
MOUNT:	*Surface*																				
ENCLOSURE TYPE:	*NEMA 1*																				
PANEL STATUS:	*New*																				

CKT	LOAD DESCRIPTION	BREAKER AMPS	BREAKER POLES	BREAKER STATUS	SERVICE LOAD VA	DEMAND FACTOR	USAGE FACTOR	PHASE A VA	PHASE B VA	PHASE C VA	USAGE FACTOR	DEMAND FACTOR	SERVICE LOAD VA	BREAKER STATUS	BREAKER POLES	BREAKER AMPS	LOAD DESCRIPTION	CKT
1					2106	1.00	1.00	*2106*			1.00	1.00		__	__	__	__	2
3	EF-8A	15	3	New	2106	1.00	1.00		*2106*		1.00	1.00		__	__	__	__	4
5					2106	1.00	1.00			*2106*	1.00	1.00		__	__	__	__	6
7					2106	1.00	1.00	*2106*			1.00	1.00		__	__	__	__	8
9	EF-8B	15	3	New	2106	1.00	1.00		*2106*		1.00	1.00		__	__	__	__	10
11					2106	1.00	1.00			*2106*	1.00	1.00		__	__	__	__	12
13					2106	1.00	1.00	*2106*			1.00	1.00		__	__	__	__	14
15	EF-8C	15	3	New	2106	1.00	1.00		*2106*		1.00	1.00		__	__	__	__	16
17					2106	1.00	1.00			*2106*	1.00	1.00		__	__	__	__	18
19					2106	1.00	1.00	*2106*			1.00	1.00		__	__	__	__	20
21	EF-8D	15	3	New	2106	1.00	1.00		*2106*		1.00	1.00		__	__	__	__	22
23					2106	1.00	1.00			*2106*	1.00	1.00		__	__	__	__	24
25	__	__	__	__		1.00	1.00	*0*			1.00	1.00		__	__	__	__	26
27	__	__	__	__		1.00	1.00		*0*		1.00	1.00		__	__	__	__	28
29	__	__	__	__		1.00	1.00			*0*	1.00	1.00		__	__	__	__	30
31	__	__	__	__		1.00	1.00	*0*			1.00	1.00		__	__	__	__	32
33	__	__	__	__		1.00	1.00		*0*		1.00	1.00		__	__	__	__	34
35	__	__	__	__		1.00	1.00			*0*	1.00	1.00		__	__	__	__	36
37	__	__	__	__		1.00	1.00	*0*			1.00	1.00		__	__	__	__	38
39	__	__	__	__		1.00	1.00		*0*		1.00	1.00		__	__	__	__	40
41	__	__	__	__		1.00	1.00			*0*	1.00	1.00		__	__	__	__	42
								PHASE A	*PHASE B*	*PHASE C*								
								8424	*8424*	*8424*	VA							
										TOTAL	KVA	25.27						
											AMPS	30.40						

≤ 80% OF MAIN BREAKER

F E3.0 PANEL 'G1H2' SCHEDULE
NO SCALE

NET POSITIVE
consulting engineers
www.NPCeng.com
559.940.7293

REVISIONS:

Symbol	Description

--/--/----	

Symbol	Description

--/--/----	

Symbol	Description

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REGISTERED PROFESSIONAL ENGINEER
STEFAN R. KEPPEN
No. E23239
ELECTRICAL
STATE OF CALIFORNIA

REFIK
ELECTRICAL ENGINEERS
1500 SHAW AVENUE
CLOVIS, CA 93611
(559) 484-2049

PROJECT NAME:
HVAC IMPROVEMENTS AT
MADERA SOUTH HIGH SCHOOL
MADERA UNIFIED SCHOOL DISTRICT
705 W PECAN AVE, MADERA, CA 93637
PROJECT NO: 223-0165.1337

DATE: 05/02/2024
SHEET TITLE:
DETAILS & SCHEDULES
SHEET NO:
E3.0

AD01-21