# ADDENDUM NUMBER 1

Bid Date: April 28, 2016
Bid Time: 2:00 PM

PROJECT:

Madera USD – Madera High School
HVAC Modifications
200 South L Street
Madera, CA 93637
LNCA Project Number: 15135
DSA Application Number: 02-114757
DSA File Number: 20-H3


ENGINEER:

Lawrence-Nye-Carlson Associates
Consulting Mechanical Engineers, Inc.
7491 N. Remington Avenue, Suite 101
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PHONE: (559) 431-0101
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Date Published
April 22, 2016

ADDENDUM NO.1

The following additions, deletions and revisions to the plans and specifications 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.

1-1. **Specifications:**

A. Refer to Document 00500. Work directly related to providing air conditioning for the classrooms shall be complete and operating by August 5, 2016 and shall be subject to the liquidated damages. Other work not completed by August 5, 2016 shall be completed on a schedule coordinated with the District.

B. Add attached Specification Section 07 41 13 Metal Wall Panels.

1-2. **Drawing Sheet MP-2:**

A. Remove existing gas pipe in mechanical well to existing evap. cooler and furnace. Cap pipe at end of mechanical well.

B. Revise note at HOME ECON. 10 to "INSTALL 1/4" CEMENTIOUS FIBER BOARD PAINTED TO MATCH EXISTING IN (E) WINDOW AT REMOVED (E) UV OSA INTAKE LOUVER. SEE DET. A/MP-4. (TYP. OF 3)".

1-3. **Drawing Sheet MP-3:**

A. At the Ind. Arts and Science buildings, when removing the existing HVAC pipe at the unit ventilators, remove the existing metal shroud and replace with t-bar to match existing.

B. Remove existing roof air conditioner at 33A: Computer Lab, see attached drawing AD1-1.

C. Revise note at CLASSROOM 1 at Ind. Arts building "INSTALL 1/4" CEMENTIOUS FIBER BOARD PAINTED TO MATCH EXISTING IN (E) WINDOW AT REMOVED (E) UV OSA INTAKE LOUVER. SEE DET. A/MP-4. (TYP. OF 5)".

D. Revise note at CLASSROOM LAB 4 at Science building to "INSTALL 1/4" CEMENTIOUS FIBER BOARD PAINTED TO MATCH EXISTING IN (E) WINDOW AT REMOVED (E) UV OSA INTAKE LOUVER. SEE DET. A/MP-4. (TYP.)".

E. Add window panel detail A/MP-3 per attached drawing AD1-2.

1-4. **Drawing Sheet MP-4:**

A. Supply ductwork at the following rooms shall go horizontally to the windows and shall be mounted to mullions at the covered windows: HOME ECON. 20; CLASSROOMS 22 TO 25. Ductwork shall be supported on the windows per the new detail E/MP-4 in this addendum.

B. Revise duct support detail C/MP-4 per attached drawing AD1-3.

B. Add duct support detail E/MP-4 per attached drawing AD1-4.

C. Revise gas pipe sizes and add gas pipe connection to (E) MUA unit per attached drawings AD1-5, 6.

1-5. **Drawing Sheet E-3:**

A. Existing electrical panels and FACP locations at the Home Economics building are shown for reference per attached drawing AD1-7.

1-6. **Drawing Sheet E-4:**

A. Existing electrical panel locations at the Science building are shown for reference per attached drawing AD1-8.

1-7. **Drawing Sheet E-5:**

A. Existing electrical panel location at the Industrial Arts building is shown for reference per attached drawing AD1-9.

**********

**END OF ADDENDUM NO. 1**

# SECTION 074213 – METAL WALL PANELS

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

### 1.2 SUMMARY.

A. Work described in this section includes exposed fastener, lap-seam pre-formed metal wall panel system complete with fasteners, sealants, perimeter and penetration flashing and closures.

B. Related work specified elsewhere:

1. Wood sheathing.
2. Rough carpentry.
3. Flashing and sheet metal. (Not wall panel related).

### 1.3 DEFINITIONS

A. American Architectural Manufacturer Association (AAMA):

1. AAMA 621-96: Voluntary/Standard Specifications for High Performance Organic Coatings on Coil Coated Architectural Hot Dipped Galvanized (HDG) & Zinc-Aluminum Coated Steel Substrates

B. American Iron and Steel Institute (AISI):

1. S100-07: 2007 Edition of the North American Specification for the Design of Cold-Formed Steel Structural Members.

C. American Society of Civil Engineers (ASCE):

1. ASCE 7-05: Minimum Design Loads for Buildings and Other Structures.

D. American Society for Testing and Materials (ASTM):

1. A653-03: Specification for Steel Sheet, Zinc-coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
2. A755–03: Standard Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Prepainted by the Coil-Coating Process for Exterior Exposed Building Products.
3. A792-03: Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
4. B209-02a: Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
5. D1056-00: Specification for Flexible Cellular Materials - Sponge or Expanded Rubber.

6. D3575-00e1: Standard Test Methods for Flexible Cellular Materials made from Olefin Polymers.
7. E283-04: Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
8. E331-00(2009): Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

E. Sheet Metal and Air Conditioning Contractors National Association (SMACNA):
1. Architectural Sheet Metal Manual, 6th edition.

F. Underwriters Laboratory (UL):
1. UL 580, 4th Ed.: Standard for Tests for Uplift Resistance of Roof Assemblies.

G. National Association of Architectural Metal Manufacturers (NAAMM)
1. Metal Finishes Manual for Architectural and Metal Products

1.4 DESIGN AND PERFORMANCE CRITERIA.

A. General Performance: Metal wall panel assemblies shall comply with performance requirements without failure due to defective manufacture, fabrication, installation, or other defects in construction.

B. Thermal Expansion and Contraction.
1. Completed metal wall panel and flashing system shall be capable of withstanding expansion and contraction of components caused by changes in temperature without buckling, or reducing performance ability.
2. The design temperature differential shall be not less than 220 degrees Fahrenheit.

C. Uniform Wind Load Capacity.
1. Installed wall system shall withstand negative wind pressures complying with the following criteria.
a. Design Code: ASCE 7, Method 2 for Components and Cladding.
b. Safety Factor: 1.67.
2. The nominal capacity of the panel system shall be determined based on section property and strength of materials calculations in accordance with AISI S100. The allowable load carrying capacity shall be calculated by reducing the calculated nominal capacity by the safety factor listed herein.

D. Wind Uplift Classification: The panel system shall be listed as a Class 90 windstorm rated system, as determined by UL 580.

E. Air infiltration: The panel system shall be tested in accordance with ASTM E283, and meet or exceed the following performance requirements:

| Pressure | Area Leakage Rate |
|---|---|
| 1.57 PSF | 0.00 cfm/sq.ft. |
| 6.24 PSF | 0.00 cfm/sq.ft. |
| 20.0 PSF | 0.00 cfm.sq.ft. |

F. Static air pressure water infiltration: The panel system shall be tested in accordance with ASTM E331, and meet or exceed the following performance requirements:

| Pressure | Result |
|---|---|
| 5.0 Gal/Hr per S.F. and Static Air Pressure of 20.0 psf for 15 minutes | No Leakage |

1.5 SUBMITTALS.

A. Shop drawings: Show wall panel system with flashings and accessories in elevation, sections, and details. Include metal thicknesses and finishes, panel lengths, joining details, anchorage details, flashings and special fabrication provisions for termination and penetrations. Indicate relationships with adjacent and interfacing work. Shop drawings to be prepared by metal wall panel manufacturer.

B. Design Test Reports.

1. Submit copies of design test reports for each of the performance testing standards listed in specification article 1.4.

2. Test reports shall be performed by independent, accredited testing laboratories, and shall bear the seal of a registered professional engineer.

C. Warranty: Provide unexecuted specimen warranty documents for each warranty as required in specification article 1.10.

D. Samples.

1. Submit sample of panel section, at least 6" x 6" showing seam profile with factory applied seam sealant, and also a sample of color selected.

2. Submit sample of panel clip and field applied sealants.

1.6 QUALITY CRITERIA/INSTALLER QUALIFICATIONS.

A. Engage an experienced metal wall panel contractor (erector) to install wall panel system who has a minimum of three (3) years experience specializing in the installation of metal wall systems.

B. Contractor must be certified by manufacturer specified as a supplier of the metal wall system and obtain written certification from manufacturer that installer is approved for installation of the specified system.

C. Successful contractor must obtain all components of wall system from a single manufacturer. Any secondary products that are required which cannot be supplied by the specified manufacturer must be recommended and approved in writing by primary manufacturer prior to bidding.

1.7 DELIVERY, STORAGE, AND HANDLING.

A. Inspect materials upon delivery.

B. Handle materials to prevent damage.

C. Store materials off ground providing for drainage; under cover providing for air circulation; and protected from any debris.

1.8 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit metal wall panel work to be performed according to manufacturer's written instructions and warranty requirements.

B. Field Measurements: Verify actual dimensions of construction contiguous with metal wall panels by field measurements before fabrication.

1.9 COORDINATION

A. Coordinate sizes and locations of wall penetrations with actual equipment provided.

B. Coordinate metal wall panels with rain drainage work, flashing, trim, and construction of other adjoining work to provide a leak proof, secure, and noncorrosive installation.

1.10 WARRANTIES

A. Endorse and forward to owner the following warranties:

1. Manufacturer's standard 20 year finish warranty covering checking, crazing, peeling, chalking, fading, and adhesion of the prepainted sheet metal materials.

2. Installer's 1 year warranty covering wall panel system installation and watertightness.

B. Warranties shall commence on date of substantial completion.

PART 2 - PRODUCTS

2.1 PANEL MATERIALS

A. Painted, metallic-Coated Steel Sheet: Restricted flatness steel sheet metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A755/A755M.

1. Recycled Content: Provide steel sheet with average recycled content such that postconsumer recycled content plus one-half of preconsumer recycled content is at least 70 percent.

2. 22 gauge, Zinc-Coated (Galvanized) Steel Sheet, as per ASTM A653: G90 (Z275) coating designation; structural quality, grade 40 ksi (275 MPa).

3. Texture: Smooth surface.
4. Exposed Coil-Coated Finish:
    a. 2-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Manufacturers' approved applicator to prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
    b. Coating system shall provide nominal 1.0 mil (0.025 mm) dry film thickness, consisting of primer and color coat.
    c. Color shall be selected from IMETCO's Standard Colors.
5. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored polyester backer finish, consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil (0.013 mm).

B. Panel Sealants:

1. Seam Sealant Tape: Non-curing, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2-inch- (13-mm-) wide and 1/8-inch- (3-mm-) thick.
2. Exposed Sealant: ASTM C 920; elastomeric tripolymer, polyurethane, or other advanced polymer sealant; of type, grade, class, and use classifications required to seal joints in metal wall panels and remain weathertight; and as recommended in writing by metal wall panel manufacturer.
3. Concealed Sealant: ASTM C 1311: Butyl-Based, Solvent-Release, One-Part Sealant.

## 2.2 MISCELLANEOUS METAL FRAMING

A. Miscellaneous Metal Framing, General: ASTM C 645, cold-formed metallic-coated steel sheet, ASTM A 653, G90 (Z275) hot-dip galvanized

B. Hat-Shaped, Rigid Furring Channels:

1. Nominal Thickness: 18 gauge minimum
2. Depth: 1-1/2 inches (38 mm).
3. Top flange: 1-1/8 inches (28.5 mm) minimum

C. Fasteners for Miscellaneous Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten miscellaneous metal framing members to substrates.

## 2.3 MISCELLANEOUS MATERIALS

A. Concealed trim and flashing fasteners: Corrosion resistant steel screws, #10 minimum diameter x length appropriate for substrate, hex washer head or pancake head. Use self-drilling, self-tapping for metal substrate or A-point for plywood substrate.

B. Exposed trim and flashing: Prepainted pan head or pancake head corrosion resistant coated or plated screws with neoprene sealing washer, or prepainted 1/8-inch- (3-mm-) diameter stainless steel rivets.

C. Exposed fasteners for anchorage of panels to wall framing: Corrosion resistant coated or plated carbon steel hex washer head screws with neoprene sealing washer, prepainted to match panels. Use #12 x 7/8" self-drilling, self-tapping for metal substrate or #14 x 1-1/2" A-point for wood substrate.

D. Exposed fasteners for stitching panel side laps: Corrosion resistant coated or plated carbon steel hex washer head screws with neoprene sealing washer, prepainted to match panels. Use 1/4" x 1-1/4" self-tapping screws with #1 size drilling point.

## 2.4 METAL WALL PANELS

A. General: Provide factory-formed metal wall panels designed to be field assembled by overlapping and sealing seams, and attaching to wall structure with exposed screw fasteners.

B. Exposed fastener lap seam wall panels with trapezoidal ribs at 7.2" on center.

1. Panel shall be IMETCO 7.2 Rib Panel system as manufactured by Innovative Metals Company, Inc. (IMETCO).

a. No substitutions will be permitted.

2. Material: Zinc-coated (galvanized) steel sheet. See 2.1 for finishes and color selection.

3. Characteristics.

a. Fabrication: Panels shall be factory formed from specified metal.

b. The standard profile shall have trapezoidal ribs at 7.2 inches (183 mm) on center.

c. Panel orientation: Vertical.

d. Configuration: Panel shall be 36-inches- (914-mm-) wide nominal.

e. Panel Depth (Rib Height): 1-1/2 inches (38 mm), nominal.

f. Panel length: Up to 45 feet (13.7 m) maximum recommended length.

## 2.5 ACCESSORIES

A. Wall Panel Accessories: Provide components approved by wall panel manufacturer and as required for a complete metal wall panel assembly including trim, copings, fasciae, corner units, head closures, cleats, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal roof panels unless otherwise indicated.

1. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- (25-mm-) thick, flexible closure strips meeting ASTM D1056 and/or D3575; premolded to match metal roof panel profile. Provide closure strips at head (outside), sill (inside), and where necessary to ensure weathertight construction.

B. Flashing and Trim: Formed from same material and gauge as wall panels, prepainted with coil coating. Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, head, sill, corners, jambs, framed openings, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal wall panels.

## 2.6 FABRICATION

A. Fabricate and finish metal wall panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes and as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.

B. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

C. Form flashing components from full single width sheet in minimum 10’-0” (3 m) sections. Provide mitered trim corners, joined using closed end pop rivets and butyl-based, solvent released one-part sealant.

D. Sheet Metal Accessories: Fabricate flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of item indicated.

1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.

2. Sealed Joints: Form nonexpanding but movable joints in metal to accommodate butyl-based sealant to comply with SMACNA standards.

3. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.

4. Fabricate cleats and attachment devices of size and metal thickness recommended by SMACNA's "Architectural Sheet Metal Manual" or by metal wall panel manufacturer for application, but not less than thickness of metal being secured.

## 2.7 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

## PART 3 - PREPERATION & EXECUTION

### 3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal wall panel supports, and other conditions affecting performance of the Work.

B. Examine primary and secondary wall framing to verify that girts, studs, angles, channels, and other structural panel support members and anchorages have been installed within alignment tolerances required by metal wall panel manufacturer.

C. Examine solid wall sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal wall panel manufacturer.

D. Examine roughing-in for components and systems penetrating metal wall panels to verify actual locations of penetrations relative to seam locations of metal wall panels before metal wall panel installation.

E. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

A. Clean substrates of substances harmful to insulation, including removing projections capable of interfering with insulation attachment.

B. Miscellaneous Framing: Install sub-framing, furring, and other miscellaneous wall panel support members and anchorage according to metal wall panel manufacturer's written instructions.

C. Establish straight, side and crosswise benchmarks

D. Use proper size and length fastener for strength requirements.

E. All walls shall be checked for square and straightness. Inside and outside corners may not be plumb; set a true line for the corner flashing with string line.

F. Measure the wall lengthwise to confirm panel lengths and verify clearances for thermal movement.

### 3.3 METAL WALL PANEL INSTALLATION

A. All details will be shown on in accordance with approved shop drawings and manufacturer's product data, within specified erection tolerances.

B. Directly over the completed wall substrate, install wall panels using specified exposed fasteners and sealants. Fastener spacing for anchorage to wall structure and stitching of lap seams shall be in accordance with manufacturer's shop drawings and as required for structural strength and serviceability.

C. Installation of Wall Panels: Wall panels can be installed by starting from one end and working towards the opposite end. If panel end laps are approved by architect and shown on contract documents, installation shall be from bottom-to-top to allow for proper shingling effect of end laps.

D. Isolate dissimilar metals and masonry or concrete from metals with bituminous coating. Use gasketed fasteners where required to prevent corrosive action between fastener, substrate, and panels.

E. Limit exposed trim and flashing fasteners to extent indicated on contract drawings.

F. Seal laps and joints in accordance with wall panel system manufacturer's product data.

G. Coordinate flashing and sheet metal work to provide weathertight conditions at wall terminations. Fabricate and install in accordance with standards of SMACNA Manual.

H. Provide for temperature expansion/contraction movement of panels at wall penetrations and wall mounted equipment in accordance with system manufacturer's product data and design calculations.

I. Installed system shall be true to line and plane and free of dents, and physical defects. In light gauge panels with wide flat surfaces, some oil canning may be present. Oil canning does not affect the finish or structural integrity of the panel and is therefore not cause for rejection.

J. At joints in linear sheet metal items, set sheet metal items in two ¼-inch- (6-mm-) beads of butyl sealant. Extend sealant over all metal surfaces. Mate components for positive seal. Allow no sealant to migrate onto exposed surfaces.

K. Remove damaged work and replace with new, undamaged components.

L. Touch up exposed fasteners using paint furnished by the panel manufacturer and matching exposed panel surface finish.

M. Clean exposed surfaces of wall panels and accessories after completion of installation. Leave in clean condition at date of substantial completion. Touch up minor abrasions and scratches in finish.

## 3.4 ERECTION TOLERANCES

A. Installation Tolerances: Shim and align metal wall panel units within installed tolerance of 1/4 inch in 20 feet (6 mm in 6 m) at location lines as indicated and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.

## 3.5 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect metal wall panel installation, including accessories. Report results in writing.

B. Remove and replace applications of metal wall panels where inspections indicate that they do not comply with specified requirements.

C. Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.6 CLEANING

A. Remove temporary protective coverings and strippable films, if any, as metal wall panels are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of metal wall panel installation, clean finished surfaces as recommended by metal wall panel manufacturer. Maintain in a clean condition during construction.

B. Replace metal wall panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

3.7 OWNER SUPPLIED MATERIALS

A. Contractor must submit all quantities of owner supplied materials; per the list supplied below required to complete the project per specification section 07 41 13 with their bid.

B. Contractor must provide all labor and incidental materials to install owner supplied materials as part of their bid.

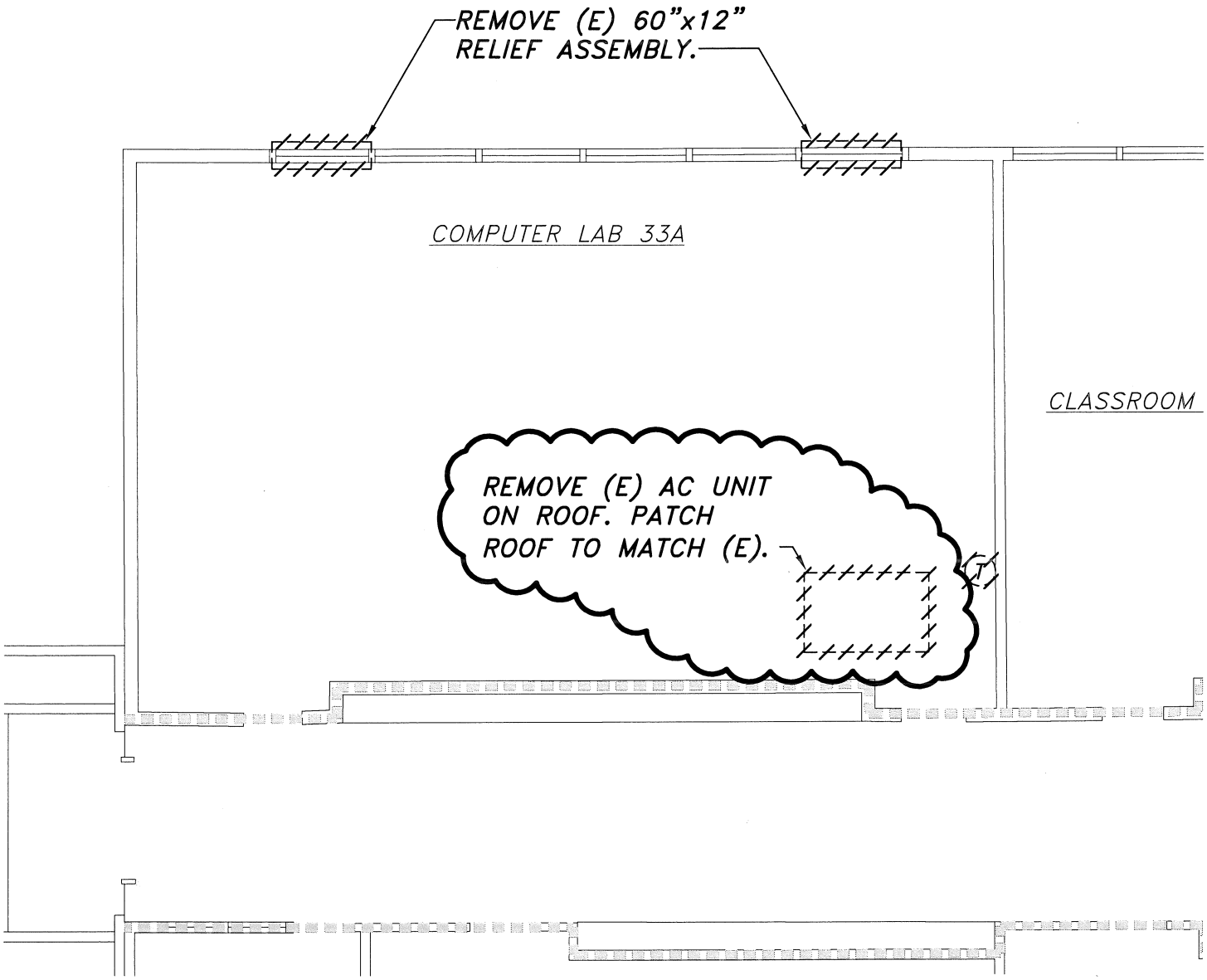
C. All materials not specifically included in the owner supplied materials section will be the responsibility of the contractor to provide and install in compliance with section 07 41 13.

D. Contractor must provide an accurate list of owner supplied materials to the Owner, overages will be returned to the owner and under estimated quantities will be the full responsibility of the contractor to supply and install in full compliance with this section.

E. Freight charges of owner supplied materials will be the responsibility of the owner. Contractor must take delivery of materials, properly protect, cover and store at jobsite.

F. Contractor must be able to provide certification in writing from roof system manufacturer that the contractor is approved to install the specified roof system and provide all warranty requirements of section 07 41 13.

END OF SECTION 074113




# PARTIAL AC & PLBG. PLAN – SCIENCE

**SCALE : NONE**

N

REGISTERED PROFESSIONAL ENGINEER
GILBERT L. NYE
M 026224
Exp. 6·30·17
MECHANICAL
STATE OF CALIFORNIA

*REVISION:*
*REFER TO SHEET MP–3.*
*REMOVE (E) ROOF AC UNIT PER THIS DWG.*


LAWRENCE NYE CARLSON ASSOCIATES
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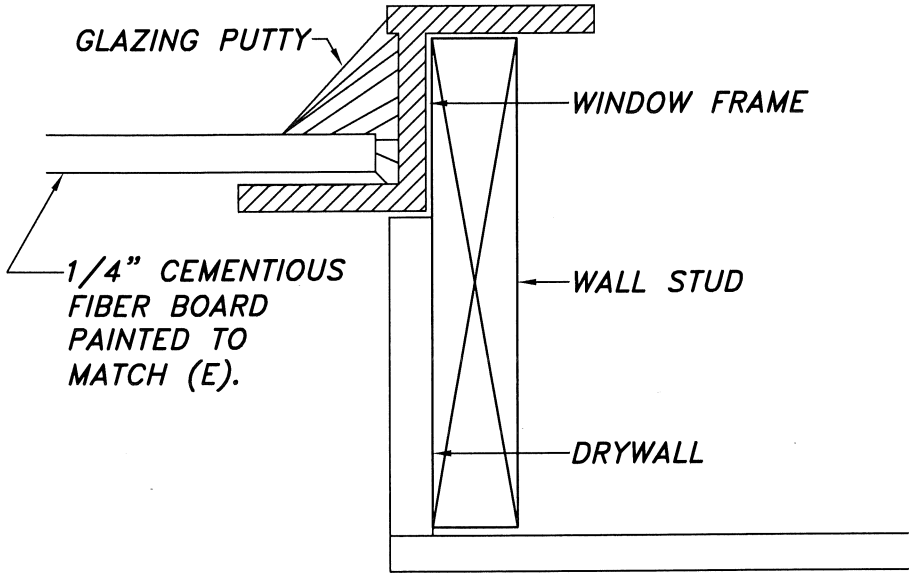
PROJECT: *MADERA USD – MADERA HIGH SCHOOL HVAC MODIFICATIONS*
*DSA APPLICATION NO.: 02–114757*
*DSA FILE NO.: 20–H3*

SHEET NO. *AD1–1* OF *9*

| PREPARED BY | DATE | CHECKED BY | PROJECT NO. |
|---|---|---|---|
| *EKA/KM* | *04/22/16* | *GLN* | *15135* |




# WINDOW PANEL DETAIL

A
MP-3

SCALE: NONE

REGISTERED PROFESSIONAL ENGINEER
GILBERT L. NYE
M 026224
Exp. 6-30-17
MECHANICAL
STATE OF CALIFORNIA

REVISION:
REFER TO SHEET MP-3.
ADD DETAIL PER THIS SHEET.

LAWRENCE NYE CARLSON ASSOCIATES
CONSULTING MECHANICAL ENGINEERS INC
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PROJECT: MADERA USD – MADERA HIGH SCHOOL
HVAC MODIFICATIONS
DSA APPLICATION NO.: 02-114757
DSA FILE NO.: 20-H3

SHEET NO. AD1-2 OF 9

| PREPARED BY | DATE | CHECKED BY | PROJECT NO. |
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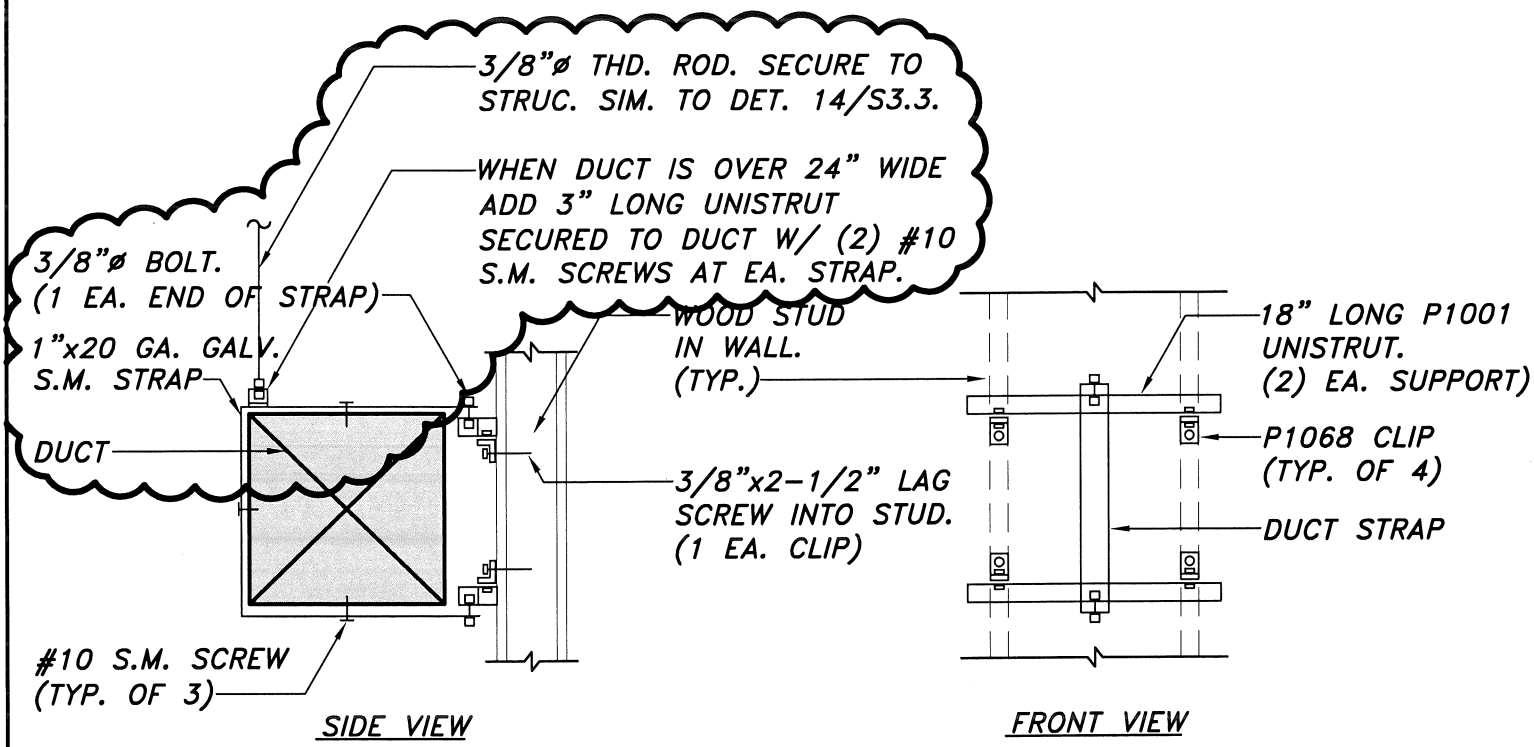
| EKA/KM | 04/22/16 | GLN | 15135 |




NOTES:
1. SUPPORT DUCT AT 8' O.C. MIN.
2. BOTTOM OF EXPOSED DUCT SHALL BE MIN. 80" A.F.F. (TYP.)

# DUCT ON WALL SUPPORT

C/MP-4

SCALE: NONE

REVISION:
REFER TO SHEET MP-4.
REVISE DET. C/MP-4 PER DWG. ON THIS SHEET.

REGISTERED PROFESSIONAL ENGINEER
GILBERT L. NYE
M 026224
Exp. 6-30-17
MECHANICAL
STATE OF CALIFORNIA


LAWRENCE NYE CARLSON ASSOCIATES
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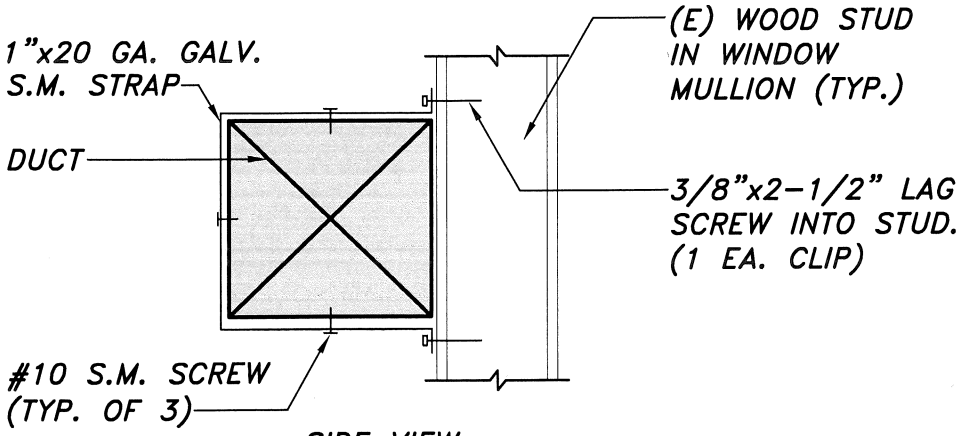
SHEET NO. AD1-3 OF 9




SIDE VIEW

NOTES:
1. SUPPORT DUCT AT 8' O.C. MIN.
2. BOTTOM OF EXPOSED DUCT SHALL BE MIN. 80" A.F.F. (TYP.)

# DUCT ON WALL SUPPORT

E
MP-4

SCALE: NONE

REVISION:
REFER TO SHEET MP-4.
ADD ATTACHED DETAIL.

REGISTERED PROFESSIONAL ENGINEER
GILBERT L. NYE
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Exp. 6-30-17
MECHANICAL
STATE OF CALIFORNIA

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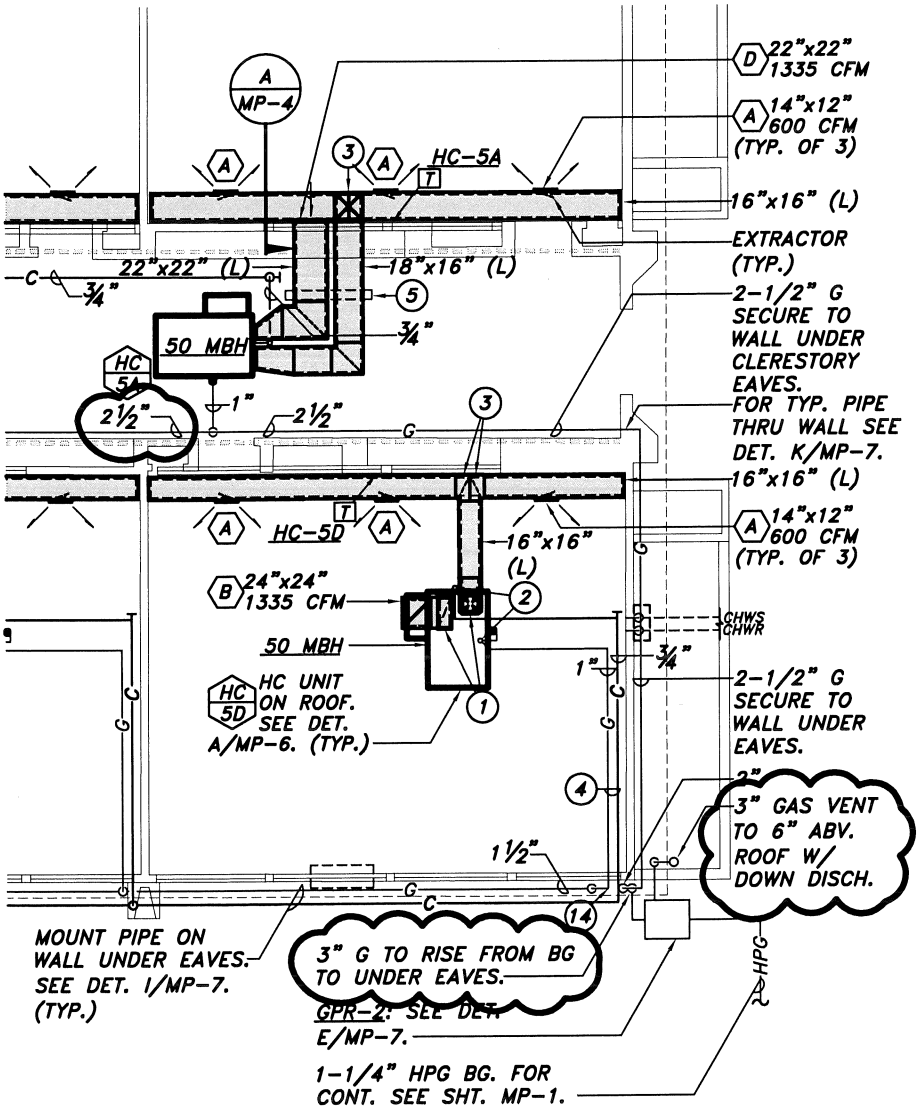
SHEET NO.
AD1-4
OF 9




# PARTIAL AC & PLBG. PLAN – HOME ECON.

SCALE : NONE

N

REVISION:
REFER TO SHEET MP-4.
REVISE GAS PIPE SIZES
PER THIS DRAWING.

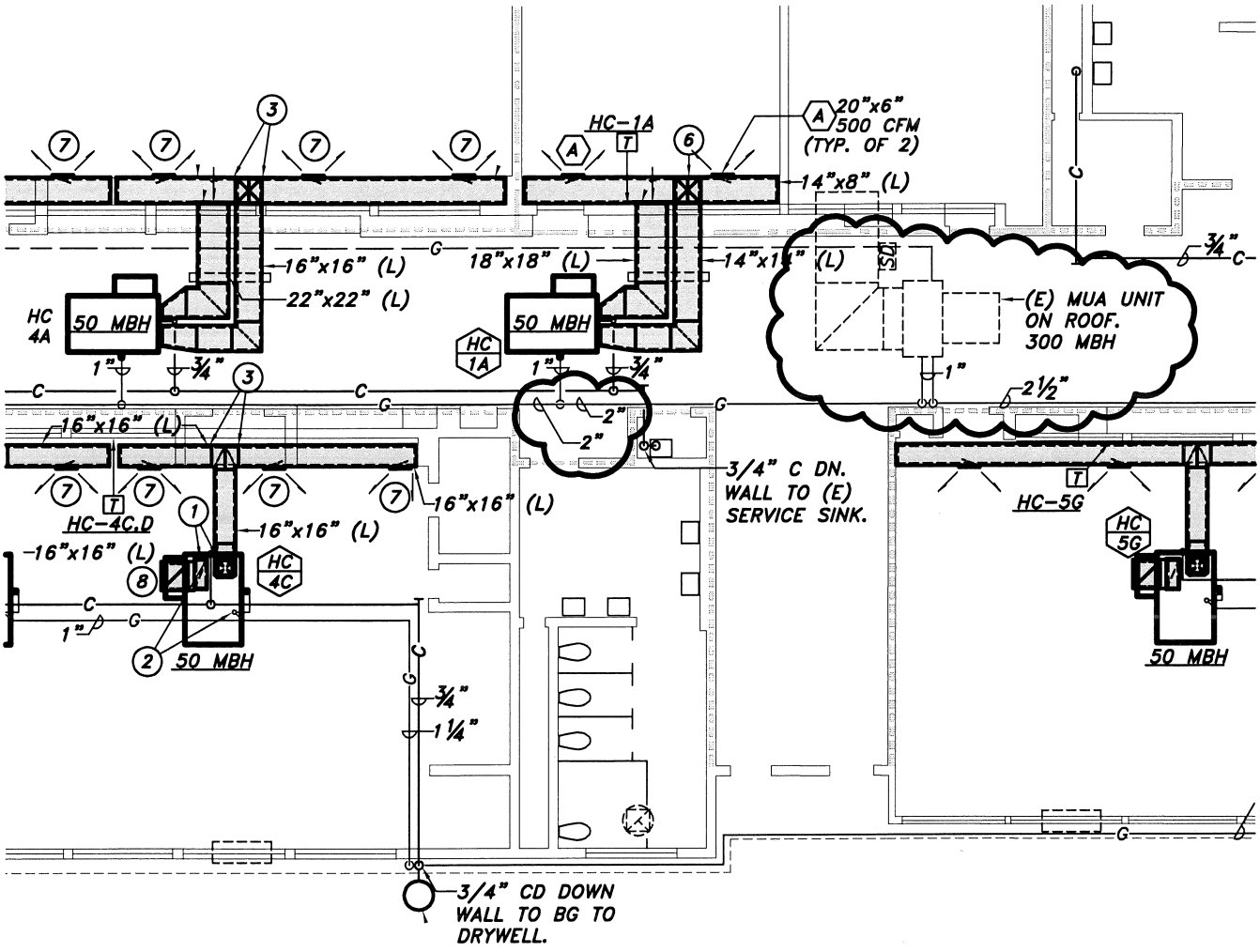
REGISTERED PROFESSIONAL ENGINEER
GILBERT L. NYE
M 026224
Exp. 6·30·17
MECHANICAL
STATE OF CALIFORNIA


LAWRENCE NYE CARLSON ASSOCIATES
CONSULTING MECHANICAL ENGINEERS INC
7491 N. Remington Ave., Suite 101 Fresno, CA 93711
(559) 431-0101 15135 FAX (559) 431-1362


PROJECT: MADERA USD – MADERA HIGH SCHOOL
HVAC MODIFICATIONS
DSA APPLICATION NO.: 02-114757
DSA FILE NO.: 20-H3

| PREPARED BY | DATE | CHECKED BY | PROJECT NO. |
|---|---|---|---|
| EKA/KM | 04/22/16 | GLN | 15135 |

SHEET NO. AD1-5 OF 9




# PARTIAL AC & PLBG. PLAN – HOME ECON.

SCALE : NONE

N

REVISION:
REFER TO SHEET MP-4.
ADD GAS PIPE CONN. TO (E) MUA UNIT AND REVISE GAS PIPE SIZES PER THIS DRAWING.

REGISTERED PROFESSIONAL ENGINEER
GILBERT L. NYE
M 026224
Exp. 6-30-17
MECHANICAL
STATE OF CALIFORNIA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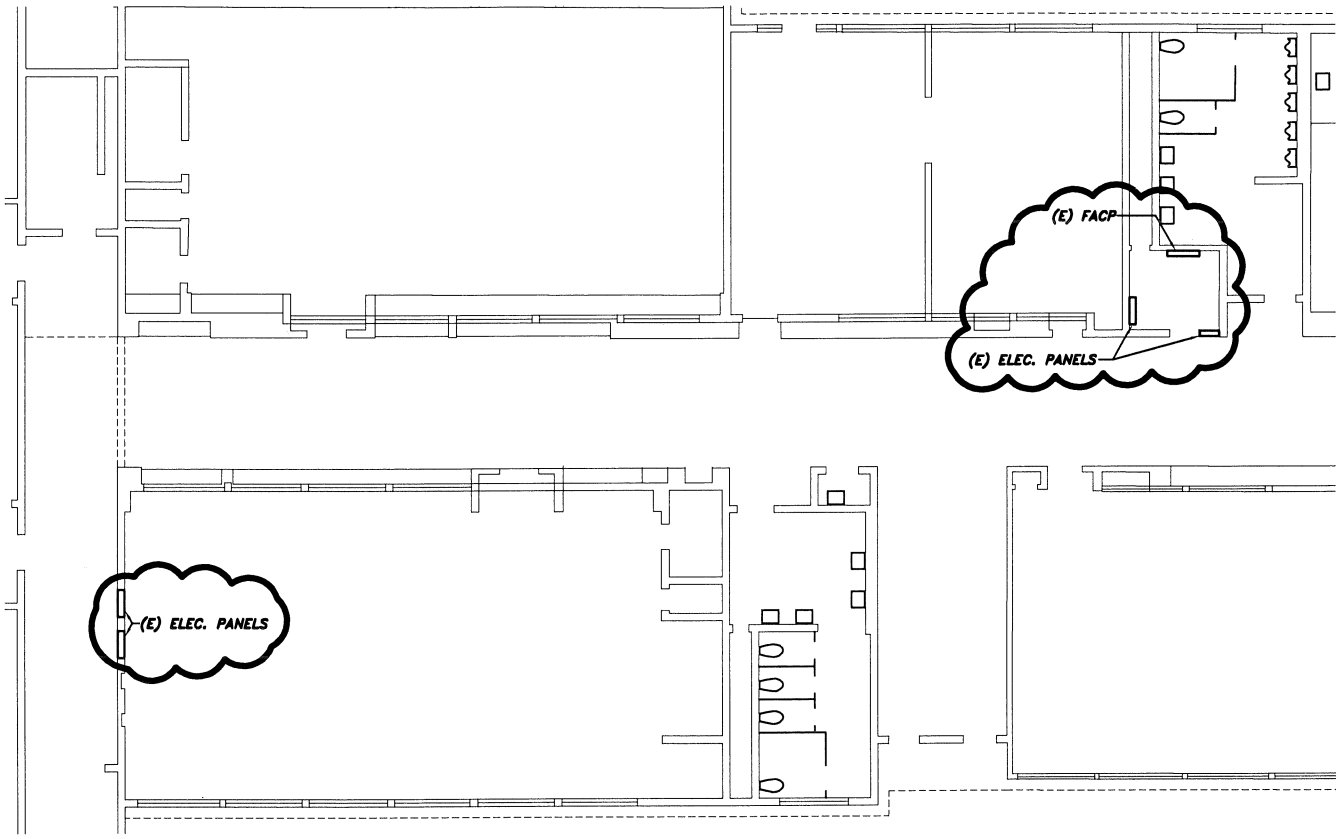
PROJECT: MADERA USD – MADERA HIGH SCHOOL
HVAC MODIFICATIONS
DSA APPLICATION NO.: 02-114757
DSA FILE NO.: 20-H3

SHEET NO. AD1-6 OF 9

| PREPARED BY | DATE | CHECKED BY | PROJECT NO. |
|---|---|---|---|
| EKA/KM | 04/22/16 | GLN | 15135 |




# PARTIAL ELEC. DEMO. PLAN – HOME ECON.

N

SCALE : NONE

REGISTERED PROFESSIONAL ENGINEER
GILBERT L. NYE
M 026224
Exp. 6·30·17
MECHANICAL
STATE OF CALIFORNIA

*REVISION:*
*REFER TO SHEET E-3.*
*(E) FACP & ELEC. PANEL LOCATIONS SHOWN FOR REFERENCE.*

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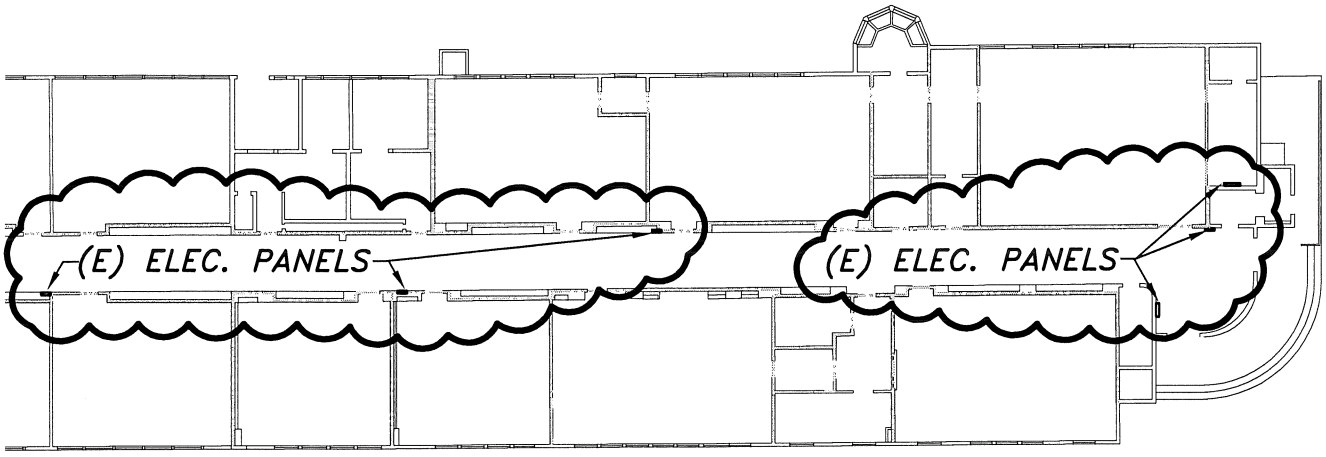
PROJECT: *MADERA USD – MADERA HIGH SCHOOL HVAC MODIFICATIONS*
*DSA APPLICATION NO.: 02-114757*
*DSA FILE NO.: 20-H3*

SHEET NO. *AD1-7* OF *9*

| PREPARED BY | DATE | CHECKED BY | PROJECT NO. |
|---|---|---|---|
| *EKA/KM* | *04/22/16* | *GLN* | *15135* |




# PARTIAL ELEC. DEMO. PLAN – SCIENCE

SCALE : NONE

N

REGISTERED PROFESSIONAL ENGINEER
GILBERT L. NYE
M 026224
Exp. 6·30·17
MECHANICAL
STATE OF CALIFORNIA

*REVISION:*
*REFER TO SHEET E–4.*
*(E) ELEC. PANELS SHOWN FOR REFERENCE.*

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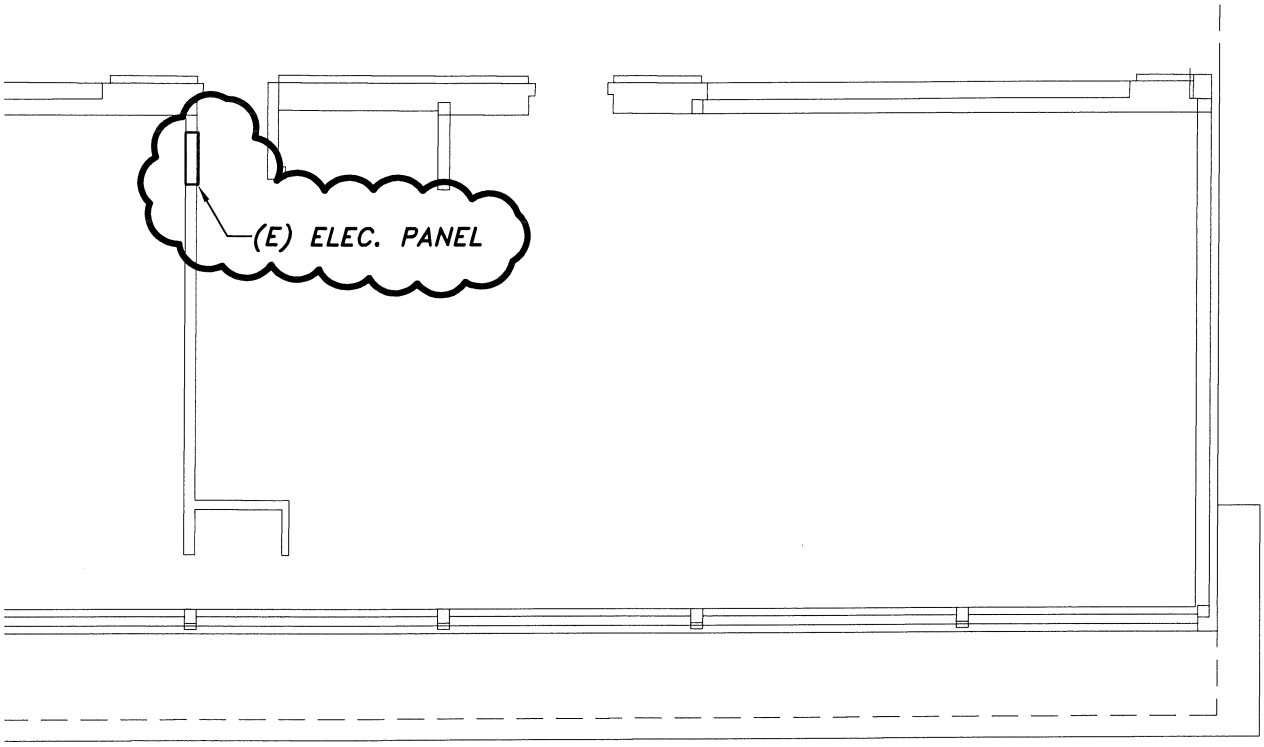
PROJECT: *MADERA USD – MADERA HIGH SCHOOL HVAC MODIFICATIONS*
*DSA APPLICATION NO.: 02–114757*
*DSA FILE NO.: 20–H3*

SHEET NO. *AD1–8* OF *9*

| PREPARED BY | DATE | CHECKED BY | PROJECT NO. |
|---|---|---|---|
| *EKA/KM* | *04/22/16* | *GLN* | *15135* |




# PARTIAL ELEC. DEMO. PLAN – IND. ARTS

SCALE : NONE

N

REGISTERED PROFESSIONAL ENGINEER
GILBERT L. NYE
M 026224
Exp. 6·30·17
MECHANICAL
STATE OF CALIFORNIA

*REVISION:*
*REFER TO SHEET E–5.*
*(E) ELEC. PANEL SHOWN FOR REFERENCE.*

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PROJECT: *MADERA USD – MADERA HIGH SCHOOL HVAC MODIFICATIONS*
*DSA APPLICATION NO.: 02–114757*
*DSA FILE NO.: 20–H3*

SHEET NO. *AD1–9*

| PREPARED BY | DATE | CHECKED BY | PROJECT NO. |
|---|---|---|---|
| *EKA/KM* | *04/22/16* | *GLN* | *15135* |

OF *9*