ADDENDUM NO. 2

Sacramento City Unified School District
West Campus High School
Science & Technology Building, Inc 2.

REVISION: May 3rd, 2018 (section 08 62 50 included)

By _____
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A. **Work described in this addendum is to be of the same quality as specified in the original documents.**

B. **PROJECT MANUAL**

1. 00 01 10 TABLE OF CONTENTS

    a. Replace with document attached.

2. 03 30 00 CAST-IN-PLACE CONCRETE

    a. Add Section 2.1.N as follows:

    N. Color Pigment: ASTM C 979/C 979M, synthetic mineral-oxide pigments or colored water-reducing admixtures; color stable, free of carbon black, nonfading, and resistant to lime and other alkalis.
    1. ***Manufacturers: Subject to compliance with requirements, provide products by one of the following:***
    a. ***Brickform; a division of Solomon Colors.***
    b. ***Davis Colors.***
    c. ***Proline Concrete Tools, Inc.***
    d. ***Or Equal.***
    2. ***Color: As selected by Architect from manufacturer's full range.***

3. 03 35 43.16 DIAMOND POLISHING CONCRETE FLOORS

    a. Add section in its entirety, see attached.

4. 06 61 16 SOLID SURFACING FABRICATIONS

    a. Remove section in its entirety.

5. 07 42 13 MANUFACTURED METAL ROOF PANELS

    a. Table of Contents revised to reflect section included in bid documents, no changes were made to section itself.

6. 07 50 00 SINGLE PLY ROOFING

    a. Table of Contents revised to reflect section title included in bid documents, no changes were made to section itself.

7. 08 36 00 OVERHEAD FOLDING DOORS

    a. Table of Contents revised to reflect section included in bid documents, no changes were made to section itself.

8. 08 51 13 ALUMINUM WINDOWS

    a. Table of Contents revised to reflect section included in bid documents.
    b. Revise section 1.01 as follows:

        1.01 SUMMARY

            A. Section specifies ~~single hung,~~ fixed ~~and horizontal sliding~~ aluminum windows, attached by a nail fin assembly.

    c. Remove section 1.02 as follows:

        ~~1.02 DEFINITIONS~~

            ~~A. Exposed surface: Both closed and open positions of operating sash.~~

    d. Revise section 2.02.A and 2.06.A as follows:

        2.02 MANUFACTURED UNITS

            A. Window Types: Units set into **4 5/8" nail fin system** ~~720 deep profile.~~ Non-thermally broken units with flush glass stops. Factory seal all perimeter frame joints. Include integral fin all around with sealed corner joints.

                1. Fixed windows: Blomberg series ~~880~~ ***450N*** fixed frame ***or equal***.

        2.06 FINISHES

            A. Organic Coating
                1. Factory finish exposed surfaces of aluminum extrusions***: clear anodized in accordance with Aluminum Association specification M-10, C-22, and A-31.*** ~~with 70 percent flouropolymer coating conforming to AAMA standard 2605 for superior architectural finishes.~~

                2. ~~Custom color as selected by the Architect.~~

            B. Glazing gaskets: Integral color "black".

9. 08 62 50 TUBULAR DAYLIGHTING DEVICE

a. Specification section reissued, see attached.

10. 08 80 00 GLAZING

a. Revise section 1.01 as follows:

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.
B. Section 08 51 13 – Aluminum Windows.
~~B. Section 09 41 13 – Aluminum-framed Entrances and Storefronts.~~

11. 08 91 19 FIXED LOUVERS

a. Add section in its entirety, see attached.

12. 09 24 00 PORTLAND CEMENT PLASTERING

a. Revise 1.01 Summary as follows:

1.01 SUMMARY

A. Section specifies exterior lath; and plaster work over both framed substrates. ~~Section also specifies interior plaster finish in wet areas.~~ Section also specifies flexible flashing and paper.

b. Remove section 2.02.D as follows:

2.02 MIXES

~~D. Finish Coat, Interior~~
~~1. Smooth trowel finish: "Super Shower Finish" as manufactured by Merlex Stucco, Orange, CA; "All-In-One" as manufactured by Parex-La Habra Products, Anaheim, CA; or other "Dairy mix" shower finish conforming to the following mix design: 1 sack white Portland cement, 300 pounds No. 30 white silica sand, 50 pounds dry hydrated lime.~~

13. 09 29 00 GYPSUM BOARD

a. Replace section in its entirety, see attached.

14. 09 51 00 ACOUSTICAL CEILINGS

a. Revise Part 2 – Products as follows:

PART 2 - PRODUCTS

2.01 ***ACOUSTICAL CEILING TILE*** ~~COMPONENTS~~

A. Suspended Ceilings: In accordance with ASTM E1264. Rigid and non-combustible; maximum flame spread of 25 when tested in accordance with ASTM standard E 84. Sound ratings in accordance with ASTM E1264.

1. Acoustical Ceiling Tiles: "SCHOOL ZONE Fine Fissured", as manufactured by Armstrong World Industries, Inc or equal.

a. Typical size: Nominal 24 x 24 inches, square lay-in.
b. Sound Ratings: NRC: 0.70, CAC 40.
c. Light reflectance: 0.85
d. Finish: standard white.

B. Gypsum Board Ceilings with Acoustical Tile: In accordance with ASTM E1264. Rigid and non-combustible; maximum flame spread of 25 when tested in accordance with ASTM standard E 84. Sound ratings in accordance with ASTM E1264.

1. Acoustical Ceiling Tiles: "Fine Fissured", as manufactured by Armstrong World Industries, Inc or equal.

a. Typical size: Nominal 12 by 12 by 3/4-inches, butt joints.
b. Sound Ratings: NRC: 0.65-0.75.
c. Light reflectance: 0.85.
d. Finish: standard white.

~~A. Ceilings: In accordance with ASTM E1264. Rigid and non-combustible; maximum flame spread of 25 when tested in accordance with ASTM standard E 84. Sound ratings in accordance with ASTM E1264.~~

~~1. Acoustical Ceiling Tiles: "Rockfon Alaska dB as manufactured by Rockfon, Chicago, IL, www.rockfon.com.~~

~~a. Typical size: Nominal 24 x 24 inches.~~
~~b. Ratings: NRC: 0.85, CAC 35, AC 180 per ASTM E1264, Type XX, Pattern G.~~
~~c. Fire Class: Class A~~
~~d. Fire Performance UL 723 (ASTM E84) Flame Spread/Smoke Developed: 0-5/0-5.~~
~~e. Fire Performance CAN ULC S102 Flame Spread/Smoke Developed: 10-15/5.~~
~~f. Light reflectance: 0.86.~~
~~g. Recycled Content: Up to 39 percent.~~
~~h. R Value (BTU Units): 3.5.~~
~~i. RS Value (Watts Units): 0.62~~

2.02 METAL SUSPENSION SYSTEMS

A. Components

1. ***Main beams and cross tees, base metal and end detail, fabricated from commercial quality hot dipped galvanized steel complying with ASTM A 653. Main beams and cross tees are double-web steel construction with type exposed flange design. Exposed surfaces chemically cleansed, capping prefinished galvanized steel in baked polyester paint. Main beams and cross tees shall have rotary stitching.***
   a. ***Structural Classification: ASTM C 635 Heavy Duty***
   b. ***Color: White.***
   c. ***Sustainability: Environmental Product Declaration (EPD), Health Product Declaration (HPD)***
   d. ***Acceptable Products: PRELUDE XL 15/16" Exposed Tee as manufactured by Armstrong World Industries or equal.***
2. ***Trim. Commercial quality extruded aluminum alloy 6063 trim channel, factory finished in baked polyester paint. Commercial quality galvanized steel unfinished T-bar connection clips; galvanized steel splice plates. Use pre-manufactured outside corners.***
   a. ***Size: 2", straight profile.***
   b. ***Color: White.***
   c. ***Acceptable Products: AXIOM Classic, as manufactured by Armstrong World Industries or equal.***

B. Attachment Devices: Size for five times design load indicated in ASTM C 635, Table 1, Direct Hung unless otherwise indicated.

C. Wire for Hangers and Ties: ASTM A 641, Class 1 zinc coating, soft annealed, with a yield stress load of at least time three design load, but not less than 12 gauge.

15. 09 65 13 RESILIENT BASE AND ACCESSORIES

    a. Add section in its entirety, see attached.

16. 09 67 00 URETHANE SLURRY FLOORING SYSTEM

    a. Table of Contents revised to reflect section included in bid documents, no changes were made to section itself.

17. 09 67 23 RESINOUS FLOORING

    a. Table of Contents revised to reflect that section was not included in bid documents.

18. 09 84 35 SOUND ABSORBING WALL PANELS

    a. Replace section in its entirety, see attached.

19. 09 91 10 PAINTING

a. Remove section 2.01.A.1.
b. Revise section 2.02.D, as follows:

1. Exterior Paints
   a. Primers/Undercoaters
      1) Primer for Aluminum: 5725 DTM Acrylic Primer Finish
      2) Surface Tolerant Metal Primer: ***Devoe Devprime 1405***
      3) ~~Epoxy Anti-Corrosive Metal Primer: KM – 15 High Build Epoxy~~
      4) ~~Exterior Latex-Based Solid Hide Stain: 1240 Acry-Shield or 1200 Color Shield~~
      5) Etching Cleaner: Consult Paint Manufacturer for Recommendation
      6) Interior/Exterior Latex Block Filler: 521Fill & Prime (Smooth)
   b. Secondary and finish opaque coats
      1) Exterior Latex, Gloss: ***1680 Dura Poxy +*** ~~Devcryl 1449~~
      2) Aluminum Paint, Gloss: Rust-Oleum Alumi-Non Acrylic Gloss Enamel
      3) Quick Drying Alkyd Enamel, Gloss: N/A
      4) Exterior Alkyd Enamel, Gloss: ***Eoic 1999*** ~~1700 Kel-Guard Gloss Alkyd (for metal only)~~
      5) Exterior Latex, Semi-Gloss: 1215 ***Premium Professional*** ~~Color Shield Semi-Gloss~~
      6) Exterior Latex Flat: 1200 ***Premium Professional Exterior Flat*** ~~Color Shield Flat~~
   c. Semi transparent Stain Wood Finish
      1) ***Finish; Armstrong-Clark's Semi-Transparent Wood Stain.***

2. Interior Paints
   a. Primers/Undercoats
      1) Interior enamel undercoat: ***973 Acry-Plex Enamel*** ~~975 Acry-Plex enamel undercoater~~
      2) Alkali resistant primer : 247 Acry-shield
      3) Surface tolerant primer: ***Undercoater Devoe Devprime 1405*** ~~1711 KelGuard Alkyd Primer~~
      4) Galvanized primer: 5725 DTM Acrylic Metal Primer Finish
      5) Epoxy anti-corrosive metal primer: ***Devoe Bar-Rust 235v*** ~~KM – 15 High Build Epoxy~~
      6) Interior alkyd primer sealer: N/A (we recommend acrylic for this application)
      7) Interior latex primer sealer: 971 Acry – Plex (depending on substrate)
      8) Alkali resistant primer: 247 Acry-shield
      9) Etching cleaner: Consult Paint Manufacturer for Recommendation
      10) Interior/Exterior latex block filler: 521 Fill & Prime
      11) Quick drying primer for aluminum: 5725 DTM Primer Finish

b. Secondary and finish opaque coats
1) Interior Alkyd Gloss: Epic 1999 Gloss Enamel
2) Elastomeric Flat: 1119 Elastakote

c. Remove sections 2.02.D.2.b and 2.02.D.2.c.

d. Remove section 3.03.H, as follows:

~~H. Stipple effect: Use heavy roller cover on first enamel coat to simulate stipple effect.~~

20. 10 11 00 VISUAL DISPLAY SURFACES

a. Replace section in its entirety, see attached.

21. 10 11 16 MARKERBOARDS

a. Remove section in its entirety.

22. 10 11 23 TACKBOARDS

a. Remove section in its entirety.

23. 11 52 00 AUDIO VISUAL EQUIPMENT

a. Remove section in its entirety.

24. 12 24 13 ROLLERSHADES

a. Replace entire section, see attached. Revisions to Part 2 - Products.

25. 12 32 17 CUSTOM CASEWORK

a. Remove sections 1.03.A.4 and 1.03.A.5, as follows:

~~4. Teacher cabinets~~
~~a. Provide with door locks.~~
~~b. Provide with one 9 by 12-inch mirror, mounted to inside face of door.~~
~~5. Glazing~~
~~a. 1/4-inch thickness unless otherwise indicated.~~
~~b. Use tempered safety glazing for glass doors within 30-inches of the floor.~~

26. 12 35 53 LAB CASEWORK

a. Revise 2.3.A Casework, as follows:

2.3 MANUFACTURED UNITS

A. Casework: ***Color per architect's selection of manufacturer's wood cabinetry options*** ~~Unless otherwise specifically noted or specified; wood, "Legacy Oak" red oak plain sliced~~, with laminated or tempered "safety" glass.

C. DRAWINGS

1. A2.2.1 FLOOR PLAN

    a. See attached sheet AD-1, chemical storage cabinet added.

2. A2.2.2 CONCRETE CURB AND SCORE PATTERN PLAN

    a. See attached sheet AD-2, sheet note 7 added for 1/4" depressed slab at student restrooms.

3. A2.3.1 EXTERIOR ELEVATIONS

    a. See attached sheet AD-3, sheet note 06 and Materials Legend revised.

4. A2.5.1 DOOR SCHEDULE AND DETAILS

    a. See attached sheet AD-4, Door Schedule revised.
    b. See attached sheet AD-5, detail 16/A2.5.1 revised.

5. A2.5.2 WINDOW AND FINISH DETAILS & SCHEDULES

    a. See attached sheet AD-6, window sheet notes 04 and 05 revised.
    b. See attached sheet AD-7, finish legend and finish schedule revised.

6. A2.6.2 INTERIOR ELEVATIONS

    a. See attached sheet AD-8, sheet notes 14 and 15 added, detail 104-4 revised.

7. A2.6.3 INTERIOR ELEVATIONS

    a. See attached sheet AD-9, general note C revised and detail 106-1 revised.
    b. See attached sheet AD-10, sheet notes 16 and 17 added, detail 107-2 revised.

8. A2.8.3 EXTERIOR DETAILS

    a. Replace entire sheet, see attached.
        i. Notes on details 7 and 12 revised.
        ii. Detail 17 added.
        iii. Guard rail details 15, 16, 18, 19, & 20 added.

9. A2.9.2 CASEWORK DETAILS

    a. Replace entire sheet, see attached.
        i. Details 12 & 15 update for laminate counter.
        ii. Detail 11 removed, not applicable.

10. S2.2.1 FOUNDATION PLAN

a. Replace entire sheet, see attached.
    i. Foundation plan note #4 revised.
    ii. Depressed slab at student restrooms and depression at utility trench revised.

11. S2.2.2 ROOF FRAMING PLAN

    a. Replace entire sheet, see attached.
        i. Roof framing plan note #11 revised.

12. S2.4.1 ELEVATIONS

    a. Replace entire sheet, see attached.
        i. Detail callouts and notes revised.

13. S2.4.1 STEEL DETAILS

    a. Detail 8 revised.

14. E2.0.1 ELECTRICAL SYMBOLS LIST, ABBREVIATIONS, & NOTES

    a. Replace entire sheet, see attached.
        i. Symbols and abbreviations revised.

15. E2.2.1 LIGHTING FLOOR PLAN

    a. Replace entire sheet, see attached.
        i. Power for solar tubes added.

16. E2.3.1 POWER FLOOR PLAN

    a. Replace entire sheet, see attached.
        i. Power for FF&E item added, additional outlet in makerspace.

17. E2.7.1 PARTIAL ONE LINE DIAGRAM, SCHEDULES & NOTES

    a. Replace entire sheet, see attached.

D. ATTACHMENTS

Project Manual:

00 01 10 – Table of Contents
03 34 43.16 – Diamond Polishing Concrete Floors
08 62 50 – Tubular Skylights
08 91 19 – Fixed Louvers
09 29 00 – Gypsum Board
09 65 13 – Resilient Base and Accessories
09 84 35 – Sound Absorbing Wall Panels
10 11 00 – Visual Display Board

12 24 13 – Rollershades

8 ½ x 11 Drawings:

AD – 1
AD – 2
AD – 3
AD – 5
AD – 6
AD – 8
AD – 9
AD – 10

11 x 17 Drawings:

AD – 4
AD – 7

30 x 42 Drawings:

A2.8.3	Exterior Details
A2.9.2	Casework Details
S2.2.1	Foundation Plan
S2.2.2	Roof Framing Plan
S2.4.1	Elevations
S2.5.1	Steel Details
E2.0.1	Electrical Symbols list, Abbreviations & Notes
E2.2.1	Lighting Floor Plan
E2.3.1	Power Floor Plan
E2.7.1	Partial One Line Diagram, Schedules, & Notes

END OF ADDENDUM 2

VOLUME 1

DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

DIVISION 01 - GENERAL REQUIREMENTS

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

DIVISION 08 - OPENINGS

DIVISION 09 - FINISHES

DIVISION 10 - SPECIALTIES

END OF SECTION

PART 1 – GENERAL

1.1 SUMMARY

1.1.1 Section Includes: Products and procedures for diamond polishing concrete floors using multi-step wet/dry mechanical process, and accessories indicated, specified, or required to complete polishing.

1.2 DEFINITIONS

1.2.1 Terminology: As defined by CPAA.

1.3 SUBMITTALS

1.3.1 Product Data: Manufacturer's technical literature for each product indicated, specified, or required. Include manufacturer's technical data, application instructions, and recommendations.

1.3.2 Installer Qualifications: Data for company, principal personnel, experience, and training specified in PART 1 "Quality Assurance" Article.

1.3.3 Field Quality Control – Static Coefficient of Friction Test Reports: Reports of testing specified in PART 3 "Field Quality Control" Article.

1.3.4 Maintenance Data: For inclusion in maintenance manual required by Division 01.

1.3.4.1 Include manufacturer's instructions for maintenance of installed work, including methods and frequency recommended for maintaining optimum condition under anticipated use.

1.3.4.2 Include precautions against cleaning products and methods which may be detrimental to finishes and performance.

1.4 QUALITY ASSURANCE

1.4.1 Polisher Qualifications:

1.4.1.1 Experience: Company experienced in performing specified work similar in design, products, and extent to scope of this Project; with a record of successful in-service performance; and with sufficient production capability, facilities, and personnel to produce specified work.

1.4.1.2 Supervision: Maintain competent supervisor who is at Project during times specified work is in progress, and is currently certified as Craftsman or Master Craftsman by CPAA.

1.4.1.3 Manufacturer Qualification: Approved by manufacturer to apply liquid applied products.

1.4.2 Walkway Auditor: Certified by NFSI to test polished floors for static coefficient of friction according to NFSI 101-A.

1.4.3 Static Coefficient of Friction: Achieve not less than 0.5 for level floor surfaces as determined by quality control testing according to NFSI 101-A.

1.4.4 Field Mock-up for Aesthetic Purposes: Before performing work of this Section, provide as many field mock-ups required to verify selections made under submittals and to demonstrate aesthetic effects of polishing. Approval does not constitute approval of deviations from Contract Documents, unless such deviations are specifically approved by Architect in writing.

1.4.4.1 Grind, hone, and polish 10 ft. square floor area for each finish approved under sample submittals; include edges and joints.

1.4.4.2 Use same personnel, including supervisors, which will perform work.

1.4.4.3 Install products and materials according to specified requirements.

1.4.4.4 Work shall be representative of those to be expected for work.

1.4.4.5 Finish various components to show maximum variation that will exist in work.

1.4.4.6 Approval is for following aesthetic qualities:

1.4.4.6.1 Compliance with approved submittals.

1.4.4.6.2 Uniformity of exposed aggregate.

1.4.4.6.3 Uniformity of sheen.

1.4.4.7 Obtain Architect's approval before starting work on Project.

1.4.4.8 Protect approved field mock-ups from elements with weather resistant covering.

1.4.4.9 Maintain field mock-ups during construction in an undisturbed condition as a standard for judging completed work.

1.4.4.10 Do not demolish, alter, or remove field mock-ups until acceptable to District and Architect.

1.4.5 Pre-Installation of Concrete Conference: Prior to placing concrete for areas scheduled for polishing, conduct conference at Project to comply with requirements of applicable Division 01 Sections.

1.4.5.1 Required Attendees:

1.4.5.1.1 District Representative.

1.4.5.1.2 Architect.

1.4.5.1.3 Contractor, including supervisor.

1.4.5.1.4 Concrete producer.

1.4.5.1.5 Concrete finisher, including supervisor.

1.4.5.1.6 Concrete polisher, including supervisor.

1.4.5.1.7 Technical representative of liquid applied product manufacturer.

1.4.5.1.8 Walkway auditor.

1.4.5.2 Minimum Agenda: Polisher shall demonstrate understanding of work required by reviewing and discussing procedures for, but not limited to, following:

1.4.5.2.1 Tour mock-up and representative areas of required work, discuss and evaluate for compliance with Contract Documents, including substrate conditions, surface preparations, sequence of procedures, and other preparatory work performed by other installers.

1.4.5.2.2 Review Contract Document requirements.

1.4.5.2.3 Review approved submittals.

1.4.5.2.4 Review procedures, including, but not limited to:

1.4.5.2.4.1 Details of each step of grinding, honing, and polishing operations.

1.4.5.2.4.2 Application of liquid applied products.

1.4.5.2.4.3 Protecting concrete floor surfaces until polishing work begins.

1.4.5.2.4.4 Protecting polished concrete floors after polishing work is completed.

1.4.5.3 Reports: Record discussions, including decisions and agreements reached, and furnish copy of record to each party attending.

1.5 FIELD CONDITIONS

1.5.1 Damage and Stain Prevention: Take precautions to prevent damage and staining of concrete surfaces to be polished.

1.5.1.1 Prohibit vehicle parking over concrete surfaces to be polished.

1.5.1.2 Prohibit pipe cutting operations over concrete surfaces to be polished.

1.5.1.3 Prohibit storage of any items over concrete surfaces to be polished for not less than 28 days after concrete placement.

1.5.1.4 Prohibit ferrous metals storage over concrete surfaces to be polished.

1.5.1.5 Protect from petroleum, oil, hydraulic fluid, or other liquid dripping from equipment working over concrete surfaces to be polished.

1.5.1.6 Protect from acids and acidic detergents contacting concrete surfaces to be polished.

1.5.1.7 Protect from painting activities over concrete surfaces to be polished.

1.5.1.8 Protect floors and sawcut joints from subsequent construction activities with protective covering.

1.5.2 Environmental Limitations: Comply with manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting liquid applied product application.

PART 2 – PRODUCTS

2.1 LIQUID APPLIED PRODUCTS

2.1.1 Liquid Densifier: Odorless, non-hazardous, silicate that penetrates concrete to react with free lime and calcium hydroxide to produce permanent chemical reaction that hardens and densifies concrete surface.

2.1.2 Polish Guard: Non-film forming, stain resistant, food resistant, chemical stain resistant, impregnating sealant designed to be used on concrete surfaces previously densified.

2.2 ACCESSORIES

2.2.1 Patching Compound: Compound composed of 40 percent Portland cement, 45 percent limestone, and 15 percent vinyl acetate copolymer, when mixed with dust salvaged from grinding process forms a paste that hardens when surface imperfections are filled.

2.2.2 Grout Material: Clear modified silicate sealant, containing no pore clogging latex, when mixed with dust salvaged from grinding process forms a paste that reacts with calcium hydroxide in concrete that hardens when surface imperfections are filled.

2.2.3 Protective Cover: Non-woven, puncture and tear resistant, polypropylene fibers laminated with a multi-ply, textured membrane, not less than 18 mils in thickness.

2.3 POLISHING EQUIPMENT

2.3.1 Field Grinding and Polishing Equipment:

2.3.1.1 Variable speed, multiple head, counter-rotating, walk-behind machine with not less than 600 pounds of down pressure on grinding or diamond polishing pads.

2.3.1.2 If dry grinding, honing, or polishing, use dust extraction equipment with flow rate suitable for dust generated, with squeegee attachments.

2.3.2 Edge Grinding and Polishing Equipment: Hand-held or walk-behind machines which produces same results, without noticeable differences, as field grinding and polishing equipment.

2.3.3 Burnishing Equipment: High speed walk-behind or ride-on machines capable of generating 1,000 to 2,000 revolutions per minute and with sufficient head pressure of not less than 20 pounds to raise floor temperature by 20 degrees F.

2.3.4 Metal Bonded Pads: Grinding pads with embedded industrial grade diamonds of varying grits fabricated for mounting on equipment.

2.3.5 Resin Bonded Pads: Polishing pads with embedded industrial grade diamonds of varying grits fabricated for mounting on equipment.

2.3.6 Burnishing Pads: Maintenance pads for use with high speed burnishing equipment.

PART 3 – EXECUTION

3.1 EXAMINATION

3.1.1 Acceptance of Surfaces and Conditions:

3.1.1.1 Examine substrates to be polished for compliance with requirements and other conditions affecting performance.

3.1.1.2 Proceed only when unsatisfactory conditions have been corrected in a manner complying with Contract Documents.

3.1.1.3 Starting work within a particular area will be construed as acceptance of surface conditions.

3.2 PREPARATION

3.2.1 Cleaning New Concrete Surfaces:

3.2.1.1 Prepare and clean concrete surfaces.

3.2.1.2 Provide sound concrete surfaces free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, paint splatter, and other contaminants incompatible with liquid applied products and polishing.

3.3 POLISHING CONCRETE FLOORS

3.3.1 Sequence of Polishing: Perform polishing after partition studs are erected, but before gypsum board is installed.

3.3.2 Initial Grinding:

3.3.2.1 Use grinding equipment with metal bonded grinding pads.

3.3.2.2 Begin grinding in one direction using sufficient size grit pad.

3.3.2.3 Make sequential passes with each pass perpendicular to previous pass using finer grit pad with each pass, up to 150 grit.

3.3.2.4 Achieve maximum refinement with each pass before proceeding to finer grit pads.

3.3.2.5 Vacuum floor using squeegee vacuum attachment after each pass.

3.3.2.6 Continue grinding until aggregate exposure matches approved field mock-ups.

3.3.3 Treating Surface Imperfections:

3.3.3.1 Mix patching compound and grout material with dust created by grinding operations to match color of adjacent concrete surface.

3.3.3.2 Fill surface imperfections including, but not limited to, holes, surface damage, small and micro cracks, air holes, pop-outs, and voids.

3.3.3.3 Work compound and treatment until color differences between concrete surface and filled surface imperfections are not reasonably noticeable when viewed from 10 feet away under lighting conditions that will be present after construction.

3.3.4 Liquid Densifier Application: Apply undiluted to point of rejection, remove excess liquid, and allow to cure according to manufacturer's instructions.

3.3.5 Grout Grinding:

3.3.5.1 Use grinding equipment and appropriate grit grinding pads.

3.3.5.2 While applying fresh grout material prior to, grind concrete in direction perpendicular to initial grinding to remove scratches.

3.3.5.3 Vacuum floor using squeegee vacuum attachment after each pass.

3.3.6 Honing:

3.3.6.1 Use grinding equipment with resin bonded grinding pads.

3.3.6.2 Grind concrete in one direction starting with 50 grit pad and make as many sequential passes required to remove scratches, each pass perpendicular to previous pass, up to 400 grit pad reaching maximum refinement with each pass before proceeding to finer grit pads.

3.3.6.3 Auto scrub or vacuum floor using squeegee vacuum attachment after each pass.

3.3.7 Polishing:

3.3.7.1 Use polishing equipment with resin bonded polishing and burnishing pads.

3.3.7.2 Begin polishing in one direction starting with 800 grit pad.

3.3.7.3 Make sequential passes with each pass perpendicular to previous pass using finer grit pad with each pass, up to 3,000 grit.

3.3.7.4 Achieve maximum refinement with each pass before proceeding to finer grit pads.

3.3.7.5 Auto scrub or vacuum floor using squeegee vacuum attachment after each pass.

3.3.7.6 Continue polishing until gloss appearance, as measured according to ASTM E 430, matches approved field mock-ups.

3.3.8 Polish Guard: Uniformly apply and remove excessive liquid according to manufacturer's instructions.

3.3.9 Final Polish: Using burnishing equipment and finest grit burnishing pads, burnish to uniform sheen matching approved mock-up.

3.3.10 Final Polished Concrete Floor Finish:

3.3.10.1 Class D – Large Aggregate Finish: Remove not more than 1/4 inch of concrete surface by grinding and polishing resulting in majority of exposure displaying large aggregate with no, or small amount of, fine aggregate at random locations.

3.3.10.2 Level 2 – Medium Gloss Appearance:

3.3.10.2.1 Procedure: Not less than 5 step process with full refinement of each diamond pad up to 800 grit resin bonded pad with one application of densifier.

3.3.10.2.2 Gloss Reading: Not less than 55 according to ASTM E 430 before polish guard application.

3.4 FIELD QUALITY CONTROL

3.4.1 Field Testing: Engage a qualified walkway auditor to perform field testing according to NFSI 101-A to determine if polished concrete floor finish complies with specified static coefficient of friction.

3.5 CLOSEOUT ACTIVITIES

3.5.1 Maintenance Training: CPAA Master Craftsman shall train District Representative's designated personnel in proper procedures for maintaining polished concrete floor.

3.6 PROTECTION

3.6.1 Covering: After completion of polishing, protect polished floors from subsequent construction activities with protective covering.

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Tubular daylighting device, consisting of roof dome, reflective tube, and diffuser assembly; configuration as indicated on the drawings.

B. Accessories.

1.2 RELATED SECTIONS

A. Section 07 42 13 – Standing Seam Metal Roof

B. Section 07 60 00 – Flashing: Metal flashings.

C. Section 23 00 50 - Ducts: Fan vent duct and connections.

D. Section 26 05 00 - Equipment Wiring: Electrical connections.

E. Section 26 50 00 – Lighting Equipment and Controls: Light bulbs and lamps.

1.3 REFERENCES

A. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

B. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2010.

C. ASTM A 463/A 463M - Standard Specification for Steel Sheet, Aluminum Coated, by the Hot Dip Process; 2015.

D. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc Coated (Galvanized), by the Hot Dip Process; 2017.

E. ASTM A792/A 792M – Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process

F. ASTM E 283 - Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2004.

G. ASTM E 308 - Standard Practice for Computing the Colors of Objects by Using the CIE System; 2017.

H. ASTM E 330 - Structural Performance of Exterior Windows, Curtain Walls and Doors; 2014.

I. ASTM E 547 - Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain walls by Cyclic Air Pressure Difference; 2016.

J. ASTM E 1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.

K. ASTM E 1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricane

L. ASTM D 635 - Test Method for Rate of Burning and/or Extent of Time of Burning of Self-Supporting Plastics in a Horizontal Position; 2014.

M. ASTM D-1929 - Test Method for Ignition Properties of Plastics; 2016.

N. UL 181 - Factory Made Air Ducts and Air Connectors

O. ICC AC-16 - Acceptance Criteria for Plastic Skylights; 2010.

1.4 PERFORMANCE REQUIREMENTS

A. Completed tubular daylighting device assemblies shall be capable of meeting the following performance requirements:
   1. Air Infiltration Test: Air infiltration will not exceed 0.30 cfm/sf aperture with a pressure delta of 1.57 psf across the tube when tested in accordance with ASTM E 283.
   2. Water Resistance Test: No uncontrolled water leakage at 10.5 psf pressure differential with water rate of 5 gallons/hour/sf when tested in accordance with ASTM E 547.
   3. Uniform Load Test:
      a. No breakage, permanent damage to fasteners, hardware parts, or damage to make system inoperable or cause excessive permanent deflection of any section when tested at a Positive Load of 150 psf (7.18 kPa) or Negative Load of 60 psf (2.87 kPa) in accordance with ICC AC-16 Section A, or Negative Load of 70 psf (3.35 kPA) if tested per ICC AC-16 Section B.
      b. All units shall be tested with a safety factor of (3) for positive pressure and (2) for negative pressure, acting normal to plane of roof in accordance with ASTM E 330.
   4. Hurricane Resistance:
      a. Meets Florida Building Code TAS, 201, TAS, 202 and TAS 203 for Impact and non impact components.
      b. Meets ASTM E 1886 and ASTM E1996 for missile and cyclic pressure differential testing.
   5. Fire Testing:
      a. When used with the Dome Edge Protection Band, all domes meet fire rating requirements as described in the 2006 International Building Code.
      b. Self-Ignition Temperature - Greater than 650 degrees F per ASTM D-1929.
      c. Smoke Density - Rating no greater than 450 per ASTM Standard E 84 in way intended for use. Classification C.
      d. Rate of Burn and/or Extent - Maximum Burning Rate: 2.5 inches/min (62 mm/min) Classification CC-2 per ASTM D 635.

e. Rate of Burn and/or Extent - Maximum Burn Extent: 1 inch (25 mm) Classification CC-1 per ASTM D 635.

1.5 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods.

C. Shop Drawings. Submit shop drawings showing layout, profiles and product components, including anchorage, flashings and accessories.

D. Verification Samples: As requested by Architect.

E. Test Reports: Independent testing agency or evaluation service reports verifying compliance with specified performance requirements.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Engaged in manufacture of tubular daylighting devices for minimum 15 years.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.8 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.9 WARRANTY

A. Daylighting Device: Manufacturer's standard warranty for 10 years.

B. Electrical Parts: Manufacturer's standard warranty for 5 years, unless otherwise indicated.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Solatube International, Inc.; 2210 Oak Ridge Way, Vista, CA 92081. ASD. Tel. Toll Free: 888-765-2882. Tel: (760) 477-1120. Fax: (760) 597-4488. Email: commsales@solatube.com. Web: www.solatube.com.

B. Substitutions: Permitted.

C. Requests for substitutions will be considered in accordance with provisions of Section 01 25 00.

D. General Contractor will bear responsibility for costs associated with substitution review.

E. Requests for substitutions will be considered provided a lighting layout with photometric data is supplied to demonstrate light levels will meet original design intent.

2.2 TUBULAR DAYLIGHTING DEVICES

A. Tubular Daylighting Devices General : Transparent roof-mounted skylight dome and self-flashing curb, reflective tube, and ceiling level diffuser assembly, transferring sunlight to interior spaces; complying with ICC AC-16.

B. Brighten Up Series: Solatube Model 290 DS: 14 Inch (350 mm) Daylighting System:
   1. Roof Dome Assembly: Transparent, UV and impact resistant dome with flashing base supporting dome and top of tube.
      a. Outer Dome Glazing: Type DA, 0.125 inch (3.25 mm) minimum thickness impact resistant injection molded acrylic classified as CC2 material; UV inhibiting (100 percent UV C, 100 percent UV B and 98.5 percent UV A), impact modified acrylic blend.
      b. Raybender 3000: Variable prism optic molded into outer dome to capture low angle sunlight and limit high angle sunlight.
      c. Optional Shock Inner Dome Glazing: Type DI, 0.115 inch (2.9 mm) minimum thickness classified as CC1 material. High impact resistant injection molded acrylic required for high velocity wind zones.
      d. LightTracker Reflector: Aluminum sheet, thickness 0.015 inch (0.4 mm) with Spectralight Infinity. Positioned in dome to capture low angle sunlight.
   2. Flashing Base: One piece, seamless, leak-proof flashing functioning as base support for dome and top of tube.
      a. Base Material: Sheet steel, corrosion resistant, meeting ASTM A 653/A 653M or ASTM A 463/A 463M or ASTM A792/A 792M, 0.028 inch (0.7 mm) plus or minus .006 inch (.015 mm) thick.
      b. Base Pitched: Pitched Type FP, 22.5 degrees slope from horizontal, 4 inches (102 mm) high.
      c. Base Style: Type FC, Curb cap, with inside dimensions of 27 inches by 27 inches (685 mm x 685 mm) to cover curb as specified in Section 07 62 00.
      d. Flashing Insulator: Type FI. Thermal isolation material for use under flashing.
      e. Metal Roof Flashing Kit: Type MR. Includes Butyl tape, flashing screws, speed nuts, corner washers and polyurethane sealant.
      f. Dome Edge Protection Band: Type PB, For fire rated roofs. Aluminized steel. Nominal thickness of 0.028 inches (0.7 mm).
   3. Roof Flashing Turret Extensions: Provide manufacturer's standard extensions for applications requiring:
      a. Type T04: Additional lengths of 4 inches (100 mm) extension.

4. Tube Ring: Attached to top of base section; 0.090 inch (2.3 mm) nominal thickness injection molded high impact acrylic; to prevent thermal bridging between base flashing and tubing and channel condensed moisture out of tubing.

5. Reflective Extension Tube: Aluminum sheet, thickness 0.015 inch (0.4 mm).
   a. Interior Finish: Spectralight Infinity high reflectance specular finish on exposed reflective surface. Visible spectrum (400 nm to 760 nm) greater than 99 percent. Total solar spectrum (400 nm to 2500 nm) less than 80.2 percent.
   b. Color: a* and b* (defined by CIE L*a*b* color model) shall not exceed plus 2 or be less than minus 2 as determined in accordance to ASTM E 308.
   c. Tube Diameter: Approximately 14 inches (356 mm).
6. Reflective 30 degree Adjustable tube: Aluminum sheet, thickness .015 inch (0.4 mm)
   a. Interior Finish: Spectralight Infinity high reflectance specular finish on exposed reflective surface. Visible spectrum (400 nm to 760 nm) greater than 99 percent. Total solar spectrum (400 nm to 2500 nm) less than 80.2 percent.

7. Ceiling Ring: Injection molded impact resistant acrylic. Nominal thickness is 0.110 inches (2.8 mm).

8. Dual Glazed Diffuser Assembly:
   a. Lower glazing with integral injection molded acrylic Dress Ring classified as CC2 material. Nominal thickness is 0.110 inches (2.8 mm):
      1) Classic Vusion Diffuser: Molded acrylic plastic classified as CC2 material (nominal thickness 0.090 inches (2.29 mm) with injection molded acrylic Diffuser Trim Ring. Type L4.
      2) (nominal thickness is 0.16 inches (4 mm)), and decorative metal fasteners. Type L11.
   b. Upper glazing: PET GAG plastic with EPDM low density sponge seal to minimize condensation and bug, dirt, and air infiltration per ASTM E283. The nominal thickness is 0.039 inches (0.99 mm).
      1) Natural Effect Lens: Type LN.
      2) Softening Effect Lens: Type LS.
9. Accessories:
   a. Lighting Fixture for 290 DS model: Bracket mounted inside system just above diffuser; UL listed.
      1) Universal: Type INC, for two 23 W maximum CFL, maximum total length 4-3/4 inch, ceramic screw-in lamp holder, medium base, two lamps.

      2) Compact Fluorescent: Type CFL, dedicated compact fluorescent fixture, for one 26 W, 4-pin lamp.

      3) Electrical Requirements: 110 V, 15 amp GFCI circuit for damp and wet conditions.

   b. Local Dimmer Control utilizing a butterfly baffle design of Spectralight Infinity reflective material to minimize shadowing when in use. Provided with dimmer switch and cable.

1) Daylight Dimmer: Type D Electro-mechanically actuated daylight valve; for universal input voltages ranging between 90 and 277 V at 50 or 60 Hz; Maximum current draw of 50 ma per unit; controlled by low voltage, series Type T02: circuited, 4 conductor, 22 gauge cable; providing daylight output between 2 and 100 percent.
2) Switch: Type SW, Manufacturer-specific low voltage DC DP/DT switch (white) required to operate Daylight Dimmer. Note: A maximum of 10 units can be connected to one switch.
3) Cable: Type CA, Two conductor, 22 gauge, low voltage cable (500 ft.) for multiple unit DC connections.

c. Wire Suspension Kit: Type E, Use the wire suspension kit when additional bracing to the structure is required

2.3 ACCESSORIES

A. Fasteners: Same material as metals being fastened, non-magnetic steel, non-corrosive metal of type recommended by manufacturer, or injection molded nylon.

B. Suspension Wire: Steel, annealed, galvanized finish, size and type for application and ceiling system requirement.

C. Sealant: Polyurethane or copolymer based elastomeric sealant as provided or recommended by manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install in accordance with manufacturer's printed instructions.

B. After installation of first unit, field test to determine adequacy of installation. Conduct water test in presence of Owner, Architect, or Contractor, or their designated representative. Correct if needed before proceeding with installation of subsequent units.

3.4 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

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. Section Includes:

1. Fixed, extruded-aluminum louvers.
2. Fixed, formed metal acoustical louvers.

B. Related Requirements:

1. Section 08 11 13 "Hollow Metal Doors and Frames" for louvers in hollow-metal doors.
2. Section 09 91 13 "Exterior Painting" for field painting louvers.

1.3 DEFINITIONS

A. Louver Terminology: Definitions of terms for metal louvers contained in AMCA 501 apply to this Section unless otherwise defined in this Section or in referenced standards.

B. Horizontal Louver: Louver with horizontal blades (i.e., the axes of the blades are horizontal).

C. Drainable-Blade Louver: Louver with blades having gutters that collect water and drain it to channels in jambs and mullions, which carry it to bottom of unit and away from opening.

1.4 SUBMITTALS

A. Product Data: For each type of product.

1. For louvers specified to bear AMCA seal, include printed catalog pages showing specified models with appropriate AMCA Certified Ratings Seals.

B. Shop Drawings: For louvers and accessories. Include plans, elevations, sections, details, and attachments to other work. Show frame profiles and blade profiles, angles, and spacing.

1. Show weep paths, gaskets, flashing, sealant, and other means of preventing water intrusion.
2. Show mullion profiles and locations.

C. Samples: For each type of metal finish required.

1.5 QUALITY ASSURANCE

A. Source Limitations: Obtain louvers and vents from single source from a single manufacturer where indicated to be of same type, design, or factory-applied color finish.

1.6 FIELD CONDITIONS

A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain louvers from single source from a single manufacturer where indicated to be of same type, design, or factory-applied color finish.

2.2 PERFORMANCE REQUIREMENTS

A. Structural Performance: Louvers shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated without permanent deformation of louver components, noise or metal fatigue caused by louver-blade rattle or flutter, or permanent damage to fasteners and anchors. Wind pressures shall be considered to act normal to the face of the building.

1. Wind Loads: Determine loads based on a uniform pressure of 30 lbf/sq. ft, acting inward or outward.

B. Seismic Performance: Louvers, including attachments to other construction, shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

C. Louver Performance Ratings: Provide louvers complying with requirements specified, as demonstrated by testing manufacturer's stock units identical to those provided, except for length and width according to AMCA 500-L.

D. SMACNA Standard: Comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" for fabrication, construction details, and installation procedures.

2.3 FIXED, EXTRUDED-ALUMINUM LOUVERS

A. Horizontal, Drainable-Blade Louver:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Airolite Company, LLC (The).
b. All-Lite Architectural Products.
c. Greenheck Fan Corporation.
d. Or Equal.

2. Louver Depth: 6 inches
3. Frame and Blade Nominal Thickness: Not less than 0.080 inch.
4. Mullion Type: Exposed.
5. Louver Performance Ratings:

a. Free Area: Not less than 50 percent for 24-inch-wide by 36-inch-high louver.

b. Point of Beginning Water Penetration: Not less than 1000 fpm.

6. AMCA Seal: Mark units with AMCA Certified Ratings Seal.

2.4 LOUVER SCREENS

A. General: Provide screen at each exterior louver unless otherwise noted.

1. Screen Location for Fixed Louvers: Interior face unless otherwise indicated.
2. Screening Type: Insect screening

B. Secure screen frames to louver frames with screws per manufacturer's requirements with heads finished to match louver, spaced a maximum of 6 inches from each corner and at 12 inches o.c.

C. Louver Screen Frames: Fabricate with mitered corners to louver sizes indicated.

1. Metal: Same type and form of metal as indicated for louver to which screens are attached. Reinforce extruded-aluminum screen frames at corners with clips.
2. Finish: Same finish as louver frames to which louver screens are attached.
3. Type: Rewirable frames with a driven spline or insert.

D. Louver Screening for Aluminum Louvers:

1. Insect Screening: Aluminum, 18-by-16 mesh, 0.012-inch wire.

2.5 MATERIALS

A. Aluminum Extrusions: ASTM B 221, Alloy 6063-T5, T-52, or T6.

B. Aluminum Sheet: ASTM B 209, Alloy 3003 or 5005 with temper as required for forming, or as otherwise recommended by metal producer for required finish.

C. Fasteners: Use types and sizes to suit unit installation conditions.

1. Use tamper-resistant screws for exposed fasteners unless otherwise indicated.
2. For fastening aluminum, use aluminum or 300 series stainless-steel fasteners.
3. For color-finished louvers, use fasteners with heads that match color of louvers.

D. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.

2.6 FABRICATION

A. Factory assemble louvers to minimize field splicing and assembly. Disassemble units as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.

B. Maintain equal louver blade spacing to produce uniform appearance.

C. Fabricate frames, including integral sills, to fit in openings of sizes indicated, with allowances made for fabrication and installation tolerances, adjoining material tolerances, and perimeter sealant joints.

1. Frame Type: Channel unless otherwise indicated.

D. Include supports, anchorages, and accessories required for complete assembly.

E. Provide vertical mullions of type and at spacings indicated, but not more than is recommended by manufacturer, or 72 inches o.c., whichever is less.

1. Exposed Mullions: Where indicated, provide units with exposed mullions of same width and depth as louver frame. Where length of louver exceeds fabrication and handling limitations, provide interlocking split mullions designed to permit expansion and contraction.

F. Provide subsills made of same material as louvers or extended sills for recessed louvers.

2.7 ALUMINUM FINISHES

A. Finish louvers after assembly.

B. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

C. High-Performance Organic Finish: Three-coat fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

1. Color and Gloss: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and openings, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

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

3.2 PREPARATION

A. Coordinate setting drawings, diagrams, templates, instructions, and directions for installation of anchorages that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to Project site.

3.3 INSTALLATION

A. Locate and place louvers level, plumb, and at indicated alignment with adjacent work.

B. Use concealed anchorages where possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weathertight connection.

C. Form closely fitted joints with exposed connections accurately located and secured.

D. Provide perimeter reveals and openings of uniform width for sealants and joint fillers, as indicated.

E. Protect nonferrous-metal surfaces that are in contact with concrete, masonry, or dissimilar metals from corrosion and galvanic action by applying a heavy coating of bituminous paint or by separating surfaces with waterproof gaskets or nonmetallic flashing.

F. Install concealed gaskets, flashings, joint fillers, and insulation as louver installation progresses, where weathertight louver joints are required. Comply with Section 07 92 00 "Joint Sealants" for sealants applied during louver installation.

3.4 ADJUSTING AND CLEANING

A. Clean exposed louver surfaces that are not protected by temporary covering, to remove fingerprints and soil during construction period. Do not let soil accumulate during construction period.

B. Before final inspection, clean exposed surfaces with water and a mild soap or detergent not harmful to finishes. Thoroughly rinse surfaces and dry.

C. Restore louvers damaged during installation and construction so no evidence remains of corrective work. If results of restoration are unsuccessful, as determined by the Construction Manager, remove damaged units and replace with new units.

1. Touch up minor abrasions in finishes with air-dried coating that matches color and gloss of, and is compatible with, factory-applied finish coating.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

A. Section specifies single and double layer gypsum board applied to ***wood*** ~~metal~~ framing and furring. ~~Section also specifies gypsum board furring systems, and tackable industrial insulation board backing for wall coverings. .~~

B. Documents affecting work of this Section include, but are not limited to, Conditions of the Contract and Sections in Division 01 of these Specifications.

1.02 SYSTEM DESCRIPTION

A. Design Requirements
1. Install fire rated assemblies per listed designs shown on drawings and applicable code requirements. Use only one manufacturer's products in the fabrication of each assembly, unless otherwise permitted by governing authorities.
2. Provide 1 hour enclosures of 5/8-inch thick UL labeled gypsum board around fixtures in ceilings with one hour fire ratings.
3. ~~At areas where existing wall covering materials are removed, finish remaining gypsum board and sand as necessary to provide flat, smooth surface.~~

1.03 SUBMITTALS

A. Schedules of components for each system including all ancillary items and fastenings.

B. Samples of selected texture 12 x 12 inches.

C. Layout of control joint locations.

1.04 QUALITY ASSURANCE

A. Extend wallboard and joint treatment behind cabinets, cases, and other surface installed fixtures, bases, and other trim.

1.05 DELIVERY, STORAGE AND HANDLING

A. In accordance with Referenced Standards. Stack off the ground, in a level and flat position, taking care to avoid sagging and damage to board surface or edges.

1.06 PROJECT CONDITIONS

A. Comply with requirements of referenced gypsum board application standards and recommendations of gypsum board manufacturer, for environmental conditions before, during and after application of gypsum board.

B. Maintain temperature of not less than 55 degrees F during, and for a minimum period of 48 hours prior to and following application of gypsum board, joint treatment, or bonding adhesives.

C. Do not install compound in draft areas in hot dry weather.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Gypsum Board: United States Gypsum; Gold Bond Building Products Division; or approved equal.
   1. Common Requirements
      a. Type "X"
      b. Furnish in maximum available lengths from stocked sizes.
      c. Thickness 5/8-inch unless otherwise specified or indicated on the Drawings.
   2. Wallboard: ASTM C 1396. Square cut ends; edges: tapered.
   3. Backing Board
      a. ~~Multi-Layer Applications: ASTM C 1396 or, where backing board is not available from manufacturer, gypsum wallboard, ASTM C 36, of type, edge configuration and thickness indicated on Drawings.~~
      b. Water-Resistant: ASTM C 1396, with tapered edges..

~~B. Tackboard: "Industrial Insulation Board" conforming to FS LLL-I-535 as manufactured by Masonite Building and Industrial Products, Chicago, IL.~~
   ~~1. Flame spread less than 25 and having a smoke development rating of less than 450, when tested in accordance with ASTM E 84.~~
   ~~2. Furnish in 1/2-inch thicknesses, primed and ironed, calendared, and with square edges.~~

2.02 ACCESSORIES

A. Fastenings
   1. Screws: USG "Type W", ~~"Type S", "Type S-12" , "Type G";~~ lengths per reference standards, and conforming to ASTM C1002. Phillips, flat head, recessed, bugle shaped, self drilling, self tapping, rust inhibitive coated steel screw.
   2. Adhesives
      a. Stud Adhesive: Conforming to ASTM C557.
      b. Modified contact adhesive: As recommended by the gypsum board manufacturer and having a placement time before setting of at least 15 minutes.
      c. Joint compound adhesive: As recommended by the gypsum board manufacturer.

B. Cornerbeads, trim and casings: ASTM C1047; Galvanized steel as manufactured by USG Beadex; or equal.
   1. Exterior corner beads: Formed steel nose and flanges of 1-1/4 by 1-1/4-inches.
   2. Casing: L-shaped casing with 5/8-inch legs and expanded metal flange.

C. Joint and texture materials
   1. Sealer: USG "Sheetrock Brand W/4", or accepted equal.
   2. Compounds: Conform to ASTM C475. [vinyl based Drying Type~~] [Lightweight Setting Type]~~, or equal. Water resistant where used with water resistant backer board.
   3. Tape: ASTM C475; Either 2-1/16 inch wide paper reinforcing tape or 1-1/2 inch wide coated fiberglass reinforcing tape, except as otherwise specified. Water resistant where used with water resistant backer board.
   4. Texture: Roller Texture as per Portfolio of Textures as published by the Drywall Information Trust Fund.

~~D. Furring Systems~~
   ~~1. UL listed, double web, "640 Heavy Duty" system as manufactured by Chicago Metallic, USG, or accepted equal, complying with Division of State Architect, Interpretation of Regulation IR 25-1 and 25-3, and having a DSA product acceptance listing..~~
   ~~2. Resilient Channels: Galvanized steel channel 2-1/2-inches wide by 1/2-inch deep, by 12-inches high.~~

PART 3 - EXECUTION

3.01 EXAMINATION

A. Before beginning the work specified in this section, carefully inspect the substrate to which the work specified in this section will be applied. Execution of the work specified in this section shall constitute a certification by the Contractor that the substrate is in proper condition to receive subsequent work.

3.02 INSTALLATION

A. Install materials in accordance with gypsum board application and finishing standards: GA 201, GA 216 and ASTM C840.
   1. Single layer application: screwing attachment.
   2. Float interior angles, except where required to conform to fire or acoustical separation requirements.
   3. Do not install scored, scratched, broken, damp, or otherwise damaged boards.
   4. Smooth cut edges and ends to obtain neat fitting joints. Use specially designed cutting tool for opening of exact shape and size needed.

B. Layout: Minimize joints
   ~~1. Resilient channels: Install in accordance with manufacturer's written and graphic instructions.~~
      ~~a. Install perpendicular to framing with smaller flange facing downward.~~
      ~~b. Do not place in direct physical contact with intersecting walls, ceilings or floors.~~
   2. Butt boards together for a light contact at edges and ends with not more than 1/16-inch open space between boards. Do not force into place.
   3. Stagger end joints. Minimize the number of end-butt joints.
   4. Position boards so that like edges abut.
   5. Stagger vertical joints over different studs.
   6. Form joints with space between edges; and boards prepared to receive trim accessories.
   7. Shim gypsum board as required to get even joints without offsets.
   . Partitions:
      a. Do not align joints located on opposite sides of partitions.
      b. Place all boards on any wall with long dimensions either vertical or horizontal
      c. Place joints at least 12 inches from jambs of openings.
   8. Ceilings: Place boards with long dimension at right angles to supports with end joint occurring over supports. Place perimeters of ceilings and edges of openings over solid bearing members.
   ~~9. For each layer of gypsum board, install ceiling board before wallboard.~~

C. Fastening
   1. Mechanically fasten boards in direct contact with framing with edges or ends in continuous contact with framing.
   2. Fasten ends at end-butt joints to framing with both glue and mechanical fasteners.
   3. Install gypsum board backing to reinforce both edge and butt joints at ceilings. Provide for additional support at openings and cutouts.
   4. Space fasteners in gypsum boards in accordance with Referenced Standards and manufacturer's recommendations.
      a. Place fasteners no less than 3/8-inch from edges of gypsum boards. Install fasteners with heads dimpled slightly below surface; do not cut through paper. Use accepted

power tools for self drilling screws. For self drilling screws fasten gypsum board to all bearings as follows

1) Non-Rated Ceilings: ***Nails, 7 inches on center***; screws, 12 inches on center.
2) Non-Rated Walls: ***Nails, 8 inches on center*** screws, 12 inches on center.

5. Adhered: Use manufacturer's recommended adhesive at areas where wood studs aren't used.

~~D. Double Layer Application:~~

~~1. Install gypsum backing board for base layer and gypsum wallboard for face layer.~~
~~2. Offset joints between layers at least 10 inches. Apply base layers at right angles to support unless otherwise indicated.~~
~~3. Fastening: Except as indicated otherwise by fire-rated or sound-rated assembly designated:~~
~~a. Fasten base layer to metal supports with screws and face layer with adhesive and screws.~~

E. Accessories, unless otherwise indicated on the Drawings.
1. Install metal corner beads plumb at external corners of drywall work.
2. Install metal edge trim whenever edge of gypsum board would otherwise be exposed or semi-exposed.
3. Install control joints at locations indicated, or if not indicated, at spacings and locations required by referenced gypsum board application and finish standard. Leave joint of sufficient width for installation of caulking.

F. Sealing: Fill joints with specified material at floors, wall intersections, where walls abut other materials, at electrical boxes and other penetrations. Apply in accord with manufacturer's printed directions.

G. Finishing: In accordance with ASTM C840 and Gypsum Association standard GA 216.
1. Pre-fill edges and open joints. Apply joint tape at joints between gypsum boards, except where trim accessories are indicated. Use paper reinforcing tape at corners.
2. Do not allow joint compound to dry rapidly.
3. Apply treatment at gypsum board joints, flanges of trim accessories, penetrations, fasteners heads, surface defects and elsewhere as required by the Referenced Standards.

3.03 SCHEDULE OF FINISHING

A. Level 1: Above ceilings and where gypsum board is solely required to maintain fire resistance or sound rating.

B. Level 2: Where surface of gypsum board is covered with material other than paint or vinyl wall covering.

C. Level 3: On textured surfaces unless otherwise scheduled.

END OF SECTION

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. Section Includes:

1. Resilient base.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed product and for each color and texture specified, not less than 12 inches long.

C. Product Schedule: For resilient base and accessory products.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F.

1.6 FIELD CONDITIONS

A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F, in spaces to receive resilient products during the following time periods:

1. 48 hours before installation.
2. During installation.
3. 48 hours after installation.

B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.

C. Install resilient products after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 THERMOSET-RUBBER BASE

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Burke Mercer Flooring Products; a division of Burke Industries Inc.
2. Flexco.
3. Roppe Corporation, USA.
4. Or Equal.

B. Product Standard: ASTM F 1861, Type TS (rubber, vulcanized thermoset), Group I (solid, homogeneous). Cove style.

C. Thickness: 0.125 inch.

D. Height: 4 inches.

E. Lengths: Cut lengths 48 inches long or coils in manufacturer's standard length.

F. Outside Corners: Preformed.

G. Inside Corners: Preformed.

H. Colors: As selected by Architect from full range of industry colors.

2.2 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, Portland cement based or blended hydraulic-cement-based formulation provided or approved by resilient-product manufacturer for applications indicated.

B. Adhesives: Water-resistant type recommended by resilient-product manufacturer for resilient products and substrate conditions indicated.

1. VOC Content: Adhesives shall comply with the testing and product requirements of Sacramento Metropolitan Air Quality Management District.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.

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

3.2 PREPARATION

A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.

B. Concrete Substrates: Prepare horizontal surfaces according to ASTM F 710.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.

C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

D. Do not install resilient products until they are the same temperature as the space where they are to be installed.

1. At least 48 hours in advance of installation, move resilient products and installation materials into spaces where they will be installed.

E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient products.

3.3 RESILIENT BASE INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient base.

B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.

C. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned.

D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.

E. Do not stretch resilient base during installation.

F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.

G. Preformed Exterior Corners: Install preformed exterior corners before installing straight pieces.

3.4 RESILIENT ACCESSORY INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient accessories.

B. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of floor covering that would otherwise be exposed.

3.5 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.

B. Perform the following operations immediately after completing resilient-product installation:

1. Remove adhesive and other blemishes from exposed surfaces.

C. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.

D. Cover resilient products subject to wear and foot traffic until Substantial Completion.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

A. Section specifies interior wall panels.

B. Related requirements specified elsewhere:
1. Documents affecting work of this Section include, but are not limited to, Conditions of the Contract and Sections in Division 01 of these Specifications.
2. Blocking for attachment of panels - Section 06 10 00, Rough Carpentry.
3. ~~Installation of vinyl clad wall panels on operable partitions - Section 10 22 30, Folding Panel Partitions.~~

1.02 SUBMITTALS

A. Quality Assurance
1. Shop Drawings
a. None required for first named manufacturer and product for each item.
b. Other named manufacturers and products, including substitutions: Submit installation shop drawings showing all details of anchorage and attachment, including fabrication of edge assembly for vinyl clad panels.
~~2. Manufacturer's standard color chips for metal finishes for metal clad panels.~~
3. Samples of manufacturer's standard and special fabrics for fabric clad panels. ~~Samples of vinyl for vinyl clad panels. Samples of sisal fabric showing range of available colors; and hemmed edges.~~
4. Certification by an independent testing laboratory of flame spread of finish material and acoustical value of each assembly.
5. Manufacturer's recommendations for field cutting of fabric clad panels; manufacturer's recommendations for field cutting and hemming of fabric.
6. Full size sample at site of fabric wrapped panel. Furnish one of each fabric type selected.

B. Contract Closeout
1. Complete cleaning instructions for fabric ~~and vinyl~~ partitions.
2. Sample of cleaning compound for each.

1.03 WARRANTY

A. Provide guarantee from manufacturer that fabrics will not delaminate for at least 10 years.

PART 2 - PRODUCTS

2.01 MANUFACTURED UNITS

A. ***Fabric clad panels: "Soundsoak" 1-inch thick, non-woven polyester/polyprophylene fiber, fiberglass core panels; 2-foot widths, with concealed splined edge, as manufactured by Armstrong World Industries, Lancaster, PA, or approved equal.***
1. Fabricate with Soundsoak 60 substrate.
2. NRC .65, in accordance with ASTM A423. Provide with heavy duty plastic J-mold to conceal edges.
3. Fire Rating
a. Flame spread less than 25 and smoke development less than 450 when tested in accordance with ASTM E84.
b. Satisfactory performance in accordance with UBC Standard 8-2.

A. Non-covered panels (Drawing designation Type 1): Aspen wood fibers and hydraulic cement binder heat pressure molded; "Standard Tectum Wall Panels" as manufactured by Tectum Inc., Newark, OH; or accepted equal.
   1. 1-1/2 inch thick, sizes and layout as shown on the Drawings, bevel edges long side, square edges short side.
   2. Noise reduction: NRC rating or .55, when tested in accordance with , ASTM C 423.
   3. Fire Rating: Flames spread less than 25 and smoke development less than 450 when tested in accordance with ASTM E84.
   4. Color: [White] [Natural] [Custom Color]

B. Fabric clad panels (Drawing designation Type 2): "Fabri-Tough" wall and ceiling panels as manufactured by Tectum Inc., Newark, Ohio. 1-inch thick, 2-feet wide; lengths and layout as shown on the Drawings, kerfed edges on long side to accept spline, square edges on short side. NRC rating or .50, when tested in accordance with , ASTM C 423.
   1. Fabric
      a. “Vertex” pattern.
      b. Fire Rating
         1) Flame spread less than 25 and smoke development less than 450 when tested in accordance with ASTM E84.
         2) Satisfactory performance in accordance with UBC Standard 8-2.
   2. Fabrication
      a. Fabric wrapped on all edges, kerfed on long edges, with square ends.
      b. 1-inch thickness, sizes as indicated on Drawings.
      c. Fully bond fabric to core. Do not allow bonding glue for panel fabric to read through.
      d. Edge treatment: Where panel ends are exposed or semi-exposed to view furnish wrapped “Decor” edges.

C. Vinyl clad panels (Drawing designation Type 3): "Soundsoak" microperforated vinyl, as manufactured by Armstrong World Industries, Lancaster, PA, or approved equal
   1. 5/8-inch thickness by 2 foot widths, kerfed edge, mineral fiber; NRC .50, in accordance with ASTM A423.
   2. Provide with heavy duty plastic J-mould to conceal edges.
   3. Colors of both vinyl and edge moldings as selected by Architect from Manufacturer's standards.
   4. Shop fabricate entire unit with no seams in core.

D. Fabric clad panels (Drawing designation Type 4): "Soundsoak Composed" 1-inch thick, non-woven polyester/polyprophylene fiber, fiberglass core panels; 2-foot widths, with concealed splined edge, as manufactured by Armstrong World Industries, Lancaster, PA, or approved equal.
   1. Fabricate with Soundsoak 85 substrate.
   2. NRC .90, in accordance with ASTM A423. Provide with heavy duty plastic J-mould to conceal edges.
   3. Fire Rating
      a. Flame spread less than 25 and smoke development less than 450 when tested in accordance with ASTM E84.
      b. Satisfactory performance in accordance with UBC Standard 8-2.

2.02 FASTENINGS

A. Provide with internal splines for kerfed panels.
   1. Mechanical: Concealed type mechanical strip fasteners as recommended by panel manufacturer.
   2. Adhesive: As recommended by panel manufacturer.

2.03 FINISHES

A. Fabric ~~and vinyl~~ color as selected by the Architect from ~~each~~ manufacturer's standard. For each product, all fabrics ~~and vinyls~~ from one dye lot.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Before beginning the work specified in this section, carefully inspect the substrate to which the work specified in this section will be applied. Execution of the work specified in this section shall constitute a certification by the Contractor that the substrate is in proper condition to receive subsequent work.

3.02 PREPARATION

A. Clean wall surfaces of loose materials and dirt.

3.03 INSTALLATION

A. Install wall panels in accordance with reference standards, and in accordance with approved shop drawings, level and plumb.

B. Fastening
1. General: Both mechanical and adhesive fastening as designated by the scheduled mounting system.
   a. Concealed type mechanical strip fasteners as recommended by the panel manufacturer and as indicated on the Drawings. Internal spline for butted panels.
   b. Adhesive applied at 2-foot centers and at exposed edges.
2. ~~Non-Fabric Covered Panels (Drawing designation Type 1): Attach with matching screws or other mechanical fasteners in conjunction with adhesive per manufacturer's written directions. Specified manufacturer's direct to wall, type "MTG. A" mounting.~~
3. ~~Fabric-Covered Panels (Drawing designation Type 2): Attach with mechanical fasteners through splines in conjunction with adhesive per manufacturer's written directions. Specified manufacturer's direct to wall, type "MTG. A" mounting.~~
4. ~~Vinyl clad panels (Drawing designation Type 3): Attach with mechanical fasteners through splines and [perimeter molds] [adhesive at perimeters] per manufacturer's written directions.~~
5. Fabric clad panels (Drawing designation Type 4): Attach with mechanical fasteners through splines and ¾-inch furring strips in accordance with specified manufacturer's "D" type mounting. in conjunction with adhesive per manufacturer's written directions.

3.04 CLEANING

A. Upon completion clean surfaces in a manner that will not damage the material.

3.05 PROTECTION

A. Protect panels so that no smudges or nicks are visible.

B. No visible signs of edge ravel permitted for fabric.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

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

B. Section Includes Markerboards and Tackboards.

1.2 SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, finishes, and accessories for visual display units.

B. Samples: For each type of visual display unit indicated.

1. Markerboard: Not less than 8-1/2 by 11 inches, with facing, core, and backing indicated for final Work.
2. Tackboard: Not less than 8-1/2 by 11 inches sample.
3. Trim, Tray, and End caps: 6-inch-long sections of each.

C. Maintenance Data: For visual display units to include in maintenance manuals.

1.3 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install visual display units until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

1.4 WARRANTY

A. General Warranty: Under requirements of Contract Documents, Contractor to submit required paperwork for manufacturer’s warranties of products selected; special warranty is in addition to, and runs concurrent with other warranties.

B. Special Warranty for Porcelain-Enamel Face Sheets: Manufacturer agrees to repair or replace porcelain-enamel face sheets that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Surfaces lose original writing and erasing qualities.
b. Surfaces exhibit crazing, cracking, or flaking.

2. Warranty Period: 50 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain each type of visual display unit from single source from single manufacturer.

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. A-1 Visual Systems.
2. Claridge Products and Equipment, Inc.
3. Ghent, a GMI Company
4. Koroseal Interior Products LLC
5. Marsh Industries, Inc.
6. Platinum Visual Systems.
7. Or equal

2.2 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 100 or less.

2.3 MARKERBOARD PANELS

A. Porcelain-Enamel Markerboard Panels: Balanced, high-pressure, factory-laminated markerboard assembly of three-ply construction, consisting of moisture-barrier backing, core material, and porcelain-enamel face sheet with low-gloss finish. Laminate panels under heat and pressure with manufacturer's standard, flexible waterproof adhesive.

1. Particleboard Core: 3/8 inch with 0.015-inch-thick, aluminum sheet backing.
2. Laminating Adhesive: Manufacturer's standard moisture-resistant thermoplastic type.
3. Color: As selected by Architect from full range of industry colors.
4. Corners: Square
5. Size: as indicated on drawings.
6. Mounting Method: Direct to wall.

B. Aluminum Frames and Trim: Manufacture’s standard, size and shape as selected by architect from manufacturer’s options. Clear anodized finish.

C. Chalktray: Manufacturer's standard; continuous, solid type with extruded aluminum ribbed section and smoothly curved exposed ends.

D. Display Rail: Manufacturer's standard, extruded-aluminum display rail with insert, end stops, designed to hold accessories.

1. Size: 1 inch to 2 inches high by full length of visual display unit.
2. Map Hooks and Clips: Two map hooks with flexible metal clips for every 48 inches of display rail or fraction thereof.

3. Flag Holder: One for each room.

2.4 TACKBOARD PANELS

A. Tackboard Panel: resilient, tackable, linoleum surface material with burlap backing, Koroseal tac-wall or equal.

1. Color: As selected by Architect from full range of industry colors.
2. Corners: Square
3. Width: As indicated on Drawings.
4. Height: As indicated on Drawings.
5. Mounting Method: Direct to wall.

B. Accessories:

1. Adhesive per manufacturer. Where occurs per drawings, butt joint panels together with color matched caulk.
2. Trim: provide around outside edge of panel system, where no butt joint occurs.
   a. Finish and Shape: As selected by Architect from full range of manufacturer's options.

2.5 REQUIREMENTS

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

B. Protect mechanical 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 unacceptable. 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.

D. Aluminum: Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances, surface conditions of wall, and other conditions affecting performance of the Work.
   1. Walls to be painted prior to installation of visual display units.

B. Examine walls and partitions for proper preparation and backing for visual display units.

C. Examine walls and partitions for suitable framing depth where sliding visual display units will be installed.

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

3.2 PREPARATION

A. Comply with manufacturer's written instructions for surface preparation.

B. Clean substrates of substances, such as dirt, mold, and mildew, that could impair the performance of and affect the smooth, finished surfaces of visual display boards.

C. Prepare surfaces to achieve a smooth, dry, clean surface free of flaking, unsound coatings, cracks, defects, projections, depressions, and substances that will impair bond between visual display units and wall surfaces.

D. Prime wall surfaces indicated to receive visual display units and as recommended in writing by primer/sealer manufacturer and visual display unit manufacturer.

3.3 INSTALLATION

A. Retain installers who are authorized representatives of the manufacturer.

B. General: Install visual display surfaces in locations and at mounting heights indicated on Drawings, or if not indicated, at heights indicated below. Keep perimeter lines straight, level, and plumb. Provide grounds, clips, backing materials, adhesives, brackets, anchors, trim, and accessories necessary for complete installation.

1. Heights:
   a. 34” above finish floor, typical. or 6” above top of backsplash in science labs.

2. Where size of visual display board assemblies or other conditions require support in addition to normal trim, provide structural supports or modify trim as indicated or as selected by Architect from manufacturer's standard structural support accessories to suit conditions indicated.

C. Markerboard Assembly: comply with manufacturer’s printed installation instructions.

D. Tackboard Assembly: comply with manufacturer’s printed installation instructions.

   a. Cut sheets to size including a few inches of overage. Allow sheets to lay flat for at least twenty-four hours prior to the application. Mark roll direction and sequence on the backside of each sheet. Hang sheets in sequence as cut from the roll, do not reverse sheets.
   b. Permanent HVAC system should be set to 68 degrees Fahrenheit (20 degrees Celsius) for at least seventy-two hours prior to, during, and after the installation.
   c. Back roll each sheet prior to the installation to release curl memory.
   d. For seamed applications, using a seam and strip cutter remove the factory edge of one sheet. Using the same tool, overlap and trace cut the mating edge of the second sheet. Repeat this step for as many sheets as required for the job.
   e. Scribe, cut, and fit material to butt tightly to adjacent surfaces, built-in casework, and permanent fixtures and pipes.
   f. Apply adhesive with a 1/16 inch square notch trowel to the area to receiving the sheet (apply enough for one sheet at a time).
   g. Work from top to bottom then side to side. Roll sheet firmly into adhesive for positive contact and to remove air bubbles.
   h. Remove adhesive residue immediately after each panel is hung with a mild soap/water solution and a soft cloth/sponge.

3.4 CLEANING AND PROTECTION

A. Clean visual display units according to manufacturer's written instructions. Attach one removable cleaning instructions label to visual display unit in each room.

B. Touch up factory-applied finishes to restore damaged or soiled areas.

C. Cover and protect visual display units after installation and cleaning.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

A. Electrically operated sunscreen roller shades.

B. Local group and master control system for shade operation with addressable motors.

1.02 RELATED SECTIONS

A. Section 09 29 00 - Gypsum Board Assemblies: Coordination with gypsum board assemblies for installation of shade pockets, closures and related accessories.

B. Division 26 - Electrical: Electric service for motor controls.

1.03 REFERENCES

A. ASTM G 21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.

B. NFPA 70 - National Electrical Code.

C. NFPA 701-99 - Fire Tests for Flame-Resistant Textiles and Films.

1.04 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
1. Preparation instructions and recommendations.
2. Styles, material descriptions, dimensions of individual components, profiles, features, finishes and operating instructions.
3. Storage and handling requirements and recommendations.
4. Mounting details and installation methods.
5. Typical wiring.

C. Shop Drawings: Plans, elevations, sections, product details, installation details, operational clearances, wiring diagrams and relationship to adjacent work.

D. Selection Samples:
1. Submit shade cloth samples if providing other than specified.
2. For all other finish items specified, one set of aluminum finish color samples, representing manufacturers full range of available colors and patterns.

E. Verification Samples: For each finish product specified, one complete set of shade components, unassembled, demonstrating compliance with specified requirements. Shadecloth sample and aluminum finish sample as selected. Mark face of material to indicate interior faces.

F. Maintenance Data: Methods for maintaining roller shades, precautions regarding cleaning materials and methods, instructions for operating hardware and controls.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Obtain roller shades through one source from a single manufacturer with a minimum of twenty years experience in manufacturing products comparable to those specified in this section.

B. Installer Qualifications: Installer trained and certified by the manufacturer with a minimum of ten years experience in installing products comparable to those specified in this section.

C. Fire-Test-Response Characteristics: Passes NFPA 701-99 small and large-scale vertical burn. Materials tested shall be identical to products proposed for use.

D. Electrical Components: NFPA Article 100 listed and labeled by either UL or ETL or other testing agency acceptable to authorities having jurisdiction, marked for intended use, and tested as a system. Individual testing of components will not be acceptable in lieu of system testing.

E. Anti-Microbial Characteristics: 'No Growth' per ASTM G 21 results for fungi ATCC9642, ATCC 9644, ATCC9645.

F. Environmental Certification: Submit written certification from the manufacturer, including recycling characteristics, and perpetual use certification as specified below. Initial submittals, which do not include the Environmental Certification, below will be rejected. Materials that are simply 'PVC free' without identifying their inputs shall not qualify as meeting the intent of this specification and shall be rejected.

G. Recycling Characteristics: Provide documentation that the shade cloth can and is part of a closed loop of perpetual use and not be required to be down cycled, incinerated or otherwise thrown away. Scrap material can be sent back to the mill for reprocessing and recycling into the same quality yarn and woven into new material, without down cycling. Certify that this process is currently underway and will be utilized for this project.

H. Perpetual Use Certification: Certify that at the end of the useful life of the shade cloth, that the material can be sent back to the manufacturer for recapture as part of a closed loop of perpetual use and that the material can and will be reconstituted into new yarn, for weaving into new shade cloth. Provide information on each shade band indicating that the shade band can be sent back to the manufacturer for this purpose.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver shades in factory-labeled packages, marked with manufacturer and product name, fire-test-response characteristics, and location of installation.

1.07 PROJECT CONDITIONS

A. Environmental Limitations: Install roller shades after finish work including painting is complete and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

1.08 WARRANTY

A. Roller Shade Hardware, EcoVeil standard non-depreciating 10-year limited warranty.

B. Roller Shade Motors and Motor Control Systems: Manufacturer's standard non-depreciating five-year warranty.

C. Roller Shade Installation: One year from date of Substantial Completion, not including scaffolding, lifts or other means to reach inaccessible areas.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Manufacturer: MechoShade Systems, Inc., or approved equal. ***Basis of Design Manufacturer for Window Shade System: Products by MechoSystems; 42-03 35th Street, Long Island City, NY 11101. Representative - Lyndsey Harper Tel: (925) 557-6675. Email: Lyndsey.harper@mechosystems.com***

2.02 APPLICATIONS/SCOPE

A. Roller Shade Type: Motorized interior solar roller shades in all exterior windows of rooms and spaces shown on Drawings, and related motor control systems.
1. Type 1: Manual (chain drive) roller shade, single roller;
2. Type 2: Motorized roller shade, single roller;
3. ~~Type 3: Motorized shade and blackout, dual roller;~~
4. ~~Type 4: Motorized blackout shade, single roller.~~

2.03 SHADE CLOTH

A. MechoShade Systems, Inc., Soho Collection, 1100 Series, fabricated from PVC and polyester fabric.
1. Weave: 1 percent open, basket weave.
2. Color: 1133 Wooster (dark grey)

~~A. Environmentally Certified Shadecloth: MechoShade Systems, Inc., EcoVeil group, 1350 Series, fabricated from TPO for both core yarn and jacket, single thickness, non-raveling 0.030 inch (0.762 mm) thick fabric.~~
~~1. Weave: 5 percent open, dense basket weave.~~
~~2. Color: 1366 Eggshell~~

~~B. Blackout Shadecloth: MechoShade Systems, Inc, Equinox 0100 Series, fiberglass material with acrylic backing.~~
~~1. Weave: 0% open, dense weave~~
~~2. Color: 0103 Flax~~

2.04 SHADE BAND

A. Shade Bands: Construction of shade band includes the fabric, the hem weight, hem-pocket, shade roller tube, and the attachment of the shade band to the roller tube. Sewn hems and open hem pockets are not acceptable.
1. Hem Pockets and Hem Weights: Fabric hem pocket with RF-welded seams (including welded ends) and concealed hem weights. Hem weights shall be of appropriate size and weight for shade band. Hem weight shall be continuous inside a sealed hem pocket. Hem pocket construction and hem weights shall be similar, for all shades within one room.
2. Shade band and Shade Roller Attachment:
a. Use extruded aluminum shade roller tube of a diameter and wall thickness required to support shade fabric without excessive deflection. Roller tubes less

than 1.55 inch (39.37 mm) in diameter for manual shades, and less than 2.55 inches (64.77 mm) for motorize shades are not acceptable.

b. Provide for positive mechanical engagement with drive / brake mechanism.

c. Provide for positive mechanical attachment of shade band to roller tube; shade band shall be made removable / replaceable with a "snap-on" snap-off" spline mounting, without having to remove shade roller from shade brackets.

d. Mounting spline shall not require use of adhesives, adhesive tapes, staples, and/or rivets.

e. Any method of attaching shade band to roller tube that requires the use of: adhesive, adhesive tapes, staples, and/or rivets are not acceptable.

2.05 SHADE FABRICATION

A. Fabricate units to completely fill existing openings from head to sill and jamb-to-jamb, unless specifically indicated otherwise.

B. Fabricate shadecloth to hang flat without buckling or distortion. Fabricate with heat-sealed trimmed edges to hang straight without curling or raveling. Fabricate unguided shadecloth to roll true and straight without shifting sideways more than 1/8 inch (3.18 mm) in either direction per 8 feet (2438 mm) of shade height due to warp distortion or weave design. Fabricate hem as follows:

1. Concealed hemtube.

C. Provide battens in standard shades as required to assure proper tracking and uniform rolling of the shadebands. Contractor shall be responsible for assuring the width-to-height (W:H) ratios shall not exceed manufacturer's standards or, in absence of such standards, shall be responsible for establishing appropriate standards to assure proper tracking and rolling of the shadecloth within specified standards. Battens shall be roll-formed stainless steel or tempered steel, as required.

D. For railroaded shadebands, provide seams in railroaded multi-width shadebands as required to meet size requirements and in accordance with seam alignment as acceptable to Architect. Seams shall be properly located. Furnish battens in place of plain seams when the width, height, or weight of the shade exceeds manufacturer's standards. In absence of such standards, assure proper use of seams or battens as required to, and assure the proper tracking of the railroaded multi-width shadebands.

E. Provide battens for railroaded shades when width-to-height (W:H) ratios meet or exceed manufacturer's standards. In absence of manufacturer's standards, be responsible for proper use and placement of battens to assure proper tracking and roll of shadebands.

2.06 COMPONENTS

A. Access and Material Requirements:

1. Provide shade hardware allowing for the removal of shade roller tube from brackets without removing hardware from opening and without requiring end or center supports to be removed.
2. Provide shade hardware that allows for removal and re-mounting of the shade bands without having to remove the shade tube, drive or operating support brackets.
3. Use only Delrin engineered plastics by DuPont for all plastic components of shade hardware. Styrene based plastics, and /or polyester, or reinforced polyester will not be acceptable.

B. Motorized Shade Hardware and Shade Brackets:

1. Provide shade hardware constructed of minimum 1/8-inch (3.18 mm) thick plated steel, or heavier, thicker, as required to support 150 percent of the full weight of each shade.

2. Provide shade hardware system that allows for field adjustment of motor or replacement of any operable hardware component without requiring removal of brackets, regardless of mounting position (inside, or outside mount).

2.07 SHADE MOTOR DRIVE SYSTEM

A. Shade Motors:
1. Tubular, asynchronous (non-synchronous) motors, with built-in reversible capacitor operating at 110v AC (60hz), single phase, temperature Class A, thermally protected, totally enclosed, maintenance free with line voltage power supply equipped with locking disconnect plug assembly furnished with each motor.
2. Conceal motors inside shade roller tube.
3. Maximum current draw for each shade motor of 2.3 amps.
4. Use motors rated at the same nominal speed for all shades in the same room.

B. Total hanging weight of shade band shall not exceed 80 percent of the rated lifting capacity of the shade motor and tube assembly.

2.08 MOTOR CONTROL SYSTEMS ***- INTELLIGENT ENCODED ELECTRONIC DRIVE SYSTEM***

A. Electronic Drive Unit (EDU):
1. Intelligent Encoded EDU, and Control System: Tubular, asynchronous (non-synchronous) EDU's, with built-in reversible capacitor operating at 120VAC/60Hz, (230VAC/50Hz) single phase, temperature Class B, thermally protected, totally enclosed, maintenance free with line voltage power supply equipped with locking disconnect plug assembly furnished with each EDU.
2. Quiet [42 – 46 db] (within 3 feet open air).
3. Conceal EDU's inside shade roller tube.
4. Maximum current draw for each shade EDU of 0.9Amps at 120VAC.
5. Use EDU's rated at the same nominal speed for all shades in the same room.
6. Use EDU's with minimum of 34RPM, that shall not vary due to load / lift capacity.
7. Total hanging weight of shade band shall not exceed 80 percent of the rated lifting capacity of the shade EDU and tube assembly.

B. EDU System: (software, two-way communication): Specifications and design are based on the Intelligent EDU Control System, WhisperShade®IQ® System) as manufactured by MechoSystems. Other systems may be acceptable providing all of the following performance capabilities are provided. EDU and control systems not in complete compliance with these performance criteria shall not be accepted as equal systems.
1. EDU shall support two methods of control.
a. Local Dry Contact Control Inputs:
1) EDU shall be equipped with dry contact inputs to support moving the EDU/shade to the upper and lower limits.
2) EDU shall be equipped with dry contact inputs to support moving the EDU/shade to local switch preset positions.
3) Shall support configuring the EDU under protected sequences so that a typical user would not change the EDU's setup. At a minimum the configuration should include setting limits, setting custom presets and configuring key modes of operation.
b. Network Control:
1) EDU shall be equipped with a bi-directional network communication capability in order to support commanding the operation of large groups of shades over a common backbone. The

network communication card shall be embedded into the tubular EDU assembly.

2. ***Upper and lower stopping points (operating limits) of shade bands shall be programmed into EDU's using either a hand held removable program module / configurator or a local switch.***
3. ***Alignment Positions: Each EDU shall support a minimum of 133 repeatable and precisely aligned shade positions (including limits and presets).***
   a. ***All shades on the same switch circuit or with the same network group address with the same opening height shall align at each limit or preset (intermediate stopping position) when traveling from any position, up or down.***
   b. ***Shades of differing heights shall have capability for custom, aligned intermediate stop positions when traveling from any position, up or down.***
   c. ***Alignment of shades mechanically aligned on the same EDU shall not exceed +/- 0.125 inches (3.175mm) when commanded to the same alignment position.***
   d. ***Alignment of shades on adjacent EDU's shall not exceed +/- 0.25" inches (6.35mm) when commanded to the same alignment position.***
   e. ***Local Switch Presets: A minimum of 3 customizable preset positions shall be accessible over the local dry contact control inputs and over the network connection.***
      1) ***Upon setting the limits for the shade EDU these preset positions shall automatically default to 25%, 50% and 57% of the shade travel.***
      2) ***These positions shall be capable of being customized to any position between and including the upper and lower limits of the shade. A removable program module / configurator or local switch shall be capable of customizing the position of these presets.***
   f. ***Network Presets: A minimum of 29 customizable preset positions (including the 3 local switch presets) shall be accessible via network commands.***
      1) ***Upon setting the limits for the shade EDU these preset positions shall automatically default to the lower limit unless customized elsewhere.***
      2) ***These positions shall be capable of being customized to any position between and including the upper and lower limits of the shade. A removable program module / configurator shall be capable of customizing the position of these presets.***
4. ***Network Control:***
   a. ***The system shall have the capability of two-way digital communication with the EDU's over a common backbone.***
   b. ***Each EDU shall possess 8 addresses capable of being employed for various levels of group control. These addresses shall be configurable via a handheld configurator and/or a PC controller. A 9th unique address shall enable the EDU(s) to be independently controlled and configured over the network via a handheld configurator and/or a PC controller.***
   c. ***Low Voltage Communication Network Implementation.***
      1) ***The low voltage network shall employ a bus topology with daisy chained network connections between nodes over a CAT5 cable (4 UTP) or over a 2 UTP cable employing at least 1 pair at 16 AWG for power and 1 pair at 22 AWG for data.***
      2) ***The low voltage network (+/- 13VDC) shall be powered by the nodes attached to it. These nodes could be line voltage powered EDU's attached to 120 VAC or 230 VAC. Alternatively, low voltage nodes shall be powered typically by a centralized low voltage power***

supply. If a CAT5 network cable is employed and the node draws less than 1W then the node may be powered by DC power supplied by an associated line voltage EDU.

3) Network Capacity: 4000 ft max, 250 nodes max

(a) The number and size of a centralized DC supply shall vary depending upon the network requirements.

5. Operating Modes:

a. Uniform or Normal Modes of Operation:

1) Uniform mode shall allow for shades to only move to defined intermediate stop positions to maintain maximum uniformity and organization.

2) Normal Mode shall allow for shades to move to both intermediate stop positions, plus any position desired between the upper and lower limits as set by the installer.

6. Wall Switches:

a. Intelligent switches may be installed anywhere on the bus line. Each IS shall be capable of storing one control level address to be broadcast along the bus line.

b. An address that is transmitted by either a switch or central controller shall be responded to by those EDU's with the same address in their control table.

c. IS shall provide for interface with other low voltage input devices via a set of dry contact terminals located on the switch.

d. Standard switch or IS may control an individual, sub-group or group of EDU's in accordance with the address in each EDU.

~~A. I.CON Control System: Specifications and design of shade motors and motor control system are based on the I.CON motor control system manufactured by MechoShade Systems, Inc. Other systems may be acceptable provided that all of the following performance capabilities are provided. Motor logic control systems not in complete compliance with these performance criteria shall not be accepted as equal systems.~~

~~1. Upper and lower stopping points (operating limits) of shadebands shall be programmed into motors via a hand held removable program module / configurator.~~

~~2. Intermediate stopping positions for shades shall be 4 predefined intermediate positions, for a total of 6 defined and aligned positions. All shades on the same switch circuit with the same opening height shall align at each intermediate stopping position.~~

~~3. Motors shall be addressable through a 2 motor bus interface via a hand held removable program module and shall be capable of responding to a minimum of seven different user defined stored addresses including multiple overlapping sub groups and three reserved control input addresses for use by building management systems, life safety systems and other emergency inputs.~~

~~4. The BI and I.CON controller system shall have the capability of two-way communication with the motors. Each I.CON controller, (bus interface or BI) shall allow for a unique address message to be received from the hand held configurator and/or a PC controller or switch.~~

~~a. Bus line shall consist of 2 twisted pair of 16 ga low voltage wire.~~

~~b. Shade motor control components (bus interfaces, wall switches, bus supplies, auxiliary control input devices, and similar items) shall be connected in series via the low voltage (12VDC) two way digital communication bus line.~~

~~c. Bus line shall be capable of being installed in a free topology to provide maximum flexibility for installation and future maintenance.~~

~~d. Low voltage (12VDC) digital bus line shall be powered by a bus supply transformer, requiring 115VAC input drawing a maximum current of 1 amp. A minimum of one bus supply shall be required for every 400 linear feet of bu line.~~

~~Final bus supply spacing shall be reviewed with the system manufacturer after the number of nodes per 400 ft run of bus line has been determined.~~

~~5. Wall Switches:~~

~~a. Shades shall be operated by 4 button low voltage standard switches or programmable intelligent switches (IS). Standard switch shall be wired to a bus interface and the bus interface will be programmed to transmit an address for the local switch.~~

~~b. Intelligent switches may be installed anywhere on the bus line. Each IS shall be capable of storing one control level address to be broadcast along the bus line.~~

~~c. An address that is transmitted by either a switch or central controller shall be responded to by those motors with the same address in their control table.~~

~~d. IS shall provide for interface with other low voltage input devices via a set of dry contact terminals located on the switch.~~

~~e. Standard switch or IS may control an individual, sub-group or group of motors in accordance with the address in each motor/BI unit.~~

2.09 ACCESSORIES

A. Fascia:
1. Continuous removable extruded aluminum fascia that attaches to shade mounting brackets without the use of adhesives, magnetic strips, or exposed fasteners.
2. Fascia shall be able to be installed across two or more shade bands in one piece.
3. Fascia shall fully conceal brackets, shade roller and fabric on the tube.
4. Provide bracket / fascia end caps where mounting conditions expose outside of roller shade brackets.
5. Fascia to be Urban Shade Square, by Mecho Shades, or approved equal. Finish to be clear anodized.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

A. Install roller shades level, plumb, square, and true according to manufacturer's written instructions, and located so shade band is not closer than 2 inches to interior face of glass. Allow proper clearances for window operation hardware.

B. Turn-Key Single-Source Responsibility for Motorized Interior Roller Shades: To control the responsibility for performance of motorized roller shade systems, assign the design, engineering, and installation of motorized roller shade systems, motors, controls, and low voltage electrical control wiring specified in this Section to a single manufacturer and their authorized installer/dealer. The Architect will not produce a set of electrical drawings for the

installation of control wiring for the motors, or motor controllers of the motorized roller shades. Power wiring (line voltage), shall be provided by the roller shade installer/dealer, in accordance with the requirements provided by the manufacturer. Coordinate the following with the roller shade installer/dealer:

1. Provide power panels and circuits of sufficient size to accommodate roller shade manufacturer's requirements, as indicated on the mechanical and electrical drawings.
2. Coordinate with requirements of roller shade installer/dealer, before inaccessible areas are constructed.
3. Roller shade installer/dealer shall run line voltage as dedicated home runs (of sufficient quantity, in sufficient capacity as required) terminating in junction boxes in locations designated by roller shade dealer.
4. Roller shade installer/dealer shall provide and run all line voltage (from the terminating points) to the motor controllers, wire all roller shade motors to the motor controllers, and provide and run low voltage control wiring from motor controllers to switch/ control locations designated by the Architect. All above-ceiling and concealed wiring shall be plenum-rated, or installed in conduit, as required by the electrical code having jurisdiction.
5. Provide conduit with pull wire in all areas, which might not be accessible to roller shade contractor due to building design, equipment location or schedule.

C. Adjust and balance roller shades to operate smoothly, easily, safely, and free from binding or malfunction throughout entire operational range.

D. Clean roller shade surfaces after installation, according to manufacturer's written instructions.

E. Engage Installer to train Owner's maintenance personnel to adjust, operate and maintain roller shade systems.

3.04 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SHEET NOTES

SN.25 CHEMICAL STORAGE CABINET, SEE INTERIOR ELEVATIONS. 1

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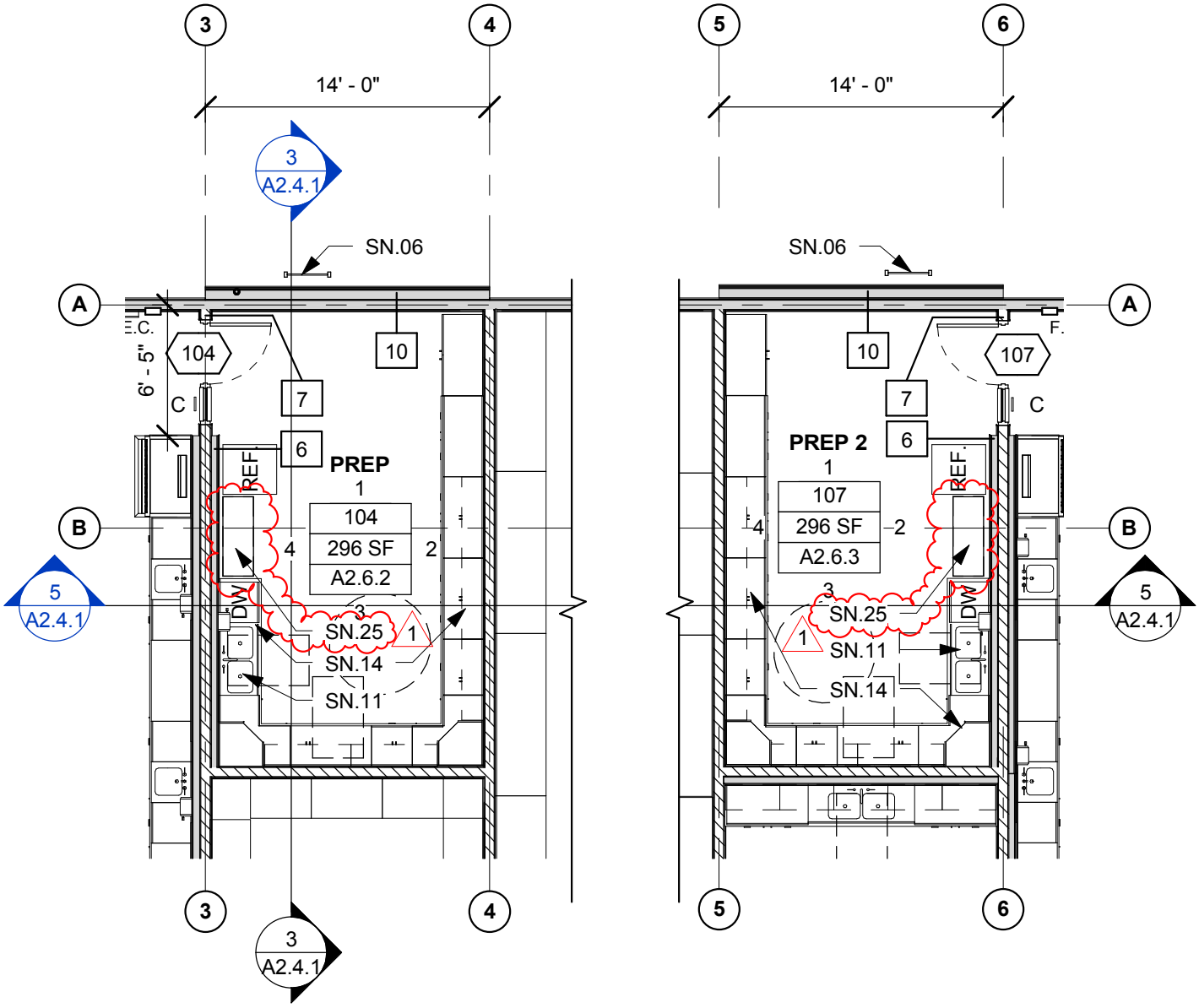

1 FIRST FLOOR PLAN

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

STAFFORD KING WIESE ARCHITECTS

REF. SHEET NAME (REF. SHEET #)
A2.2.1 FLOOR PLAN

DATE
04/30/18

SCUSD WEST CAMPUS HS SCIENCE & TECHNOLOGY CLASSROOM BUILDING

5022 58TH STREET
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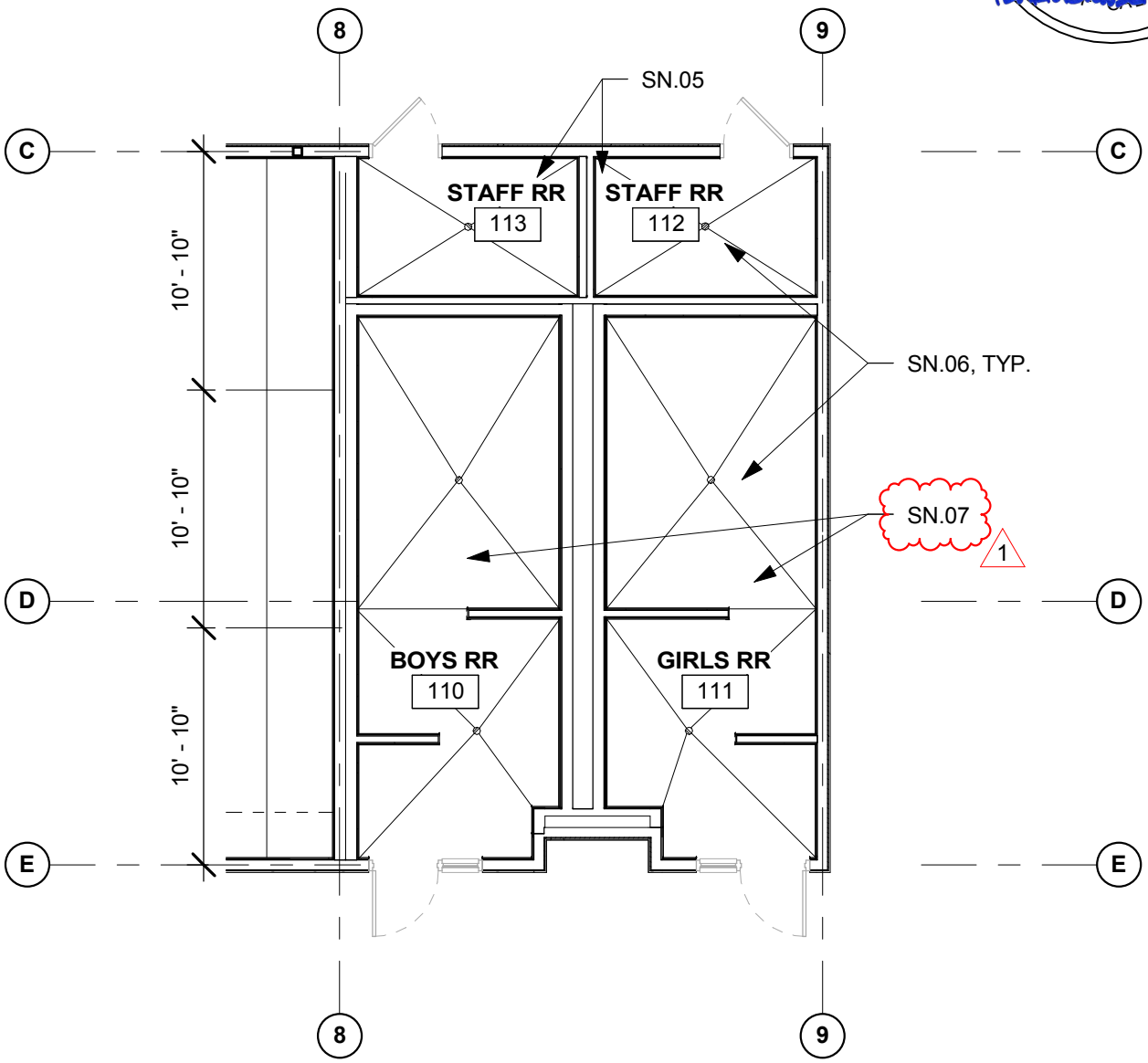
ADDENDUM #2

SHEET NOTES

SN.07 1/4" DEPRESSED SLAB AT STUDENT RESTROOMS 1



1 CONCRETE CURB AND SCORE PATTERN PLAN

1/8" = 1'-0"

STAFFORD KING WIESE ARCHITECTS

REF. SHEET NAME (REF. SHEET #)
A2.2.2 CONCRETE CURB AND SCORE PATTERN PLAN

DATE
04/30/18

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ADDENDUM #2

SHEET NOTES

SN.06 OVERHEAD FOLDING DOOR, PER DOOR SCHEDULE. 1

MATERIALS LEGEND

	DESCRIPTION	FINISH/REMARKS
A	CEMENT PLASTER 1	COLOR #1
B	COMPOSITE WALL PANEL	WOOD TEXTURE, ANTI GRAFITI COATING
C	CEMENT PLASTER 1	COLOR #2
D	MANUFACTURED METAL ROOF PANELS	STANDING SEAM 1
E	METAL PARAPET/ROOF COPING	
F	METAL DOWNSPOUT	COLOR #3
G	GREEN SCREEN	SEE LANDSCAPE
H	STEEL STRUCTURE	SEE STRUCTURAL
I	METAL DOOR/FRAME	SEE DOOR SCHEDULE
J	ALUMINUM WINDOW FRAME	SEE WINDOW SCHEDULE
K	ALUMINUM MULLION	SEE WINDOW SCHEDULE
L	EXTERIOR GLASS	TEMPERED, SEE WINDOW SCHEDULE
O	WALL SCUPPER OUTLET / OVERFLOW	COLOR TO MATCH COMPOSITE SIDING
P	ROOF VENT	SEE MECHANICAL
Q	FIXED MECHANICAL LOUVERS 1	SEE MECHANICAL, MATCH DOOR COLOR

DOOR SCHEDULE

MARK	DOOR								FRAME						COMMENTS
	SIZE		TYPE	MATERIAL	GLASS	RATING	HARDWARE GROUP	PANIC HARDWARE	TYPE	MATERIAL	DETAILS				
	WIDTH	HT									HEAD	JAMB	THRESHOLD	OTHER	
100A	8'-0"	7'-2"	1	AL.	-	-	-	-	C	HM 1	12 / A2.5.1	16 / A2.5.1	-		OVERHEAD FOLDING DOOR 1
100B	3'-0"	7'-0"	2	HM	B	-	2	-	A	HM	9 / A2.5.1	13 / A2.5.1	17 / A2.5.1		
101A	8'-0"	7'-2"	1	AL.	-	-	-	-	C	HM 1	12 / A2.5.1	16 / A2.5.1	-		OVERHEAD FOLDING DOOR 1
101B	3'-0"	7'-0"	2	HM	B	-	1	•	A	HM	9 / A2.5.1	13 / A2.5.1	17 / A2.5.1		
101C	3'-0"	7'-0"	2	HM	B	-	1	•	A	HM	9 / A2.5.1	13 / A2.5.1	17 / A2.5.1		
102	3'-0"	7'-0"	3	HM	-	-	4	-	A	HM	9 / A2.5.1	13 / A2.5.1	17 / A2.5.1		
103	4'-0"	7'-0"	3	HM	C	45	5	-	A	HM	11 / A2.5.1	15 / A2.5.1	-		
104	3'-0"	7'-0"	3	HM	C	45	5	-	B	HM	11/A2.5.1, 6/A2.5.2	8 & 15 / A2.5.1, 6/A2.5.2	20 /A2.5.1		FIRE RATED GLAZING
105A	8'-0"	7'-2"	1	AL.	-	-		-	C	HM 1	12 / A2.5.1	16 / A2.5.1	-		OVERHEAD FOLDING DOOR 1
105B	3'-0"	7'-0"	2	HM	B	-	1	•	A	HM	9 / A2.5.1	13 / A2.5.1	17 / A2.5.1		
105C	3'-0"	7'-0"	2	HM	B	-	1	•	A	HM	9 / A2.5.1	13 / A2.5.1	17 / A2.5.1		
106A	8'-0"	7'-2"	1	AL.	-	-		-	C	HM 1	12 / A2.5.1	16 / A2.5.1	-		OVERHEAD FOLDING DOOR 1
106B	4'-0"	7'-0"	3	HM	-	45	6	-	A	HM	11 / A2.5.1	15 / A2.5.1	-		
107	3'-0"	7'-0"	3	HM	C	45	5	-	B	HM	11/A2.5.1, 6/A2.5.2	8 & 15 / A2.5.1, 6/A2.5.2	20 /A2.5.1		FIRE RATED GLAZING
108A	8'-0"	7'-2"	1	AL.	-	-		-	C	HM 1	12 / A2.5.1	16 / A2.5.1	-		OVERHEAD FOLDING DOOR 1
108B	3'-0"	7'-0"	2	HM	B	-	1	•	A	HM	9 / A2.5.1	13 / A2.5.1	17 / A2.5.1		
108C	3'-0"	7'-0"	2	HM	B	-	1	•	A	HM	9 / A2.5.1	13 / A2.5.1	17 / A2.5.1		
109A	8'-0"	7'-2"	1	AL.	-	-		-	C	HM 1	12 / A2.5.1	16 / A2.5.1	-		OVERHEAD FOLDING DOOR 1
109B	3'-0"	7'-0"	2	HM	B	-	2	-	A	HM	9 / A2.5.1	13 / A2.5.1	17 / A2.5.1		
110	3'-0"	7'-0"	3	HM	D	-	3	-	B	HM	9 & 10 / A2.5.1	8, 13, 14 / A2.5.1	19 & 20/ A2.5.1		TRANSLUCENT GLASS AT SIDELIGHT, TEMPERED
111	3'-0"	7'-0"	3	HM	D	-	3	-	B	HM	9 & 10 / A2.5.1	8, 13, 14 / A2.5.1	19 & 20/ A2.5.1		TRANSLUCENT GLASS AT SIDELIGHT, TEMPERED 1
112	3'-0"	7'-0"	3	HM	-	-	3	-	A	HM	9 / A2.5.1	13 / A2.5.1	18 / A2.5.1		
113	3'-0"	7'-0"	3	HM	-	-	3	-	A	HM	9 / A2.5.1	13 / A2.5.1	18 / A2.5.1		
114	3'-0"	7'-0"	4	HM	-	-	4	-	A	HM	9 / A2.5.1	13 / A2.5.1	17 / A2.5.1		12"x12" DOOR LOUVER, SEE MECHANICAL DRAWINGS
115	3'-0"	7'-0"	4	HM	-	-	4	-	A	HM	9 / A2.5.1	13 / A2.5.1	17 / A2.5.1		12"x12" DOOR LOUVER, SEE MECHANICAL DRAWINGS
116	3'-0"	7'-0"	3	HM	-	-	4	-	A	HM	9 / A2.5.1	13 / A2.5.1	17 / A2.5.1		
117	3'-0"	7'-0"	3	HM	-	-	4	-	A	HM	9 / A2.5.1	13 / A2.5.1	17 / A2.5.1		

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STAFFORD KING WIESE ARCHITECTS

REF. SHEET NAME (REF. SHEET #)
A2.5.1 DOOR SCHEDULES AND DETAILS

DATE
04/30/18

SCUSD WEST CAMPUS HS SCIENCE & TECHNOLOGY CLASSROOM BUILDING

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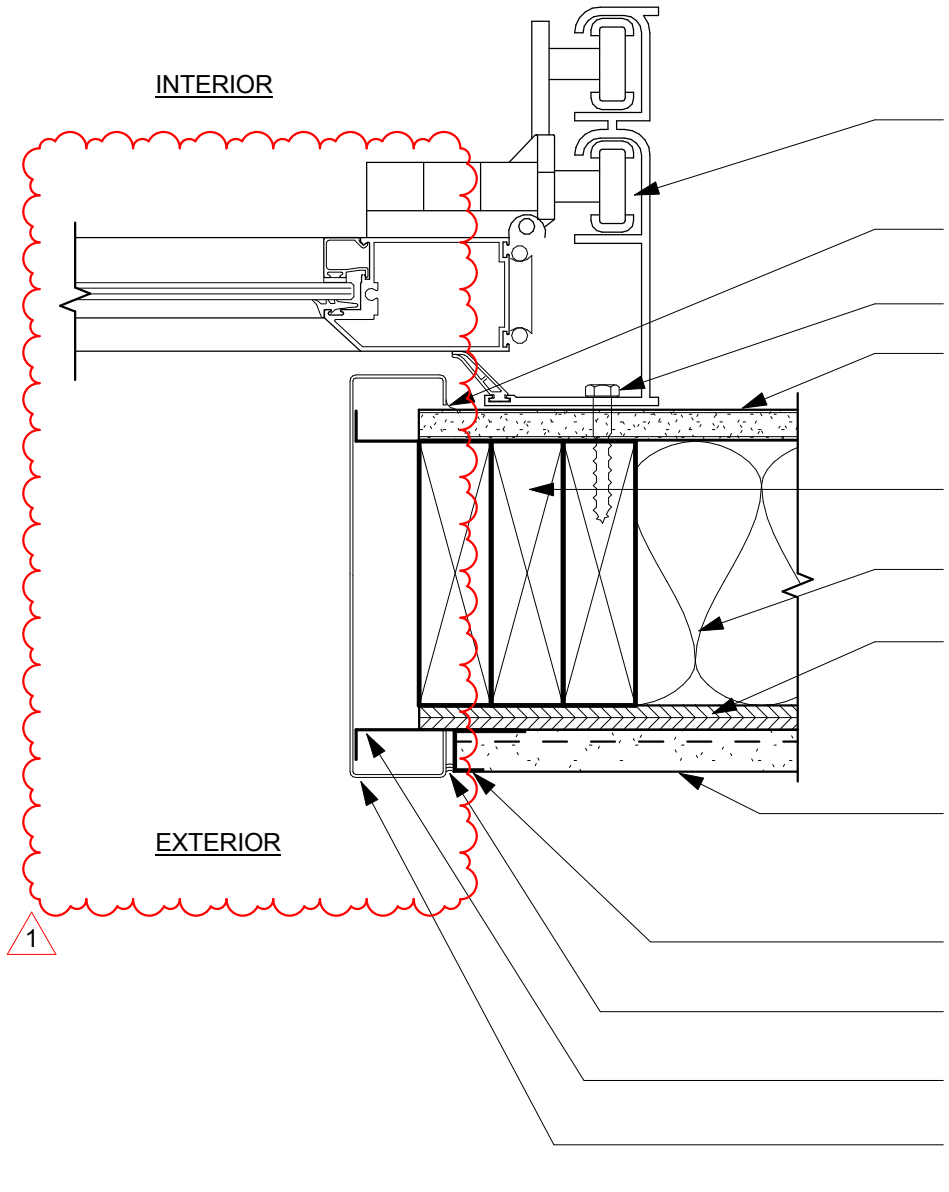

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REN. 2/28/19
STATE OF CALIFORNIA

16 JAMB AT VERTICAL SECTIONAL DOOR

SCALE: 3" = 1'-0"

STAFFORD KING WIESE ARCHITECTS

REF. SHEET NAME (REF. SHEET #)
A2.5.1 DOOR SCHEDULES AND DETAILS

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WINDOW SHEET NOTES

SN.01	ANODIZED ALUMINUM FRAME, REFERENCE TYPICAL DETAILS, OPENING DETAILS AND SPECIFICATIONS, SEE PLAN FOR OPENING ORIENTATION.
SN.02	GLAZING PER SCHEDULE
SN.03	HOLLOW METAL FRAME
SN.04	MANUAL WINDOW SHADE, FOR MOUNTING SEE DETAIL 9 / A2.9.1.
SN.05	MOTORIZED WINDOW SHADE, FOR MOUNTING SEE DETAIL 9 / A2.9.1.

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REF. SHEET NAME (REF. SHEET #)
A2.5.2 WINDOW AND FINISH DETAILS & SCHEDULES

DATE
04/30/18

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5022 58TH STREET
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FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	BASE	WALLS 1	WALLS 2	WALLS 3	WALLS 4	CEILING	COMMENTS
100	CLASSROOM	F1	B1	W1	W1	W1	W1	C2	
101	SCIENCE LAB 1	F1	B1	W1	W1	W1	W1	C3	
102	IDF	F4 1	B1	W4	W4	W1/W4	W1/W4	C1	FURRED WALL FOR ROOF DRAIN PIPE TO HAVE WATER RESISTANT GYPSUM BOARD
103	STORAGE	F4 1	B1	W1	W1	W1	W1	C1	
104	PREP	F1	B1	W1	W1	W1	W1	C1	
108	SCIENCE LAB 2	F1	B1	W1	W1	W1	W1	C3	
106	MAKERSPACE	F1	B1	W1	W1	W1	W1	C1	
107	PREP 2	F1	B1	W1	W1	W1	W1	C1	
105	TECHNOLOGY & ENGINEERING	F1	B1	W1	W1	W1	W1	C3	
109	CLASSROOM	F1	B1	W1	W1	W1	W1	C2	
110	BOYS RR	F2	B2	W2	W2	W2	W2	C1	WATER RESISTANT GYPSUM BOARD @ WALLS
111	GIRLS RR	F2	B2	W2	W2	W2	W2	C1	WATER RESISTANT GYPSUM BOARD @ WALLS
115	JANITOR	F4	B1	W1	W1	W1	W1	C1	FRP @ MOP SINK, WATER RESISTANT GYPSUM BOARD @ WALLS
116	MECHANICAL & FIRE RISER	F4 1	-	W1	W1	W1	W1	-	
113	STAFF RR	F3	B3	W1 / W3	W1 / W3	W1 / W3	W1 / W3	C1	WATER RESISTANT GYPSUM BOARD @ WALLS
112	STAFF RR	F3	B3	W1 / W3	W1 / W3	W1 / W3	W1 / W3	C1	WATER RESISTANT GYPSUM BOARD @ WALLS
114	ELECTRICAL	F4	-	W1	W1	W1	W1	C1	
117	MECH CLOSET	F4 1	-	W1	W1	W1	W1	-	

FINISH LEGEND

FLOOR

F1	POLISHED CONCRETE
F2	EPOXY
F3	TILE
F4	SEALED CONCRETE 1

BASE

B1	RUBBER BASE
B2	COVED EPOXY
B3	CERAMIC TILE

WALLS

W1	GYPSUM BOARD, PAINTED
W2	FRP - 8' HIGH
W3	CERAMIC TILE - 4' HIGH
W4	3/4" PLYWOOD

CEILING

C1	GYPSUM BOARD, PAINTED
C2	ACOUSTICAL TILE
C3	SUSPENDED ACOUSTICAL PANEL

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STAFFORD KING WIESE ARCHITECTS

REF. SHEET NAME (REF. SHEET #)
A2.5.2 WINDOW AND FINISH DETAILS & SCHEDULES

DATE
04/30/18

SCUSD WEST CAMPUS HS SCIENCE & TECHNOLOGY CLASSROOM BUILDING

5022 58TH STREET
SACRAMENTO, CA 95820

PROJECT NO.
4800.00

DRAWING NO.
AD - 7

DRAWN BY
Author

CHECKED BY
Checker

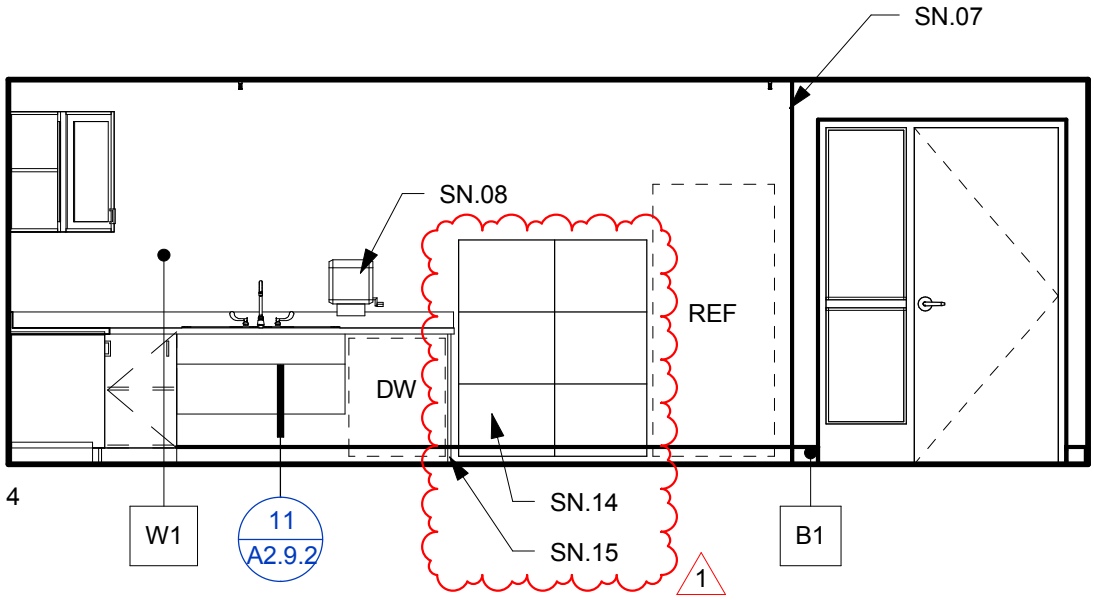
REF.
ADDENDUM #2

SHEET NOTES

SN.14	CHEMICAL STORAGE CABINET, THOMAS SCIENTIFIC STACK-A-CAB ACID AND FLAMMABLE CABINET, (3) 47" W x 18" D x 18" W, OR EQUAL. CONTRACTOR TO PROVIDE BLOCKING FOR, FURNISH AND INTALL CABINET.
SN.15	PROVIDE CLOSURE PANEL, MATCH CABINETRY FINISH

1

LICENSED ARCHITECT
PATRICK M. DERICKSON
LIC.# C17107
REN. 2/28/19
STATE OF CALIFORNIA



104 PREP ROOM 1

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

STAFFORD KING WIESE ARCHITECTS

REF. SHEET NAME (REF. SHEET #)
A2.6.2 INTERIOR ELEVATIONS

SCUSD WEST CAMPUS HS SCIENCE & TECHNOLOGY CLASSROOM BUILDING

5022 58TH STREET
SACRAMENTO, CA 95820

DATE **04/30/18**

PROJECT NO. **4800.00**

DRAWN BY **RG**

CHECKED BY **CG**

DRAWING NO. **AD - 8**

REF. **ADDENDUM #2**

GENERAL NOTES

A. SAFETY SHOWER WALL TO HAVE WATER RESISTANT GYP. BD. ON ADJACENT WALLS, ALIGN WITH HEIGHT AND DEPTH OF PARTIAL WALL.

B. PAINT ALL EXPOSED DUCTS, EQUIPMENT SUPPORTS, CONDUIT, PIPES, ETC, PER ARCHITECTS DIRECTION. GLULAM BEAMS TO BE SEALED CLEAR. PAINT INTERSTITIAL SPACE BETWEEN SUSPENDED CEILING AND ROOF PER ARCHITECTS DIRECTION.

C. SCIENCE LABS, MAKERSPACE, AND PREP ROOMS ONLY TO HAVE CHEMICAL RESISTANT COUNTERTOPS. 1

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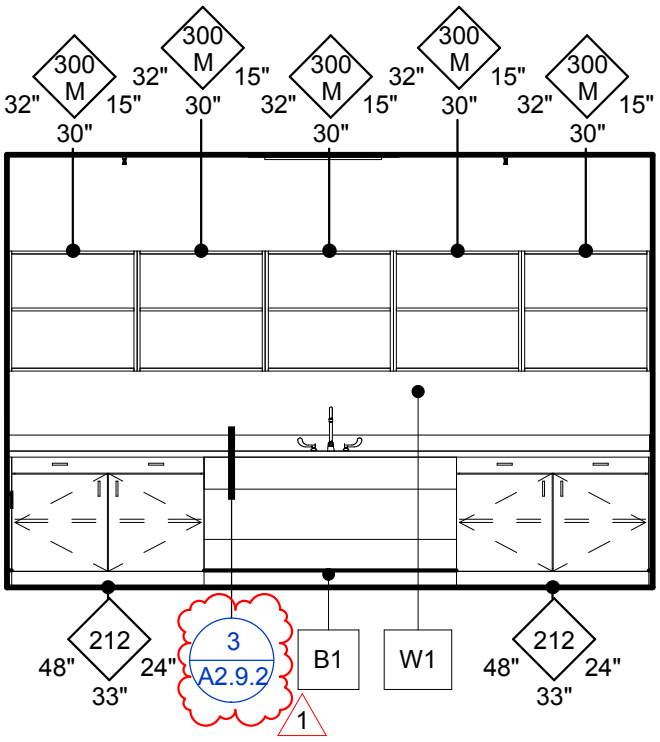
LIC.# C17107
REN. 2/28/19
STATE OF CALIFORNIA



106 **MAKERSPACE**
1/4" = 1'-0"

STAFFORD KING WIESE ARCHITECTS

REF. SHEET NAME (REF. SHEET #)
A2.6.3 INTERIOR ELEVATIONS

DATE
04/30/18

SCUSD WEST CAMPUS HS SCIENCE & TECHNOLOGY CLASSROOM BUILDING

5022 58TH STREET
SACRAMENTO, CA 95820

PROJECT NO.
4800.00

DRAWING NO.
AD - 9

DRAWN BY
Author

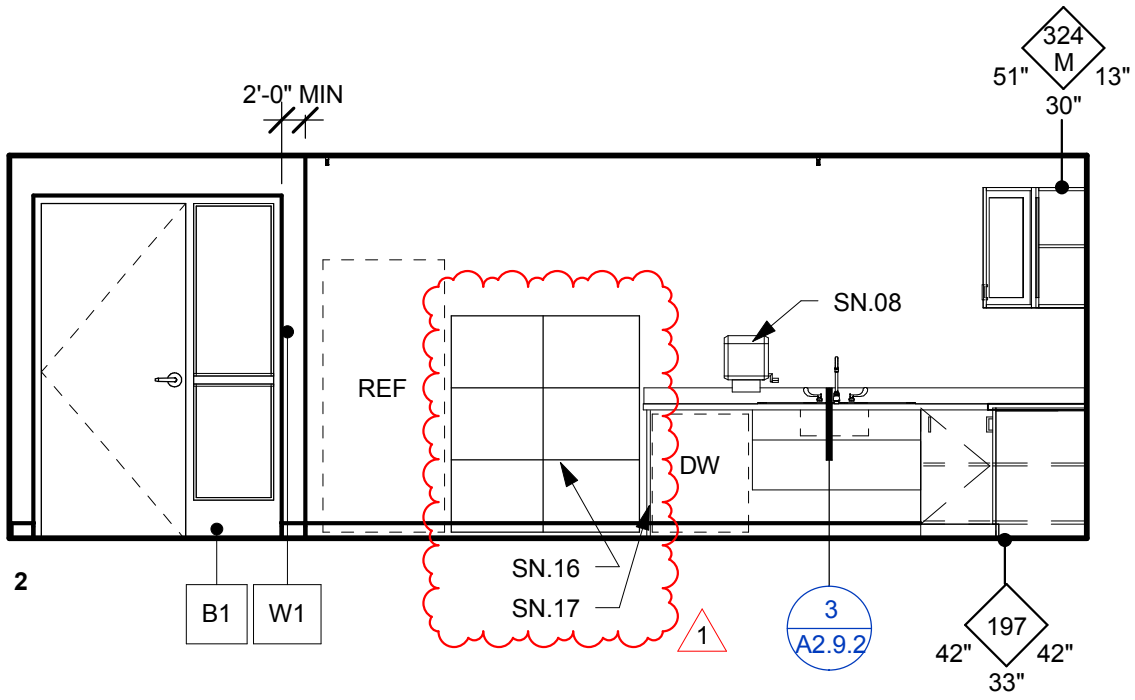
CHECKED BY
Checker

REF.
ADDENDUM #2

SHEET NOTES

SN.16	CHEMICAL STORAGE CABINET, THOMAS SCIENTIFIC STACK-A-CAB ACID AND FLAMMABLE CABINET, (3) 47" W x 18" D x 18" W, OR EQUAL. CONTRACTOR TO PROVIDE BLOCKING FOR, FURNISH AND INTALL CABINET.
SN.17	PROVIDE CLOSURE PANEL, MATCH CABINETRY FINISH

1



107 PREP ROOM 2

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

LICENSED ARCHITECT
PATRICK M. DERICKSON
LIC.# C17107
REN. 2/28/19
STATE OF CALIFORNIA

STAFFORD KING WIESE ARCHITECTS

REF. SHEET NAME (REF. SHEET #)
A2.6.3 INTERIOR ELEVATIONS

DATE
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5022 58TH STREET
SACRAMENTO, CA 95820

PROJECT NO.
4800.00

DRAWING NO.
AD - 10

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RG

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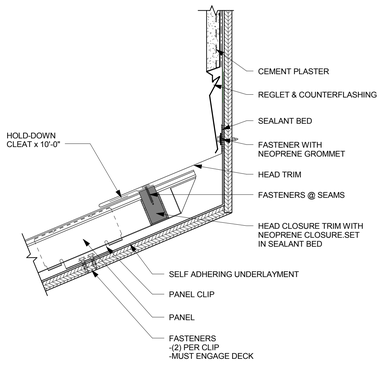
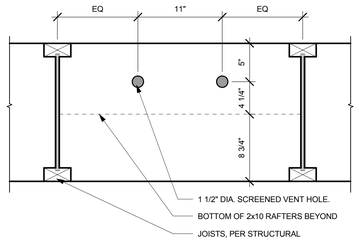
CG

REF.
ADDENDUM #2



17 METAL ROOF @ PLASTER WALL
SCALE: 3" = 1'-0"



NOTE:
THIS APPLIES TO BLOCKING AT EXTERIOR WALLS ALONG GRIDS A, C, D, & E.

13 SCREENED VENTS @ BLOCKING
SCALE: 1 1/2" = 1'-0"

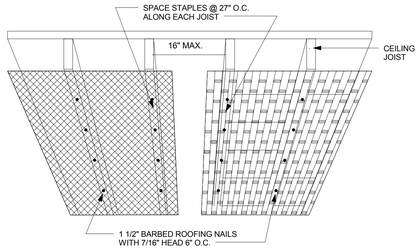
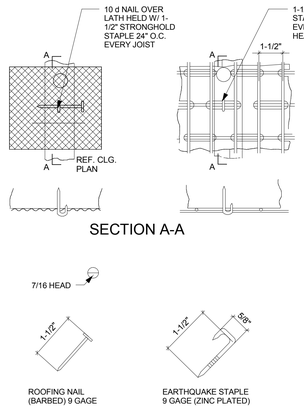
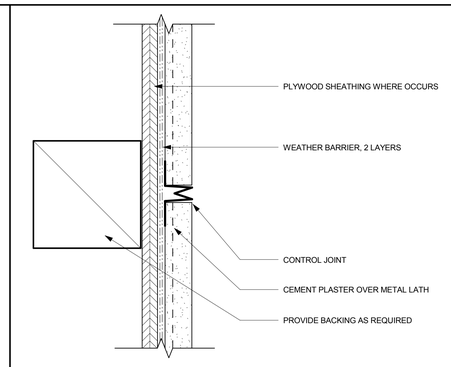


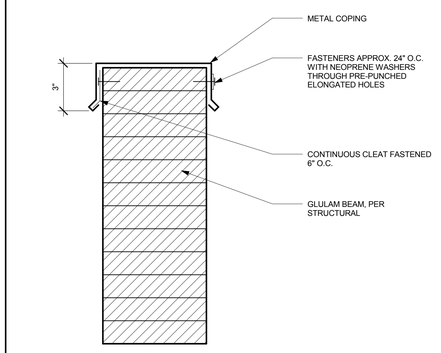
ILLUSTRATION SHOWING HOW A NAILED ON CEILING CAN BE GIVEN ADDITIONAL SUPPORT THROUGH USE OF STRONGHOLD EARTHQUAKE STAPLES, IN BUILDINGS LOCATED IN AREAS SUBJECT TO EARTHQUAKE OR OTHER DISTURBANCES.



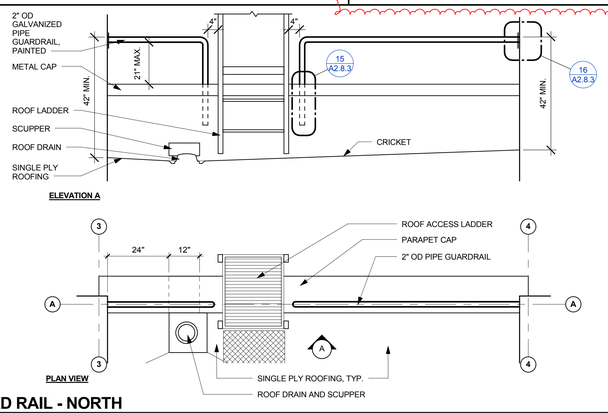
10 EXTERIOR PLASTER SOFFIT
SCALE: 1/4" = 1'-0"



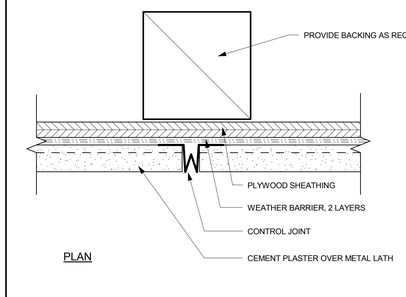
5 PLASTER HORIZONTAL CONTROL JOINT
SCALE: 6" = 1'-0"



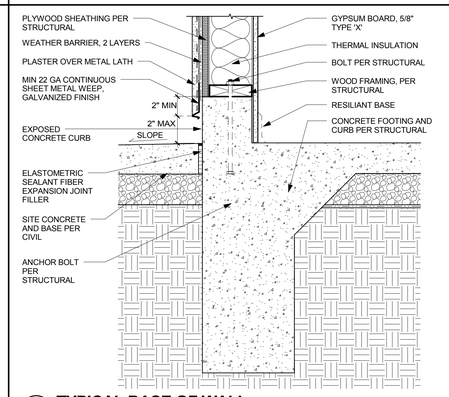
1 GLULAM COPING
SCALE: 3" = 1'-0"



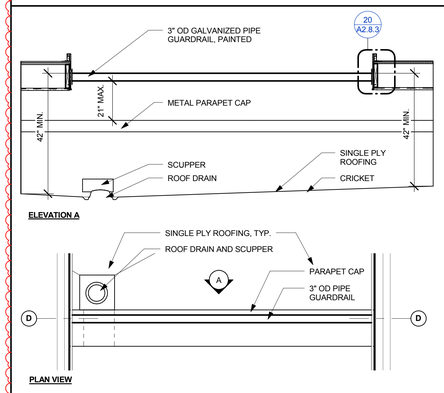
18 GUARD RAIL - NORTH
SCALE: 1/2" = 1'-0"



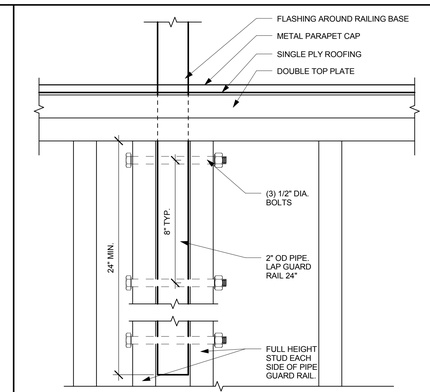
6 PLASTER VERTICAL CONTROL JOINT
SCALE: 6" = 1'-0"



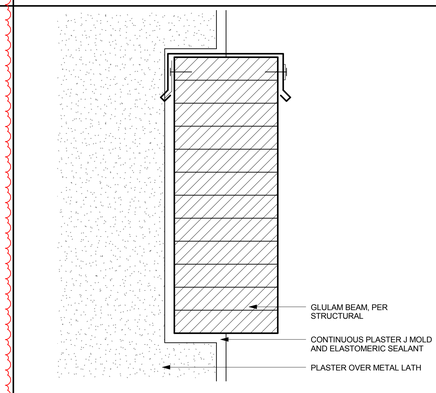
2 TYPICAL BASE OF WALL
SCALE: 1 1/2" = 1'-0"



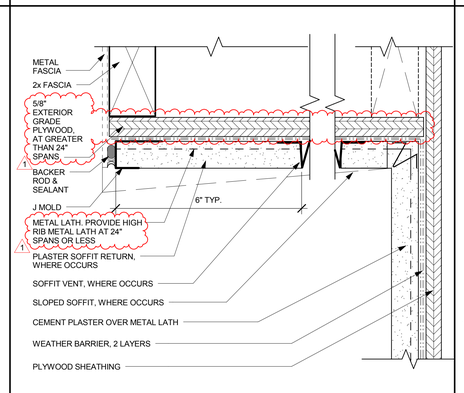
19 GUARD RAIL - SOUTH
SCALE: 1/2" = 1'-0"



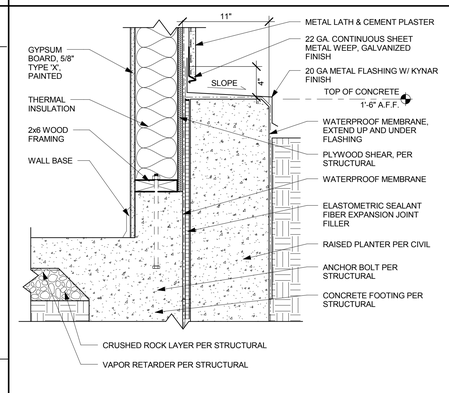
15 GUARD @ PARAPET
SCALE: 3" = 1'-0"



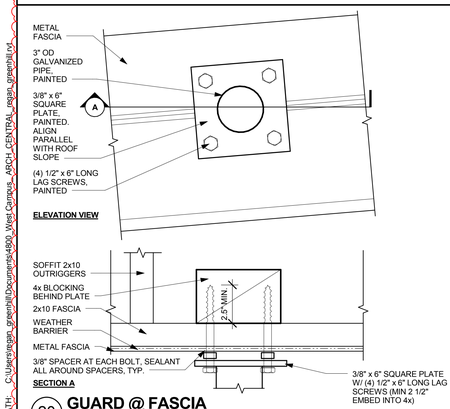
11 PLASTER WALL @ GLULAM
SCALE: 3" = 1'-0"



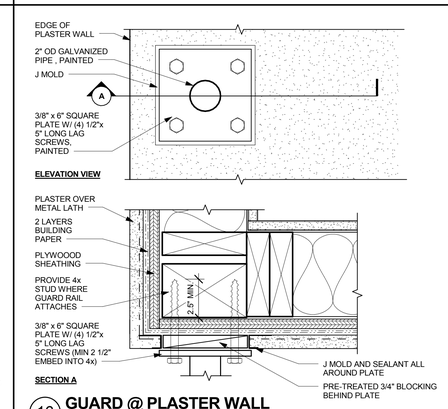
7 PLASTER SOFFIT
SCALE: 6" = 1'-0"



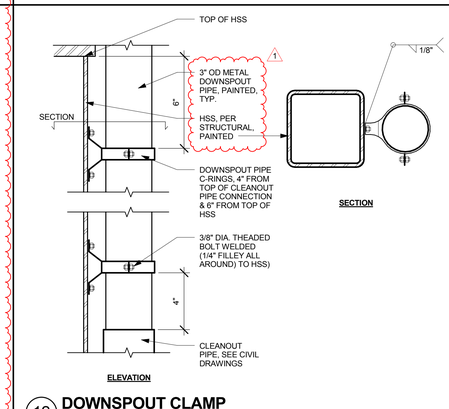
3 PLANTER @ CLASSROOM WALL
SCALE: 1 1/2" = 1'-0"



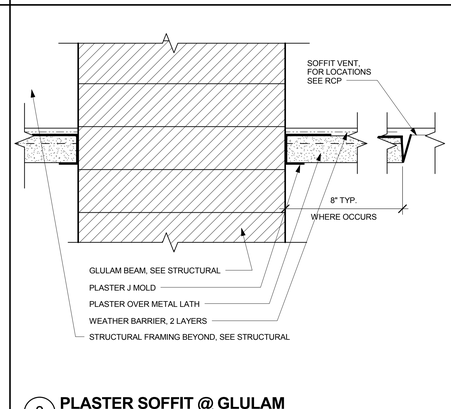
20 GUARD @ FASCIA
SCALE: 3" = 1'-0"



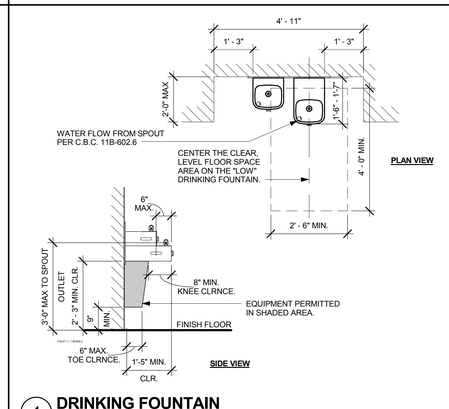
16 GUARD @ PLASTER WALL
SCALE: 3" = 1'-0"



12 DOWNSPOUT CLAMP
SCALE: 3" = 1'-0"



8 PLASTER SOFFIT @ GLULAM
SCALE: 6" = 1'-0"



4 DRINKING FOUNTAIN
SCALE: 1/2" = 1'-0"

STAFFORD KING WIESE ARCHITECTS

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CONSULTANT STAMP

Sacramento City Unified School District

SCUSD WEST CAMPUS HS SCIENCE & TECHNOLOGY CLASSROOM BUILDING

5022 58TH STREET
SACRAMENTO, CA 95820

AGENCY APPROVAL

FILE NO. **34 - H7**
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02 - 115633
AC_____ FLS_____ SS_____
DATE _____
INCREMENT 2

REVISIONS

NO.	DATE	DESCRIPTION
1	04/20/2018	ADDENDUM #2

KEY PLAN

SHEET NAME

EXTERIOR DETAILS

SUBMITTAL
CONSTRUCTION DOCUMENTS

PROJECT NO. **4800.00**
DRAWN BY **RG**
CHECKED BY **CG**
ISSUE DATE **04/03/2018**

A2.8.3

EDIT DATE: 4/30/2018 3:44:20 PM
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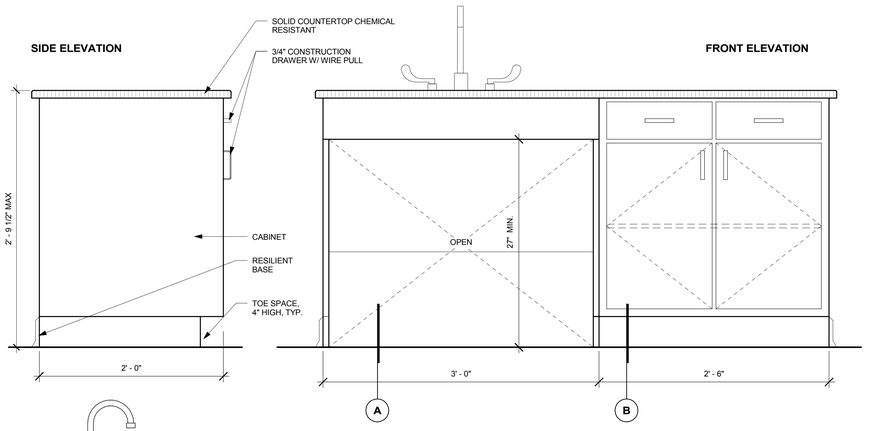
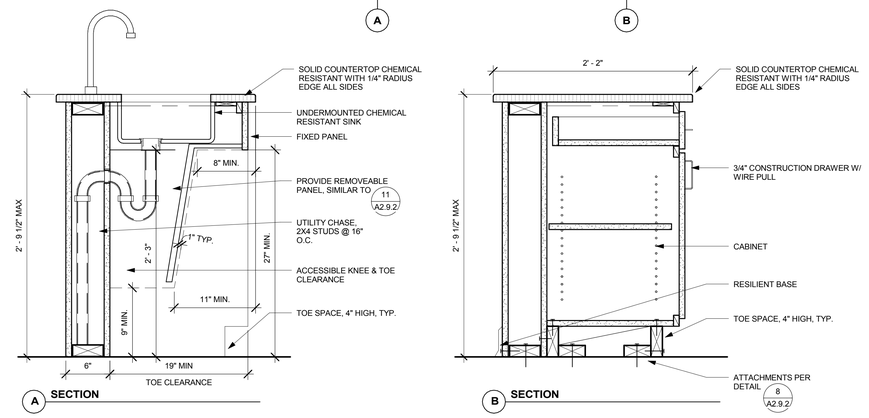
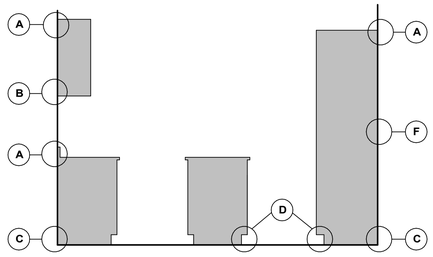
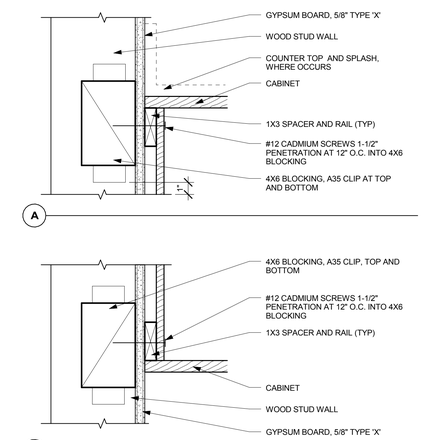




14 DEMONSTRATION DESK - LABORATORY CASEWORK
SCALE: 1 1/2" = 1'-0"

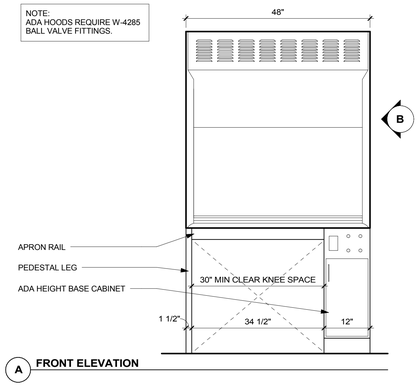


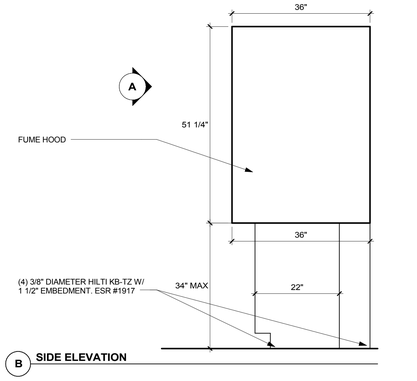
5 TYPICAL CABINET SECTIONS
SCALE: 1/2" = 1'-0"



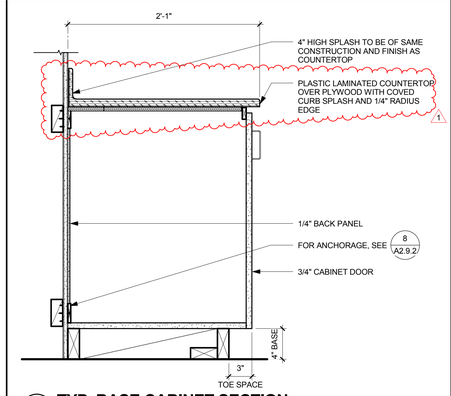
8 TYPICAL CABINET ANCHORAGE
SCALE: 3" = 1'-0"

NOTE:
ADA HOODS REQUIRE W-4285 BALL VALVE FITTINGS.

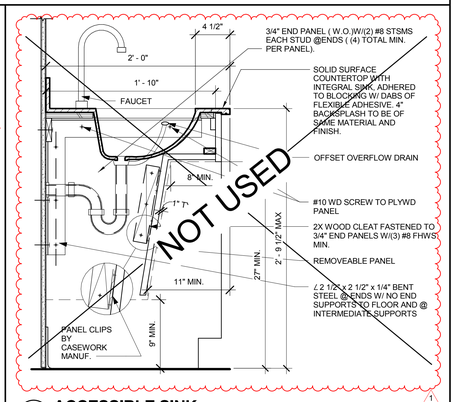




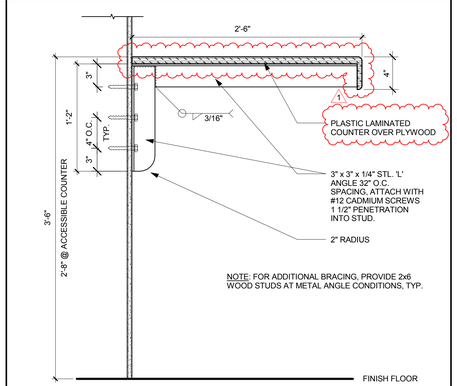
2 FUME HOOD
SCALE: 3/4" = 1'-0"



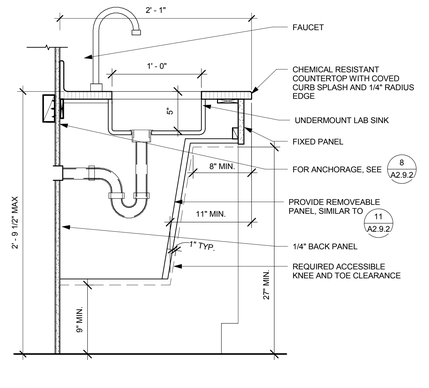
15 TYP. BASE CABINET SECTION
SCALE: 1 1/2" = 1'-0"



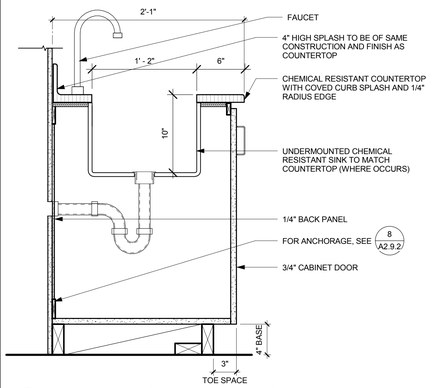
11 ACCESSIBLE SINK
SCALE: 1 1/2" = 1'-0"



12 WORK COUNTER SECTION
SCALE: 1 1/2" = 1'-0"



3 ACCESSIBLE LAB SINK
SCALE: 1 1/2" = 1'-0"



4 TYP. LAB BASE CABINET SECTION
SCALE: 1 1/2" = 1'-0"

STAFFORD KING WIESE ARCHITECTS

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REVISIONS

NO.	DATE	DESCRIPTION
1	04/20/2018	ADDENDUM #2

KEY PLAN

SHEET NAME
CASEWORK DETAILS

SUBMITTAL
CONSTRUCTION DOCUMENTS

PROJECT NO. **4800.00**
DRAWN BY **RG**
CHECKED BY **CG**
ISSUE DATE **04/03/2018**

A2.9.2

EDIT DATE: 4/30/2018 3:44:21 PM
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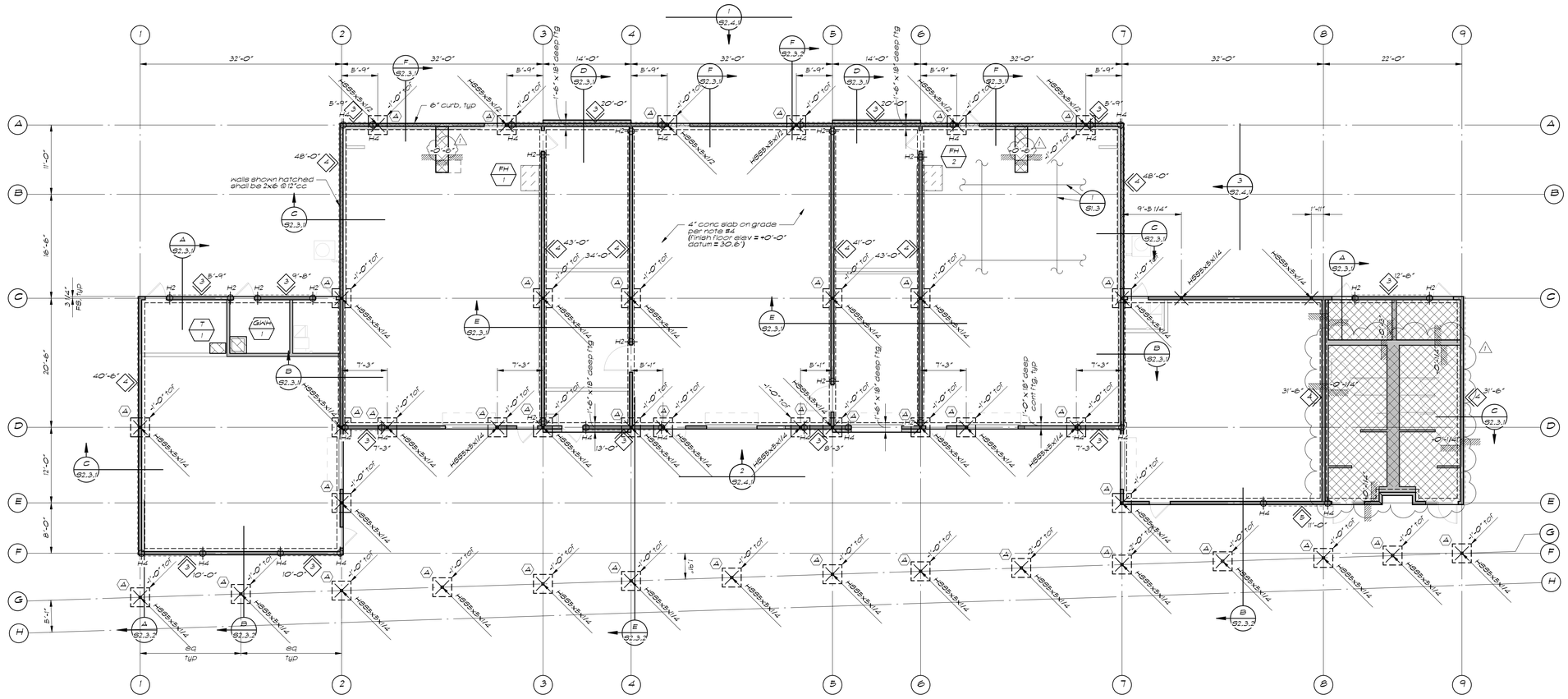


Foundation Plan — 1/8" = 1'-0"

Foundation Plan Notes:

1. Site preparation and building pad construction shall be done in accordance with Soils Report # 4541-01 by Holdrege & Kull dated 11/30/2016. Bottom of footing excavations shall be reviewed by Geotechnical Engineer prior to placement of reinforcing steel. Foundations shall bear on compacted existing soil or engineered fill per the requirements of the Soils Report.
2. Verify all building dimensions and elevations w/ Arch't drawings. Notify the Architect immediately if there are any conflicts w/ dimensions shown.
3. Dimensions shown are to ℄ of column, ℄ of stud, face of block or ℄ block unless noted otherwise.
4. Slab on grade shall be 4" thick, concrete w/ #3 @ 18"cc EW at mid-depth. Concrete shall be installed over 15 mil vapor retarder over 6" clean crushed rock. Top of concrete slab is +0'-0" uno.
5. Contractor shall submit an edge-of-slab plan to Architect & Structural engineer for review. Submittal shall be dimensioned and located relative to structural grids.
6. Provide 3" min. concrete cover at structural steel and anchor bolts below grade typ.
7. Provide slab on grade control joints (SJ) as indicated per typ @ all interior slabs. Construction joints (CJ) may replace control joints as required. (1 / S2.1.3)
8. See sheets S2.1.1 thru S2.1.6 for General Notes & Typical Details which are applicable to all drawings uno.
9. It is the contractor's responsibility to coordinate slab control joints with any architecturally exposed slab areas or the location of tile crack control joints. Verify special condition control joints with Arch't drawings.
10. Contractor to coordinate exact dimensions and locations of thickened slabs, housekeeping pads, etc. with all other disciplines' dng's as well as with the equipment provided prior to commencing work.
11. See Arch't & Civil drawings for all exterior curbs, flatwork, planters, ramps, etc.
12. Continue all reinforcing in continuous footings through spread footings, typ, uno.
13. Indicates reference to footing schedule, see (A / S2.2.1)
    14D Indicates that additional top reinforcing as noted in schedule shall be placed @ 2" clr of top of footing.
14. Indicates concrete curb. For curbs below non-structural walls, see (7 / S2.1.3). Verify exact extent w/ Arch't dngs.
15. Indicates concrete overbuild area per (12 / S2.1.3) uno, see Arch't for extent.
16. Indicates sloped and/or depressed slab. Depress building pad and provide full slab and base thickness. Where depression is greater than 2' and adjacent to building foundation element it may be necessary to step footing in order to maintain minimum footing embedment per sections. Contractor to coordinate in field. See also (11 / S2.1.3) & (10 / S2.1.3)
17. All depressions, slopes, curbs, etc. are shown for reference only. For exact depths, slopes, extents, etc. see other disciplines' drawings.
18. Temporary loads applied during construction have not been considered in slab on grade design.
19. Indicates top of footing elevation with respect to reference top of concrete (+0'-0"). The bottom of all footings shall be at least 24" below adjacent minimum prepared building pad elevation (on all sides), typ uno and as shown on sections.
20. Indicates slab step per (11 / S2.1.3) & (10 / S2.1.3)

Steel

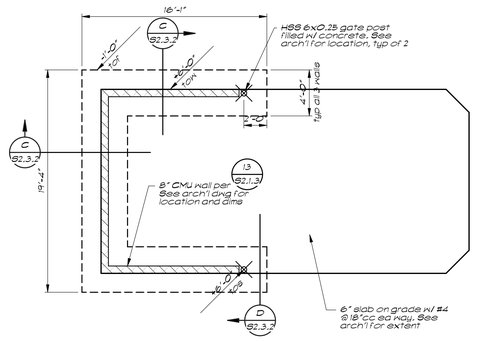
21. HSS6x6x1/2 — Indicates HSS column & size. For base plate, see (1 / S2.5) typ uno.

Wood

22. Face of concrete @ perimeter of bldg shall be 1/2" outside face of stud, typ uno.
23. Anchor bolts at non-shearwalls shall be as indicated on detail (1 / S2.1.4)
24. Indicates structural wood stud wall. All structural walls are 2x6 @ 16"cc uno on plan or section.
25. Indicates shear wall type & anchor bolt layout, see schedule (A / S2.1.5)
26. Indicates Simpson holdown location. Reference number indicates HDU holdown type, see (2 / S2.1.5)

Masonry

27. Indicates 8" CMU wall. For reinforcing, see (13 / S2.1.3). Conduits in CMU to be per CMU notes.



CMU Trash Enclosure Plan (3 / S2.2.1) — 3/16" = 1'-0"

Footing Schedule (A / S2.2.1)

Mark	Size	Reinforcing
A	3'-0" x 1'-6" deep	4-#5 EW (B)

Note: All bottom rebar shall be 3" clear from earth

Unit Anchorage Schedule (B / S2.2.1)

Unit	Weight	Anchorage
FH-1	564#	(4) - 3/8" ø Hilti KB-TZ w/ 11/2" embed
FH-2	564#	(4) - 3/8" ø Hilti KB-TZ w/ 11/2" embed
GWH-1	1200#	(4) - 3/8" ø Hilti KB-TZ w/ 11/2" embed w/ (3) 3/8" x 2 1/2" lag bolts into wall top and bottom
TLMD-1	546#	(4) - 1/2" ø Hilti KB-TZ w/ 3" embed
CU-1	338#	(4) - 3/8" ø Hilti KB-TZ w/ 11/2" embed
CU-2	338#	(4) - 3/8" ø Hilti KB-TZ w/ 11/2" embed

Note: The anchorage in this schedule is the minimum anchorage needed. For details of each unit, see Electrical, Mechanical, Plumbing and Architectural drawings.

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KEY PLAN

SHEET NAME

Foundation Plan

SUBMITTAL
CONSTRUCTION DOCUMENTS

PROJECT NO. **4800.00**
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S2.2.1

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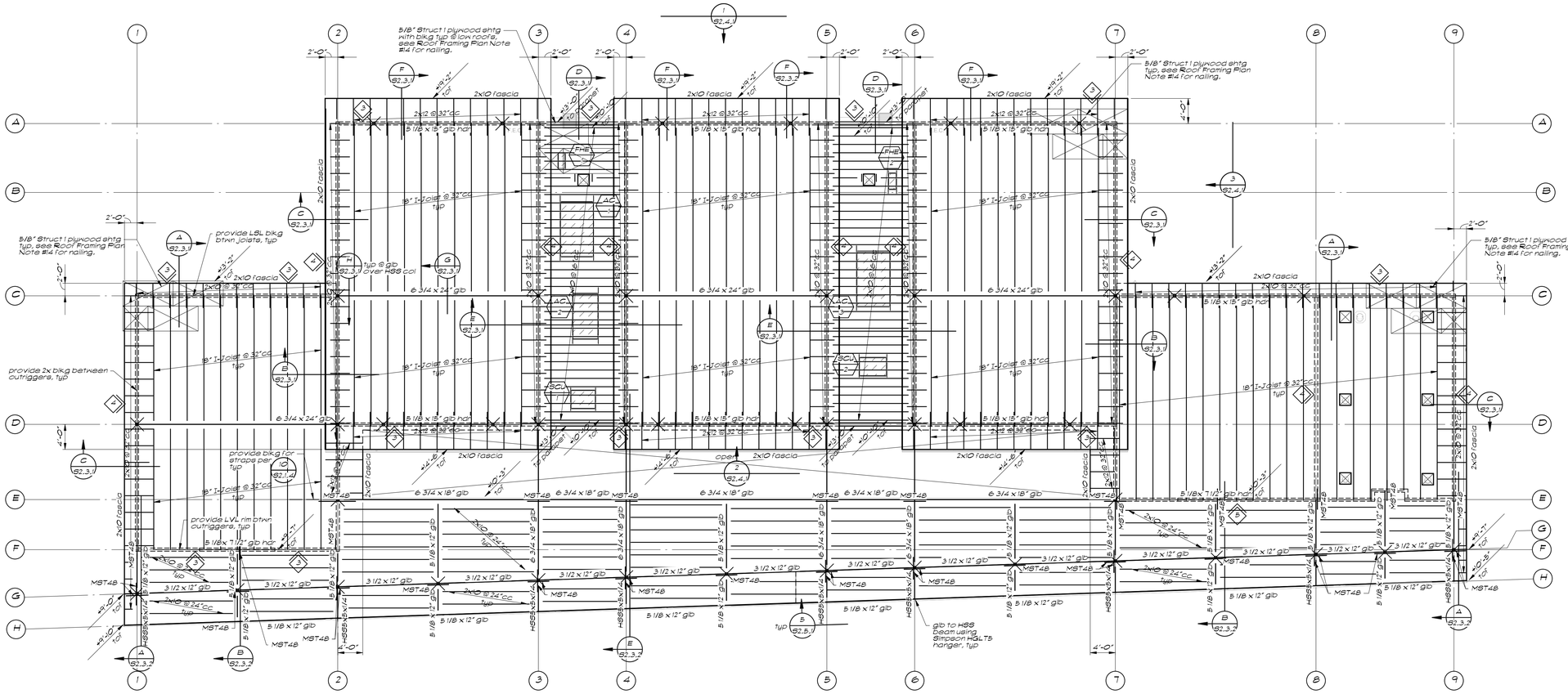

Roof Framing Plan — 1/8" = 1'-0"

Roof Framing Plan Notes:

1. Verify all building dimensions and elevations w/ Arch't drawings. Notify the Architect immediately if there are any conflicts w/ dimensions shown.
2. Dimensions shown are to ℄ of column, face of stud, face of block, or ℄ block uno.
3. See sheets S2.1.1 thru S2.1.6 for General Notes & Typical Details which are applicable to all drawings uno.
4. (a) or (b) Indicates column is above only (a) or below only (b). No symbol indicates that col is above and below.
5. Indicates roof opening. Locate opening per MEP drawings. For support, see 5/S2.1.5

Steel

6. See sheets S2.5.1 for typical steel details.
7. Indicates HSS column. Size indicated @ base level of column only.

Wood

8. Indicates wood structural wall below. Indicates wood structural wall above.
9. All wood stud walls are to be 2x6 DF#1 @ 16"cc uno on the plans, sections or schedules.
10. Moisture content of all top and bottom plates shall be as noted in the 'Wood Notes' sheet S2.1.1.
11. Moisture content of all top and bottom plates shall be as noted in the 'Wood Notes' sheet S2.1.1. Nails to be hot dipped galvanized or stainless steel.
12. All exterior walls and exterior soffits shall be sheathed with 1/2" APA rated shtg, CD grade with exterior glue. Nail w/ 10d @ 6"cc edge, 12"cc field, uno at shear wall schedule A/S2.1.5
13. Indicates shear wall type 4 extent for the walls below this framing level, see A/S2.1.5 for schedule.
14. Roof sheathing shall be 5/8" APA rated structural I grade CD w/ exterior glue. Min span rating shall be 32/16. Lay long dimension perpendicular to supports, ends staggered as shown on plan. Nail w/ 10d common nails @ 6"cc edge and boundary, 12"cc field uno @ plan. Where blocking is req'd, use 2x4 flat @ all shtg edges supported in Z1 clips.
15. Align roof joists over studs blw where framing is perpendicular to wall.
16. hdr Indicates header blw. See 1/S2.1.4 uno on plan.
17. For wood beam to HSS column connection, see 4/S2.5.1 typ, uno.
18. Typical top plate splice type per 1/S2.1.4.
19. Splices at CMST straps shall be lapped a minimum of 16" & nails driven thru both.
20. Install straps over shtg. Strap nails may replace typ shtg nailing.
21. +10'-0" 10'-1" Indicates top of framing elevation (i.e. underside of roof shtg) above reference top of concrete (+0'-0") typ, uno.
22. +5'-0" 10'-0" Indicates top of wall elevation above ref top of concrete (+0'-0"), i.e. top of dbl 'E', typ uno.
23. Refer to Arch't dngs for information regarding vent openings at blocking and sheathing.
24. Where extent of shear wall does not coincide with extent of wall face, provide gypsum board furring to plane out finishes.
25. Where framing hardware is required to be in the same plane as the wall finishes, hardware shall be 'let in' to finishes for a flat, smooth appearance. Typical all floors.
26. Verify all roof opening dimensions w/ Arch't & Mech't drawings prior to stair fabrication. General Contractor is responsible for coordination and location of placement of beams adjacent to stair opening.
27. Indicates Mech't unit. The general contractor shall coordinate all Mech't equip for size & location with other trades & the structural drawings. Unit sizes & locations shown are approximate. Rmg under mech't unit per B/S2.1.4
28. MST48 Indicates Simpson strap per plan.
29. dbl Indicates double joist. Type and size to match adjacent joists. Connect per 12/S2.1.4.
30. See Arch't for location of crickets required for drainage. Roof sheathing below shall be continuous.
31. Indicates area where overbuild roof framing occurs. Roof sheathing below shall be continuous.

A/S2.2.2 Unit Anchorage Schedule

Unit	Max Weight	Anchorage
ACU-1	1800#	(4) - 5/8" ø thru bolt
ACU-2	1275#	(4) - 5/8" ø thru bolt
ACU-3	1800#	(4) - 5/8" ø thru bolt
FHE-1	450#	(4) - 5/8" ø thru bolt
FHE-2	450#	(4) - 5/8" ø thru bolt
SCU-1	135#	(4) - 3/8" ø lag screws
SCU-2	137#	(4) - 3/8" ø lag screws

Note: The anchorage in this schedule is the minimum anchorage needed. For details of each unit, see Mechanical and Architectural drawings.

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1	04/20/2018	ADDENDUM #2

KEY PLAN

SHEET NAME

Roof Framing Plan

SUBMITTAL
CONSTRUCTION DOCUMENTS

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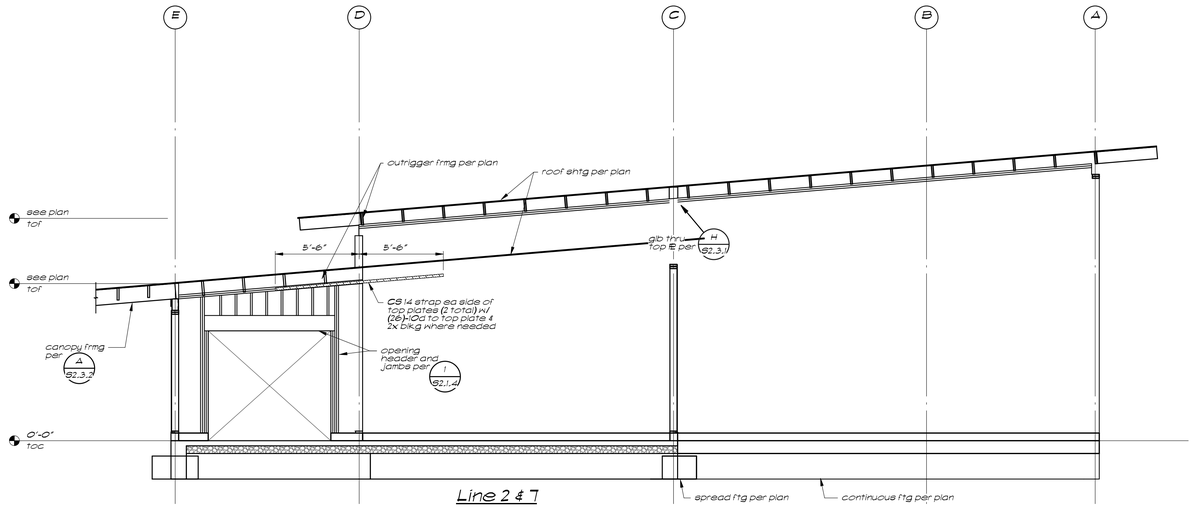
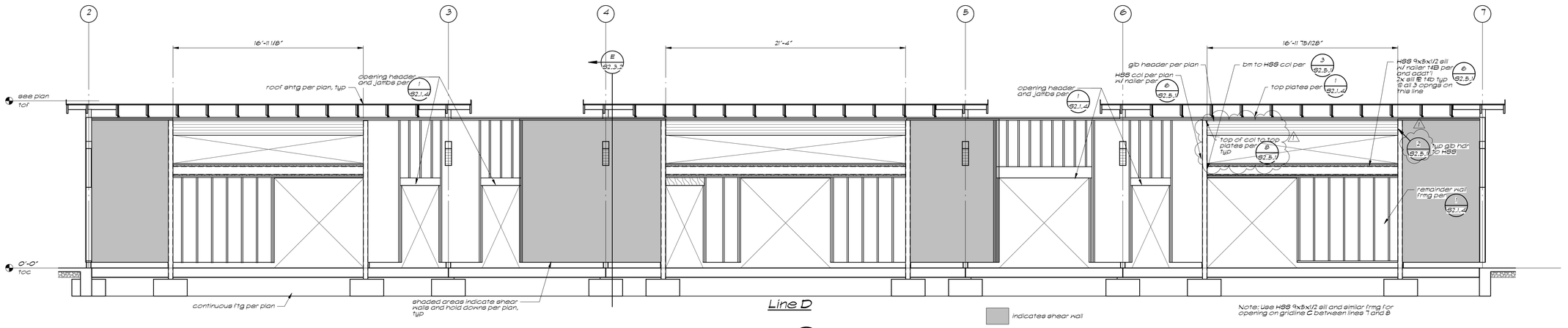
ISSUE DATE: **04/03/2018**

S2.2.2



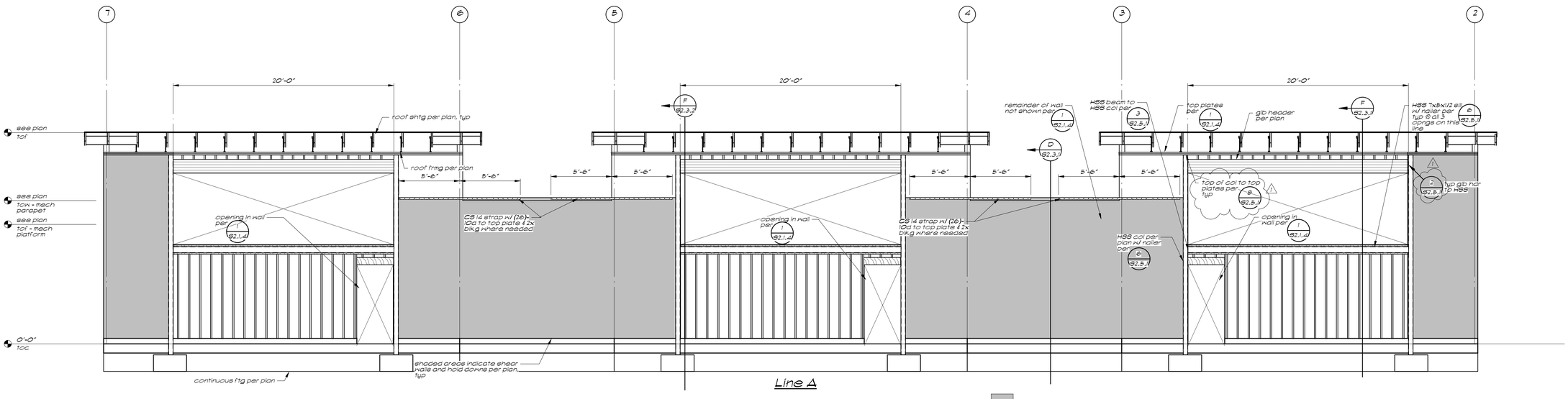
Line 2 & 7

Elevation 3 S2.4.1 — 1/4" = 1'-0"



Line D

Elevation 2 S2.4.1 — 1/4" = 1'-0"



Line A

Elevation 1 S2.4.1 — 1/4" = 1'-0"

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KEY PLAN

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Elevations

SUBMITTAL
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PROJECT NO. **4800.00**
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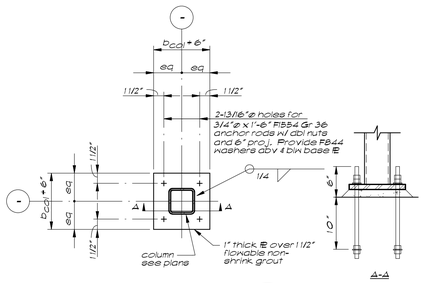
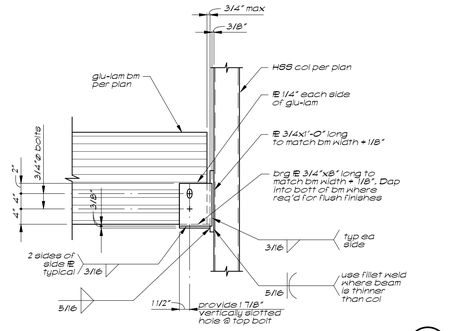
S2.4.1



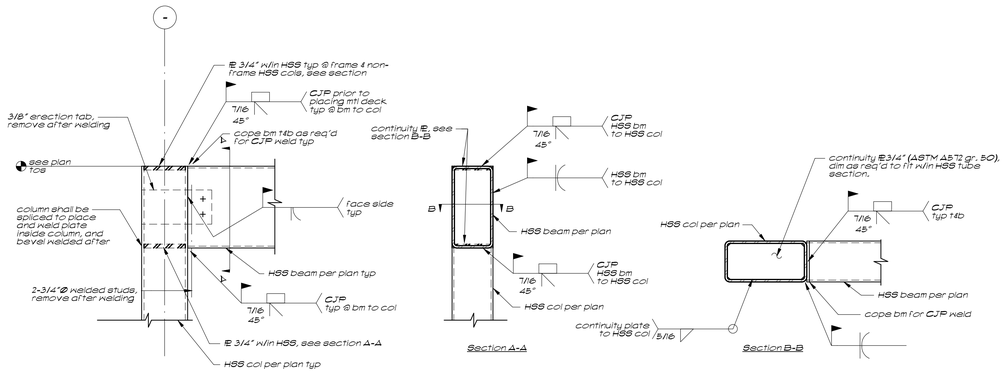
Detail 1/S2.5.1

51050005-12



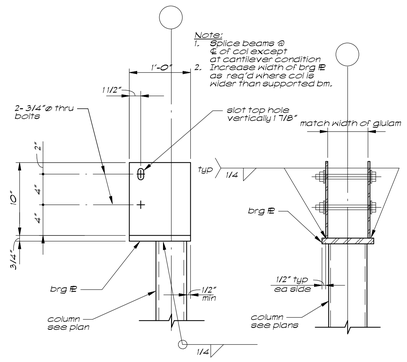
Face Mount Bucket @ HSS Col 2/S2.5.1

66SSD211-12



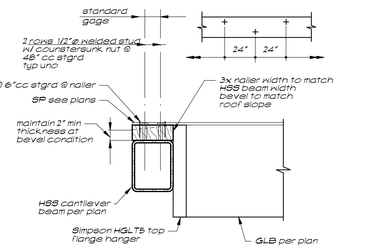
Detail 3/S2.5.1 — 1" = 1'-0"

Drawing 11



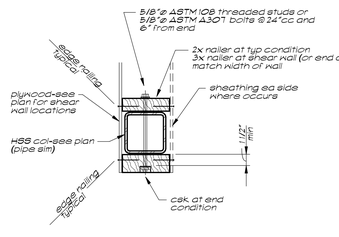
Beam Over Steel Column 4/S2.5.1

66SSD201-8



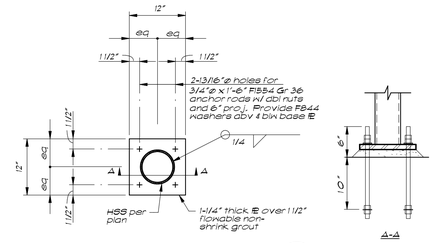
Nailer Over Steel Beam 5/S2.5.1

66SSD002-12 - modified



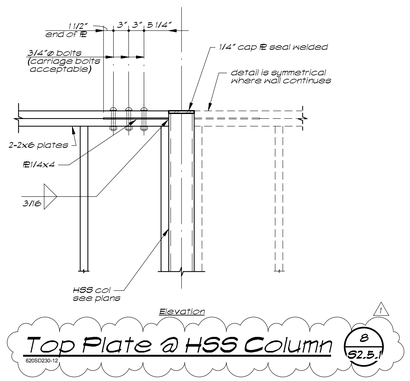
Typical Nailer at HSS Column 6/S2.5.1

66SSD001-12



Detail 7/S2.5.1

51050005-12



Top Plate @ HSS Column 8/S2.5.1

62SSD230-12

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KEY PLAN

SHEET NAME

Steel Details

SUBMITTAL
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PROJECT NO. **4800.00**
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S2.5.1

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GENERAL NOTES:

1. MOUNTING HEIGHT IS TO THE CENTER OF EQUIPMENT, U.O.N. MOUNTING HEIGHTS OF SUSPENDED LIGHT FIXTURES ARE TO THE BOTTOM OF THE FIXTURE. U.O.N.
2. RECEPTACLES AND DEVICES INSTALLED ABOVE COUNTER SHALL HAVE THE BOTTOM OF COVER PLATE AT APPROX 2-INCHES ABOVE COUNTER OR BACKSPLASH.
3. CAP ALL EMPTY CONDUITS FOR FUTURE USE WATERTIGHT WITH MANUFACTURERS END CAP, WITH PULL STRING ATTACHED.
4. SEAL ALL EXTERIOR WALL PENETRATIONS WATERTIGHT WITH SILICONE GROUT.
5. SEAL ALL WALL AND CEILING PENETRATIONS WITH GROUT. WHERE CONDUITS PENETRATE FIRE RATED BARRIERS, SEAL PENETRATIONS WITH FIRE RATED COMPOUND TO MATCH OR EXCEED BARRIER RATING.
6. PENETRATIONS OF FIRE RATED ASSEMBLIES SHALL BE SEALED AS REQUIRED BY CBC.
7. ALL CONDUITS AND BOXES ON THE EXTERIOR SHALL BE PAINTED TO MATCH THE ADJACENT FINISH.
8. WHERE FIRE RATED CONSTRUCTION IS REQUIRED (REFER TO ARCHITECTURAL DRAWINGS), DO NOT LOCATE ELECTRICAL OUTLET BOXES BACK-TO-BACK. PROVIDE MINIMUM 24" HORIZONTAL SEPARATION BETWEEN OUTLET BOXES PER CBC.
9. FIRE STOPPING SHALL BE PROVIDED WHERE PENETRATING ITEMS PASS ENTIRELY THROUGH BOTH PENETRATIVE MEMBRANES OF BEARING WALLS REQUIRED TO HAVE A FIRE-RESISTIVE RATING AND WALLS REQUIRING PROTECTED OPENINGS. FIRE STOPPING SHALL ALSO BE PROVIDED AT PENETRATIONS OF FIRE RESISTIVE FLOORS AND FLOORS WHICH ARE PART OF A CEILING-FLOOR ASSEMBLY. FIRE-STOPPING SHALL HAVE AN "F" AND/OR "T" RATING AS DETERMINED BY TESTS CONDUCTED IN ACCORDANCE WITH CBC STD. 43-6.
10. JUNCTION BOXES, CABINETS, EQUIPMENT ENCLOSURES, SWITCHES, PANELS, ETC. INSTALLED OUTDOORS, OR IN WET OR DAMP LOCATIONS, SHALL BE RATED NEMA-3R FOR OUTDOOR ENVIRONMENTS. PROVIDE MINIMUM 1/4" AIR GAP BETWEEN ENCLOSURE AND WALL SURFACE. PROVIDE GALVANIZED METAL CHANNELS FOR MOUNTING ENCLOSURE ONTO WALL AS REQUIRED.
11. ALL BOXES FOR LIGHT SWITCHES SHALL HAVE CIRCUIT ID HANDWRITTEN (WITH PERMANENT FELT PEN) ON THE BACK INSIDE OF THE BOX.
12. ALL RECEPTACLES SHALL HAVE CIRCUIT ID ON THE COVERPLATE. USE TYPEWRITTEN "CLEAR TAPE". CLEAN SURFACE BEFORE ADHESIVE TAPE IS APPLIED. SAMPLE, "HA-11".
13. ALL WIRING SHALL BE IN CONDUIT, ALL CIRCUITS SHALL BE CONCEALED EXCEPT THAT ON EXISTING SURFACE AND IN DRY LOCATIONS WHERE NECESSARY AND ACCEPTABLE TO THE ARCHITECT, SURFACE METAL RACEWAY (SMR) CAN BE USED, WIREMOLD OR EQUAL. 1/2" CONDUIT WITH LESS THAN 5#12 WIRES SHALL CORRESPOND TO A V200 RACEWAY, OTHERWISE USE V500. 3/4" CONDUIT SHALL CORRESPOND TO A V-700. 1" CONDUIT SHALL CORRESPOND TO A V2000, 1-1/4" CONDUIT SHALL CORRESPOND TO A V2400BC. SMR SHALL BE IVORY COLOR AND SHALL BE SECURED TO SURFACES WITH 2 HOLE STRAPS. PROVIDE ALL FITTINGS, ADAPTERS, COUPLINGS, BOXES, ETC. AS REQUIRED FOR A COMPLETE SYSTEM. PROVIDE MATCHING SURFACE OUTLET BOX. PAINT TO MATCH ADJACENT FINISH.
14. DEVICE AND EQUIPMENT HEIGHTS SHALL BE COORDINATED WITH ARCHITECTURAL PLANS AND ELEVATIONS. CONFLICTS SHALL BE ADDRESSED TO THE ARCHITECT PRIOR TO ROUGH-IN.
15. COORDINATE EXACT LOCATION OF EXTERIOR WALL LIGHT FIXTURES, SPEAKERS, ETC. WITH ARCHITECTURAL ELEVATIONS.
16. ELECTRICAL CIRCUITS TO AC UNITS SHALL COME UP INSIDE OF AC CURBS, UNLESS THE AC UNIT DOES NOT ALLOW THIS.
17. IN CERTAIN ROOMS, CIRCUITING AND DEVICES/EQUIPMENT IN ONE ROOM ARE INDICATED TO BE SIMILAR TO ANOTHER ROOM'S. PROVIDE ALL SUCH CONDUIT, WIRING DEVICES, AND EQUIPMENT TO BE THE SAME AS THE OTHER ROOM INDICATED. MAKE NECESSARY MINOR ADJUSTMENTS FOR SIMILAR ROOMS THAT ARE OPPOSITE HAND, FLIP-FLOPPED, MIRRORED, OR MINOR WALL DIFFERENCES. THE FOLLOWING ITEMS ARE NOT INCLUDED IN THIS SIMILAR LAYOUT AND ARE SPECIFIC TO EACH ROOM, UNLESS SPECIFICALLY NOTED OTHERWISE.
    A. AIR CONDITIONING AND MECHANICAL EQUIPMENT CONNECTIONS.
    B. EQUIPMENT THAT IS N.I.E.S. BUT REQUIRE ELECTRICAL CONNECTIONS.
    C. LAYOUT OF THE CABLE SUPPORT SYSTEM (CABLE HOOKS OR CABLE TRAY.).
18. NOT USED
19. FOR CONDUITS ROUTED BELOW FOOTING AT ELECTRICAL ROOMS, COORDINATE WITH STRUCTURAL DRAWINGS.

ELECTRICAL COMPONENT ANCHORAGE NOTE:

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

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

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

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

FOR THOSE ELEMENTS THAT DO NOT REQUIRED DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS & EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE:

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

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

ELECTRICAL DISTRIBUTION SYSTEM:

☒ - OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

☐ - OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM#) #_____

POWER AND SIGNAL SYSTEMS DURING CONSTRUCTION

1. POWER AND SIGNAL SYSTEMS: SYSTEMS SHUT-DOWNS SHALL BE COORDINATED WITH THE OWNER. SYSTEMS DOWN TIME SHALL OCCUR ONLY ON THE WEEKENDS AND DURING "OFF" HOURS. THE WEEKEND SHALL BE DEFINED AS FROM 5:00 PM FRIDAY TO THE NEXT 6:00 AM MONDAY. "OFF" HOURS SHALL BE DEFINED AS FROM 5:00 PM EVENING TO 6:00 AM THE NEXT MORNING. NORMAL BUSINESS HOURS SHALL BE DEFINED AS 6:00 AM MONDAY TO 5:00 PM FRIDAY WITHIN THE SAME WEEK. DURING BUSINESS HOURS, POWER SHALL BE PROVIDED AND SIGNAL SYSTEMS SHALL BE OPERATIONAL TO THE CAMPUS.
2. SIGNAL SYSTEMS SHALL INCLUDE INTERCOM, PAGING, CLOCK SYSTEM, INTRUSION, DATA, TELEPHONE, TELEVISION, AND TO FIRE ALARM.
3. THROUGHOUT CONSTRUCTION, THE ELECTRICAL AND SIGNAL SYSTEMS SHALL REMAIN IN OPERATION.
4. SIGNAL SYSTEMS: PROVIDE DEVICES AS SHOWN ON THE DRAWINGS AND ALL NECESSARY EQUIPMENT INCLUDING HARDWARE, WIRING AND PROGRAMMING FOR A COMPLETE AND OPERATIONAL SYSTEM PER SCHOOL DISTRICT REQUIREMENTS. COORDINATE WITH SCHOOL DISTRICT FOR SYSTEM OPERATIONS PRIOR TO BID. TEST SYSTEM TO COMPLY WITH MANUFACTURER'S OPERATION REQUIREMENTS. DEVICES AND EQUIPMENT ADDITIONS SHALL NOT VOID THE EXISTING EQUIPMENT WARRANTY.
5. LOCAL FIRE AUTHORITY SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF FIRE ALARM SHUT DOWN.

DEMOLITION NOTES:

1. SITE DEMOLITION, REMOVE ALL EXPOSED AND ABOVE GRADE CONDUITS, WIRING, PULLBOXES, PANELS, TRANSFORMERS, AND ELECTRICAL EQUIPMENT. CONDUITS CONCEALED BELOW GRADE MAY BE ABANDONED IN PLACE. REMOVE CONDUIT RISER DOWN TO 12-INCHES BELOW GRADE. REMOVE ALL WIRING IN CONDUIT.
2. ONCE REMOVED, EQUIPMENT, DEVICES, CONDUIT, WIRING, BOXES, ETC. SHALL NOT BE REUSED UNLESS SPECIFICALLY NOTED TO BE RELOCATED.

OPEN WIRED LOW VOLTAGE CABLE WIRING NOTES:

(APPLICABLE TO LV SIGNAL SYSTEM WITHIN BUILDINGS.)

1. CABLE HOOKS SHALL ONLY BE USED WHERE SHOWN ON THE PLANS FOR OPEN WIRED LOW VOLTAGE CABLING IN DRY LOCATIONS INSTALLED ABOVE ACCESSIBLE T-BAR CEILINGS. ONLY LOW VOLTAGE LIMITED ENERGY CLASS-2 AND CLASS-3 SYSTEMS SHALL BE OPEN WIRED. ALL OTHER SYSTEM CLASSES SHALL BE ROUTED IN CONDUIT. OPEN WIRED CABLING SHALL BE RATED FOR THE ENVIRONMENT THEY ARE INSTALLED. A GENERAL PURPOSE RATING, SUCH AS "CM" CAN BE USED ABOVE CEILINGS. IN PLENUM SPACES USED PLENUM RATED CABLES, & FOR RISER LOCATIONS USE RISER RATED CABLES.
2. SYSTEM SEPARATION:
    A. DATA AND TELEPHONE CABLES SHALL SHARE ONE SET OF CABLE HOOKS.
    B. ALL OTHER SIGNAL CABLING SHALL SHARE THE OTHER SET OF CABLE HOOKS.
3. CABLE HOOKS USED TO SUPPORT OPEN WIRED CABLES SHALL BE AS FOLLOWS:
    A. B-LINE #BCH32 (2", MAX 10 4-PR UTP CABLES)
    B. B-LINE #BCH64 (4", MAX 280 4-PR UTP CABLES).
    C. B-LINE #BCH21 (1 5/16", MAX. 30 4-PR UTP CABLES).

    DO NOT FILL TO MORE THAN 15% CAPACITY. CABLE HOOKS TO BE PRE-GALVANIZED STEEL, 1.5" WIDE WITH ROUNDED EDGES, STATIC CAPACITY OF 30 lbs. CABLE HOOKS SHALL BE EASILY ACCESSIBLE AND BE APPROXIMATELY 12 TO 24 INCHES ABOVE CEILING.
4. STUB 3/4" CONDUIT FROM DEVICE BOX TO WITHIN 24" OF CABLE HOOKS. FOR DATA AND TELEPHONE OUTLETS STUB 1" CONDUIT. CABLE HOOKS MAY BE USED INSTEAD OF CONDUIT ABOVE ACCESSIBLE CEILINGS.
5. SUPPORT CABLE HOOKS AT 48" ON CENTER. SECURE TO WALL STUDS ABOVE CEILING OR SUSPEND WITH MINIMUM 1/2" STEEL RODS. PROVIDE ALL NECESSARY FASTENERS, RODS, HANGERS, BLACKETS, ETC., AS NEEDED.
6. WHERE CABLES MUST PASS ABOVE CEILINGS THAT ARE NOT ACCESSIBLE OR ARE NOT T-BAR CEILINGS, THE CABLING SHALL BE ROUTED IN CONDUIT(S). PROVIDE CONDUIT TO SPAN THE SPACE THAT IS NOT ACCESSIBLE AND BETWEEN CABLE HOOK SYSTEMS.
7. CABLES THAT PASS THROUGH FIRE RATED WALLS, SEISMIC JOINTS, SOUND WALLS, COVERED (SHEETROCK, PLYWOOD) WALLS, ETC. SHALL PASS THRU IN CONDUIT SLEEVES. PROVIDE FIRE SEALANT FOR FIRE RATED WALLS TO MAINTAIN RATING.
8. CONDUIT EQUIVALENTS:
    (1) 2" J-HOOK = (1) 4" CONDUIT.
    (1) 4" J-HOOK = (2) 4" CONDUITS.
    (1) 1 5/16" J-HOOK = (1) 2" CONDUIT.
9. LENGTH OF EACH J-HOOK SHALL NOT EXCEED 12" IN LENGTH.

ABBREVIATIONS & DESIGNATIONS

AMP	ABBREVIATION FOR AMPLIFIER.
C	ABBREVIATION FOR CEILING.
FABP	ABBREVIATION FOR FIRE ALARM SIGNAL BOOSTER PANEL.
FATC	ABBREVIATION FOR FIRE ALARM TERMINAL CABINET.
FSTS	ABBREVIATION FOR FIRE SPRINKLER TAMPER SWITCH.
FSFS	ABBREVIATION FOR FIRE SPRINKLER FLOW SWITCH.
G	ABBREVIATION FOR GUARD.
IDF	ABBREVIATION FOR INTERMEDIATE DISTRIBUTION FACILITY.
PNL	ABBREVIATION FOR PANEL.
TV	ABBREVIATION FOR TELEVISION.
UON	ABBREVIATION FOR UNLESS OTHERWISE NOTED.
WAP	ABBREVIATION FOR WIRELESS ACCESS POINT.
WP	ABBREVIATION FOR WEATHERPROOF.
15,30,75	ABBREVIATION FOR FIRE ALARM VISUAL DEVICE SUBSCRIPTS- NUMBER INDICATES LIGHT INTENSITY.
A	ABBREVIATION FOR ATTIC.
(E)	ABBREVIATION FOR EXISTING.
EMS	ABBREVIATION FOR ENERGY MANAGEMENT SYSTEM.
FACP	ABBREVIATION FOR FIRE ALARM CONTROL PANEL.
FADB	ABBREVIATION FOR FIRE ALARM DOCUMENT BOX.
MDF	ABBREVIATION FOR MAIN DATA FACILITY.
MT	ABBREVIATION FOR EMPTY CONDUIT WITH PULL CORD.
MTC	ABBREVIATION FOR CONDUIT WITH WIRING AS INDICATED OR AS REQUIRED.
LCP	ABBREVIATION FOR LIGHTING CONTROL PANEL.
PB	ABBREVIATION FOR PULL BOX.
SBB	ABBREVIATION FOR SIGNAL BACKBOARD.

ELECTRICAL SYMBOLS LIST

- L.E.D. LIGHTING FIXTURE - SURFACE MOUNTED.
- L.E.D. LIGHTING FIXTURE - RECESSED.
- EXIT LIGHT FIXTURE, CONNECT AHEAD OF SWITCH. EMERGI-LITE #ELXN400-G-25GL.
- EXTERIOR EMERGENCY LIGHTING FIXTURE WITH BATTERY BACK-UP McPHILBEN #65X6N18W9CN.
- CONDUIT CONCEALED BELOW FLOOR OR GRADE.
- CONDUIT CONCEALED IN CEILING OR WALL.
- HOMERUN TO RESPECTIVE PANEL OR TERMINAL.
- INDICATES #12 (GREEN) GROUND WIRE; OTHER SIZES AS INDICATED.
- EXISTING CONDUIT TO REMAIN "AS-IS".
- FUSED DISCONNECT SWITCH, SIZE AND TYPE AS REQUIRED. PROVIDE FUSES AS RECOMMENDED BY EQUIPMENT MANUFACTURER.
- [OS] CEILING MOUNTED OCCUPANCY SENSOR.
- [ROC] ROOM DIMMING CONTROLLER.
- [LCP] LIGHTING CONTROLLER PANEL. SYNERGY #SPAK-86-120/277-BAS-LVPS-L6AAPSOL.
- [DRC] DIMMING ROOM CONTROLLER.
- [WC] WALL CONTROL, +45".
- [WS] WALL SWITCH, +45".

NOTE: BRANCH CIRCUIT WITHOUT FURTHER DESIGNATION IS A 2#12 WIRE CIRCUIT.
FOR MORE THAN 2#12 WIRES AS FOLLOWS: —//— 3#12, —//— 4#12, ETC.
FOR OTHER SIZES AS FOLLOWS: —//— 3#10, —//— 4#6, ETC.
10 6

- [1] NUMBER CONSTRUCTION NOTES SPECIFIC TO THE SHEET.
- [3A] FIXTURE IDENTIFICATION - NUMBER INDICATES QUANTITY, LETTER INDICATES TYPE.
- 15 AMP DUPLEX RECEPTACLE, 48".
- 15 AMP DUPLEX, GFI WEATHERPROOF RECEPTACLE.
- 15 AMPS, GFI, WP ROOF RECEPTACLE, 48".
- 20 AMP DUPLEX RECEPTACLE, 48" SAME SUBSCRIPTS AS FOR 15 AMP RECEPT.
- 15 AMP DOUBLE DUPLEX RECEPTACLES, 48". SAME SUBSCRIPTS AS FOR 15 AMP DUPLEX RECEPTACLE.
- 20 AMP DUPLEX RECEPTACLE INSTALLED ABOVE COUNTER, OR AT SPECIAL HEIGHT FOR EQUIPMENT.
- 20 AMP DUPLEX, GFI RECEPTACLE INSTALLED ABOVE COUNTER, OR AT SPECIAL HEIGHT FOR EQUIPMENT.
- EQUIPMENT IDENTIFICATION TAG. (N.I.E.S.) CONNECT AS REQUIRED, INCLUDING INSTALLATION AND CONNECTION OF REMOTE STARTERS.

AC	=	AIR CONDITIONING
ANT	=	ACID NEUTRALIZATION TANK
CEF	=	CEILING EXHAUST FAN
CU	=	CONDENSING UNIT
DF	=	DRINKING FOUNTAIN
EF	=	EXHAUST FAN
F	=	FAN
HD	=	HAND DRYER
SAC	=	SPLIT AIR SYSTEM IN-DOOR UNIT
SCU	=	SPLIT SYSTEM CONDENSING UNIT
SHP	=	SPLIT SYSTEM HEAT PUMP
REF	=	ROOF EXHAUST FAN

- INDICATES 1" CONDUIT STUB TO ABOVE ACCESSIBLE CEILING. OTHER SIZES AS NOTED.
- [2] WALL MOUNTED DATA OUTLET WITH (2) DATA PORTS +18".
- WAP [2] CEILING MOUNTED DATA OUTLET WITH (2) DATA PORTS. WIRELESS ACCESS POINT.
- INTRUSION PIR DETECTOR, +7'-6".
- COMBINATION CLOCK / SPEAKER UNIT, WALL MOUNTED.
- CLASSROOM TYPE TELEPHONE HANDSET TYPE-1, WALL MOUNTED, +45".
- [V] WEATHERPROOF CAMERA OUTLET WITH (1) DATA PORT. VERIFY EXACT HEIGHT WITH THE DISTRICT BEFORE INSTALLATION.
- INTRUSION DOOR CONTACT SWITCH.
- [IDF] INTERMEDIATE DISTRIBUTION FACILITY.
- FIRE ALARM END OF LINE DEVICE.
- WP [S] FIRE ALARM WALL MOUNTED EXTERIOR SPEAKER (2 WATTS).
- [I] FIRE ALARM ADDRESSABLE 135° F CEILING HEAT DETECTOR, FIXED TEMPERATURE WITH R-O-R.
- [?] FIRE ALARM ADDRESSABLE PHOTO-ELECTRIC CEILING SMOKE DETECTOR.
- 15,30 [S] FIRE ALARM SPEAKER/STROBE, 15cd & 30cd, CEILING MOUNTED (1/2 WATT).
- [C] [CM] FIRE ALARM CONTROL MODULE.
- [IM] FIRE ALARM ISOLATOR MODULE.
- [M] [MM] FIRE ALARM MONITOR MODULE.
- [SM] FIRE ALARM SYNCHRONIZATION MODULE.
- [FS] FIRE / SMOKE DAMPER, NOT IN ELECTRICAL CONTRACT.
- [AMP] FIRE ALARM AMPLIFIER PANEL.
- [FABP] FIRE ALARM BOOSTER PANEL.
- [FATC] FIRE ALARM TERMINAL CABINET.
- CONTROL OR MISCELLANEOUS EQUIPMENT, N.I.E.S., CONNECT AS REQUIRED. SUBSCRIPTS AS FOLLOWS:

FR	-	FIRE SPRINKLER RISER. PROVIDE MONITORING OF FLOW AND TAMPER SWITCH THRU FIRE ALARM SYSTEM.
FB	-	FIRE SPRINKLER BELL
FV	-	ELECTRICAL FAUCET, OR FLUSH VALVE TRANSFORMER.
V	-	VAV BOX. PROVIDE WITH DISCONNECT SWITCH.
FSB	-	FIRE ALARM BELL
FSR	-	FIRE ALARM SPRINKLER RISER.
FSTS	-	FIRE SPRINKLER TAMPER SWITCH.
FSFS	-	FIRE SPRINKLER FLOW SWITCH.

- [PR] POWER REEL.
- [PS] WIRELESS PHOTOSENSOR- CEILING MOUNTED.
- JUNCTION BOX.
- L.E.D. LIGHTING FIXTURE - RECESSED WITH PLASTER FRAME.
- L.E.D. LIGHTING FIXTURE - WALL MOUNTED.
- FLEXIBLE CONDUIT.
- THERMAL OVERLOAD SWITCH, +45".
- WALL MOUNTED SINGLE CIRCUIT MOTION SENSOR SWITCH.
- PANELBOARD - SEE PANEL SCHEDULES ON SHEET E7.1
- PB FULL BOX.
- [T] TRANSFORMER
- SWITCHBOARD
- EQUIPMENT IDENTIFICATION TAG. (N.I.E.S.) CONNECT AS REQUIRED, INCLUDING INSTALLATION AND CONNECTION OF REMOTE STARTERS.

CP	= CIRCULATING PUMP	RS	= ROLLER SHADE
GWH	= GAS WATER HEATER	SD	= STACK DOOR

- SPECIALTY RECEPTACLE. TYPE AS INDICATED.

EDIT DATE: 04/19/2018 4:16:19 PM
FILE PATH:

STAFFORD KING WIESE ARCHITECTS

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Sacramento City Unified School District

SCUSD WEST CAMPUS HS SCIENCE & TECHNOLOGY CLASSROOM BUILDING

5022 58TH STREET
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AGENCY APPROVAL

FILE NO. 34-H7
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02 - 115633
AC_____FLS_____SS_____
DATE _____
INCREMENT 2

REVISIONS

NO.	DATE	DESCRIPTION
1	4/20/18	ADDENDUM #2

KEY PLAN

SHEET NAME

ELECTRICAL SYMBOLS LIST, ABBREVIATIONS, & NOTES

SUBMITTAL
CONSTRUCTION DOCUMENTS

PROJECT NO. 4800.00
DRAWN BY HW-DB
CHECKED BY DY
ISSUE DATE 04/03/2018

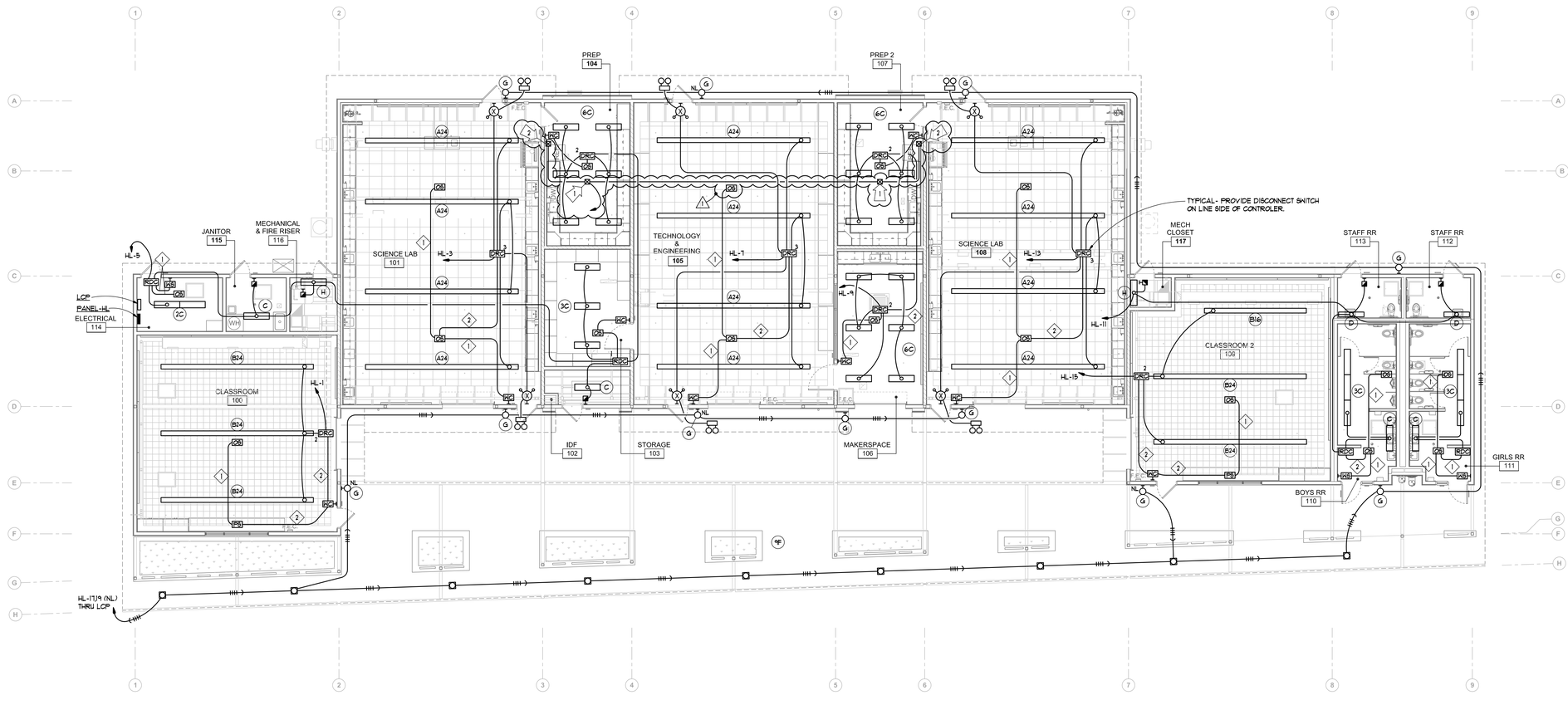
E2.0.1

CONSTRUCTION NOTES:

1. SOLAR TUBE. CONNECT AS REQUIRED.
2. SOLAR TUBE CONTROLLER. PROVIDE ALL NECESSARY WIRING. CONNECT AS REQUIRED.

CONDUIT & WIRE SCHEDULE

1. 3/4" MTC
2. 1" MTC



A E2.1 LIGHTING FLOOR PLAN

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

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02 - 115633
AC_____ FLS_____ SS_____
DATE _____
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REVISIONS

NO.	DATE	DESCRIPTION
1	4/20/18	ADDENDUM #2

KEY PLAN

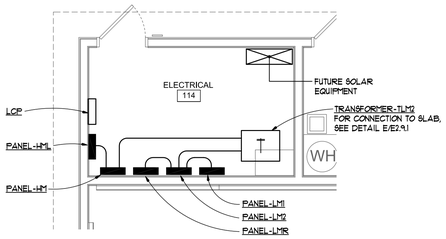
SHEET NAME

LIGHTING FLOOR PLAN

SUBMITTAL
CONSTRUCTION DOCUMENTS

PROJECT NO.
4800.00
DRAWN BY
HW-DB
CHECKED BY
DY
ISSUE DATE
04/03/2018

E2.2.1



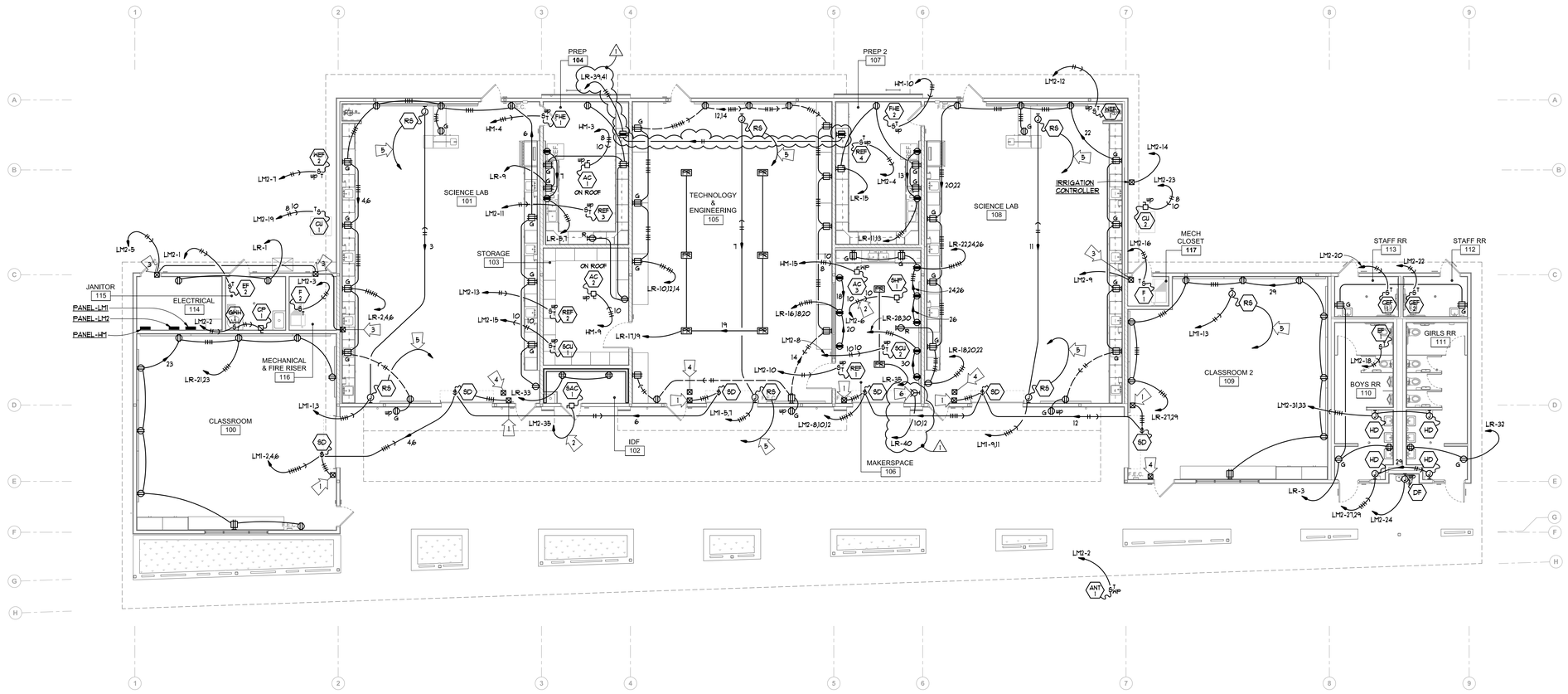
ENLARGED ELECTRICAL ROOM POWER FLOOR PLAN

B / E3.1

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

CONSTRUCTION NOTES:

1. TYPICAL STACK DOOR CONTROLLER. CONNECT AS REQUIRED.
2. SAC-1 & SHP-1 POWER IS TAKEN FROM THE SCU'S. PROVIDE CONDUIT & WIRES AS REQUIRED.
3. MOTORIZED DAMPER N.I.E.S. CONNECT AS REQUIRED.
4. ROLLER SHADE SWITCH N.I.E.S. CONNECT AS REQUIRED.
5. 1" CONDUIT WITH CONTROL WIRES TO ROLLER SHADE SWITCH. VERIFY LOCATION ON JOB SITE PRIOR TO ROUGH-IN.
6. 250V, 2 POLE, 3 WIRE, NEMA 6-20 RECEPTACLE, +18".



POWER FLOOR PLAN

A / E3.1

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

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DATE _____
INCREMENT 2

REVISIONS

NO.	DATE	DESCRIPTION
1	4/20/18	ADDENDUM #2

KEY PLAN

SHEET NAME

POWER FLOOR PLAN

SUBMITTAL
CONSTRUCTION DOCUMENTS

PROJECT NO.		
4800.00		
DRAWN BY	CHECKED BY	E2.3.1
HW-DB	DY	
ISSUE DATE		
04/03/2018		

PANEL-HM

GND NEUT

MINIMUM AIC: 35,000
TYPE: NF-42-44B-300
MOUNTING: ☐ FLUSH ☒ SURFACE ☐ FREESTANDING
MISC: .

VOLTAGE: ☐ 120/208 ☒ 480/277 ☐ 120/240
PHASE: ☐ 1-PHASE ☒ 3-PHASE
BUSS AMPS: 400
MAIN AMPS: 400 (1)
FED FROM: SWITCHBOARD
☒ CU ☐ AL
☐ MLO ☒ BKR

KVA	USE	BKR	No.	Phase	No.	BKR	USE	KVA
			1	A	2			
18.5	AC-1	25/3	3	B	4	40/3	FHE-1	2.2
			5	C	6			
18.5	AC-2		7	A	8			
			9	B	10		FHE-2	2.2
			11	C	12			
18.5	AC-3		13	A	14	1P	SPACE	-.-
			15	B	16			
			17	C	18			
-.-	SPACE	1P	19	A	20			
			21	B	22			
			23	C	24			
			25	A	26			
			27	B	28			
			29	C	30			
			31	A	32			
			33	B	34	100/3	PANEL-HL	5.0 (1)
			35	C	36			
			37	A	38			
			39	B	40	175/3	TRANSFORMER-TLM2	79
			41	C	42			

LOAD KVA: 144 (1)

PANEL-LR

GND NEUT

MINIMUM AIC: 10,000
TYPE: NQOD-42-44B-225
MOUNTING: ☐ FLUSH ☒ SURFACE ☐ FREESTANDING
MISC: .

VOLTAGE: ☒ 120/208 ☐ 480/277 ☐ 120/240
PHASE: ☐ 1-PHASE ☒ 3-PHASE
BUSS AMPS: 225
MAIN AMPS: 225
☒ CU ☐ AL
☒ MLO ☐ BKR
FED FROM: PANEL-LM2

KVA	USE	BKR	No.	Phase	No.	BKR	USE	KVA
0.2	JAN. & ELEC. RM RECEPT.	20/1	1	A	2	20/1	LAB 101 RECEPT.	0.8
2.0	BATHROOMS RECEPT.		3	B	4			1.0
1.2	RECEPTACLE		5	C	6			1.0
1.2	RECEPTACLE		7	A	8		SPARE	
1.0	PREP RM. RECEPT.		9	B	10		TECH & ENGINEER RECEPT.	0.8
1.2	RECEPTACLE		11	C	12			1.2
1.2	RECEPTACLE		13	A	14			1.2
0.8	STORAGE RM. RECEPT.		15	B	16		RECEPTACLE	1.2
0.6	RECEPTACLE		17	C	18			1.2
0.6			19	A	20			1.2
1.0	CLASSROOM 100 RECEPT.		21	B	22			1.2
0.8			23	C	24			1.2
	SPARE		25	A	26			1.2
1.0	CLASSROOM 109 RECEPT.		27	B	28			1.2
0.8			29	C	30			1.2
	SPARE		31	A	32			
0.2	IDF RM. RECEPT.		33	B	34		SPARE	
0.4	RECEPTACLE		35	C	36			
	SPARE		37	A	38			
1.8	RECEPTACLE		39	B	40	20/2	RECEPTACLE	1.0 (1)
1.8			41	C	42			

LOAD KVA: 33.4 (1)

PANEL-HL

GND NEUT

MINIMUM AIC: 35,000
TYPE: NF-30-4L-100
MOUNTING: ☐ FLUSH ☒ SURFACE ☐ FREESTANDING
MISC: .

VOLTAGE: ☐ 120/208 ☒ 480/277 ☐ 120/240
PHASE: ☐ 1-PHASE ☒ 3-PHASE
BUSS AMPS: 100
MAIN AMPS: 100
☒ CU ☐ AL
☒ MLO ☐ BKR
FED FROM: PANEL-HM

KVA	USE	BKR	No.	Phase	No.	BKR	USE	KVA
0.9	CLASSROOM 100	20/1	1	A	2	20/1	SPARE	-.-
0.9	SCIENCE LAB 101		3	B	4			
0.2	PREP 104		5	C	6			
0.9	TECH & ENGINNER 105		7	A	8			
0.2	PREP 2 107		9	B	10			
0.2	MAKERSPACE 106		11	C	12			
0.9	SCIENCE LAB 108		13	A	14			
0.8	CLASSROOM 2 109		15	B	16			
	SPACE	1P	17	C	18	1P	SPACE	
			19	A	20			
			21	B	22			
			23	C	24			
			25	A	26			
			27	B	28			
			29	C	30			

LOAD KVA: 5.0

TRANSFORMER SCHEDULE

SYM.	SIZE (KVA) (1)	WEIGHT (lbs)	MOUNTING		SIZE (in)			ANCHORAGE	REMARKS
			FLOOR	WALL	H	W	D		
TLMD	112.5	700	■		30	30	24	(1) 4-1/2" ø	

NOTES:

1. PROVIDE MINIMUM 4 BOLTS EACH, ONE AT EACH CORNER.
2. ALL TRANSFORMER SHALL HAVE WEATHER SHIELDS.

(1)

PANEL-LM2

GND NEUT

MINIMUM AIC: 10,000
TYPE: NQOD-42-44B-250
MOUNTING: ☐ FLUSH ☒ SURFACE ☐ FREESTANDING
MISC: .

VOLTAGE: ☒ 120/208 ☐ 480/277 ☐ 120/240
PHASE: ☐ 1-PHASE ☒ 3-PHASE
BUSS AMPS: 400
MAIN AMPS: 400 (1)
FED FROM: PANEL-HM
☒ CU ☐ AL
☐ MLO ☒ BKR

KVA	USE	BKR	No.	Phase	No.	BKR	USE	KVA
0.1	EF-2	15/1	1	A	2	20/1	GWH-1/CP-1	0.5
1.4	F-2	20/1	3	B	4	15/1	REF-4	0.5
0.2	MD		5	C	6	25/2	SHP-1/SCU-2	3.5
1.2	WEF-2		7	A	8			
0.1	MD		9	B	10	15/1	REF-1	0.5
0.5	REF-3	15/1	11	C	12	15/1	WEF-1	1.2
0.5	REF-2	15/1	13	A	14	20/1	IRRIGATION CONTROLLER	0.5
2.9	SCU-1/SAC-1	25/2	15	B	16	20/1	F-1	1.4
			17	C	18	15/1	EF-1	0.5
4.7	CU-1	40/2	19	A	20		CEF-1	0.1
			21	B	22		CEF-2	0.1
4.7	CU-2		23	C	24	20/1	SPARE	
			25	A	26			
2.0	HD	20/1	27	B	28			
2.0			29	C	30			
2.0			31	A	32			
2.0			33	B	34	100/3	PANEL-LM1	13 (1)
	SAC-1		35	C	36			
	SPARE		37	A	38			
	FS ✳		39	B	40	150/3	PANEL-LR	33.4
	FABP ✳		41	C	42			

LOAD KVA: 79 (1)

PANEL-LM1

GND NEUT

MINIMUM AIC: 10,000
TYPE: NQOD-30-4L-100
MOUNTING: ☐ FLUSH ☒ SURFACE ☐ FREESTANDING
MISC: .

VOLTAGE: ☒ 120/208 ☐ 480/277 ☐ 120/240
PHASE: ☐ 1-PHASE ☒ 3-PHASE
BUSS AMPS: 100
MAIN AMPS: 100
☒ CU ☐ AL
☒ MLO ☐ BKR
FED FROM: PANEL-LM2

KVA	USE	BKR	No.	Phase	No.	BKR	USE	KVA
0.5	RS	20/1	1	A	2	20/1	SD	1.5
0.5			3	B	4			1.5
0.5			5	C	6			1.5
0.5			7	A	8			1.5
0.5			9	B	10			1.5
0.5			11	C	12			1.5
0.5			13	A	14		SPARE	
0.5	SOLAR TUBE		15	B	16			
	SPARE		17	C	18			
			19	A	20			
			21	B	22			
			23	C	24			
			25	A	26			
			27	B	28			
			29	C	30			

LOAD KVA: 13 (1)

PANELBOARD NOTES:

✳ PROVIDE CIRCUIT BREAKER AS INDICATED WITH ALL NECESSARY HARDWARE. MOUNT IN EXISTING SPACE AND CONNECT AS REQUIRED.

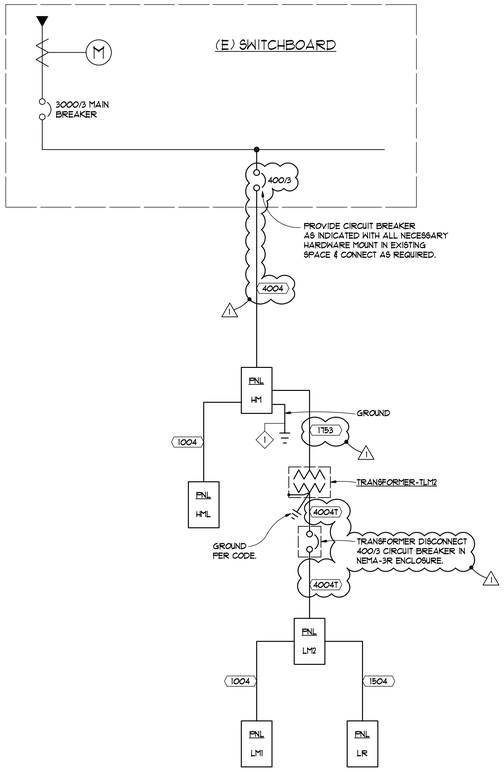
✳ REMOVE EXISTING CIRCUIT BREAKER AND RETURN TO OWNER. PROVIDE CIRCUIT BREAKER AS INDICATED. MOUNT IN SPACE PROVIDED.

△ CONNECT TO EXISTING SPARE CIRCUIT BREAKER.

☐ REMOVE THE (E) CIRCUIT FROM THE CIRCUIT BREAKER AND RELOCATE CIRCUIT TO A SPARE CIRCUIT BREAKER AS INDICATED "(R) LOAD".

FEEDER SCHEDULE

SYM	CONDUIT SIZE (in)	WIRES	NO. OF SETS	O.C.P. SIZE	REMARKS
1004	2"	4#2 & 1#8 (GREEN) GND.	1	100/3	-
1753	2"	3#2/0 & 1#6 (GREEN) GND.	1	175/3	480V, 3Ø, 3W.
1504	2 1/2"	4#1/0 & 1#6 (GREEN) GND.	1	150/3	-
4004T	4"	4#600 KCMIL & 1#3 (GREEN) GND.	1	400/3	-
4004	4"	4#500 KCMIL & 1#3 (GREEN) GND.	1	400/3	-
1	1"	1#1/0 (GREEN) GND.	1	-	GROUND



A / E7.1 PARTIAL ONE LINE DIAGRAM
480/277 VOLTS, 3 PHASE, 4 WIRES
NO SCALE

STAFFORD KING WIESE ARCHITECTS

LICENSED ARCHITECT PATRICK M. DERICKSON LIC.# C17107 REN. 2/28/19 STATE OF CALIFORNIA

622 20TH STREET
SACRAMENTO CALIFORNIA 95811
(916) 930-5900 FAX (916) 930-5800
EMAIL: mail@skwaia.com

CONSULTANT STAMP

REGISTERED PROFESSIONAL ENGINEER DAVID K. YU No. E14982 Exp. 6/30/19 ELECTRICAL STATE OF CALIFORNIA

HARRY A. YEE & ASSOCIATES, INC.
ELECTRICAL ENGINEERS
4920 FREEPORT BLVD., SUITE D
SACRAMENTO, CALIFORNIA 95822
TEL: 916.454.5319
FAX: 916.454.4117
HYA Job #1656A

Sacramento City Unified School District

SCUSD WEST CAMPUS HS SCIENCE & TECHNOLOGY CLASSROOM BUILDING

5022 58TH STREET
SACRAMENTO, CA 95820

AGENCY APPROVAL

FILE NO. 34-H7
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02 - 115633
AC_____ FLS_____ SS_____
DATE _____
INCREMENT 2

REVISIONS

NO.	DATE	DESCRIPTION
1	4/20/18	ADDENDUM #2

KEY PLAN

SHEET NAME

PARTIAL ONE LINE DIAGRAM, SCHEDULES & NOTES

SUBMITTAL
CONSTRUCTION DOCUMENTS

PROJECT NO. 4800.00
DRAWN BY HW-DB
CHECKED BY DY
ISSUE DATE 04/03/2018

E2.7.1

EDIT DATE: 04/19/2018 4:16:19 PM
FILE PATH: