

Grossmont Union High School District

GROSSMONT KITCHEN AND WEIGHT ROOM MULTI PRIME CN-2982 THROUGH CN-2991

Addendum No. 4

Date: August 18, 2022

The following changes, additions, deletions or corrections shall become a part of the Contract Documents dated July 19, 2022 for the project named above and all other conditions shall remain the same. The bidders shall be responsible for transmitting this information to all affected subcontractors and suppliers prior to the closing of bids.

Bid Opening:

The bid opening will remain at 2:00 p.m. on Thursday, August 25, 2022.

Please incorporate the attached:

- 1. Ruhnau Clarke Architects Addendum 03
- 2. Bleacher (04-121019) Addendum 01
- 3. RFI & Substitution Request Log (08.17.22)
- 4. #074213.23 Metal Composite Wall Panel Substitution Request (Not Approved)
- 5. CN-2982 Scope of Work (Version 03)
- 6. CN-2983 Scope of Work (Version 04)
- 7. CN-2984 Scope of Work (Version 03)
- 8. CN-2985 Scope of Work (Version 02)
- 9. CN-2986 Scope of Work (Version 02)
- 10. CN-2989 Scope of Work (Version 03)
- 11. CN-2990 Scope of Work (Version 02)
- 12. CN-2991 Scope of Work (Version 03)

Additional Information:

- 1. This is not a PLA or PSA project.
- 2. Bid location = 924 E Main St., El Cajon, CA 92021
- Bleacher (04-121019) Addendum 01 is applicable to CN-2982, CN-2983, CN-2986 & CN-2988

THIS ENDS ADDENDUM NO. 4

Dena Johnson, Senior Project Manager - GUHSD





August 17,2022

ADDENDUM NO. 3

TO THE CONTRACT DOCUMENTS

FOR

Grossmont High School New Kitchen and Weight Room

FOR THE

GROSSMONT UNION HIGH SCHOOL DISTRICT 1100 Murray Drive El Cajon, CA 92020

DSA #04-120895 FILE #37-H4 RCA Job No. 1-30-55

NOTICE TO BIDDERS

This Addendum forms a part of the Contract and modifies the original documents DSA Approved on June 27,2022. It is intended that all work affected by the following modifications shall conform with related provisions and general conditions of the contract of the original drawings and specifications. Modify the following items wherever appearing in any drawing or sections of the specifications. Acknowledge receipt of Addendum No. 3 in the space provided on the Bid Form. Failure to do so may subject bidder to disqualification.

CHANGES TO SPECIFICATIONS

Item No.	3.1 3.1.1	Reference Section 00 01 10 – Table of Contents Replace specifications section in its entirety with attached revised section 00 01 10 $$
Item No.	3.2 3.2.1	Reference Section 06 10 00 – Rough Carpentry Replace specifications section in its entirety with attached revised section 06 10 00
Item No.	3.3 3.3.1	Reference Section 07 54 00 – Thermoplastic Membrane Roofing Replace specifications section in its entirety with attached revised section 07 54 00
Item No.	3.4 3.4.1	Reference Section 07 95 13 – Expansion Joint Cover Assemblies Added new specification section 07 95 13
Item No.	3.5 3.5.1	Reference Section 10 28 00 – Toilet Accessories Replace specification section in its entirety with attached revised section 10 28 00
Item No.	3.6 3.6.1	Reference Section 23 08 00 – Commissioning of HVAC Replace specifications section in its entirety with attached revised section 23 08 00
Item No.	3.7 3.7.1	Reference Section 23 11 23 – Facility Natural-Gas Piping Replace specifications section in its entirety with attached revised section 22 11 23
Item No.	3.8 3.8.1	Reference Section 27 20 00 – Integrated Audio-Visual System Replace specifications section in its entirety with attached revised section 27 20 00

CHANGES TO DRAWINGS -

Item No. 3.9 3.9.1	Reference Sheet C-1.0 – Grading and Drainage Replace Sheet C-1.0 with attached Revised Sheet C-1.0
Item No. 3.10 3.10.1	Reference Sheet C-1.1 – Grading and Drainage Replace Sheet C-1.1 with attached Revised Sheet C-1.1
Item No. 3.11 3.11.1	Reference Sheet LI-1 – Planting Plan Replace Sheet LI-1 with attached Revised Sheet LI-1
Item No. 3.12 3.12.1	Reference Sheet LP-1 – Planting Plan Replace Sheet LP-1 with attached Revised Sheet LP-1
Item No. 3.13 3.13.1	Reference Sheet LP-2 – Planting Plan/ Legend Replace Sheet LP-2 with attached Revised Sheet LP-2
Item No. 3.14 3.14.1 3.14.2. 3.14.3	Reference Sheet ASO.2- Code/ Egress Site Plan Added New Gate G9 at Electrical Yard and update Gate Schedule per attached Sketch ASK-3.1 Added New Fire Lane Concrete paving sections callouts per attached Sketch ASK-3.1 Added new File Lane Conc. Paving Section per attached Sketch ASK-3.19
Item No. 3.15 3.15.1	Reference Sheet AS-1.0- Demolition Site Plan Revised extent of existing retaining wall to remain to match Civil Sheet C-1.2 per attached Sketch ASK-3.2
Item No. 3.16 3.16.1 3.16.2 3.16.3	Reference Sheet ASD-2.0– Site Details Added new gate G9 to Electrical Yard per attached Sketch ASK- 3.1 Revised Perforated metal fence detailing per attached Sketch ASK-3.3 Updated Electrical Yard Elevation to show new gate per attached Sketch ASK-3.4
Item No. 3.17 3.17.1	Reference Sheet A1-5.1 – Building 900 Building Sections Added additional detail references to detail 2/A1-5.1 per attached Sketch ASK-3.5
Item No. 3.18 3.18.1	Reference Sheet A2-1.0 – Building 400 New Food Service Floor & Clg Plans Replace Sheet A2-1.0 with attached Revised Sheet A2-1.0
Item No. 3.19 3.19.1	Reference Sheet A2-5.0 – Building 400 Building Sections Added additional detail reference to detail 3/A2-5.0 per attached Sketch ASK-3.6
Item No. 3.20 3.20.1	Reference Sheet AD-2.0- Details Wall Types Revised Wall base details per the attached Sketches ASK-3.7, ASK-3.8, ASK-3.9, ASK-3.10, & ASK-3.12
Item No. 3.21 3.21.1	Reference Sheet AD-2.1- Wall Details Added to Metal Lath Details see attached Sketch ASK-3.16
Item No. 3.22 3.22.1	Reference Sheet AD-3.1- Roof Details Revised Detail 1/AD-3.1 per the attached Sketch ASK-3.12
1tem No. 3.23 3.23.1 3.23.2 3.23.3 3.23.4	Reference Sheet AD-4.0- Details Ceiling Details Revised Detail 23/AD-4.0 per the attached Sketch ASK-3.13 Revised Detail 28/AD-4.0 per the attached Sketch ASK-3.13 Revised Detail 24/AD-4.0 per the attached Sketch ASK-3.14 Revised Detail 26/AD-4.0 per the attached Sketch ASK-3.14
Item No. 3.24 3.24.1	Reference Sheet AD-4.1- Ceiling Details Revised Detail 1/AD-4.1 per the attached Sketch ASK-3.15
Item No. 3.25 3.25.1 3.25.2 3.25.3	Reference Sheet AD-8.0- Miscellaneous Details Revised Detail 28/AD-8.0 per the attached Sketch ASK-3.17 Revised Detail 29/AD-8.0 per the attached Sketch ASK-3.17 Revised Detail 26/AD-8.0 per the attached Sketch ASK-3.18

Item No.	3.26 3.26.1	Reference Sheet ID-1.0 Replace Sheet ID-1.0 with attached Revised sheet ID-1.0
Item No.	3.27 3.27.1	Reference Sheet S1-1.1 – Building 900 Foundation Plan Replace Sheet S1-1.1 with attached Revised sheet S1-1.1
Item No.	3.28 3.28.1	Reference Sheet S2-1.0 – Building 400 Foundation & Roof Framing Plans Replace Sheet S2-1.0 with attached Revised sheet S2-1.0
Item No.	3.29 3.29.1	Reference Sheet P0-5.1- Plumbing Details Replace Sheet P0-5.1 with attached Revised sheet P0-5.1
Item No.	3.30 3.30.1	Reference Sheet P0-5.2- Plumbing Details Added New Sheet
Item No.	3.31 3.31.1	Reference Sheet E1.1–Overall Site Plan Replace Sheet E-1.1 with attached Revised sheet E-1.1
Item No.	3.32 3.32.1	Reference Sheet E1.2-Site Electrical Details Replace Sheet E-1.2 with attached Revised sheet E-1.2
Item No.	3.33 3.33.1	Reference Sheet E2.1- BLDG. 900 Floor Plan- Lighting Replace Sheet E2.1 with attached Revised sheet E2.1
Item No.	3.34 3.34.1	Reference Sheet E2.3- Fixture Schedule Replace Sheet E2.3 with attached Revised sheet E2.3
Item No.	3.35 3.35.1	Reference Sheet E2.4- Lighting Control Diagram Replace Sheet E2.4 with attached Revised sheet E2.4
Item No.	3.36 3.36.1	Reference Sheet E4.8- Communication Details Replace Sheet E4.8 with attached Revised sheet E4.8

ATTACHMENTS - GHS New Kitchen and Weight Room

Specifications: 00 01 10, 06 10 00, 07 92 00, 07 95 13, 10 28 00, 23 08 00, 22 11 23, 27 20 00

Sketches: ASK-3.1, ASK-3.2, ASK-3.3, ASK-3.4, ASK-3.5, ASK-3.6, ASK-3.7, ASK-3.8, ASK-3.9, ASK-3.10,

ASK-3.11, ASK-3.12, ASK-3.13, ASK-3.14, ASK-3.15, ASK-3.16, ASK-3.17, ASK-3.18, ASK-3.19

Drawings: C-1.0, C-1.1, LI-1, LP-1, LP-2, A2-1.0, ID-1.0, S1-1.1, S2-1.0. P0-5.1, P0-5.2, E1.1, E1.2, E2.1, E2.3,

E2.4, E4.8

END OF ADDENDUM 3/

Roger Clarke, Principal

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01 30 00.02 - Submittal Transmittal

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SECTION 06 10 00 ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Structural dimension lumber framing.
- B. Nonstructural dimension lumber framing.
- C. Rough opening framing for doors, windows, and roof openings.
- D. Sheathing.
- E. Roof-mounted curbs.
- F. Roofing nailers.
- G. Preservative treated wood materials.
- H. Miscellaneous framing and sheathing.
- I. Communications and electrical room mounting boards.
- J. Concealed wood blocking, nailers, and supports.
- K. Miscellaneous wood nailers, furring, and grounds.

1.02 RELATED REQUIREMENTS

- A. Section 01 61 16 Volatile Organic Compound (VOC) Content Restrictions.
- B. Section 03 30 00 Cast-in-Place Concrete: Setting anchors in concrete.
- C. Section 05 12 00 Structural Steel Framing: Prefabricated beams and columns for support of wood framing.
- D. Section 05 50 00 Metal Fabrications: Miscellaneous steel connectors and support angles for wood framing.
- E. Section 06 17 33 Wood I-Joists.
- F. Section 06 18 00 Glued-Laminated Construction.
- G. Section 07 25 00 Weather Barriers: Water-resistive barrier over sheathing.
- G.H. Section 09 21 16 Gypsum Board Assemblies: Gypsum-based sheathing.

1.03 REFERENCE STANDARDS

- A. AFPA (NDS) National Design Specification for Wood Construction.
- B. ASTM A153/A153M Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- A.C. ASTM A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- D. ASTM F2130 Standard Test Method for Measuring Repellency, Retention, and Penetration of Liquid Pesticide Formulation Through Protective Clothing Materials.

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- B.E. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
- F. ASTM E96/E96M Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials.
- G. AWC SDPWS Special Design Provisions for Wind and Seismic.
- ←H. AWPA U1 Use Category System: User Specification for Treated Wood.
- I. CBC California Building Code.
- J. ICC-ES AC380 Acceptance Criteria for Termite Physical Barrier Systems.
- D.K. PS 1 Structural Plywood.
- E.L. PS 2 Performance Standard for Wood Structural Panels.
- F.M.PS 20 American Softwood Lumber Standard.
- G.N. WCLIB (GR) Standard Grading Rules for West Coast Lumber No. 17.

1.04 SUBMITTALS

- A. See Section 01 30 00 Administrative Requirements for submittal procedures.
- B. Product Data: Provide technical data on insulated sheathing, wood preservative materials, and application instructions.
- C. Structural Composite Lumber: Submit manufacturer's published structural data including span tables, marked to indicate which sizes and grades are being used; if structural composite lumber is being substituted for dimension lumber or timbers, submit grading agency structural tables marked for comparison.
- D. Evaluation Service Reports: Show compliance with specified requirements.
- E. Manufacturer's Certificate: Certify that wood products supplied for rough carpentry meet or exceed specified requirements.

1.05 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

1.06 WARRANTY

- A. See Section 01 78 00 Closeout Submittals for additional warranty requirements.
- B. Correct defective work within a two-year period commencing on Date of Substantial Completion.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - Species: Douglas Fir-Larch, unless otherwise indicated.
 - **1.2.** If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.

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- 2.3. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
- **3.4.** Lumber of other species or grades is acceptable provided structural and appearance characteristics are equivalent to or better than products specified.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

- A. Grading Agency: West Coast Lumber Inspection Bureau; WCLIB (GR).
- B. Sizes: Nominal sizes as indicated on drawings, S4S.
- C. Moisture Content: S-dry or MC19; Maximum 19%.
- ←**D.** Stud Framing (2 by 2 through 2 by 6):
 - 1. Species: Douglas Fir-Larch.
 - 2. Grade: No. 1 & Better.
- D.E. Joist, Rafter, and Small Beam Framing (2 by 6 through 4 by 16):
 - 1. Species: Douglas Fir-Larch.
 - 2. Grade: No. 1 and Better.
 - a. No. 1 & Better for joists and rafters;
 - b. No. 1 for beams and stringers.
- **E.F.** Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 - 1. Lumber: S4S, No. 1 or Construction Grade.
 - 2. Boards: No. 2 or Standard Grade.

2.03 STRUCTURAL COMPOSITE LUMBER

- A. At Contractor's option, structural composite lumber may be substituted for concealed dimension lumber and timbers.
- B. Structural Composite Lumber: Factory fabricated beams, headers, and columns, of sizes and types indicated on drawings; structural capacity as published by manufacturer and ESR Report.
 - 1. Columns: Use laminated veneer lumber, laminated strand lumber, or parallel strand lumber with manufacturer's published E (modulus of elasticity): 2,000,000 psi, minimum.
 - 2. Beams: Use laminated veneer lumber, laminated strand lumber, or parallel strand lumber with manufacturer's published E (modulus of elasticity): 2,000,000 psi, minimum.
 - 3. Headers Not Longer Than 48 inches: Use laminated veneer lumber, laminated strand lumber, or parallel strand lumber.
 - 4. Basis of Design Product: RedLam LVL as manufactured by RedBuilt, LLC, or approved equal.
 - **4.5.** Manufacturers:
 - a. Boise Cascade Company: www.bc.com. ICC ESR-1040, VAR-1017.
 - b. Georgia-Pacific Corp.: www.buildgp.com.

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- e.b. RedBuilt; Redbuilt Laminated Veneer Lumber; RedLam LVL: www.redbuilt.com, ICC ESR-2993.
- c. Louisiana-Pacific Corp.: www.lpcorp.com. ICC ESR-2403.
- d. Weyerhaeuser Company: www.weyerhaeuser.com/#sle. ICC ESR-1387, VAR-1008.
- e. Substitutions: See Section 01 60 00 Product Requirements.

2.04 CONSTRUCTION PANELS

- A. Roof Sheathing: Any PS 1 type, rated Structural I Plywood Sheathing.
 - 1. Bond Classification: Exterior.
 - 2. Span Rating: 24.
 - 3. Performance Category: 15/32 PERF CAT.
 - 4. Edge Profile: Square edge.
- B. Wall Sheathing: Any PS 2 type plywood.
 - Bond Classification: Exterior.
 - 2. Grade: Structural I Sheathing.
 - 3. Span Rating: 24.
 - 4. Performance Category: 15/32 PERF CAT.
 - 5. Edge Profile: Square edge.
- C. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.
- D. Other Applications:
 - 1. Plywood Concealed From View But Located Within Exterior Enclosure: PS 1, C-C Plugged or better, Exterior grade.
 - 2. Plywood Exposed to View But Not Exposed to Weather: PS 1, A-D, or better.
 - 3. Other Locations: PS 1, C-D Plugged or better.

2.05 ACCESSORIES

- A. Fasteners and Anchors:
 - 1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
 - 2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.
 - 3. Anchors: As indicated on Drawings, see also Section 05 05 1905 50 00.
- B. Die-Stamped Connectors: Hot dipped galvanized steel, sized to suit framing conditions.
 - 1. For contact with preservative treated wood in exposed locations, provide minimum G185 galvanizing complying with ASTM A653/A653M.
 - 2. Basis of Design Product: Connectors as manufactured by Simpson Strong-Tie, or approved equal.

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- C. Joist Hangers: Hot dipped galvanized steel, sized to suit framing conditions.
 - 1. For contact with preservative treated wood in exposed locations, provide minimum G185 galvanizing complying with ASTM A653/A653M.
 - 2. Basis of Design Product: Connectors as manufactured by Simpson Strong-Tie, or approved equal.

D. Termite Resistant Base Condition:

- 1. Termite-Resistant Sill Plate Barrier: Self-adhesive, 4 mil film-backed 64 mil barrier with release sheet; adheres to concrete substrates and blocks termite access.
 - a. Thickness: 68 mil, 0.068 inch (1.7 mm).
 - b. Termite Resistance: 100 percent when tested in accordance with ICC-ES AC380.
 - c. Water Vapor Permeance: 0.035 perm (2 ng/(Pa s sq m)), maximum, when tested in accordance with ASTM E96/E96M.
 - d. Products:
 - 1) Basis of Design: Polyguard Products Inc.; TERM® Sill Barrier | Termite Barrier : www.polyguardproducts.com, or approved equal.
 - 2) Or Equal Substitutions: See Section 01 60 00 Product Requirements.
- 2. Termite-Resistant Sill Flashing: Self-adhesive membrane; 4 mil polyethylene film bonded to 36 mil sealant.
 - a. Thickness: 40 mil, 0.040 inch (1 mm).
 - b. Width: 12 inches (300 mm), minimum.
 - c. Termite Resistance: 100 percent when tested in accordance with ICC-ES AC380.
 - 1) ICC ESR 3632.
 - d. Water Vapor Permeance: 0.035 perm (2 ng/(Pa s sq m)), maximum, when tested in accordance with ASTM E96/E96M.
 - e. Pesticide repellency; chlorodane, fipronil, and permethrin: 0 percent penetration, tested to ASTM F2130.
 - f. Products:
 - 1) Basis of Design: Polyguard Products Inc.; TERM® Flashing Barrier | Termite Barrier: www.polyguardproducts.com, or approved equal.
 - 2) Or Equal Substitutions: See Section 01 60 00 Product Requirements.
- 3. Coordinating Basis of Design Products: indicated on details as manufactured by Polyguard Products Inc., or approved equal to maintain warranty.
 - a. Sill Barrier Sealant: Polygard Detail Sealant PW (California VOC Compliant).
 - b. Polyguard California Sealant.
- E. Water-Resistive Barrier: See Section 07 25 00.

D.F. Sill Flashing: See Section 07 62 00.

2.06 FACTORY WOOD TREATMENT

- A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
 - 1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

B. Preservative Treatment:

1. Products:

- a. Lonza Group: www.wolmanizedwood.com/#sle.
- b. Koppers Performance Chemicals, Inc: www.koppersperformancechemicals.com/#sle.
- c. Viance, LLC; Preserve ACQ: www.treatedwood.com/#sle.
- d. Or Equal Substitutions: See Section 01 60 00 Product Requirements.
- 2. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative.
 - a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
 - b. Treat lumber in contact with roofing, flashing, or waterproofing.
 - c. Treat lumber in contact with masonry or concrete.
 - d. Treat lumber less than 18 inches (450 mm) above grade.
 - e. Treat lumber in other locations as indicated.
- 3. Preservative Pressure Treatment of Plywood Above Grade: AWPA U1, Use Category UC2 and UC3B, Commodity Specification F using waterborne preservative.
 - a. Kiln dry plywood after treatment to maximum moisture content of 19 percent.
 - b. Treat plywood in contact with roofing, flashing, or waterproofing.
 - c. Treat plywood in contact with masonry or concrete.
 - d. Treat plywood in other locations as indicated.

PART 3 EXECUTION

3.01 PREPARATION

- A. Install sill gasket under sill plate of framed walls bearing on foundations; puncture gasket cleanly to fit tightly around protruding anchor bolts. Where wood framing bears on cementitious foundations, install full width sill flashing continuous over top of foundation, lap ends of flashing minimum of 4 inches and seal.
- B. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

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- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.03 FRAMING INSTALLATION

- A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength.
- B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.
- C. Install structural members full length without splices unless otherwise specifically detailed.
- D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by ASTM F594, ASTM F593, and applicable codes.
- E. Install horizontal spanning members with crown edge up and not less than 1-1/2 inches of bearing at each end.
- F. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.
- G. Provide bridging at joists in excess of 8 feet span as detailed. Fit solid blocking at ends of members.
- H. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.04 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- B. In metal stud walls, provide continuous blocking around door and window openings for anchorage of frames, securely attached to stud framing.
- B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to authorities having jurisdiction may be used in lieu of solid wood blocking.
 - 1. Comply with CBC Section 718.2 Fireblocking.
- C. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.
- D. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.
- E. Provide the following specific nonstructural framing and blocking:
 - 1. Cabinets and shelf supports.
 - 2. Wall brackets.

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- Handrails.
- 4. Grab bars.
- 5. Towel and bath accessories.
- 6. Wall-mounted door stops.
- 7. Chalkboards and marker boards.
- 8. Wall paneling and trim.
- 9. Joints of rigid wall coverings that occur between studs.

3.05 ROOF-RELATED CARPENTRY

- A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.
- B. Provide wood curb at each roof opening except where specifically indicated otherwise; form corners by alternating lapping side members.

3.06 INSTALLATION OF CONSTRUCTION PANELS

- A. Roof Sheathing: Secure panels with long dimension perpendicular to framing members, with ends staggered and over firm bearing.
 - 1. At long edges provide solid edge blocking where joints occur between roof framing members.
 - 2. Nail panels to framing; staples are not permitted.
- B. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails or screws.
 - 1. Use plywood or other acceptable structural panels at building corners, for not less than 96 inches, measured horizontally.
- C. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches on center on all edges and into studs in field of board.
 - 1. At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly.
 - 2. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.
 - 3. Install adjacent boards without gaps.
 - 4. Size and Location: As indicated on drawings.

3.07 SITE APPLIED WOOD TREATMENT

- A. Apply preservative treatment compatible with factory applied treatment at site-sawn cuts, complying with manufacturer's instructions.
- B. Allow preservative to dry prior to erecting members.

3.08 TOLERANCES

A. Framing Members: 1/4 inch from true position, maximum.

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B. Variation from Plane, Other than Floors: 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

3.09 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements for additional requirements.

3.10 CLEANING

- A. Waste Disposal: See Section 01 74 19 Construction Waste Management and Disposal.
 - 1. Comply with applicable regulations.
 - 2. Do not burn scrap on project site.
 - 3. Do not burn scraps that have been pressure treated.
 - 4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.
- B. Do not leave wood, shavings, sawdust, etc. on the ground or buried in fill.
- C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

SECTION 07 54 00 THERMOPLASTIC MEMBRANE ROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Adhered system with thermoplastic roofing membrane.
- B. Insulation, flat and tapered.
- C. Cover boards.
- D. Flashings.
- E. Roofing cant strips, stack boots, and walkway pads.

1.02 RELATED REQUIREMENTS

- A. Section 07 62 00 Sheet Metal Flashing and Trim: Counterflashings and reglets.
- B. Section 07 72 00 Roof Accessories: Roof-mounted units; prefabricated curbs.
- C. Division 22 Plumbing: Roof drains, sumps, and hoppers.
- D. Division 26 Electrical: Conduit penetrating roofing membrane.

1.03 REFERENCE STANDARDS

- A. ASTM C1177/C1177M Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.
- B. ASTM C1289 Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
- C. ASTM D4434/D4434M Standard Specification for Poly(Vinyl Chloride) Sheet Roofing.
- D. FM (AG) FM Approval Guide.
- E. FM DS 1-28 Wind Design.
- F. NRCA (RM) The NRCA Roofing Manual.
- G. NRCA (WM) The NRCA Waterproofing Manual.
- H. UL (FRD) Fire Resistance Directory.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene one week before starting work of this section.
 - Review preparation and installation procedures and coordinating and scheduling required with related work.
 - Notification: Two weeks prior to pre-application conference, inform District and
 Architect of scheduled roofing beginning and completion dates, such that District may arrange
 for independent inspection of roofing Work, and presence of independent testing and inspection
 agency at pre-application conference.

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- 3. Attendance: Require attendance by Contractor's superintendent and other supervisory and quality control personnel having responsibility for roofing, supervisory personnel of roofing applicator and, if required for warranty provisions, representative of roofing products manufacturer.
 - a. DSA, Architect's insurer, independent testing and inspection agency and Architect, if authorized by District, will attend.
 - b. Require attendance of installers of each component of related Work, including deck or substrate construction, rigid insulation, metal flashing, rooftop equipment, penetrations of roof deck, and other Work integral with or adjacent to roofing may attend.
 - c. If required, attendance shall include authorities having jurisdiction. Contractor shall verify requirement with authorities having jurisdiction and arrange for attendance.

d. Agenda:

- 1) Meeting purpose is to review Drawings and Specifications for suitability for application of roofing system.
- Review application procedures and coordination required with related Work. Discuss changes and deviations from Drawings and Specifications, if any, recommended or required.
- 3) Walk roof areas to review and discuss substrate preparation including repair of unacceptable surfaces, roof drainage, penetrations, equipment curbs, and work performed by other trades, which require coordination with roofing system.
- 4) Review contract document requirements and submittals for roofing system, including roofing schedule, inspection and testing, and environmental conditions. Identify which governing regulations or insurance requirements will affect roofing system installation.
- 5) Discuss anticipated weather, as well as procedures for responding to unacceptable weather, including using temporary roofing. Temporary roofing, if necessary, will be added to scope of the Work by contract modification (change order or construction change directive), with acceptable adjustment in Contract Time and Contract Sum.
- 6) Document discussions in writing, including actions required, and distribute copy of report to each meeting participant.
- 7) Attendance by DSA, Architect and independent testing and inspection agency shall not relieve Contractor of sole responsibility for means, methods, techniques and sequence of construction, in accordance with provisions of the Conditions of the Contract.

1.05 SUBMITTALS

- A. See Section 01 30 00 Administrative Requirements for submittal procedures.
- B. Product Data: Provide data indicating membrane materials, flashing materials, insulation, surfacing, and fasteners.
- C. Shop Drawings: Submit drawings that indicate joint or termination detail conditions, conditions of interface with other materials, and setting plan for tapered insulation.

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- D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- E. Manufacturer's Installation Instructions: Indicate membrane seaming precautions and perimeter conditions requiring special attention.
- F. Manufacturer's Field Reports: Indicate procedures followed, ambient temperatures, humidity, wind velocity during application, and supplementary instructions given.
- G. Manufacturer's qualification statement.
- H. Installer's qualification statement.
- I. Specimen Warranty: For approval.
- J. Warranty Documentation:
 - 1. Submit manufacturer warranty and ensure that forms have been completed in District's name and registered with manufacturer.
 - 2. Submit installer's written verification that installation complies with warranty conditions for waterproof membrane.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of this section with at least three years of documented experience.
- C. Industry Standards:
 - 1. Conform to manufacturer's product data and application instructions.
 - 2. Perform work in accordance with NRCA (RM) and NRCA (WM) and and Western States Roofing Contractors Association (WSRCA).
 - a. Maintain one copy on site.
- D. Testing and Inspection:
 - 1. District's independent inspection and testing agency will perform inspections and tests of roofing work.
 - 2. Costs of this service will be paid for by District.
 - 3. Contractor shall cooperate with independent testing and inspection agency.
 - 4. Refer to general requirements specified in Section 01 40 00 Quality Requirements and 01 45 33 Code-Required Special Inspections.
- E. Private label and third-party-manufactured membranes are not permitted.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. See Section 01 74 19 Construction Waste Management and Disposal for packaging waste requirements.
- B. Deliver materials in manufacturer's original containers, dry and undamaged, with seals and labels intact, unless otherwise indicated.
- C. Store materials in weather protected environment, clear of ground and moisture.

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- D. Ensure storage and staging of materials does not exceed static and dynamic load-bearing capacities of roof decking.
- E. Protect foam insulation from direct exposure to sunlight.

1.08 FIELD CONDITIONS

- A. Do not apply roofing membrane during unsuitable weather.
- B. Do not apply roofing membrane when ambient temperature is below 40 degrees F or above 95 degrees F.
- C. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
- D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.
- E. Schedule applications so that no partially completed sections of roof are left exposed at end of workday.
 - 1. Provide temporary roof membrane if necessary to protect portions of the Work before final roofing can be installed.
 - a. Record by way of change order the District's agreement to proceed with temporary roofing, along with additional costs and other changes (if any) to Contract Documents.
 - b. Remove temporary roofing before starting installation of final roofing system.
- F. Arrange work sequence to avoid use of newly constructed roofing as a walking surface or for equipment movement and storage.
 - 1. Provide all necessary protection and barriers to segregate the work area and to prevent damage to adjacent areas.
 - 2. Provide a substantial protection layer consisting of plywood over felt or plywood over insulation board for all new and existing roof areas that receive rooftop traffic during construction.

1.09 WARRANTY

- A. See Section 01 78 00 Closeout Submittals for additional warranty requirements.
- B. System Warranty: Provide manufacturer's system warranty agreeing to repair or replace roofing that leaks or is damaged due to wind or other natural causes.
 - Warranty Term: 20 years.
 - a. Provide a written guarantee signed by the manufacturer's authorized official, agreeing to correct failures in product and installation, with no dollar limit on such corrections, for the noted warranty term from date established in Notice of Completion.
 - 2. Include insulation and flashing as part of the roofing system and all other manufacturer supplied system components to be used as part of the roofing assembly..
 - 3. For repair and replacement include costs of both material and labor in warranty.
 - 4. Exceptions are not Permitted:

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- a. Damage due to roof traffic.
- b. Damage due to wind speed up 60 mph.
- c. Damage due to ponding water; assign no time limit for any such ponding water during the warranty period.
- d. Roof system maintenance.
- C. Applicator/Roofing Contractor Warranty:
 - 1. Applicator to supply the District with a separate five-year workmanship warranty.
 - 2. In the event any work related to roofing, flashing, or associated metal is found to be within the Applicator warranty term, defective or otherwise not in accordance with the Contract Documents, the Applicator shall repair that defect at no cost to the District.
 - 3. The Applicator's warranty obligation shall run directly to the District, and a copy shall be sent to the manufacturer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Thermoplastic Polyvinyl Chloride (PVC) Membrane Roofing Materials:
 - 1. Basis of Design Product: G-410 ES as manufactured by Sika Sarnafil, a Division of Sika Corporation, or approved equal.
 - 2. Carlisle Roofing Systems, Inc; Sure-Flex PVC: www.carlisle-syntec.com/#sle.
 - Johns Manville; JM PVC Fleece Backed ES (Energy Saving), 80-60 mil, SP8PA: www.jm.com/#sle.
 - 4. Sika Corporation Roofing; Sarnafil PVC: usa.sika.com/sarnafil/#sle.
 - 5. Substitutions: See Section 01 60 00 Product Requirements.

B. Insulation:

- 1. Insulation manufacturer as part of the tested and warrantable roofing system membrane assembly.
- 2. Substitutions: See Section 01 60 00 Product Requirements.

2.02 PERFORMANCE REQUIREMENTS

- A. General: Provide installed roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.

2.03 ROOFING - UNBALLASTED APPLICATIONS

- A. Thermoplastic Membrane Roofing: One ply membrane, fully adhered.
- B. Roof Assembly: (from the top down)

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- 1. Typical assmbly:
 - a. Roofing Membrane
 - b. Cover Board Glass mat gypsum panel.
 - c. Tapered Insulation layers for crickets.
 - d. Deck Sheathing.
 - e. Roof deck.
- C. Roofing Assembly Requirements:
 - Roof Covering External Fire Resistance Classification: UL (FRD) Class A.
 - 2. Factory Mutual Classification: Class 1 and windstorm resistance of 1-90, in accordance with FM DS 1-28.
- D. Acceptable Insulation Types Tapered Application: Any of types specified.
 - Tapered polyisocyanurate board.

2.04 MEMBRANE ROOFING AND ASSOCIATED MATERIALS

- A. Membrane Roofing Materials:
 - 1. PVC: Polyvinyl chloride (PVC) complying with ASTM D4434/D4434M, Type II, sheet contains reinforcing fibers or reinforcing fabrics.
 - a. Thickness: 80-60 mil, 0.080-060 inch, minimum.
 - b. Backing: 9 oz. Feltback fabricated as part of the membrane.
 - 2. Sheet Width:
 - a. Adhered Application: Limit width to 120 inches, maximum, when ambient temperatures are less than 40 degrees F for extended period of time during installation.
 - 3. Solar Reflectance: 0.75, minimum, initial, and 0.65, minimum, 3-year, certified by Cool Roof Rating Council.
 - 4. Thermal Emissivity: 0.80, minimum, initial, and 0.79, minimum, 3-year, certified by Cool Roof Rating Council.
 - 5. Color: White, integral.
- B. Seaming Materials: As recommended by membrane manufacturer.
- C. Flexible Flashing Material: Same material as membrane.

2.05 COVER BOARDS

- A. Cover Boards: Glass-mat faced gypsum panels complying with ASTM C1177/C1177M.
 - 1. Thickness: 5/8 inch, Type X, fire-resistant.
 - a. Application: Over parapet wall studs.
 - 2. Thickness: 1/4 inch, fire-resistant.
 - 3. Products:
 - a. Basis of Design: Georgia-Pacific; DensDeck Prime with EONIC Technology: www.densdeck.com/#sle.

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- b. USG; USG Securock® Brand UltraLight Glass-Mat Roof Board: www.usg.com.
- c. Substitutions: See Section 01 60 00 Product Requirements.

2.06 INSULATION

- A. Polyisocyanurate (ISO) Board Insulation: Rigid cellular foam, complying with ASTM C1289.
 - Classifications:
 - a. Type II:
 - 1) Class 1 Faced with glass fiber reinforced cellulosic felt facers on both major surfaces of core foam.
 - 2) Compressive Strength: Classes 1-2-3, Grade 3, 25 psi (172 kPa), minimum.
 - 2. Tapered Board: Slope as indicated; minimum thickness 1/2 inch; fabricate of fewest layers possible.
 - 3. Board Edges: Square.
 - 4. Products:
 - a. Basis of Design Product: Sarnatherm (ACFoam®-II) as manufactured by Atlas Roofing, or approved equal.
 - b. DuPont de Nemours, Inc: building.dupont.com/#sle.
 - c. GAF; EnergyGuard Polyiso Insulation: www.gaf.com/#sle.
 - d. Rmax Inc.; ECOMAXci: www.rmax.com.
 - e. [].
 - f. Substitutions: See Section 01 60 00 Product Requirements.

2.07 ACCESSORIES

- A. Clad Metal Flashing:
 - 1. Description: Membrane-coated, heat-weldable sheet metal capable of being formed into a variety of shapes and profiles.
 - 2. Materials: 24 gauge, G90 galvanized metal sheet with a 20 mil unsupported roofing membrane laminated on one side.
 - 3. Color: Clad metal to match roofing membrane.
 - 4. Product: Sarnaclad manufactured by Sarnafil.
- B. Stack Boots: Prefabricated flexible boot and collar for pipe stacks through membrane; same material as membrane.
- C. Insulation Joint Tape: Glass fiber reinforced type as recommended by insulation manufacturer, compatible with roofing materials; 6 inches wide; self adhering.
- D. Insulation Fasteners: Appropriate for purpose intended and approved by roofing manufacturer.
 - Length as required for thickness of insulation material and penetration of deck substrate, with metal washers.
- E. Membrane Adhesive: As recommended by membrane manufacturer.

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- F. Surface Conditioner for Adhesives: Compatible with membrane and adhesives.
- G. Thinners and Cleaners: As recommended by adhesive manufacturer, compatible with membrane.
- H. Insulation Adhesive: As recommended by insulation manufacturer.
- I. Strip Reglet Devices: Galvanized steel, maximum possible lengths per location, with attachment flanges.
- J. Sealants: As recommended by membrane manufacturer.
- K. Walkway Pads: Suitable for maintenance traffic, contrasting color or otherwise visually distinctive from roof membrane.
 - 1. Composition: Roofing membrane manufacturer's standard.
 - 2. Size: Manufacturer's standard size.
 - 3. Surface Color: White or Yellow.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces and site conditions are ready to receive work.
- B. Verify deck is supported and secure.
- C. Verify deck is clean and smooth, flat, free of depressions, waves, or projections, properly sloped and suitable for installation of roof system.
- D. Verify deck surfaces are dry and free of snow or ice.
- E. Verify that roof openings, curbs, and penetrations through roof are solidly set, and cant strips are in place.

3.02 PREPARATION - WOOD DECK

- A. Composition:
 - 1. FM Approved Wood Deck: Minimum 2 inch thick lumber or 3/4 inch thick treated plywood.
 - a. Conform deck to FM requirements for Class 1 fire-retardant and rot-resistant wood.
 - b. Install deck according to FM and local code requirements.
 - 2. Non-FM Approved Wood Deck: Minimum 1-1/2 inch thick lumber or 15/32 inch thick plywood.
 - a. Install deck according to local code requirements.
 - b. Contact Manufacturer's Technical support for fastening patterns and methods.
- B. Verify flatness and tightness of joints in wood decking; fill knot holes with latex filler.

3.03 INSTALLATION, GENERAL

- A. Perform work in accordance with manufacturer's instructions, NRCA (RM), and NRCA (WM) applicable requirements.
- B. Do not apply roofing membrane during cold or wet weather conditions.

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- C. Do not apply roofing membrane when ambient temperature is outside the temperature range recommended by manufacturer.
- D. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
- E. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.
- F. Coordinate this work with installation of associated counterflashings installed by other sections as the work of this section proceeds.

3.04 INSTALLATION - INSULATION, UNDER MEMBRANE

- A. Attachment of Insulation: Embed insulation in adhesive in full contact, in accordance with roofing and insulation manufacturers' instructions.
- B. Cover Boards: Mechanically fasten cover boards in accordance with roofing manufacturer's instructions and FM (AG) Factory Mutual requirements.
- C. Lay subsequent layers of insulation with joints staggered minimum 6 inches from joints of preceding layer.
- D. Place tapered insulation to the required slope pattern in accordance with manufacturer's instructions.
- E. Lay boards with edges in moderate contact without forcing. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.
- F. At roof drains, use factory-tapered boards to slope down to roof drains over a distance of 18 inches.
- G. Do not install more insulation than can be covered with membrane in same day.

3.05 INSTALLATION - MEMBRANE

- A. Roll out membrane, free from wrinkles or tears. Place sheet into place without stretching.
- B. Shingle joints on sloped substrate in direction of drainage.
- C. Fully Adhered Application: Apply adhesive to substrate at rate of 0.69 gallons per square foot. Fully embed membrane in adhesive except in areas directly over or within 3 inches of expansion joints. Fully adhere one roll before proceeding to adjacent rolls.
- D. Overlap edges and ends and seal seams by contact adhesive, minimum 3 inches. Seal permanently waterproof. Apply uniform bead of sealant to joint edge.
- E. At intersections with vertical surfaces:
 - 1. Extend membrane over cant strips and up a minimum of 8 inches onto vertical surfaces.
 - 2. Fully adhere flexible flashing over membrane and up to nailing strips.
 - 3. Secure flashing to nailing strips at 4 inches on center.
 - 4. Insert flashing into reglets and secure.
- F. At gravel stops, extend membrane under gravel stop and to the outside face of the wall.
- G. Around roof penetrations, seal flanges and flashings with flexible flashing.
- H. Coordinate installation of roof drains and sumps and related flashings.

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3.06 BUILDING IDENTIFICATION

- A. Face the numbering/lettering toward the street. Locate as close to center of roof as possible.
- B. Numbers/Letters Character Shape: Block type.
 - 1. Character height: 72 inches, minimum.
 - 2. Stroke Width: 6 inches, minimum.
- C. Provide the same roofing product specified to stencil building numbers and building description at each roof.
- D. Coating Thickness: Minimum 25 mils dry. Color: Black.
- E. Color: Black.

3.07 TEMPORARY CUT OFF

- A. Install flashings concurrently with the roof membrane in order to maintain a watertight condition as the work progresses.
 - 1. Construct all temporary waterstops to provide a 100% watertight seal.
 - 2. Make staggered insulation joints even by installing partial panels of insulation.
 - 3. Carry new membrane into the waterstop.
 - 4. Seal waterstop to the deck and/or substrate so that water will not be allowed to travel under the new or previous roofing.
 - 5. Seal the edge of the membrane in a continuous heavy application of sealant as described in Part 2 above.
 - 6. When work resumes, cut out the contaminated membrane.
 - a. Remove all sealant, contaminated membrane, insulation fillers, etc.; from the work area and properly disposed of off site.
 - b. Do not use these materials in the new work.
- B. If inclement weather occurs while a temporary waterstop is in place, provide the labor necessary to monitor the situation to maintain a watertight condition.
- C. If any water is allowed to enter under the newly-completed roofing, remove and replace the affected area at Applicator's expense

3.08 FIELD QUALITY CONTROL

- A. See Section 01 40 00 Quality Requirements for additional requirements.
- B. District will provide testing services, and Contractor to provide temporary construction and materials for testing.
- C. Provide daily on-site attendance of roofing and insulation manufacturer's representative during installation of this work.
 - Provide regular daily written reports to the Contractor and Architect for every day of roofing installation work.
 - Provide to Architect a written on-site approval by the roofing system manufacturer and sign-off on pre-roofing deck, insulation installation, membrane installation, flashing details and completed assembly.

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- 3. Provide to Architect a Project Closeout Report by the roofing system manufacturer upon delivery of the project warranty. This report shall include the following sections:
 - a. Project Specifications.
 - b. Project Summary.
 - c. Progress reports as a result of roof inspections.
 - d. Job progress photos.
 - e. Warranty document with Maintenance Manual describing maintenance and emergency repair.
- D. Roofing Inspection and Testing Services by Independent Agency: District's independent agency will provide inspection and testing services during application of roofing system.
 - Unless otherwise directed, inspection, including test cuts and evaluation procedures, will be performed in accordance with Chapter V, "Quality Control," of The NRCA Low-Slope Roofing Manual.
 - 2. Independent agency will provide reports of inspections and tests to DSA and Architect . Copies of reports will also be provided to Contractor.
 - 3. Water Test: Conduct simulated rain storm test by indirect spray of water for 15 minutes over entire roof surface. Check area below roofing for leaks and check top surface for standing water.
 - a. Record test and inspection by video tape or digital recording.
 - 4. Remedial Work: Correct all defects and irregularities reported from inspections and tests, at no change in Contract Sum or Contract Time.

3.09 CLEANING

- A. See Section 01 70 00 Execution and Closeout Requirements for additional requirements.
- B. Remove bituminous markings from finished surfaces.
- C. In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and comply with their documented instructions.
- D. Repair or replace defaced or damaged finishes caused by work of this section.

3.10 PROTECTION

- A. Protect installed roofing and flashings from construction operations.
- B. Where traffic must continue over finished roof membrane, protect surfaces using durable materials.

END OF SECTION

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SECTION 07 95 13 EXPANSION JOINT COVER ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Expansion joint cover assemblies for wall surfaces.

1.02 RELATED REQUIREMENTS

- A. Section 05 50 00 Metal Fabrications: Custom fabricated metal expansion and control joint devices.
- B. Section 07 62 00 Sheet Metal Flashing and Trim: Roof expansion and control joint covers.
- C. Section 07 92 00 Joint Sealants: Sealing expansion and control joints using gunnable and pourable sealants.
- D. Section 07 92 00 Joint Sealants: Expansion and control joint finishing utilizing a sealant .

1.03 REFERENCE STANDARDS

- A. ASTM B221 Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- B. ASTM B221M Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric).
- C. ASTM B308/B308M Standard Specification for Aluminum-Alloy 6061-T6 Standard Structural Profiles.
- D. ITS (DIR) Directory of Listed Products.
- E. UL (DIR) Online Certifications Directory.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Installation Templates: For frames and anchors to be embedded in concrete or masonry, furnish templates to relevant installers; include installation instructions and tolerances.

1.05 SUBMITTALS

- A. See Section 01 30 00 Administrative Requirements for submittal procedures.
- B. Product Data: Provide joint assembly profiles, profile dimensions, anchorage devices and available colors and finish.
- C. Shop Drawings: Indicate joint and splice locations, miters, layout of the work, effected adjacent construction and anchorage locations.
- D. Manufacturer's Installation Instructions: Indicate rough-in sizes and required tolerances for item placement.
- E. Maintenance Materials: Furnish the following for District's use in maintenance of project.
 - 1. See Section 01 60 00 for additional provisions.

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PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Expansion Joint Cover Assemblies:
 - 1. Architectural Art Mfg., Inc: www.archart.com.
 - 2. Construction Specialties, Inc: www.c-sgroup.com.
 - 3. EMSEAL Joint Systems, Ltd: www.emseal.com/#sle.
 - 4. Inpro: www.inprocorp.com/#sle.
 - 5. MM Systems Corp: www.mmsystemscorp.com.
 - 6. Nystrom, Inc: www.nystrom.com.
 - 7. Watson Bowman Acme Corporation; [_____]: www.watsonbowmanacme.com/#sle.
 - 8. Substitutions: See Section 01 60 00 Product Requirements.

2.02 EXPANSION JOINT COVER ASSEMBLY APPLICATIONS

- A. Provide joint covers sized as required to match conditions, or as detailed on Drawings for specific conditions. Separation dimensions indicated on Drawings.
- B. Exterior Roof to Wall Joint Cover (stud framed structure): EPDM cover and integral waterstop. Include end caps to transition with vertical joints. Coordinate moisture barrier secondary seal with parapet cap and soffit cover.
 - 1. Basis of Design Product: BRJW-400 as manufactured by Construction Specialties, Inc., or equal.
- C. Exterior Wall (and plaster ceiling) Joint Resilient Seal Accordian Type Cover (stud framed structure): Santoprene cover and integral waterstop. Include end caps to transition with vertical joints. Coordinate moisture barrier secondary seal with parapet cap and soffit cover.
 - 1. Basis of Design Product: FWS-400 / FWSC-400 as manufactured by Construction Specialties, Inc., or equal.
 - 2. Seal Material: Santoprene.
 - a. Color: As selected by Architect from manufacturer's custom range.
 - 3. Secondary Seal: Manufacturer's standard extruded-elastomeric seal designed to prevent water and moisture infiltration.
 - 4. Pantograph Mechanism: Manufacturer's standard nylon pantographic wind-load support mechanism with stainless-steel fasteners for 12 inch joints and larger.
 - 5. All miters and changes in direction to be factory fabricated, heat welded transitions.
 - 6. Fire-Resistance Rating: Provide joint system and fire-barrier assembly with a rating not less than that of adjacent construction.
- D. Exterior Plaster Ceiling) Joint Resilient Seal Accordian Type Cover (stud framed structure): Santoprene cover and integral waterstop. Include end caps to transition with vertical joints. Coordinate moisture barrier secondary seal with parapet cap and soffit cover.

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- 1. Basis of Design Product: FWS-400 / SC-400 as manufactured by Construction Specialties, Inc., or equal.
- 2. Seal Material: Santoprene.
 - a. Color: As selected by Architect from manufacturer's custom range.
- 3. Secondary Seal: Manufacturer's standard extruded-elastomeric seal designed to prevent water and moisture infiltration.
- 4. Pantograph Mechanism: Manufacturer's standard nylon pantographic wind-load support mechanism with stainless-steel fasteners for 12 inch joints and larger.
- 5. All miters and changes in direction to be factory fabricated, heat welded transitions.
- 6. Fire-Resistance Rating: Provide joint system and fire-barrier assembly with a rating not less than that of adjacent construction.
- E. Exterior Parapet Cap to Parapet Cap Joint Cover: C/S Flat Roof SRJ-400, aluminum frame, cover and integral waterstop. Include end caps to transition over vertical joints.
- F. Exterior Parapet Cap to Wall Joint Cover: Aluminum frame, cover and integral waterstop. Include end caps to transition over vertical joints.
 - 1. Basis of Design Product: SRJW-400 as manufactured by Construction Specialties, Inc., or equal.

2.03 EXPANSION JOINT COVER ASSEMBLIES

- A. Expansion Joint Cover Assemblies General: Factory-fabricated and assembled; designed to completely fill joint openings, sealed to prevent passage of air, dust, water, smoke; suitable for traffic expected.
 - 1. Joint Dimensions and Configurations: As indicated on drawings.
 - 2. Joint Cover Sizes: Selected to suit joint width and configuration, based on manufacturer's published recommendations and limitations.
 - 3. Joint Cover Styles: As indicated on drawings.
 - 4. Joint Movement Capability: If not indicated, provide minimum plus/minus 25 percent joint movement capability.
 - 5. Lengths: Provide covers in full lengths required; avoid splicing wherever possible.
 - 6. Anchors, Fasteners, and Fittings: Provided by cover manufacturer.
 - Secondary Seal (Moisture Barrier): 7-ply laminate reinforced Polyethylene.
- B. Resilient Seal Type Covers: Having flat exposed surface without crevices that could collect dirt; designed to withstand expected movement without extrusion of seal from joint assembly; for floors, provide style that is flush with top of floor covering; for exterior joints, weathertight.
- C. Covers in Fire Rated Assemblies: Provide cover assembly having fire rating equivalent to that of assembly into which it is installed.
 - 1. Acceptable Evaluation Agencies: UL (DIR) and ITS (DIR).

2.04 MATERIALS

- A. Extruded Aluminum: ASTM B221 (ASTM B221M), 6063 alloy, T6 temper; or ASTM B308/B308M, 6061 alloy, T6 temper.
 - 1. Exposed Finish Outdoors: Natural anodized.
 - 2. Exposed Finish at Floors: Mill finish or natural anodized.
 - 3. Exposed Finish at Walls and Ceilings: Natural anodized.
- B. Resilient Seals:
 - 1. For Ceilings: Any resilient material, flush, pleated, or hollow gasket.
 - 2. Color: Black.
- C. Anchors and Fasteners: As recommended by cover manufacturer.
- D. Threaded Fasteners: Aluminum.
- E. Backing Paint for Aluminum Components in Contact with Cementitious Materials: Asphaltic type.
 - 1. Bond Breaker Tape: Isolate dissimilar metals with Pecora 531 Bond Breaker Tape or equal.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that joint preparation and dimensions are acceptable and in accordance with manufacturer's requirements.

3.02 PREPARATION

A. Install anchoring devices in conformance to templates.

3.03 INSTALLATION

- A. Install components and accessories in accordance with manufacturer's instructions.
- B. Align work plumb and level, flush with adjacent surfaces.
- C. Rigidly anchor to substrate to prevent misalignment.

3.04 PROTECTION

- A. Do not permit traffic over unprotected floor joint surfaces.
- B. Provide strippable coating to protect finish surface.

END OF SECTION

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SECTION 10 28 00 TOILET ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Commercial toilet accessories.
- B. Under-lavatory pipe supply covers.
- C. Electric hand/hair dryers.
- D. Utility room accessories.

1.02 RELATED REQUIREMENTS

- A. Section 06 10 00 Rough Carpentry: Concealed supports, included in wall framing and plates.
- B. Section 10 21 13.19 Plastic Toilet Compartments.

1.03 REFERENCE STANDARDS

- A. ADA Standards 2010 ADA Standards for Accessible Design.
- B. ASME A112.18.9 Protectors/Insulators for Exposed Waste and Supplies on Accessible Fixtures.
- C. ASTM A269/A269M Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service.
- D. ASTM A666 Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
- E. ASTM B456 Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium.
- F. ASTM C1036 Standard Specification for Flat Glass.
- G. ASTM C1048 Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass.
- H. ASTM C1503 Standard Specification for Silvered Flat Glass Mirror.
- ASTM C1822 Standard Specification for Insulating Covers on Accessible Lavatory Piping.
- J. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
- K. ASTM G21 Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the work with the placement of internal wall reinforcement, concealed ceiling supports, and reinforcement of toilet partitions to receive anchor attachments.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

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- B. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.
- C. Manufacturer's Installation Instructions: Indicate special procedures and conditions requiring special attention.
- D. Maintenance Materials: Furnish the following for District's use in maintenance of project:
 - 1. See Section 01 60 00 Product Requirements, for additional provisions.
 - 2. Tools: One each of every special tool required for maintenance of fasteners and operable parts.

PART 2 PRODUCTS

2.01 REGULATORY REQUIREMENTS

- A. Provide toilet accessories meeting the requirements for the physically disabled of the California Building Code (CBC), Title 24 Part 2, and 2010 ADA Standards, as amended.
- B. Accessible requirements:
 - 1. Elements of sanitary facilities shall be mounted at locations in compliance with CBC Sections 11B-602 through 11B-612.
 - 2. Grab bars in toilet facilities and bathing facilities shall comply with CBC Section 11B-609.
 - a. Grab bars and any wall or other surfaces adjacent to grab bars shall be free of sharp or abrasive elements and shall have rounded edges.
 - b. The space around the grab bars shall be as follows:
 - 1) 1-1/2 inches between the grab bar and the wall. CBC Section 11B-609.3.
 - 2) 1-1/2 inches minimum between the grab bar and projecting objects below and at the ends.
 - 3) 12 inches minimum between the grab bar and projecting objects above.
 - 3. Toilet accessories required to be accessible shall be mounted with highest operable part at maximum 40 inches above the finish floor. CBC Section 11B-603.5.
 - 4. The grab bar shall not project more than 3 inches into the 48 inches minimum clear space required required in front of the water closet. CBC 11B-609.3.
 - 5. Toilet tissue dispensers are to be continuous flow type. CBC Section 11B-604.7.
 - 6. All other accessories shall not project more than 4 inches from wall surface, but cannot encroach into any required clear space.

2.02 MANUFACTURERS

- A. Commercial Toilet, Shower, and Bath Accessories:
 - 1. ASI American Specialties, Inc: www.americanspecialties.com.
 - 2. Bobrick Washroom Equipment, Inc.: www.bobrick.com.
 - 3. Bradley Corporation: www.bradleycorp.com.
 - 4. Gamco: www.gamcousa.com.
 - 5. Georgia-Pacific Professional: www.blue-connect.com.

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- 6. Substitutions: Section 01 60 00 Product Requirements.
- B. Provide products of each category type by single manufacturer.

2.03 MATERIALS

- A. Accessories General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
 - 1. Grind welded joints smooth.
 - 2. Fabricate units made of metal sheet of seamless sheets with flat surfaces.
- B. Stainless Steel Sheet: ASTM A666, Type 304.
- C. Stainless Steel Tubing: ASTM A269/A269M, Grade TP304 or TP316.
- D. Mirror Glass: Annealed float glass, ASTM C1036 Type I, Class 1, Quality Q2, with silvering, protective and physical characteristics complying with ASTM C1503.
- E. Mirror Glass: Tempered safety glass, ASTM C1048; and ASTM C1036 Type I, Class 1, Quality Q2, with silvering as required.
- F. Adhesive: Two component epoxy type, waterproof.
- G. Fasteners, Screws, and Bolts: Stainless steel except where fully concealed may be hot dip galvanized; tamper-proof; security type.
- H. Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.

2.04 FINISHES

- A. Stainless Steel: Satin finish, unless otherwise noted.
- B. Chrome/Nickel Plating: ASTM B456, SC 2, polished finish, unless otherwise noted.

2.05 COMMERCIAL TOILET ACCESSORIES

- A. Toilet Paper Dispenser: Double roll, semi-recessed, stainless steel unit with pivot hinge.
 - 1. Basis of Design Product: B-3888 as manufactured by Bobrick Washroom Equipment, Inc., or approved equal.
- B. Toilet Paper Dispenser: Folded tissue type, stainless steel unit, hinged at bottom, surface-mounted, tumbler lock.
 - 1. Capacity: 1330 single-fold tissues, minimum.
 - 2. Basis of Design Product: B-272 as manufactured by Bobrick Washroom Equipment, Inc., or approved equal.
- C. Soap Dispenser: Liquid soap dispenser, wall-mounted, surface, with stainless steel cover and horizontal stainless steel tank and working parts; push type soap valve, check valve, and window gage refill indicator.
 - 1. Minimum Capacity: 40 ounces.
 - 2. Basis of Design Product: B-2111 as manufactured by Bobrick Washroom Equipment, Inc., or approved equal.

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- D. Mirrors: Stainless steel framed, 1/4 inch thick tempered safety glass; ASTM C1048.
 - 1. Size: 18 by 30 inches.
 - 2. Frame: 0.05 inchangle shapes, with mitered and welded and ground corners, and tamperproof hanging system; satin finish.
 - 3. Backing: Full-mirror sized, minimum 0.03 inch galvanized steel sheet and nonabsorptive filler material.
 - 4. Basis of Design Product: B-2908.1830 as manufactured by Bobrick Washroom Equipment, Inc., or approved equal.
- E. Mirrors: Stainless steel framed, 1/4 inch thick annealed float glass; ASTM C1036.
 - Annealed Float Glass: Silvering, protective and physical characteristics in compliance with ASTM C1503.
 - 2. Size: 18 by 30 inches.
 - 3. Frame: 0.05 inchangle shapes, with mitered and welded and ground corners, and tamperproof hanging system; satin finish.
 - 4. Backing: Full-mirror sized, minimum 0.03 inch galvanized steel sheet and nonabsorptive filler material.
 - 5. Basis of Design Product: B-165.1830 as manufactured by Bobrick Washroom Equipment, Inc., or approved equal.
- F. Seat Cover Dispenser: Stainless steel, surface-mounted, reloading by concealed opening at base.
 - 1. Minimum capacity: 250 seat covers.
 - 2. Basis of Design Product: B-221 as manufactured by Bobrick Washroom Equipment, Inc., or approved equal.
- G. Seat Cover Dispenser: Stainless steel, recessed, reloading by hinged front panel, tumbler lock.
 - 1. Minimum capacity: 250 seat covers.
 - 2. Basis of Design Product: B-301 as manufactured by Bobrick Washroom Equipment, Inc., or approved equal.
- H. Grab Bars: Stainless steel, smooth surface.
 - 1. Standard Duty Grab Bars:
 - a. Push/Pull Point Load: 250 pound-force, minimum.
 - b. Dimensions: 1-1/2 inch outside diameter, minimum 0.05 inch wall thickness, concealed flange mounting, 1-1/2 inch clearance between wall and inside of grab bar.
 - c. Length and Configuration: As indicated on drawings.
 - 1) Minimum Length for Side Wall of Water Closet: 48 inches.
 - 2) Minimum Length for Rear Wall of Water Closet: 42 inches.
 - d. Basis of Design Product at Student Restrooms: Snap Flange B-6806 Series as manufactured by Bobrick Washroom Equipment, Inc., or approved equal.
- I. Clothes Hook and Bumper: Satin stainless steel clothes hook.

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- 1. Mounting: Concealed wall plate.
- 2. Basis of Design Product: B-2116 as manufactured by Bobrick Washroom Equipment, Inc., or approved equal.
- J. Sanitary Napkin Disposal Unit: Stainless steel, surface-mounted, self-closing door, locking bottom panel with full-length stainless steel piano-type hinge, removable receptacle.
 - 1. Basis of Design Product: B-270 Contura Series as manufactured by Bobrick Washroom Equipment, Inc., or approved equal.

2.06 UNDER-LAVATORY PIPE AND SUPPLY COVERS

- A. Under-Lavatory Pipe and Supply Covers:
 - 1. Insulate exposed drainage piping, including hot, cold, and tempered water supplies under lavatories or sinks to comply with ADA Standards.
 - 2. Exterior Surfaces: Smooth non-absorbent, non-abrasive surfaces.
 - 3. Construction: 1/8 inch flexible PVC.
 - a. Surface Burning Characteristics: Flame spread index of 25 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
 - b. Comply with ASTM C1822, type indicated.
 - c. Comply with ASME A112.18.9.
 - d. Microbial and Fungal Resistance: Comply with ASTM G21.
 - 4. Color: White.
 - 5. Fasteners: Reusable, snap-locking fasteners with no sharp or abrasive external surfaces.
 - 6. Products:
 - a. Bobrick Washroom Equipment, Inc.; www.bobrick.com.
 - b. Bradley Corporation: www.bradleycorp.com.
 - c. IPS Corporation Lav Guard 2 Undersink Pipe Covers: www.ipscorp.com.
 - d. IPS Corporation TrueBro Lav Shield: www.ipscorp.com.
 - e. Plumberex Specialty Products, Inc; Plumberex Pro-Extreme: www.plumberex.com/#sle.
 - f. Substitutions: See Section 01 60 00 Product Requirements.

2.07 ELECTRIC HAND/HAIR DRYERS

- A. Electric Hand Dryers: Traditional fan-in-case type, with downward fixed nozzle.
 - 1. Operation: Pushbutton on, timer off.
 - 2. Mounting: Semi-recessed.
 - 3. Cover: Stainless steel with polished finish.
 - a. Tamper-resistant screw attachment of cover to mounting plate.
 - 4. Supply Voltage: 120 V, single phase, 60 Hz, nominal.
 - 5. Warranty: 3 years.

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6. Basis of Design Product: DXRA5-Q973 Hand Dryer, recessed as manufactured by World Dryer, or approved equal.

2.08 UTILITY ROOM ACCESSORIES

- A. Mop and Broom Holder: 0.05 inch thick stainless steel, Type 304, hat-shaped channel.
 - 1. Holders: Three spring-loaded rubber cam holders.
 - 2. Length: 36 inches.
 - 3. Basis of Design Product: B-223 as manufactured by Bobrick Washroom Equipment, Inc., or approved equal.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify exact location of accessories for installation.
- C. Before covering wall framing with gypsum board, examine framing to ensure that backing plates and grab bar mounting kits have been installed behind surface mounted accessories in such positions as to receive all attachment screws.
- D. Verify that pipes, vents, conduits and other construction features do not protrude into rough wall opening space required for recessed accessories.
- E. For electrically-operated accessories, verify that electrical power connections are ready and in the correct locations.
- F. Verify that field measurements are as indicated on drawings.
- G. See Section 06 10 00 for installation of blocking, reinforcing plates, and concealed anchors in walls and ceilings.

3.02 PREPARATION

- A. Deliver inserts and rough-in frames to site for timely installation.
- B. Provide templates and rough-in measurements as required.

3.03 INSTALLATION

- A. Install accessories in accordance with manufacturers' instructions in locations indicated on drawings.
 - 1. Exception: Install surface mounted accessories other than grab bars with screws, molly or toggle bolts only to studs or through backing plates attached directly to studs.
 - 2. At combination units placed behind a grab bar set the perimeter trim tight against the backing board.
 - a. Face of this unit shall not project beyond the tile or applied finish face. Maintain the required 1-1/2 inch clearance.
 - b. Coordinate surrounding finish trim with bullnose tile, radius, or sloped profile trim.
- B. Install plumb and level, securely and rigidly anchored to substrate.

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- C. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.
 - 1. Grab Bars: As indicated on drawings.
 - a. Adult mounting height to be between minimum 33 inches to maximum 36 inches to top tangent point. CBC 11B-609.4 Position of Grab Bars.
 - 2. Mirrors: 40 inch maximum, measured to bottom of mirrored surface.
 - 3. Seat Cover Dispenser:
 - a. Shall not be located closer than 1-1/2 inches clear of the tangent point of the grab bar.
 - b. If surface mounted and located under the grab bar provide a minimum 5 inches clear under unit for refilling.
 - 4. Clothes Bumper/Coat Hook: 40 to 48 inches. CBC 11B-603.4 Coat hooks, shelves and medicine cabinets
 - 5. Other Accessories: As indicated on drawings.

3.04 ADJUSTING AND CLEANING

- A. Adjust toilet accessories for proper operation and verify that mechanisms function smoothly. Replace damaged or defective items.
- B. Clean and polish all exposed surfaces in strict accordance with manufacturer's recommendations after removing temporary labels and protective coatings.

3.05 PROTECTION

A. Protect installed accessories from damage due to subsequent construction operations.

END OF SECTION

Grossmont Union High School District		Toilet Accessories
New Kitchen & Weight Room	Addendum 3	10 28 00 - 7
RCA Project No. 1-30-55		10 28 00 - 7

SECTION 23 08 00

COMMISSIONING OF HVAC

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes commissioning process requirements for HVAC&R systems, assemblies, and equipment.
- B. Related Sections:
 - Sections 01 91 13 "General Commissioning Requirements" and 01 91 14
 "Commissioning Authority responsibilities" for general commissioning process
 requirements.

1.02 **DEFINITIONS**

- A. Commissioning Plan: A document that outlines the organization, schedule, allocation of resources, and documentation requirements of the commissioning process.
- B. CxA: Commissioning Authority.
- C. HVAC&R: Heating, Ventilating, Air Conditioning, and Refrigeration.
- D. Systems, Subsystems, Equipment, and Components: Where these terms are used together or separately, they shall mean "as-built" systems, subsystems, equipment, and components.

1.03 INFORMATIONAL SUBMITTALS

- A. Certificates of readiness.
- B. Certificates of completion of installation, prestart, and startup activities.

1.04 ALLOWANCES

A. Labor, instrumentation, tools, and equipment costs for technicians for the performance of commissioning testing are covered by the "Schedule of Allowances" Article in Section 01 20 00 "Allowances."

1.05 UNIT PRICES

A. Commissioning testing allowance may be adjusted up or down by the "List of Unit Prices" Article in Section 01 20 00 "Price and Payment Procedures" when actual man-hours are computed at the end of commissioning testing.

1.061.04 CONTRACTOR'S RESPONSIBILITIES

- A. Perform commissioning tests at the direction of the CxA.
- B. Attend construction phase controls coordination meeting.
- C. Attend testing, adjusting, and balancing review and coordination meeting.
- D. Participate in HVAC&R systems, assemblies, equipment, and component maintenance orientation and inspection as directed by the CxA.
- E. Provide information requested by the CxA for final commissioning documentation.

F. Provide measuring instruments and logging devices to record test data, and provide data acquisition equipment to record data for the complete range of testing for the required test period.

1.071.05 CxA'S RESPONSIBILITIES

- A. Provide Project-specific construction checklists and commissioning process test procedures for actual HVAC&R systems, assemblies, equipment, and components to be furnished and installed as part of the construction contract.
- B. Direct commissioning testing.
- C. Verify testing, adjusting, and balancing of Work are complete.
- D. Provide test data, inspection reports, and certificates in Systems Manual.

1.081.06 COMMISSIONING DOCUMENTATION

- A. Provide the following information to the CxA for inclusion in the commissioning plan:
 - 1. Plan for delivery and review of submittals, systems manuals, and other documents and reports.
 - 2. Identification of installed systems, assemblies, equipment, and components including design changes that occurred during the construction phase.
 - 3. Process and schedule for completing construction checklists and manufacturer's prestart and startup checklists for HVAC&R systems, assemblies, equipment, and components to be verified and tested.
 - 4. Certificate of completion certifying that installation, prestart checks, and startup procedures have been completed.
 - 5. Certificate of readiness certifying that HVAC&R systems, subsystems, equipment, and associated controls are ready for testing.
 - 6. Test and inspection reports and certificates.
 - 7. Corrective action documents.
 - 8. Verification of testing, adjusting, and balancing reports.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 TESTING PREPARATION

- A. Certify that HVAC&R systems, subsystems, and equipment have been installed, calibrated, and started and are operating according to the Contract Documents.
- B. Certify that HVAC&R instrumentation and control systems have been completed and calibrated, that they are operating according to the Contract Documents, and that pretest set points have been recorded.
- C. Certify that testing, adjusting, and balancing procedures have been completed and that testing, adjusting, and balancing reports have been submitted, discrepancies corrected, and corrective work approved.

- D. Set systems, subsystems, and equipment into operating mode to be tested (e.g., normal shutdown, normal auto position, normal manual position, unoccupied cycle, emergency power, and alarm conditions).
- E. Inspect and verify the position of each device and interlock identified on checklists.
- F. Check safety cutouts, alarms, and interlocks with smoke control and life-safety systems during each mode of operation.
- G. Testing Instrumentation: Install measuring instruments and logging devices to record test data as directed by the CxA.

3.02 Testing AND BALANCING VERIFICATION

- A. Prior to performance of testing and balancing Work, provide copies of reports, sample forms, checklists, and certificates to the CxA.
- B. Notify the CxA at least 10 days in advance of testing and balancing Work, and provide access for the CxA to witness testing and balancing Work.
- C. Provide technicians, instrumentation, and tools to verify testing and balancing of HVAC&R systems at the direction of the CxA.
 - 1. The CxA will notify testing and balancing Contractor 10 days in advance of the date of field verification. Notice will not include data points to be verified.
 - 2. The testing and balancing Contractor shall use the same instruments (by model and serial number) that were used when original data were collected.
 - 3. Failure of an item includes, other than sound, a deviation of more than 10 percent. Failure of more than 10 percent of selected items shall result in rejection of final testing, adjusting, and balancing report. For sound pressure readings, a deviation of 3 dB shall result in rejection of final testing. Variations in background noise must be considered.
 - 4. Remedy the deficiency and notify the CxA so verification of failed portions can be performed.

3.03 GENERAL TESTING REQUIREMENTS

- A. Provide technicians, instrumentation, and tools to perform commissioning test at the direction of the CxA.
- B. Scope of HVAC&R testing shall include entire HVAC&R installation, from central equipment for heat generation and refrigeration through distribution systems to each conditioned space. Testing shall include measuring capacities and effectiveness of operational and control functions.
- C. Test all operating modes, interlocks, control responses, and responses to abnormal or emergency conditions, and verify proper response of building automation system controllers and sensors.
- D. The CxA along with the HVAC&R Contractor, testing and balancing Contractor, and HVAC&R Instrumentation and Control Contractor shall prepare detailed testing plans, procedures, and checklists for HVAC&R systems, subsystems, and equipment.
- E. Tests will be performed using design conditions whenever possible.
- F. Simulated conditions may need to be imposed using an artificial load when it is not practical to test under design conditions. Before simulating conditions, calibrate testing instruments.

- Provide equipment to simulate loads. Set simulated conditions as directed by the CxA and document simulated conditions and methods of simulation. After tests, return settings to normal operating conditions.
- G. The CxA may direct that set points be altered when simulating conditions is not practical.
- H. The CxA may direct that sensor values be altered with a signal generator when design or simulating conditions and altering set points are not practical.
- If tests cannot be completed because of a deficiency outside the scope of the HVAC&R system, document the deficiency and report it to the Owner. After deficiencies are resolved, reschedule tests.
- J. If the testing plan indicates specific seasonal testing, complete appropriate initial performance tests and documentation and schedule seasonal tests.

3.04 HVAC&R SYSTEMS, SUBSYSTEMS, AND EQUIPMENT TESTING PROCEDURES

- A. Boiler Testing and Acceptance Procedures: Testing requirements are specified in HVAC boiler Sections. Provide submittals, test data, inspector record, and boiler certification to the CxA.
- B. HVAC&R Instrumentation and Control System Testing: Field testing plans and testing requirements are specified in Section 23 09 00 "Instrumentation and Control for HVAC." and Section 23 09 93 "Sequence and Operations for HVAC Controls." Assist the CxA with preparation of testing plans.
- C. Pipe system cleaning, flushing, hydrostatic tests, and chemical treatment requirements are specified in HVAC piping Sections. HVAC&R Contractor shall prepare a pipe system cleaning, flushing, and hydrostatic testing plan. Provide cleaning, flushing, testing, and treating plan and final reports to the CxA. Plan shall include the following:
 - 1. Sequence of testing and testing procedures for each section of pipe to be tested, identified by pipe zone or sector identification marker. Markers shall be keyed to Drawings for each pipe sector, showing the physical location of each designated pipe test section. Drawings keyed to pipe zones or sectors shall be formatted to allow each section of piping to be physically located and identified when referred to in pipe system cleaning, flushing, hydrostatic testing, and chemical treatment plan.
 - 2. Description of equipment for flushing operations.
 - 3. Minimum flushing water velocity.
 - 4. Tracking checklist for managing and ensuring that all pipe sections have been cleaned, flushed, hydrostatically tested, and chemically treated.
- D. Energy Supply System Testing: Provide technicians, instrumentation, tools, and equipment to test performance of chilled and hot-water systems and equipment at the direction of the CxA. The CxA shall determine the sequence of testing and testing procedures for each equipment item and pipe section to be tested.
- E. Refrigeration System Testing: Provide technicians, instrumentation, tools, and equipment to test performance of chillers, cooling towers, refrigerant compressors and condensers, heat pumps, and other refrigeration systems. The CxA shall determine the sequence of testing and testing procedures for each equipment item and pipe section to be tested.
- F. HVAC&R Distribution System Testing: Provide technicians, instrumentation, tools, and equipment to test performance of air, steam, and hydronic distribution systems; special

- exhaust; and other distribution systems, including HVAC&R terminal equipment and unitary equipment.
- G. Vibration and Sound Tests: Provide technicians, instrumentation, tools, and equipment to test performance of vibration isolation and seismic controls.

END OF SECTION

SECTION 23 11 23

FACILITY NATURAL-GAS PIPING

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Pipes, tubes, and fittings.
 - 2. Piping specialties.
 - 3. Piping and tubing joining materials.
 - 4. Valves.
 - 5. Pressure regulators.

1.02 DEFINITIONS

- A. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe and duct shafts, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspaces, and tunnels.
- B. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.
- C. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.

1.03 PERFORMANCE REQUIREMENTS

- A. Minimum Operating-Pressure Ratings:
 - 1. Piping and Valves: 100 psig (690 kPa) minimum unless otherwise indicated.
 - 2. Service Regulators: 100 psig (690 kPa) minimum unless otherwise indicated.
- B. Natural-Gas System Pressure within Buildings: 0.5 psig (3.45 kPa) or less.

1.04 ACTION SUBMITTALS

- A. Product Data: For each type of the following:
 - 1. Piping specialties.
 - 2. Corrugated, stainless-steel tubing with associated components.
 - 3. Valves. Include pressure rating, capacity, settings, and electrical connection data of selected models.
 - 4. Pressure regulators. Indicate pressure ratings and capacities.
 - 5. Dielectric fittings.
- B. Shop Drawings: For facility natural-gas piping layout. Include plans, piping layout and elevations, sections, and details for fabrication of pipe anchors, hangers, supports for multiple pipes, alignment guides, expansion joints and loops, and attachments of the same to building structure. Detail location of anchors, alignment guides, and expansion joints and loops.
 - 1. Shop Drawing Scale: 1/4 inch per foot (1:50).
 - 2. Detail mounting, supports, and valve arrangements for service meter assembly and pressure regulator assembly.

- C. Delegated-Design Submittal: For natural-gas piping and equipment indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
 - 1. Detail fabrication and assembly of seismic restraints.
 - 2. Design Calculations: Calculate requirements for selecting seismic restraints.

1.05 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Plans and details, drawn to scale, on which natural-gas piping is shown and coordinated with other installations, using input from installers of the items involved.
- B. Site Survey: Plans, drawn to scale, on which natural-gas piping is shown and coordinated with other services and utilities.
- C. Qualification Data: For qualified professional engineer.
- D. Welding certificates.
- E. Field quality-control reports.

1.06 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For pressure regulators to include in emergency, operation, and maintenance manuals.

1.07 QUALITY ASSURANCE

- A. Steel Support Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code Steel."
- B. Pipe Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Handling Flammable Liquids: Remove and dispose of liquids from existing natural-gas piping according to requirements of authorities having jurisdiction.
- B. Deliver pipes and tubes with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe end damage and to prevent entrance of dirt, debris, and moisture.
- C. Store and handle pipes and tubes having factory-applied protective coatings to avoid damaging coating, and protect from direct sunlight.
- D. Protect stored PE pipes and valves from direct sunlight.

1.09 PROJECT CONDITIONS

- A. Perform site survey, research public utility records, and verify existing utility locations. Contact utility-locating service for area where Project is located.
- B. Interruption of Existing Natural-Gas Service: Do not interrupt natural-gas service to facilities occupied by Owner or others unless permitted under the following conditions and then only

after arranging to provide purging and startup of natural-gas supply according to requirements indicated:

- 1. Notify Architect Construction Manager Owner no fewer than two days in advance of proposed interruption of natural-gas service.
- 2. Do not proceed with interruption of natural-gas service without Architect's Construction Manager's Owner's written permission.

1.10 COORDINATION

- A. Coordinate sizes and locations of concrete bases with actual equipment provided.
- B. Coordinate requirements for access panels and doors for valves installed concealed behind finished surfaces. Comply with requirements in Section 08 31 00 Access Doors and Panels. 08 31 13 "Access Doors and Frames."

PART 2 - PRODUCTS

2.01 PIPES, TUBES, AND FITTINGS

- A. Steel Pipe: ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.
 - 1. Malleable-Iron Threaded Fittings: ASME B16.3, Class 150, standard pattern.
 - 2. Wrought-Steel Welding Fittings: ASTM A 234/A 234M for butt welding and socket welding.
 - 3. Unions: ASME B16.39, Class 150, malleable iron with brass-to-iron seat, ground joint, and threaded ends.
 - 4. Protective Coating for Underground Piping: Factory-applied, three-layer coating of epoxy, adhesive, and PE.
 - a. Joint Cover Kits: Epoxy paint, adhesive, and heat-shrink PE sleeves.
- B. Corrugated, Stainless-Steel Tubing: Comply with ANSI/IAS LC 1.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. OmegaFlex, Inc.
 - b. Parker Hannifin Corporation; Parflex Division.
 - c. Titeflex.
 - d. Tru-Flex Metal Hose Corp.
 - 2. Tubing: ASTM A 240/A 240M, corrugated, Series 300 stainless steel.
 - 3. Coating: PE with flame retardant.
 - a. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 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: 50 or less.
 - 4. Fittings: Copper-alloy mechanical fittings with ends made to fit and listed for use with corrugated stainless-steel tubing and capable of metal-to-metal seal without gaskets. Include brazing socket or threaded ends complying with ASME B1.20.1.
 - 5. Striker Plates: Steel, designed to protect tubing from penetrations.
 - 6. Manifolds: Malleable iron or steel with factory-applied protective coating. Threaded connections shall comply with ASME B1.20.1 for pipe inlet and corrugated tubing outlets.

- 7. Operating-Pressure Rating: 5 psig (34.5 kPa).
- C. PE Pipe: ASTM D 2513, SDR 11.
 - 1. PE Fittings: ASTM D 2683, socket-fusion type or ASTM D 3261, butt-fusion type with dimensions matching PE pipe.
 - 2. PE Transition Fittings: Factory-fabricated fittings with PE pipe complying with ASTM D 2513, SDR 11; and steel pipe complying with ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.
 - 3. Anodeless Service-Line Risers: Factory fabricated and leak tested.
 - Underground Portion: PE pipe complying with ASTM D 2513, SDR 11 inlet.
 - b. Casing: Steel pipe complying with ASTM A 53/A 53M, Schedule 40, black steel, Type E or S, Grade B, with corrosion-protective coating covering.
 - c. Aboveground Portion: PE transition fitting.
 - d. Outlet shall be threaded or flanged or suitable for welded connection.
 - e. Tracer wire connection.
 - f. Ultraviolet shield.
 - g. Stake supports with factory finish to match steel pipe casing or carrier pipe.

2.02 PIPING SPECIALTIES

- A. Appliance Flexible Connectors:
 - 1. Indoor, Fixed-Appliance Flexible Connectors: Comply with ANSI Z21.24.
 - 2. Indoor, Movable-Appliance Flexible Connectors: Comply with ANSI Z21.69.
 - 3. Outdoor, Appliance Flexible Connectors: Comply with ANSI Z21.75.
 - 4. Corrugated stainless-steel tubing with polymer coating.
 - 5. Operating-Pressure Rating: 0.5 psig (3.45 kPa).
 - 6. End Fittings: Zinc-coated steel.
 - 7. Threaded Ends: Comply with ASME B1.20.1.
 - 8. Maximum Length: 72 inches (1830 mm.)
- B. Y-Pattern Strainers:
 - 1. Body: ASTM A 126, Class B, cast iron with bolted cover and bottom drain connection.
 - 2. End Connections: Threaded ends for NPS 2 (DN 50) and smaller; flanged ends for NPS 2-1/2 (DN 65) and larger.
 - 3. Strainer Screen: 40 60-mesh startup strainer, and perforated stainless-steel basket with 50 percent free area.
 - 4. CWP Rating: 125 psig (862 kPa).
- C. Weatherproof Vent Cap: Cast- or malleable-iron increaser fitting with corrosion-resistant wire screen, with free area at least equal to cross-sectional area of connecting pipe and threaded-end connection.

2.03 JOINING MATERIALS

- A. Joint Compound and Tape: Suitable for natural gas.
- B. Welding Filler Metals: Comply with AWS D10.12/D10.12M for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.
- C. Brazing Filler Metals: Alloy with melting point greater than 1000 deg F (540 deg C) complying with AWS A5.8/A5.8M. Brazing alloys containing more than 0.05 percent phosphorus are prohibited.

2.04 MANUAL GAS SHUTOFF VALVES

- A. See "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles for where each valve type is applied in various services.
- B. General Requirements for Metallic Valves, NPS 2 (DN 50) and Smaller: Comply with ASME B16.33.
 - 1. CWP Rating: 125 psig (862 kPa).
 - 2. Threaded Ends: Comply with ASME B1.20.1.
 - 3. Dryseal Threads on Flare Ends: Comply with ASME B1.20.3.
 - 4. Tamperproof Feature: Locking feature for valves indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles
 - 5. Listing: Listed and labeled by an NRTL acceptable to authorities having jurisdiction for valves 1 inch (25 mm) and smaller.
 - 6. Service Mark: Valves 1-1/4 inches (32 mm) to NPS 2 (DN 50) shall have initials "WOG" permanently marked on valve body.
- C. General Requirements for Metallic Valves, NPS 2-1/2 (DN 65) and Larger: Comply with ASME B16.38.
 - 1. CWP Rating: 125 psig (862 kPa).
 - 2. Flanged Ends: Comply with ASME B16.5 for steel flanges.
 - 3. Tamperproof Feature: Locking feature for valves indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
 - 4. Service Mark: Initials "WOG" shall be permanently marked on valve body.
- D. One-Piece, Bronze Ball Valve with Bronze Trim: MSS SP-110.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - BrassCraft Manufacturing Company; a Masco company.
 - b. Conbraco Industries, Inc.; Apollo Div.
 - c. Lyall, R. W. & Company, Inc.
 - d. McDonald, A. Y. Mfg. Co.
 - e. Perfection Corporation; a subsidiary of American Meter Company.
 - 2. Body: Bronze, complying with ASTM B 584.
 - 3. Ball: Chrome-plated brass.
 - 4. Stem: Bronze; blowout proof.
 - 5. Seats: Reinforced TFE; blowout proof.
 - 6. Packing: Separate packnut with adjustable-stem packing threaded ends.
 - 7. Ends: Threaded, flared, or socket as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
 - 8. CWP Rating: 600 psig (4140 kPa).
 - 9. Listing: Valves NPS 1 (DN 25) and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
 - 10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.
- E. PE Ball Valves: Comply with ASME B16.40.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Kerotest Manufacturing Corp.

- b. Lyall, R. W. & Company, Inc.
- c. Perfection Corporation; a subsidiary of American Meter Company.
- 2. Body: PE.
- 3. Ball: PE.
- 4. Stem: Acetal.
- 5. Seats and Seals: Nitrile.
- 6. Ends: Plain or fusible to match piping.
- 7. CWP Rating: 80 psig (552 kPa).
- 8. Operating Temperature: Minus 20 to plus 140 deg F (Minus 29 to plus 60 deg C).
- 9. Operator: Nut or flat head for key operation.
- 10. Include plastic valve extension.
- 11. Include tamperproof locking feature for valves where indicated on Drawings.

F. Valve Boxes:

- 1. Cast-iron, two-section box.
- 2. Top section with cover with "GAS" lettering.
- 3. Bottom section with base to fit over valve and barrel a minimum of 5 inches (125 mm) in diameter.
- 4. Adjustable cast-iron extensions of length required for depth of bury.
- 5. Include tee-handle, steel operating wrench with socket end fitting valve nut or flat head, and with stem of length required to operate valve.

2.05 EARTHQUAKE VALVES

- A. Earthquake Valves: Comply with ASCE 25.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Vanguard Valves, Inc.
 - 2. Listing: Listed and labeled by an NRTL acceptable to authorities having jurisdiction.
 - 3. Maximum Operating Pressure: 5 psig (34.5 kPa).
 - 4. Cast-aluminum body with nickel-plated chrome steel internal parts.
 - 5. Nitrile-rubber valve washer.
 - 6. Sight windows for visual indication of valve position.
 - 7. Threaded end connections complying with ASME B1.20.1.
 - 8. Wall mounting bracket with bubble level indicator.

2.06 PRESSURE REGULATORS

- A. General Requirements:
 - 1. Single stage and suitable for natural gas.
 - 2. Steel jacket and corrosion-resistant components.
 - 3. Elevation compensator.
 - 4. End Connections: Threaded for regulators NPS 2 (DN 50) and smaller; flanged for regulators NPS 2-1/2 (DN 65) and larger.
- B. Service Pressure Regulators: Comply with ANSI Z21.80.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Actaris.
 - b. American Meter Company.
 - c. Fisher Control Valves and Regulators; Division of Emerson Process Management.

- d. Invensys.
- e. Richards Industries; Jordan Valve Div.
- 2. Body and Diaphragm Case: Cast iron or die-cast aluminum.
- 3. Springs: Zinc-plated steel; interchangeable.
- 4. Diaphragm Plate: Zinc-plated steel.
- 5. Seat Disc: Nitrile rubber resistant to gas impurities, abrasion, and deformation at the valve port.
- 6. Orifice: Aluminum; interchangeable.
- 7. Seal Plug: Ultraviolet-stabilized, mineral-filled nylon.
- 8. Single-port, self-contained regulator with orifice no larger than required at maximum pressure inlet, and no pressure sensing piping external to the regulator.
- 9. Pressure regulator shall maintain discharge pressure setting downstream, and not exceed 150 percent of design discharge pressure at shutoff.
- 10. Overpressure Protection Device: Factory mounted on pressure regulator.
- 11. Atmospheric Vent: Factory- or field-installed, stainless-steel screen in opening if not connected to vent piping.
- 12. Maximum Inlet Pressure: 100 psig (690 kPa).

2.07 DIELECTRIC FITTINGS

A. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined.

B. Dielectric Unions:

- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - Capitol Manufacturing Company.
 - b. Central Plastics Company.
 - c. Hart Industries International, Inc.
 - d. Jomar International Ltd.
 - e. Matco-Norca, Inc.
 - f. McDonald, A. Y. Mfg. Co.
 - g. Watts Regulator Co.; a division of Watts Water Technologies, Inc.
 - h. Wilkins; a Zurn company.
- 2. Description:
 - a. Standard: ASSE 1079.
 - b. Pressure Rating: 125 psig (860 kPa) minimum at 180 deg F (82 deg C).
 - c. End Connections: Solder-joint copper alloy and threaded ferrous.

2.08 LABELING AND IDENTIFYING

A. Detectable Warning Tape: Acid- and alkali-resistant, PE film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches (150 mm) wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches (750 mm) deep; colored yellow.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine roughing-in for natural-gas piping system to verify actual locations of piping connections before equipment installation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Close equipment shutoff valves before turning off natural gas to premises or piping section.
- B. Inspect natural-gas piping according to NFPA 54 to determine that natural-gas utilization devices are turned off in piping section affected.
- C. Comply with NFPA 54 requirements for prevention of accidental ignition.

3.03 OUTDOOR PIPING INSTALLATION

- A. Comply with NFPA 54 for installation and purging of natural-gas piping.
- B. Install underground, natural-gas piping buried at least 36 inches (900 mm) below finished grade. Comply with requirements in Section **31 23 16.13 Trenching**31 20 00 "Earth Moving" for excavating, trenching, and backfilling.
 - If natural-gas piping is installed less than 36 inches (900 mm) below finished grade, install it in containment conduit.
- C. Install underground, PE, natural-gas piping according to ASTM D 2774.
- D. Steel Piping with Protective Coating:
 - 1. Apply joint cover kits to pipe after joining to cover, seal, and protect joints.
 - 2. Repair damage to PE coating on pipe as recommended in writing by protective coating manufacturer.
 - 3. Replace pipe having damaged PE coating with new pipe.
- E. Copper Tubing with Protective Coating:
 - 1. Apply joint cover kits over tubing to cover, seal, and protect joints.
 - 2. Repair damage to PE coating on pipe as recommended in writing by protective coating manufacturer.
- F. Install fittings for changes in direction and branch connections.
- G. Install pressure gage upstream and downstream from each service regulator. Pressure gages are specified in Section 23 05 19 "Meters and Gages for HVAC Piping."

3.04 INDOOR PIPING INSTALLATION

- A. Comply with NFPA 54 for installation and purging of natural-gas piping.
- B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements are used to size pipe and calculate friction loss, expansion, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.
- C. Arrange for pipe spaces, chases, slots, sleeves, and openings in building structure during progress of construction, to allow for mechanical installations.

- D. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.
- E. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- F. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.
- G. Locate valves for easy access.
- H. Install natural-gas piping at uniform grade of 2 percent down toward drip and sediment traps.
- I. Install piping free of sags and bends.
- J. Install fittings for changes in direction and branch connections.
- K. Verify final equipment locations for roughing-in.
- L. Comply with requirements in Sections specifying gas-fired appliances and equipment for roughing-in requirements.
- M. Drips and Sediment Traps: Install drips at points where condensate may collect, including service-meter outlets. Locate where accessible to permit cleaning and emptying. Do not install where condensate is subject to freezing.
 - Construct drips and sediment traps using tee fitting with bottom outlet plugged or capped. Use nipple a minimum length of 3 pipe diameters, but not less than 3 inches (75 mm) long and same size as connected pipe. Install with space below bottom of drip to remove plug or cap.
- N. Extend relief vent connections for service regulators, line regulators, and overpressure protection devices to outdoors and terminate with weatherproof vent cap.
- O. Conceal pipe installations in walls, pipe spaces, utility spaces, above ceilings, below grade or floors, and in floor channels unless indicated to be exposed to view.
- P. Concealed Location Installations: Except as specified below, install concealed natural-gas piping and piping installed under the building in containment conduit constructed of steel pipe with welded joints as described in Part 2. Install a vent pipe from containment conduit to outdoors and terminate with weatherproof vent cap.
 - 1. Above Accessible Ceilings: Natural-gas piping, fittings, valves, and regulators may be installed in accessible spaces without containment conduit.
 - 2. In Floors: Install natural-gas piping with welded or brazed joints and protective coating in cast-in-place concrete floors. Cover piping to be cast in concrete slabs with minimum of 1-1/2 inches (38 mm) of concrete. Piping may not be in physical contact with other metallic structures such as reinforcing rods or electrically neutral conductors. Do not embed piping in concrete slabs containing quick-set additives or cinder aggregate.
 - 3. In Floor Channels: Install natural-gas piping in floor channels. Channels must have cover and be open to space above cover for ventilation.
 - 4. In Walls or Partitions: Protect tubing installed inside partitions or hollow walls from physical damage using steel striker barriers at rigid supports.
 - a. Exception: Tubing passing through partitions or walls does not require striker barriers.
 - 5. Prohibited Locations:

- a. Do not install natural-gas piping in or through circulating air ducts, clothes or trash chutes, chimneys or gas vents (flues), ventilating ducts, or dumbwaiter or elevator shafts.
- b. Do not install natural-gas piping in solid walls or partitions.
- Q. Use eccentric reducer fittings to make reductions in pipe sizes. Install fittings with level side down.
- R. Connect branch piping from top or side of horizontal piping.
- S. Install unions in pipes NPS 2 (DN 50) and smaller, adjacent to each valve, at final connection to each piece of equipment. Unions are not required at flanged connections.
- T. Do not use natural-gas piping as grounding electrode.
- U. Install strainer on inlet of each line-pressure regulator and automatic or electrically operated valve.
- V. Install pressure gage upstream and downstream from each line regulator per Section 22 05 19 Meters and Gages for Plumbing Piping. Pressure gages are specified in Section 23 05 19 "Meters and Gages for HVAC Piping."
- W. Install sleeves for piping penetrations of walls, ceilings, and floors per Section 22 05 17 Sleeves and Sleeve Seals for Plumbing Piping. Comply with requirements for sleeves specified in Section 23 05 17 "Sleeves and Sleeve Seals for HVAC Piping."
- X. Install sleeve seals for piping penetrations of concrete walls and slabs per Section 22 05 17 Sleeves and Sleeve Seals for Plumbing Piping.—Comply with requirements for sleeve seals specified in Section 23 05 17 "Sleeves and Sleeve Seals for HVAC Piping."
- Y. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Section 22 05 18 "Escutcheons for Plumbing Piping."

3.05 VALVE INSTALLATION

- A. Install manual gas shutoff valve for each gas appliance ahead of corrugated stainless-steel tubing, aluminum, or copper connector.
- B. Install underground valves with valve boxes.
- C. Install regulators and overpressure protection devices with maintenance access space adequate for servicing and testing.
- D. Install earthquake valves aboveground outside buildings according to listing.
- E. Install anode for metallic valves in underground PE piping.

3.06 PIPING JOINT CONSTRUCTION

- A. Ream ends of pipes and tubes and remove burrs.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- C. Threaded Joints:
 - 1. Thread pipe with tapered pipe threads complying with ASME B1.20.1.
 - 2. Cut threads full and clean using sharp dies.
 - 3. Ream threaded pipe ends to remove burrs and restore full inside diameter of pipe.
 - 4. Apply appropriate tape or thread compound to external pipe threads unless dryseal threading is specified.

5. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.

D. Welded Joints:

- 1. Construct joints according to AWS D10.12/D10.12M, using qualified processes and welding operators.
- 2. Bevel plain ends of steel pipe.
- 3. Patch factory-applied protective coating as recommended by manufacturer at field welds and where damage to coating occurs during construction.
- E. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," "Pipe and Tube" Chapter.
- F. Flanged Joints: Install gasket material, size, type, and thickness appropriate for natural-gas service. Install gasket concentrically positioned.
- G. Flared Joints: Cut tubing with roll cutting tool. Flare tube end with tool to result in flare dimensions complying with SAE J513. Tighten finger tight, then use wrench. Do not overtighten.
- H. PE Piping Heat-Fusion Joints: Clean and dry joining surfaces by wiping with clean cloth or paper towels. Join according to ASTM D 2657.
 - 1. Plain-End Pipe and Fittings: Use butt fusion.
 - 2. Plain-End Pipe and Socket Fittings: Use socket fusion.

3.07 HANGER AND SUPPORT INSTALLATION

- A. Install seismic restraints on piping. Comply with requirements for seismic-restraint devices specified in Section 23 05 48 "Vibration and Seismic Controls for HVAC."
- B. Comply with requirements for pipe hangers and supports specified in Section 23 05 29 "Hangers and Supports for HVAC Piping and Equipment."
- C. Install hangers for horizontal steel piping with the following maximum spacing and minimum rod sizes:
 - 1. NPS 1 (DN 25) and Smaller: Maximum span, 96 inches (2438 mm); minimum rod size, 3/8 inch (10 mm).
 - 2. NPS 1-1/4 (DN 32): Maximum span, 108 inches (2743 mm); minimum rod size, 3/8 inch (10 mm).
 - 3. NPS 1-1/2 and NPS 2 (DN 40 and DN 50): Maximum span, 108 inches (2743 mm); minimum rod size, 3/8 inch (10 mm).
 - 4. NPS 2-1/2 to NPS 3-1/2 (DN 65 to DN 90): Maximum span, 10 feet (3 m); minimum rod size, 1/2 inch (13 mm).

3.08 CONNECTIONS

- A. Connect to utility's gas main according to utility's procedures and requirements.
- B. Install natural-gas piping electrically continuous, and bonded to gas appliance equipment grounding conductor of the circuit powering the appliance according to NFPA 70.
- C. Install piping adjacent to appliances to allow service and maintenance of appliances.
- D. Connect piping to appliances using manual gas shutoff valves and unions. Install valve within 72 inches (1800 mm) of each gas-fired appliance and equipment. Install union between valve and appliances or equipment.

E. Sediment Traps: Install tee fitting with capped nipple in bottom to form drip, as close as practical to inlet of each appliance.

3.09 LABELING AND IDENTIFYING

- A. Comply with requirements in Section 23 05 53 "Identification for HVAC Piping and Equipment" for piping and valve identification.
- B. Install detectable warning tape directly above gas piping, 12 inches (300 mm) below finished grade, except 6 inches (150 mm) below subgrade under pavements and slabs.

3.10 PAINTING

- A. Comply with requirements in Section 09 91 13 "Exterior Painting" and Section 09 91 23 "Interior Painting" for painting interior and exterior natural-gas piping.
- B. Paint exposed, exterior metal piping, valves, service regulators, service meters and meter bars, earthquake valves, and piping specialties, except components, with factory-applied paint or protective coating.
 - Alkyd System: MPI EXT 5.1D.
 - a. Prime Coat: Alkyd anticorrosive metal primer.
 - b. Intermediate Coat: Exterior alkyd enamel matching topcoat.
 - c. Color: Gray.
- C. Paint exposed, interior metal piping, valves, service regulators, service meters and meter bars, earthquake valves, and piping specialties, except components, with factory-applied paint or protective coating.
 - 1. Latex Over Alkyd Primer System: MPI INT 5.1Q.
 - a. Prime Coat: Alkyd anticorrosive Quick-drying alkyd metal primer.
 - b. Intermediate Coat: Interior latex matching topcoat.
 - c. Color: Gray.
 - 2. Alkyd System: MPI INT 5.1E.
 - a. Prime Coat: Alkyd anticorrosive Quick-drying alkyd metal primer.
 - b. Intermediate Coat: Interior alkyd matching topcoat.
 - c. Color: Gray.
- D. Damage and Touchup: Repair marred and damaged factory-applied finishes with materials and by procedures to match original factory finish.

3.11 CONCRETE BASES

- A. Concrete Bases: Anchor equipment to concrete base according to seismic codes at Project.
 - 1. Construct concrete bases of dimensions indicated, but not less than 4 inches (100 mm) larger in both directions than supported unit.
 - 2. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch (450-mm) centers around the full perimeter of the base.
 - 3. Install epoxy-coated anchor bolts for supported equipment that extend through concrete base, and anchor into structural concrete floor.
 - 4. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

- 5. Install anchor bolts to elevations required for proper attachment to supported equipment.
- 6. Use 3000-psig (20.7-MPa), 28-day, compressive-strength concrete and reinforcement as specified in Section 03 30 00 "Cast-in-Place Concrete."

3.12 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Tests and Inspections:
 - 1. Test, inspect, and purge natural gas according to NFPA 54 and authorities having jurisdiction.
- C. Natural-gas piping will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

3.13 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain earthquake valves.

3.14 OUTDOOR PIPING SCHEDULE

- A. Underground natural-gas piping shall be the following:
 - 1. PE pipe and fittings joined by heat fusion, or mechanical couplings; service-line risers with tracer wire terminated in an accessible location.
- B. Aboveground natural-gas piping shall be the following:
 - 1. Steel pipe with malleable-iron fittings and threaded joints.
 - 2. Steel pipe with wrought-steel fittings and welded joints.
- C. Branch Piping in Cast-in-Place Concrete to Single Appliance: Annealed-temper copper tube with wrought-copper fittings and brazed joints. Install piping embedded in concrete with no joints in concrete.
- D. Containment Conduit: Steel pipe with wrought-steel fittings and welded joints. Coat pipe and fittings with protective coating for steel piping.

3.15 INDOOR PIPING SCHEDULE FOR SYSTEM PRESSURES LESS THAN 0.5 PSIG (3.45 kPa)

- A. Aboveground, branch piping NPS 1 (DN 25) and smaller shall be the following:
 - 1. Steel pipe with malleable-iron fittings and threaded joints.
- B. Aboveground, distribution piping shall be the following:
 - 1. Steel pipe with wrought-steel fittings and welded joints.
- C. Containment Conduit: Steel pipe with wrought-steel fittings and welded joints. Coat pipe and fittings with protective coating for steel piping.
- D. Containment Conduit Vent Piping: Steel pipe with malleable-iron fittings and threaded or wrought-steel fittings with welded joints. Coat underground pipe and fittings with protective coating for steel piping.

3.16 UNDERGROUND MANUAL GAS SHUTOFF VALVE SCHEDULE

A. Connections to Existing Gas Piping: Use valve and fitting assemblies made for tapping utility's gas mains and listed by an NRTL.

- B. Underground:
 - 1. PE valves.
 - 2. NPS 2 (DN 50) and Smaller: Bronze plug valves.

3.17 ABOVEGROUND MANUAL GAS SHUTOFF VALVE SCHEDULE

- A. Valves for pipe sizes NPS 2 (DN 50) and smaller at service meter shall be the following:
 - 1. One-piece, bronze ball valve with bronze trim.
- B. Distribution piping valves for pipe sizes NPS 2 (DN 50) and smaller shall be the following:
 - 1. One-piece, bronze ball valve with bronze trim.
- C. Valves in branch piping for single appliance shall be the following:
 - 1. One-piece, bronze ball valve with bronze trim.

END OF SECTION

SECTION 27 20 00 INTEGRATED AUDIO/VISUAL SYSTEM

PART 1 - GENERAL

SUMMARY

- 1.1 The Contractor shall furnish all labor, project management, materials, tools, equipment, and resources necessary for the installation, startup, and testing of the system shown on the plans and described in the specifications.
- 1.2 Related Specification Sections:
 - 1.2.1 Section 26 01 00 -General Provisions
 - 1.2.2 Section 26 05 33 -Conduit and Fitting
 - 1.2.3 Section 26 05 19 -Conductors
 - 1.2.4 Section 26 05 34 -Outlet and Junction Boxes
- 1.3 The Contractor shall furnish and install the system as defined by the plans and specifications. The Contractor must demonstrate to the Owner that the system is complete and complies with all operational requirements set forth in the plans and specifications.
- 1.4 The work covered under this section of the specifications consists of furnishing all labor, equipment, supplies and materials, and in performing all operations necessary for the turnkey and fully completed installation of an audio/ video system in accordance with the specifications and accompanying drawings, except as specifically noted otherwise.
- 1.5 Cables for the system shall be pulled through the conduit systems furnished by the building contractor. The 27 20 00 Contractor shall be responsible for providing all cables required and for coordinating and supervising the cable installation. The 27 20 00 Contractor shall be responsible for ensuring the integrity of the cables before and after installation.
- 1.6 Work Excluded:
 - 1.6.1 Excluded from this work shall be any and all general construction services regarding masonry and general carpentry services. Those services are to be provided and installed by the general contractor.
 - 1.6.2 Conduit/raceways, sleeves, cable trays, electrical boxes, hand holes, pullboxes, etc. required for the system shall be furnished and installed by the Electrical Contractor. The conduit/raceways and electrical boxes furnished and installed under Electrical Contractor shall conform with the requirements of the drawings and specifications for the system.

- 1.7 In order to ensure project cohesion a single point of contact is required to provide a "TURNKEY" solution. The work covered under this section of the specification consists of furnishing all labor; cabling; equipment; software; supplies; materials and training. The contractor will perform all operations necessary for the "TURNKEY" and fully completed installation in accordance with the specifications herein. As such, the successful contractor must be factory trained on all aspects of system hardware. The successful contractor shall be a California licensed C7 or 10 premise wiring contractor as defined in this specification. Subcontractors may not be utilized in the implementation of the plant wiring installation.
- 1.8 Approval to bid shall not release the Contractor from full specification compliance requirements. Final system acceptance testing shall govern final system acceptance and compliance with the specifications.
- 1.9 Failure to provide a functional equivalent shall result in the removal of the alternate system at the contractor's expense.
- 1.10 These specifications contain statements which may be more definitive or more restrictive than those contained in the General Conditions. Where these statements occur, they shall take precedence over the General Conditions.
- 1.11 Where the words 'provide' or 'provision' is used, it shall be definitely interpreted as 'furnishing and installing complete in operating condition'. Where the words 'as indicated' or 'as shown' are used, it shall mean as shown on contract drawings.
- 1.12 Where items are specified in the singular, this division shall provide the quantity as shown on drawings plus any spares or extras mentioned on drawings or specifications. All specified and supplied equipment shall be new.

DEFINITIONS

- 1.13 Concealed: Hidden from sight, as in trenches, chases, hollow construction, or above furred spaces, hung ceilings acoustical or plastic type, or exposed to view only in tunnels, attics, shafts, crawl spaces, unfinished spaces, or other areas solely for maintenance and repair.
- 1.14 Exposed, Non-Concealed, Unfinished Space: A room or space that is ordinarily accessible only to building maintenance personnel, a room noted on the 'finish schedule' with exposed and unpainted construction for walls, floors, or ceilings or specifically mentioned as 'unfinished'.
- 1.15 Finish Space: Any space ordinarily visible, including exterior areas.

Contractor Qualifications

1.16 The successful bidder shall be a California licensed C7 or C10 premise wiring contractor as defined in this specification. Subcontractors may not be utilized in the implementation of the installation or programming.

- 1.17 The successful bidder shall have design staff with CTS certification and Extron Advanced A/V Certifications.
- 1.18 The successful bidder shall have installation staff with CTS certification and Extron Advanced A/V Certifications.
- 1.19 All bidders must provide a listing of two similar size projects having the same scope of work using the proposed information delivery equipment. This listing shall be complete with facility names, completion dates, names of contacts, and their telephone numbers. Referenced projects must have been completed in the past 18 months.
- 1.20 The bidder shall have a factory trained service department the service department shall be on call 24 hours a day, 365 days a year, to arrive and initiate onsite service the specified equipment upon (24) hours notice.
- 1.21 The Contractor shall employ factory-trained technical/service personnel for service and maintenance of the system. Their résumés will be required. The factory-trained technical/service personnel shall have a minimum of two years experience installing the proposed system. The Bidder shall submit the names and copies of the certificates issued by the factory. The bidder shall instruct the Owner's technical personnel in the operation, care, and maintenance of the system.

CODE COMPLIANCE

- 1.22 All material and equipment shall be clearly listed, labeled, or certified by Underwriters Laboratories, Inc. All power supplies and computers shall be clearly UL Listed. Any system which is not UL Listed at time of bid will be rejected.
- 1.23 All acceptable systems shall be approved under Part 15, Subpart B, Section 15.107b of the FCC Rules and Regulations. Bidders must provide the FCC Registration Number of the proposed system. Systems that are not in compliance with the FCC will not be considered. Any system that is not FCC compliant at time of bid will be rejected. All equipment must be clearly labeled with FCC compliance stickers.
- 1.24 The system shall be installed in accordance with local and national electrical codes.
- 1.25 The manufacturer and contractor shall provide the Owner with a release for use of all copyright materials, corporate logos, and corporate trademarks at time of bid.

SUBMITTALS

1.26 Index all submittals and reference to these specifications. All submittal items shall be assembled and submitted in a single complete binder per submittal group. Partial submittals will not be reviewed. Submit items in groups as indicated below: All submittals, warranty information, close - out documents, and as built documents must be submitted independently for owner, in order to provide record documentation for the project owner.

- 1.27 Group # 1 Submittal shall be made within (20) working days after the award of the contract. This submittal shall include the following:
 - 1.27.1 Complete bills of quantities, including all materials, components, devices, and equipment required for this work. The bills of quantities shall be tabulated respective of each and every system as specified, and shall contain the following information for each item listed:
 - 1.27.1.1 Quantity of each type of equipment item
 - 1.27.1.2 Description of each item
 - 1.27.1.3 Manufacturer's Name and Model Number
 - 1.27.1.4 Manufacturer's Specification Sheet
 - 1.27.1.5 Equipment items which have individual components will require that all component parts be listed individually.
 - 1.27.1.6 Description of any specialty backbox requirements
 - 1.27.1.7 All wiring types required for installation of this system
 - 1.27.1.8 Copy of equipment warranty
 - 1.27.1.9 Spare parts shall be listed individually to verify proposed quantity
- 1.28 Group # 2 Submittal shall be provided within (20) working days after the approval of the Group # 1 submittals and prior to any fabrication or field conduit installations. All shop drawings shall be engineered and drawn on a CAD System. Contractor shall make the request for drawings in writing directly to Johnson Consulting Engineers, confirmation of the request and a release form will be forwarded to the contractor to include a signed copy with payment prior to release of files. Detail or riser diagram sheets or any other drawings other than floor or site plans, will not be made available to the contractor. Phase II Submittals drawings shall include the following:
 - 1.28.1 Furnish complete shop drawings for all systems specified. Each drawing shall have a descriptive title and all sub parts of each drawing shall be completely described. All drawings shall have the name of the project, architect, consultant, and electronics contractor in the title block.
 - 1.28.2 Furnish complete scaled drawings of all equipment racks, consoles, special assemblies, etc. Each drawing shall show all equipment with its manufacturer and model number.
 - 1.28.3 Furnish complete scaled installation drawings detailing locations of all equipment such as control panels, plug panels, video monitors, video projectors, equipment racks, speakers, etc. All conduits with cable quantities and types and all terminal block locations shall be shown also.
 - 1.28.4 Provide single line riser diagrams of all racks, consoles, control panels, speaker assemblies, etc. Each drawing shall delineate circuit numbers for all cables and terminal connections. Provide typical wiring termination for all devices.

- 1.29 All equipment items referenced by manufacturer name and model number shall be the only approved product to be furnished for use on this project. Where alternate items are acceptable (or approved alternate) will be noted with the product description.
- 1.30 Products as manufactured by "Extron" have been specified to coordinate with an existing facility and other contracts to be issued for this project. Alternate products will not be approved.

SEISMIC ANCHORING

1.31 All sound systems, A/V equipment or enclosures shall be anchored to the structure. Where details have not been provided on the drawings, anchorage shall comply with CBC Section1632A and Table 16-A0. The contractor shall submit drawings signed by the contractor's registered structural engineer indicating method of compliance prior installation.

CLEANUP

- 1.32 In addition to cleanup specified under other sections, thoroughly clean all parts of the equipment. Where exposed parts are to be painted, thoroughly clean off any spattered construction materials and remove all oil and grease spots. Wipe the surface carefully and scrape out all cracks and corners.
- 1.33 Use steel brushes on exposed metal work to carefully remove rust, etc., and leave smooth and clean.
- 1.34 During the progress of the work, keep the premises clean and free of debris.

GENERAL COORDINATION

1.35 The A/V drawings may reference components by manufacturer which conflict with the written specification requirements, where this occurs the written specifications shall be followed.

PART 2 — PRODUCTS

Standard Classroom Projection System

- 2.1 Contractor shall furnish and install all components as shown. Refer to detail drawings for exact installation configuration. All Laptops and/or Computer shall be furnished by the District and installed by the District.
- 2.2 Contractor shall furnish and install a new Projector and Projection Screen in the Classrooms or other spaces shown on the drawings. Refer to the Detail AV Diagrams for additional information.
- 2.3 Contractor shall furnish and install all projection system components as shown in the A/V system details and specifications. System shall consist of components that will use the projector as the audio-visual switch. All video inputs shall be directly wired to the

projector. Audio shall be routed as shown in the AV Wiring Diagrams, in the detail drawings, to allow the Amplified Speaker System to serve as a system-wide amplification Refer to the detail drawings for additional installation configuration requirements, mounting systems and additional parts.

- 2.4 Provide installation of projection screens for the Classroom Audio-Visual Systems. The projection screens will be manual, non-tensioned, surface mounted type. Projection screens shall be located per the drawings.
 - 2.4.1 Contractor shall install projections screens to the height shown on the floor plans. Screen height shown is to the top of the screen case.
 - 2.4.2 Contractor shall provide all hardware and structural support including, but not limited to brackets and hardware. All screens must be installed to comply with local codes and seismic requirements.
 - 2.4.3 All new projection screens will require a structural support mechanism to the building structure. The basic requirements will be shown in the detail drawings, but the exact requirements must be field verified by the Contractor. Contractor shall refer to the drawing details for the type of structural support system to be provided based on the type of screen used and the building conditions. The Contractor shall furnish and install all support.
 - 2.4.4 Coordinate the screen's location with the installation of the projectors. The location of both the projector and screen must be properly coordinated to insure the proper image size and orientation. Projector and screen locations shown on the floor plans are diagrammatical. Exact locations must be field verified by the Contractor prior to the installation of either component.
- 2.5 Provide Manual Wall Mounted Projection Screens in the Classrooms with the following;
 - 2.5.1 Da-Lite Model "C" with CSR Projection Screen with White Metal Case
 - 2.5.2 50" H x 80" W or 94" Diagonal at 16:10 Aspect Ratio
 - 2.5.3 High Contrast Matte White Screen Material with a Half Angle of 50° and a Viewing Cone of 100°, Gain of 1.1
 - 2.5.4 Da-Lite Wall Mount Floating Brackets Option #77027, White Color. Refer to the drawing details for mounting requirements.
 - 2.5.5 Provide optional 38" Long Pull Rod #74689 for all screens. Refer to the floor plans for quantity of screens.
- 2.6 Provide Manual Recessed Ceiling Mounted Projection Screens in Hard Lid in the Classrooms with the following;
 - 2.6.1 Draper Model Access Fit M with Auto Return Projection Screen with White Metal Case:

- 2.6.2 50" H x 80" W or 94" Diagonal at 16:10 Aspect Ratio
- 2.6.3 Contrast White Screen Material XH1100E with a Half Angle of 90° and a Viewing Cone of 180°, Gain of 1.1.
- 2.6.4 Provide (1) Additional Set of Draper Mounting Brackets Option for a total of (4) Mounting Brackets being used for screen. Refer to the drawing details for mounting requirements.
- 2.6.5 Provide optional Aluminum 6-Foot Long Pull Rod #227010 for Manual Recessed Ceiling Mounted Projection Screens in Hard Lid. Refer to the floor plans for quantity of screens.
- 2.7 Provide installation of projectors with audio/video components, mounting systems and all local wiring as shown in the drawing details. Projectors shall be located per the drawings and specifications.
 - 2.7.1 Projectors shall be furnished and installed by the Contractor. Projector must be able to fill a 94" diagonal size screen (16:10 aspect ratio) from a distance not greater than 4'0" from the screen surface, based on the specified projector. If the projector model changes, the distance will vary and must be field verified prior to installation. Projectors shall be the non-interactive type. Contractor shall be responsible for furnishing and installing the all software, tools and control systems as required for proper operation. Each of the projection system must be properly calibrated during the installation process to allow for the images and inputs to be presented properly.
 - 2.7.2 The Contractor shall install the projector using the complete manufacturer installation instructions in the installation manual. The Contractor shall follow all the steps shown for complete calibration of the image size and position on the screen. Projectors shall be leveled to insure a proper image shape. Projectors may not be tilted or skewed to align the image with the projection area on the screen. Do not make the adjustments to the image size with the keystone functions.
 - 2.7.3 The Contractor shall be responsible for the image size and proper operation of the projector until the project is signed off by the District Project Manager and the Project Engineer. Changes in the orientation of the projector due to incidental contact during construction shall be resolved by the Contractor
- 2.8 Provide (1) Epson PowerLite L200W 3LCD Long Throw Laser Projector in each Classroom or other Room shown on the drawings. Provide a Total quantity of (5) Epson PowerLite L200W 3LCD Long Throw Laser Projectors.
 - 2.8.1 Contractor must field verify the throw distance of the projection image prior to installing the projector in case the actual field layout has changed. The projector's location on the drawings is diagrammatical.
 - 2.8.2 Projector shall meet the following minimum requirements;

- 2.8.2.1 4200 Lumen Brightness 3LCD Laser Diode Light Source
- 2.8.2.2 WXGA (1280X800) Resolution, 16:10 Aspect Ratio
- 2.8.2.3 Light Source (Lamp) Life Up to 20,000 hours (Normal Mode)
- 2.8.2.4 Focal Length 18.2mm-29.2mm/F-Number 1.51-1.99/Manual Optical Zoom 1-1.62 and Manual Focus
- 2.8.2.5 Minimum Inputs/Outputs; 2X HDMI IN; 2X VGA IN; 1 Composite Video IN; 1X VGA OUT; 1X Stereo Audio IN; 2X 3.5mm Audio IN; 1X 3.5mm Audio OUT; 1X 3.5mm Mic IN; 1X RS-232 Control; 1X USB-A; 1X USB-B; 1X RJ-45 Ethernet LAN
- 2.8.2.6 Remote Control
- 2.8.2.7 Provide Optional Wireless LAN Module #ELPAP11
- 2.9 Projector mounted in the accessible ceiling shall each be provided with the following;
 - 2.9.1 (1) PEERLESS CMJ455 2' x 2' PROJECTOR MOUNTING PLATE (Or Approved Equal)
 - 2.9.2 (1) 1.5" NPT THREADED EXTENSION POLE (Adjustable or Fixed Length Pipe) field verify correct length
 - 2.9.3 (1) ACC455 HANGAR BRACKET KIT-FIELD with steel braided cables and all necessary mounting hardware. See drawing details for installation and anchorage requirements
 - 2.9.4 (1) Universal Fine-Tune Projector Mount by Premier Mounts model #RPAUW in white (Or Approved Equal).
 - 2.9.5 Structural support and anchorage as shown in the Electrical and Architectural Drawings and Details.
- 2.10 Structural support and anchorage as shown in the Electrical and Architectural Drawings and Details
- 2.11 Teachers Audio-Visual Interface Wallplate; The "2P/LO" Wallplate shown on the drawings will serve as interconnection device to the Classroom AV System. Provide all patch cables for the system. See Classroom AV System Diagram for Wallplate in the Detail Drawings requirements. Provide the following interface at the Laptop Wallplate;
 - 2.11.1 Provide Single Input HDMI Pass-Through Wallplate with Audio at Laptop (2P/LO) locations shown on the floorplans. Wallplate shall consist of (1) HDMI Pass-Through Input with 3.5mm Audio. Provide (1) Extron WPD-110A HDMI with Audio Decora Style wallplate per location in a dual gang box.
 - 2.11.2 All Wallplates shall be white in color, unless otherwise noted, Extron Decora style, with color matched screws. Each Input wallplate location requires a dual

- gang box and trim ring. Provide (1) Dual Gang Decora Style Faceplate and (1) Single Gang Decora Blank Insert to be installed with the HDMI Input Wallplate.
- 2.11.3 Provide Fiber Optic/Copper Hybrid HDMI Cable from the Extron #WPD-110A HDMI Wallplate to the Ceiling Mounted Projector's HDMI Input #1 where shown on the floor plans. The slack from the Fiber Optic/Copper Hybrid HDMI Cable shall be neatly dressed and stored in the ceiling above the Projector. Provide J-Hooks above the ceiling to properly support cable.
- ADD
- Contractor shall furnish and install (1) 12-Foot Extron HDMI Ultra Series High Speed patch cable assemblies High Speed 90° Swivel-Type HDMI patch cable to the Instructor's Laptop or PC. The 90° HDMI end of the patch cable shall be connected to the faceplate to allow the cable to drop straight down along the wall. Refer to the patch cable section for the exact patch cable requirements.
 - 2.11.5 Contractor shall furnish and install (1) 12-Foot 3.5mm Audio patch cable is for the "ALS Audio Output" and not for playback of local devices. Refer to the patch cable section for the exact patch cable requirements.
- 2.12 Provide all cabling as shown in the Classroom AV System Diagram wiring diagrams. Contractor shall provide all patch cables required in the wiring diagram and as required to provide a fully operational system.
- 2.13 Video and Audio outputs from the District Provided Laptop Computer shall be connected to the Local Origination (LO) Wallplate as shown in the detail drawings.
- 2.14 Each "2P/LO" Input wallplate shall be furnished with a 2-Port Data Outlet furnished by the 27 10 00 Contractor. Coordinate with the 27 10 00 Contractor for Data Outlet location requirements.
- 2.15 Provide Self-Amplified Three-Input Speaker Package for the Classroom AV System as manufactured by OWI #2X2-HD-IW83 (No Approved Equal) with HD Amplifier in each Classroom shown on the Floor Plans. Self-Amplified Speaker Package shall be provided with the following;
 - 2.15.1 8" 3-Way Speaker with Drop-In Tile Type Full 2'X2' Grill, 40W HD 8-Ohm Amplifier, 3-Source Inputs (Balanced Line Level, 3.5mm Stereo and Proprietary RJ45), Balanced Audio Output, Proprietary RJ45 Audio Output, (3) Speaker Outputs, and 25/70V Transformer Power Supply. Page Interrupter shall be provided separately and is not provided with the Self-Amplified Speaker Package.
 - 2.15.2 The Self-Amplified Three-Input 8" 3-Way Speaker shall serve as the Main Audio Source/Controller for the Classroom AV System. Contractor shall furnish and install all cabling and components associated with the Speaker System shown on the Classroom AV System Diagram and in these specifications. Volume Control for the Speaker System shall be provided by the Projector Remote Control Unit.

- 2.15.3 Provide OWI #AMPPOP1 Priority Page Module Interrupter/Controller at 8" 3-Way Speaker location for muting of the AV System Speakers when the Classroom receives a page notification on the Campus Intercom system. Priority Page Module shall be wired from Priority Page Module to the IP-Based Intercom Speaker in the Classroom. Connect to the audio contact closure for page shunting of local audio. This shall be installed in the AV vault
- 2.15.4 Provide (1) OWI #2X2-IW83 8-Ohm 6.5" Coaxial Non-Amplified Speaker with Drop-In Tile Type Full 2'X2' Grill Secondary Speaker for the Classroom AV System. Install Speaker where shown on the floor plans.
- 2.15.5 Audio-Visual System Speakers symbols shown on the floor plans do not differentiate which Speaker is the Self-Amplified Three-Input 8" 3-Way Speaker and which Speaker is the Non-Amplified Secondary Speaker. Contractor shall determine the locations of each type of Speakers in the field.
- 2.15.6 Speakers shall be positioned to provide the maximum coverage for the Classroom or Designated Room space. Coordinate placement of the speakers with the Architectural, Mechanical and Electrical drawings to avoid lighting, HVAC and fire alarm devices. Color shall be white. Volume shall be set by contractor and controlled via the Projector Remote Control and Input Source audio controls.
- 2.15.7 Self-Amplified Three-Input Speaker shall be provided with Master Volume, Bass, Treble, Gain, Priority Page/Trigger Level and Speaker/Line Level Controls.
- 2.15.8 Provide OWI 2X2 Suspended Ceiling Plate and Speaker Back-can for the Speakers. Contractor shall provide structural support for the Spaekers as shown in the Detail Drawings.
- 2.15.9 Provide Self-Amplified Three-Input Speaker power supply shall be plugged into the electrical outlet located at the Projector. Provide a 2-Conductor cable from the 15VDC Power Supply to the Self-Amplified Speaker. Connect the cable to the power input terminals on the Main Circuit Board.
- 2.15.10 Provide Balanced Audio Out cable connection to the 3.5mm Connector on the Extron WPD-110A HDMI Input Wallplate. The Audio Output shall be used for connection to the Portable ADA Assistive Listening System. Contractor shall label the 3.5mm Mini Connector on the Wallplate with "ALS Audio OUT" to identify the port.
- 2.16 Provide additional items as shown on the A/V wiring details and diagrams.

Flat Panel Audio-Visual System

2.17 Provide installation of Flat Panel Audio-Visual System in the Coaches Office Room #909 with audio/video components and all local wiring. Flat Panel Displays shall be located per the drawings and provided with components per the specifications. Refer to the drawing details for the flat panel mounting requirements and refer to the floor plans.

- 2.18 Document Cameras, Laptops, and Personal Computers shall be furnished by the District and installed by the District. Provide cable loom wrap around all patch cables from devices to the wallplates.
- 2.19 Provide lump sum of \$17,000 \$6,500 for the purchase of (1) 75" LED Flat Panel Monitor for the Coaches Office Room #909 AND (4) 65" LED Flat Panel Monitors for the Kitchen Menu Boards with advance replacement service contract. Lump sum amount shall cover the Flat Panel Display and Service Contract invoice costs only plus tax. Shipping, Contractor mark-up, installation & programming set-up, all mounting hardware, labor costs shall be included as part of the contractor bid and not part of the lump sum. Actual make and model of Flat Panel Displays will be determined prior to installation.
 - 2.19.1 Lump sum amount shall cover Flat Panel Monitors invoice cost only plus tax. Shipping, Contractor mark-up, profit and overhead, installation, patch cables, programming and set-up, all mounting hardware and labor costs shall be included as part of the Contractor bid and not part of the lump sum amount. Actual make, model and final size of Flat Panel Monitors will be determined prior to installation and shall be approved by the Project Engineer and District Project Manager prior to purchase.
 - 2.19.2 Contractor shall submit an itemized spreadsheet to the Project Engineer, Architect, Construction Manager and District Project Manager for the monitors being proposed for purchase including the following information; Make, Model, Size (Diagonal), Native Resolution, Invoice Cost and Tax. The submittal shall include manufacturer cut sheets for each type and size of each model submitted, with proper part numbers highlighted. The itemized spreadsheet shall detail each location with Room Number and the associated Flat Panels (and sizes) for that room. The spreadsheet shall be provided to the Construction Team a minimum of 12 weeks prior to the first proposed purchase date to allow enough time for approval, purchase and delivery of the Flat Panels. The Contractor shall not proceed with purchase or warehousing of the equipment without written approval.
 - 2.19.3 The specified 75" Larger Flat Panel shall be installed on the East wall directly where shown on the drawings. Local Input Wallplate shall be Installed below the Flat Panel on the wall. Refer to the Electrical and Architectural floor plans for additional information on the location of the Flat Panel.
 - 2.19.4 The specified 65" Flat Panels for the Kitchen Menu Boards shall be installed on the East and West walls of the Kitchen Speed Line Room ceiling mounted high between the doors where shown on the drawings. Local Input Wallplate shall be Installed in the Kitchen Manager's Office. Refer to the Electrical and Architectural floor plans for additional information on the location of the Flat Panel.
 - 2.19.5 Flat Panel specifications based on Samsung 75" Model #QM85F *and Samsung Model #QM65R* Commercial Grade Professional Displays. Any suggested Flat Panel equivalent must contain all input/output connections; display shall

provide as good or better minimum brightness, contrast ratio, native resolution and maximum display colors as the specified Flat Panel. Models not currently in production (discontinued) at the time of the submittal, will not be considered. Flat Panels must have a minimum of (2) HDMI and (1) DisplayPort Inputs

- 2.19.6 All LCD LED Flat Panels shall be commercial grade monitors and shall be provided with a minimum four (4) year manufacturer warranty Plus any prespecified Service Contract. Consumer grade flat panels will not be acceptable as an alternate.
- 2.20 Color of plates is to be confirmed by the Contractor prior to installation. Refer to the AV wiring diagram for input locations and wallplate requirements.
- 2.21 Contractor shall provide and install all wiring and components required per the detail drawings and specifications.
- 2.22 Flat Panel shall be provided with a 2-Port data connection installed by Division 27 10 00 Contractor behind the Flat Panel. Coordinate location of data outlet with 27 10 00 Contractor. Refer to the Detail Drawings for additional requirements.
 - 2.22.1 Contractor shall furnish and install Category-6 data patch cable from the Flat Panel Data Outlet to the Flat Panel Ethernet Port. See AV Patch Cables section for requirements.

Coaches Office Flat Panel Audio-Visual System

- 2.23 Contractor shall furnish and install a commercial grade Large Flat Panel Display with Soundbar in *Coaches Office Room #909* and components as shown in the A/V system details and specifications. System shall consist of components that will use the Flat Panel as the audio-visual switch. All video inputs shall be directly wired to the Flat Panel. Audio shall be routed as shown in the AV Wiring Diagrams, in the detail drawings, to allow the Amplified Soundbar to serve as a system-wide audio amplification device. Refer to the detail drawings for additional installation configuration requirements, mounting systems and additional parts.
 - 2.23.1 The Flat Panel mounting height shall be as shown in the drawing details must be field verified by the Contractor prior to the rough-in stage of the project. No flat panel mounts may be roughed-in until the locations and heights are confirmed.
 - 2.23.2 The Large LED Flat Panel Display shall be mounted on the wall at the location shown on the floor plans and the Amplified Soundbar shall be suspended below the Flat Panel Display. The Soundbar shall move with the Flat Panel when adjusted away from the wall. Field verify the exact position of the Flat Panel Display and Soundbar with the District Project Manager prior to installation.
 - 2.23.3 Provide Flat Panel Displays with a Recessed type wall mount by Chief Model #PNRIWUB mount with Model #PAC501B backbox, dual arm support as shown on the drawing details. Refer to the detail drawings for the flat panel mounting,

- outlet requirements and conduit requirements. Contractor shall furnish the adapter plate from Chief to mount to the model of flat panel provided.
- 2.23.4 The backbox for the recessed Flat Panel mount shall be furnished by the 27 20 00 Contractor and installed by the Division 26 Contractor. The backbox must be framed into the wall. The height of the backbox shall be installed as shown in the detail drawings. Flat Panel Monitor heights must be shown on the shop drawing submittal by the Contractor. Exact height of the flat panels must be field verified by the 27 20 00 Contractor prior to rough-in.
- 2.23.5 The 27 20 00 Contractor must coordinate with the Division 26 Contractor for the proper timing of the ordering and delivery of the backboxes (Chief PAC501B) for the recessed Flat Panel mounts. The Audio-Visual Contractor must provide the backbox to the Electrical Contractor during the rough-in phase of the construction project, with delivery to the job site no later than two weeks before the Rough-In date shown in the Construction Schedule. Coordinate the provision of the backboxes with the Construction Manager and the Electrical Contractor.
- 2.23.6 The final location of the Soundbar shall be determined by any clearance required to access any controls or connections on the Soundbar and clearances required to make adjustments (Pan, Tilt and Extension) to the Flat Panel. The Soundbar shall be located as close to the bottom of the panel as possible to lessen the exposed cable connections.
- 2.24 Provide an Amplified Soundbar System *in Coaches Office Room #909* at the LED Flat Panel Display for audio support. See the detail drawings and diagrams for additional requirements. The Amplified Soundbar System shall be provided the following;
 - 2.24.1 The Soundbar shall be hung from the VESA wall mount bracket on the back of the Flat Panel, directly below the flat panel display. Provide a Universal Soundbar adapter bracket to hang the Soundbar. Refer to the manufacturer's installation instructions for requirements for mounting the soundbar. The soundbar shall be mounted with enough clearance to allow the full vertical adjustment of the wall mount bracket and for access to the connection ports on the Soundbar. The Soundbar shall be securely attached to move with the Flat Panel when it is adjusted out or away from the wall. Provide Universal Soundbar Bracket Model #OCSBA (Or Approved Equal).
 - 2.24.2 Connect the Flat Panel Display 3.5mm Stereo Audio Output to the 3.5mm Audio Input on the soundbar. Provide 3.5mm stereo audio connection patch cable to the Soundbar.
 - 2.24.3 Soundbar shall be provided with built-in Subwoofers, Rated Output 100 Watts (2X20W Front L/R; 60W Built-in Sub); Bluetooth Input Technology, HDMI Input with ARC, 3.5mm Audio Input, (2) Optical Audio In; Less than 4" in Depth.

- 2.24.4 The Soundbar shall be as manufactured by Yamaha Model #SR-C20A (or Approved Equal) The Soundbar's volume shall be controlled with the original Yamaha remote control supplied with the Soundbar.
- 2.24.5 Install the Yamaha MusiCast APP for the Soundbar on the Coach's Computer and/or Tablet/Smart Phone device. The Soundbar's Bluetooth connectivity shall be programmed by the Contractor.
- 2.25 Provide surge suppressor installed behind the flat panel location for the TV and devices installed at the flat panel. Surge suppressor shall be rated for 15A, six outlets, and shall have outlet sections that swivel. Provide Cyber Power Model #CSB600WS.
- 2.26 Passive Local Origination Wall Plate; The wallplate will serve as the Main Input location to the Coaches Office Room #909 Conference Room Flat Panel system and the Floor Box will serve as the Secondary Input location. Provide all patch cables for the system. See Passive Flat Panel A/V Diagram for wall plate requirements. Provide the following interfaces at the wallplate location;
 - 2.26.1 Provide (1) Single Gang wallplate at the Input location (Shown as the "LO" symbol on the drawings). Provide (1) HDMI with audio passive feed-through digital input wallplate Extron Model #WPD-110A on a Single Gang Decora Style faceplate at Interface (LO) Input wallplate location. Refer to the AV Wiring Diagrams for additional requirements.
 - 2.26.2 Provide (1) Single Dual Gang wallplate at the Flat Panel location (Shown as the "FP" symbol on the drawings). Provide (1) HDMI with audio passive feed-through digital input wallplate wallplates Extron Model #WPD-110A on a Single Dual Gang Decora Style faceplate at Flat Panel (FP) wallplate location. Refer to the AV Wiring Diagrams for additional requirements.
 - 2.26.3 Provide (1) HDMI Cable and (1) 3.5mm Unbalanced Audio Cable from the Passive HDMI Input Wallplate at the "2P/LO" location to the Passive HDMI Output wallplate behind the Flat Panel "FP/2P" as shown on the Flat Panel AV System Diagram.
 - 2.26.4 Provide (1) HDMI Patch Cable and (1) 3.5mm Unbalanced Audio Patch Cable from the pass through HDMI Output wallplate to the Flat Panel's Inputs on the back of the display. The HDMI Cable shall be directly connected to HDMI Input #1 on the Flat Panel and 3.5mm audio cable shall be directly connected to the 3.5mm Audio Input #1 on the Flat Panel. Provide cables as shown in the patch cables section of this specification.
 - 2.26.5 Contractor shall furnish and install (1) 12-Foot High Speed 90° Swivel Type HDMI patch cable Extron HDMI Ultra Series High Speed patch cable assemblies to the Instructor's Laptop or PC. The 90° HDMI end of the patch cable shall be connected to the faceplate to allow the cable to drop straight down along the wall. Refer to the patch cable section for the exact patch cable requirements.

- 2.26.6 Contractor shall furnish and install (1) 12-Foot 3.5mm Audio patch cable to the Instructor's Laptop or PC. Refer to the patch cable section for the exact patch cable requirements. Audio patch cable is for playback of local devices.
- 2.26.7 Provide an HDMI (Female) to DisplayPort (Male) adapter for the Flat Panel System. The adapter shall be provided with the HDMI and Audio patch cable assemblies.
- 2.26.8 All wallplates shall be the Extron Decora style. Color of plates is to be confirmed by the Contractor prior to installation

Kitchen Menu Boards Flat Panel Audio-Visual System

- 2.27 Contractor shall furnish and install a (4) commercial grade Flat Panel Displays for Kitchen Menu Boards and components as shown in the A/V system details and specifications. System shall consist of components that will use the Flat Panel as the audio-visual switch. All video inputs shall be directly wired to the Flat Panel. Audio will not be used for the Menu Board locations. Refer to the detail drawings for additional installation configuration requirements, mounting systems and additional parts.
 - 2.27.1 The Menu Board Software is existing for the Kitchen Menu Board System and is already owned by the District. Contractor shall coordinate with the District Health Services Department or District IT Department for programming and required accessories for the Kitchen Menu Board System. Set up Menu Boards for operation displaying content from the Menu Board Software.
 - 2.27.2 In addition, the Kitchen Manager shall have the ability to connect from the Manager's PC or Laptop to the Kitchen Menu Boards and display content from the computer. Control of the Flat Panel's operation and Input selection shall be completed with the Falt Panel's provided Remote Control. Contractor shall program all Falt Panels to be operated from a single Remote Control.
 - 2.27.3 The Flat Panel mounting height shall be as shown in the drawing details must be field verified by the Contractor prior to the rough-in stage of the project. No flat panel mounts may be roughed-in until the locations and heights are confirmed.
 - 2.27.4 The 65" LED Flat Panel Displays shall be ceiling mounted at the location shown on the floor plans. Field verify the exact position of the Flat Panel Display with the District Project Manager prior to installation.
 - 2.27.5 Provide Flat Panel Displays with a Adjustable Flat Panel Mount by Chief Fusion Model #LCM1U mount with Chief CMS Series Adjustable NPT 1.5" Column, length as required, attached to the deck above with the Chief Model #115 Ceiling Plate as shown on the drawing details. The Contractor shall provide Unistrut Bracing in (2) directions as shown in the Detail drawings. The Fusion Mount shall be attached to the Flat Panels using the VESA 400mm X 300mm mounting pattern. Contractor shall furnish and install any adapters for the flat panel mounting. Contractor shall provide a 1-1/2" Beauty Ring in the

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accessible ceiling where the column penetrates the ceiling tiles. All cabling shall be routed through the column to the Flat Panel Inputs. Refer to the detail drawings for the flat panel mounting, outlet requirements and conduit requirements. Contractor shall furnish the adapter plate from Chief to mount to the model of flat panel provided.

- 2.28 Provide surge suppressor installed behind the flat panel location for the TV and devices installed at the flat panel. Surge suppressor shall be rated for 15A, six outlets, and shall have outlet sections that swivel. Provide Cyber Power Model #CSB600WS.
- 2.29 Passive Local Origination Wall Plate; The wallplate will serve as the Main Input location to the Kitchen Menu Boards. The system will use a HDMI Distribution Amplifier for distribution of the Input to all Flat Panels. Provide all patch cables for the system. See Passive Flat Panel A/V Diagram for wall plate requirements. Provide the following interfaces at the wallplate location;
 - 2.29.1 Provide (1) Single Gang wallplate at the Input location (Shown as the "LO" symbol on the drawings). Provide (1) HDMI with audio passive feed-through digital input wallplate Extron Model #WPD-110A on a Single Gang Decora Style faceplate at Interface (LO) Input wallplate location in the Kitchen Managers Office Room #410. Refer to the AV Wiring Diagrams for additional requirements.
 - 2.29.2 Provide (1) Single Dual Gang wallplate at each Flat Panel location (Shown as the "FP" symbol on the drawings). Provide (1) HDMI with audio passive feed-through digital input wallplate wallplates Extron Model #WPD-110A on a Single Dual Gang Decora Style faceplate at each Flat Panel (FP) wallplate location above the accessible ceiling. Refer to the AV Wiring Diagrams for additional requirements. Wallplate is not required at Menu Board #1 location as the HDMI Patch Cable from the HDMI DA can be plugged directly into HDMI Input on the Flat Panel.
 - 2.29.3 Provide (1) Fiber Optic/Copper Hybrid HDMI Cable from the Passive HDMI Input Wallplate in the Manager's Office at the "2P/LO" location to the 4-Port HDMI DA installed behind Menu Board Flat Panel #1 "FP/2P" as shown on the Flat Panel AV System Diagram.
 - 2.29.4 Provide (1) Extron Model #DA HD 4K Plus HDMI Distribution Amplifier (DA) at Menu Board Flat Panel #1 (as designated on the drawings) for distribution of the HDMI Input from the Kitchen Manager's Office to all of the Flat Panel Menu Boards. Contractor shall install the DA behind Flat Panel #1 on a Pole Mount Adapter Extron Model #PMK 155 (Color to match Column). Attach DA to adapter. Connect the HDMI Input Cable from the Kitchen Manager's Office to the HDMI Input on the DA. Provide HDMI Patch Cables from the DA to the HDMI Inputs on each of the (4) Flat Panel Menu Boards, length as required. Refer to the Kitchen Menu Board AV Diagram. Neatly dress and store any cable slack above the ceiling. Power for the DA will be connected to the surge suppressor at the Flat Panels.



- 2.29.5 Contractor shall furnish and install (1) 12-Foot Extron HDMI Ultra Series High Speed patch cable assemblies High Speed 90° Swivel-Type HDMI patch cable to the Kitchen Manager's Laptop or PC. The 90° HDMI end of the patch cable shall be connected to the faceplate to allow the cable to drop straight down along the wall. Refer to the patch cable section for the exact patch cable requirements.
 - 2.29.6 Provide an HDMI (Female) to DisplayPort (Male) adapter for the Flat Panel System. The adapter shall be provided with the HDMI and Audio patch cable assemblies.
 - 2.29.7 All wallplates shall be the Extron Decora style. Color of plates is to be confirmed by the Contractor prior to installation

Portable ADA Assistive Listening System

- 2.30 The Assisted Listening System shall be furnished and installed to meet CBC Section 11B-219 and comply with CBC Section 11B-706 and the ADA requirements for hard-of-hearing. Contractor shall furnish (1) Portable ADA Assistive Listening Systems Kit that may be used for Classrooms or other meeting spaces.
 - 2.30.1 Per ADA Assistive Listening System CBC Section 11B-706.3 "The minimum number of receivers to be provided shall be equal to 4% of the total number of seats, but in no case less than two. 25% minimum of receivers provided, but no fewer than two, shall be hearing aid compatible."
 - 2.30.2 The Grossmont UHSD has determined that a portable ADA Assistive Listening System shall be provided for the installed Audio-Visual Systems. Contractor shall provide the ADA Systems as shown in the project specifications.
 - 2.30.3 Provide for each Kit; A self-contained portable wireless FM transmitter and receivers inside a self-contained carrying case. Portable ADA Assistive Listening system shall be as manufactured by Williams Sound Corporation, Phone 1-800-843-3544. Provide self-contained FM based system Model #FM ADA Kit 37 RCH with rechargeable batteries.
 - 2.30.4 Kit Contains; (1) PPA T46 transmitter, (4) PPA R37 receivers, (4) HED 027 headphones, (1) MIC 090 Mini Lavalier microphone, (1) MIC 049 conference microphone, (1) CCS 029 carrying case, (1) NKL 001 neck loop receiver, (1) ADA wall plaque and (5) BAT 026-2 "AA" batteries.

Audio/Video Patch Cables

2.31 All patch cables must be factory manufactured. All patch cables shall be in a length as required to provide the proper operation of the equipment, unless otherwise noted. Contractor is responsible for confirming all connector gender requirements prior to ordering.

- 2.32 Audio Patch Cables 2-feet to 25-feet in length for Installation Connections; All 3.5mm stereo audio cable assemblies shall be a male to male cable fully shielded cable with 3.5mm bayonet style connectors. Extron Mini Audio Cables Series (Or Approved Equal). Provide minimum length of 2 feet.
- 2.33 Audio Patch Cables 12 feet in length for Input Wallplate Connections; All 3.5mm stereo audio cable assemblies shall be a male to male cable fully shielded cable with 3.5mm bayonet style connectors. Extron Mini Audio Cables Series (Or Approved Equal). See the AV System Diagrams in the drawings and AV Input Wallplate requirements in the specifications for further instructions.



- 2.34 HDMI Cable Assemblies 3-feet to 12 feet in length for Input Wallplate Connections and HDMI Device connections; All HDMI patch cables must be 4K/30 verified and must conform to the HDMI Premium and High Speed cable standards. Cables shall be furnished with 90° swivel head design, Vanco Pro Digital High Speed HDMI Swivel Cable Model #299012 (Or Approved Equal), UL and CL3 rated. See the AV System Diagrams in the drawings and AV Input Wallplate requirements in the specifications for further instructions.
 - 2.35 HDMI Patch Cables 1.5-feet to 15-feet in length for Installation Connections; All HDMI patch cables must be 4K verified, ultra-flexible construction and must conform to the HDMI High Speed cable standards. Patch cable shall be Extron HDMI Ultra Series High Speed patch cable assemblies (Or Approved Equal). Length of patch cable shall be as required for proper operation.
- 2.36 Fiber Optic/Copper Hybrid HDMI Cable Assemblies 33-feet to 66-feet in length for Installation Connections; All HDMI patch cables must be 4K/30 verified and must conform to the HDMI Premium and High Speed cable standards. HDMI cable assemblies must be a Fiber Optic/Copper Hybrid construction with detachable ends. Cables shall be Hall Research CHD-DE* 4K Javelin™ Active HDMI Cable w/Detachable Ends or Kramer CP-AOCH Series High Speed. Length of patch cable shall be as required for proper operation.
 - 2.36.1 HDMI cable assembly must be installed with the manufacturer furnished "cable pulling sock". Damaged or inoperable cable assemblies due to improper installation procedures shall be replaced by the Contractor at no expense to the District. Please note Manufacturer's Cautionary Warning on product specification sheet "DAMAGED DUE TO CONNECTOR BEING PULLED HARDER THAN 20 kg, IS NOT COVERED BY WARRANTY To pull cable through conduits or tight spaces, never grab the connector, as it is easy to exceed the force limit on the connector, instead, remove the detachable end, protect the connector using a cable pulling sock and make sure the force is applied directly to the cable jacket."
- 2.37 Category-6 Patch Cables 25-feet or Less; Category-6 UTP patch cables shall be as manufactured by Commscope in the color as shown on the Color Chart in the Detail Drawings.

- 2.38 All patch cables shall be provided for each type of connection required to provide a complete and operational system. All patch cables shall be factory manufactured).
- 2.39 All patch cables shall be provided for each type of connection required to provide a complete and operational system. All patch cables shall be factory manufactured.

Training

- 2.40 Portable Equipment shall be furnished and spares supplied to the designated representative of the Client, along with complete documentation of the materials provided. Where applicable, deliver portable equipment in the original manufacturer's supplied packaging.
- 2.41 Contractor will provide a minimum of 4 clock hours of on-site training for site staff on the Classroom A/V systems. Training for personnel shall be provided by certified technology specialists. The scope of training shall encompass system operation and procedures. Technician training should include an integrated information overview, media retrieval procedures as well as operation procedures for local control configurations. The contractor shall provide a detailed written outline clearly describing the proposed plan for all training, for approval by the Engineer and Owner's representative.
 - 2.41.1 Training for staff will include basic system concepts. Faculty and staff will need to know how to power on/off the system, and how to access one or more media resources via remote control. Training should include use and operation of audio/video devices and techniques and trouble-shooting tips. Trainers should incorporate hands-on techniques to maximize staff opportunity to incorporate and develop curriculum that is both meaningful and targeted for their student needs. Clearly written support materials should be provided to all training participants. Manual describing operation and use of the system shall also be provided.

PART 3 - INSTALLATION AND EXECUTION

- 3.1 Verify that all electrical requirements including junction boxes, empty conduit and power circuits and receptacles are in place as shown on the drawings.
- 3.2 Receive, check, unload, handle, store, and adequately protect equipment and materials to be installed as part of the contract. Store in areas as directed by the owner's representative. Include delivery, unloading, setting in place, fastening to walls, floors, ceilings, or other structures where required, interconnecting wiring of system components, equipment alignment and adjustment, and other related work whether or not expressly defined herein.
- Installation practices shall follow "standard broadcast wiring" and installation practices, as excerpted from "Recommended Wiring Practices, "Sound System Engineering", (2nd Edition) D. Davis, and Performed to the highest standards of acknowledged industry practices. Upon request the A/V contractor shall furnish all equipment and labor to verify the compliance with the following:

Optical:

- 3.3.1 Center to corner light fall off shall be less than 50% for video/data projectors.
- 3.3.2 Center to corner light fall off shall be less than 35% for optical projectors.
- 3.3.3 Images shall be level and square with the appropriate aspect ratio.
- 3.3.4 Image shall be free from visible vibration.

Audio System:

- 3.3.5 Signal-to-noise ratio (including crosstalk): 55-dB minimum.
- 3.3.6 Total harmonic distortion: 0.1% maximum from 30 Hz to 15,000 Hz.
- 3.3.7 System frequency response: ±1.0 dB, 20 Hz to 20,000 Hz.
- 3.3.8 Program reproduction system with point-source loudspeakers: Flat response from 63 Hz to 2.5 kHz \pm 2-dB, decreasing uniformly from a relative level of 0-dB at 2.5 kHz to a relative level of -10-dB at 10 kHz as measured on axis of loudspeaker.
- 3.3.9 Sound output capability: Program levels of not less than 100 dB without objectionable distortion, rattles, or buzzes.
- 3.3.10 Hum and noise is inaudible (below the background noise level of the space) under normal operation and as observed in normal seat locations.

Video System:

- 3.3.11 Signal-to-noise ratio (peak to RMS, unweighted DC to 4.2 MHz): 55-dB minimum.
- 3.3.12 Crosstalk (unweighted DC to 4.2 MHz): 45-dB minimum.
- 3.3.13 Frequency response: ± 0.5 dB to 4.2 Mhz.
- 3.3.14 Line and field tilt: 2% minimum.
- 3.3.15 Differential gain: 3% maximum.
- 3.3.16 Differential phase: 22 maximum.
- 3.3.17 System timing sync coincidence: within 50 nanoseconds.
- 3.3.18 Color timing: ± 22at 3.58 Mhz.

Radio Frequency (RF) System:

- 3.3.19 Visual Carrier level: +0 dBmV minimum and +16 dBmV maximum at system outlets for utilized channels.
- 3.3.20 Adjacent Channel Visual Carrier: 3-dB maximum differential at system outlets.
- 3.3.21 Non-adjacent Channel Visual Carrier: 0-dB maximum differential at system outlets.
- 3.3.22 Carrier-to-Noise Ratio: 42-dB minimum
- 3.3.23 Amplitude Response: Flat ± 1.0 Db
- 3.3.24 Signal-to-Noise Ratio: 45-dB minimum for the maximum level of the signal and the interference resulting from cross modulation from other signals on the system, after demodulation.
- 3.3.25 Outlet-to-Outlet Isolation: 25-dB minimum.
- 3.4 Adhere to manufacturer's published specifications for pulling tension, minimum bend radii, and sidewall pressure when installing cables.
- 3.5 Where manufacturer does not provide bending radius information, minimum bending radius shall be 10 times cable diameter. Arrange and mount equipment and materials in a manner acceptable to the engineer and the owner.
- 3.6 Attach cables to permanent structure with suitable attachments at intervals of 48 to 60 inches. Support cables installed above removable ceilings. Install adequate support structures for 10 foot cable service loops at each TC.
- 3.7 Mark all cables and patch cords or jumpers with permanent, non-handwritten number or letter cable markers within six inches of both ends. All cables shall be marked. Cable marking codes shall correspond to run sheets.
- 3.8 All faceplates shall be labeled with type-written permanent labels securely attached to the faceplates identifying all A/V connections. (ie; Doc Cam, PC, DVD, etc.) Cables at the projector and A/V switch shall be also be labeled to match the faceplates.
- 3.9 Furnish screw-type terminal blocks, boards, strips or connectors for cables that interface with racks, cabinets, consoles or equipment modules. Attach wires terminating at screw-type terminals with crimp-on lugs. "Telephone-style" punch down blocks are not acceptable for signal or data wiring.
- 3.10 Group cables according to signals being carried. To reduce signal contamination, form separate groups for the following:
 - 3.10.1 Power cables.
 - 3.10.2 Control cables.
 - 3.10.3 Video cables.
 - 3.10.4 Camera cables.

- 3.10.5 Audio cables for signals less than minus 20 dBm.
- 3.10.6 Audio cables for signals between minus 20 dBm and plus 30 dBm.
- 3.10.7 Audio cables for signals above plus 30 dBm.
- 3.10.8 Broadband RF cables.
- 3.11 Run power cables, control cables, and high level cables on the left side of an equipment rack as viewed frm the back. Run other cables on the right side of an equipment rack.
- 3.12 Cut cables (except video, camera and RGBS cables, which must be cut to electrical length) to the length required by the run. All wire and cable shall be continuous and splice-free for the entire length of run. For equipment mounted in drawers or on slides, provide the interconnecting cables with a service loop of appropriate length.
- 3.13 Install no cable with a bend radius less than that recommended by the manufacturer.
- 3.14 Provide strain relief for cables. Provide connectors with metal shell/casings. Provide a minimum of three feet of free cable coiled in a floor pocket. Use spiral wrap to group similar cable types.
- 3.15 All shielded cables shall be insulated. Do not permit shields to contact conduit, raceway, boxes, panels, or equipment enclosures. Tin all terminated shield drain wires and insulate with heat-shrink tubing.
- 3.16 Land all field loudspeaker wiring entering each rack at terminal devices prior to connection to equipment or devices. Land loudspeaker level control cables at screw or tubular clamp type barrier blocks on the left side of the equipment rack as viewed from the rear. Make all connections to screw-type barrier blocks with insulated crimp-on spade lugs. Size all lugs properly to assure low-resistance connections.
- 3.17 Separately dress, route and land microphone and line level cables directly to equipment.
- 3.18 Use only rosin core 60/40 tin/lead solder for all solder connections.
- 3.19 All cables shall be neatly labeled with wrap around type written labels.
 - 3.19.1 On the cable at the rear of the faceplate or termination location at the control location. Requires the use of a self laminating wrap around label. Brady Label self laminating 1.2" by 1.5" wrap around label Part # 29689 (NO ACCEPTABLE EQUAL)
- 3.20 Lace, tie or harness wire or cable in accordance with accepted professional practice. Dress, lace or harness all wire and cable to prevent mechanical stress on electrical connections; no wire or cable shall be supported by a connection point. Provide service loops where harness of different classes cross or where hinged panels are to be interconnected.
- 3.21 Upon completion of the work, remove all refuse and rubbish from and about the premises, and leave the relevant areas and equipment clean and in an operational state.

- 3.22 During the installation, and up to the date of final acceptance, protect finished and unfinished work against damage and loss. In the event of such damage or loss, replace or repair such work at no cost to the owner.
- 3.23 Prior to final acceptance, provide minimum of three complete sets of drawings showing all cable numbers and construction details in accordance with the actual system installation. Revise the device layout drawings to represent actual installation locations and coordinate these with the electrical contractor. The operation manual shall contain all instructions necessary for the proper operation of the installed system and manufacturer's instructions. The maintenance manual shall contain all information required for the "proof of performance" as required and all manufacturers' maintenance information.

Inspection and Test upon Completion

- 3.24 Check out and final connections to the system shall be made by the Contractor of the products installed. Technicians shall demonstrate operation of the complete system and each major component to the Owner.
- 3.25 System field wiring diagrams shall be provided to the owner by the system Installer (Contractor) prior to completion of the installation.
- 3.26 All materials and installation shall be guaranteed to be free of defects in material and workmanship for <u>two years</u> after final acceptance of installation and test.
- 3.27 Upon completion of the installation, four (4) copies of complete operational instructions shall be furnished, complete with record drawings. Instructions shall include part numbers and names, addresses, and telephone numbers of parts source. Final payment shall not be made until operational and maintenance manuals have been received.
- 3.28 The Contractor shall be responsible to provide service within 24 hours (or by mutual consent) after notification by the Owner or his representative, within the hours of 8:00 AM to 5:00 PM from Monday through Friday. Service request forms shall be supplied by the Contractor and the faxing or mailing of such a request form shall constitute notification by the Owner of a service request.
- 3.29 The Contractor shall provide two "preventative maintenance" service calls, spaced six months apart, for cleaning of all source devices and overall inspection of the system.

PROJECT CLOSEOUT

- 3.30 Prior to completion of project, compile a complete equipment maintenance manual for all equipment supplied under sections of this division, in accordance with these specifications and as described below.
- 3.31 Equipment Lists and Maintenance Manuals:
 - 3.31.1 Prior to completion of job, contractor shall compile a complete equipment list and maintenance manuals. The equipment list shall include the following items

for every piece of material equipment supplied under this section of the specifications:

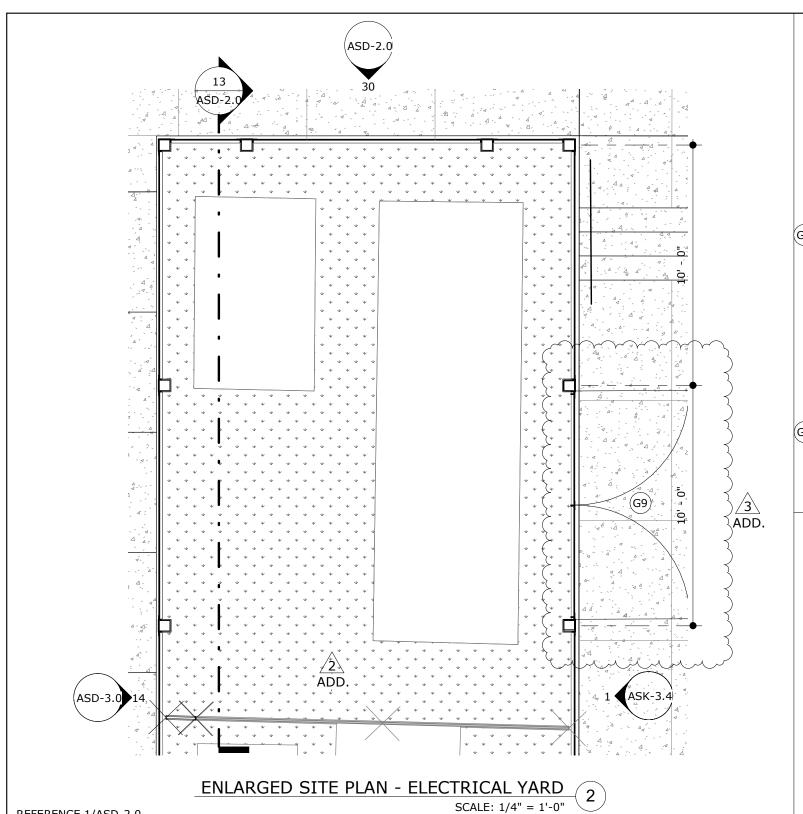
- 3.31.1.1 Name, model, and manufacturer.
- 3.31.1.2 Complete parts drawings and lists.
- 3.31.1.3 Local supply for parts and replacement and telephone number.
- 3.31.1.4 All tags, inspection slips, instruction packages, etc., removed from equipment as shipped from the factory, properly identified as to the piece of equipment it was taken from.
- 3.32 Maintenance manuals shall be furnished for each applicable section of the specifications and shall be suitably bound with hard covers and shall include all available manufacturers' operating and maintenance instructions, together with "as-built" drawings to properly operate and maintain the equipment. The equipment lists and maintenance manuals shall be submitted in duplicate to the Architect for approval not less than 10 days prior to the completion of the job. The maintenance manuals shall also include the name, address, and phone numbers of all subcontractors involved in any of the work specified herein. Four copies of the maintenance manuals bound in single volumes shall be provided.

RECORD DRAWINGS

- 3.33 The contractor shall maintain record drawings as specified in accordance with these specifications, and as noted below.
- 3.34 Drawings shall show locations of all concealed and exposed conduit runs, giving the number and size of conduit wires. Underground ducts shall be shown with cross section elevations and shall be dimensioned in relation to permanent structures to indicate their exact location. Drawing changes shall not be identified only with referencing CORs and RFIs, the drawings shall reflect all the actual changes made.
- 3.35 One set of record drawings shall be delivered to the Engineer in accordance with these specifications.

END OF SECTION

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(E) BLDG. 1100 A#04-109668 < < < < < < < BOYS ADD. ADD. ADD. (E) ELEC. BLDG. ADD. (E) SHADE STRUCTURE A#04-108379 N.I.C. 14604 N.I.C.

PARTIAL OVERALL SITE MODERNIZATION - CODE ANALYSIS

SCALE: 1" = 40'-0"

GATE SCHEDULE					
NO	CATE CIZE	MATERIAL	HARDWARE	NOTEC	ELEV DETAIL
NO.	GATE SIZE	MATERIAL	SET	NOTES	ELEV. DETAIL
G1	PR 5' - 0" X 8' - 0"	CLF.	19	1,3	16/ASD-1
G2	PR 7'-10" X 8' - 0"	STL.	19	3	10/ASD-1
G3	PR 6' - 0" X 8' - 0"	CLF.	19	1,3	16/ASD-1
G4	PR 6'-0" X 8' - 4"	CLF.	19		16/ASD-1
G5	PR 6'-0" X 8' - 4"	CLF.	19		16/ASD-1
G6	3'-0" x 8'-0"	CLF.	22	2	20/ASD-1
G7	PR 4'-9" X 8' - 0"	STL.	19	3	10/ASD-1
<u>G8</u>	PR 4'-9" X 8' - 0"	STL.	19	3	10/ASD-1
{G9}	PR 4'-9" X 8' - 0"	STL.	19	3	10/ASD-1
3	FK 4-5 A 0 - U		19	3	10/A3D-1

ADD.

REFERENCE: SHEET AS0.2

REFERENCE 1/ASD-2.0

ELECTRICAL YARD GATE

GROSSMONT HIGH SCHOOL

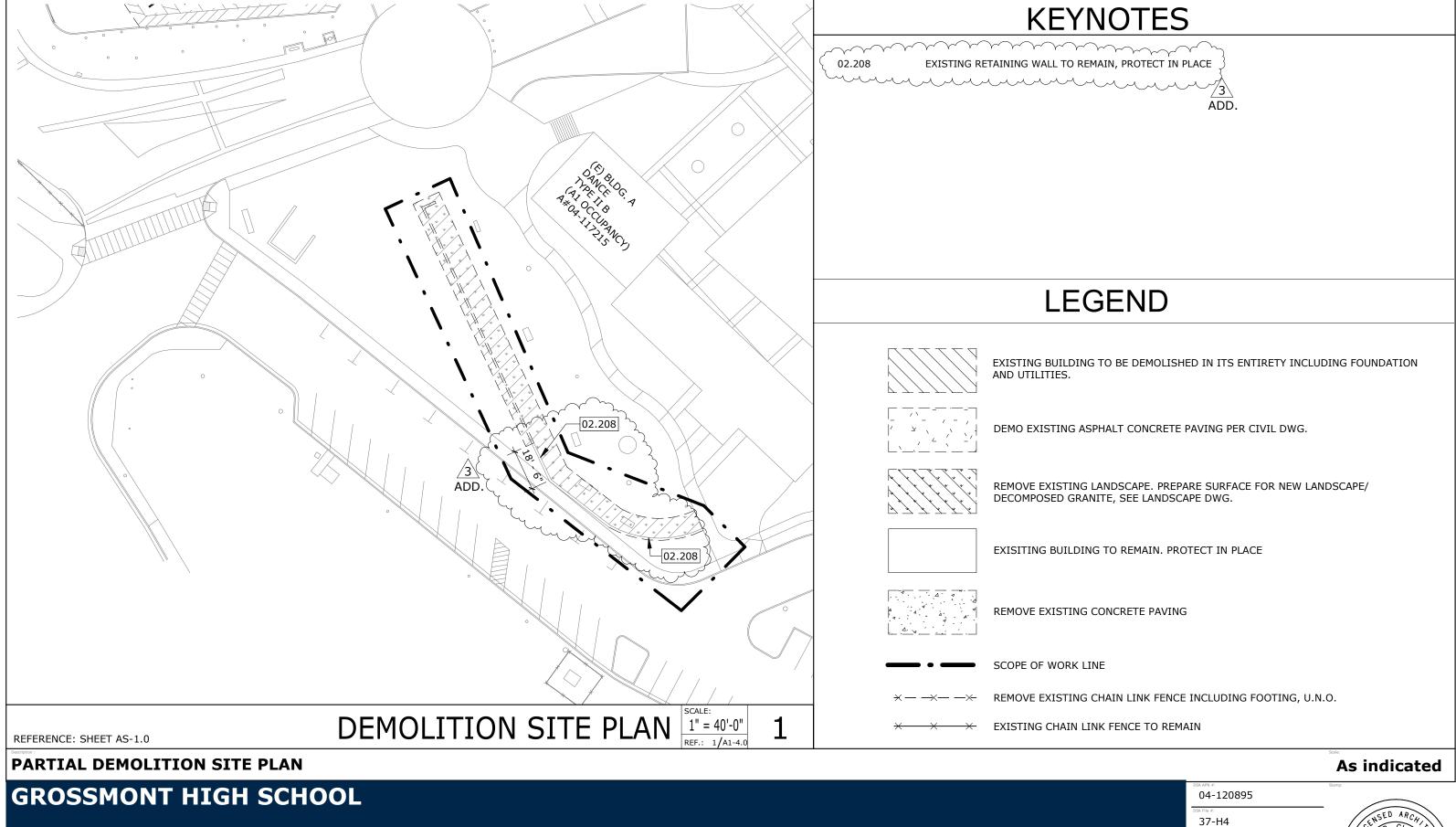
GHS KITCHEN & WEIGHTROOM GROSSMONT UNION HIGH SCHOOL

As indicated

ASK-3.1

04-120895

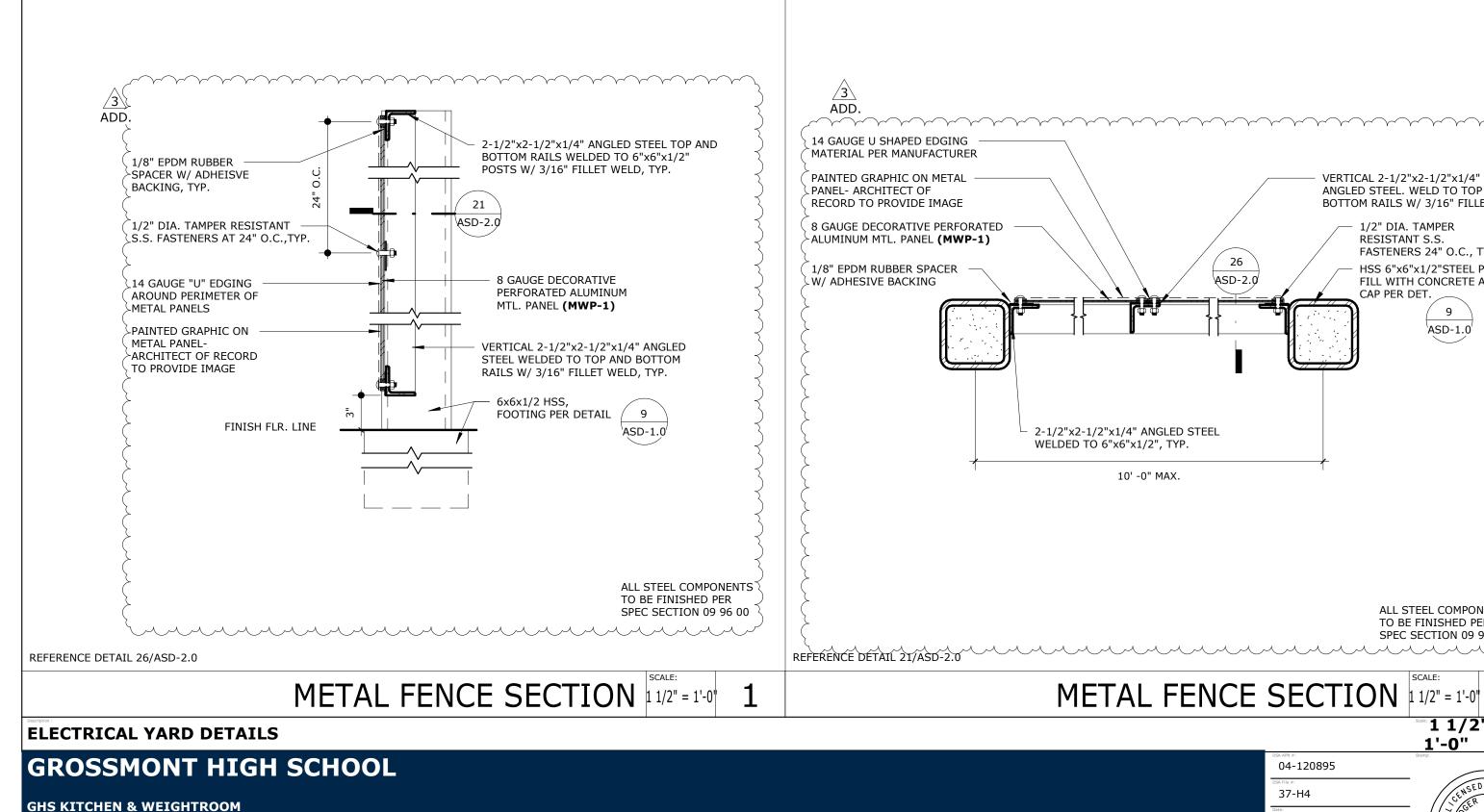
08-17-22



GHS KITCHEN & WEIGHTROOM GROSSMONT UNION HIGH SCHOOL

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08-16-22



RESISTANT S.S. FASTENERS 24" O.C., TYP. HSS 6"x6"x1/2"STEEL POSTS. FILL WITH CONCRETE AND CAP PER DET. ASD-1.0 ALL STEEL COMPONENTS TO BE FINISHED PER SPEC SECTION 09 96 00

08-17-22

1-30-55

ASK-3.3

RUHNAU

VERTICAL 2-1/2"x2-1/2"x1/4"

ANGLED STEEL. WELD TO TOP AND

1 1/2" =

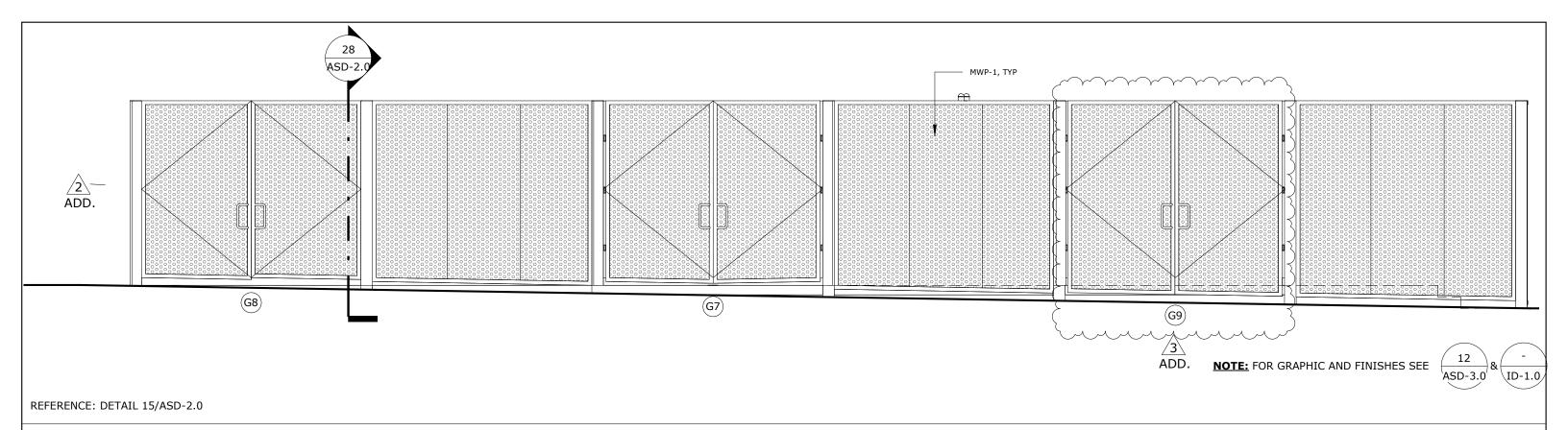
1'-0"

BOTTOM RAILS W/ 3/16" FILLET

1/2" DIA. TAMPER

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GROSSMONT UNION HIGH SCHOOL



ELECTRICAL YARD ELEVATION - EAST

1/4" = 1'-0"

GROSSMONT HIGH SCHOOL

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RUHNAU
1-30-55

CLARKE
ARCHITECTS

ASK

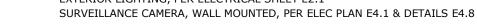


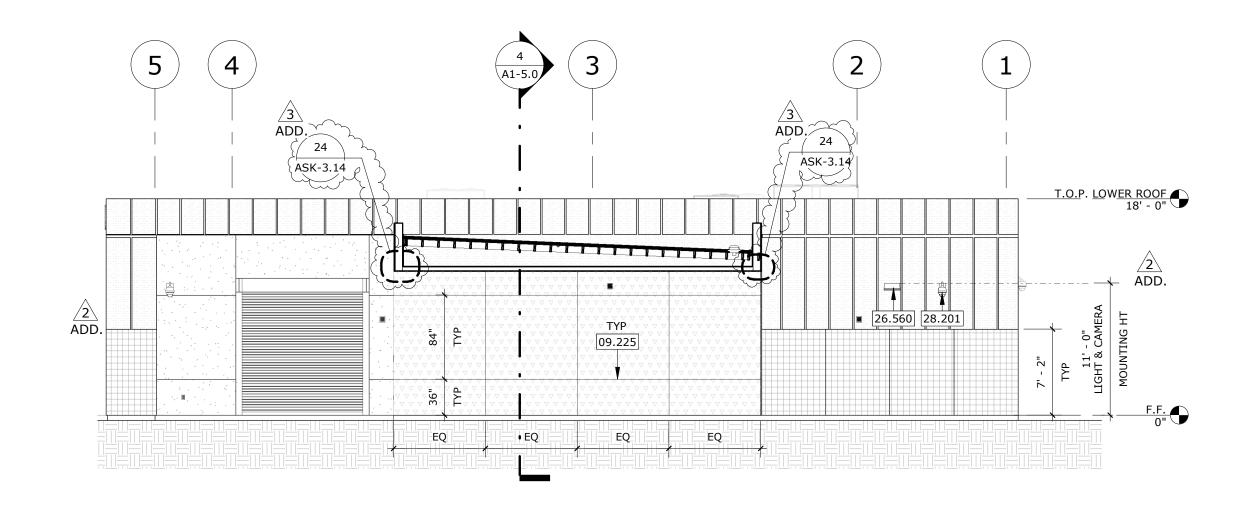
ASK-3.4

04-120895

KEYNOTES

09.225 PLASTER CONTROL JOINT PER DETAIL 11/AD-2.1 26.560 EXTERIOR LIGHTING, PER ELECTRICAL SHEET E2.1 28.201





REFERENCE DETAIL 2/A1-5.1

REVISED SECTION 6 - WEIGHT ROOM BLDG

1/8" = 1'-0"

GROSSMONT HIGH SCHOOL

GHS KITCHEN & WEIGHTROOM GROSSMONT UNION HIGH SCHOOL

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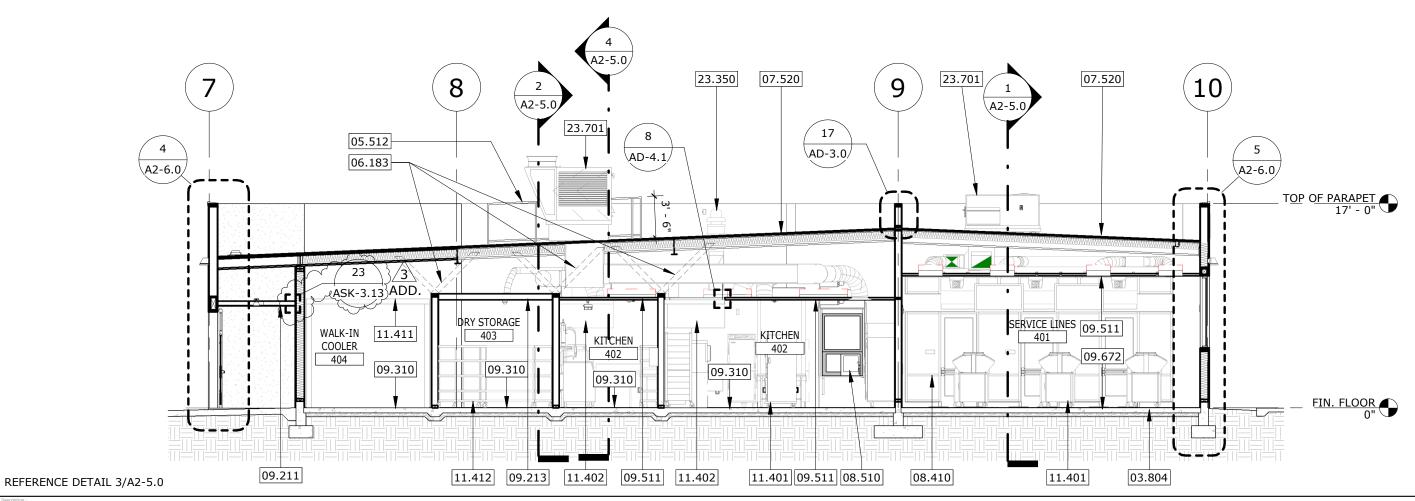
37-H4

08-16-22



KEYNOTES

```
03.804
               CONCRETE SLAB PER (BLDG 400) STRUCTURAL FOUNDATION PLAN, SHEET S2-1.0
05.512
               42" HIGH ROOF 1 1/2" SCH 40 GUARDRAIL AT ROOF W/ MAX STANCHION SPACING 4'-0" O.C. PER DETAIL 18/S0-1.8
               NON-BEARING WOOD PARTITION TOP BRACING PER STRUCTURAL DETAIL 3/S0-1.8
06.183
07.520
               ROOF ASSEMBLY PER 1/AD-3.0
08.410
               STOREFRONT ASSEMBLY, REFER TO ARCHITECTURAL FLOOR PLAN FOR TYPE
08.510
               WINDOW, REFER TO ARCHITECTURAL FLOOR PLAN FOR TYPE
               EXTERIOR CEMENT PLASTER CEILING, SEE DETAIL 26/AD-4.0
09.211
09.213
               FRAMED GYPSUM BOARD ASSEMBLY CEILING, PAINTED PER FIN. SCHED., SEE ID-1.0
09.310
               THIN-SET TILE FLOOR, SEE FINISH SCHEDULE, SHEET ID-1.0
09.511
               SUSPENDED ACOUSTICAL PANEL CEILING, REFER TO REFLECTED CEILING PLAN
09.672
               EPOXY FLOOR, W/ CONTINUOUS COVE BASE. SEE FIN. SCHED, ID-1.0
11.401
               KITCHEN EQUIPMENT PER FOODSERVICE FLOOR PLAN, SEE SHEET K 1
11.402
               KITCHEN EXHAUST HOOD PER FOODSERVICE FLOOR PLAN, SEE SHEET K 1 & K 8-2
               WALK-IN COOLER/FREEZER PREFAB INSULATED WALL PANELS PER FOODSERVICE FLOOR PLAN, SEE SHEET K 1
11.411
11.412
               FOOD STORAGE SHELVING PER FOODSERVICE FLOOR PLAN, SEE SHEET K 1
23.350
               EXHAUST FAN PER MECHANICAL ROOF PLAN
23.701
               ROOF TOP UNIT PER MECHANICAL ROOF PLAN & DETAIL 2/AD-3.0
```



REVISED KITCHEN BUILDING SECTION

1/8" = 1'-0"

GROSSMONT HIGH SCHOOL

GHS KITCHEN & WEIGHTROOM GROSSMONT UNION HIGH SCHOOL

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ASK-3.6

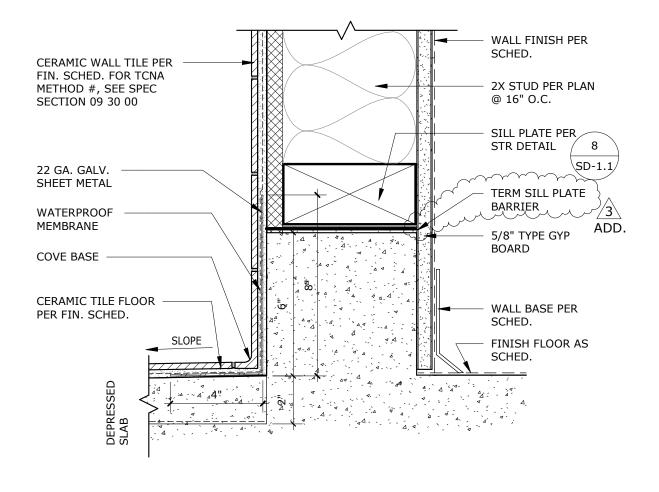
04-120895

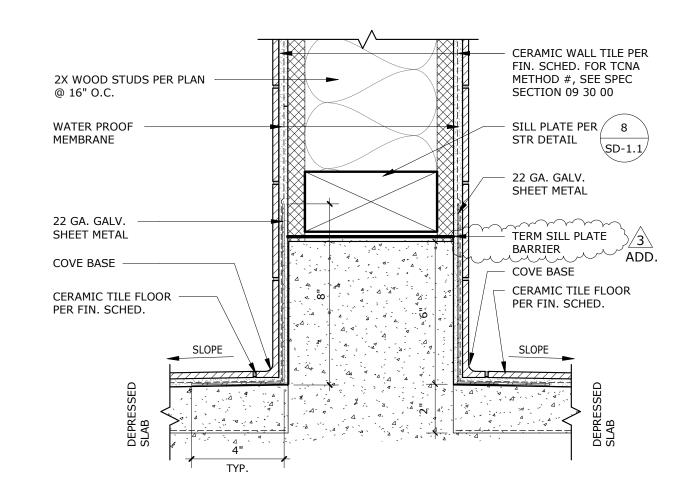
37-H4

08-16-22

1-30-55







REFERENCE DETAIL 1/AD-2.0

REFERENCE DETAIL 3/AD-2.0

INT. WALL BASE C1

INT. WALL BASE C2

04-120895

37-H4

3" = 1'-0"

WALL DETAILS

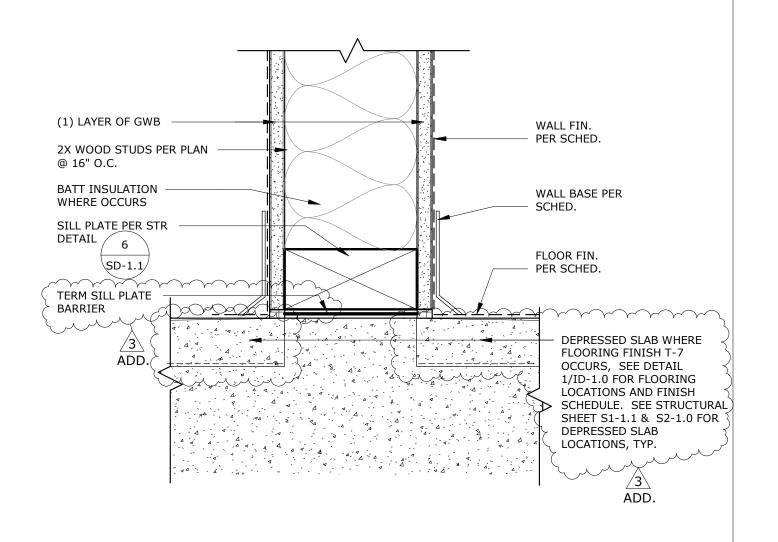
3" = 1'-0"

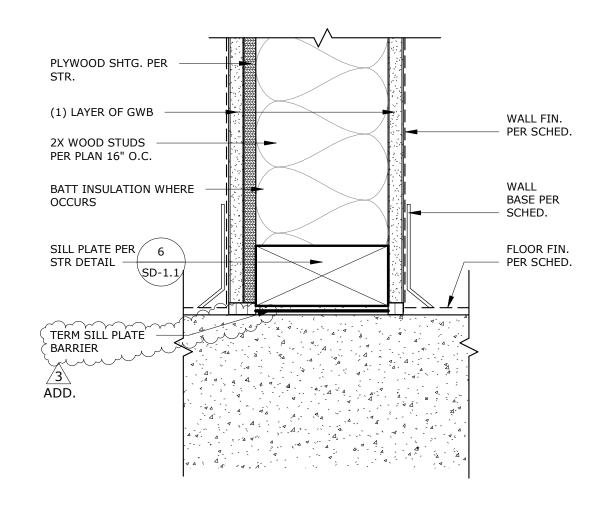
GROSSMONT HIGH SCHOOL

GHS KITCHEN & WEIGHTROOM GROSSMONT UNION HIGH SCHOOL

08-17-22 ASK-3.7







REFERENCE DETAIL 8/AD-2.0

WALL DETAILS

REFERENCE DETAIL 11/AD-2.0

INT. WALL BASE B1

INT. WALL BASE B2

04-120895

08-17-22

37-H4

3" = 1'-0"

3" = 1'-0"

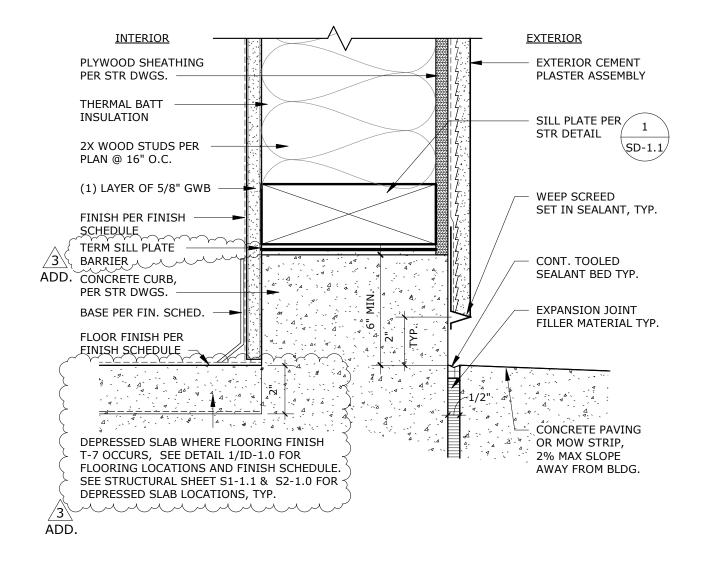
GROSSMONT HIGH SCHOOL

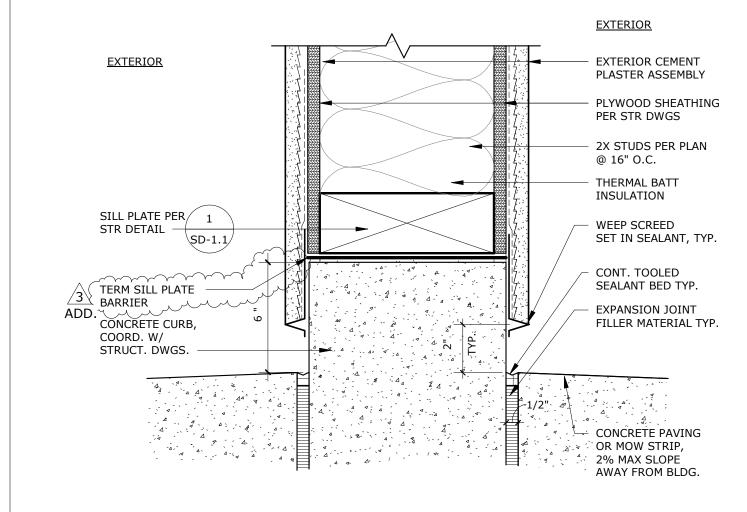
GHS KITCHEN & WEIGHTROOM

GROSSMONT UNION HIGH SCHOOL

ASK-3.8

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REFERENCE DETAIL 13/AD-2.0

REFERENCE DETAIL 16/AD-2.0

EXT. WALL BASE A1

3" = 1'-0"

EXT. WALL BASE A2

3" = 1'-0"

WALL DETAILS

3" = 1'-0"

GROSSMONT HIGH SCHOOL

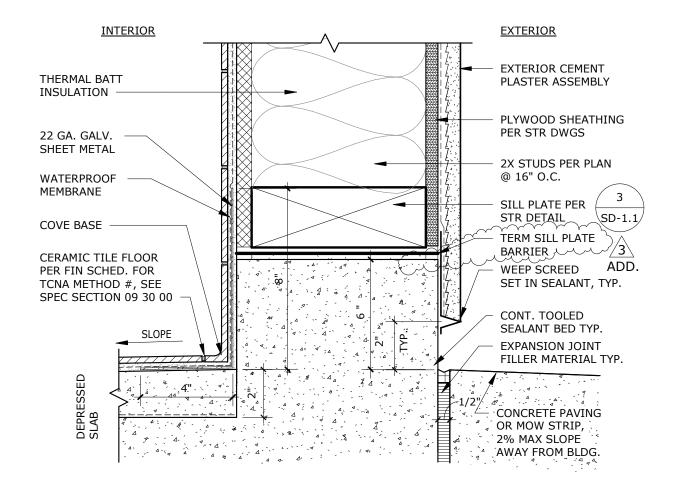
GHS KITCHEN & WEIGHTROOM GROSSMONT UNION HIGH SCHOOL

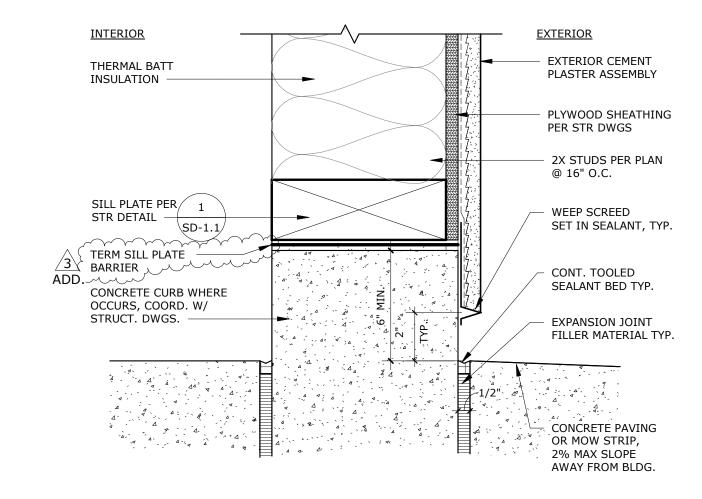
08-17-22 1-30-55

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ASK-3.9

04-120895





REFERENCE DETAIL 18/AD-2.0

REFERENCE DETAIL 21/AD-2.0

EXT. WALL BASE A3

EXT. WALL BASE A4

3" = 1'-0"

WALL DETAILS

3" = 1'-0"

GROSSMONT HIGH SCHOOL

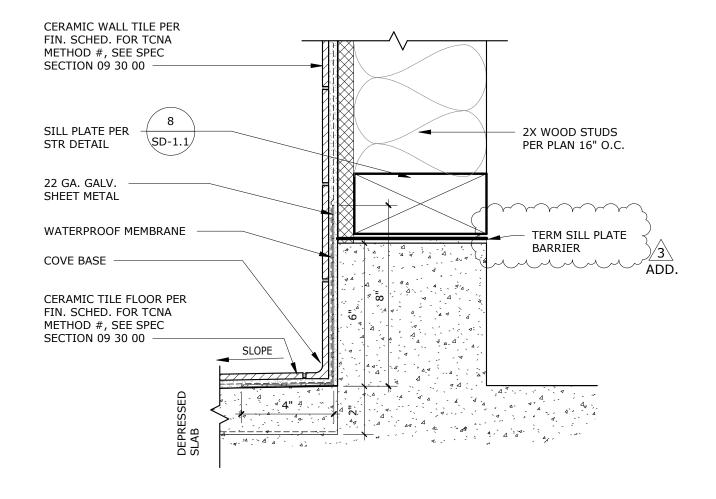
GHS KITCHEN & WEIGHTROOM GROSSMONT UNION HIGH SCHOOL

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ASK-3.10

04-120895



REFERENCE DETAIL 6/AD-2.0

INT. WALL BASE C3

WALL DETAILS

3" = 1'-0"

GROSSMONT HIGH SCHOOL

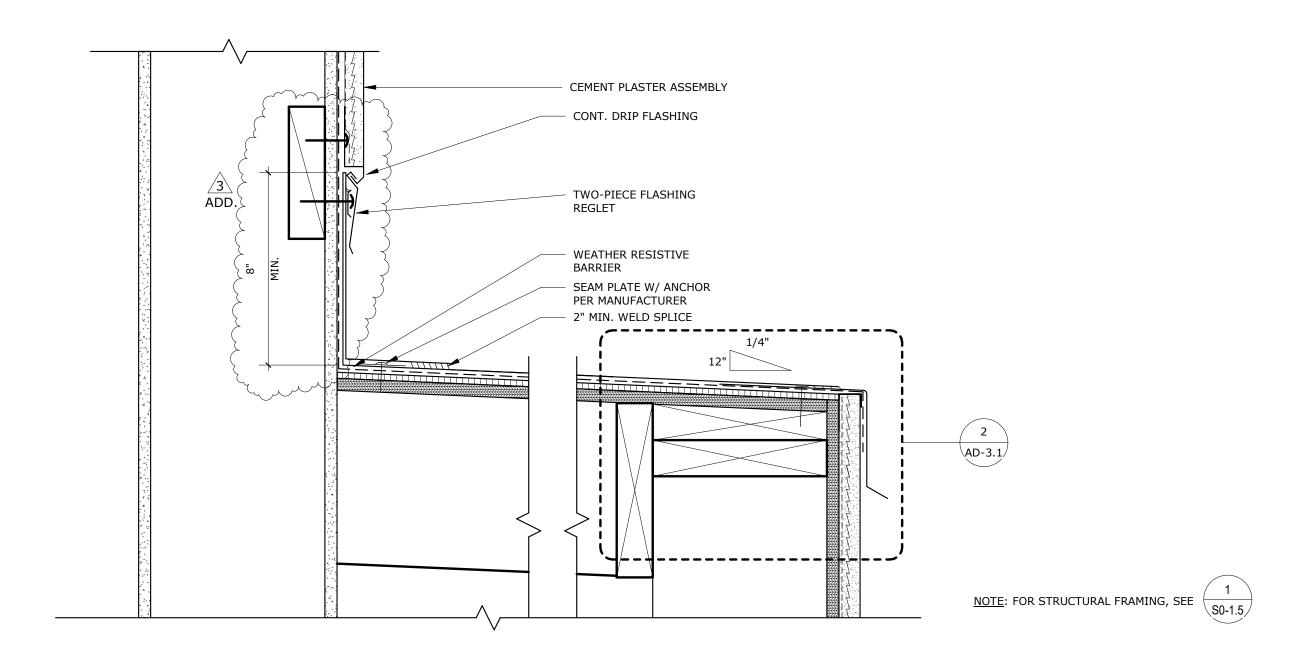
GHS KITCHEN & WEIGHTROOM GROSSMONT UNION HIGH SCHOOL

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37-H4

04-120895

08-17-22



REFERENCE: DETAIL 1/ AD-3.1

REVISED DETAIL EXT. WALL TYP. A3 @ CPL

3" = 1'-0"

GROSSMONT HIGH SCHOOL

GHS KITCHEN & WEIGHTROOM

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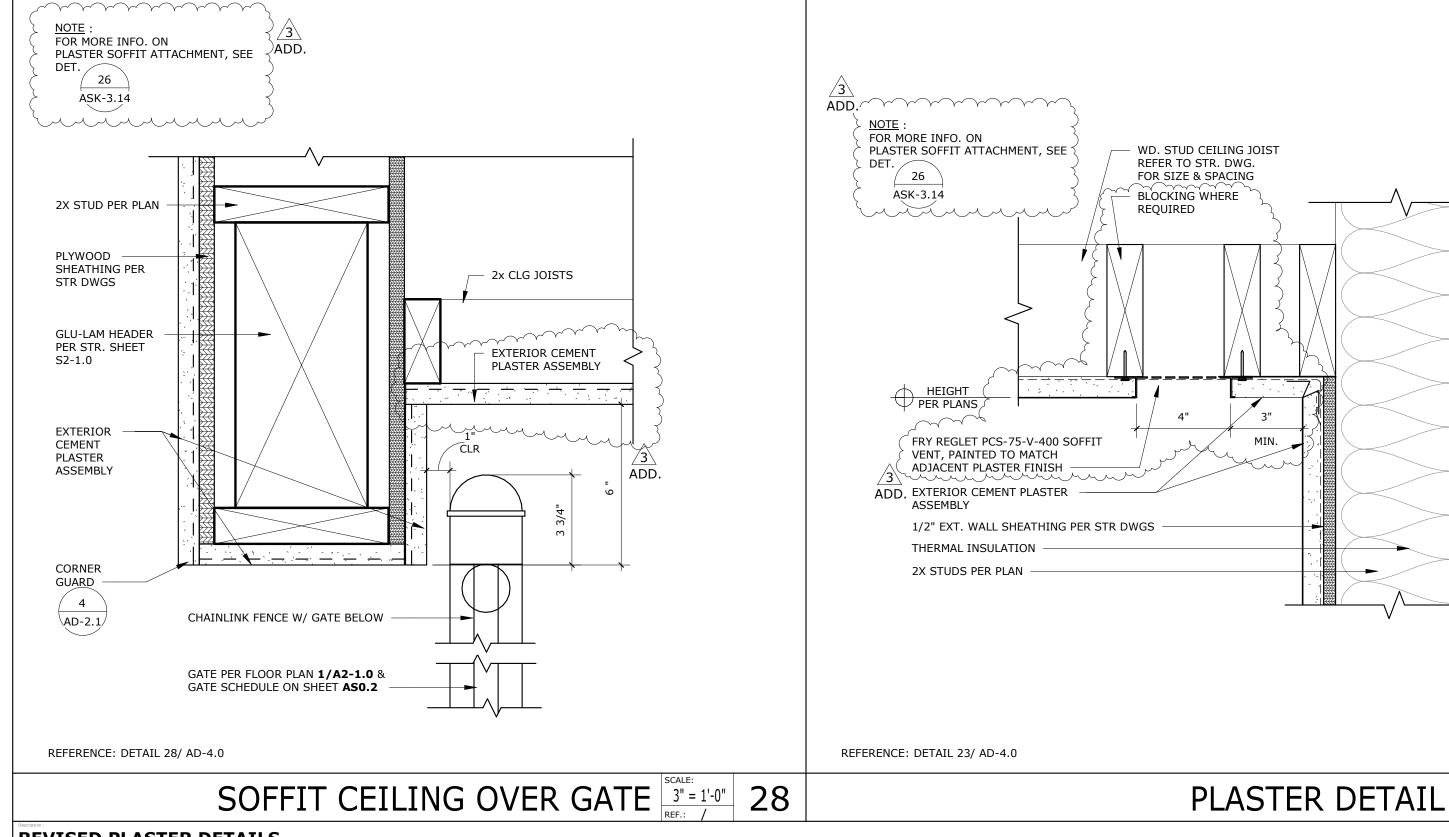
GROSSMONT UNION HIGH SCHOOL

04-120895

37-H4

08-16-22





REVISED PLASTER DETAILS

GROSSMONT HIGH SCHOOL

GHS KITCHEN & WEIGHTROOM

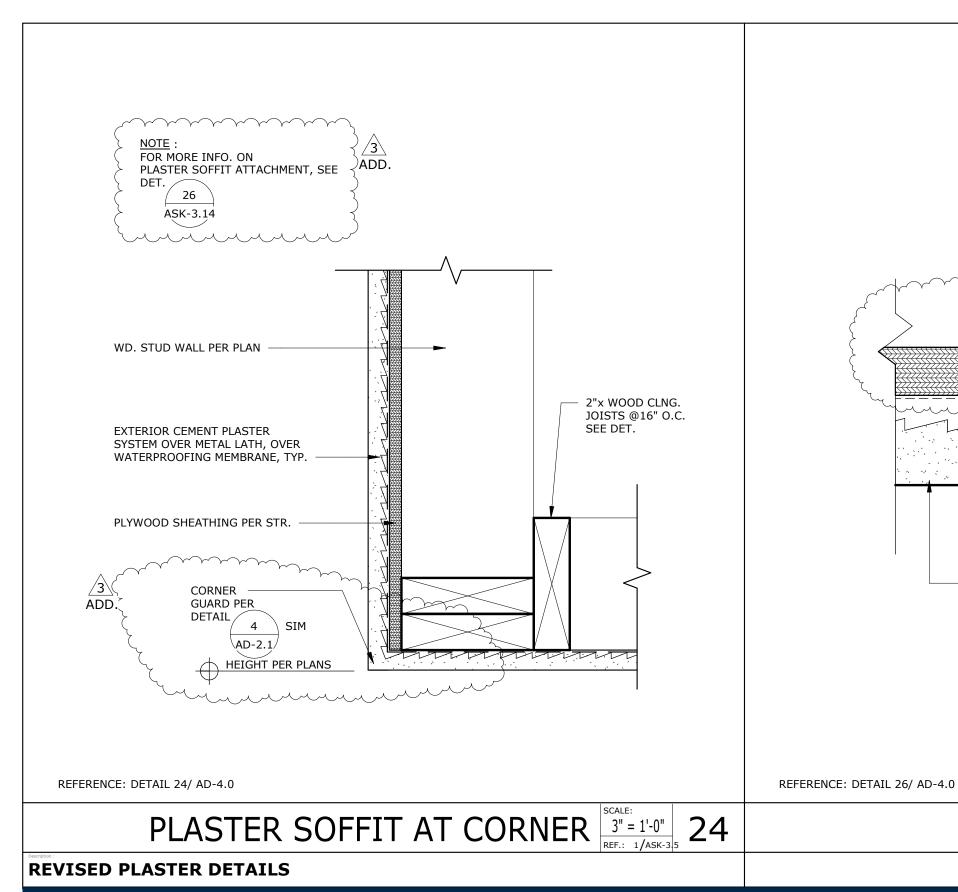
GROSSMONT UNION HIGH SCHOOL

3" = 1'-0"

04-120895

37-H4

08-17-22



WD. STUD, REFER TO STRUCTURAL FOR SIZE AND SPACING PLYWOOD SHEATHING WHERE OCCURS COORD. W/ STRUCT. ADD. 1 1/2" BARBED ROOFING NAILS W/ 5/8" HEAD 6" SCHED. EXTERIOR PLASTER SYSTEM RIBBED LATH EARTHQUAKE STAPLE, 9 GAGE 10d COMMON NAILS LAID RING SHANK (ZINC FLAT HOOKED BY 9 GA. PLATED) STAPLE AT 27" O.C. 1 1/2"

EXT. PLSTR SOFFIT

12" = 1'-0"

As indicated

26

GROSSMONT HIGH SCHOOL

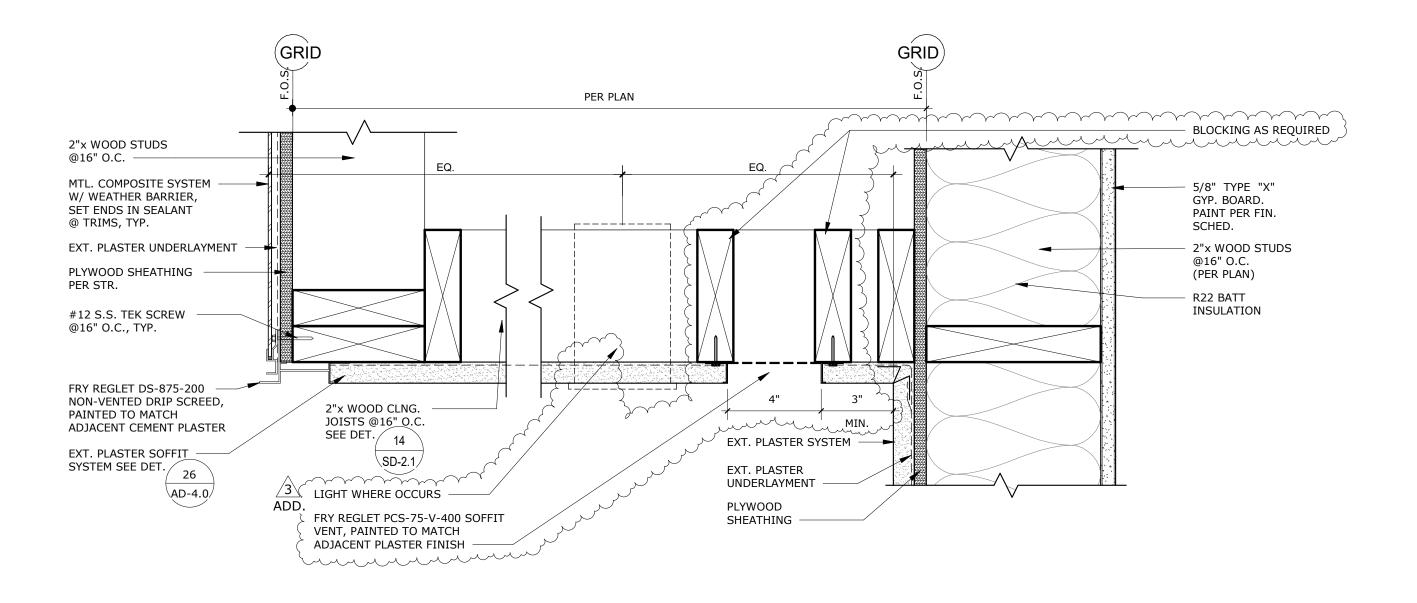
GHS KITCHEN & WEIGHTROOM

GROSSMONT UNION HIGH SCHOOL

08-17-22 **ASK-3.14**

04-120895





REFERENCE: DETAIL 1/AD-4.1

REVISED EXT. PLASTER SOFFIT @ MCP

3" = 1'-0"

GROSSMONT HIGH SCHOOL

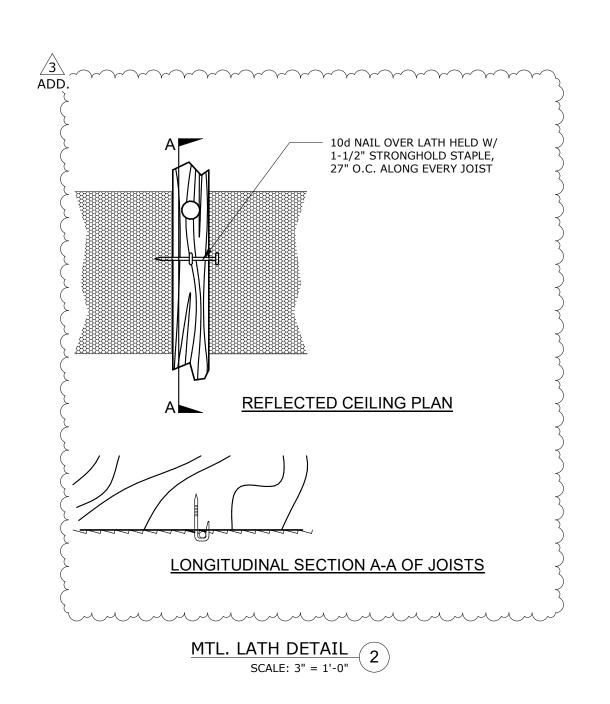
GHS KITCHEN & WEIGHTROOM GROSSMONT UNION HIGH SCHOOL

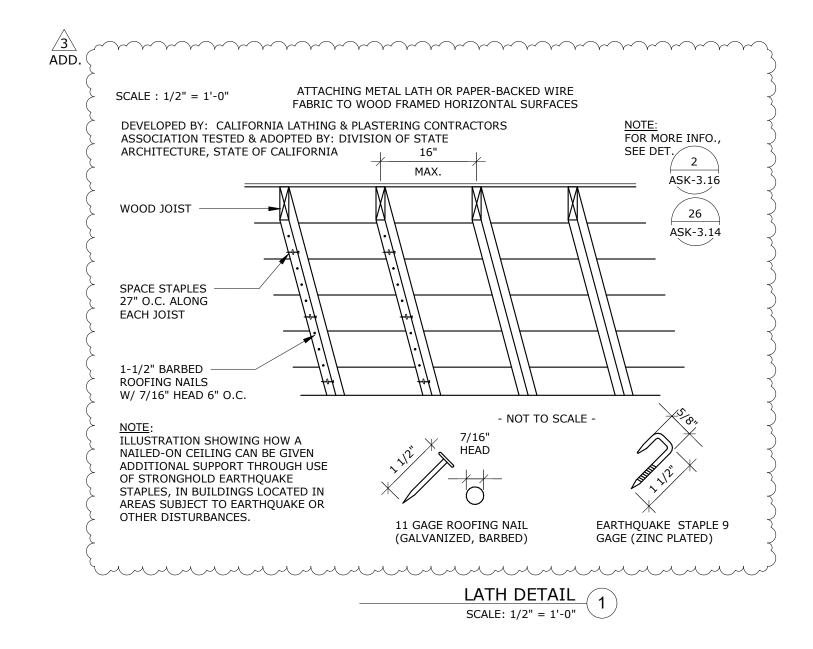
8-16-22 1-30-55 ENSED ARC

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ASK-3.15

04-120895





REFERENCE: SHEET AD-2.1 REFERENCE: S

NEW METAL LATH DETAIL

GROSSMONT HIGH SCHOOL

GHS KITCHEN & WEIGHTROOM GROSSMONT UNION HIGH SCHOOL

RUHNAUCLARKE.COM 3775 TENTH STREET, RIVERSIDE CALIFORNIA 92501(951) 684 4664 5751 PALMER WAY, SUITE C, CARLSBAD CALIFORNIA 92010 (760) 438 5899 REFERENCE: SHEET AD-2.1

As indicated

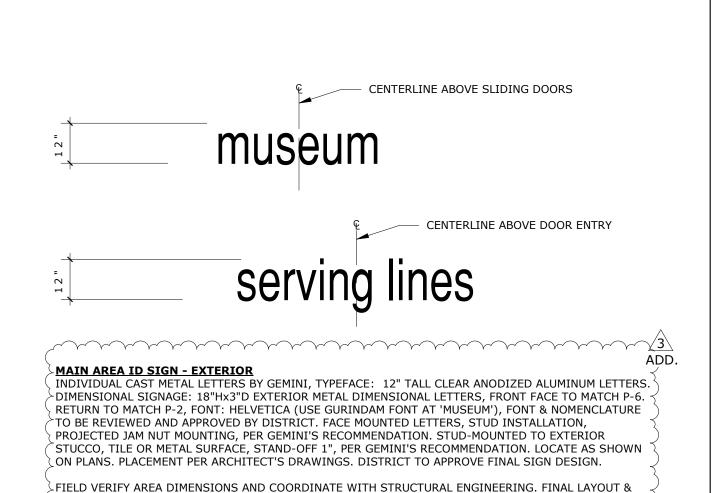
04-120895

37-H4

08-17-22

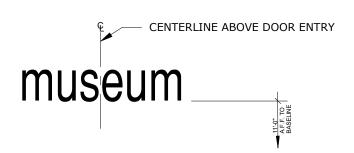
1-30-55





LETTER SPACING TO BE APPROVED BY SIGNAGE CONSULTANTS PRIOR TO FABRICATION AND INSTALL.

<u> 26A</u>



CENTERLINE ABOVE SLIDING DOORS

grossmont high school

SCHOOL ADDRESS AND MAIN AREA ID SIGN - EXTERIOR

INDIVIDUAL CAST METAL LETTERS BY GEMINI, TYPEFACE: 12" TALL CLEAR ANODIZED ALUMINUM LETTERS. DIMENSIONAL SIGNAGE: 18"Hx3"D EXTERIOR METAL DIMENSIONAL LETTERS, FRONT FACE TO MATCH P-6. RETURN TO MATCH P-2, FONT: HELVETICA (USE GURINDAM FONT AT 'MUSEUM'), FONT & NOMENCLATURE TO BE REVIEWED AND APPROVED BY DISTRICT. FACE MOUNTED LETTERS, STUD INSTALLATION, PROJECTED JAM NUT MOUNTING, PER GEMINI'S RECOMMENDATION. STUD-MOUNTED TO EXTERIOR STUCCO, TILE OR METAL SURFACE, STAND-OFF 1", PER GEMINI'S RECOMMENDATION. LOCATE AS SHOWN ON PLANS. PLACEMENT PER ARCHITECT'S DRAWINGS. DISTRICT TO APPROVE FINAL SIGN DESIGN.

FIELD VERIFY AREA DIMENSIONS AND COORDINATE WITH STRUCTURAL ENGINEERING. FINAL LAYOUT & LETTER SPACING TO BE APPROVED BY SIGNAGE CONSULTANTS PRIOR TO FABRICATION AND INSTALL.

REFERENCE: 28/AD-8.0

MAIN AREA ID

ADDRESS & MAIN AREA ID

1/2" = 1'-0"

1/2" = 1'-0'

GROSSMONT HIGH SCHOOL

GHS KITCHEN & WEIGHTROOM

REFERENCE: 29/AD-8.0

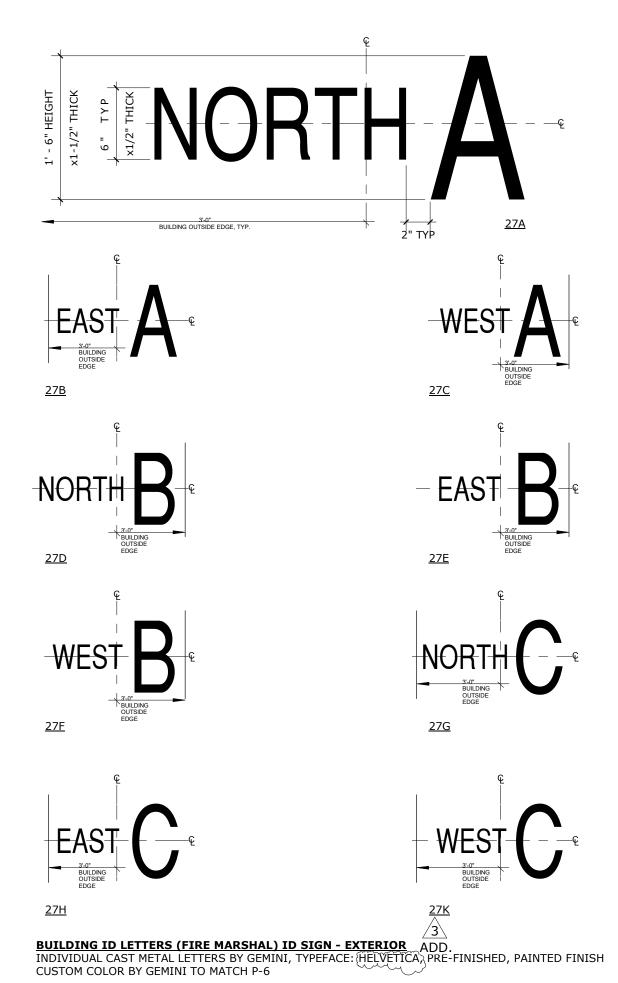
GROSSMONT UNION HIGH SCHOOL

REVISED SIGNAGE DETAILS

37-H4 08-17-22

ASK-3.17

04-120895



STUD INSTALLATION, PROJECTED JAM NUT MOUNTING, PER GEMINI'S RECOMMENDATION, STUD-MOUNTED TO EXTERIOR STUCCO SURFACE, STAND-OFF 1", 25'-0" HIGH FROM GROUND TO BOTTOM OF LARGER LETTER. LOCATED AS SHOWN ON PLANS.

REFERENCE: 26/AD-8.0

REVISED BUILDING ID LETTERS

1/2" = 1'-0"

GROSSMONT HIGH SCHOOL

GHS KITCHEN & WEIGHTROOM GROSSMONT UNION HIGH SCHOOL

RUHNAUCLARKE.COM 3775 TENTH STREET, RIVERSIDE CALIFORNIA 92501 (951) 684 4664 5751 PALMER WAY, SUITE C, CARLSBAD CALIFORNIA 92010 (760) 438 5899 RUHNAU
CLARKE
ARCHITECTS
Project #:
1-30-55
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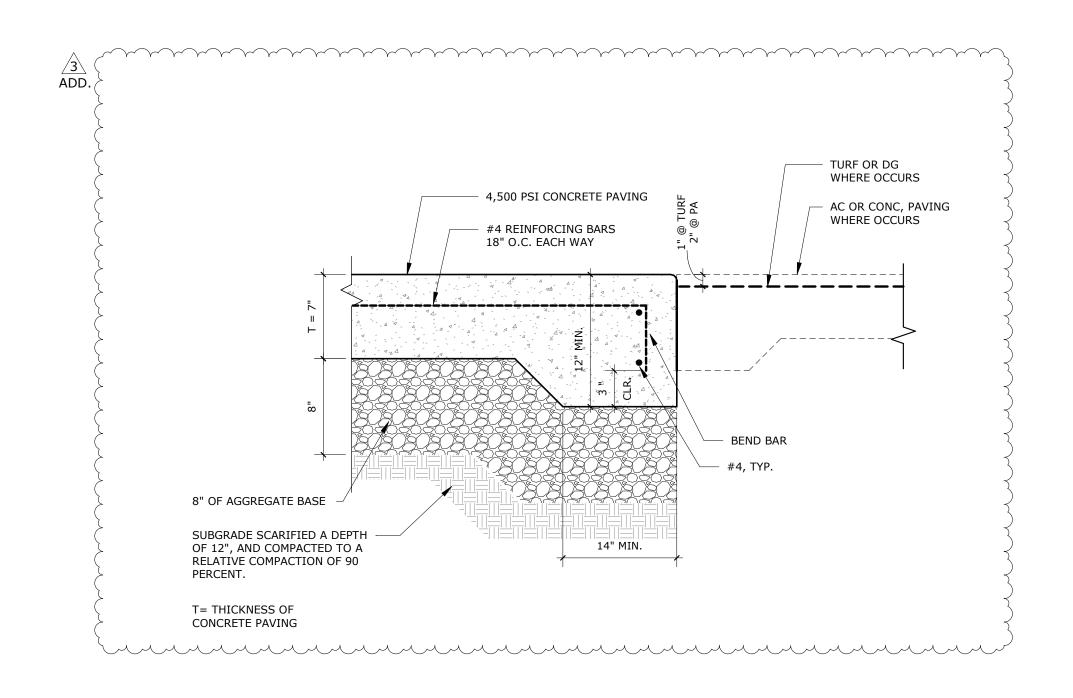
04-120895

DSA File #:
37-H4

Date:

08-17-22





REFERENCE: DETAIL 1/ASK-3.1 & SHEET AS0.2

FIRELANE CONC. PAVING SECTION

GROSSMONT HIGH SCHOOL

GHS KITCHEN & WEIGHTROOM GROSSMONT UNION HIGH SCHO

GROSSMONT UNION HIGH SCHOOL
8/17/2022 11:31:09 AM

RUHNAU
CLARKE
ARCHITECTS

08-17-22

Project #:
1-30-55

ASK-3.19

04-120895

37-H4

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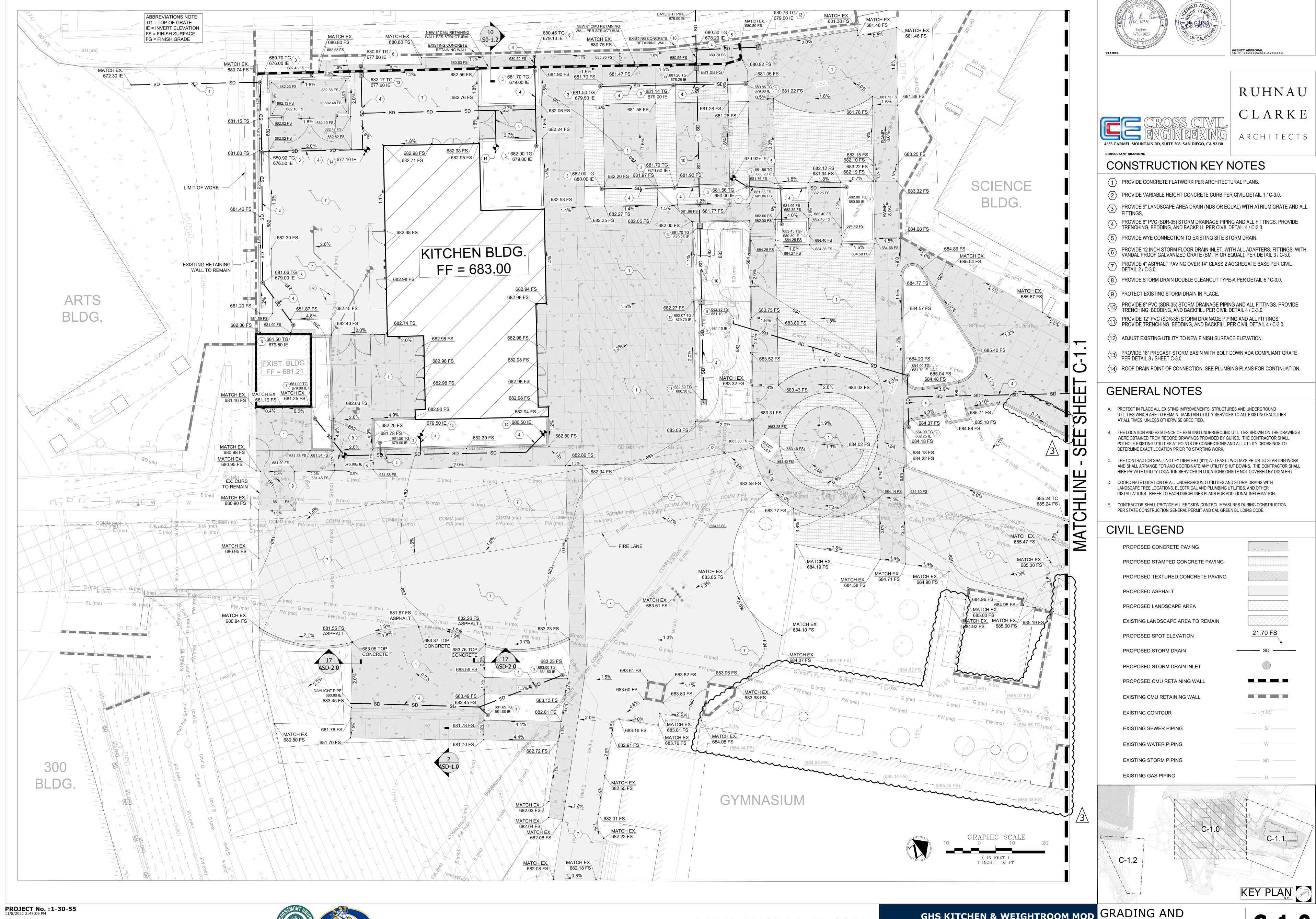
PKP 10-31-23 **

OF CALL FOR

1 1/2" =

1'-0"

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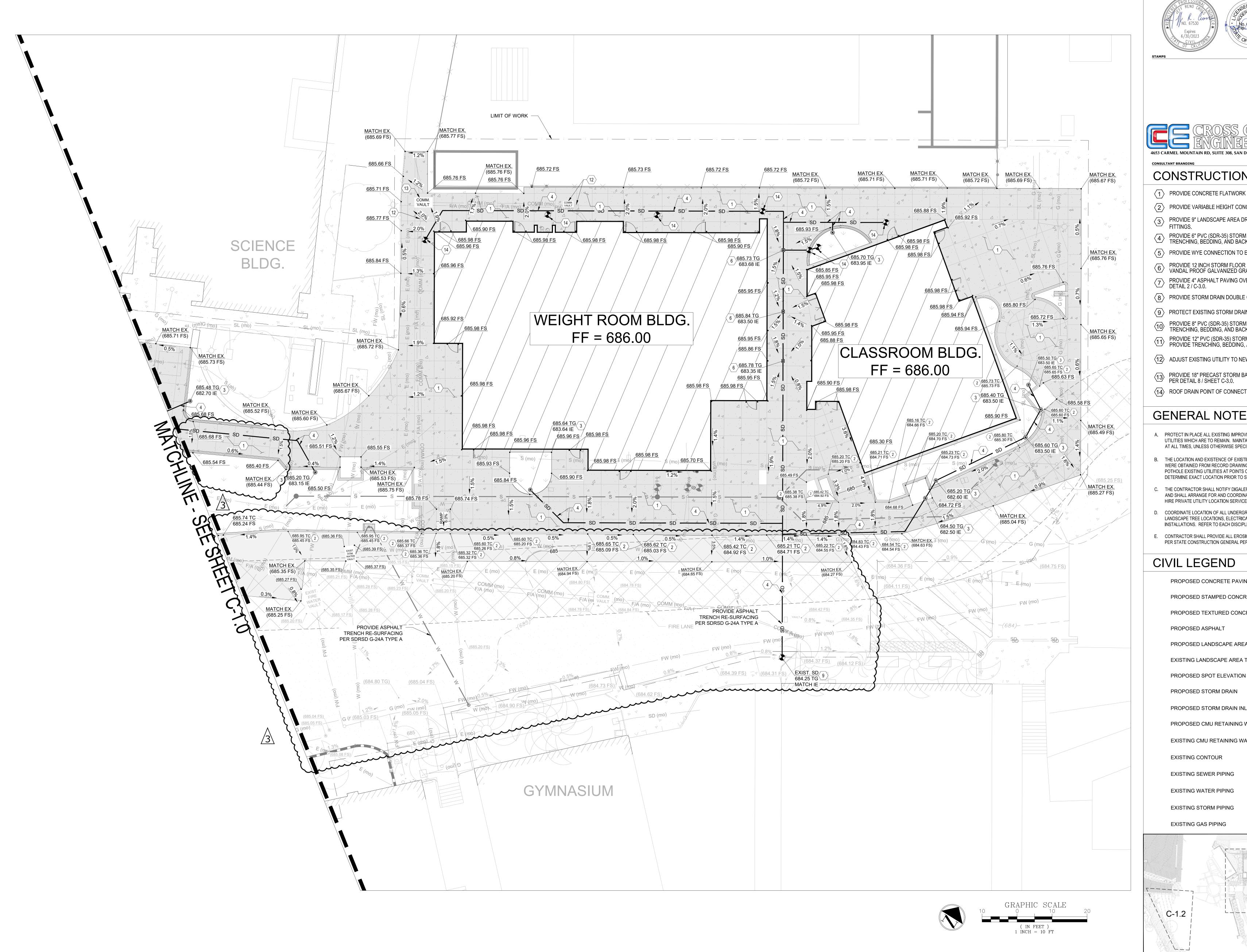
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DRAINAGE

3775 TENTH STREET, RIVERSIDE CALIFORNIA 92501 (951) 684 4664 / 5751 PALMER WAY, SUITE C, CARLSBAD CALIFORNIA 92010 (760) 438 5899







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CONSTRUCTION KEY NOTES

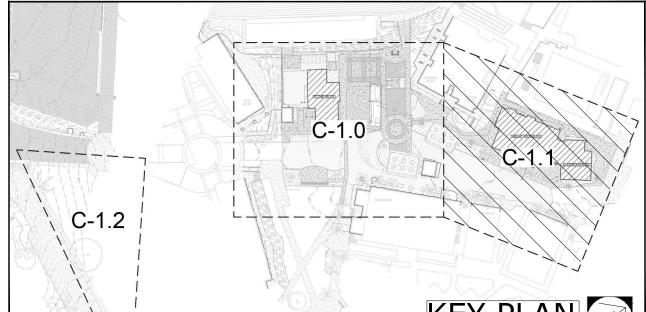
- 1 PROVIDE CONCRETE FLATWORK PER ARCHITECTURAL PLANS.
- PROVIDE VARIABLE HEIGHT CONCRETE CURB PER CIVIL DETAIL 1 / C-3.0.
- PROVIDE 6" PVC (SDR-35) STORM DRAINAGE PIPING AND ALL FITTINGS. PROVIDE TRENCHING, BEDDING, AND BACKFILL PER CIVIL DETAIL 4 / C-3.0.
- 5 PROVIDE WYE CONNECTION TO EXISTING SITE STORM DRAIN.
- PROVIDE 12 INCH STORM FLOOR DRAIN INLET, WITH ALL ADAPTERS, FITTINGS, WITH VANDAL PROOF GALVANIZED GRATE (SMITH OR EQUAL), PER DETAIL 3 / C-3.0.
- PROVIDE 4" ASPHALT PAVING OVER 14" CLASS 2 AGGREGATE BASE PER CIVIL DETAIL 2 / C-3.0.
- 8 PROVIDE STORM DRAIN DOUBLE CLEANOUT TYPE-A PER DETAIL 5 / C-3.0.
- 9 PROTECT EXISTING STORM DRAIN IN PLACE.
- PROVIDE 8" PVC (SDR-35) STORM DRAINAGE PIPING AND ALL FITTINGS. PROVIDE TRENCHING, BEDDING, AND BACKFILL PER CIVIL DETAIL 4 / C-3.0.
- PROVIDE 12" PVC (SDR-35) STORM DRAINAGE PIPING AND ALL FITTINGS. PROVIDE TRENCHING, BEDDING, AND BACKFILL PER CIVIL DETAIL 4 / C-3.0.
- ADJUST EXISTING UTILITY TO NEW FINISH SURFACE ELEVATION.
- PROVIDE 18" PRECAST STORM BASIN WITH BOLT DOWN ADA COMPLIANT GRATE PER DETAIL 8 / SHEET C-3.0.
- (14) ROOF DRAIN POINT OF CONNECTION. SEE PLUMBING PLANS FOR CONTINUATION.

GENERAL NOTES

- A. PROTECT IN PLACE ALL EXISTING IMPROVEMENTS, STRUCTURES AND UNDERGROUND UTILITIES WHICH ARE TO REMAIN. MAINTAIN UTILITY SERVICES TO ALL EXISTING FACILITIES AT ALL TIMES, UNLESS OTHERWISE SPECIFIED.
- THE LOCATION AND EXISTENCE OF EXISTING UNDERGROUND UTILITIES SHOWN ON THE DRAWINGS WERE OBTAINED FROM RECORD DRAWINGS PROVIDED BY GUHSD. THE CONTRACTOR SHALL POTHOLE EXISTING UTILITIES AT POINTS OF CONNECTIONS AND ALL UTILITY CROSSINGS TO DETERMINE EXACT LOCATION PRIOR TO STARTING WORK.
- THE CONTRACTOR SHALL NOTIFY DIGALERT (811) AT LEAST TWO DAYS PRIOR TO STARTING WORK AND SHALL ARRANGE FOR AND COORDINATE ANY UTILITY SHUT DOWNS. THE CONTRACTOR SHALL HIRE PRIVATE UTILITY LOCATION SERVICES IN LOCATIONS ONSITE NOT COVERED BY DIGALERT.
- COORDINATE LOCATION OF ALL UNDERGROUND UTILITIES AND STORM DRAINS WITH LANDSCAPE TREE LOCATIONS, ELECTRICAL AND PLUMBING UTILITIES, AND OTHER INSTALLATIONS. REFER TO EACH DISCIPLINES PLANS FOR ADDITIONAL INFORMATION.
- CONTRACTOR SHALL PROVIDE ALL EROSION CONTROL MEASURES DURING CONSTRUCTION, PER STATE CONSTRUCTION GENERAL PERMIT AND CAL GREEN BUILDING CODE.

CIVIL LEGEND

- PROPOSED CONCRETE PAVING
- PROPOSED STAMPED CONCRETE PAVING
- PROPOSED TEXTURED CONCRETE PAVING
- PROPOSED ASPHALT
- PROPOSED LANDSCAPE AREA
- EXISTING LANDSCAPE AREA TO REMAIN
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN INLET
- PROPOSED CMU RETAINING WALL
- EXISTING CMU RETAINING WALL
- EXISTING CONTOUR
- EXISTING SEWER PIPING
- EXISTING STORM PIPING
- **EXISTING GAS PIPING**



GRADING AND DRAINAGE

- - $-(100)^{-}$

PROJECT No.: 1-30-55

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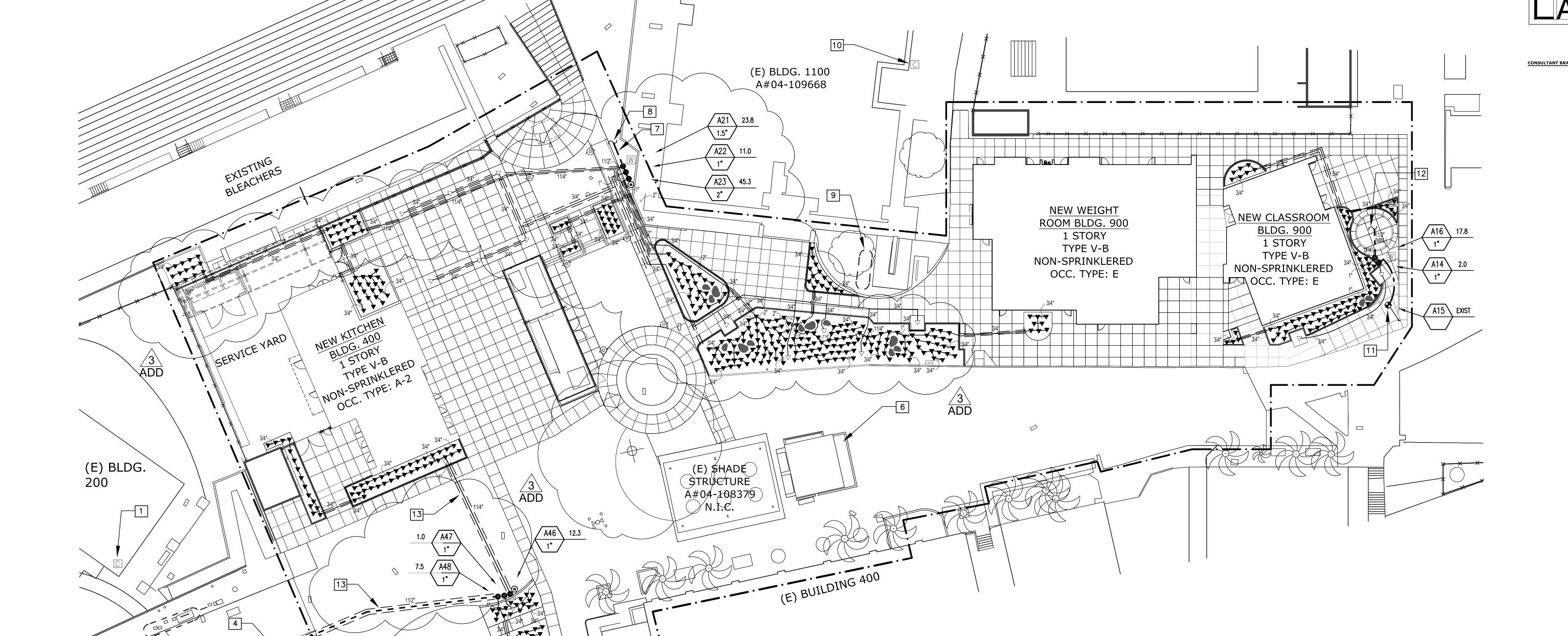
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SEE SHEETS LI-2 AND LI-3 FOR IRRIGATION LEGEND AND DETAILS.



GENERAL IRRIGATION NOTES (THIS SHEET)

- EXISTING 48 STATION INDOOR CONTROLLER AT BUILDING 200. USE TO CONTROL VALVES A46 THROUGH A48. CONTRACTOR SHALL COORDINATE WITH DISTRICT REPRESENTATIVE FOR PROGRAMMING NEW VALVES.
- EXISTING IRRIGATION POINT OF CONNECTION FOR BUILDING 200. SHOWN FOR
- CONTINUATION OF EXISTING MAINLINE AND WIRE CONNECTION TO BUILDING 200 POINT OF CONNECTION.
- 4 PROPOSED LOCATION OF NEW IRRIGATION MAINLINE AND REMOTE CONTROL WIRES SERVING VALVES A46 THROUGH A48. INSTALL IN CONDUIT IN AREAS BENEATH PAVEMENT. COORDINATE WITH DISTRICT REPRESENTATIVE FOR CUTTING EXISTING PAVEMENT. PAVEMENT FINISH FOR PATCHING SHALL MATCH EXISTING MATERIAL.
- EXISTING MAINLINE CONNECTION TO EXSITING 1-1/2" MAINLINE. RUN NEW WIRES AND CONNECT TO EXISTING WIRES IN WIRE BOX AT THIS LOCATION. EXISTING WIRES AT THIS LOCATION ARE FROM THE WIRE PATH AT BUILDING 200. STATION NUMBERS FOR THIS AREA ARE PROGRAMMED FROM BUILDING 200 CONTROLLER.
- 6 EXISTING PLANTING AREA WITH PRIVET HEDGE. CONTRACTOR SHALL COORDINATE WITH DISTRICT REDDESCRIPTATIVE TO ENGLISH THE TOTAL PROPERTY. WITH DISTRICT REPRESENTATIVE TO ENSURE THAT EXISTING WATER SOURCE IS NOT DISTURBED. EXISTING SOURCE IS UNKNOWN.
- EXISTING WIRE AND MAINLINE SERVING VALVES A21 THROUGH A23 IN PLAZA AREAS. THERE ARE 11 SPARE WIRES AT THIS LOCATION. CONNECT EXISTING WIRING TO NEW VALVES AND SET SPARE WIRE BOX FOR REMAINING WIRES.

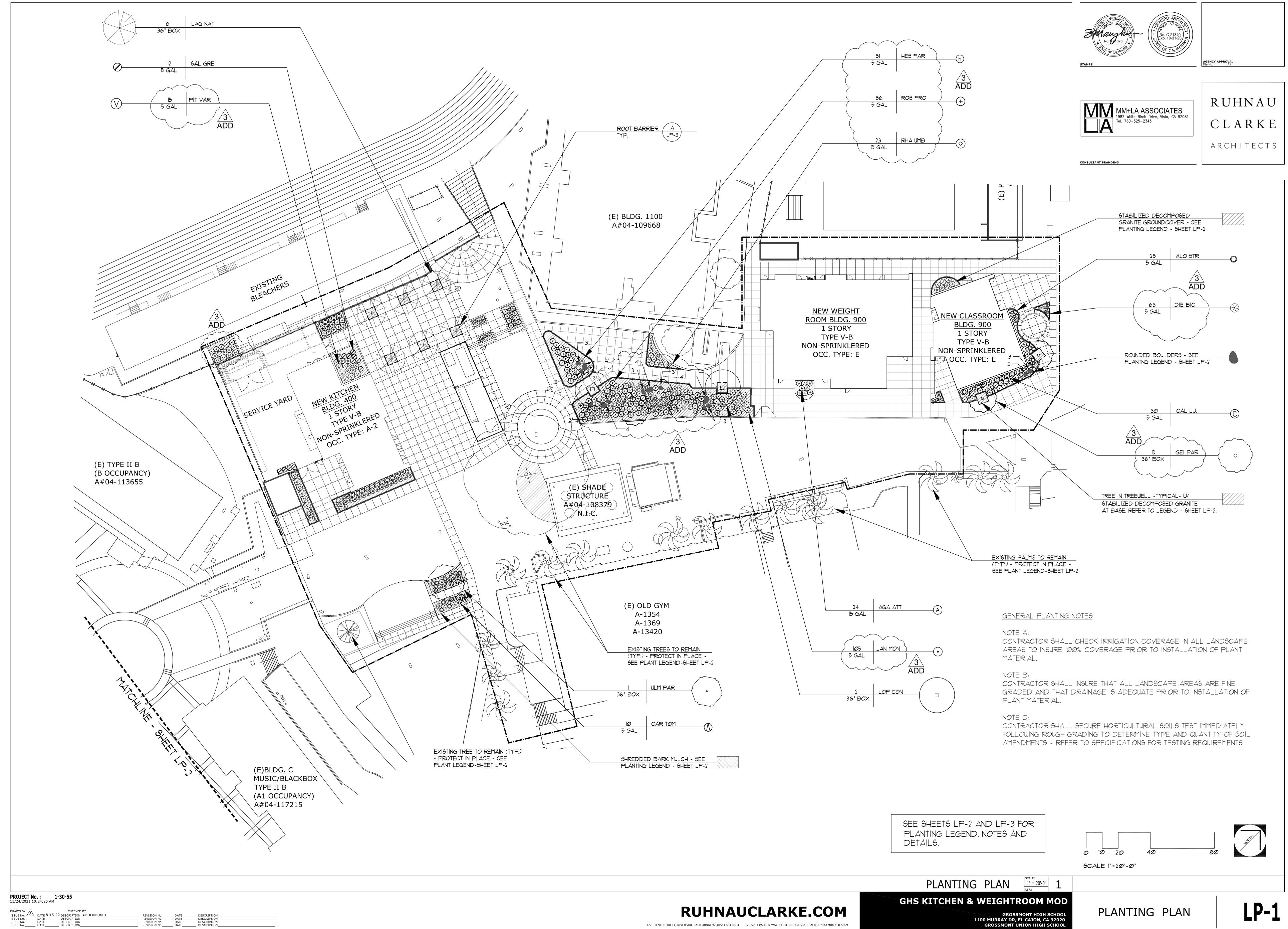
- 8 CONTINUATION OF BUILDING 1100 IRRIGATION MAINLINE AND WIRES. MAINLINE RUNS ALONG THE WEST SIDE OF THE BUILDING, ALONG THE NORTH SIDE OF THE BUILDING AND CONNECTS TO THE POINT OF CONNECTION ON THE SOUTH SIDE OF THE BUILDING. REMOTE CONTROL WIRES CONNECT TO THE CONTROLLER ON THE EAST SIDE OF THE BUILDING.
- [9] IRRIGATION POINT OF CONNECTION FOR BUILDING 1100. SHOWN FOR REFERENCE.
- EXISTING WALL MOUNTED IRRIGATION CONTROLLER SERVING BUILDING 1100. CONTRACTOR SHALL COORDINATE WITH DISTRICT REPRESENTATIVE FOR PROGRAMMING OF NEW VALVES A21 THROUGH A23.
- [11] EXISTING VALVE A15 SERVING LANDSCAPE AREA TO THE SOUTHEAST. CONTRACTOR SHALL PROTECT THIS VALVE AND RELOCATE, AS REQUIRED, SO THAT IT FITS IN THE PROPOSED PLANTING AREA.
- 12 EXISTING MAINLINE AND REMOTE CONTROL WIRES SERVING VALVES A14 THROUGH A16. EXISTING PIPE AND WIRES ARE CONNECTED TO THE NORTHERN CONTROLLER NEAR THE BASEBALL FIELD. THERE ARE FOUR WIRES AVAILABLE FOR CONNECTION TO THESE NEW/EXISTING VALVES. CONTRACTOR SHALL COORDINATE WITH DISTRICT REPRESENTATIVE FOR PROGRAMMING EXISTING CONTROLLER TO RECEIVE THESE NEW VALVES.
- TRENCHING FOR IRRIGATION PIPING IN THE EXISTING FIRE LANE SHALL SHALL BE REPAIRED/REPLACED SO THAT THE PAVING SECTION MATCHES THE EXISTING PAVING.



1100 MURRAY DR, EL CAJON, CA 92020 **GROSSMONT UNION HIGH SCHOOL**

PROJECT No.: 1-30-55 11/24/2021 10:24:25 AM

(E) BLDG. C



ARCHITECTS

PLANT LEGEND

SYM.	ABR.	SCIENTIFIC NAME - COMMON NAME	SIZE	QTY.	REMARKS	WATER REQ'D	PL/ FAC
TREES	ò						
	GEI PAR	GEIJERA PARVIFLORA - AUSTRALIAN WILLOW	36" BOX	<u> </u>	STANDARD	MODERATE	Ø.
	AC NIAT	LACEDCIDOEMIA LINIAICHEZH HIHITE CDADE MYDILE	24 50	ADD 6	DOUBLE STAKE	Monthatt	0
	LAG NAT	LAGERSTROEMIA I. 'NATCHEZ' - WHITE CRAPE MYRTLE	36" BOX	ADD 6	STANDARD DOUBLE STAKE	MODERATE	Ø
	LOP CON	LOPHOSTEMON CONFERTA - BRISBANE BOX	36" BOX	2	STANDARD	MODERATE	Ø
	l				DOUBLE STAKE		
}	ULM PAR	ULMUS PARVIFOLIA - CHINESE EVERGREEN ELM	36" BOX	1	STANDARD	MODERATE	Ø
					DOUBLE STAKE		
SHRUE	35						
\triangle	AGA ATT	AGAVE ATTENUATA - FOXTAIL AGAVE	15 GAL	24	3' ON CENTER	LOW	.C
	ALO STR	ALOE STRIATA - CORAL ALOE	5 GAL	25	30" ON CENTER	LOW	.C
©	CAL L.J.	CALLISTEMON 'LITTLE JOHN' - DWARF BOTTLE BRUSH	5 GAL	3Ø	3' ON CENTER	MODERATE	Ø
\bigcirc	CAR TOM	CARISSA G. 'TOMLINSON' - THORNLESS NATAL PLUM	5 GAL	10	3' ON CENTER	MODERATE	Ø
$(\!$	DIE BIC	DIETES BICOLOR - FORTNIGHT LILY	5 GAL	63	3' ON CENTER	MODERATE	Ø
h	HES PAR	HESPERALOE PARVIFLORA - RED YUCCA	5 GAL	51	3' ON CENTER	LOW	Ø
\odot	LAN MON	LANTANA MONTEVIDENSIS - TRAILING PURPLE LANTANA	5 GAL	/ 105	3' ON CENTER	LOW	Ø
\bigvee	PIT VAR	PITTOSPORUM T. 'VARIEGATA' - VARIEGATED TOBIRA	5 GAL) 15	4' ON CENTER	MODERATE	Ø
\Diamond	RHA UMB	RHAPHIOLEPIS U. 'MINOR' - YEDDO HAWTHORN	5 GAL	23	3' ON CENTER	MODERATE	Ø
+	ROS PRO	ROSMARINUS O. 'PROSTRATA' - PROSTRATE ROSEMARY	5 GAL	56	3' ON CENTER	LOW	0
\bigcirc	SAL GRE	SALVIA GREGII - AUTUMN SAGE	5 GAL	\overrightarrow{ADD} 12	3' ON CENTER	LOW	Ø

GROUNDCOVER

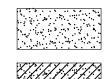
SHREDDED BARK MULCH - 2" MINUS - 3" LAYER. SUPPLIER APPROVED BY LANDSCAPE ARCHITECT AND DISTRICT. SUBMIT SAMPLES FOR APPROVAL.



STABILIZED DECOMPOSED GRANITE - 3" LAYER OVER WEED BARRIER FABRIC. SUPPLIED BY SOUTHWEST BOULDER AND STONE -877-792-7625 - 'MOJAVE GOLD FINES. COLOR AND SUPPLIER APPROVED BY DISTRICT. INSTALL WITH WEED BARRIER FABRIC BENEATH.



ROUNDED BOULDERS SUPPLIED BY SOUTHWEST BOULDER AND STONE 877-792-7625. USE 'DESERT SAND' TYPE, BURY 1/4 PER DETAIL BELOW. QUANTITIES: 8-3' DIAMETER, 3-4' DIAMETER.



HULLED COMMON BERMUDA GRASS SEED - 5 LBS/1,000 SF

HYDROSEEDED TURF MIX AS APPROVED BY DISTRICT - SHALL

CONTRACTOR SHALL INCLUDE ADDITIONAL HYDROSEED COMPONENTS AS FOLLOWS:

SEED SUPPLIED BY STOVER SEED COMPANY OR APPROVED SUPPLIER.

MIXED WITH PERENNIAL RYEGRASS - 10 LBS/1,000 SF

MULCH BINDER FERTILIZER

120 LBS/ACRE TYPE AND RATE AS RECOMMENDED BY GROWER AND AS RECOMMENDED BY SOILS REPORT

1,500 LBS/ACRE

SEE SHEET LP-3 FOR PLANTING DETAILS.



PLANTING PLAN

| SCALE: | 1" = 20'-0" | | 2

HYDROSEEDED TURF - SLOPED AREA - FOLLOWING WALL

HYDROSEEDED TURF - 5' WIDE FLAT AREA AT TOP AND TOE OF SLOPE -

FOLLOWING WALL REMOVAL AND

EXISTING TREE(S) TYPICAL TO REMAIN - PROTECT IN PLACE

DURING CONSTRUCTION WORK

SEEDING OPERATIONS.

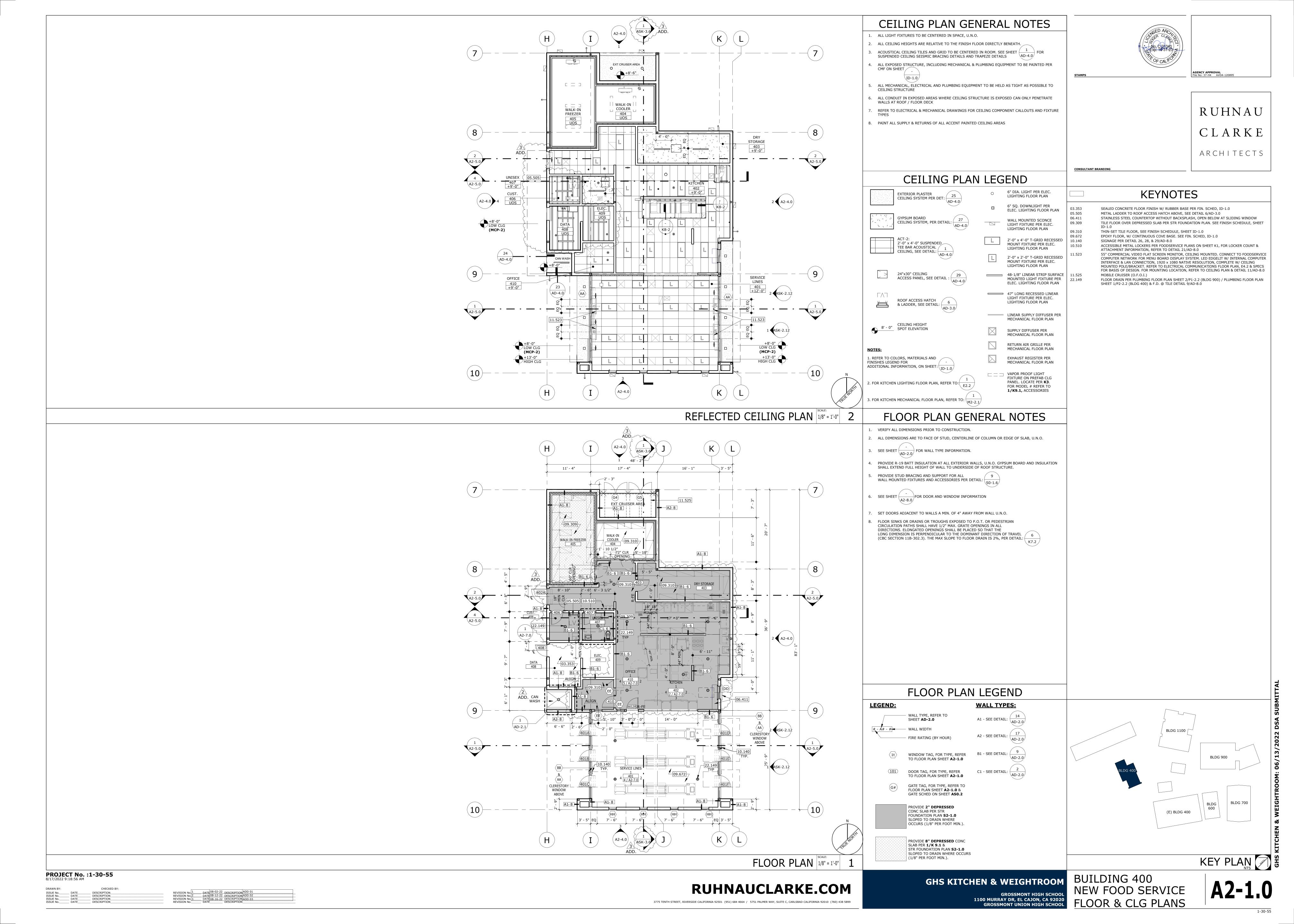
NOTE: ALL NEWLY SEEDED TURF AREAS SHALL BE FINE GRADED AND

AMENDED IN ACCORDANCE WITH THE REQUIRED SOILS REPORT PRIOR TO

REMOVAL AND RE-GRADING

RENOVATE EXISTING TURF

RE-GRADING WORK



ROOM FINISH SCHEDULE - BLDG 900

P-1/ TWP-1

FINISH

PSG/ FF

3 GROUT @ FOOD SERVICE FLOOR TILE

ADD. GROUT @ WALL TILE

P.E. ATTENDANT/

GWB/ TWP



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ROOM NO.

BLDG 400 FOOD SERVICE

BLDG 900 CLASSROOM

CLASSROOM/ STORAGE

DETENTION ROOM

KITCHEN

TEXT/ SYMBOLS

TYPICAL @ RESTROOMS

WHERE NOTED IN PLANS

TYPICAL @ COUNTERTOPS

SITE CONCRETE - TYPICAL

SITE CONCRETE - ACCENT

SCHOOL LOGO PAVING - TYPICAL

SCHOOL LOGO PAVING - ACCENT

WALK-OFF MAT

PUBLICATIONS/ REFLECTION/

TYPICAL @ WEIGHT ROOM

ACCENT @ WEIGHT ROOM

ACCENT @ WEIGHT ROOM

TYPICAL @ SERVICE LINES RESTROOMS

ACCENT @ WEIGHT ROOM

GYP CEILING @ RESTROOMS

UOS/ EXPOSED MECH & STRUCT

ACCENT @ WEIGHT ROOM/ COACHES

ACCENT/ CONTRASTING STAIR GROOVES

HM DOORS/ FRAMES/ EXTERIOR BLDG

SIGNAGE/ COUNTER SUPPORT BRACKET

REMARKS

REFER TO ID-1.0 FOR TILE PATTERN(S -2,3,4,5/ P-1 -2,3,4,5/ P-1 REFER TO ID-1.0 FOR TILE PATTERN(S) T-2,3,4,5/ P-1 ALL EXPOSED MECH/ STRUCT TO BE PAINTED P-5; REF INT ELEVATIONS FOR ALUMINUM DIAMOND TREAD PANELING GWB/ UOS P-4/ P-5 P-1/ TWP-2 REFER TO ID-1.0 FOR TILE PATTERN(S) T-2,3,4,5/ P-1 T/ GWWB T-2,3,4,5/ P-1 T/ GWWB T-2,3,4,5/ P-1 GWB/ FRP PSG/ FF P-1/ FRP-1 GWB/ FRP FRP @ MOP SINK PER DETAIL 4/AD-8.0 GWB P-1/ ACT-3

FINISH

COLORS, MATERIALS AND FINISHES LEGEND

32 13 13 - SITE CONCRETE

32 13 13 - SITE CONCRETE

Heading 03 35 11 - CONCRETE FLOOR FINISHES	ITEM	MATERIAL	LOCATION
03 35 11 - CONCRETE FLOOR FINISHES	CONC-1	SEALED NATURAL CONCRETE	STORAGE/ CUSTODIAN/ SPORTS MEDICINE
04 05 11 - MASONRY MORTARING AND GROUTING 04 05 11 - MASONRY MORTARING AND GROUTING 04 20 00 - UNIT MASONRY	M-1	ORCO, MORTAR/GROUT, "GRANITE"	TYPICAL
04 20 00 - UNIT MASONRY 06 41 00 - ARCHITECTURAL WOOD CASEWORK	CMU-1	STACK BOND W/ MATCHING CMU CAP, "GRAY SLUMP" SHOT BLAST	TRASH ENCLOSURE
06 41 00 - ARCHITECTURAL WOOD CASEWORK	PL-1	WILSONART, STANDARD HPL FINISH, MATTE FINISH, "CEMENT D503"	TYPICAL @ CASEWORK
06 41 00 - ARCHITECTURAL WOOD CASEWORK 06 83 16 - FIBERGLASS REINFORCED PANELING	PL-2	WILSONART, WRITABLE SURFACE LAMINATE/MARKERBOARD, "DESIGNER WHITE" D354	TYPICAL @ TALL CASEWORK
06 83 16 - FIBERGLASS REINFORCED PANELING 07 42 13.10 - PERFORATED METAL WALL PANELS	FRP-1	PANOLAM, CLASS A, SMOOTH, CLASSIC COLOR "WHITE"	CUSTODIAL/ FOOD SERVICE
07 42 13.10 - PERFORATED METAL WALL PANELS	MWP-1	MCNICHOLS, PERFORATED METAL - ROUND #1701921241, ALUMINUM, 8 GAUGE, 1" ROUND ON 1-1/4" STAGERRED CENTERS, 58% OPEN AREA W/ PAINTED CUSTOM GRAPHIC PER ELEVATIONS, ARTWORK TO BE PROVIDED BY ARCHITECT	ELECTRICAL YARD ENCLOSURE
07 42 13.23 - METAL COMPOSITE MATERIAL WALL PANELS	S		
07 42 13.23 - METAL COMPOSITE MATERIAL WALL PANELS	MCP-1	CITADEL, ENVELOPE RESERVE (RV), SERIES "F" KYNAR 500 FINISH, "CHARCOAL GREY"	ACCENT @ EXTERIOR
07 42 13.23 - METAL COMPOSITE MATERIAL WALL PANELS	MCP-2	CHALLENGER SHEET METAL, METAL SALES, "ASH GRAY" (25)	FASCIA/ SOFFIT
07 62 00 - SHEET METAL FLASHING AND TRIM			
07 62 00 - SHEET METAL FLASHING AND TRIM	SM-1	CHALLENGER SHEET METAL, METAL SALES, "SLATE GREY" (W38)	COPING CAP
08 33 13 - COILING COUNTER DOORS 08 33 13 - COILING COUNTER DOORS	STL-2	OVERHEAD DOOR, ROLLING COUNTER DOOR, MODEL 610, RAL COLOR #9004 "SIGNAL BLACK", SATIN FINISH 3 ADD.	P.E. ATTENDANT/ STORAGE
08 33 23 - OVERHEAD COILING DOORS 08 33 23 - OVERHEAD COILING DOORS	STL-1	OVERHEAD DOOR, MODEL 610, RAL COLOR #9004 "SIGNAL BLACK", SATIN FINISH	WEIGHT ROOM
08 36 13 - SECTIONAL DOORS	31L-1	OVERTIEAD BOOK, MODEL 010, RAE COLOR # 9004 SIGNAL BEACK , SATIN I INISH A	WEIGHT ROOM
08 36 13 - SECTIONAL DOORS	ALUM-2	NOT USED $\sqrt{2}$	NOT USED
08 43 13 - ALUMINUM-FRAMED STOREFRONTS	7.2011 2	ADD.	
08 43 13 - ALUMINUM-FRAMED STOREFRONTS	ALUM-1	ARCADIA, ANODIZED, "BLACK MATTE"	TYPICAL
08 80 00 - GLAZING (ARCHITECTURAL DECORATIVE WIND	OOW FILMS)		
08 80 00 - GLAZING (ARCHITECTURAL DECORATIVE WINDOW FILMS)	GF-1	3M FASARA, GLASS FINISHES FROST, MATTE SH2MLCRX 1270, MILKY CRYSTAL	BLDG 400- SERVICE LINE STOREFRONTS
09 24 00 - CEMENT PLASTERING			
09 24 00 - CEMENT PLASTERING	CPL-1	OMEGA, TEXTURE 20/30 FINE SAND FLOAT, INTEGRAL COLOR TO MATCH DUNN EDWARDS, "COOL DECEMBER" DEW383	TYPICAL @ EXTERIOR/ SOFFITS
09 24 00 - CEMENT PLASTERING	CPL-2	OMEGA, TEXTURE 20/30 FINE SAND FLOAT INTEGRAL COLOR TO MATCH DUNN EDWARDS, "EQUINOX" DET616	ACCENT @ EXTERIOR
09 24 00 - CEMENT PLASTERING	CPL-3	3 OMEGA, TEXTURE SMOOTH FINISH, INTEGRAL COLOR TO MATCH DUNN EDWARDS, "SALT BOX BLUE" DET562	ACCENT @ EXTERIOR
09 24 00 - CEMENT PLASTERING	CPL-4	ADD NOT USED 3	- \
09 24 00 - CEMENT PLASTERING	CPL-5). NOT USED
09 24 00 - CEMENT PLASTERING 09 30 00 - TILING	CPL-6	OMEGA, TEXTURE SMOOTH FINISH, INTEGRAL COLOR TO MATCH DUNN EDWARDS, "SURFS UP" DET583	ACCENT @ EXTERIOR
09 30 00 - TILING	T-1	ADD NOT USED	NOT USED
09 30 00 - TILING 09 30 00 - TILING	T-2	ADD. DAL-TILE, COLOR WAVE, "LEMON POPSICLE" #CW34, 3" X 6", 5/16" THICKNESS	D. WALL TILE ACCENT @ RESTROOMS
09 30 00 - TILING	T-3	DAL-TILE, COLOR WAVE, "FEATHER WHITE" #CW02, 3" X 6", 5/16" THICKNESS (STACKED INSTALLATION AT SERVICE LINES/ DRINKING FOUNTAIN)	WALL TILE ACCENT @ RESTROOMS/ SERVICE LINES/ / WEIGHT ROOM
00 20 00 THING	T 4	DAL TILE COLOR WAVE "TWILICUT BLUE" #CW14 2" V 6" E/16" TUICVNESS	DRINKING FOUNTAIN WALL TILE ACCENT @ RESTROOMS
09 30 00 - TILING 09 30 00 - TILING	T-4 T-5	DAL-TILE, COLOR WAVE, "TWILIGHT BLUE" #CW14, 3" X 6", 5/16" THICKNESS DAL-TILE, COLOR WHEEL CLASSIC, "ARCTIC WHITE" #0190, 3" X 6", GLOSS FINISH, 5/16" THICKNESS, STAGGERED INSTALLATION (STACKED INSTALLATION AT CAN WASH)	_
09 30 00 - TILING	T-6	TILEBAR, HEXART, POP AZUL, 8" HEXAGON MATTE PORCELAIN TILE, INSTALLED RANDOMLY	WALL TILE ACCENT @ SERVICE LINES
09 30 00 - TILING	T-7	DAL-TILE, QUARRY TEXTURES, "ASHEN GRAY" #OT03, 6" X 6" W/ COVE BASE #Q3565 5" X 6", 1/2" THICKNESS	FLOOR TILE/ COVE BASE @ FOOD SERVICE

FINISH

P-1/ TWP-2

T-2,3,4,5/ P-1

P-1/ TWP-1

COLOR

\ EPOXY-2

GWB/ T

T/ GWWB

_ADD.EPOXY-2

FPOXY-2

ELEVATION 2

FINISH

FF/ PSG

T/ GWWB

GWB/ TWP

T/ GWWB

_5	AND FINISHES LE	GENL		
	Heading	ITEM	MATERIAL	LOCATION
	09 51 00 - ACOUSTICAL CEILINGS			
	09 51 00 - ACOUSTICAL CEILINGS	ACT-1	ARMSTRONG, SCHOOL ZONE FINE FISSURED, SQUARE LAY-IN #1729-WH, WHITE, 24"x48"x5/8" WITH 15/16" PRELUDE SUSPENSION SYSTEM, NRC: 0.70	TYPICAL
	09 51 00 - ACOUSTICAL CEILINGS	ACT-2	ARMSTRONG, KITCHEN ZONE, SQUARE LAY-IN #673-WH, WHITE, 24"x48"x5/8" WITH 15/16" PRELUDE SUSPENSION SYSTEM, NRC: 0.70	BLDG 400 FOC
	09 51 00 - ACOUSTICAL CEILINGS	ACT-3	ARMSTRONG, OPTIMA, SQUARE LAY-IN #3160-WH, WHITE, 48"x48"x1" WITH 15/16" PRELUDE SUSPENSION SYSTEM, NRC: 0.95	BLDG 900 CLA
	09 65 00 - RESILIENT FLOORING			
	09 65 00 - RESILIENT FLOORING	LVT-1	ARMSTRONG, BIOME, ALTITUDE, "LOCH NESS", 9" X 48", 2.5 MM THICKNESS	CLASSROOM/ S
	09 65 00 - RESILIENT FLOORING	LVT-2	ARMSTRONG, NATURAL CREATIONS WITH DIAMOND 10 TECHNOLOGY, MATIZ, "BLUE LEMONADE", 6" x 36", 3.2 MM THICKNESS	PUBLICATIONS DETENTION RO
	09 65 00 - RESILIENT FLOORING (RUBBER BASE)			
	09 65 00 - RESILIENT FLOORING (RUBBER BASE)	RB-1	Johnsonite, Rubber Base, 700 Series, "Grey", 4"h	TYPICAL
	09 65 66 - RESILIENT ATHLETIC FLOORING			
	09 65 66 - RESILIENT ATHLETIC FLOORING	RF-1	MONDO, SPORT IMPACT 10MM, 'MEDIUM GREY', 36" X 36"	TYPICAL @ WE
	09 65 66 - RESILIENT ATHLETIC FLOORING	RF-2	MONDO, SPORT IMPACT 10MM, 'DARK GREY', 36" X 36"	ACCENT @ WE
	09 65 66 - RESILIENT ATHLETIC FLOORING	RF-3	MONDO, SPORT IMPACT 10MM, 'BLUE', 36" X 36"	ACCENT @ WE OFFICE
	09 65 66 - RESILIENT ATHLETIC FLOORING	RF-4	MONDO, SPORT IMPACT 10MM, 'GOLD', 36" X 36"	ACCENT @ WE
	09 67 00 - FLUID-APPLIED FLOORING			
3	09 67 00 - FLUID-APPLIED FLOORING 09 67 00 - FLUID-APPLIED FLOORING	EPOXY-1 EPOXY-2	STONHARD, STONECLAD UT, COLOR "4008 (LIGHT GREY) W/ 6" INTEGRAL COVE BASE STONHARD, STONSHIELD HRI 'COBÂLT', LIGHT TEXTURE FOR SLIP RESISTANCE W/ 6"H INTEGRAL COVE BASE	TYPICAL @ SE RESTROOMS
V D L	9972-16-ARCHITECTURAL VINYL GRAPHIC FILMS		munimunimunimunimunimunimunimunimunimuni	
ADL	09 72 16 - ARCHITECTURAL VINYL GRAPHIC FILMS	GF-2	3M, CONTROLTAC PRINT FILM 40C-10R (GLOSS)	ACCENT @ WE
	09 91 23 - INTERIOR PAINTING			
	09 91 23 - INTERIOR PAINTING	P-1	DUNN EDWARDS, "COOL DECEMBER" DEW383	TYPICAL
	09 91 23 - INTERIOR PAINTING	P-2	DUNN EDWARDS, "SURFS UP" DET583	ACCENT/ CON
	09 91 23 - INTERIOR PAINTING	P-3	DUNN EDWARDS, "BONNIE BLUE" DE5807	GYP CEILING (
	09 91 23 - INTERIOR PAINTING	P-4	DUNN EDWARDS, "MELTED BUTTER", DE5313	ACCENT
	09 91 23 - INTERIOR PAINTING	P-5	DUNN EDWARDS, "BLACK" DEA002 RL#476	UOS/ EXPOSEI
	09 96 00 - HIGH-PERFORMANCE COATINGS			
	09 96 00 - HIGH-PERFORMANCE COATINGS	P-6	TNEMEC, CUSTOM COLOR TO MATCH DUNN EDWARDS DET616 "EQUINOX"	HM DOORS/ FI SIGNAGE/ COU
	10 11 00 - VISUAL DISPLAY UNITS (TACKABLE WALL PANE	LS)		31314/132/ 330
	10 11 00 - VISUAL DISPLAY UNITS (TACKABLE WALL PANELS)	TWP-1	KOROSEAL, DESERT SAND, "SUNBURST" 5922-08	ACCENT
	10 11 00 - VISUAL DISPLAY UNITS (TACKABLE WALL PANELS)	TWP-2	FORBO, BULLETIN BOARD, "OYSTER SHELL" 2206	TYPICAL
	10 14 00 - SIGNAGE			
	10 14 00 - SIGNAGE	SIGN-1	DUNN EDWARDS, TO MATCH DUNN EDWARDS "SUMMER NIGHT" DE5811	BACKGROUND
	10.14.00 CTCNACE	CTCN 3	DUNN FOWARDS. TO MATCH DUNN FOWARDS ITCHOOL DEWAYS	TEVT / CVMPOL

09 91 23 - INTERIOR PAINTING	P-3	DUNN EDWARDS, "BONNIE BLUE" DE5807
09 91 23 - INTERIOR PAINTING	P-4	DUNN EDWARDS, "MELTED BUTTER", DE5313
09 91 23 - INTERIOR PAINTING	P-5	DUNN EDWARDS, "BLACK" DEA002 RL#476
09 96 00 - HIGH-PERFORMANCE COATINGS		
09 96 00 - HIGH-PERFORMANCE COATINGS	P-6	TNEMEC, CUSTOM COLOR TO MATCH DUNN EDWARDS DET616 "EQUINOX"
10 11 00 - VISUAL DISPLAY UNITS (TACKABLE WALL PANE	LS)	
10 11 00 - VISUAL DISPLAY UNITS (TACKABLE WALL PANELS)	TWP-1	KOROSEAL, DESERT SAND, "SUNBURST" 5922-08
10 11 00 - VISUAL DISPLAY UNITS (TACKABLE WALL PANELS)	TWP-2	FORBO, BULLETIN BOARD, "OYSTER SHELL" 2206
10 14 00 - SIGNAGE		
10 14 00 - SIGNAGE	SIGN-1	DUNN EDWARDS, TO MATCH DUNN EDWARDS "SUMMER NIGHT" DE5811
10 14 00 - SIGNAGE	SIGN-2	DUNN EDWARDS, TO MATCH DUNN EDWARDS "IGLOO" DEW379
10 21 13.19 - PLASTIC TOILET COMPARTMENTS		
10 21 13.19 - PLASTIC TOILET COMPARTMENTS	TP-1	SCRANTON, HINY HIDERS, "GREY", OP TEXTURE
10 26 00 - WALL AND DOOR PROTECTION		
10 26 00 - WALL AND DOOR PROTECTION	WP-1	KOROSEAL, KOROGARD CORNER GUARD #GS10, STAINLESS STEEL TYPE 304 WITH #4 SATIN FINISH, ADHESIVE MOUNTED (NO TAPE OR SCREWS), 1" LEG
10 51 13 - METAL LOCKERS		
10 51 13 - METAL LOCKERS	LK-1	SALSBURY INDUSTRIES, STANDARD METAL LOCKERS, DOUBLE TIER, "BLUE"
12 24 00 - WINDOW SHADES		$\sim \sim \sim \sqrt{3}$
12 24 00 - WINDOW SHADES	RS-1	NOT USED ADD.
12 36 00 - COUNTERTOPS		C-C-C- ADD.
12 36 00 - COUNTERTOPS	PL-3	WILSONART, STANDARD HPL FINISH, MATTE FINISH, "PLATINUM D315"
12 48 13 - ENTRANCE FLOOR MATS AND FRAMES		
12 48 13 - ENTRANCE FLOOR MATS AND FRAMES	CPT-1	CONSTRUCTION SPECIALTIES, DESIGNSTEP BR-DURATION, COCO CARPET NATURAL COLORS, 'MEDIUM GRAY'
32 13 13 - SITE CONCRETE		
32 13 13 - SITE CONCRETE	CONC-2	NATURAL CONCRETE, TEXTURE FINISH PER PLANS
32 13 13 - SITE CONCRETE	CONC-3	SIKA/SCOFIELD, SIKACOLOR-100P "PEWTER", W/ SIKASTAMP PATTERN 'JUMBO BRICK RUNNING BOND'
32 13 13 STIL CONCRETE	conc 3	SINASCOTILED, SINASCOLON TOUT TEWER , WY SINASTAMIT PATTERN SOURCE NORMING BOND

SIKA/SCOFIELD, SIKACOLOR-430 ELEMENTS WATER-BASED STAIN, "BLUE" #ELE125

COACHES OFFICE

DETENTION ROOM +

 $\times \times \times \rightarrow$

munity minument

SIKA/SCOFIELD, SIKACOLOR-430 ELEMENTS WATER-BASED STAIN, "YELLOW" #ELE123

FINISH NOTES

ALL FINISHES SHALL COMPLY WITH CBC CHAPTERS 3, 8 & 10, CFC AND CCR TITLE 19 AND STATE OF CALIFORNIA TECHNICAL BULLETIN 117-2013

2. WALL AND CEILING MATERIALS SHALL NOT EXCEED THE FLAME SPREAD CLASSIFICATIONS IN CBC TABLE 803.9

3. ALL ADJACENT DISSIMILAR FINISH MATERIALS TO RECEIVE BEAD OF CAULK, U.N.O. 4. SEE INTERIOR ELEVATION SHEETS FOR ACCENT PAINT LOCATIONS

5. ALL EXPOSED STEEL, HOLLOW METAL DOORS AND FRAMES, AND LOUVERS TO BE PAINTED

6. TOILET ROOM, TOILET ROOM VESTIBULES, AND FOOD SERVICE AREA WALLS AND CEILINGS NOT COVERED BY EITHER TILE OR F.R.P. TO HAVE MOISTURE RESISTANT GYP. BD., U.N.O.

7. COORDINATE FINISHES WITH MECHANICAL FOR PLUMBING FIXTURES

8. FOR EXTENT AND PATTERN OF CEILING FINISH, SEE REFLECTED CEILING PLAN

9. AT COVE BASE, PROVIDE CONT. 3/8" RADIUS

10. FOR TYPICAL CERAMIC TILE DETAILS, REFER TO DETAIL AD-8.0

11. FOR TYPICAL FLOOR TRANSITION DETAILS, REFER TO DETAIL $\sqrt{AD-6.0}$ 12. FOR MORE INFO. ON COLORS, FINISHES & MATERIALS, REFER TO SHEET $\sqrt{\text{ID-1.0}}$

13. ALL FLOOR FINISHES SHALL BE STABLE, FIRM & SLIP RESISTANT PER CBC SECTION 11B-302.1 14. CARPET/ CARPET TILE FLOORING SHALL BE SECURELY ATTACHED WITH FIRM BACKING AND PILE HEIGHT OF 1/2" MAX. PER CBC SECTION 11B-302.2. CARPET EDGES SHALL COMPLY WITH CBC

15. ALL FLOOR FINISHES SHALL EXTEND BELOW ACCESSIBLE WORKSTATIONS, SINKS, ETC. FOR THE

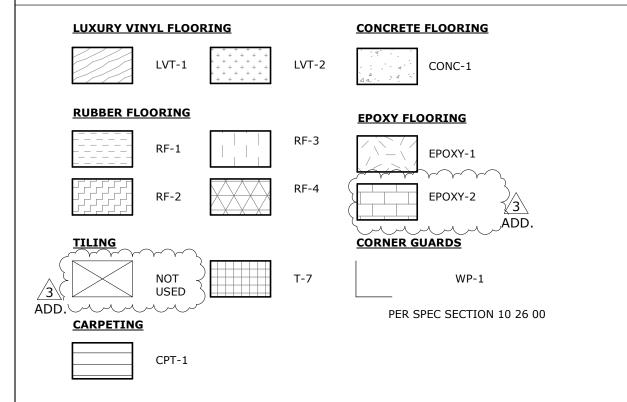
REQUIRED TOE/KNEE CLEARANCE

16. EPOXY FLOORING AT FOOD SERVICE AREAS IS GREASE/ ACID RESISTANT AND USDA APPROVED 17. REFER TO CORRESPONDING SPECIFICATIONS FOR BURNING CHARACTERISTICS AND TESTING REQ

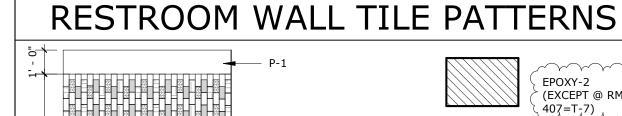
FINISH ABBREVIATIONS

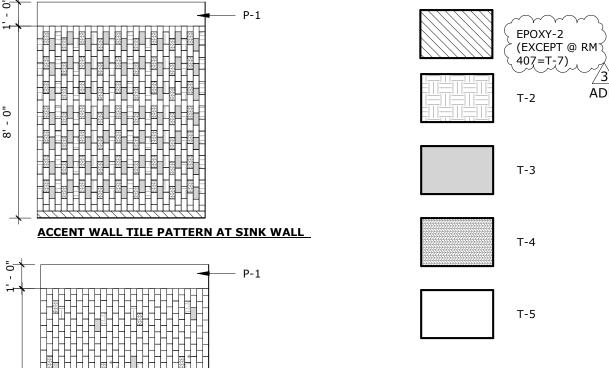
ACP ACOUSTICAL CEILING PANEL PAINT, EGGSHELL PLASTIC LAMINATE ACOUSTICAL CÉILING TILE PAINT, FLAT PAINT, SEMI-GLOSS AWP ACOUSTIC WALL PANEL CGD CMU CONC CPL CPT CORNER GUARD RUBBER BASE CONCRETE MASONRY UNIT RESINOUS/EPOXY FLOORING RUBBER FLOORING CONCRETE ROLLER SHADE SYSTEM CEMENT PLASTER DIS DISPLAY CASE SOLID CORE WOOD SEALED CONCRETE SOLID SURFACE MATERIAL **ECORESIN PANEL** STAIN WOOD COLOR **EPOXY** STONE TILE VENEER FPOXY FLOOR EPT EXP EPOXY TERRAZZO SHEET VINYL **EXPOSED** FACTORY FINISH TACKABLE WALL PANEL FRP FIBERGLASS REINFORCED PANEL UNDERSIDE OF STRUCTURE GYPSUM WALLBOARD VINYL COMPOSITION TILE GWWB WATER RESISTANT GWB VINYL FABRIC VINYL WALL COVERING LINOLEUM LUXURY VINYL TILE WALL SYSTEM METAL MESH SYSTEM MCP METAL COMPOSITE PANEL I MPS METAL PANEL SYSTEM

FLOOR FINISH LEGEND



NOTE:
REFER TO COLORS, MATERIALS AND FINISHES LEGEND FOR ADDITIONAL INFORMATION ID-1.0





REFER TO COLORS, MATERIALS AND FINISHES

BUILDING 900 FINISHES PLAN 1/8" = 1'-0" 2

GHS KITCHEN & WEIGHTROOM

FINISHES PLAN /

ID-1.0

BLDG 400 FINISHES PLAN | 1/8" = 1'-0" | 1

COOLER

ROOM NO.

903 904

914

09 30 00 - TILING (GROUT)

PROJECT No. :1-30-55 8/16/2022 11:01:27 AM

09 30 00 - TILING (GROUT)

09 30 00 - TILING (GROUT)

ROOM NAME

REFLECTION/ DETENTION ROOM

P.E. ATTENDANT/ STORAGE

SPORTS MEDICINE

BOYS R.R.

GIRLS R.R.

WEIGHT ROOM

COACHES OFFICE

PUBLICATIONS

UNISEX R.R.

CUSTODIAL

STORAGE

CLASSROOM

CONC

CONC EPOXY

CONC-1

EPOXY-2

RF-1,2,3,4

LVT-2/ CPT-1

_ADD._EPOXY-2

EPOXY-2

ADD. CONC-1

2 EPOXY

EPOXY

CUSTOM BUILDING PRODUCTS, COLOR "WARM GRAY"

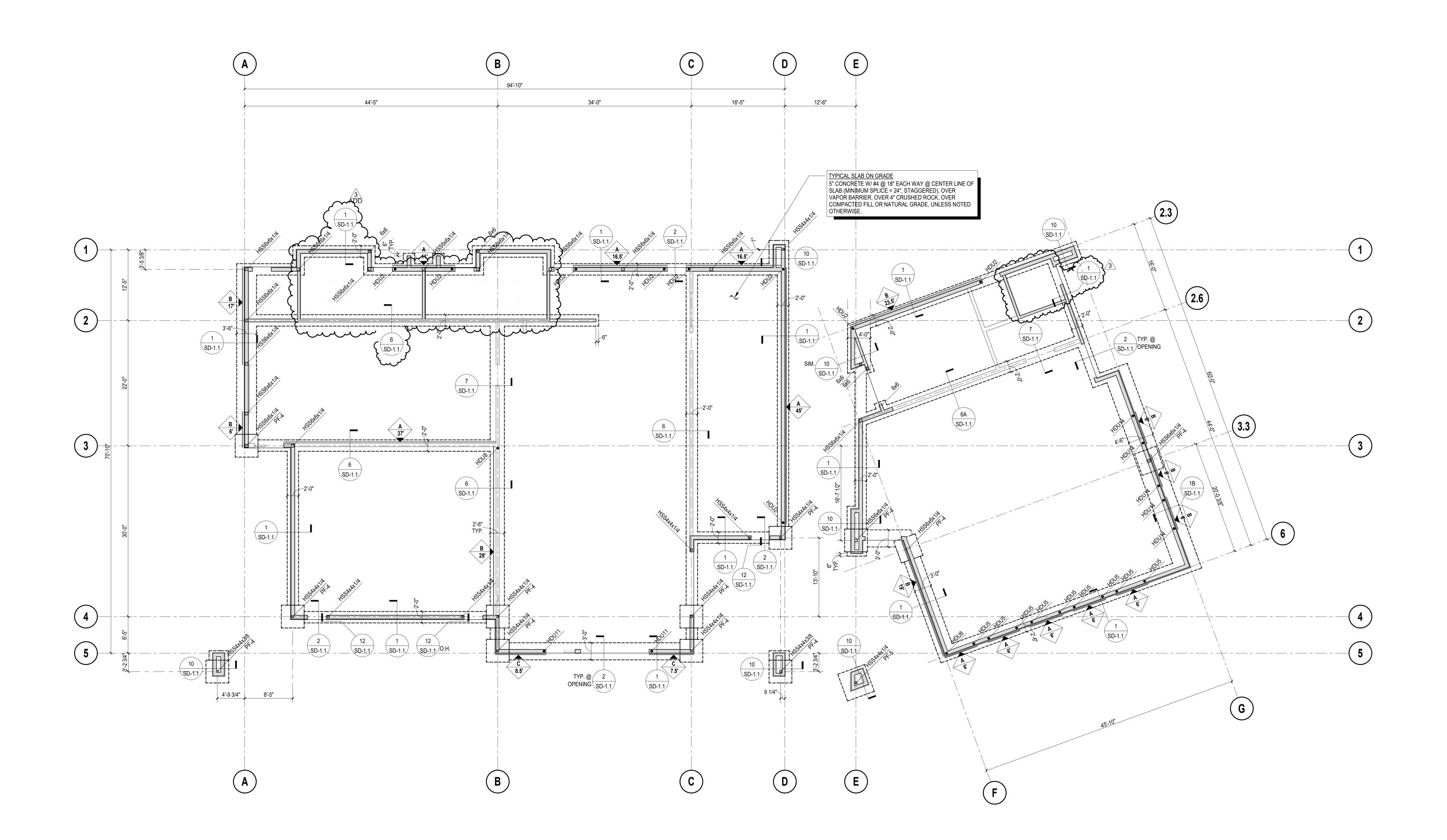
CUSTOM BUILDING PRODUCTS, COLOR "SNOW WHITE "

ADD. POXY

RUHNAUCLARKE.COM

3775 TENTH STREET, RIVERSIDE CALIFORNIA 92501 (951) 684 4664 / 5751 PALMER WAY, SUITE C, CARLSBAD CALIFORNIA 92010 (760) 438 5899

1100 MURRAY DR, EL CAJON, CA 92020 GROSSMONT UNION HIGH SCHOOL







AGENCY APPROVAL File No: A#



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www.KNAstructural.com

ARCHITECTS

KNA Job No.: 203.654

FOUNDATION PLAN NOTES

1. SEE SHEETS S0-0.1 THROUGH S0-1.8 FOR GENERAL NOTES AND TYPICAL DETAILS.

2. SEE SPECIFICATIONS FOR ALL SITE AND SUBGRADE PREPARATIONS.

3. SEE ARCHITECTURAL AND/OR CIVIL DRAWINGS FOR FINISH FLOOR ELEVATIONS.

4. SEE ARCHITECTURAL AND CIVIL DRAWINGS FOR ALL EXTERIOR CONCRETE PAVING, SLABS, BASES, CURBS, SITE WALLS, ETC.

5. FOR ANY DIMENSIONAL INFORMATION NOT SHOWN, SEE ARCHITECTURAL DRAWINGS.

6. SEE PLANS AND ARCHITECTURAL DRAWINGS FOR DEPRESSIONS AND/OR SLOPES IN CONCRETE SLABS.

7. ALL DIMENSIONS SHOWN ARE FROM FACE OF STUD, CENTER LINE OF COLUMN, OR CENTER LINE OF WALL, UNLESS NOTED OTHERWISE. ALL COLUMNS ARE CENTERED IN STUD WALL, UNLESS NOTED

8. SEE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS IN BEARING AND NON-BEARING WALLS.

9. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF INTERIOR NON-BEARING PARTITIONS. INTERIOR NON-BEARING PARTITION WALLS THAT DO NOT REQUIRE CONCRETE CURBS ARE NOT SHOWN ON STRUCTURAL DRAWINGS.

10. SEE ARCHITECTURAL, PLUMBING, MECHANICAL, ELECTRICAL, AND KITCHEN DRAWINGS FOR ADDITIONAL EMBEDDED ITEMS AND SLAB PENETRATIONS.

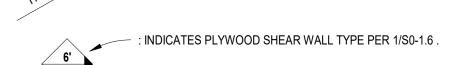
11. ALL WALLS SHOWN WITH PLYWOOD SHEAR PANELS SHALL BE CONTINUOUSLY SHEATHED FOR THE FULL LENGTH OF THE WALL WITH THE SAME SHEATHING AS INDICATED. ALL EXTERIOR WALLS SHALL HAVE TYPE A PLYWOOD SHEATHING APPLIED TO THE OUTSIDE FACE PER DETAIL 1/S0-1.6, UNLESS NOTED OTHERWISE.

12. FOR TYPICAL PIPE CHASE IN CONCRETE STEM WALL, SEE DETAIL 5/SD-1.1.13. FOR TYPICAL SLAB JOINTS, SEE DETAIL 10/S0-1.1.

LEGEND

: INDICATES STEEL COLUMN SIZE. SEE DETAIL 3/S0-1.4 FOR STEEL COLUMN BASE PLATE, U.N.O.

315 SEE DETAIL 9/S0-1.1 FOR ADDITIONAL



: INDICATES LENGTH OF WALL USED FOR DESIGN. ACTUAL LENGTH OF WALL MAY EXCEED, BUT SHALL NOT BE LESS THAN THE LENGTH SHOWN.

: INDICATES SIMPSON HOLDOWN ANCHOR. SEE DETAIL 12/S0-1.6 FOR



S: INDICATES STEP IN CONTINUOUS FOOTING. SEE DETAILS 5/S0-1.1 FOR ADDITIONAL INFORMATION. STEP CONTINUOUS FOOTING TO MATCH BOTTOM OF LOWEST ADJACENT FOOTING ELEVATION.

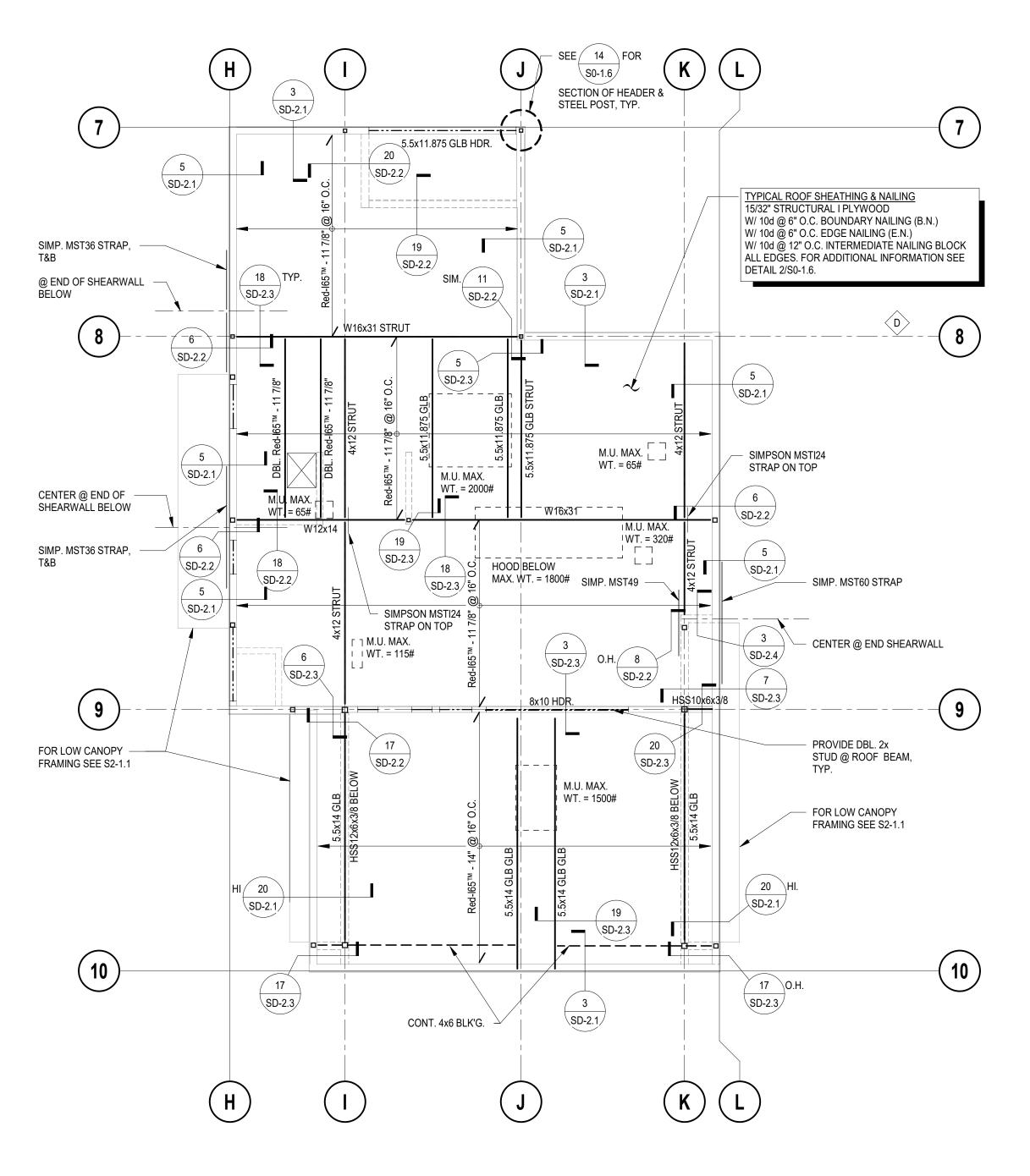
(NOTE: STEPPED FOOTING SHOWN ON PLANS ARE PROVIDED TO AVOID UNDERGROUND UTILITIES AND ACTUAL LOCATION AND NUMBER OF STEPS SHALL BE COORDINATED IN THE FIELD, AND VERIFIED BY THE CONTRACTOR. ADDITIONAL LOCATIONS MAY BE REQUIRED. PROVIDE COMPLIANCE WITH DETAIL 3/S0-1.1).

: INDICATES CHANGE IN ELEVATION.

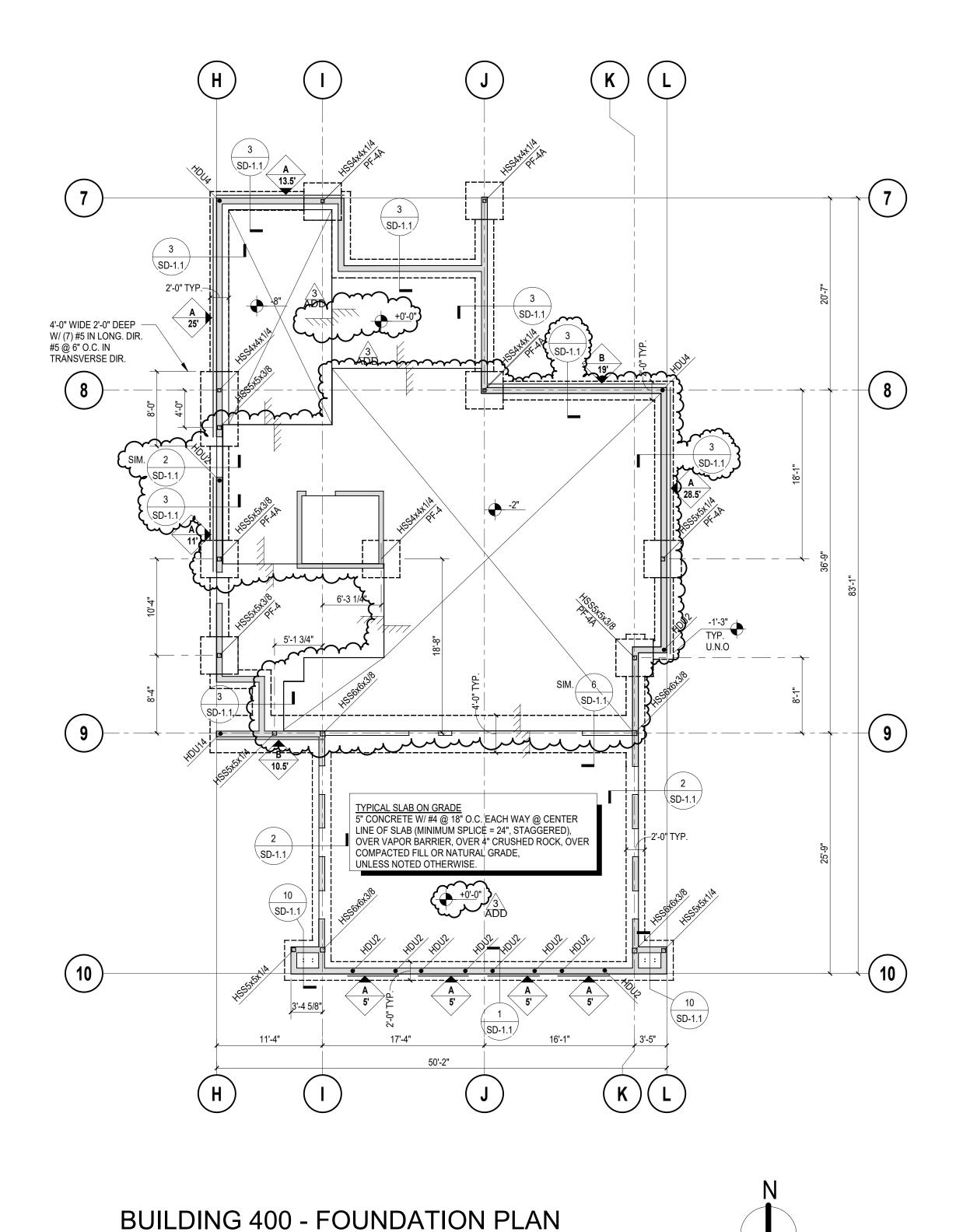
: INDICATES TOP OF SLAB ELEVATION (WHERE INDICATED), +0'-0" U.N.O.

FOUNDATION PLAN - WEIGHT ROOM BLDG.

PROJECT No. :1-30-55 8/16/2022 7:43:17 AM











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ARCHITECTS

KNA Job No.: 203.654

FOUNDATION PLAN NOTES

I. SEE SHEETS S0-0.1 THROUGH S0-1.8 FOR GENERAL NOTES AND TYPICAL DETAILS.

2. SEE SPECIFICATIONS FOR ALL SITE AND SUBGRADE PREPARATIONS.

3. SEE ARCHITECTURAL AND/OR CIVIL DRAWINGS FOR FINISH FLOOR ELEVATIONS.

4. SEE ARCHITECTURAL AND CIVIL DRAWINGS FOR ALL EXTERIOR CONCRETE PAVING, SLABS, BASES, CURBS, SITE WALLS, ETC.

5. FOR ANY DIMENSIONAL INFORMATION NOT SHOWN, SEE ARCHITECTURAL DRAWINGS.

SEE PLANS AND ARCHITECTURAL DRAWINGS FOR DEPRESSIONS AND/OR SLOPES IN CONCRETE SLABS . ALL DIMENSIONS SHOWN ARE FROM FACE OF STUD, CENTER LINE OF COLUMN, OR CENTER LINE OF WALL, UNLESS NOTED OTHERWISE. ALL COLUMNS ARE CENTERED IN STUD WALL, UNLESS NOTED

8. SEE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS IN BEARING AND NON-BEARING WALLS.

9. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF INTERIOR NON-BEARING PARTITIONS. INTERIOR NON-BEARING PARTITION WALLS THAT DO NOT REQUIRE CONCRETE CURBS ARE NOT SHOWN ON STRUCTURAL DRAWINGS.

10. SEE ARCHITECTURAL, PLUMBING, MECHANICAL, ELECTRICAL, AND KITCHEN DRAWINGS FOR ADDITIONAL EMBEDDED ITEMS AND SLAB PENETRATIONS.

1. ALL WALLS SHOWN WITH PLYWOOD SHEAR PANELS SHALL BE CONTINUOUSLY SHEATHED FOR THE FULL LENGTH OF THE WALL WITH THE SAME SHEATHING AS INDICATED. ALL EXTERIOR WALLS SHALL HAVE TYPE A PLYWOOD SHEATHING APPLIED TO THE OUTSIDE FACE PER DETAIL 1/S0-1.6, UNLESS NOTED OTHERWISE. 12. FOR TYPICAL PIPE CHASE IN CONCRETE STEM WALL, SEE DETAIL 5/SD-1.1.

3. FOR TYPICAL SLAB JOINTS, SEE DETAIL 10/S0-1.1.

ROOF FRAMING PLAN NOTES

I. SEE SHEETS S0-0.1 THROUGH S0-1.8 FOR GENERAL NOTES AND TYPICAL DETAILS.

2. SEE ARCHITECTURAL DRAWINGS FOR ALL TOP OF SHEATHING AND TOP OF WALL/PARAPET ELEVATIONS. 3. SEE ARCHITECTURAL, PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF ROOF OPENINGS NOT SHOWN ON ROOF FRAMING PLANS. SEE DETAILS 9/S0-1.5 AND 11/S0-1.7 FOR TYPICAL OPENINGS, UNLESS NOTED OTHERWISE.

4. SEE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS IN BEARING AND NON-BEARING WALLS. 5. PROVIDE 2" BY FULL DEPTH SOLID BLOCKING AT 8'-0" MAXIMUM FOR ROOF JOISTS OR RAFTERS MORE THAN 8"

IN DEPTH. FOR ADDITIONAL INFORMATION SEE DETAIL 7/S0-1.5 AND 8/S0-1.7. 6. ALL LINES AND/OR MEMBERS INDICATED AS "STRUT" SHALL RECEIVE (2) ROWS OF BOUNDARY NAILING (B.N.),

7. I-JOIST HANGERS SHALL BE SIMPSON MIT HANGERS, UNLESS NOTED OTHERWISE.

8. WHERE TOP PLATES ARE INTERRUPTED BY A STEEL COLUMN, PROVIDE TIE PLATE CONNECTION PER DETAIL 7/S0-1.6, UNLESS NOTED OTHERWISE.

9. PROVIDE DBL. 2x STUDS WHERE BEARING WALL SUPPORTS BEAM AND PROVIDE (2) 10d NAIL @ 12" O.C. TO SISTER DOUBLE STUD TOGETHER.

LEGEND

INFORMATION.

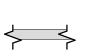
: INDICATES STEEL COLUMN SIZE. SEE DETAIL 3/S0-1.4 FOR STEEL COLUMN BASE PLATE, U.N.O. :INDICATES CONCRETE FOOTING. SEE DETAIL 9/S0-1.1 FOR ADDITIONAL

: INDICATES PLYWOOD SHEAR WALL TYPE PER 1/S0-1.6.

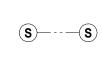
: INDICATES LENGTH OF WALL USED FOR DESIGN. ACTUAL LENGTH OF WALL MAY EXCEED, BUT SHALL NOT BE LESS THAN THE LENGTH SHOWN.



: INDICATES SIMPSON HOLDOWN ANCHOR. SEE DETAIL 12/S0-1.6 FOR ADDITIONAL INFORMATION.



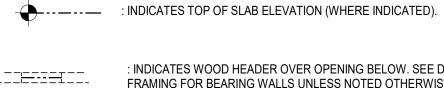
: INDICATES CONCRETE CURB. SEE PLANS AND DETAIL 14/S0-1.1 FOR ADDITIONAL INFORMATION.



: INDICATES STEP IN CONTINUOUS FOOTING. SEE DETAILS 5/S0-1.1 FOR ADDITIONAL INFORMATION. STEP CONTINUOUS FOOTING TO MATCH BOTTOM OF LOWEST ADJACENT FOOTING ELEVATION. (NOTE: STEPPED FOOTING SHOWN ON PLANS ARE PROVIDED TO AVOID UNDERGROUND UTILITIES AND ACTUAL LOCATION AND NUMBER OF STEPS SHALL BE COORDINATED IN THE FIELD, AND VERIFIED BY THE CONTRACTOR. ADDITIONAL LOCATIONS MAY BE REQUIRED. PROVIDE COMPLIANCE WITH DETAIL 3/S0-1.1).



: INDICATES CHANGE IN ELEVATION.



: INDICATES WOOD HEADER OVER OPENING BELOW. SEE DETAIL 1/S0-1.5 FOR SIZE & FRAMING FOR BEARING WALLS UNLESS NOTED OTHERWISE ON PLAN. FOR NON-BEARING WALLS HDR. USES 1/2" DEEP HEADER IN NOT LONGER THAN 8'-0".



: INDICATES EXTENT OF JOISTS.



: INDICATES TOP PLATE SPLICE. SEE DETAILS 5/S0-1.6 AND 6/S0-1.6. PROVIDE TOP PLATE SPLICE PER DETAIL 5C/S0-1.6, UNLESS NOTED OTHERWISE. WHERE TOP PLATES BREAK, SPLICE PER DETAIL 6F/S0-1.6, UNLESS NOTED OTHERWISE, WHERE HSS COLUMN INTERRUPS TOP PLATES OR TOP PLATES TERMINATE AT HSS COLUMN, PROVIDE SPLICE PER 7A/S0-1.6.

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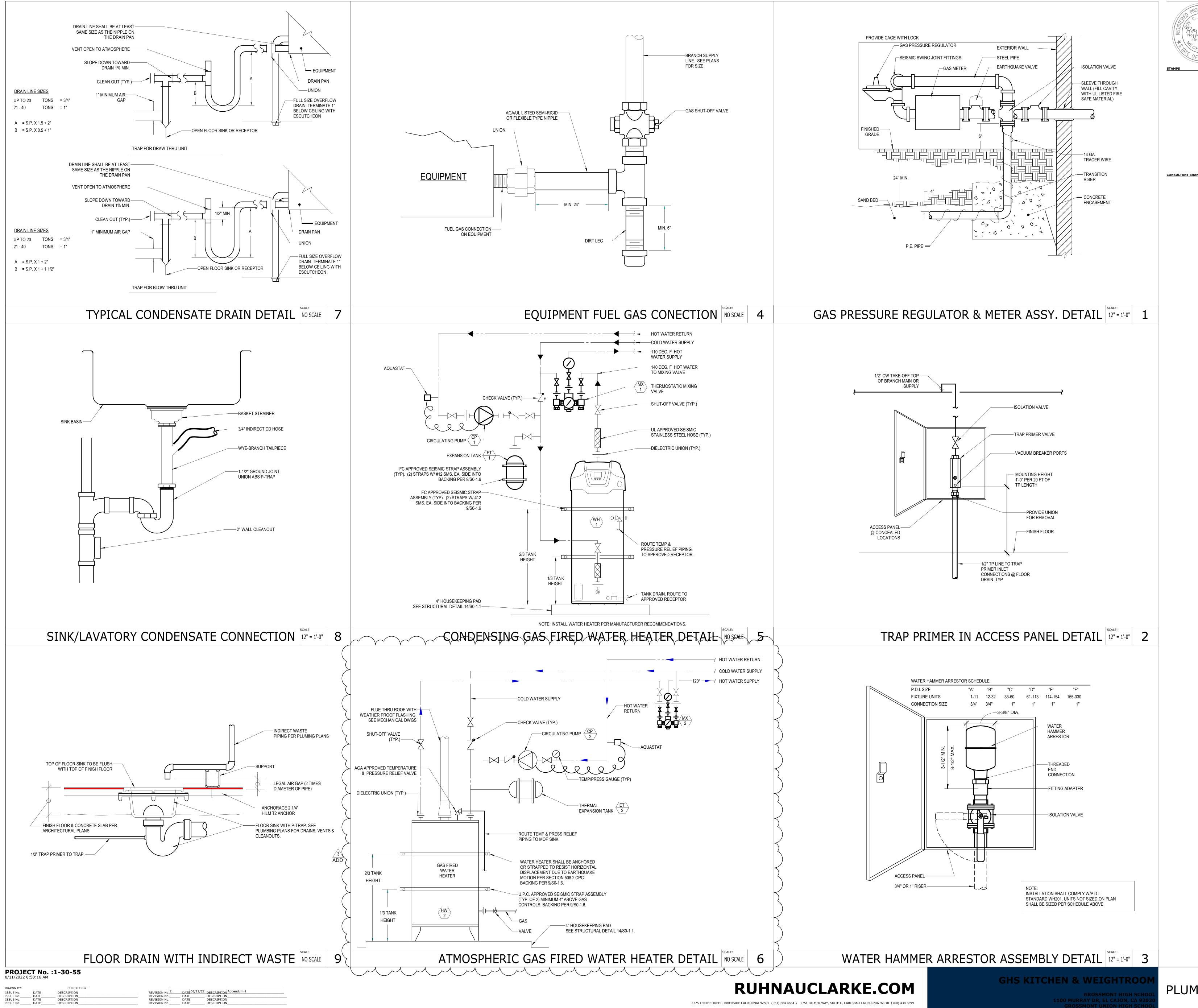
RUHNAUCLARKE.COM 3775 TENTH STREET, RIVERSIDE CALIFORNIA 92501(951) 684 4664 / 5751 PALMER WAY, SUITE C, CARLSBAD CALIFORNIA 9201(0760) 438 5899

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

GHS KITCHEN & WEIGHTROOM MOD GROSSMONT HIGH SCHOOL 1100 MURRAY DR, EL CAJON, CA 92020

GROSSMONT UNION HIGH SCHOOL

BUILDING 400 FOUNDATION & ROOF FRAMING PLANS

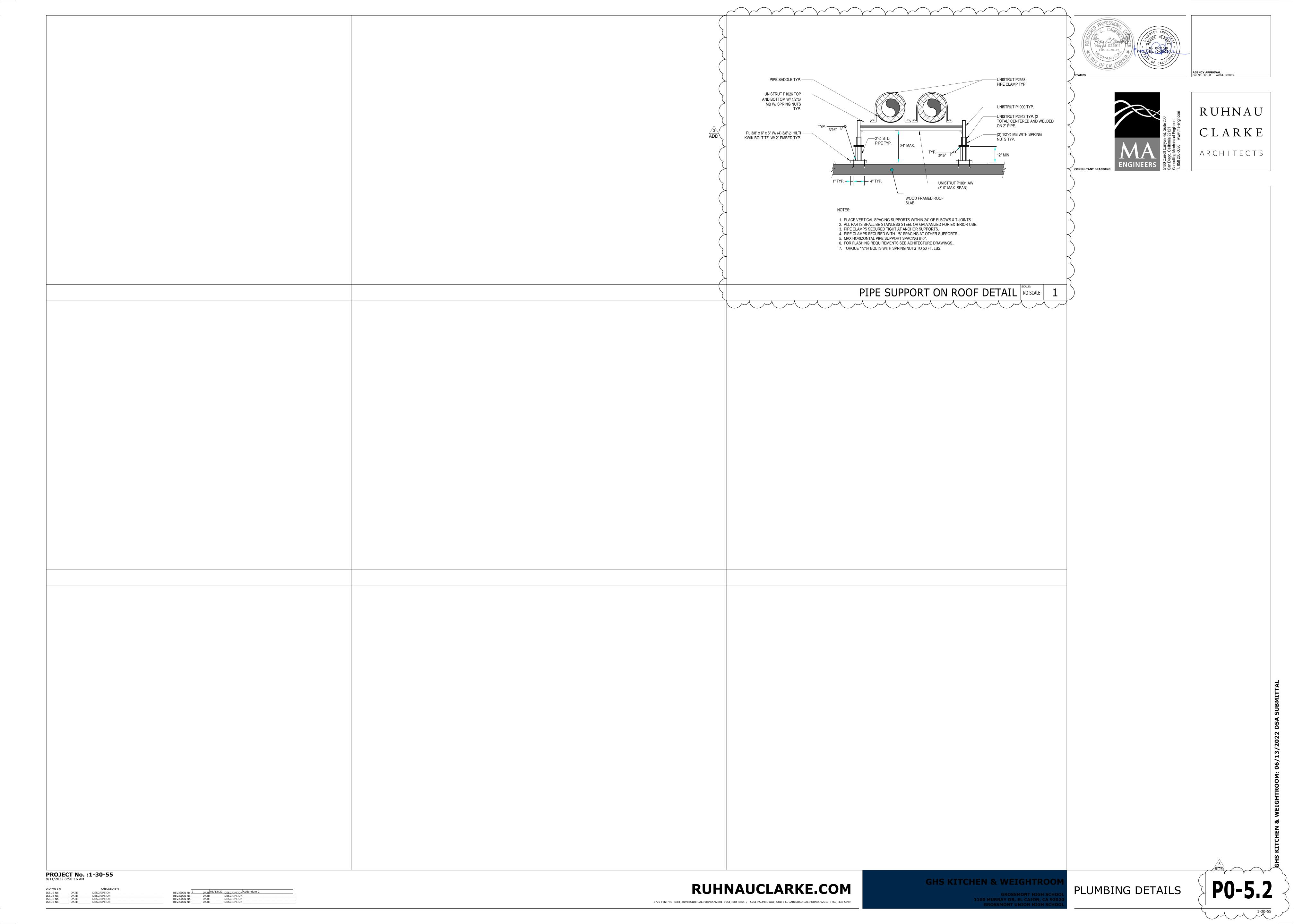


P0-5.1

RUHNAU

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ARCHITECTS





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AGENCY APPROVAL

RUHNAU

CLARKE



Power | Lighting | Multimedia Communications | Data Networking

12875 Brookprinter Place, Suite 300 Poway, CA 92064

Poway, CA 92064 P 858.679.4030 | F 858.513.0559 | A R C H I T E C T S

www.jce-inc.com

GENERAL NOTES:

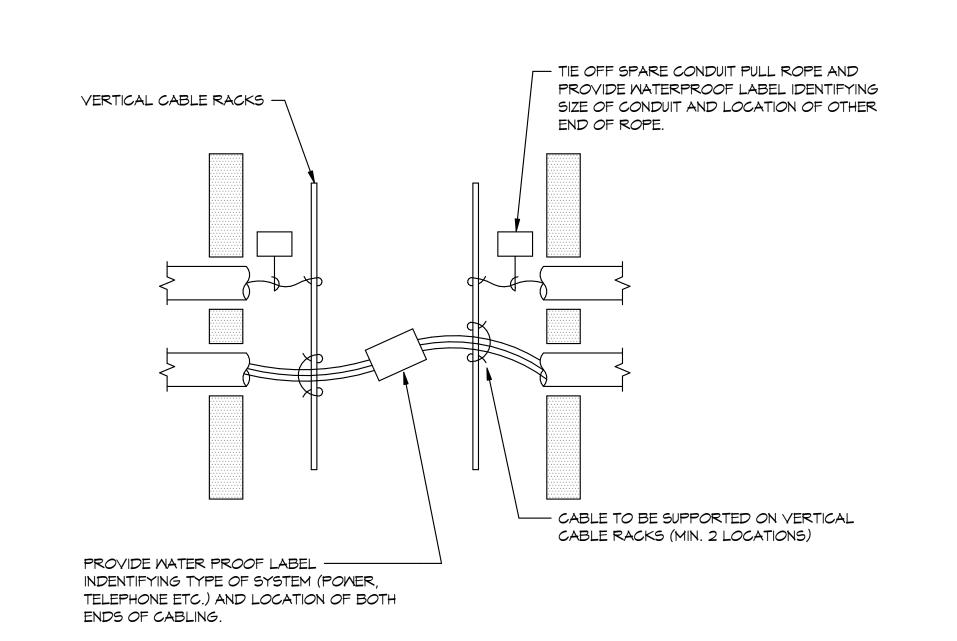
1. FURNISH AND INSTALL ALL UTILITY CO. SERVICES TO THE SITE TO COMPLY WITH LOCAL UTILITY CO. REQUIREMENTS. VERIFY ALL REQUIREMENTS PRIOR TO INSTALLATION.

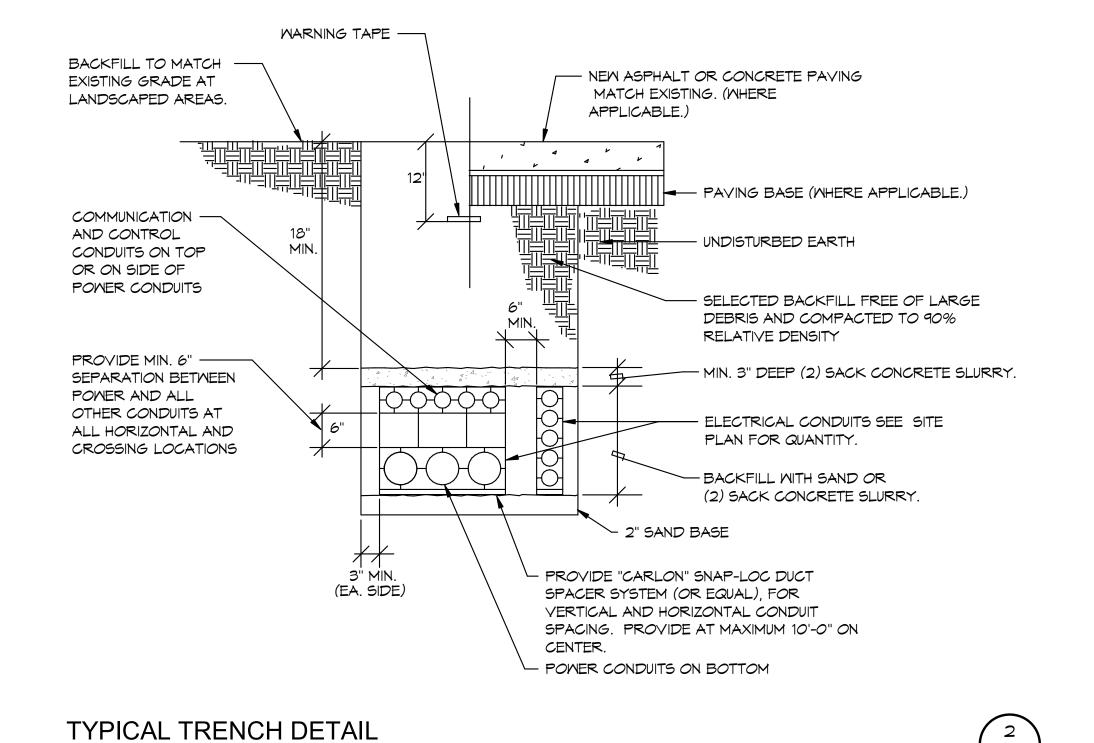
KEY NOTES:

- 1) PROVIDE CONDUIT FOR FUTURE NEW PRESS BOX. STUB AND CAP CONDUITS BELOW GRADE.
- 2 SEE FLOOR PLANS FOR EQUIPMENT/IDF ROOM REQUIREMENTS

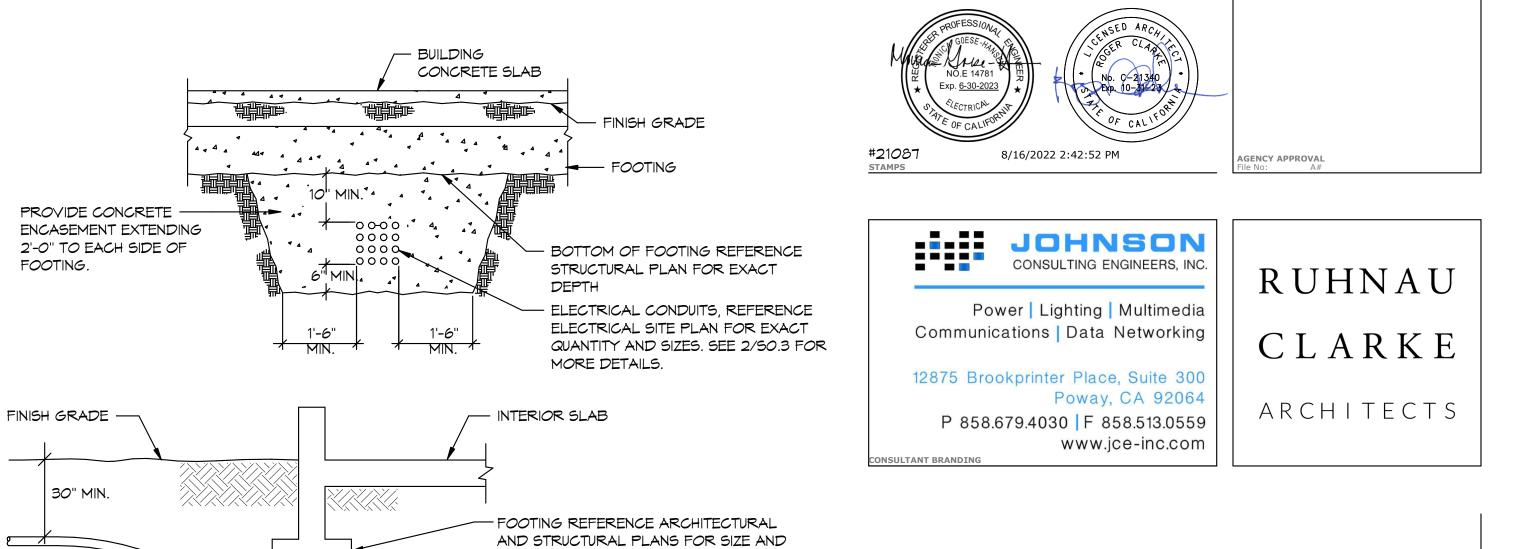
LOSE PROTECTION AT ANY TIME AFTER SCHOOL HOURS.

- REPLACE EXISTING MAIN SECURITY CONTROL PANEL IN THE EXISTING CAMPUS MDF ROOM IN OLD GYM/AUDITORIUM. REFER TO THE SPECIFICATIONS FOR REQUIREMENTS. CAMPUS SECURITY IN AREAS CONNECTED TO SECURITY CONTROL PANEL SHALL NOT
- 4) PROVIDE (2) 20A/1P CIRCUIT BREAKERS IN EXISTING SPACES 10,12
 IN PANELBOARD.
- (5) EXISTING PY CONTROL BOXES TO BE REMOVED FROM THE WALL
 OF THE DEMOLISHED KITCHEN BUILDING AND RE-INSTALLED ON
 UNISTRUT AS PER DETAIL 4/E1.2. COORDINATE ALL PY WORK WITH
 PY UTILITY PROVIDER.



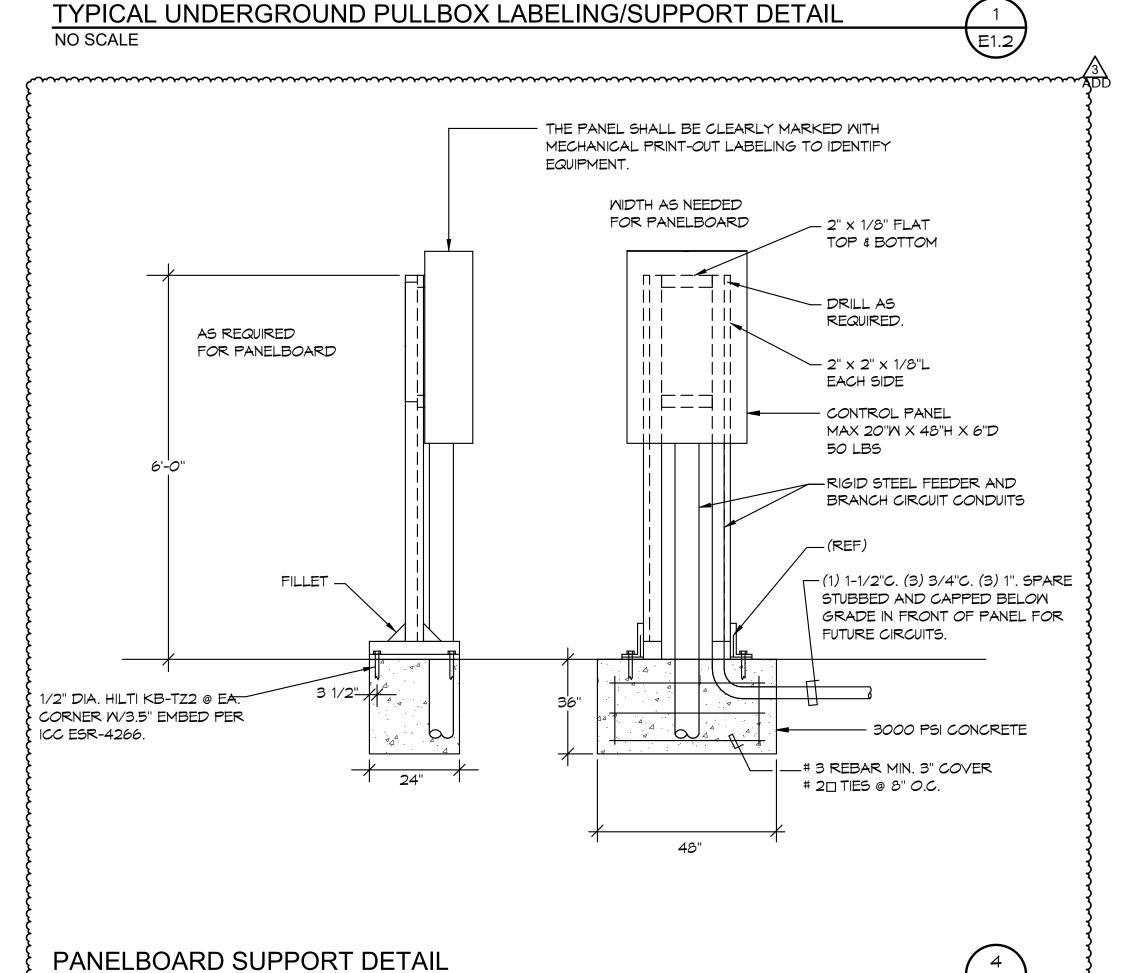


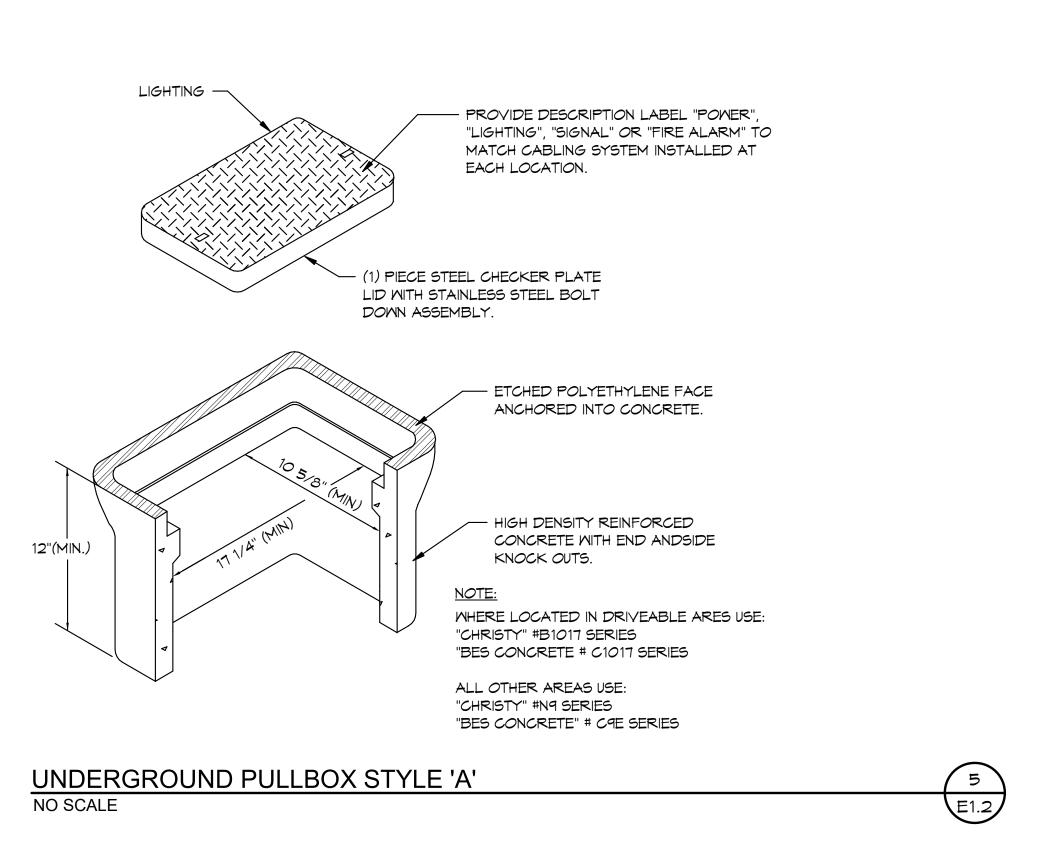
NO SCALE

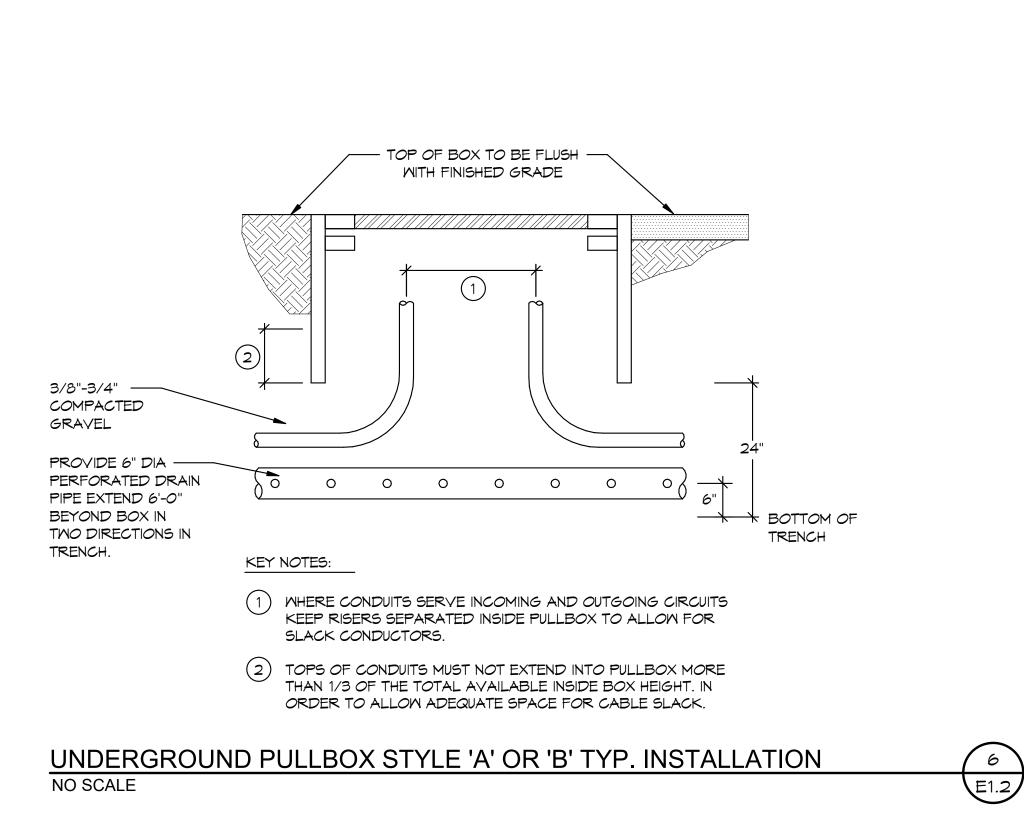


ADJUST DEPTH OF CONDUITS TO

ROUTE BELOW FOOTINGS. SEE 2/50.3 FOR MORE DETAILS.







UNDERGROUND CONDUIT - INSTALLATION AT BUILDING FOOTING

NO SCALE

E1.2

NO SCALE

GROSSMONT UNION HIGH SCHOOL

INSTALLATION DETAILS.

CLARKE 12875 Brookprinter Place, Suite 300

Poway, CA 92064 P 858.679.4030 | F 858.513.0559 www.jce-inc.com

ARCHITECTS

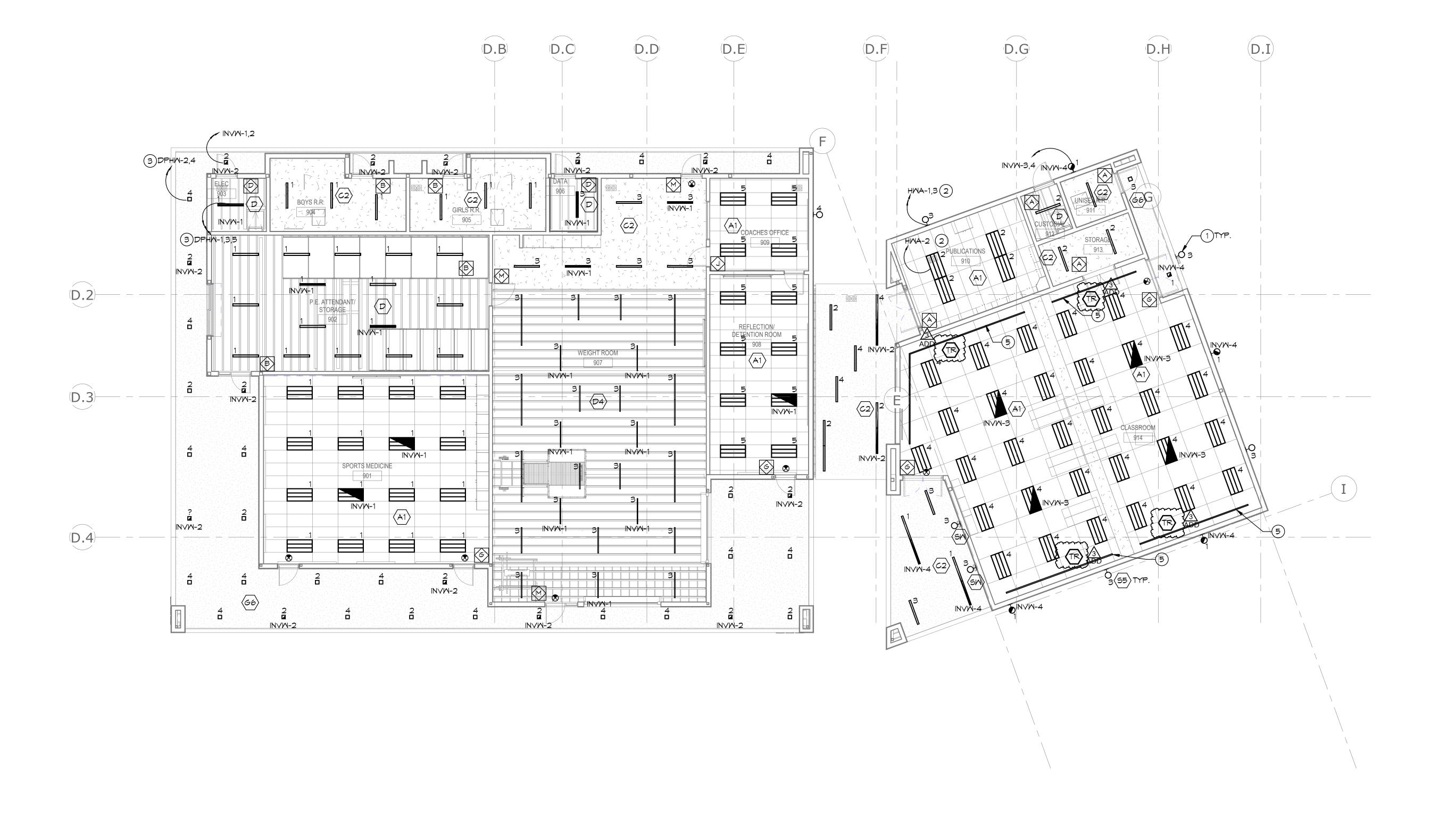
RUHNAU

1. REFERENCE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL LIGHTING FIXTURES.

- 2. REFERENCE E2 SERIES SHEETS FOR ALL FIXTURE TYPES AND FOR TYPICAL DETAILS.
- 3. REFERENCE ES SERIES SHEETS FOR TYPICAL CONDUIT AND BACKBOX
- 4. LETTERS IN OR ADJACENT TO EACH FIXTURE OR FIXTURE ROW INDICATES SWITCH AND OR OCCUPANCY SENSOR WHICH CONTROLS THE LIGHTING FIXTURE.
- 5. CIRCUIT HOMERUNS ARE INDICATED TO SHOW THE LOCATION AND NUMBER OF CIRCUITS TO BE GROUPED TOGETHER.
- 6. PROVIDE MINIMUM 3/4" CONDUIT AND #12 CIRCUIT CONDUCTORS AS REQUIRED TO CONNECT EACH LIGHTING FIXTURES TO THEIR INDICATED CONTROL DEVICES. (U.O.N.)

KEY NOTES:

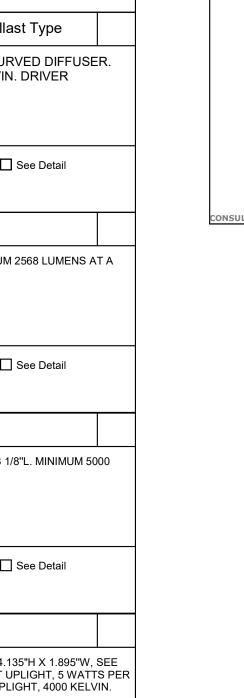
- (1) SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHT.
- 2) 2 #12 (HOT), 1 #10 (NEUTRAL), 1 #12 (GND), 3/4"C.
- (3) 3 #12 (HOT), 1 #10 (NEUTRAL), 1 #12 (GND), 3/4"C.
- (4) 4 #12 (HOT), 2 #10 (NEUTRAL), 1 #12 (GND), 3/4"C.
- (5) PROVIDE TRACK LIGHTING WITH MEDIUM FLOOD 4000K LIGHTING FIXTURE EVERY 8' AS MANUFACTURED BY TARGETTI #FORTYEIGHT LABEL 4. PROVIDE SEPARATE LIGHT SMITCH TO CONTROL ONLY THE



BLDG 900 FLOOR PLAN - LIGHTING 1/8" = 1'-0"

GHS KITCHEN & WEIGHTROOM MOD BLDG 900 FLOOR PLAN GROSSMONT HIGH SCHOOL 1100 MURRAY DR, EL CAJON, CA 92020 GROSSMONT UNION HIGH SCHOOL

				LIGHT	ING	FIX	TURE SCHEDI	JLE						L	IGHT	NG	FIXT	URE SCHE	DULE		
				FIXT	URE		LAMP MOUNTIN	G							FIXTU	RE	ı	LAMP MOUI	ITING		
1ark	Approved Manufacturer's (See Key Note No. 1)	Catalog Series Type (See Key Note No. 2)	Incandescent	Fluorescent Metal Halide High Pressure Sodium Low Pressure Sodium	Volts	Lamps Watts	os editade Surface / Ceiling Wall Recessed / Wall Pendant	Surface / Wall Pole	Description		Mark	Approved Manufacturer's (See Key Note No. 1)	Catalog Series Type (See Key Note No. 2)	Incandescent Fluorescent Metal Halide	High Pressure Sodium Low Pressure Sodium LED	Volts	Lamps Watts	Partial Surface / Ceiling Wall Recessed / Wall	Pendant Surface / Wall Pole	Description	
	LITHONIA LIGHTING				■ 120							DAY-BRITE	EVO GRID 2X4			■ 120				Provide Ballast Type	
	HUBBELL	GEOPAK SERIES TRP2				1	TRAPEZOIDAL WALL SCONCE	WITH INTEGRAL PHO	OTOCELL MIN. 3000 LUMENS			COLUMBIA	LTGR24					MINIMUM 5000 LUMEI	IS AT A CCT O	BASKET/CURVED DIFFU 4000 KELVIN. DRIVER	SER.
S5 \	MCGRAW EDISON	IST SERIES			208	3					$\left\langle A1\right\rangle$	LITHONIA	2BLT			□208		VOLTAGE UNIVERSA	0-10v DIMMIN	G.	
35/	VISIONR	PGAS SERIES			27 7	7						CRUZE	ST			2 77					
	GARDCO	101 SERIES			□480	30w	Provide Emergency Ballast Type 'EM'	Provide Custom Color Finish, to be selected at time	See Detail							□480	42w	Provide Emergency Ballast Type 'EM'	Provide Cus Color Finish, selected at t	to be	
	LIGMAN LIGHTING	ANDERSON						submittal			A1	PINNACLE ARCH.	EDGE EV3A						submittal		
	OR EQUAL	SERIES			■ 120					_		LIGHTING PHILIPS LEDALITE	SERIES			■ 120	-			/ 47/II - NAINIINALINA OFOO LLINAFNIG	
	UR EQUAL				□208	3	POST TOP POLE MOUNTED F RISING UP TO HEAD FROM PO MINIMUM 2,997 LUMEN, 4000 MOUNTED ON 12'-0" ALUMINU	OLE AND METAL BAND KELVIN, 0-10v DIMMIN	D BETWEEN BASE AND TOP, IG TYPE 5, CAST ALUMINUM,				STANDALONE VIA 3 LED (RECESSED)			□208		CCT OF 4000 KELVIN. MA		(47"L. MINIMUM 2568 LUMENS I. 0-10v DIM.	S AT A
SP						+	WITH MOTION SENSOR, VERI EXISTING POST TOP FIXTURE	FY FINISH WITH ARCH	HITECT, FIXTURE TO MATCH		C2	AXIS LIGHTING	BEAM3 LED								
					27 7	41	HEIGHT.	Provide Custom	See Detail 1			NEO-RAY	SERIES DEFINE 3			■ 277	34.4w	Provide	Provide Cus	tom See Detail	
,					□480		Provide Emergency Ballast Type 'EM'	Color Finish, to be selected at time submittal	E2.7		C2		RECESSED			□480	٥	Emergency Ballast Type 'EM'	Color Finish, selected at t	to be	
	ELECTRIX	MHIGH SERIES			1 20	\downarrow					02	LITHONIA LIGHTING	ZL1N SERIES			■ 120				<u>'</u>	
	OR EQUAL				120		RECTANGULAR WALL WASH	SCONCE, MIN. 1500 LU	UMENS, 4000K COLOR			DAY-BRITE	FLUXSTREAM				1	LINEAR SURFACE STRIP LUMENS AT A CCT OF 50		X 3 1/4"H X 48 1/8"L. MINIMUM	15000
_					□208	3	TEMPERATURE, VERIFY COL	OR WITH ARCHITECT.				COLUMBIA	LCL SERIES			□208		LUMENS AT A CCT OF 30	00 KLEVIN. 0-10V E	ZIIVI.	
sw〉					- 07	_						WILLIAMS	75 LED SERIES			■ 277					
					■277	23w	Provide	Provide Custom	See Detail			METALUX	SNLED				45w	☐ Provide	☐ Provide Cus		
,					□480		Emergency Ballast Type 'EM'	Color Finish, to be selected at time submittal			D					□480		Emergency Ballast Type 'EM'	Color Finish selected at t submittal		
	LIGHT OLIER	TE SERIES			■ 120							CORONET	LS1 LED UP/DN SERIES			■ 120				·	
	ISOLITE	SLX-60 SERIES					SELF LUMINOUS EXIT SIGN W REQUIRED. SURFACE MOUNT					BIRCHWOOD	BW165 SERIES							DOWNLIGHT, 4.135"H X 1.895"\ TS PER FOOT UPLIGHT, 5 WA	
_	MERIT	P180 SERIES			□208	3	20 YR LIFE AND PLASTIC WHI		LILING MOUNT AS NEQUINED	J.						□208		FOOT DOWNLIGHT, 430 L WHITE FINISH. 0-10v DIM	M/FT DOWNLIGHT	, 380 LM/FT UPLIGHT, 4000 KE	ELVIN.
<u> </u>	LIGHTOLIER	TE SERIES			2 77	7					D4					2 77					
	EVENLITE	LIFELINE LEX SERIES				N/A		Provide Custom	See Detail								40	Provide	Provide Cus	tom See Detail	7
~~~			~~	~~~~~	□480	)	Emergency Ballast Type 'EM'	Color Finish, to be selected at time submittal		3	D4					□480		Emergency Ballast Type 'EM'	selected at t		E2.6
	TARGETTI	FORTY EIGHT LABEL 4										GOTHAM	6" EVO SERIES			<b>■</b> 120					
	OR EQUAL					-	TRACK LIGHTING WITH MEDII REMOTE 277-48V DRIVER, FIX	TURES SHALL HAVE	1.57" DIAMETER, SHORT STE	_{≡M,}  }		COVENTRY	6LB79VWL SERIES							AT A CCT OF 400 KELVIN. WE ^T RISMATIC POLYCARBONATE L	
					□208	3	SEE PLANS FOR EXACT LENG	GTH, VERIFY COLOR W	WITH ARCHITECT	}		PHILIPS LIGHTOLIER	CALCULITE LED GEN3			□208					
TR >					<b>2</b> 77	7				{	G2 G2	FAIL-SAFE	LD6B			<b>277</b>					
						120w		Provide Custom	See Detail	<b>-</b>  {							30w	Provide Emergency	Provide Cus		
					□480		Emergency Ballast Type 'EM'	Color Finish, to be selected at time submittal		}	G2					□480		Ballast Type 'EM'	selected at t submittal		
ست	<del></del>		ست		سس	سسس	······································	<del></del>	······································	رتت		ALPHABET	NU6" SERIES			<b>■</b> 120					
																		WET LOCATION LISTED.		00 LUMENS AT A CCT OF 4000 NT SMOOTH CLEAR LENS, WI	
											$\left\langle G_{6}\right\rangle$	PHILIPS LIGHTOLIER	P6S SERIES			□208		FINISH.			
											\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \					<b>2</b> 77					
																	17w	Provide Emergency	Provide Cus		
											G6					□480		Ballast Type 'EM'	selected at t		



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AGENCY APPROVAL

RUHNAU CLARKE Poway, CA 92064 P 858.679.4030 | F 858.513.0559 ARCHITECTS

LIGHTING FIXTURE SCHEDULE KEY NOTES:

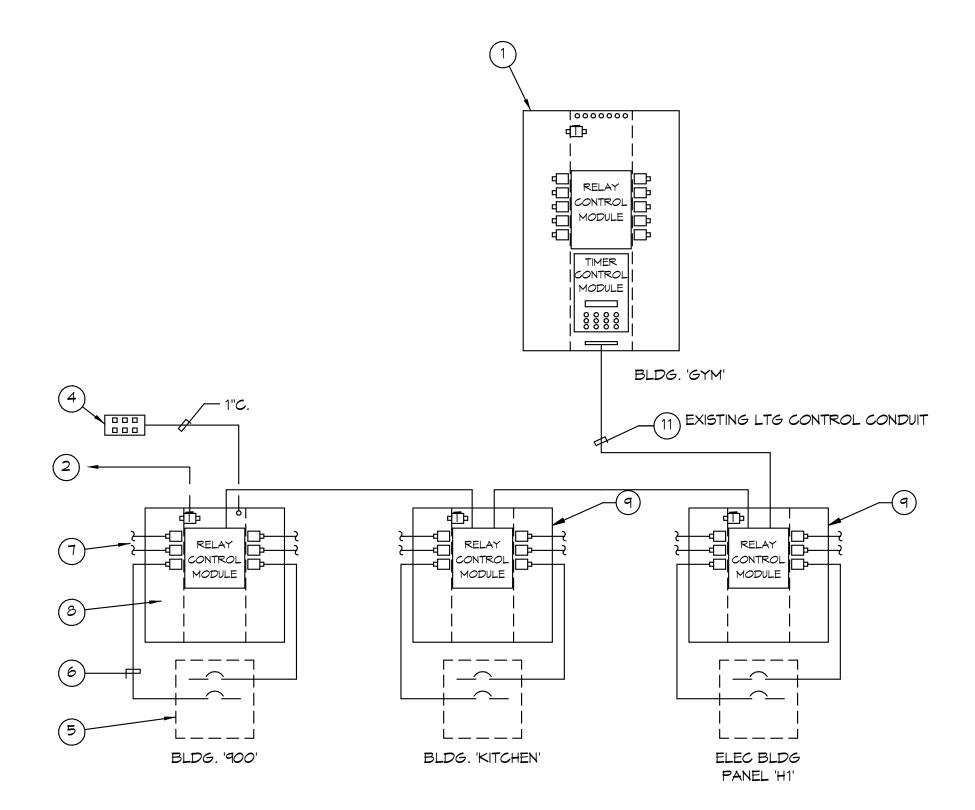
1. ALTERNATE MANUFACTURER'S TO THOSE SPECIFIED MAY BE SUBMITTED FOR APPROVAL. ALTERNATE MANUFACTURER'S MUST MEET THE MINIMUM CRITERIA INDICATED IN THE DESCRIPTION AND OPTIONS COLUMNS OF THIS SCHEDULE, AND MUST BE EQUAL TO THE SPECIFIED FIXTURE AS DETERMINED BY THE SPECIFYING ENGINEER. (ALTERNATE FIXTURES MUST BE APPROVED PRIOR TO BID, ALLOW 72 HOURS FOR ENGINEER REVIEW AND APPROVED). WHERE 'NO KNOWN EQUAL' IS INDICATED THE FIXTURE DOES NOT HAVE AN EQUAL TO MEET THE PROJECT REQUIREMENTS, AND ALTERNATE SELECTIONS WILL NOT BE ACCEPTED.

- 2. COMPLETE CATALOG NUMBERS HAVE NOT BEEN PROVIDED, REFERENCE THE DESCRIPTION AND OPTIONS COLUMNS OF THIS SCHEDULE FOR COMPLETE FIXTURE REQUIREMENTS.
- 3. EMERGENCY POWER FOR LIGHTING IS SUPPLIED BY EM GENERATOR.

	KURTZON	WL RECESSED 2'X4'						<b>■</b> 120							
	KENALL	CSED024 SERIES									(ETED 2'X4' RECESSED				
(K1)	FAIL-SAFE	GRW						□208		PRISMATIC ACRYLIC LENS (INVERTED) AND FLUSH ALUMINUM WHITE DOOR FRAME, PROVIDE LENS AND FRAME NEOPRENE GASKETING, MINIMUM 5000 LUMENS AT A CCT OF 5000 KELVIN. DRIVER VOLTAGE UNIVERSAL. 0-10v DIMMING.					
(KI)	LA LTG	GWL320						<b>277</b>							
	NEWSTAR	57R SERIES							50	Provide Emergency	Provide Custom Color Finish, to be	☐ See Detail			
K1			]					□480		Ballast Type 'EM'	selected at time submittal				
	KURTZON	WL RECESSED 2'X2'						<b>■</b> 120							
	KENALL	CSED022 SERIES								ENCLOSED AND GASKETED 2'X2' RECESSED MOUNT FIXTURE125" PRISMATIC ACRYLIC LENS (INVERTED) AND FLUSH ALUMINUM WHITE DOOR FRAME, PROVIDE LENS AND FRAME NEOPRENE GASKETING, MINIMUM 5000 LUMENS AT A CCT OF 5000 KELVIN. DRIVER VOLTAGE UNIVERSAL. 0-10v DIMMING.					
⟨K2⟩	FAIL-SAFE	GRW						□208 ■277							
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	LA LTG	GWL320													
	NEWSTAR	57R SERIES							50	Provide	Provide Custom	☐ See Detail			
K2								□480		Emergency Ballast Type 'EM'	Color Finish, to be selected at time submittal				

CHECKED BY:

____ DESCRIPTION____
__ DESCRIPTION___
__ DESCRIPTION___
__ DESCRIPTION___



		M/	STER LIGI	HTING COI	NTROL ZO	NE SCHED	ULE		 	 
ZONE	ZONE DESCRIPTION	BLDG. 900	BLDG. KITCHEN	PANEL H1						
					PANELBO	DARD CIRC	LUITS CON	TROLLED		
Α	EXTERIOR LIGHTING	DPHM-2 HMA-1	HKL-2							
В	EXTERIOR LIGHTING	DPHM-4 HMA-3	HKL-4							
C	STUDENT RESTROOMS									
D	MALKMAY LIGHTS	HAL-6		H1-10						
E	MALKMAY LIGHTS			H1-12						

REMOTE OVERRIDE CONTROL STATION									
SWITCH LOCATED IN	ZONES CONTROLLED	CONDUIT / WIRE	SMITCH IDENTIFICATION						
CUSTODIAN ROOM #912	ALL ZONES INDIVIDUALLY	SEE NOTE 14 15 16 17	5LV-900						
CUSTODIAN ROOM #406	ALL ZONES INDIVIDUALLY	SEE NOTE 14 15 16 17	SLV-KIT						
	SWITCH LOCATED IN CUSTODIAN ROOM #912 CUSTODIAN ROOM #406	SWITCH LOCATED IN ZONES CONTROLLED  CUSTODIAN ROOM #912 ALL ZONES INDIVIDUALLY  CUSTODIAN ROOM #406 ALL ZONES INDIVIDUALLY	SWITCH LOCATED IN ZONES CONTROLLED CONDUIT / WIRE  CUSTODIAN ROOM #912  ALL ZONES INDIVIDUALLY  SEE NOTE 14 (15) 16 (17)						

KEY NOTES:

(1) { EXISTING EMS CONTROL PANEL }

2 120 VOLT POWER CONNECTION TO CONTROL POWER



3 PHOTOCELL MOUNTED ON ROOF, NUMBER OF CONDUCTORS AS REQUIRED BY MANUFACTURER.

4 REMOTE OVERRIDE CONTROL STATION SEE SCHEDULE FOR QUANTITY AND LOCATION.

(5) BUILDING ELECTRICAL PANELBOARD. 6 PROVIDE (1) 3/4"C. AND WIRING AS REQUIRED BY MANUFACTURER FOR EVERY (3) CIRCUITS MANUFACTURER FOR EVERY (3) CIRCUITS CONTROLLED FROM EACH PANEL. SEE ZONE SCHEDULE FOR QUANTITY.

(7) SEE ZONE SCHEDULE FOR QUANTITY OF RELAYS REQUIRED.

REMOTE BUILDING EMS CONTROL PANEL. ADD 9 SEE BUILDING '900' FOR TYPICAL REMOTE BUILDING

NOTES AND REQUIREMENTS. 10 PROGRAMMABLE CONTROLLER WITH PUSH BUTTON KEY PAD AND LCD ALPHANUMERIC DISPLAY. ALL RELAYS TO BE INDIVIDUALLY OR GROUP TIME SCHEDULED PER DISTRICT PROVIDED SCHEDULE. INCLUDE ASTRONOMICAL, HOLIDAY SCHEDULING AND DAYLIGHT SAVINGS PROGRAMMING.

11) PROVIDE CONTROL WIRING AS REQUIRED BY MANUFACTURER.

12) 3/4"C. AND WIRING AS REQUIRED BY MANUFACTURER TO TELEPHONE SYSTEM.

13) PROVIDE TELEPHONE INTERFACE MODULE.

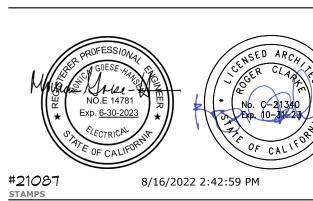
DURING 'OFF' TIME PERIODS THE OVERRIDE STATION
WHEN PUSHED WILL TURN ON THE ZONE FOR A MHEN PUSHED WILL TURN ON THE ZONE FOR A PERIOD OF 5 HOURS.

PROVIDE ENGRAVED ZONE DESCRIPTION

IDENTIFICATIONS FOR FACH SWITCH TO MAT IDENTIFICATIONS FOR EACH SMITCH TO MATCH DESCRIPTION SHOWN IN ZONE SCHEDULE."

PROVIDE 1"C. AND 2 # 18 FOR EACH ZONE CONTROL SMITCH PLUS 1 # 12 COMMON FOR EVERY (6) ZONE CONTROL SMITCHES. VERIFY EXACT NUMBER OF CONDUCTORS AT TIME OF SUBMITTAL. ABC = (3) ZONES AND (3) SEPARATE ON-OFF SWITCHES, AB = (2) ZONES AND (2) SEPARATE ON-OFF SWITCHES, ETC-

17 PROVIDE IN FLUSH MOUNTED BOX WITH KEY LOCKING



AGENCY APPROVAL

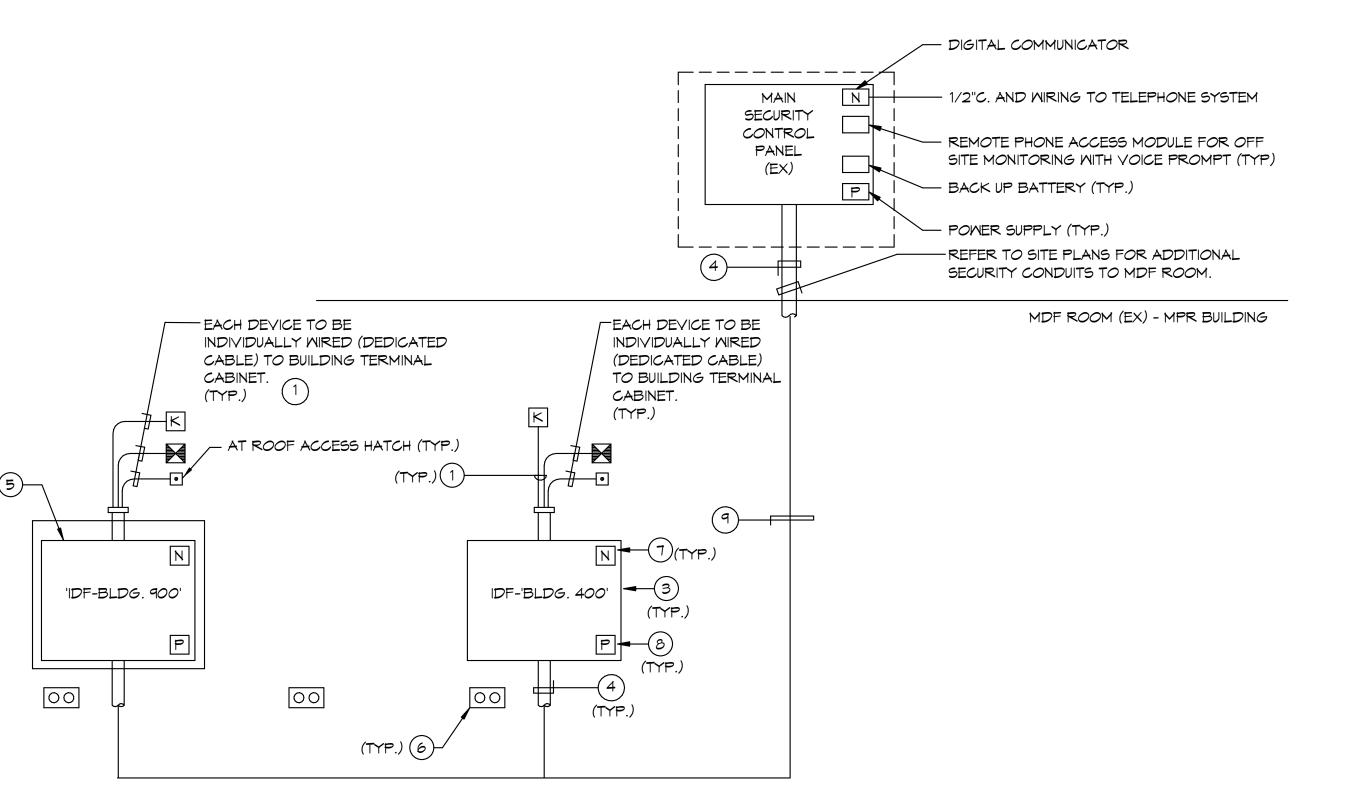
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CLARKE ARCHITECTS

RUHNAU



### GENERAL NOTES:

- ALL CONDUITS, POWER OUTLETS AND GROUNDING CONNECTIONS, BACKBOARDS AND REMOTE BUILDING COMMUNICATIONS CABINETS TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
- REFERENCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS, AND FLOOR PLANS FOR ADDITIONAL EQUIPMENT ITEMS REQUIRED, AND THIER LOCATIONS.
- 3. WHERE OPEN CONDUCTORS ARE INSTALLED ABOVE ACCESSIBLE CEILINGS, ALL CONDUCTORS SHALL BE NEATLY BUNDLED TOGETHER AND SUPPORTED FROM ROOF STRUCTURE. WHERE BUNDLED WITH OTHER COMMUNICATION SYSTEMS, IDENTIFYING TAGS SHALL BE PROVIDED TO IDENTIFY THESE CONDUCTORS FROM OTHER SYSTEMS.
- 4. PROVIDE I.D. LABEL ON EACH END OF EACH CABLE.
- 5. ALL SECURITY CABLING MUST BE SUPPORTED FROM THE STRUCTURE THE SAME AS REQUIRED FOR VOICE/DATA CABLING.

  SEE DETAIL

  FOR REQUIREMENTS.

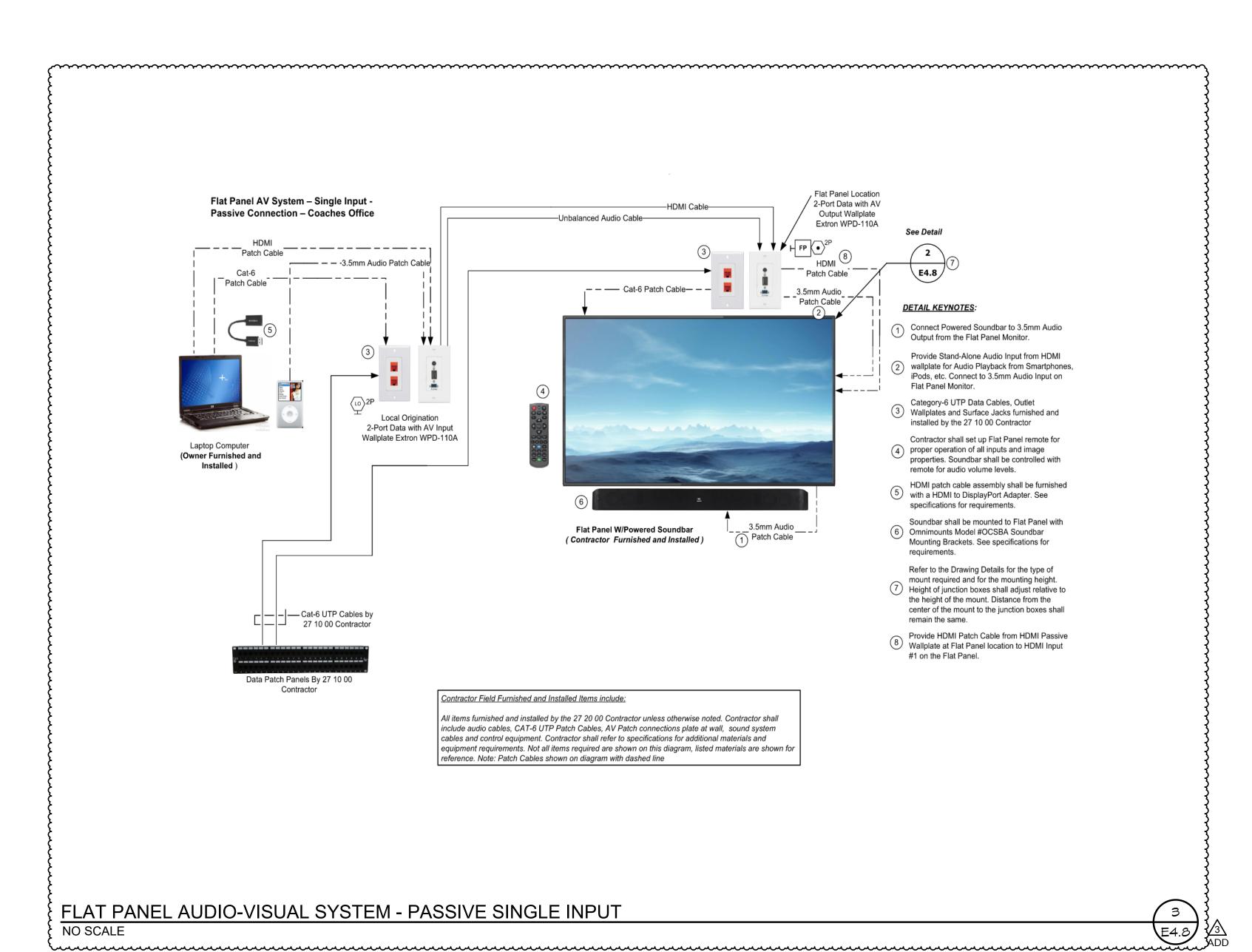
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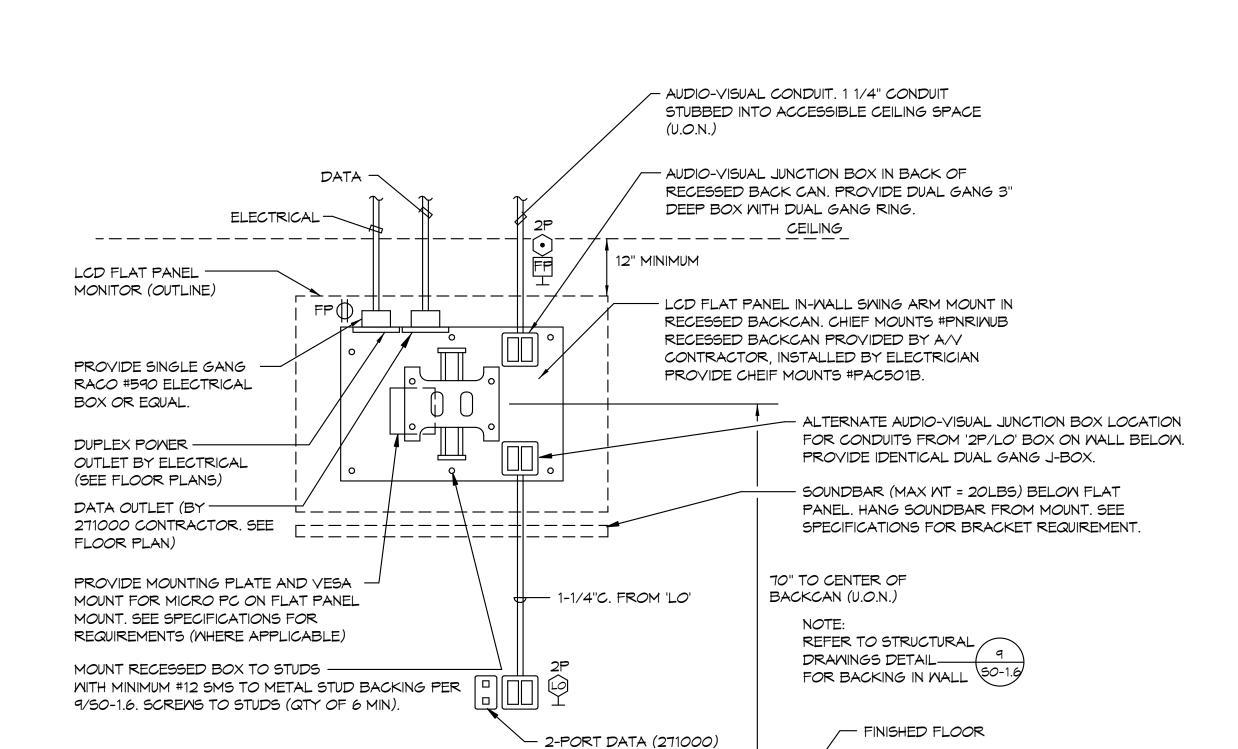
## KEY NOTES:

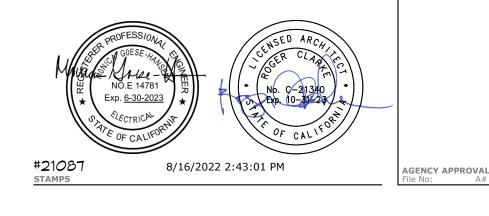
- WIRING AS REQUIRED BY MANUFACTURER.
- PROVIDE MINIMUM (2) 2"C. CONDUIT STUBBED INTO ACCESSIBLE CEILING
  SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE ADDITIONAL CONDUITS AS REQUIRED TO
  ACCOMODATE ALL CABLES PLUS 40% FUTURE CAPACITY. COORDINATE WITH 281600 CONTRACTOR.
- 3 COMMUNICATIONS BACKBOARD. SEE FLOOR PLANS FOR IDF ROOMS WITH A COMMUNICATIONS BACKBOARD. PROVIDE ADEQUATE SPACE FOR FUTURE PUNCH BLOCKS.
- SITE CONDUIT CONNECITON INTO IDF-ROOM. PROVIDE PLASTIC BUSHINGS AT EACH END
- (5) IDF-'BLDG.400' FOR TYPICAL NOTES.
- DUPLEX RECEPTACLE LOCATED 6" BELOW CABINET. FIELD VERIFY EXACT LOCATION WITH SECURITY/INTRUSION CONTRACTOR PRIOR TO ROUGH IN. REFER TO IDF ROOM ENLARGED FLOOR PLAN FOR ADDITIONAL REQUIREMENTS.
- 7 DIGITAL COMMUNICATOR
- (8) POWER SUPPLY SHALL BE SIZED WTIH A MINIUMUM 50% SPARE CAPACITY
- 9 ALL SITE DISTRIBUTION CABLES SHALL BE MULTI-CONDUCTOR. PROVIDE CABLE TO EACH BUILDING PLUS 25% EXPANSION CAPACITY

E4.8

# TYPICAL SECURITY/INTRUSION DETECTION SYSTEM DIAGRAM







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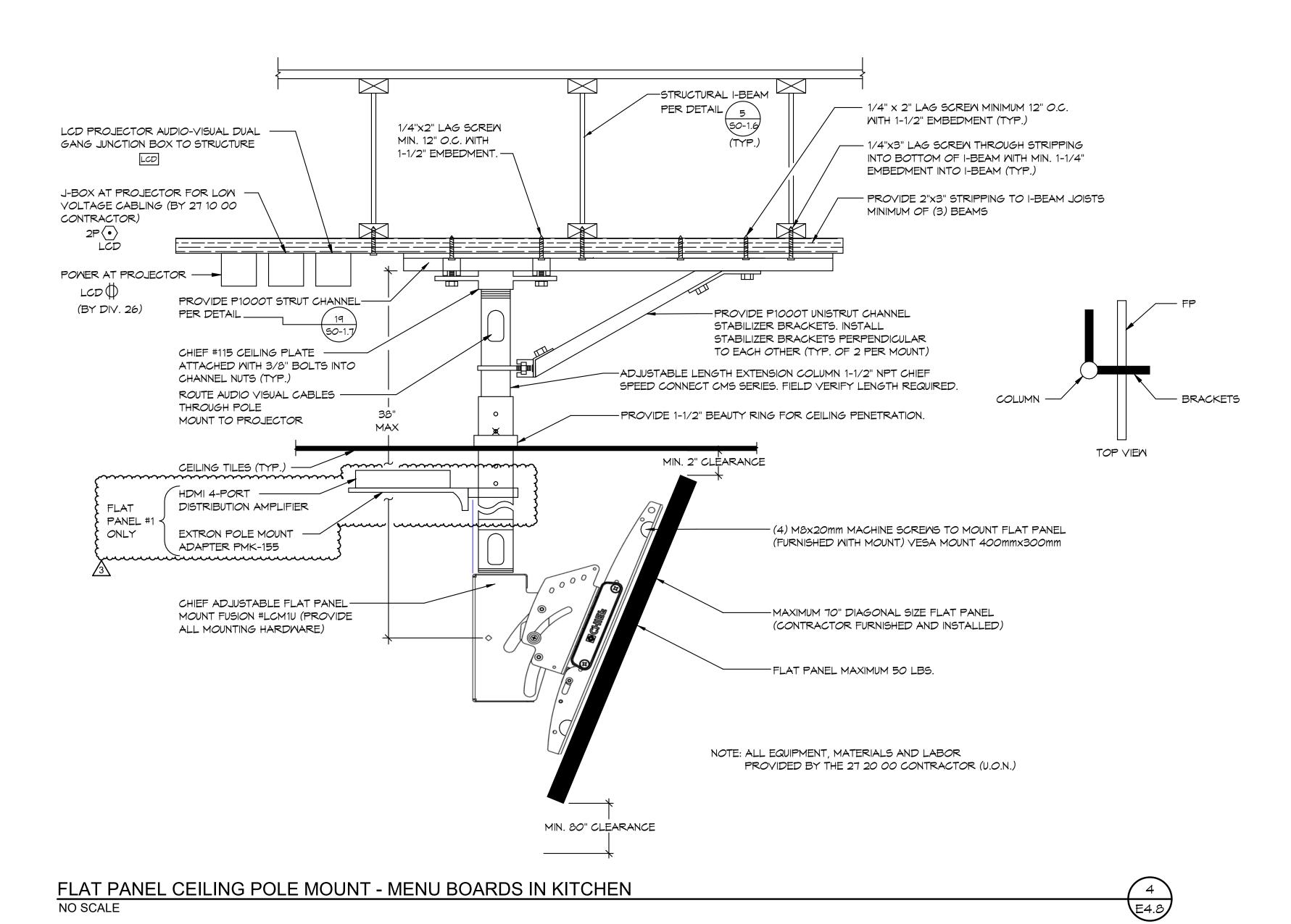
ARCHITECTS

LCD FLAT PANEL INSTALLATION DETAIL - RECESSED MOUNT NO SCALE

NOTE: FINAL FLAT PANEL MODEL CHOSEN MAY EFFECT MOUNTING HEIGHT.

SHOW A DIFFERENT MOUNTING HEIGHT. MAX. FLAT PANEL WEIGHT = 115LBS

REFER TO FLOOR PLANS PRIOR TO INSTALLING MOUNT, AS FLOOR PLANS MAY



PROJECT No. :1-30-55 8/16/2022 2:43:01 PM

RAWN BY: CHECKED BY:

SSUE No. DATE DESCRIPTION REVISION No. DATE DESCRIPTION

3775 TENTH STREET, RIVERSIDE CALIFORNIA 92501(951) 684 4664 / 5751 PALMER WAY, SUITE C, CARLSBAD CALIFORNIA 9201(0760) 438 5899

**GROSSMONT UNION HIGH SCHOOL** 





August 17,2022

#### ADDENDUM NO. 1

#### TO THE CONTRACT DOCUMENTS

#### **FOR**

Grossmont High School New Press Box and Bleacher

#### **FOR THE**

GROSSMONT UNION HIGH SCHOOL DISTRICT 1100 Murray Drive El Cajon, CA 92020

DSA #04-1210119 FILE #37-H4 RCA Job No. 1-30-55A

#### **NOTICE TO BIDDERS**

This Addendum forms a part of the Contract and modifies the original documents DSA Approved on July 15,2022. It is intended that all work affected by the following modifications shall conform with related provisions and general conditions of the contract of the original drawings and specifications. Modify the following items wherever appearing in any drawing or sections of the specifications. Acknowledge receipt of Addendum No. 1 in the space provided on the Bid Form. Failure to do so may subject bidder to disqualification.

#### **CHANGES TO DRAWINGS -**

0	
Item No. 1.1	Reference Sheet AS-1.0- Overall Site Demolition Plan
1.1.1	Modified Demolition Site plan to show existing landscaping to remain per attached ASK-1.1.
Item No. 1.2 1.2.1	Reference Sheet AS-1.1- Egress Site Plan & Code Analysis Modified New Bleacher stair configuration and update path to travel match per attached ASK1.2.
Item No. 1.3	Reference Sheet AS-1.2 – Enlarged Mod. Site Plan
1.3.1	Replace Sheet AS-1.2 in its entirety with attached Revised Sheet AS-1.2.
Item No. 1.4	Reference Sheet B3 – Footing Layout
1.4.1	Replace Sheet B3 in its entirety with attached Revised Sheet B3.
Item No. 1.5	Reference Sheet B5 – Understructure Layout
1.5.1	Replace Sheet B5 in its entirety with attached Revised Sheet B5.
Item No. 1.6 1.6.1	Reference Sheet B11 – Seating Layout Replace Sheet B11 in its entirety with attached Revised Sheet B11.
Item No. 1.7	Reference Sheet B12 – Exits
1.7.1	Replace Sheet B12 in its entirety with attached Revised Sheet B12.
Item No. 1.8	Reference Sheet B14 - Seat Bracket Layout
1.8.1	Replace Sheet B14 in its entirety with attached Revised Sheet B14.
Item No. 1.9 1.9.1	Reference Sheet B22 – Exit Details Replace Sheet B22 in its entirety with attached Revised Sheet B22.

ATTACHMENTS - GHS New Kitchen and Weight Room

Sketches: ASK-1.1, ASK-1.2

Drawings: AS-1.2, B3, B5, B11, B12, B14, B22

END OF ADDENDUM 1/

Roger Clarke, Principal

## **KEYNOTES**

- 02.201 EXISTING CHAINLINK FENCE TO REMAIN, PROTECT IN PLACE
- 02.203 EXISTING ELECTRICAL EQUIPMENT TO REMAIN, PROTECT IN PLACE
- 02.208 EXISTING CONCRETE TO REMAIN, PROTECT IN PLACE
- 02.209 EXISTING COBBLESTONE BERM TO REMAIN, PROTECT IN PLACE
- 02.211 EXISTING RETAINING WALL/CONC CURB TO REMAIN, PROTECT IN PLACE
- 02.411 DEMO PORTION OF CONCRETE SLAB
- 02.415 EXISTING BLEACHERS TO BE DEMOLISHED IN THEIR ENTIRETY INCLUDING FOUNDATION. REPLACE BLEACHERS W/ NEW PER ENLARGED MODERNIATION SITE PLAN 1/AS-1.1
- 02.422 DEMO ASPHALT PAVING

## **LEGEND**

SCOPE OF WORK LINE



DEMO PORTION OF CONCRETE PAVING PER CIVIL DWG.



DEMO EXISTING ASPHALT CONCRETE PAVING PER CIVIL DWG.



EXISTING COBBLESTONE BERM TO REMAIN. PROTECT IN PLACE



**EXISTING GROUND MATERIAL** TO REMAIN. PROTECT IN PLACE



EXISTING LANDSCAPING TO REMAIN. PROTECT IN PLACE

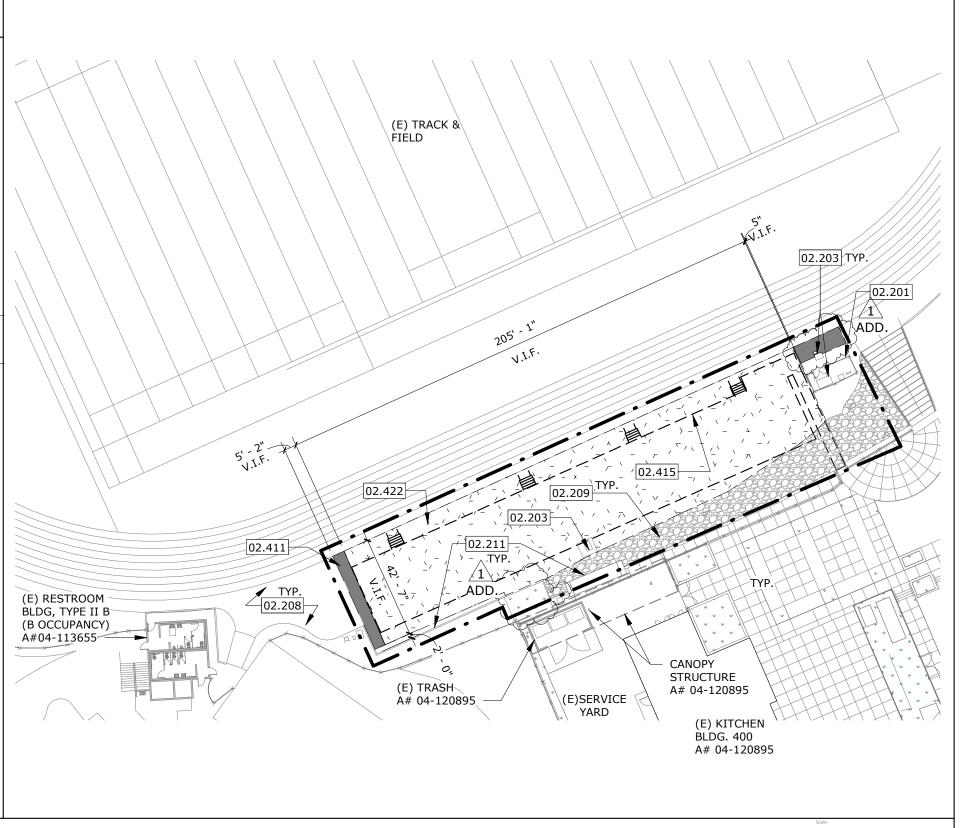
REFERENCE DETAIL 1/AS-1.0

### **REVISED OVERALL SITE DEMOLITION PLAN**

### **GROSSMONT HIGH SCHOOL**

**GHS NEW PRESS BOX & BLEACHER** 

**GROSSMONT UNION HIGH SCHOOL DISTRICT** 



1" = 40'-0"

04-121019

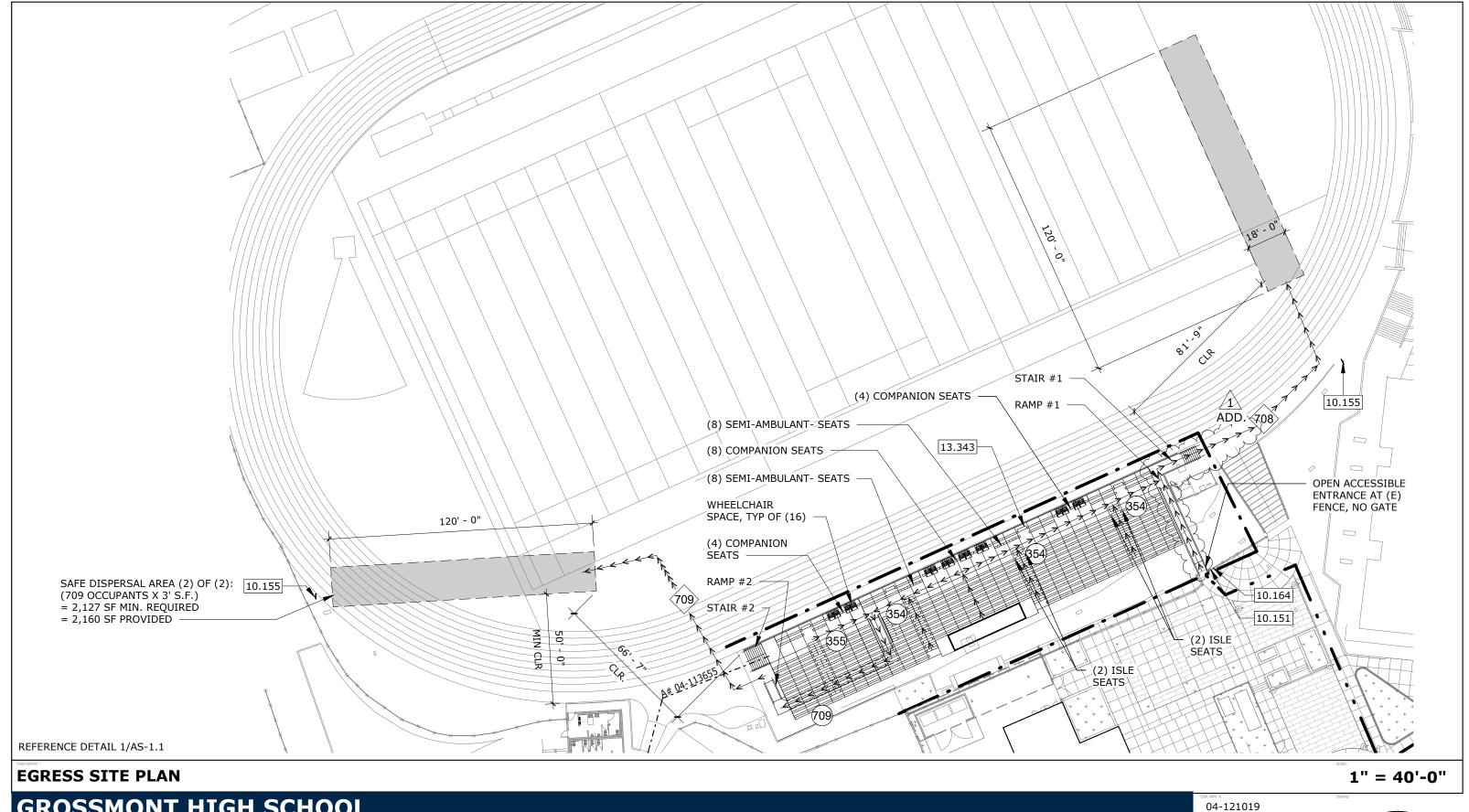
37-H4

08-16-22

1-30-55A

ASK-1.1





**GROSSMONT HIGH SCHOOL** 

**GHS NEW PRESS BOX & BLEACHER GROSSMONT UNION HIGH SCHOOL DISTRICT** 

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37-H4

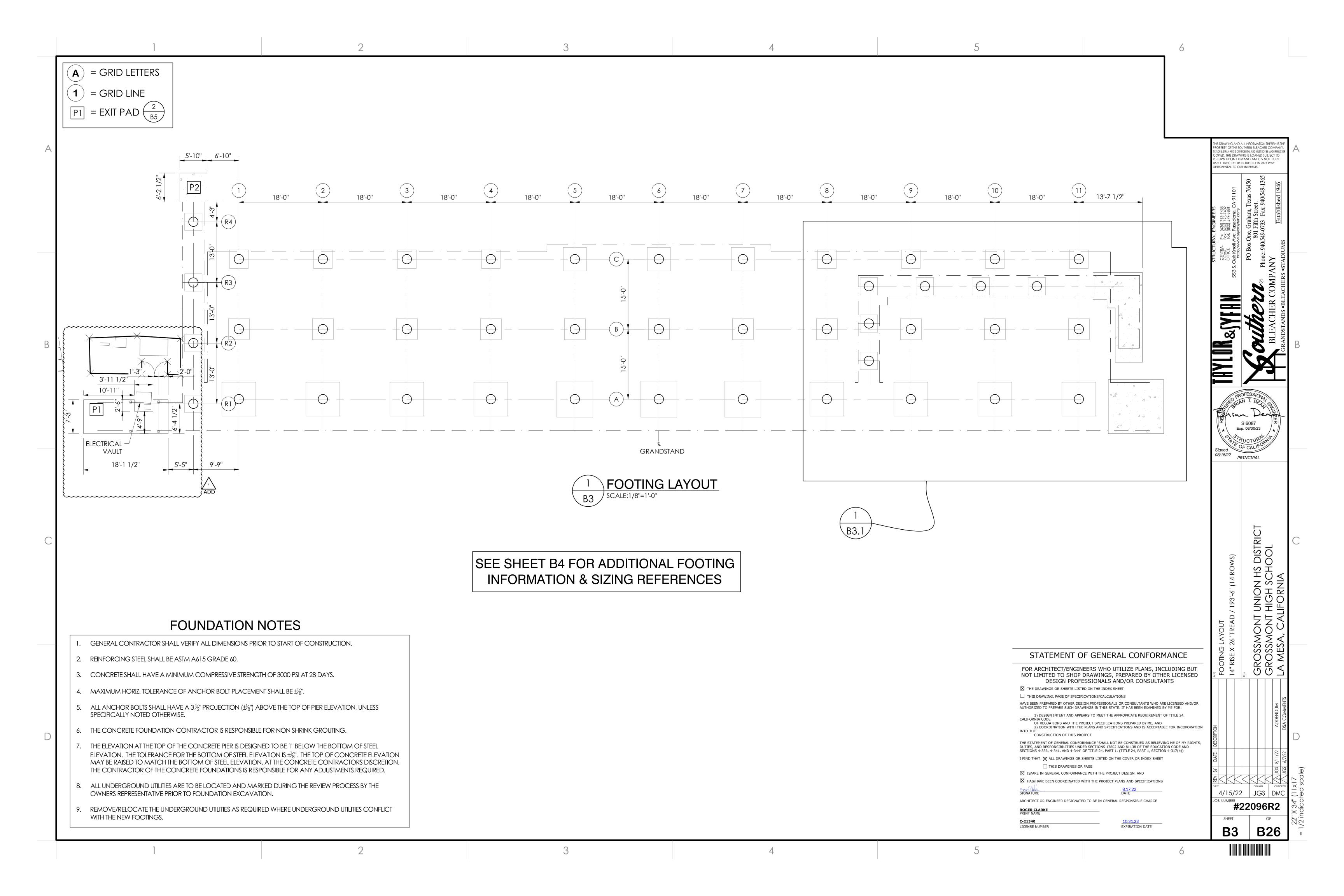
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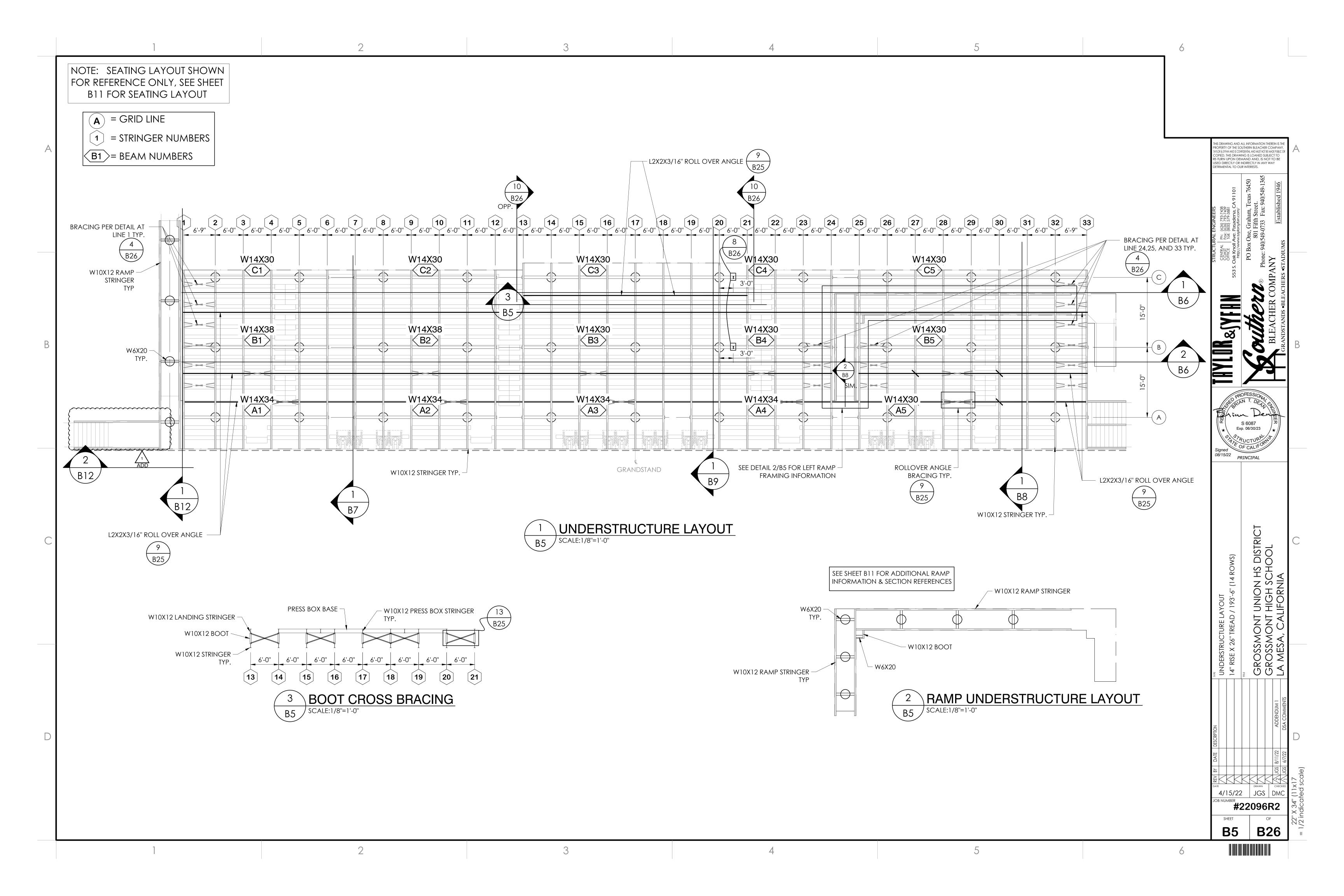
1-30-55A

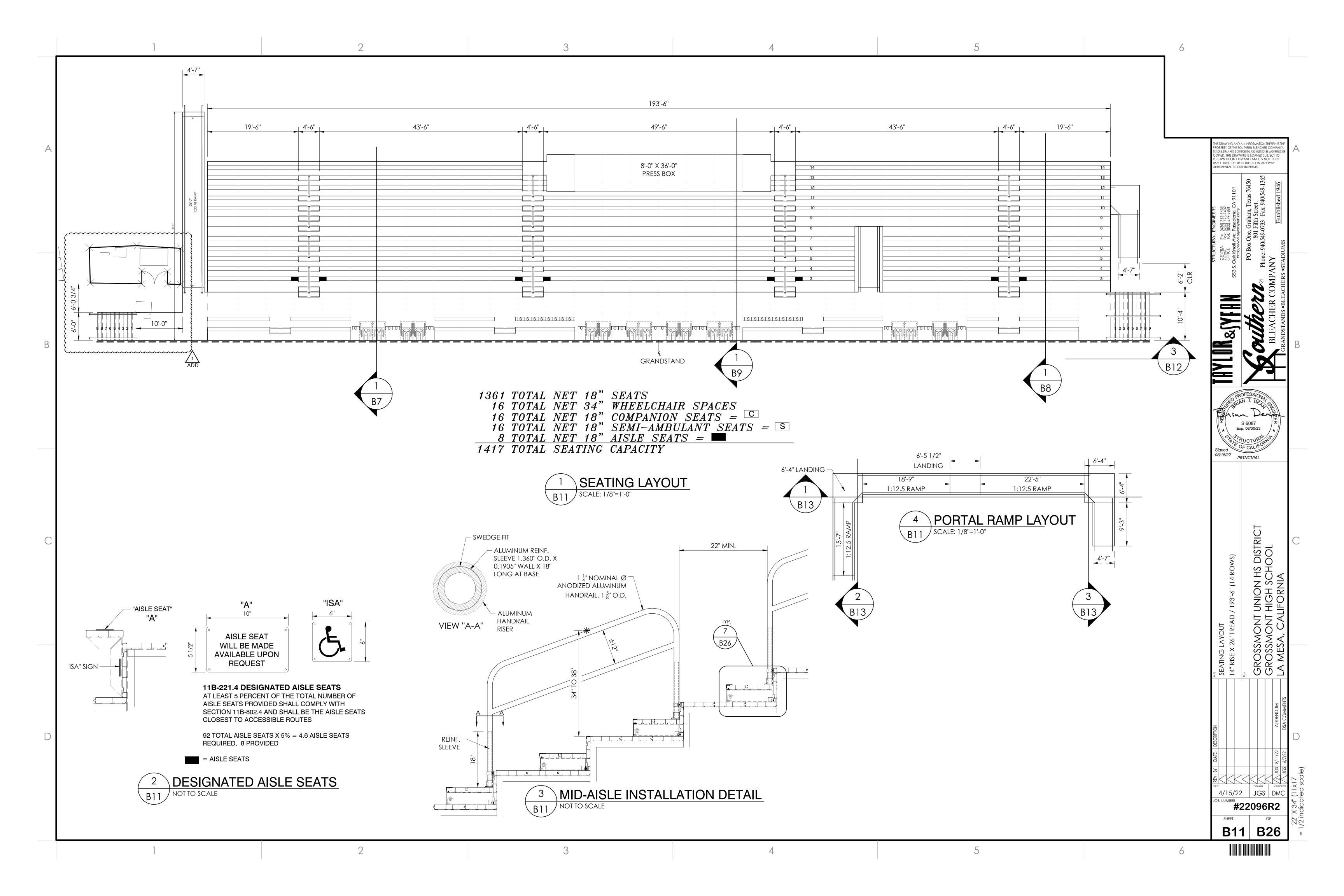
ASK-1.2

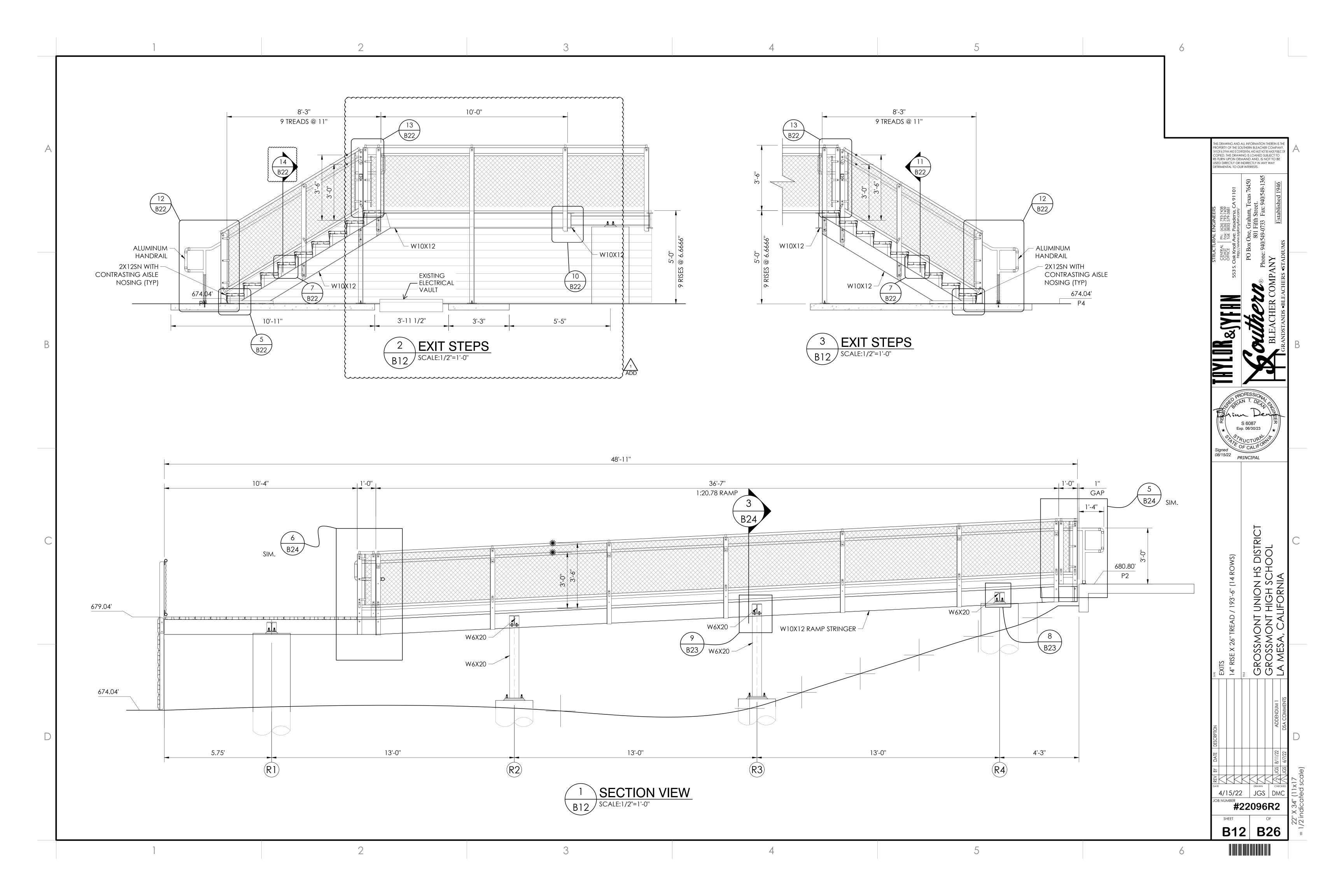


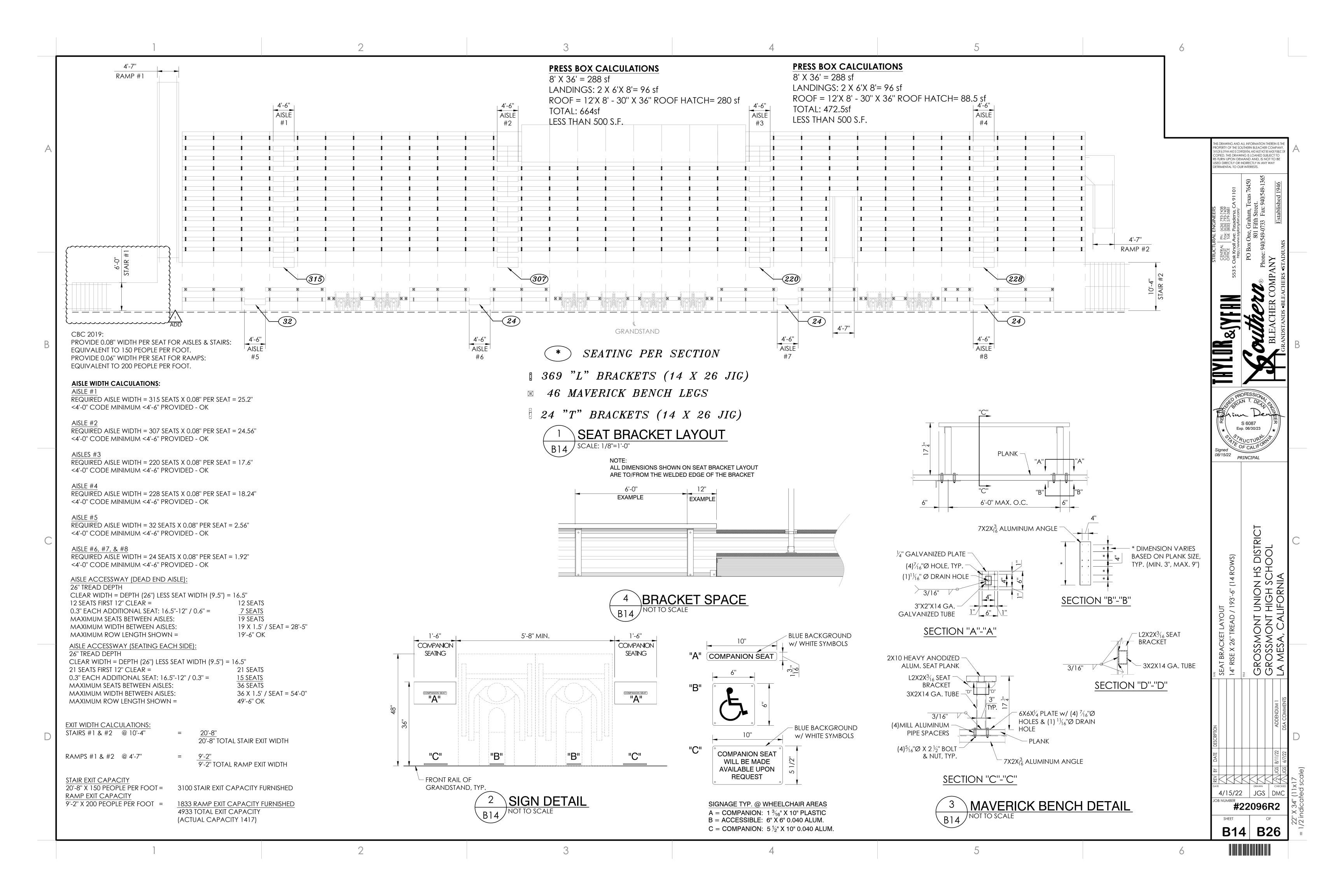


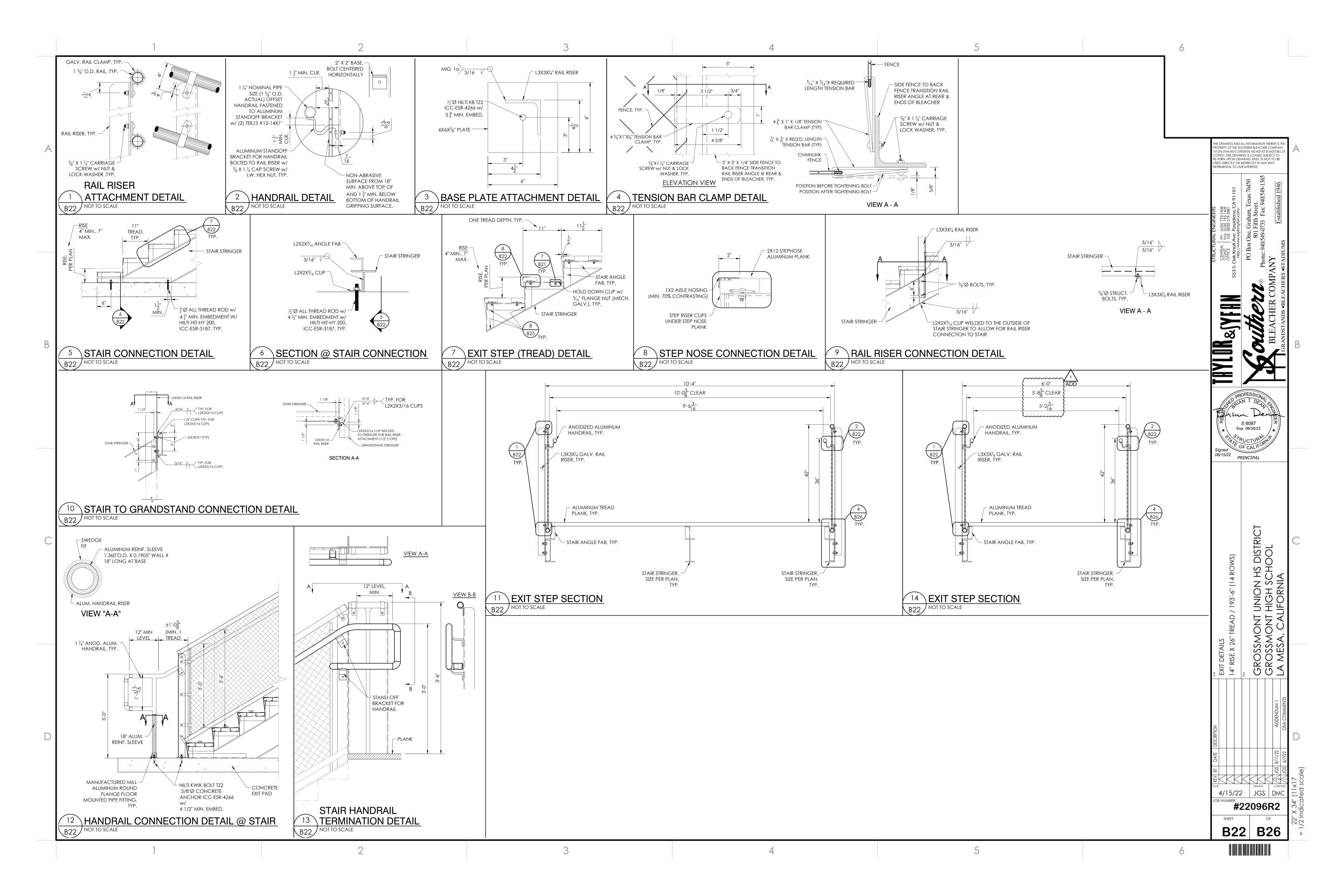


















RFI#	Question	Response
I	The license listed for the food service bids do not have C43. Kitcor holds a C43 license for food service equipment contractor. Can contractors with a C43 license bid the CN-2987 package	Yes contractors with a C43 license can bid the CN-2987 package
2	Will the 3/8" aluminum panels at the electrical yard fence be by the signage sub or section 055920? See 26/ASD-2.0 and 11&12/ASD-3.0	The Decorative Electrical yard fence shall be furnished and installed by CN-2984. CN-2983 shall furnish and install the fence footings. Reference Bid Addendum #2 Scope of Work Revisions for further clarification
3	Please clarify the exact location of the project. The plans show a different address than the bid location.	The project is located on the Grossmont High School Campus - The school address is 1100 Murray Dr., El Cajon, CA 92020. However, per Attachment J - Logistics Plan, the site must be accessed from Washington Street, not Murray Dr. The Bid location is 924 East Main St., El Cajon, CA 92021.
4	Location of backflow preventor per Plan I/AS-1.2 is not shown. Confirm (E) hardware to remain.	New Backflow preventor on sheet AS-1.2 has been placed and labeled to match Civil C-2.0
5	A1-1.0. Location of Gridline E does not match Foundation Plan, Sheet S1-1.1. Please advise	Architect drawing has been revised to match Structural Sheet SI-I.I
6	A1-1.0. Classroom 914. Location of monitor is not shown on Plan 1/E3.1. Please advise	Monitor location is shown to match Sheet E3.1
7	A1-1.0. Room 902. Does lighting conflict with suspended ducts or ducts up through roof?	Lighting issue addressed per DSA approved drawings
8	A1-3.0. Where is roof access hatch addressed in specifications?	Spec. Section 07 72 00 added in RCA Addendum I
9	Metal reveal per Detail 9/AD-2.1 does not appear applicable at metal composite panel finish (MCP-1). Should reference read 23/AD-2.0 instead?	Detail 9/AD-2.1 revised per DSA approved drawings
10	Ceiling soffit construction per Section 1/A1-5.0 is not shown. Please advise	Detail revised per DSA approved drawings
П	Keynote 10.284. Toilet seat cover dispenser is missing from Specification Section 10 28 00 - 2.05. Please advise	Added to Specification Section
12	Keynote 10.290. Soap dispenser is missing from Specification Section 10 28 00 - 2.05. Please advise	Added to Specification Section
13	Keynote 10.291. Paper towel dispenser/waste receptacle is missing from Specification Section 10 28 00 - 2.05. Please advise	Paper towel dispensers have been replaced with recessed electric hand dryers, See RCA ADD #1
14	A2-1.0. Walk-In Cooler 404. Confirm slab depression not required per Sheet K5. See comments on Sheet S2-1.0.	Walk-in Cooler does not need a slab depression all drawings are coordinated to show no depression
15	A2-1.0. Outside Walk-In Cooler 404. Floor drain per Plan 1/P2-2.2 is not shown. Please advise	FD-1 is showing per DSA approved drawings.
16	A2-1.0. East exterior soffit. Light fixture in exterior soffit is missing. See Sheet E2.2. Typical at west exterior soffit. Please advise	A2-1.0 sheet has been revised to show missing light fixtures
17	A2-3.0. Drain per Plan 2/P2-2.2 is not shown. Please advise	DR-1 is showing per DSA approved drawings





A2-3.0. Refrigeration rack is not located or shown on any roof plans. Provide curb, flashing, and mounting details. See Sheets K3, K9.2, and E3.2. Please advise  19 A2-6.0. Detail 21/AD-2.0 (Assembly A4) does not appear applicable at this location (Assembly A1-8 per Plan 1/A2-1.0). Typical this sheet where referenced. Please advise  20 AD-8.0 Coordinate mounting to structure shown here with detail 4/E4.9. Please advise  21 S1-1.1 Location of Gridline E does not match Plan 1/A1-1.0.  22 MO-0.2 RTU-K-1. 4000 CFM does not match Sheet M2-2.1 indicating 3000 CFM total supply air distribution. Please advise  23 M0-0.2 Separate electrical connections for the power exhaust are missing from the Electrical Roof Plans. Please advise  24 PO-0.2 Lavatory L-2 is missing from Specification Section 22 42 16.13 - 2.01. Please advise  25 PO-1.1 The continuation and connection of gas lines are not shown on Civil drawings as noted in referenced Keynote 3. Please advise  26 PO-1.1. Roof drain line continuation and connection to below grade storm drain system is missing from Sheets C-1.0 and C-1.1. Typical all. Please advise  27 PO-1.1 The points of connection for water and sewer differ from Sheet C-2.0. Please advise  28 PO-1.1 The points of connection for water and sewer differ from Sheet C-2.0. Please advise  29 PO-1.1 The points of connection for water and sewer differ from Sheet C-2.0. Please advise  29 PO-1.1 The points of connection for water and sewer differ from Sheet C-2.0. Please advise  29 PO-1.1 The points of connection for water and sewer differ from Sheet C-2.0. Please advise  29 PO-1.1 The points of connection for water and sewer differ from Sheet C-2.0. Please advise	A Approved Set.  S S1-1.1  It M2-2.1 has been revised to  t E6.3 in key note 2.
Plan 1/A2-1.0). Typical this sheet where referenced. Please advise  Detail 21/AD-2.0 is not being referenced on Sheet A2-6.0 in the DSA  Detail 21/AD-2.0 is not being referenced on Sheet A2-6.0 in the DSA  Detail 15/AD8.0 has been removed and referencing E4.9 only  S1-1.1. Location of Gridline E does not match Plan 1/A1-1.0.  M0-0.2 RTU-K-1. 4000 CFM does not match Sheet M2-2.1 indicating 3000 CFM total supply air distribution. Please advise  M0-0.2 Separate electrical connections for the power exhaust are missing from the Electrical Roof Plans. Please advise  P0-0.2 Lavatory L-2 is missing from Specification Section 22 42 16.13 - 2.01. Please advise  P0-0.2 RD-1, ORD-1, S-2, and DR-1 are referenced on the plans but are missing from the Plumbing Fixture Schedule. Please advise  P0-1.1 The continuation and connection of gas lines are not shown on Civil drawings as noted in referenced Keynote 3. Please advise  P0-1.1. Roof drain line continuation and connection to below grade storm drain system is missing from Sheets C-1.0 and C-1.1. Typical all. Please advise  Detail 15/AD8.0 has been removed and referencing E4.9 only  Architectural Plan 1A1-1.0 has been revised Gridline E now matches:  Schedule has been updated and added note 16 to RTU K-1 and Sheet match.  Separate power connection for power exhaust is called out on sheet  Revised. L-2 was added to the specifications.  Completed. RD-1, ORD-1, S-2 are added to the Plumbing Fixture Schedule. Please advise  Corrected. Reference to civil drawings for gas has been deleted.  The DSA approved set already shows the storm drain Point of Connection for water and sower differ from Sheet C-2.0. Please advise  The DSA approved set already shows the sewer and storm Point of Connection for water and sower differ from Sheet C-2.0. Please advise	t E6.3 in key note 2.
S1-1.1. Location of Gridline E does not match Plan 1/A1-1.0.  M0-0.2 RTU-K-1. 4000 CFM does not match Sheet M2-2.1 indicating 3000 CFM total supply air distribution. Please advise  M0-0.2 Separate electrical connections for the power exhaust are missing from the Electrical Roof Plans. Please advise  M0-0.2 Lavatory L-2 is missing from Specification Section 22 42 16.13 - 2.01. Please advise  P0-0.2 RD-1, ORD-1, S-2, and DR-1 are referenced on the plans but are missing from the Plumbing Fixture Schedule. Please advise  P0-1.1 The continuation and connection of gas lines are not shown on Civil drawings as noted in referenced Keynote 3. Please advise  P0-1.1. Roof drain line continuation and connection to below grade storm drain system is missing from Sheets C-1.0 and C-1.1. Typical all. Please advise  Revised. L-2 was added to the specifications.  Completed. RD-1, ORD-1, S-2 are added to the Plumbing Fixture Schedule. Reference to civil drawings for gas has been deleted.  Corrected. Reference to civil drawings for gas has been deleted.  The DSA approved set already shows the storm drain Point of Connection for water and sewer differ from Sheet C-2.0. Please advise  The DSA approved set already shows the sewer and storm Point of Connection for water and sewer differ from Sheet C-2.0. Please advise	t M2-2.1 has been revised to
M0-0.2 RTU-K-1. 4000 CFM does not match Sheet M2-2.1 indicating 3000 CFM total supply air distribution. Please advise  M0-0.2 Separate electrical connections for the power exhaust are missing from the Electrical Roof Plans. Please advise  P0-0.2. Lavatory L-2 is missing from Specification Section 22 42 16.13 - 2.01. Please advise  P0-0.2 RD-1, ORD-1, S-2, and DR-1 are referenced on the plans but are missing from the Plumbing Fixture Schedule. Please advise  P0-1.1 The continuation and connection of gas lines are not shown on Civil drawings as noted in referenced Keynote 3. Please advise  P0-1.1. Roof drain line continuation and connection to below grade storm drain system is missing from Sheets C-1.0 and C-1.1. Typical all. Please advise  P0-1.1 The points of connection for water and sever differ from Sheet C-2.0. Please advise  The DSA approved set already shows the sever and storm Point of Connection for water and sever differ from Sheet C-2.0. Please advise  The DSA approved set already shows the sever and storm Point of Connection for water and sever differ from Sheet C-2.0. Please advise  The DSA approved set already shows the sever and storm Point of Connection for water and sever differ from Sheet C-2.0. Please advise	t M2-2.1 has been revised to
distribution. Please advise  M0-0.2 Separate electrical connections for the power exhaust are missing from the Electrical Roof Plans. Please advise  P0-0.2 Lavatory L-2 is missing from Specification Section 22 42 16.13 - 2.01. Please advise  P0-0.2 RD-1, ORD-1, S-2, and DR-1 are referenced on the plans but are missing from the Plumbing Fixture Schedule. Please advise  P0-1.1 The continuation and connection of gas lines are not shown on Civil drawings as noted in referenced Keynote 3. Please advise  P0-1.1. Roof drain line continuation and connection to below grade storm drain system is missing from Sheets C-1.0 and C-1.1. Typical all. Please advise  Revised. L-2 was added to the specifications.  Completed. RD-1, ORD-1, S-2 are added to the Plumbing Fixture Sch Corrected. Reference to civil drawings for gas has been deleted.  The DSA approved set already shows the storm drain Point of Connection for water and sewer differ from Sheet C-2 0. Please advise  The DSA approved set already shows the sewer and storm Point of Connection for water and sewer differ from Sheet C-2 0. Please advise  The DSA approved set already shows the sewer and storm Point of Connection for water and sewer differ from Sheet C-2 0. Please advise	t E6.3 in key note 2.
Plans. Please advise  24 P0-0.2. Lavatory L-2 is missing from Specification Section 22 42 16.13 - 2.01. Please advise  25 P0-0.2 RD-1, ORD-1, S-2, and DR-1 are referenced on the plans but are missing from the Plumbing Fixture Schedule. Please advise  26 P0-1.1 The continuation and connection of gas lines are not shown on Civil drawings as noted in referenced Keynote 3. Please advise  27 P0-1.1. Roof drain line continuation and connection to below grade storm drain system is missing from Sheets C-1.0 and C-1.1. Typical all. Please advise  28 P0-1.1 The points of connection for water and sewer differ from Sheet C-2.0. Please advise  Separate power connection for power exhaust is called out on sheet Revised. L-2 was added to the specifications.  Completed. RD-1, ORD-1, S-2 are added to the Plumbing Fixture Schedule. Please advise and storm Plumbing Fixture Schedule. Please advise and storm drain system is missing which is 5 feet outside the building footprint  The DSA approved set already shows the sewer and storm Point of Connection for water and sewer differ from Sheet C-2.0. Please advise	
P0-0.2 RD-1, ORD-1, S-2, and DR-1 are referenced on the plans but are missing from the Plumbing Fixture Schedule. Please advise  Completed. RD-1, ORD-1, S-2 are added to the Plumbing Fixture Schedule. Please advise  P0-1.1 The continuation and connection of gas lines are not shown on Civil drawings as noted in referenced Keynote 3. Please advise  P0-1.1. Roof drain line continuation and connection to below grade storm drain system is missing from Sheets C-1.0 and C-1.1. Typical all. Please advise  P0-1.1. The points of connection for water and sewer differ from Sheet C-2.0. Please advise  The DSA approved set already shows the sewer and storm Point of Connection for water and sewer differ from Sheet C-2.0. Please advise	hedule see sheet P0-0.2.
Fixture Schedule. Please advise  26 P0-1.1 The continuation and connection of gas lines are not shown on Civil drawings as noted in referenced Keynote 3. Please advise  27 P0-1.1. Roof drain line continuation and connection to below grade storm drain system is missing from Sheets C-1.0 and C-1.1. Typical all. Please advise  28 P0-1.1. The points of connection for water and sewer differ from Sheet C-2.0. Please advise  Completed. RD-1, ORD-1, S-2 are added to the Plumbing Fixture Schedule. RD-1, ORD-1, S-2 are added to the Plumbing Fixture Schedule. RD-1, ORD-1, S-2 are added to the Plumbing Fixture Schedule. RD-1.1 The continuation and connection of gas lines are not shown on Civil drawings as noted in Corrected. Reference to civil drawings for gas has been deleted.  The DSA approved set already shows the storm drain Point of Connection for water and sewer differ from Sheet C-2.0. Please advise	hedule see sheet P0-0.2.
referenced Keynote 3. Please advise  P0-1.1. Roof drain line continuation and connection to below grade storm drain system is missing from Sheets C-1.0 and C-1.1. Typical all. Please advise  The DSA approved set already shows the storm drain Point of Connection for water and sewer differ from Sheet C-2.0. Please advise  The DSA approved set already shows the sewer and storm Point of Connection for water and sewer differ from Sheet C-2.0. Please advise	
from Sheets C-1.0 and C-1.1. Typical all. Please advise  which is 5 feet outside the building footprint  The DSA approved set already shows the sewer and storm Point of C	
from Sheets C-1.0 and C-1.1. Typical all. Please advise which is 5 feet outside the building footprint  The DSA approved set already shows the sewer and storm Point of C	nection per civil keynote 14,
1 28 IPO-LL The points of connection for water and sewer differ from Sheet C-2 0. Please advise	
and 5, which is 5 feet outside the building footprint	Connection per civil keynote 2
29 P0-4.1 I-1/4" gas to water heater differs from Plan 2/P1-3.2 indicating I". Please advise Corrected. Line corrected to I-1/4" gas line. See enlarged plan 2 on s	sheet P2-3.I
30 P0-4.1 Water Heater WH-1A is missing from the Plumbing Equipment Schedule. Should reference be to WH-1? Corrected. Changed to WH-1 see detail 3 on sheet P0-4.1.	
P0-4.1 Four (4) floor sinks (FS-1) differ from Plan 1/P2-2.2 indicating floor drains (FD-1) in Room 401. Corrected. P0-4.1 was corrected to match the floor plans.	
32 P1-2.2. Exhaust vent for water heater WH-1 is missing. Please advise Corrected. WH-1 exhaust vent has been coordinated.	
The DSA approved set already shows the sewer and storm Points of and 4, which is 5 feet outside building footprint.	f connections per civil keynote 2
34 P2-2.2. Outside Walk-In Cooler 404. Floor drain is not shown on Plan 1/A2-1.0. Please advise Corrected. Floor drain coordinated with the architect.	
P2-2.2. Gridline H, between Gridlines 8 and 9. Gas water heater exhaust vent is missing. Please Corrected. Gas water heater exhaust vent added.	
36 P2-2.2. Gridlines I.5 & 9.5. Drain is not shown on Plan I/A2-3.0. Please advise  No conflict. Drain shown in I/A2-3.0 per DSA approved dwgs	
37 E2.1. Light fixture is missing from Plan 2/A1-1.0. Please advise  Architectural Plan has been revised to match E2.1	





RFI#	Question	Response
38	E3.1. Near Restrooms 904 and 905. Confirm general receptacle on a shared circuit is intended for EWC-1 and EWC-2. Electric water coolers are missing from the Plumbing Fixture Schedule and specifications. DF-1 and DF-2 are scheduled, but only DF-1 is included in the specifications which does not appear to need power. If an electric drinking fountain is desired, should they be hard wired at a J-box on a dedicated circuit? Clarify intent. Typical at two locations. Please advise	Dedicated circuit is not required for drinking fountains. They can share a circuit as their load is minimal. We will provide power even if the drinking fountains are not cooled just in case it is needed in the future.
39	E4.1. Location of flat panel monitor on east wall differs from Sheet A1-1.0 indicating it on the south wall. Please advise	No conflict. E4.1 &A1-1.0, show flat panel in same location along grid E
40	K 2. Item #14. Quantity 5 does not match Specification Section 11 40 00 - 2.09 indicating 3. please advise	Spec. Section to match K2
41	K 3. Location of power for the dishwasher differs from Sheet E3.2. Please advise	Dishwasher Location coordinated in DSA Approved Drawings
42	Specs Section numbers listed in the Table of Contents do not match the (actual section number) for the following specification sections: 27 10 00 (27 01 00). Please advise	Table of Contents has been updated in Addendum I
43	03 10 00 - 1.02.D Section 05 31 00 Steel Decking is missing from the Project Manual.	Steel Decking spec. section has been added
44	04 20 00 - 2.04.E.1 Section 07 19 00 Water Repellents is missing from the Project Manual.	Paragraph to be deleted
45	05 50 00 - 2.04.D.5.c Section 32 31 19 Decorative Metal Fences and Gates is missing from the Project Manual.	Revised Paragraph
46	06 20 00 - 3.04.B Section 09 93 00 is missing from the Project Manual.	Revised Paragraph
47	07 21 00 - 2.04.A Section 07 26 00 is missing from the Project Manual.	Paragraph to be deleted
48	07 25 00 - 3.03.C.9 Section 07 90 05 Joint Sealers is missing from the Project Manual.	Revised Paragraph
49	07 54 00 - 1.02.B Section 07 72 00 Roof Accessories is missing from the Project Manual.	Added Section
50	07 92 00 - 1.02.D Section 23 31 00 HVAC Piping Insulation is missing from the Project Manual.	Paragraph to be deleted
51	08 33 23 - 1.02.B Section 08 36 13 Sectional Doors is missing from the Project Manual.	Section has been added
52	08 33 23 - 1.02.D Section 28 46 00 Fire Detection and Alarm is missing from the Project Manual.	Paragraph to be deleted
53	08 33 23 - 2.04.D Gauge and dimensions are missing.	Paragraph to be deleted
54	08 33 23 - 2.05.B.10 Section 26 05 83 is missing from the Project Manual.	Revised
55	08 71 00 - 1.02.1 Section 28 10 00 Access Control is missing from the Project Manual.	Access control have been removed from this spec. section.
56	08 80 00 - 2.09.B Color is missing.	Note has been added to state color as selected
57	09 21 16 - 1.02.B Section 05 40 00 Cold-Formed Metal Framing is missing from the Project Manual.	Paragraph to be deleted





RFI#	Question	Response
58	09 30 00 - 1.02.C Section 22 40 00 Plumbing Fixtures is missing from the Project Manual.	Paragraph to be deleted
59	10 14 53 - 1.02.C Section 32 17 23.13 is missing from the Project Manual.	Section Deleted
60	10 21 13.19 - 2.05.H.1 Section 05 05 19 Post-Installed Concrete Anchors is missing from the Project Manual.	Revised Paragraph
61	10 28 00 - 1.02.C Section number is missing.	Removed
62	10 28 00 - 2.05.D Combination toilet paper dispenser/sanitary napkin disposal unit does not match Keynotes 10.286 & 10.288, Sheet A1-7.0, indicating individual recessed and surface mounted sanitary napkin disposal.	Section has been revised 205.D is now the Stainless Steel framed Mirror. All accessories have been updated to match drawings.
63	10 28 00 - 2.05.D Semi-recessed toilet paper dispenser is missing from Keynotes, Sheet A1-7.0. Verify use.	all accessories have been updated to match drawings.
64	10 28 00 - 2.05.F.1.d.1) 48" for side grab bar does not match Keynote 10.283, Sheet A1-7.0, indicating 42".	Specification has been revised and Length and Configuration as indicated on drawings
65	10 28 00 - 2.05.F.1.d.2) 42" for rear grab bar does not match Keynote 10.282, Sheet A1-7.0, indicating 36".	Specification has been revised and Length and Configuration as indicated on drawings
66	10 28 00 - 2.05.D Electric hand dryer is missing from Keynotes, Sheet A1-7.0. Verify use.	Electric hand dryers will be used Sheet A1-7.0 has been revised to reflect this change
67	11 40 00 - 1.02.A.4 Division 06 Section "Interior Architectural Woodwork" is missing from the Project Manual.	See 06 20 00
68	11 40 00 - 1.02.A.5 Division 22, 23 Section "Supports, Anchors and Seals" is missing from the Project Manual.	Division Section has been revised to match project's table of contents spec. sections See RCA ADD#2
69	11 40 00 - 1.02.B Division 01 Section "Allowances" is missing from the Project Manual.	Division Section has been revised to match project's table of contents spec. sections See RCA ADD#2
70	11 40 00 - 1.05.D Division 01 Section "Substitutions" is missing from the Project Manual.	Division Section has been revised to match project's table of contents spec. sections See RCA ADD#2
71	11 40 00 - 1.05.E Division 01 Section "Project Meetings" is missing from the Project Manual.	Division Section has been revised to match project's table of contents spec. sections See RCA ADD#2
72	11 40 00 - 2.09 Item No. 3. John Boos Model OB-MH-3 does not match Equipment Schedule, Sheet K2, indicating T&S Brass Model B-0653.	Spec. Section to match K2
73	11 40 00 - 2.09 Item No. 11. RDT Model BEL095 does not match Equipment Schedule, Sheet K2, indicating RDT Model BEL0084.	See revised partial Foodservice Equipment Schedule on FSSK-1.1
74	11 40 00 - 2.09 Item No. 12. RDT Model ZSI-02Z-CT3-AST does not match Equipment Schedule, Sheet K2, indicating RDT Model ZSI-02A-CTS-AST.	See revised partial Foodservice Equipment Schedule on FSSK-1.1
75	11 40 00 - 2.09 Item No. 55. Groen Model BPM-30GC does not match Equipment Schedule, Sheet K2, indicating Groen Model -30G.	See revised partial Foodservice Equipment Schedule on FSSK-1.1





RFI#	Question	Response
76	11 40 00 - 2.09 Item No. 65. T&S Brass does not match Equipment Schedule, Sheet K2, indicating Krowne.	See revised partial Foodservice Equipment Schedule on FSSK-1.1
77	11 40 00 - 3.04.A.10 Division 01 Section "Operation and Maintenance Data" is missing from the Project Manual.	Division Section has been revised to match project's table of contents spec. sections See RCA ADD#2
78	11 40 00 - 3.04.A.9 Division 01 Section "Closeout Requirements" is missing from the Project Manual.	Division Section has been revised to match project's table of contents spec. sections See RCA ADD#2
79	11 51 23 - 1.02.A Section 09 68 00 Carpeting is missing from the Project Manual.	Section is deleted
80	22 05 17 - 3.01.E Section 07 84 13 Penetration Firestopping is missing from the Project Manual.	Spec Section has been updated and remove the reference
81	22 05 19 - 1.01.B.1 Division 22 Section "Facility Water Distribution Piping" is missing from the Project Manual.	Corrected. Removed reference.
82	22 05 29 - 1.01.B.2 Section 22 05 16 Expansion Fittings and Loops for Plumbing Piping is missing from the Project Manual.	Not required
83	22 07 19 - 1.01.B.1 Section 22 07 16 Plumbing Equipment Insulation is missing from the Project Manual.	Not required
84	22 11 19 - 2.07.A Water Hammer Arrester WH-A is missing from Plumbing Fixture Schedule, P0-0.2.	Corrected. Water Hammer Arrester added to Plumbing Fixture Schedule see sheet P0-0.2.
85	22 11 19 - 2.08.B Trap Primer TP-2 is missing from Plumbing Fixture Schedule, Sheet P0-0.2.	Corrected. TP-2 has been deleted.
86	22 11 19 - 3.02.B & C Division 26 Sections "Grounding and Bonding for Electrical Systems" and "Low-Voltage Electrical Power Conductors and Cables" are missing from the Project Manual.	Not required
87	22 11 19 - 3.03.B Division 23 Section "Mechanical Identification" is missing from the Project Manual.	Not required
88	22 11 23 - 3.04.C.2 Division 22 Section "General-Duty Valves for Plumbing Piping" is missing from the Project Manual.	Section added.
89	22 11 23 - 3.06.A Division 01 Section "Closeout Procedures" is missing from the Project Manual.	Corrected. Removed reference.
90	22 13 19 - 2.04.B Drain Receptor DR-1 is missing from Plumbing Fixture Schedule, Sheet P0-0.2.	Corrected. DR-I has been added to the Plumbing Fixture Schedule on sheet P0-0.2.
91	22 33 00 - 3.01.B.1 Sections 22 05 23.12 Ball Valves for Plumbing Piping, 22 05 23.13 Butterfly Valves for Plumbing Piping, 22 05 23.15 Gate Valves for Plumbing Piping are missing from the Project Manual.	Section Deleted





22 42 13.16 - 2.01.B Urinal UR-2 is listed in Plumbing Fixture Schedule, Sheet P0-0.2, but is not indicated on drawings. Verify use.  94 22 42 16.13 - 3.05.D.1 Section 26 05 53 Identification for Electrical Systems is missing from the Project Manual.  95 22 47 13 - 2.01 DF-2 is missing. See Plumbing Fixture Schedule, Sheet P0-0.2.  96 Corrected. DF-2 is located on enlarged plan 2 on sheet P1-3.1 and is schedule.	
indicated on drawings. Verify use.  22 42 16.13 - 3.05.D.1 Section 26 05 53 Identification for Electrical Systems is missing from the Project Manual.  Paragraph deleted  Paragraph deleted	
Manual.  Paragraph deleted	
95 22 47 13 - 2.01 DF-2 is missing. See Plumbing Fixture Schedule, Sheet P0-0.2. Corrected. DF-2 is located on enlarged plan 2 on sheet P1-3.1 and is schedule	
	ed on sheet P0-0.2.
96 23 00 50 - 3.03.A Division 09 Section "Painting" is missing from the Project Manual. Section reference has been update to 09 91 23 "Interior Painting"	
97 23 05 48 - 3.03.A Section 03 30 53 Miscellaneous Cast-in-Place Concrete is missing from the Project Spec section title has been revised to Cast In Place Concrete Manual.	
98 23 05 48 - 3.04.A Section 23 21 13 Hydronic Piping is missing from the Project Manual. Section is not applicable	
99 23 07 13 - 1.01.B.2 Division 23 Section "HVAC Equipment Insulation" is missing from the Project Manual.  Has been revised to Division 23 Insultation Sections	
100 23 08 00 - 1.04.A Section 01 21 00 Allowances is missing from the Project Manual. Section has been removed	
101 23 08 00 - 1.05.A Section 01 22 00 Unit Prices is missing from the Project Manual. Section has been removed	
102 23 11 23 - 1.10.B Section 08 31 13 Access Doors and Frames is missing from the Project Manual. Section 1.10 has been removed	
103 23 08 00 - 1.11 Section 01 33 00 Submittal Procedures is missing from the Project Manual. Section 1.11 has been removed	
104 31 23 16.13 - 3.04.I Section 31 23 16.26 is missing from the Project Manual. Paragraph to be deleted	
105 32 12 16 - 1.02.F & G Section 32 17 13 Concrete Wheel Stops and 32 17 23 Pavement Markings are missing from the Project Manual.  Paragraph to be deleted	
106   32   12   16 - 1.05.A Should "{\rs\# }" be "SSPWC (Green book)"?   Corrected to state SSPWC (Green Book)	
107 32 12 16 - 2.02.J Should "{\rs\\#1}" be "SSPWC (Green book)"? Corrected to state SSPWC (Green Book)	
108   32   12   16 - 3.09.A Should "{\rs\# }" be "SSPWC (Green book)"?   Corrected to state SSPWC (Green Book)	
109   32 12 16 - 3.11.B Should "{\rs\#1}" be "SSPWC (Green book)"? Corrected to state SSPWC (Green Book)	
110 32 13 13 - 1.02.H Section 32 17 26 Tactile Warning Surfacing is missing from the Project Manual. Paragraph to be deleted	
III 32 84 00 - I.01.B.I Division 31 Section "Trenching and Backfilling" is missing from the Project Manual. Revised Paragraph	
112 32 84 00 - 1.01.B.3 Division 32 Section "Curbs, Gutters, and Sidewalks" is missing from the Project Manual.	
113 33 05 43 - 1.02.D Section 33 41 00 Subdrainage is missing from the Project Manual. Paragraph to be deleted	





RFI#	Question	Response
114	33 05 43 - 1.02.F Section 33 52 16 Gas Hydrocarbon Piping is missing from the Project Manual.	Paragraph to be deleted
115	33 14 16 - 1.02.F Section number and title are missing.	Paragraph has been updated per Addendum I
116	33 14 16 - 1.02.F Section 21 11 00 Facility Fire-Suppression Water-Service Piping and 21 13 13 Wet-Pipe Sprinkler Systems are missing from the Project Manual.	Paragraph to be deleted
117	33 14 16 - 3.04.F Section number and title are missing.	Has been corrected to 33 05 43 -Corrosion Protection
118	33 31 13 - 1.03.D Section number and title are missing.	Has been corrected to 33 05 43 -Corrosion Protection
119	33 31 13 - 3.01.A Section number and title are missing.	Has been corrected to 33 05 43 -Corrosion Protection
120	33 42 30 - 1.02.D Section 33 05 61 Concrete Manholes is missing from the Project Manual.	Paragraph to be deleted
121	door and not remain as a sectional door	Sectional Door removed and replaced with coiling door system
122	A1-1.0 Says printers will be relocated. Is it the intent to have the contractor move the printer and reinstall it?	District has contracted with 3rd party for printer/copy removal and reinstallation
123	A1-4.0 The pattern of plaster finish seems to have multiple color finishes to within a small SF area. Is this intentional?	Revised to one plaster finish, ref. RCA Addendum 2 drawings
124	4/AD-3.0 Coordinate with S-sheets. Platform is not shown in structural. Please advise or correct details	Details on the Architectural sheets have been coordinated with Structural and will only be shown on Arch Sheets
125	3/AD-3.0 Coordinate with roofing manuf. details. Roofing material must have minimum 8" vertical upturn uninterrupted/change in direction. Please provide revised detail.	Detail updated to reflect manufacturer installation requirement
126	I/AD-3.I Coordinate detail with roofing manuf. Reglet might require relocation further up the wall surface in order to accommodate the 8" upturn required by the roofing manuf. Please provide revised detail	Detail has been updated to show an 8" Min upturn per Addendum 3 ASK
	S1-1.1 GL2.3-G: Bathroom does now show depressed slab. It's shown in the custodial rm. Custodial rm is sealed conc, not tile. Please confirm 2" depression is suitable for specified floor tile system (TYP all restrooms/depressed slab locations)	See approved structural drawings updated with 2" depressed slab for the bathrooms.
128	SI-I.I Legend shows a symbol for change in elevation, but it isn't used at the restroom locations, only the slab elevation symbol is used. Please advise	See approved drawing for slab change used in the foundation plans
129	6/M0-5.1 Provide structural detail callout	Added reference to 18/S0-1-5.
130	5/M0-5.1 Provide structural detail callout	Added reference to 20/S0-1-5.
131	5/M0-5.1 Where does condensate discharge/drain? Coordinate with plumbing plans	Completed. Coordinated with mechanical plans.
132	4/P0-5.1 Wrong callout. Should be 15/S0-1.1?	Completed. Coordinated with structural to be 9/S0-1.6.





RFI#	Question	Response
133	E3.2 There are rooms unidentified and '?' marks are shown. Please advise	Room tags with ? Removed in RCA Addendum I
134	E4.4 APC/UPS not shown on drawings. Should be Contractor furnished and Contractor installed. Please confirm	UPS not Shown in IDF Room Layout, Shown in IDF Rack Detail #2/E4.3. UPS is CFCI
135	E4.6 APC/UPS not shown on drawings. Should be Contractor furnished and Contractor installed. Please confirm	UPS not Shown in IDF Room Layout, Shown in IDF Rack Detail #2/E4.3. UPS is CFCI
136	E4.4 Plan shows voice coming from at 66 punch down block. District phones are VOIP not POT lines - phone ports need to have same CAT6 cable that data ports have. The 66 punch down block is still required for FAX and alarms, 25 pair will work. Also, there needs to be a IU POTs patch panel in the rack that feeds back to a second 66 punch down block located next to the first 66 punch down block. Please advise	Riser Shown as Detail #1/E4.3. Voice Feed only for direct Voice Trunk connections, not VOIP Phones. Will add Detail for Voice Trunk Patch Panel.
137	I/E4.8 WAP's are shown mounted above T-bar ceilings; WAPs cannot be mounted above ceiling. Please advise	Interior WAP Detail shows all three options for wall mounted, above and below ceiling installation.  Since WAPs are OFOI, District will choose installation method. Data location shown above ceiling
138	E4.2 Plans show cameras both inside and outside - previously , indoor cameras have been an issue for the District and the Union. Please confirm this is the intent	No Indoor Cameras shown inside Kitchen on current drawings
139	I/E4.8 Wall mounted AP's should be between 10 to 12 with a maximum of 15 feet from floor to bottom of AP. Please advise	Heights for Ext. WAPs are shown on the Floor Plans not on the Details. Detail Reference is incorrect - Correct Detail #3/E4.7
140	#033511 Ameripolish - Surelock shown on ID sheet, but is not specifically called out in the spec, only sealed concrete is shown. Please advise	Ameripolish removed from ID Sheet and Project, refer. To DSA approved drawings.
142	4/PI-3.1 Doesn't look like gas is shown to WH-1. Please advise	Completed. 2" GAS is shown for the water heater.
143	C-1.0 On C-1.0, there is a SD line noted by KN #4 that shows connecting to an existing CB down a landscaped slope in the north-west corner of the plan (West of the trash enclosure). No demo shown in landscaped area, no patch back of landscaping or irrigation shown in this area. Please advise	Please see " General Notes" A through E on sheet C-1.0. Any existing irrigation piping or landscaping shall be protected in place per Keynote A.
144	LI-1 KN #2, 3 4 & 5 on LI-1 shows work outside the work limits and AS-1.0 & C-1.0 & AS-1.3 do not account for patch back of asphalt in this area. Please advise	Architectural Sheets have been revised to reflect the trenching and patch back for connection of existing irrigation to new See RCA ADD#2
145	AS-1.0 The hardscape and concrete stairs underneath the existing press box does not appear to be addressed on the demo sheet, but new asphalt and concrete are shown in this area. Please confirm all hardscape, concrete stairs and existing obstructions are to be demolished and removed in order to complete the shade structure, concrete, and asphalt	Sheet AS-1.0 updated to clearly indicate demo/removal of staircase area and backfill with landscaping See RCA ADD#2

RFI #141 to be issued in final bid addendum





RFI#	Question	Response
146	P0-1.1 North of the weight RM, KN #2 shows SD POCs north of the weight room and the KN references you to civil drawings. However, SD is not shown on the north side of the weight room and POC or new/existing SD are not shown on civil drawings. Please advise	The DSA approved set already shows the storm drain Point of Connection per civil keynote 14, which is 5 feet outside the building footprint
147	084313 Section 1.05-B Notes that the structure and energy design of the system if the basis of design for the set stamped by DSA. However, Section 1.05G calls for engineered calcs on the system that has already been designed and theoretically calculated. Please confirm additional calculations via another licenses engineer is not required for the aluminum framed storefronts.	Another engineer is not required. No Spans exceeds 10 feet.
148	078400 Firestopping spec not provided, but specs throughout still reference the #078400. Example: #092116-8. please advise	07 84 00 has been removed from specification section 09 21 16
149	PI-2.2 Washing machine, dryer and ice machine are not shown on plumbing plans, but there is a spec and it is shown on AI-1.0. No plumbing showed for appliances. Please advise	Completed. Clothes Washer Box (CWB-1), cold water and hot water line provided and seen on enlarged plan 2 on sheet P1-3.1. Floor sink provided for ice machine see sheet P1-2.2.
150	E2.4 KN #1 shows the existing master lighting controller is in 'BLDG. GYM' and KN #11 says to provide control wiring as required by Manufacturer. However, E1.1 site plan does not indicate which gym this control wiring should be pulled from. Please advise.	Control wiring shall be pulled from MDF in Old Gym
151	#122400-1.01 is referencing motorized roller window shades. However, the plans, details, finish plans, etc. do not show window shades anywhere. Please confirm no window shades are required on this project and that spec section #122400 shall be deleted.	Roller Shades have been removed from the Specifications table of contents
152	26-29/AD-8.0 The specifics of the bldg ID signs/letters are not clearly defined in #101400. Please provide a specification for building ID letters/dimensional letter signage.	Reference RCA Addendum 03 ASK-3.17 & ASK-3.18
153	S3-1.1 Please provide a specification for the metal decking at the shade Canopy	Metal Deck Section to be added
154	10/S0-1.2 No waterproofing or drain shown at the existing retaining wall or new retaining wall. Please advise if a drain or waterproofing is required at either retaining wall	Detail 10/S0-1.2 has been revised to show waterproofing and drain See Addendum 1
155	#331416A #331416A appears to discuss fire sprinkler info but this project does not have fire sprinkler scope. Please confirm this spec is N/A	The form can be deleted as no hydrants are now involved
156	M1-2.2/M2-2.2 Rooftop condensing units are shown on Mechanical sheets, but plumbing sheets are not explicitly showing where condensate is supposed to be discharged. Please provide revised plumbing plans to illustrate where each condensing unit shall discharge to. If condensing units shall discharge to exterior drywells, please provide a detail	Corrected. Condensate drains are routed to their respective drain receptors. See sheet PI-2.2 & P2-2.2.





RFI#	Question	Response
	Roof Plans/Details Architectural, structural, Plumbing, electrical and mechanical drawings/details do not include a pipe/conduit support for pipe/conduit routed on rooftop (i.e. power conduit, gas piping, condensate piping, etc.). Please provide a detail for conduit/pipe supports for conduit/pipe that is routed horizontally on the roof and coordinated with the roofing manufacturer to maintain roof warranty.	Revised. See detail I on sheet P0-5.2 per RCA ADD#2
158	I/E4.9 Projectors say owner furnished, contractor installed. Please confirm projectors and projection screens shall be contractor furnished, contractor installed	Projectors and screens are contractor furnished and installed. Note Corrected
159	Please reference Bid Package CN-2989 Plumbing and Site Utilities, Item 44d. Please confirm that trade contractor CN-2989 will not be required to receive offload and install equipment supplied by the food service scope CN2897.	CN-2989 Prime Contractor is expected to receive District Furnished, Contractor Installed (DFCI) items that CN-2989 Prime Contractor is responsible for installing. District Food Service Department will transport District furnished equipment and offload the equipment off truck/cart for CN-2989 Prime Contractor, as applicable
160	Please reference Bid Package CN-2989 Plumbing and Site Utilities. Please provide Appendix Z.	Appendix Z is provided in Attachment H -Scopes of Work - Reference 2nd page after 'Page 17 of 17' in the CN-2989 Scope of Work Package.
161	CN-2986: Will there be any relocation needed prior to construction or is that also included in the specialty package.	In a general sense, relocation of items is not required prior to construction.
1 167	Attachment F - Geotechnical Report: Boring Log #I is the only log that shows a concrete section beneath the asphalt paving. Please confirm that is correct.	Correct. Boring 'B-1' shows concrete beneath the asphalt concrete section.
	Reviewing the demolition plan AS-1.0 and comparing to AS-1.0 to the grading and drainage plan C-1.0 that all of the new piping will be installed in areas where demolition is scheduled. With the exception of one section of pipe approximately 40 lineal feet that is installed in an existing landscape area. Please advise which trade will be responsible to replace or repair the landscape.	For bidding purposes, assume bidder has asked about the storm drain line plan-west of the kitchen and the trash enclosure and runs east-west. Reference RFI #143 response.
164	On the GHS Kitchen Front-End Docs_FINAL - NTB-3 - Page 7, it says there's a mandatory site visit. For our trade, Food Service Equipment, are we exempted from this?	No - ALL Prime Contractors are required to comply with the mandatory pre-bid job-walk requirements.
	CN-2989 page 16/17, item #18: It is not possible to quantify where or even if required temporary services would be needed to be installed. Please provide a drawing showing where and what will need to be temporarily connected.	Item #18 is void. Reference Bid Addendum #2 Scope of Work Version #02.
166	Do we need to register for the job-walk?	There is no registration.
167	We are inquiring about the mandatory job walk for the Grossmont H.S. project. Our business is located in the Los Angeles area and we are requesting that the job walk [shall] not be mandatory for CN – 2987 Food Service Equipment.	Request denied. The job walk remains mandatory for ALL bid packages.
	Bid CN-2991 Electrical. The scope of work states to include all power and low voltage for the press box and ticket booth. The location of ticket booth is not found. Provide drawings.	Ticket booth is no longer part of the scope of work





RFI#	Question	Response
169	Refer to Appendix Z, Equipment Item 5, Air Curtain(s). Confirm that CN-2991 – Electrical is to install the air curtains.	CN-2991 provides infrastructure and final electrical connection
170	Confirm that CN-2983 – Concrete is responsible for the 6 pole light bases and 2 power pedestal bases.	Confirmed. CN-2983 provides all light pole bases and power pedestal bases
171	Reference E2.1. Are all the surface wall exterior light fixtures for B-900 type SW?	Exterior wall mount fixtures are S5 unless otherwise noted as SW
172	Reference E2.2. Are all the surface wall exterior light fixtures for Kitchen type S5?	Exterior wall mount fixtures are S5
173	Reference E2.2. Are 2X4 light fixtures in 401 Serving type K1?	Fixtures are KI
	SOW for Bid Package CN-2982: Under section 38 it says that the contractor is responsible for	
	removing all hazardous material identified, regardless of quantities listed. How does the additional 30	The additional 30 abatement hours are reserved for unforeseen conditions that are not documented
174	hours of abatement work apply if Sec. 38 classifies nothing as 'additional'? Are we expected to only bid	in the Attachment E - Hazardous Material Report and Specifications. The 30 hours are treated similar
	according to what's listed in the haz reports, and use the additional abatement hours for items not	to an allowance.
	listed?	
175	Is the Project PLA/Union Labor project?	See Notice to Bidders and General Conditions
176	Is there performance/payment bonding required?	See Notice to Bidders and General Conditions
177	Are there any prequalification's that need to be met?	See Notice to Bidders and General Conditions
178	Are there any unforeseen condition allowances required?	See Notice to Bidders and General Conditions
179	Are there any specifics we should be aware of?	See Notice to Bidders and General Conditions
180	Please advise on job start/project completion date?	See Notice to Bidders and General Conditions
	Specification #075400-2.04 calls for a thickness of 80 mil PVC membrane. However, #075400-1.09B	
181	calls for a 20 year warranty. Please confirm 60 PVC membrane from the listed manufacturers is	Specification section has been updated to reference 60 Mil PVC Membrane
	acceptable in order to achieve the 20 year warranty	
	KN 32.311 on AS-1.3 calls for Chain-link gate per schedule. However, gate schedule on AS-1.2, G2	
182	gate is steel and directs us to 10/ASD-1, which does not show a chain-link fencing gate, but shows a	Updated Keynote to 32.313 reference Steel Gate per Gate Schedule
	corrugate steel siding gate	
	26/ASD-2.0 shows MWP-1 is welded to a steel frame. ID-1.0 shows MWP-1 = #074213.10 -	
183	Perforated Metal Wall Panels. Please confirm basis of design #074213.10 (MWP-1) manufacturer	Detail has been revised see Addendum 3 ASK
	accepts welds to their product and provide specification #074213.10	
184	C-1.0 (upper right with note #4): For the purpose of estimating please provide the size of pipe, we will	
101	be required to connect to where the invert is shown as 679.92 (POC Invert)	Existing SD Pipe is 6" Diameter per survey outlet point
185	C-1.1 (Bottom middle of page, KN #9 POC invert): For the purposes of estimating please provide the size of the pipe, and invert elevation of where the new storm drain is to connect.	Existing SD is estimated to be 8" or larger diameter with a maximum depth of 8 feet. Piping was not picked up in utility location service and shall be potholed prior to construction per "General Note"B.





RFI#	Question	Response
186	C-2.0 (KN #07): For the purposes of estimating please provide the size of the pipe, and invert elevation at 2 locations where the new sanitary sewer is to connect to the existing.	Existing Sewer is 4" diameter or larger estimated to the maximum 8 feet deep.
187	C-3.0 (detail 9): Please advise if the optional backflow enclosure will be required. See note #10.	Yes, backflow enclosure is required to vandal proof backflow. To be provided by CN-2989
188	Can the District/CM provide additional clarification or allow an allowance for items removed not indicated on the plans Bidder added the following to their question 'Attachment H Bid Package CN-2982; General Requirements #21'	No additional allowance shall be provided for the specific concern outlined in this pre-bid RFI.  Reference CN-2982 allowances accordingly. Prime Contractor shall bid the Contract Documents in their entirety
189	Please clarify CN-2982 scope inclusions Section #2, Item #3, Section #2, item #52 and Exclusions #5	Item #52 of Section #2 has been revised. Reference Bid Addendum #2 Scope of Work Revision.
	Demo Site Plan (AS-1.0) indicates complete retaining wall removal - Reference Note #02.423. C-1.2 indicates portion of retaining wall is to remain, protect in place. Please advise which is accurate and revise plans accordingly.	Sheet AS-I.0 has been revised to match C-I.2
191	2/AS-1.0 Enlarged Staff Parking - Demolition plan referenced Keynotes #02.212, 02.211, 02.2.17, 02428, 02.427, 02.215, 02.429, but do not provide keynote definitions for each item.	Keynote legend updated
192	Will the District/CM provide a salvage list or plan for items to be salvaged?	No. There is no salvage list to provide
193	What if any existing FFE will be removed by the District? During the prebid walk, the District was removing trophies and other various items in the weight room building.	The museum items will be and are being removed by the District/others. The Contractor's observation was correct. The only items in the process of moving/removing were the museum items only. All other items within the kitchen building and weight room building are expected to be removed/demolished with the building.
194	3/P1-3.1 indicates floor drains with 2" waste and trap. P0-0.2 fixture schedule shows all floor drains with 3" waste and trap. Please confirm which is to be installed or revise the sheets accordingly.	Corrected. Floor drain is a 3" waste and trap. See sheet PI-3.1.
195	Spec Section #230010 appears to be in addendum 2 twice. Please provide a copy of Spec section 230050 per Addendum 2.	Revised section 23 00 50 Basic Mechanical Materials and Methods to be provided in Addendum 2
196	We (Able) attended the 7/28/22 job-walk, but accidentally signed up on CN-2982 (Victor Munoz), NOT sheet CN-2990 HVAC. Is this going to be problem or can we proceed with bidding the project?	You may proceed with bidding CN-2990 scope despite the accidental incorrect sign-in.
197	Per Bid Package CN-2982, Item #27 under part II Inclusions, states to haul off 20 yards of material from the mock up. Please provide further clarification if the 20 yards is dirt, concrete, asphalt, or trash. This will make a difference in dump fee pricing.	The 20 yards will be comprised mostly of concrete rubble and misc building material debris.





RFI#	Question	Response
198	Per Bid Package CN-2982, Item #22 under part II Inclusions, states prime contractor to assume 200 Square Feet of concrete present below associated boring locations. Boring #1 is the only boring that states concrete is present. Is it to assume this is the only location to have concrete below as all other borings do not show concrete below. Please confirm.	Confirmed.
199	3/PI-3.1: Please provide a vent route for the highlighted tram arm.  Please provide vent routing for this trap arm  (3) Figure 1 (12) TP-1 (12) TP-1 (13) TO-1 (14) TP-1 (14) TP-1 (14) TP-1 (15) TP	Corrected. Vent route provided for the trap arm see sheet P2-3.1
200	ASD-4.0: Please see 7/ASD-4.0, this detail indicates keynotes 32.176, 32.179 but no keynote is provided in the legend. Please provide the missing keynotes	Reference ASK-2.5 in RCA Addendum 2
201	2/PI-3.1 + 3/P0-5.1: Please provide a location, make and model of water hammer arrestors.	Corrected. Water hammer arrestor have been provided a location, make and model see sheet P0-0.2, P1-3.1 and P2-3.1.
202	Ruhnau Clarke Addendum 1 dated 8/2/22 indicates new sections for #033100 Concrete Forming and Accessories, 042000 unit masonry and 792000 Joint Sealants have been revised but aren't included in the addendum. Please provide	Missing Spec. section to be provided in RCA Addendum 2
203	Regarding Addendum 2 concerning Appendix Z – Food Service Equipment Scope Matrix (page 445 of 476), I noticed that the district is planning on furnishing more of these items. How and when does the district plan on bidding most of these items? Who would we contact to get on the bid list for the owner supplied items?	The District is furnishing items, as listed in the Bid Documents. The items that are furnished by the District are not subject to bid as part of CN-2987.
204	P0-5.1: Please confirm that a gas meter is required. If it is please provide a make and model number.	Confirmed. Gas meter not required.
205	P1-2.2: Please show cold water routing that will supply the 2 each HB-1 on the roof.	Completed. See enlarged plan 2 on sheet PI-2.2 key note 18 and enlarged plan I-3.1 on sheet PI-3.1.
206	P0-5.1: Please provide a water heating piping detail that includes Mixing Valve 2 (mx2) for detail 6/P0-5.1 or confirm it will be similar to 5/P0-5.1	Corrected. Detail 6 on sheet P0-5.1 has been revised.
207	Please confirm that the roof overflow drains that are terminated at the exterior of the building do not require finished drain nozzles.	Not confirmed. Reference Specification #22 14 23 - Storm Drainage Piping Specialties.





RFI#	Question	Response
208	Reference As-1.0, As-1.2m C1.0, C1.1, C1.2. The requirement to "include the demolition and removal of all below-grade existing utilities, as indicated on the construction documents" can not be located nor can the utilities that would need to be demolished and removed. Please provide a plan with quantities for this part of the proposal.	In addition to architectural demolition plan please refer to "General Notes" A,B, and C on all civil sheets.
209	Can Prime Contractor's umbrella insurance policy cover the contractual insurance requirement?	Umbrella insurance policy is acceptable as long as it is following form and lists General Liability, Automobile Liability and Workers Compensation & Employer's liability on the underlying policy schedule.
210	In Bid Package CN-2983 under asphalt paving inclusions, note #28 states to include 8 vault covers/lids at a size of 4'x8'. Please provide additional details on what type of vault covers and locations for the vault covers	For bidding purposes, include (8) 2'x3' galvanized vault/pullbox covers accommodating the following pullbox models: "Oldcastle 3313 Series, San Diego Precast 3313 Series or Jensen Precast 2436 Series." This is meant to be a replacement allowance. The location is irrelevant.
211	I am interested in bidding on this one for the kitchen equipment, it looks like sealed bids are required for the GC's, is a sealed bid required for me?	If you are providing a bid as a Prime Contractor for one of the CN # bid packages, you must follow the bid requirements stated in the Contract Documents. If you are submitting a bid to a bidding Prime Contractor, you must follow the bid guidelines provided said bidding Prime Contractor.
212	Please reference 3/ASD-3.0. This detail indicates that both CONC-4 and CONC-5 are to be sandblasted with each being a different color. Typically, only one of the 2 surfaces would be sandblasted. Please advise if only CONC-5 is to be sandblasted.	Both CONC-4 and CONC -5 are to Sandblasted
213	E4.1. Please confirm the FP location in classroom 914. Will the flat panel be stand-alone AV system?	Yes, Flat Panel is Stand-Alone with a single "LO" Input Wallplate to the Flat Panel. Provide as shown per Detail #3/E4.8 and 27 20 00 Specifications
214	Key note #1/ E4.9. Please confirm standard short throw projectors are District furnished contractor installed.	Projectors are Contractor Furnished and Installed.
215	Fixture G7 is shown in the fixture schedule but is not shown anywhere else in the drawings, please confirm this fixture is not needed.	G7 is not part of the scope of work
216	Linear fixture on sheet e2.1 needs to be added to the fixture schedule- Please provide detail for mounting fixture	Fixture TR added to lighting fixture schedule for track lighting.
217	What format is schedule input going to be needed from the Prime contractors. Is input going to be required to be submitted in P6 format?	There is no schedule format requirement, but P6 is preferred
218	Is BIM required for this project?	BIM is not required for this project.
	There is conflicting information in the scope of work versus the spec regarding Div22 and 23 control	This question is not specifically referring to one page/section of any specification; therefore a general
219	wiring being provided and installed by Div 26. Please provide clear direction on what Div 26 is required to supply	response shall be provided. Low-voltage conduit, wiring and devices for temperature control and HVAC systems shall be provided by CN-2990 - HVAC.





RFI#	Question	Response
220	On sheet E2.1 the D4 fixtures in room 907 are shown butting up next to each other in the outside row. Are these fixtures to be a continuous 8' fixture or 2 4' fixtures next to each other?	Provide 8' fixtures where shown on drawings
221	Please provide current ARC Flash/Coordination study or please confirm that the current studies will be available to the awarded contractor	Arc Flash/Coordination studies to be part of the contractor scope of work as stated in 262413 2.31-2.36.
222	Please provide current KAIC rating of the existing MSB so the proper Gear can be quoted based on existing conditions	Main breaker in MSP is rated for 100kAIC
223	Please confirm pedestal on Sheet E1.1 and shown on detail E1.2 is existing and is capable of receiving new devices.	Pedestals are existing and new devices shall be provided to replace the old devices
224	On sheet E1.1 there shows (2) 1-1/2 conduits stubbed out for Power for the pressbox but on Sheet E1.1 doesn't show those conduits being picked up but in turn shows a power conduit from Panelboard A. Are the (2) 1-1/2" required and id so can you please provide what panel each 1-1/2 should go to?	(2) I-1/2"C. conduits from new kitchen building are not required. Press box to be fed from existing Panel 'A' which is located next to the bleachers.
225	Please confirm that lighting is not required by Electrical prime for the Pressbox	Confirmed. Lighting to be provided by pressbox manufacturer.
226	Per Sheet E7.3 Detail 2, aluminum conductors are allowed, please provide aluminum conductor call outs for sheet E7.1	Aluminum conductors are not allowed.
227	On Reflected ceiling plans, please provide call out for areas of building a solid white with no marks	No white marks are showing up on the DSA approved reflected ceiling plans
228	General note 6 on sheet E2.1 states ³ / ₄ inch conduit needs to be used for lighting control. In the specs MC Cable with integrated luminaire cable is allowed, please confirm that the later can be used in lieu of this note. Typical to all pages in plan sets	MC cabling may be used for branch circuit wiring other than homeruns.
229	Please confirm that Homeruns need to be conduit only and MC can be used for all required circuiting thereafter	MC cabling may be used for branch circuit wiring other than homeruns.
230	Sheet E2.7 Detail 1, Please confirm that the handhole needs to be provided at each light pole.	Confirmed
231	Please confirm that pole bases are to be in the scope of the concrete package, including the digging	Confirmed. Concrete light pole bases are by CN-2983. Reference Scopes of Work
232	Please provide cutsheets for Kitchen equipment and Kitchen control panels	Reference associated plans and specifications for kitchen equipment and control panel manufacturers/models.
233	Please confirm that per M0-6.3 detail (EMS controlled Exterior Lights) and District Standards that E2.4 Lighting Control Diagram Panels/details will be provided by Mech controls contractor and controlled by District EMS system Per M0-6.3	Confirmed . Exterior lighting shall be controlled vis EMS panel rather than lighting control panel





RFI#	Question	Response
234	E2.4 Remote Override control station lists switch located in Bldg 11 Custodian Rm Bldg 11 Custodian Rm. Is not shown on plans. Please provide details of this building site and room location and existing underground conduit path to this building from Kitchen/weight rm bldg.	Low Voltage switches added to plans. Underground conduit path is the same as all low voltage systems shown on E1.1
235	Confirming areas of Audio Visual - Classroom 914 - reflection/detention + rm 908 - coaches office + Rm 909 - Weight room +Rm 907 Sports Medicine + rm 901 services lines 401.	Yes those rooms are correct. Some of the Rooms have Multiple AV systems
236	Will there be any control panels for the Gym and service line (kitchen) area? Addendum 02 references more audio video on E4.8 however that page is missing. Please advise	The Revisions for Sheet E4.8 will be shown in the Addendum #3 Provisions
281	Please provide an attachment method for the aluminum panels shown on 26/ASD-2.0	Attachment details have been revised per Addendum 3 ASK3.3
282	The steel contractors do not paint or finish steel or aluminum and don't do graphics. Please provide detailed information on the graphics. Are these to be painted and if so what are the colors? 11+12/ASD-3.0	Reference ASK3.3 and ASK3.4
283	Details for the decorative aluminum fence 26/ASD-2.0 calls for 6x6 post to be placed in a sleeve in a concrete footing with non-shrink grout, then filled with concrete and has a welded cap. The footing detail 9/ASD-2.0 for an 8' tall fence calls for a 5x5 post Please clarify the post size for the gate and the post size for the fence post.	The Detail call for a 6x6x 1/2 for a 10' width Span not the height of the fence
284	Details for the decorative aluminum fence 26/ASD-2.0 calls for 6x6 post to be placed in a sleeve in a concrete footing with non-shrink grout, then filled with concrete and has a welded cap. The footing detail 9/ASD-2.0 for an 8' tall fence calls for a 5x5 post Please clarify if only the gate post are concrete filled or all post are concrete filled.	All post are to be concrete filled
285	Details for the decorative aluminum fence 26/ASD-2.0 calls for 6x6 post to be placed in a sleeve in a concrete footing with non-shrink grout, then filled with concrete and has a welded cap. The footing detail 9/ASD-2.0 for an 8' tall fence calls for a 5x5 post Please clarify if sleeves are required or we can set post in concrete footings without a sleeve.	Sleeves are required
286	Details for the decorative aluminum fence 26/ASD-2.0 calls for 6x6 post to be placed in a sleeve in a concrete footing with non-shrink grout, then filled with concrete and has a welded cap. The footing detail 9/ASD-2.0 for an 8' tall fence calls for a 5x5 post Please provide the post footings sizes and gate post footing sizes.	Post footings are shown on 9/ASD-1.0
	End RFIs	





RFI#	Question	Response
	Substitution I	Requests
	Is Alfrex FR Metal Composite Material an acceptable substitution for #074213.23 - Metal Composite Material Wall Panels?	Not Approved/Rejected.
2	Is Techniquex an acceptable substitution for #096700 - Fluid Applied Flooring?	Not Approved/Rejected.
	End Substitution Requests	



## SECTION 00 43 25 SUBSTITUTION REQUEST FORM - DURING PROCUREMENT

PROJECT NAME: NEW KITCHEN & WEIGHT ROOM  PROJECT NUMBER: 1-30-55  TO: RUHNAU CLARKE ARCHITECTS . 3775 Tenth Street, Riverside California 92501 - 5751 Palmer Way, Suite C, Carlsbad California 92010 From: Camille Knezevich w/ Alfrex  We hereby submit for your consideration the following product comparisons of the specified product and the proposed substitution. The undersigned fully understands that failure to answer any item below may be cause for rejection of request for substitution. Request for substitution shall only be made during bidding (not later than 7 days prior to bid opening for inclusion by Addendum) except under conditions beyond control of Contractor.  SPECIFIED PRODUCT: Metal Composite Material Wall Panels Project Manual Section Title 074213.23 Number Page Paragraph 2.01 Drawing No. Detail No. Proposed Substitution: Alfrex FR Metal Composite Material  Manufacturer: Alfrex TR Metal Composite Material  Manufacturer: Alfrex Tel: 470-589-7449  A. Is the point-by-point comparative data attached? REQUIRED BY A/E YES B. Reason request for substitution is being submitted: Alfrex is an as equal product to the sp  DIFFERENCES BETWEEN PROPOSED SUBSTITUTION AND SPECIFIED PRODUCT  C. Does proposed substitution affect in any way the Structural Safety, Access Compliance, or Fire & Life Safety portions of the project? No x. Yes_Explain  D. Does proposed substitution affect dimensions, gages, weights, etc. on Drawing? No x. Yes_Explain  Figoresmont Union High School District  Substitution Request Form - During  New Kitchen & Weight Room  Procurement  RCA Project No. 1-30-55	SUBSTITUT	ION REQUEST NO	_	
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SPECIFIED PRODUCT:	р	roduct and the proposed substitutior	n. The undersign	ed fully understands that failure to
Project Manual Section Title			=	= 1
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D. Does proposed substitution affect dimensions, gages, weights, etc. on Drawing? No_X Yes  Explain  Grossmont Union High School District Substitution Request Form - During New Kitchen & Weight Room Procurement	C. D	oes proposed substitution affect in a	ny way the Struc	
Grossmont Union High School District Substitution Request Form - During New Kitchen & Weight Room Procurement	E	xplain		
Grossmont Union High School District  New Kitchen & Weight Room  Substitution Request Form - During Procurement	D. D	oes proposed substitution affect dim	ensions, gages, v	veights, etc. on Drawing? No $_{f X}$ Yes $_$
New Kitchen & Weight Room Procurement	Е	xplain		
New Kitchen & Weight Room Procurement	Grossmont	Union High School District		Substitution Request Form - During
_				
		=:		

E.	Does proposed substitution require changes in Drawings or design and installation changes? $No_{-X}$ Yes
	(If yes, cost of these changes is the responsibility of the Contractor.)
F.	Does proposed substitution affect product cost, delivery time, or construction schedule? No_ $x$ _Yes Explain
G.	Does proposed substitution comply with specified ICC Number, UL Rating, ASTM Numbers? No Yes $\underline{\mathbf{x}}$ Explain
Н.	Does proposed substitution affect other trades and systems such as wiring, piping, ductwork, structure, etc.? No $\underline{x}$ Yes $\underline{\hspace{1cm}}$ (Explain which and how) $\underline{\hspace{1cm}}$
l.	Does proposed substitution product guarantee differ from that of the specified product?  No_x_Yes Explain
	Attach a listing of 3 similar projects (one in service for at least 3 years) using the proposed substitution.
	Substantiating Data: Attach product data/brochures and Vendor qualifications for both specified and substitute product. Provide samples for both specified and substitute products, if applicable.
	Certification: Undersigned has examined Construction Documents, is familiar with specified product, understands indicated application of product, and understands design intent of the Architect caused by the requested substitution.
	Submitted by: Camille Knezevich 7/28/22
	.(Type Name) Signature Date
	Signature must be made by person having legal authority to bind his firm to the above terms.

#### **END OF SECTION**

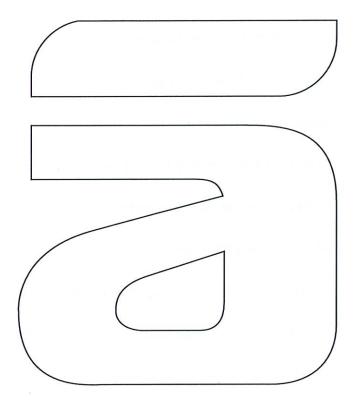
NOT APPROVED

ALFREX is not a metal composite panel system. it appears per the literature that ALFREX provides metal panel material for ALTech panel systems. We need information on the system being utilized and the warranty for that system. We also note the face sheet is on 0.020" vs the 0.024" specified.

Grossmont Union High School District	Substitution Request Form - During
New Kitchen & Weight Room	Procurement
RCA Project No. 1-30-55	00 43 25 - 2



Fire Resistant & Non-Combustible Cladding



ARCHITECTURAL

# ALFREX FR MCM SUBMITTAL PACKAGE

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6		Alfrex FR MCM Product Guide
10		Product Certification Summary
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13		Structural Performance Testing Summary Data
14		MCM Competitor Comparison Matrices
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22		Specification: 07 42 13 Composite Metal Wall Panel
31		ICC-ES Evaluation Report
33		Certifications and Compliance Reports
35		Accu-Trac® Panel System Details
38		Alfrex FR MCM Project References

### SPECIFICATION COMPLIANCE CHECKLIST

Section 07 42 13 - Metal Composite Wall Panels



Fire Resistant & Non-Combustible Cladding

#### **PART 1: GENERAL**

#### **ASTM E330 Structural Performance**

Perimeter Framing Deflection ≤ L/175 Panel Deflection ≤ L/60

#### Panel Deflection - Compliant

±75 psf, 20.0 psf water penetration per ASTM E330

		Deflection (in)		Permanent Set (in)	
		Measured	Allowed Per TAS 202 (L/250)	Measured	Allowed Per TAS 202 (L/720)
Design	+ 75.0/psf	0.15	0.48	0.01	0.17
Pressure	- 75.0/psf	0.10	0.48	₹ 0.01	0.17
Test	+ 112.5/psf	0.23	0.48	0.17	0.17
Pressure	- 112.5/psf	0.17	0.48	0.02	0.17

#### Perimeter Framing Deflection - Compliant

		Defle	Deflection (in) Permanent Set		ent Set (in)
		Measured	Allowed Per TAS 202 (L/1333)	Measured	Allowed Per TAS 202 (L/3899)
Design	+ 75.0/psf	0.01	0.09	0.01	0.03
Pressure	- 75.0/psf	0.02	0.09	₹ 0.01	0.03
Test	+ 112.5/psf	0.01	N/A	∢ 0.01	0.03
Pressure	- 112.5/psf	0.12	N/A	∢ 0.01	0.03

#### **Quality Assurance**

Product Certifications & Test Report Compliance

ICC-ESR Certification Report (ESR-4566)		
ICC-AC 25 Certification of Compliance Listing		
	CBC	
ICC Supplements California	DSA	
	OSHPD	
	LABC	
	FL 33597	
Florida Product Approval HVHZ	. FL 16406-R5	

#### MCM Manufacturer Qualifications

12 Years Manufacturing Experience Produces FR core material in-house Intertek - Product Testing, Certification, Listing Compliance **Project References** 

### ASTM E283, Air Leakage

ASTM E 3387

< 0.06 cfm per sf at 1.57 psf

0.02 cfm/ft ² (0.10 L/s/m ² ) at 1.57 psf (25 mph)	Compliant
0.04 cfm/ft ² (0.20 L/s/m ² ) at 6.27 psf (50 mph)	Compliant

## **√**ASTM E331, Water Penetration

No water infiltration at 6.24 psf (0.299 kPa)

N	Compliant
No water infiltration at 20 psf (0.96 kPa)	Compliant

#### Fire Performance

Compliant with regulatory fire code testing

NFPA 285, ASTM E84, ASTM E119, ASTM E108, ASTM D1929, CAN/ULC S102, CAN/ULC S134, ASTM D635

#### Warranty

Bond Integrity	10 Years	Product
Hairline Aluminum	10 Years	Finish
2 Coat Solid / 2 Coat Mica	30 Years	Finish
Vivid Solid	20 Years	Finish
3 Coat Metallic	30 Years	Finish
Wood and Metal Series	20 Years	Finish

#### **PART 2: PRODUCT**

#### MCM Material

Two sheets of aluminum sandwiching a solid core of extruded thermoplastic fire-resistant solid material formed in a continuous process with no glues or liquid adhesives between dissimilar materials.

#### MCM Face Sheets

**Aluminum Alloy** Thickness

3003-H14

0.5mm (0.020") nominal of ea

Alfrex, LLC. • 943 Gainesville Hwy. Bldg 100-4000, Buford GA 30518 • 470.589.7449 • alfrex@alfrexusa.com www.alfrexusa.com

^{**} See page 2 for result summaries for each test.

## **SPECIFICATION COMPLIANCE CHECKLIST**

Section 07 42 13 - Metal Composite Wall Panels



Fire Resistant & Non-Combustible Cladding

#### PART 2: PRODUCT (con't)

#### MCM Panel Dimensions

Thickness	4mm (0.157 in) & 6mm (0.236 in)
Widths	40", 50", 62"
Lengths	Made to order 48" min - 300" max

#### MCM Fire Resistant Core

Fire Resistant Mineral Core:		
3.0 mm (0.117 in) nominal	4mm FR panel	
5.0 mm (0.197 in) nominal	6mm FR panel	

#### **Finishes**

#### AAMA 2605 Compliant Coil Coated

70% KYNAR® 500 based Polyvinylidene Fluoride (PVDF) finishes

PROPERTY	STANDARD	COIL COATED ALUMINUM
Color Uniformity	ASTM D2244	Max. 2 Delta E
Color Retention - Fade	ASTM D2244	≤5 Delta E units
Chalk Rating	ASTM D4214	≤8 units
Specular Gloss	ASTM D523	±5 units
Dry Film Hardness	ASTM D3363	F - 2H
Dry Adhesion	ASTM D3359	No coating removal
Abrasion Resistance	ASTM D968	Abrasion Coefficient Value ≥ 40
Reverse Impact	ASTM D2794	No coating removal
Muriatic Acid Resistance (10% HCI, 15 min)	ASTM D1308	No blistering or visual change
Nitric Acid Resistance (HNO ₃ , 30 min)	ASTM DI308	≤5 Delta E
Alkali Mortar Resistance (10%, 25% NaOH, 60 min)	ASTM D1308	No removal No loss of adhesion or visual change
Flexibility	ASTM D4145	2T - no pick off
Humidity Resistance	ASTM D714	4000 hour exposure
ridilidity Resistance	ASTM D2247	Less than "few" blisters Size No. 8
Cyclic Corrosion	ASTM B117	2000 hour exposure Min rating of 7 scribe or cut edge
Cyclic Corrosion	AAMA 2605-13	Min. blister rating of 8

#### **Bond Integrity**

No failure of bonding when tested to ASTM D1781

ICC-AC 25 ASTM D1781 Intertek Report No. J6080.01-106-16 RO

Condition	Peel Torqu	ıe (in∙lb/in)	Danult
Condition	Average	Required	Result
Control	39.91	22.5	Pass
8 Hour Boil	48.71	22.5	Pass
21 Day Water	40.31	22.5	Pass
Freeze - Thaw	42.21	22.5	Pass

#### Fire Performance

Test Standard	Results
NFPA 285 Multi-Story Fire Test	Passed
ASTM E84: Flame spread <25 Smoke Developed <450	Class A Flame Spread: O Smoke Developed: O
CAN/ULC \$102	Class A Flame Spread: O Smoke Developed: O
AN/ULC S134	Passed
STM E119	Passed - 2 Hour rating
STM E108 Surface Flammability	Passed
STM D1929 Ignition Temperature	Flash: 716 °F (380 °C) Ignition: 752 °F (400 °C)
STM D635 Rate of Burning	Classified CC1

#### **Technical Properties Data Sheet**

Alfrex MCM 4mm FR Alfrex MCM 6mm FR

#### **Related Materials**

Matching trim and accessories formed from sheet metal to match MCM panel finish.

Alfrex stocks  $0.040'' \times 48'' \times 120''$  flat sheet in 32 colors that match Alfrex FR MCM standard colors.

#### ALFREX FR MCM EXECUTIVE SUMMARY

4mm Aluminum Composite Material



Fire Resistant & Non-Combustible Cladding

## **ALFREX 4mm FR MCM**

- » Fire Resistant Core Only No PE
- » In-house produced FR core
- » Minimal price difference between solid, mica and metallics
- » Thickness: Standard 4mm
  [Available in 3mm and 6mm]
- » Width: Standard 62in

50in in select colors 40.2in and 49.2in also available

- » 10 Year Bond Integrity Warranty
- » 10, 20 & 30 Year Finish Warranties
- » 32 colors in Finished Goods

#### MATCHING FLAT SHEET

- » Sheet Size: 0.040in x 48in x 120in
- » 30 standard matching colors in stock
- » Perfect for trim and accessories
- » Same paint finishes as Alfrex FR

#### FINISHED GOODS

- » Stocking Locations: Atlanta and Toronto
- » MCM FR: 32 standard colors 4mm x 62in x 196in lengths
- » Matching Flat Sheet: 30 colors 0.040in x 48in x 120in
- » 3mm Plate: 62in x 165in in 4 standard colors

#### **CUSTOM COLORS**

- » Minimum 2,500 sqft production quantity
- » No Setup Charges
- » Require color sample, paint code, PMS or Pantone number
- » Custom Wood and Metal Series 22,000 sqft minimum

#### MATCHING TRIM PROFILES

- » 5 Standard trim profiles cut-to-length to order
- » Custom dimensioned profile production capability
- » Made from Alfrex Matching Flat Sheet
- » Base Wall, Outside Corner, Inside Corner Flashing
- » Parapet Flashing, Z-Flashing

#### STANDARD COLORS

#### ALFREX FR MCM

» 2-Coat Solid:



» 2-Coat Mica:



3-Coat Metallic:



» Wood Series:



» Metal Series:



» Specialty Series:



* Hover over finishes for Finish Name.*

#### PRODUCT CERTIFICATIONS

VIEDE	VED	MCM -	BUILDING	CODEC

ICC AC-25	Certificate WHI18-26206601 (Spec ID 368)	
ICC-ESR Evaluation Report	ESR-456	66
ICC-ESR Supplements [California]	CBC	California Building Code
	DSA	Division of the State Architect
	OSHPD	Office of Statewide Health Planning Development
	LABC	Los Angeles Building Code
Los Angeles Research Report	Per IB119	exempt with ICC ESR

FL 33597, FL16406-R5

### ALFREX FR MCM - FIRE PERFORMANCE

Florida Product Approval

ASTM E84	CAN/ULC S102	
ASTM E119	CAN/ULC S134	
NFPA 285	ASTM D635	

## LEED CERTIFICATION RECYCLED CONTENT MR CREDIT 4 - 26.07%

» LEED v3: 2 Points

» LEED v4:1 Point

#### **USA MANUFACTURING PLANT**

- » 100,000 sqft facility in metro Atlanta
- » MCM Production Line:
  - > In-house designed & engineered
  - > Continuous manufacturing process
  - > Numerous color changeovers, minimal scrap, no line stoppage
  - > Cost control 7,500 sqft as efficient as 50,000 sqft

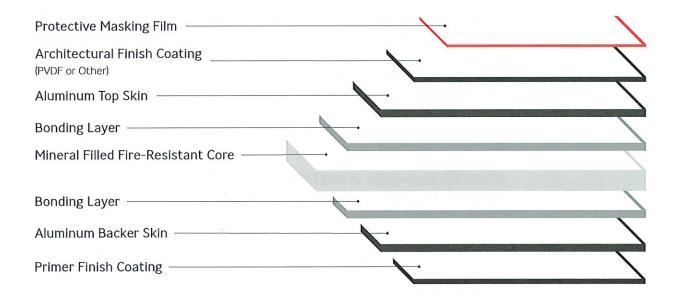


#### ALFREX FR INTRODUCTION

Alfrex FR is a continuous process manufactured aluminum composite material (ACM) consisting of an extruded fire-resistant core permanently bonded to pre-finished aluminum skins on each side. It is extremely lightweight and exceptionally flat, yet easy to fabricate into any shape.

Alfrex FR is coil coated utilizing 70% PVDF Kynar resin and other high-quality paint finishes - providing color uniformity, an extensive range of colors, unique coating patterns and textures, and the confidence of industry standard performance warranties. Its properties make Alfrex FR an ideal choice for most any architectural design intent imaginable.

#### ALFREX FR COMPOSITION



#### **ALFREX FR FEATURES**



#### Coil Coated for Performance

Alfrex FR premium quality paint finishes are applied by coil coating lines specialized in the continuous roll coating of fluoropolymer and specialty paint coating systems. The process ensures superior color uniformity and the overall long-term performance expected of exterior architectural coatings.



#### Wide Standard Color Range

Alfrex FR is offered in a broad range of standard colors geared towards exterior architectural building applications. Finishes utilizing 70% PVDF Kynar resin span popular color ranges in 2 Coat Solid, 2 Coat Mica, and 3 Coat Metallic configurations. Other specialty finishes include Prismatic Color-Shifting, Textured Wood Grain, Stone, Brushed Aluminum, and Faux Natural Metals.



#### **Custom Colors**

Alfrex provides custom matching to transform your imagination into reality using the color or finish of your choice. Simply send us a color sample, coating manufacturer paint code, Pantone number, or PMS number and we will quickly turn around an accurate match that meets your project requirements.



#### Fire-Resistance is a Core Competency

The fire-resistant core of Alfrex FR is an in-house manufactured, mineral-filled extruded material permanently bonded to aluminum skins. This provides an economical advantage for customers without sacrificing quality. Alfrex FR has passed American and Canadian testing standards including ASTM E84, ASTM E119, NFPA 285, CAN/ULC S102, and CAN/ULC S134.



#### Lightweight and Highly Durable

Alfrex FR is lightweight, at only 1.51 lbs/sqft yet durable with non-corrosive aluminum skins and weather resistant architectural coatings.



#### Ease of Fabrications and Formability

Alfrex FR can be fabricated using proven methods such as: cutting, routing, shearing, bending, folding, and roll forming.

## ALFREX FR REFERENCE DATA

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S	ΙΛ	N	n.	ΛI	21	1		/	ь,	
	I 194	ıv	u	м.	V.	,	.,	_		

PROPERTY	4mi	m FR	UNITS
Panel Thickness	0.157		in
railer filickliess	4.0		mm
Top & Backer Skin Thickness (nominal)	0.020		in
	0	.5	mm
C4	50	62	in
Standard Widths	1,270	1,575	mm
Other Available Width	40	49.2	in
Widths only available upon request	1,020	1,250	mm

#### **TOLERANCES**

PROPERTY	4mm FR	UNITS
110.141	+ / - 0.080	in
Width	2.0	mm
	+ / - 0.157	in
Length	4.0	mm
T1	+ / - 0.008	in
Thickness	0.2	mm
•	+ / - 0.157	in
Squareness	4	mm

#### **TECHNICAL PROPERTIES**

PROPERTY	STANDARD	4mm FR	UNITS
Daniel Walaha		1.51	lb/ft²
Panel Weight	-	7.37	kg/m²
Flexular Modulus	ASTM C393	5.38 x 10 ⁶	Psi
(Flexural Elasticity)		$37.90 \times 10^3$	Мра
M. Julius of Floodister	ACTM FO	2.46 x 10 ⁶	Psi
Modulus of Elasticity	ASTM E8	17.00 x 10 ³	Мра
Tensile Strength (aluminum skin)	ASTM E8	$6.96 \times 10^3$	Psi
		48	Мра
VA 116.	ASTM E8	$6.23 \times 10^3$	Psi
Yield Strength		43	Мра
Elongation	ASTM E8	5	%
Mamant of Insults	-	1.90 x 10 ⁻⁴	in⁴/in
Moment of Inertia		7.90 x 10 ⁻³	cm⁴/m
Castian Madulus		1.81 x 10 ⁻³	in³/in
Section Modulus	-	29.70 x 10 ⁻³	cm³/m
Coefficient of Expansion	ASTM D696	1.44 x 10 ⁻⁵	in/in/°F (@-22-86°F)

#### **PRODUCT CERTIFICATIONS**

#### **BUILDING CODES**

ICC AC-25	Certificate WHI18-26206601 (Spec ID 36858)		
ICC-ESR Evaluation Report	ESR-4566		
ICC-ESR Supplements [California]	СВС	California Building Code	
	DSA	Division of the State Architect	
co Est supplements (camorina)	OSHPD	Office of Statewide Health Planning Development	
	LABC	Los Angeles Building Code	
os Angeles Research Report	Per IB119 e	xempt with ICC ESR	
Florida Product Approval	FL 33597, FL 16406-R5		

#### **FIRE PERFORMANCE**

ASTM E84	Class A
ASTM E119	Fire Rating - 2 hours
NFPA 285	Passed
CAN/ULC S102	Class A
CAN/ULC S134	Passed
ASTM D635	Classified CC1

#### ALFREX MATCHING FLAT SHEET

Alfrex stocks tension leveled 0.040" (1mm) aluminum flat sheet in coordinated standard colors.

#### ALFREX PLATE: CUSTOMIZABLE AND NON-COMBUSTIBLE

Coil Coated 3mm Plate is a standard with Alfrex Plate. Projects requiring a non-combustible solution can count on Alfrex Plate coil coated in coordinated colors with Alfrex FR as well as custom colors.

Small Lot Custom Colors for MCM are very expensive and difficult to source. Alfrex offers a solution by stocking Alfrex 3mm thick aluminum plate in 62" wide x 165" long sheets with a primed back side. This enables the post-painting of sheets in both air dry or backed on spray finishes, and a more economical solution than purchasing the minimum quantities for a custom ACM color.

For more information on Alfrex Plate, please consult the Alfrex Plate Product Guide or visit www.alfrexusa.com

## **TECHNICAL DATA SHEET**

Alfrex FR Metal Composite Material 4mm



Fire Resistant & Non-Combustible Cladding

PROPERTY	4mm FR	UNITS	
Aluminum Skin Alloy	3003-H14		
Panel Thickness	0.157	in	
railer fillexiless	4.0	mm	
Skin Thickness (nominal)	0.020	in	
	0.5	mm	
Core Material	Fire rated mineral filled core		
Panel Weight	1.51	lbs/ft	
ranei weight	7.37	kg/m²	
Specific Gravity (Product)	1.76		
Specific Gravity (Core Layer)	1.43		

PROPERTY	4mr	n FR	UNITS
Standard Widths	50	62	in
standard widths	1,270	1,575	mm
Other Available Widths	40	49.2	in
other Available Widths	1,020	1,250	mm
Standard Lengths	Max 25 (300)		ft (in)
Standard Lengths	7,6	20	mm

PROPERTY	4mm FR	UNITS
Width	+/-0.080	in
Width	2.0	mm
Length	+ / - 0.157	in
Length	4.0	mm
hickness	+/-0.008	in
HIICKHESS	0.20	mm
Squareness	+ / - 0.157	in
aquai eness	4.0	mm

RE PERFORMANCE	
TEST	RESULT
ASTM E84 (Product)	Class A
ASTM E84 (Core Exposed)	Class A
NFPA 285	Passed
CAN/ULC S102	Class A
CAN/ULC S134	Passed
ASTM E119	2 Hour Rating
ASTM D635	Classified CC1

See warranty tables and sample warranties for cor	IUIDIONS UND EXCIOSIONS	
Bond Integrity	Alfrex FR MCM	10 Years
FINISH WARRANTIES		
See warranty tables and sample warranties for con	nditions and exclusions	
2 Coat Solid / 2 Coat Mica	Alfrex FR MCM	30 Years
3 Coat Metallic	Alfrex FR MCM	30 Years
3 Coat Vivid Solid	Alfrex FR MCM	20 Years
Wood and Metal Series	Alfrex FR MCM	20 Years
Halrline Aluminum / Mirror	Alfrex FR MCM	10 Years

Alfrex, LLC endeavors to provide accurate and current technical information but cannot warrant or make any representations as to the accuracy or completeness of the information contained herein. All data is intended for informational purposes only and subject to change without notice. Please consult a licensed structural engineer for evaluations of structural soundness, specification, or final design.

PROPERTY		4mm FR	UNITS
		22.5	in•lb/in
Minimum Bond Strength	ASTM D1781	100	Nm/m
		In Process	PsI
Flatwise Shear Strength	ASTM C273		Мра
Class de la Tenedia Cananali			Psi
latwise Tensile Strength	ASTM C297	In Process	Мра
Tabulas Community Chamab	ACTM 6745		Psi
latwise Compression Strength	ASTM C365	In Process	Мра
Core Shear Modulus	ACTA4 C707	9.42 x 10 ³	Psi
ore shear modulus	ASTM C393	64.9	Мра
ransverse Shear Stress	ASTM C707	3.34	Psi
ransverse Shear Stress	ASTM C393	23 x 10 ⁻³	Мра
lexular Stiffness	TOTO MT2A	1.02 x 10 ³	Psi
ievolai 2(IIIII622	ASTM C393	7.03	Мра
lexular Modulus	ASTM C393	5.38 x 10 ⁶	Psi
Flexural Elasticity)	ASIM C393	$37.9 \times 10^3$	Мра
Andulus of Elasticity	ASTM E8	2.46 x 106	Psi
roddius of Elasticity		17 x 10 ³	Мра
ensile Strength	ASTM E8	$6.96 \times 10^3$	Psi
Aluminum Skin)	W21M E8	48	Мра
ield Strength	ASTM E8	$6.23 \times 10^3$	Psi
Aluminum Skin)	ASTIPLES	43	Mpa
longation	ASTM E8	5	%
Moment of Inertia	_	1.90 x 10 ⁻⁴	in⁴/in
.ccirc of mercia		$7.90 \times 10^{-3}$	cm⁴/m
ection Modulus	-	1.81 x 10 ⁻³	in³/in
		29.7 x 10 ⁻³	cm³/m
Coefficient of Expansion	ASTM D696	1.44 x 10 ⁻⁵	in/in°F (@-22-86°F
eflection Temperature	ASTM D648	> 239 °	Fahrenheit
and the inperioral c	7.3111 0040	> 115 °	Celsius
elf Ignition Temperature	ASTM 1929	775 °	Fahrenheit
o	7.51111727	413 °	Celsius
ore Density	_	0.054	lb/in ³
iore Demaity		1.5	g/cm ³

		i.o g/ciii		
COATING PROPERTIES				
0% Kynar 500 / Hylar 5000 PVDF Re AMA 2605 Compliant	esin Coatings			
PROPERTY	STANDARD	COIL COATED ALUMINUM		
Color Uniformity	ASTM D2244	Max. 2 Delta E		
Color Retention - Fade	ASTM D2244	Delta E ≤ 5 units		
Chalk Rating	ASTM D4214	≤8 units		
Specular Gloss	ASTM D523	±5 units		
Dry Film Hardness	ASTM D3363	F - 2H		
Dry Adhesion	ASTM D3359	No coating removal		
Abrasion Resistance	ASTM D968	Abrasion Coefficient Value ≥ 40		
Reverse Impact	ASTM D2794	No coating removal		
Muriatic Acid Resistance	ASTM D1308	No blistering or visual change		
Nitric Acid Resistance	ASTM D1308	≤5 Delta E		
Alkali Mortar Resistance	ASTM D1308	No removal. No loss of adhesion or visual change		
Flexibility	ASTM D4145	2T - no pick off		
Humidity Resistance	ASTM D714	4000 hour exposure		
mumunty resistance	ASTM D2247	Less than "few" blisters Size No. 8		
	ASTM B117	2000 hour exposure		
Cyclic Corrosion	AAMA 2605-13	Min. rating of 7 scribe or cut edge Min. blister rating of 8		

## STRUCTURAL PERFORMANCE TESTING SUMMARY DATA





Fire Resistant & Non-Combustible Cladding

Wall Panel Assembly	Alfrex FR with ACCU-TRAC DS Pressure Equalized Rainscreen System Courtesy of Altech Panel Systems	n	
Testing Protocols	Florida Building Code / Miami-Dade County Requirements  TAS 201-94: Large Missile Impact Test, Level D, Wind Zone 4  TAS 202-94: Uniform Static Air Pressure  TAS 203-94: Cyclic Pressure Loading	ASTM Standards ASTM E283 ASTM E330 ASTM E331 ASTM E1996 ASTM E1886	
Florida Product Approval	FL 33597		
Panel Size Referenced	120 in wide x 60 in high		
Engineering Evaluation Report Download	Report No.: 514689		

#### **ASTM E330 - Structural Performance**

## Panel Deflection

Deflection Criteria	Deflection Inches	
L/360	0.33	
TAS 202 L/250	0.48	
L/240	0.50	
L/180	0.67	
L/90	1.33	
L/60	2.00	

		Deflection (in)		Perma	nent Set (in)
		Measured	Allowed Per TAS 202 (L/250)	Measured	Allowed Per TAS 202 (L/720)
D. J. D.	+ 75.0 / psf	0.15	0.48	0.01	0.17
Design Pressure	- 75.0 / psf	0.10	0.48	₹ 0.01	0.17
T . ( D	+ 112.5 / psf	0.23	0.48	0.17	0.17
Test Pressure	- 112.5 / psf	0.17	0.48	0.02	0.17

## Perimeter Framing Deflection

Deflection Criteria	Deflection Inches	
TAS 202 L/1333	0.09	
L/720	0.17	
L/360	0.33	
L/240	0.50	
L/175	0.69	

		Deflection (in)		Permanent Set (in)	
		Measured	Allowed Per TAS 202 (L/1333)	Measured	Allowed Per TAS 202 (L/3899)
D. J. D	+ 75.0 / psf	0.01	0.09	0.01	0.03
Design Pressure	- 75.0 / psf	0.02	0.09	₹ 0.01	0.03
T . / D	+ 112.5 / psf	0.01	N/A	< 0.01	0.03
Test Pressure	- 112.5 / psf	0.12	N/A	< 0.01	0.03

#### ASTM 283 - Air Infiltration

	Results	Allowed per TAS 202
Air Leakage: 1.57 psf (25 mph)	0.02 cfm / ft² (0.10 L/s/m²)	0.06 cfm / ft ² (0.30 L/s/m ² )
Air Leakage: 6.27 psf (50 mph)	0.04 cfm / ft² (0.20 L/s/m²)	0.06 cfm / ft ² (0.30 L/s/m ² )

ACTM	11-1-6-2 (1981)	Makani		Transition in
ASIM			2011	40:14[0]11

	Results	Allowed per TAS 202
psf: 15% of Positive Design Pressure at 960 Pa	Pass	No Leakage



## **EXPANDED COMPETITIVE COMPARISON CHART**

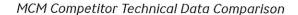




Fire Resistant & Non-Combustible Cladding

	Company MCM Brand	Alfrex, LLC Alfrex FR	Arconic Reynobond FR	Mitsubishi Chemical Alpolic fr	3A Composites Alucobond Plus	Alucoil N. America Larson by Alucoil
	Product 4mm FR Aluminum Composite Material (ACM/MCM)	<b>✓</b>	<b>✓</b>	<b>√</b>	✓	<b>✓</b>
	ACM Manufacturing Experience 10+ Years	<b>✓</b>	<b>✓</b>	<b>✓</b>	✓	<b>✓</b>
GENERAL COMPARISON	ACM Manufacturing Process Continuous Process Manufactured with No Glues or Adhesives	<b>✓</b>	✓	<b>√</b>	<b>√</b>	~
COM	Fire Resistant Mineral Filled Core	✓	✓	✓	✓	✓
ENERA	FR Core Manufactured In-House	✓		✓	✓	
U	USA Manufacturing Plant Location	Buford, GA	Eastman, GA	Chesapeake, VA	Benton, KY	Manning, SC
	Product Bond Integrity Warranty	✓	<b>✓</b>	✓	✓	✓
	Metal Composite Manufacturer Alliance Member	✓	✓		✓	✓
	3rd Party Certifying Agencies Intertek / International Code Council, Inc. (ICC)	<b>✓</b>	<b>✓</b>	✓ ·	✓	<b>✓</b>
	ICC-ESR Certification Report	ESR-4566	ESR-3435	ESR-2653	ESR-1185	
	ICC-AC 25 Certification for ACM / MCM	<b>✓</b>	✓	✓	✓	✓
	Fire Performance Certification USA NFPA 285, ASTM E84, ASTM E119	✓	<b>✓</b>	✓	✓	<b>✓</b>
SNO	Fire Performance Certification Canada CAN / ULC S102, S134	✓		✓	✓	<b>√</b>
PRODUCT CERTIFICATIONS	ICC Supplement CBC California Building Code	<b>✓</b>			8. I	
UCT CER'	ICC Supplement DSA Division of the State Architect - California	✓				
PRODL	ICC Supplement OSHPD Office of Statewide Health Planning Development - California	<b>✓</b>				
	ICC Supplement LABC Los Angeles Building Code - California	✓	<b>✓</b>			
	Los Angeles Research Report Per IB119 exempt with ICC ESR	✓	<b>√</b>	✓ ·	✓	
	Florida State Product Approval	<b>✓</b>	<b>✓</b>	✓	✓	
	High Velocity Hurricane Zone	✓	<b>✓</b>	✓ ·	<b>✓</b>	

## **EXPANDED COMPETITIVE COMPARISON CHART**





Fire Resistant & Non-Combustible Cladding

	Company MCM Brand	Alfrex, LLC Alfrex FR	Arconic Reynobond FR	Mitsubishi Chemical Alpolic fr	3A Composites Alucobond Plus	Alucoil N. America Larson by Alucoil
	ASTM E84 Class A	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>
FIRE PERFORMANCE	NFPA 285 Passed	<b>✓</b>	<b>✓</b>	✓	✓	✓
IRE PERF	CAN/ULC S102 Class A	<b>~</b>		✓	<b>✓</b>	✓
Ľ.	CAN/ULC S134 Passed	<b>✓</b>		<b>✓</b>	✓	✓
MS	Primary System	70% Kynar PvDF	70% Kynar PvDF	Lumiflon	70% Kynar PvDF	70% Kynar PvDF
T SYSTEI	Secondary System	Lumiflon	Lumiflon	70% Kynar PvDF	Lumiflon	Lumiflon
ARCHITECTURAL PAINT SYSTEMS	Primary Paint Suppliers	PPG Beckers	PPG Beckers	Sherwin-Williams PPG	PPG Akzo Noble	PPG Akzo Noble
CHITECT	AAMA 2605 Compliant	<b>✓</b>	<b>✓</b>	✓	<b>✓</b>	<b>*</b> .
AR	30 Year Finish Performance Warranty	<b>✓</b>	✓	✓	✓	<b>✓</b>
	Standard Widths (62" / 50")	<b>✓</b>	✓	✓	✓	<b>✓</b>
	Other Widths (49.2" / 40")	<b>✓</b>	<b>✓</b>	✓	✓	<b>✓</b>
IG AND SERVICES	Custom Lengths : Panels are Cut to Length during Manufacturing	<b>✓</b>	<b>✓</b>	✓ ·	✓	<b>✓</b>
	Standard Colors: 30+ Solid, Mica, 3-coat Metallic, Wood Grain, Brushed Metal, Natural Metals, Corten Rust	<b>~</b>	<b>✓</b>	<b>√</b>	<b>√</b>	<b>√</b>
JCT OFF	Custom Colors	<b>✓</b>	✓	✓	✓	✓
PRODU	Finished Goods ACM Panels	<b>V</b>	<b>✓</b>	✓	✓	<b>✓</b>
ECTURAL	Company Finished Goods Locations	USA & Canada	USA only	USA only	USA only	USA only
ARCHITECTURAL PRODUCT OFFERIN	Matching Flat Sheet	<b>✓</b>	✓	✓	✓	<b>✓</b>
	Matching Flat Sheet Thickness	0.040"	0.040"	0.032"	0.040"	0.040"
	Matching Flat Sheet Trim Profiles	<b>✓</b>				

## **EXPANDED COMPETITIVE COMPARISON CHART**





Fire Resistant & Non-Combustible Cladding

	6	Alfrey II C	A	Mitanda de Chamilant	3A Composites	Alucoil N. America
	Company MCM Brand	Alfrex, LLC Alfrex FR	Arconic Reynobond FR	Mitsubishi Chemical Alpolic fr	Alucobond Plus	Larson by Alucoil
	Product 4mm FR Aluminum Composite Material (ACM/MCM)	✓	<b>✓</b>	✓	✓	<b>✓</b>
TECHNICAL DATA COMPARISON	Aluminum Alloy 3000 Series	✓	<b>✓</b>	· •	✓	<b>✓</b>
	Product Thickness 4mm / 0.157"	✓	✓	✓	✓	<b>✓</b>
	Aluminum Skin Thickness (inches) <i>[nominal]</i> 0.020" Top Skin / 0.020" Bottom Skin	✓	<b>✓</b>	✓	✓	<b>✓</b>
	Panel Weight Pounds per Square Foot	1.51	1.53	1.56	1.56	1.57
	Minimum Bond Strength ASTM D1781 (in•lb/in)	22.5	22.5	22.5	22.5	22.5
	Flatwise Tensile Strength ASTM C297 (Psi)	In Progress	961	949	765	894
	Flexular Modulus ASTM C393 (Psi)	5.38 x 10 ⁶	6.7 x 10 ⁶	5.77 x 10 ⁶	-	-
	Modulus of Elasticity ASTM E8 (Psi), **ASTM D638 (Psi)	2.46 x 10 ⁶	-	-	**2.93 x 10 ⁶	-
	Moment of Inertia (in⁴/in)	1.9 x 10 ⁻⁴	1.89 x 10 ⁻⁴	- / -	-	-
	Tensile Strength (aluminum skin) ASTM E8 (Psi), **ASTM D638 (Psi)	6.96 x 10 ³	-	7.13 x 10 ³	**7.75 x 10 ³	-
	Yield Strength (aluminum skin) ASTM E8 (Psi), **ASTM D638 (Psi)	$6.23 \times 10^3$	6.37 x 10 ³	6.34 x 10 ³	**6.57 x 10 ³	-
	Elongation ASTM E8 (%)	5	-	5	-	-
	Coefficient of Expansion ASTM D696 (in/in/°F)	1.44 x 10 ⁻⁵	1.31 x 10 ⁻⁵	1.71 × 10 ⁻⁵	1.11 x 10 ⁻⁵	-
	Deflection Temperature ASTM D648 (°F)	> 239	-	> 242	› 185	-
	Self Ignition Temperature ASTM D1929 (°F)	775	-	811	783	-



## STANDARD STOCKING FR MCM FINISHES

- » Painted coil and finished goods panel inventory
- » 2,000 sqft Production Order Minimum
- » Matching 0.040in Flat Sheet finished goods inventory



## STANDARD STOCKING FR MCM FINISHES

#### VIVID SOLIDS

20 Year Finish Warranty

Matching 0.040" Flat Sheet Available



JY-7110 SIGNAL BLUE



IAL BLUE VIBRANT RED

## 2 COAT MICA

JY-2510 ANODIC CLEAR MICA



JY-2550 CHAMPAGNE MICA



JY-2520 EXOTIC SILVER MICA



JY-2560 MEDIUM BRONZE MICA



JY-2530 GRAY SILVER MICA



JY-2570 COPPER PENNY MICA

## 30 Year Finish Warranty Matching 0.040" Flat Sheet Available



JY-2540
PEWTER MICA

## 3 COAT METALLICS

30 Year Finish Warranty
Matching 0.040" Flat Sheet Available



JY-3510 BRIGHT SILVER METALLIC



JY-3520 CHAMPAGNE METALLIC



JY-3530
GRAPHITE METALLIC

## STANDARD STOCKING FR MCM FINISHES

#### **WOOD SERIES**

20 Year Finish Warranty Matching 0.040" Flat Sheet Available



JY-W120 TEAK



JY-W140 GOLDEN OAK



JY-W150 DARK WALNUT

### **METAL SERIES**



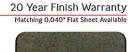
JY-M110
FAUX ZINC GRAPHITE



JY-M120 FAUX ZINC



JY-M130
FAUX ZINC LITE





JY-M140
TILE CORTEN

#### **SPECIALTY SERIES**

* Please contact us for Specialty Series warranty details. 470.589.7449



JY-H100
HAIRLINE CLEAR



JY-A160 MIRROR

SPECIFICATION: 07 42 13

COMPOSITE METAL

WALL PANELS

## SECTION 07 42 13 COMPOSITE METAL WALL PANELS

#### PART 1: GENERAL

#### 1.01 SCOPE

- A. Section Includes
  - 1. MCM Fire Resistant Composite Metal Panels
  - 2. Panel systems requirements of composite fire resistive panels including exterior and interior installation assemblies, components, and accessories.
- B. Related Sections: Section(s) related to this section include:
  - 1. Division 05 Metal Framing Sections
  - 2. Division 07 Air and Vapor Barrier
  - 3. Division 07 Flashing and Trim Sections
  - 4. Division 07 Joint Treatment Section
  - 5. Division 08 Aluminum Windows Section
  - 6. Division 08 Glass and Glazing Section
  - 7. Division 08 Curtain Wall Sections

#### 1.02 QUALITY ASSURANCE

- A. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to the extent indicated. Standards listed have either been identified by the International Building Code (IBC), local building code, or specific requirement for this building construction type.
- B. Aluminum Association (AA)
  - 1. Aluminum Design Manual
  - 2. AA-M12C22A41: Anodized Clear Coating
  - 3. AA-M12C22A44: Anodized Color Coating
- C. American Society for Testing and Materials (ASTM) International
  - 1. ASTM D1781 Standard Test Method for Climbing Drum Peel for Adhesives
  - 2. ASTM D1929 Standard Test Method for Determining Ignition Temperature of Plastics
  - 3. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials
  - ASTM D635 Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position
  - ASTM E330 Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors By Uniform Static Air Pressure Difference
  - ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Curtain Wall, and Doors By Uniform Static Air Pressure Difference
- D. American Architectural Manufacturers Associations (AAMA)
  - AAMA 2605 Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.
  - AAMA 509 Voluntary Test and Classification Method of Drained and Back Ventilated Rain Screen Wall Cladding Systems.
- E. National Fire Protection Association (NFPA)
  - NFPA 285 Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components

#### 1.03 SYSTEM DESCRIPTION

A. Performance Requirements:

- 1. Provide installed MCM system designed to withstand specified loadings while maintaining allowable deflection, thermal movement performance as defined by the Manufacturer.
- B. Deflection and Thermal Movement: Provide installed MCM systems that have been designed to resist to wind loading, acting inward and outward.
  - 1. Perimeter Framing Deflection: Deflection of panel perimeter framing member shall not exceed L/175 normal to plane of the wall where L is the unsupported span of the perimeter framing member.
  - Panel Deflection: Deflection of the panel face shall not exceed L/60 at design load where L is the unsupported span of the panel.
  - 3. Anchor Deflection: At connection points of framing members to anchors, anchor deflection in any direction shall not exceed 0.0625in (1.6mm).
  - 4. Thermal Movements: Allow for free and noiseless horizontal and vertical thermal movement due to expansion and contraction of component parts over a temperature range of -20°F (-29°C) to +180°F (82.2°C) at the material surface.
    - a. Buckling, opening of joints, undue stress on fasteners, failure of sealants, or any other detrimental effects of thermal movement will not be permitted.
    - b. Fabrication, assembly and erection procedures shall take into account the ambient temperature range at the time of the respective operation.
- C. Water and Air Leakage Provide systems that have been tested and certified to conform to the following criteria:
  - Air Leakage, ASTM E283: Not more than 0.06cfm per ft² of wall area (0.003L/s m²) when tested at 1.57psf (0.075kPa)
  - Water Penetration: No water infiltration under static pressure when tested in accordance with ASTM E331 at a differential of 10% of inward acting design load, 6.24psf (0.299kPa) minimum, after 15 minutes.
    - a. Water penetration is defined as the appearance of uncontrolled water in the wall.
    - b. Wall design shall feature provisions to drain to the exterior face of the wall any leakage of water at joints and any condensation that may occur within the construction.
- D. Structural: Provide systems that have been tested in accordance with ASTM E330 at a design pressure of [specify design pressure in psf (kPa)] and have been certified to be without permanent deformation or failures of structural members.
- E. Fire Performance: Provide composite fire rated panels that have been evaluated and are in compliance with regulatory code agency requirements specified herein.

#### 1.04 SUBMITTALS

- A. Submit in accordance with Conditions of the Contract and Division 01 Submittal Procedures SEctions.
- B. Submit product data, including manufacturer's brochures and Spec-Data Sheets.
- C. Shop Drawings: Submit shop drawings showing project layout and elevations; fastening and anchoring methods; detail and location of joints, sealants, and gaskets, including joints necessary to accommodate thermal movement; trim; flashing; and accessories.
- D. Samples: Submit selection and verification samples for finishes, colors and textures.
  - Selected Samples: Manufacturer's color charts or chips illustrating full range of colors, finishes and patterns available for composite metal panels with factory applied finishes.
  - 2. Verification Samples:
    - a. Panel System Assembly: Two samples of each assembly 12in x 12in (304mm x 304mm)
    - b. Two samples of each color in coil coated, or draw down samples on aluminum substrate, not less than 3in x 4in (76mm x 102mm)
- E. Quality Assurance Submittals Submit the following:

- Product Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties, or a third-part listing documenting compliance to a comparable code section.
- Product Certificates: Product certificates signed by manufacturer certifying materials cmoply with specified performance characteristics and physical requirements.
- 3. Manufacturer's Product Literature
- 4. Manufacturer's Field Reports: Manufacturer's field reports.
- F. Closeout Submittals Submit the following:
  - Warranty: Warranty documents specified.

#### 1.05 QUALITY ASSURANCE

#### A. MCM Manufacturer Qualifications

- 1. MCM Manufacturer Qualifications: Company with a minimum of 10 years of continuous experience manufacturing MCM of the type specified.
  - a. Able to provide specified warranty on finish.
  - b. Able to provide a list of other projects of similar size, including approximate date of installation and name of Architect for each.
  - c. Able to produce the composite material without outsourcing of the fire-resistant core manufacture and compounding, or panel bonding process.

#### B. MCM Fabricator Qualifications

- 1. MCM system fabricator will have at least (3) years of continuous documented experience fabricating the panel material type specified.
- 2. MCM system fabricator will have been in business under its present name for at least five (5) years prior to the start of this project.
- 3. MCM system fabricator will be capable of providing field service representation during construction.
- MCM system fabricator will not have filed for protection from creditors under state or federal insolvency or debtor relief statues or codes

#### C. MCM System Installer Qualification

- 1. MCM system fabricator will have been in business under its present name for at least five (5) years prior to the start of this project and have experience with similar sized MCM system projects.
- 2. MCM system fabricator will be capable of providing field service representation during construction.
- 3. The MCM System Installer must be an approved installer by the MCM Fabricator for the installation of their MCM System and have undergone proper training for the specified system thereof.

#### D. Mock-up

- 1. At location on building and to extent directed by Architect, install areas of specified wall panels, support framing, flashing, trim and accessories to show:
  - a. Substrate preparation
  - b. Support framing, furring, and flashing
  - c. Clearances and gaps between members
  - d. Fastening methods
  - e. Trim details
  - f. Joint protection
  - g. Workmanship
- 2. Prepare mock-up for Architect's approval before start of wall panel work. Prepare additional mock-ups, if required by Architect, until approved.
- 3. Maintain approved mock-up during construction to establish required standard of workmanship and basis of comparison for installation of wall panel work. Approved mock-up may remain as part of finished work.

- E. Installation Documents On-Site
  - 1. Maintain copies of installation instructions, approved subittal and other execution related documents on-site; make available as needed to confirm proper installation.
- F. [____

#### 1.06 DELIVERY, STORAGE & HANDLING

- A. Adhere to manufacturer's ordering instructions and lead time requirements to avoid delays.
- B. Deliver materials to fabricator in manufacturer's original, unopened, undamaged containers with indentification labels intact.
- C. Protect finish of panels by applying heavy-duty removable plastic film during production.
- D. After fabrication, package composite wall panels for protection against transportation damage.
- E. Store material in accordance with manufacturer's guidelines.
  - Exercise care unloading, storing and installing panels to prevent bending, warping, twisting and surface damage to the factory applied finish.
  - Store materials protected from exposure to harmful weather conditions, out of direct sunlight when unpackaged, and at temperatures not to exceed 120°F.
  - 3. Protect panels from moisture and condensation with tarpaulins or other suitable weather tight covering installed to provide ventilation.
  - 4. Slope panels to ensure positive drainage of any accumulated water.
  - 5. Avoid contact with any other materials that might cause staining, denting or other surface damage to the factory applied finish.

#### 1.07 WARRANTY

- A. Manufacturer's Warranties: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under the Contract Documents.
- B. Warranty Periods:
  - 1. Panel Integrity: 10 Years commencing on Date of Substantial Completion.
  - 2. Painted Finish: 30 Years commencing on Date of Substantial Completion.
  - 3. MCM Natural Metals: No finish warranty
  - 4. Anodized Finish: 5 Years commencing on Date of Substantial Completion

#### **PART 2: PRODUCTS**

#### 2.01 FIRE RESISTANT METAL COMPOSITE MATERIAL (MCM)

- A. Fire Resistant Metal Composite Material (MCM) Manufacturer
  - 1. Alfrex, LLC. 943 Gainesville Hwy. Bldg 100-4000, Buford, GA 30518

Phone - (470) 589-7449

Website - http://alfrexusa.com

Email - alfrex@alfrexusa.com

#### 2.02 BASIS OF DESIGN

- A. Alfrex FR Metal Composite Material
- B. Description: Two sheets of sluminum sandwiching a solid core of extruded thermoplastic fire-resistant material formed in a continuous process with no glues or liquid adhesives between dissimilar materials. The core material shall be free of voids and/or air spaces and not contain foamed insulation material. Products that are laminated sheet by sheet in a batch process using glues of adhesives between materials shall not be acceptable.

- C. MCM Thickness:
  - 1. 4mm (0.157in)
  - 2. 6mm (0.236in)
- D. MCM Face Sheets:
  - 1. Front Face: 0.5mm (0.020in) nominal
  - 2. Fire Resistant Mineral Core:
    - a. 3.0mm (0.117in) nominal 4mm FR panel
    - b. 5.0mm (0.197in) nominal 6mm FR panel
  - 3. Back Face: 0.5mm (0.020in) nominal
- E. Aluminum Alloy: 3003-H14
- F. Weight:
  - 1. 4mm: 1.51lb/ft2 (7.37kg/m2)
  - 2. 6mm: 2.13lb/ft2 (10.40kg/m2)
- G. Finishes
  - Coil coated KYNAR® 500 or HYLAR® 5000 based Polyvinylidene Fluoride (PVDF) or Fluoro Ethylene -Alkyl Vinyl Ether (FEVE) resin in conformance with the following general requirements of AAMA 2605.
    - a. Color: (Select on of the following)
      - 1) Standard color as selected by the owner / architect / engineer from manufacturer's standard, color selection.
        - a) 2 Coat Solid
        - b) 2 Coat Mica
        - c) 3 Coat Metallic
        - d) [____]
      - 2) Custom color to be matched by the panel supplier
        - a) 2 Coat Solid
        - b) 2 Coat Mica
        - c) 3 Coat Metallic
        - d) [____]
      - 3) Clear coat over hairline aluminum substrate.
    - b. Dry Film Thickness:
      - 1) 2 Coat: 1.0mil (±0.2mil)
      - 2) 3 Coat: 1.0mil (±0.2mil) + 0.50mil (±0.05mil)
    - c. Hardness: ASTM D3383; HB minimum using Eagle Turquoise Pencil
    - d. Impact Resistance
      - 1) Test method: ASTM D2794; Gardner Variable Impact Tester with 5/8" mandrel
      - 2) Coating shall withstand reverse impact of 1.5in/lbs per mil substrate thickness
      - Coating shall adhere tightly to metal when subjected to #600 Scotch Tape pick-off test. Slight minute cracking permissible. No removal of film to substrate.
    - e. Adhesion:
      - 1) Test Method: ASTM D3359: Coating shall not pick-off when subjected to an 11in x 1/16in grid and taped with #600 Scotch Tape.
    - f. Humidity Resistance:
      - 1) Test Method: ASTM D2247
      - No formation of blisters when subject to condensing water fog at 100% relative humidity and 100°F for 4000 hours.
    - g. Salt Spray Resistance:

- 1) Test Method: ASTM B117; Expose coating system to 4000 hours, using 5% NaCl solution.
- Corrosion creepage from scribe line: 1/16" max.
- 3) Minimum blister rating of 8 within the test specimen field.

#### h. Weather Exposure:

- 1) Outdoor:
  - a) 10 Year exposure at 45° angle facing south Florida exposure.
  - b) Maximum color change of 5 Delta E units as calculated in accordance with ASTM D2244
  - c) Minimum chalk rating of 8 in accordance with ASTM D4214
  - d) No checking, crazing, adhesion loss

#### Chemical Resistance:

- ASTM D1308 utilizing 10% Muriatic Acid for an exposure time of 15 minutes. No loss of film adhesion or visual change when viewed by the unaided eye.
- ASTM D1308 utilizing 20% Sulfuric Acid for an exposure time of 18 hours. No loss of film adhesion or visual change when viewed by they unaided eye.
- AAMA 2605 utilizing 70% reagent grade Nitric Acid vapor for an exposure time of 30 minutes.
   Maximum color change of 5 Delta E units as calculated in accordance with ASTM D2244.

#### 2.03 ALTERNATES

- A. Base Bid/Contract Manufacturer: [Specify base bid/contract manufacturer].
  - 1. Product: [Specify product base bid/contract brand/trade name with product attributes and characteristics].
- B. Alternate No. [Specify #]: [Specify alternate manufacturer].
  - 1. Product: [Specify product alternate brand/trade name with product attributes and characteristics].
- C. Alternate No. [Specify #]: [Specify alternate manufacturer].
  - 1. Product: [Specify product alternate brand/trade name with product attributes and characteristics].

#### 2.04 MCM PRODUCT PERFORMANCE

- A. Bond Integrity: Tested for resistance to delamination as follows:
  - 1. Peel Strength (ASTM D1781): 22.5in-lb/in (100N-m/m) minimum.
  - No degradation in bond performance after 8 hours of submersion in boiling water at 212°F (100°C).
  - 3. No degradation in bond performance after and 21 days of immersion in water at 70°F (21°C).
  - 4. Thermally bonded to the fire-resistant core material in a continuous process under tension.
- B. Fire Performance:
  - 1. Flamespread, ASTM E84: <25.
  - Smoke Developed, ASTM E84: <450.</li>
  - 3. Surface Flammability, Modified ASTM E108: Pass.
  - 4. Ignition Temperature:
    - a. Flash, ASTM D1929: 716°F (380°C)
    - b. Ignition: 752°F (400°C)
  - 5. Flammability, Exterior, Non-load-bearing wall assemblies and panels, NFPA 285: Pass.
- C. Production Tolerances:
  - 1. Width: ± 0.080in (2.0mm)
  - 2. Length: + 0.197in (5mm)
  - 3. Thickness (4mm Panel): ± 0.008in (0.2mm)
  - 4. Thickness (6mm Panel): ± 0.012in (0.3mm)
  - 5. Bow: Maximum 0.2% length or width.
  - 6. Squareness: Maximum 0.157in (4mm)

#### 2.05 FABRICATION

A. General: Shop fabricate to sizes and joint configurations indicated on drawings,

- 1. Fabricate panels too dimensions indicated on drawings based on an assumed design temperature of 70°F (21°C). Allow for ambient temperature range at time of fabrication.
- Formed MCM panel lines, breaks and angles to be sharp and true, with surfaces that are free from warp or buckle.
- 3. Fabricate panels with sharply cut edges and no displacement of face sheet or protrusion of core.
- B. Fabrication Tolerances: Shop-fabricate panels to sizes and joint configurations indicated on drawings.
  - 1. Width: ± 0.079in [± 2.0mm] @ 70°F (21°C)
  - Length: ± 0.079in [± 2.0mm] @ 70°F (21°C)
  - 3. Squareness: ± 0.079in [± 2.0mm] @ 70°F (21°C)

#### **PART 3: EXECUTION**

#### 3.01 METAL PLANT FABRICATOR AND INSTALLER INSTRUCTIONS

A. Compliance: Comply with provide product data, including product technical bulletins, product catalog installation instructions and product carton instructions.

#### 3.02 EXAMINATION AND PREPARATION

- A. Verify that conditions of substrates previously installed under other sections or divisions are acceptable for metal plate panel rainscreen system installation. Documentation should be provided indicating any conditions detrimental to the performance or installation of the metal plate wall panel rainscreen system.
  - 1. Notify [Architect] of unacceptable conditions once discovered.
  - 2. Proceed with preparation and installation only after unacceptable conditions have been corrected.

#### B. Field Measurements

- If required per project conditions, field measurements of the site condition are to be taken prior to beginning fabrication work and notification of any material modifications and resulting schedule adjustment shall be formally documented.
- Field measurements are to be made once all substrate and adjacent materials are installed, verifying the locations of wall framing members and wall opening dimensions before commencement of installation.
   Indicate measurements on the "As Build Shop Drawings".
- C. Project Schedule: Provisions in the project schedule must accommodate the time interval between field measurements and fabrication/installation.
- D. Miscellaneous Framing: Install miscellaneous MCM system support members and anchorage according to MCM System written instructions and drawings supplied by the MCM System Fabricator.

#### 3.03 INSTALLATION

#### A. General:

- 1. Install panels plumb, level and true in compliance with fabricator's recommendations.
- Anchor panels securely in place in accordance with fabricator;s approved shop drawings.
- 3. Comply with fabricator's instructions for installation of concealed fasteners and with provisions of Section 07 90 00 for installation of joint sealers.
- 4. Installation Tolerances: Maximum deviation from horizontal and vertical alignment of installed panels: 0.25in in 20ft (6.4mm in 6.1m), noncumulative.
- 5. Separate contact of dissimilar metals with bituminous paint, approved plastic shims, or other approved methods as defined within the Aluminum Design Manual (ASD). Use gasketed or approved coated fasteners where needed to eliminate the possibility of corrosive of electrolytic action between metals.

#### B. Related Products

 General: Refer to other related sections in Related Sections paragraph specified herein for related materials, including cold-form metal framing, flashing and trim, joint sealants, aluminum windows, glass and glazing and curtain walls.

#### 3.04 FIELD QUALITY REQUIREMENTS

- A. Field Quality Control: Comply with panel system fabricator's recommendations and guidelines for field forming of panels.
- B. Field Quality Control: When required by contract, mock-up shall be constructed and tested at the expense of the Architect/Owner/General Contractor.
- C. Testing Agency: If required, the Owner shall engage a qualified testing agency top perform tests and inspections.
- D. Fabricator's Field Services: Upon Owner's request, provide fabricator's field service consisting of product use recommendations and periodic site visit for inspection of product installation in accordance with fabricator's instructions.

#### 3.05 ADJUSTING AND CLEANING

#### A. Adjusting

- 1. Remove and replace panels damaged beyond repair as a direct result of the panel installation. After installation, panel repair and replacement are the responsibility of the General Contractor.
- 2. Removal of panels damaged by other trades is the responsibility of the General Contractor.
- 3. Repair components of the MCM system that present with minor damage provided said repairs are not visibly apparent at a distance of 10ft (3m) from the surface at a 90° angle per AAMA 2605.
- 4. Remove and replace components of the MCM system damage beyond repair.
- Remove protective film immediately after installation of MCM and immediately prior to completion of the MCM system work. Protective film intentionally left in plate after panel installation on any elevation at the direction of the General Contractor, is the responsibility of the General Contractor.
- 6. Any additional protection, after installation, is the responsibility of the General Contractor.
- 7. Ensure weep holes and drainage channels are unobstructed and free of dirt and sealants.
- 8. Promptly remove from the job site any damaged MCM panels, protective film, and other debris attributable to MCM system and installation, and legally dispose of said materials.

#### B. Cleaning

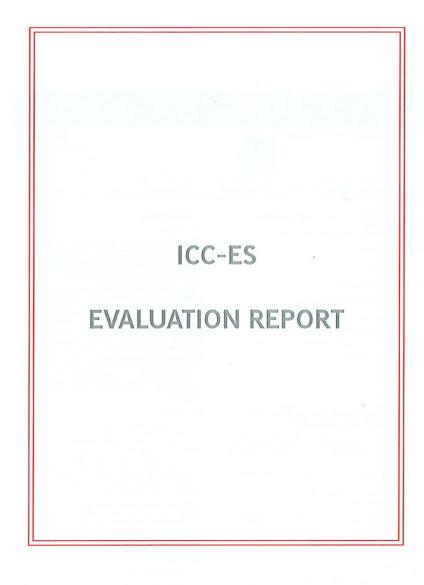
After MCM system installation remove temporary coverings and protection of adjacent work areas.
 Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance.

#### 3.06 PROTECTION

A.	Protect installed products from da	amage durir	ng subsequent	construction	work until f	inal inspe	ection and
	acceptance by Owner						

D. ]	

**END OF SECTION** 





Fire Resistant & Non-Combustible Cladding

An ICC-ES Report is one of the most powerful documents for verification of a product's compliance with code requirements and acceptance criteria. ICC-ESR 4566 for Alfrex FR MCM may be accessed via the link below for confirmation of compliance with 2018 IBC, Acceptance Criteria ICC AC25, various supplemental codes for the state of California, and exemption from the LARR city of Los Angeles Research Report.

**VIEW REPORT** 



#### **ICC-ES Evaluation Report**



#### ESR-4566

Reissued April 2021 Revised August 2021 This report is subject to renewal April 2023.

www.icc-es.org | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®

**DIVISION: 07 00 00—THERMAL AND MOISTURE** 

Section: 07 42 43—Composite Wall Panels

REPORT HOLDER:

ALFREX, LLC

**EVALUATION SUBJECT:** 

ALFREX FR COMPOSITE PANELS

#### 1.0 EVALUATION SCOPE

1.1 Compliance with the following code:

2021 and 2018 International Building Code® (IBC)

#### Properties evaluated: Interior Finish

- # Fire-Resistance
- Structura

For evaluation for compliance with codes adopted by Los Angeles Department of Building and Safety (LADBS), see ESR-4566 LABC and LARC Supplement.

For evaluation for compliance with codes adopted by California Office of Statewide Health Planning (OSHPD) and Division of State Architects (DSA), see <u>ESR-4566 CBC</u>

- 1.2 Evaluation to the following green code(s) and/or
- 2019 California Green Building Standards Code (CALGreen), Title 24, Part 11
- 2020, 2015, 2012 and 2008 ICC 700 National Green Building Standard™ (ICC 700-2020, ICC 700-2015, ICC 700-2012 and ICC 700-2008)

#### Attributes verified:

See Section 3.1

#### 2.0 USES

Alfrex FR composite panels are the cladding component of the MCM systems (fabricated panels and extrusion attachment systems), used as exterior wall panels in accordance with Chapter 14, and as interior wall finish in accordance with Chapter 8 of the IBC.

When Alfrex FR MCM panels are used on exterior walls of Types I through IV Construction, they must be installed in accordance with Section 4.5 of this report.

#### 3.0 DESCRIPTION

#### 3.1 General:

Alfrex FR panels are metal composite materials (MCM) that comply with the requirements of IBC Section 1406. The panels are fabricated to size and fitted with aluminum profiles used for stiffening the panel against deflection and for anchorage to the building substructure.

The attributes of the composite panels have been verified The attributes of the composite panels have been verified as conforming to the provisions of (i) CALGreen Sections A4 405.1.3 (prefinished materials) and A5.403.1.2 (reduced maintenance); (ii) ICC 700-2020 Sections 601.7 and 11.601.7 and ICC 700-2015 and ICC 700-2012 Sections 601.7, 11.601.7, and 12.1(A).601.7 (site-applied finishing materials); and (iii) ICC 700-2008 Section 601.7 (site-applied finishing materials). Note that decisions on compliance for those areas set with the user of this record. compliance for those areas rest with the user of this report The user is advised of the project-specific provisions that may be contingent upon meeting specific conditions, and the verification of those conditions is outside the scope of this report. The code may provide supplemental information as guidance.

#### 3.2 Material:

Alfrex FR metal composite material consists of 0.019 inch (0.5 mm) thick aluminum facers bonded to both sides of a 0.118 inch (3 mm) extruded copolymer core material containing polyethylene with inorganic and fire-retardant fillers. The core components are compounded and extruded to form the final core profile and then bonded to the facers in a continuous process involving controlled heat and pressure to make the MCM. The aluminum facers may be painted or anodized as required.

Alfrex FR material is manufactured in a nominal thickness of 0.157 inch (4 mm) and is available in widths up to 62 inches (1575 mm) and lengths up to 25 feet (7620 mm)

The Alfrex FR panels have a Class A interior finish classification with a flame spread index less than 25 and a smoke developed index less than 450 when tested in accordance with ASTM E84.

#### 3.3 Aluminum Extrusions:

The aluminum extrusions used as stiffeners and for The aluminum extrusions used as stiffeners and for perimeter anchorage are typically extruded 6063-T5 alloy aluminum complying with ASTM B317. Stiffener extrusions are adhered to the backside of the panel using a combination of tape and structural adhesive. Perimeter extrusions are mechanically fastened to the fabricated freturn leg* of the panel and fastened to the substructure to transfer panel loading.

ICC ES Declarates Reports are not to be controld as representing desiletrics or any other attributes not specifically addressed, nor are they to be construed as an endormonic of the subject of the report or a recommendation for the sec. There is no normally by ICC Exclusives Sarvee, LLC, expense implied, as to any fulfage or other million to this speech, or as in any product control by the report.



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Alfrex FR MCM is thoroughly tested by independent third party laboratories and passes all necessary requirements for use in the USA and Canada.

Please click on the links below to access.

## Warnock Hersey: Intertek Fire Performance Listing USA & Canada

**VIEW DOCUMENT** 

# NFPA 285 Fire Performance Summary Letter

**VIEW DOCUMENT** 

# **LEED Certification Summary Alfrex FR**

**VIEW DOCUMENT** 

# Material Safety Data Sheet Alfrex FR MCM

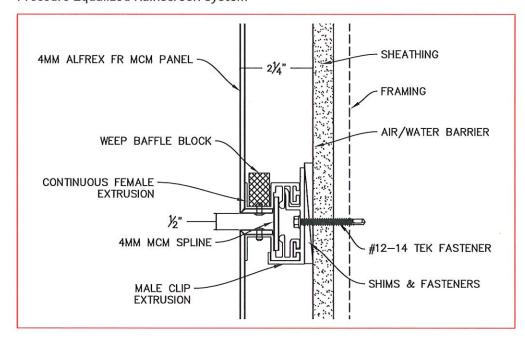
**VIEW DOCUMENT** 

# ACCU-TRAC® PANEL SYSTEM DETAILS

Accu-Trac® is shown courtesy of Altech Panel Systems
Alfrex only manufactures MCM sheets



ACCU-TRAC® DS
Pressure Equalized Rainscreen System

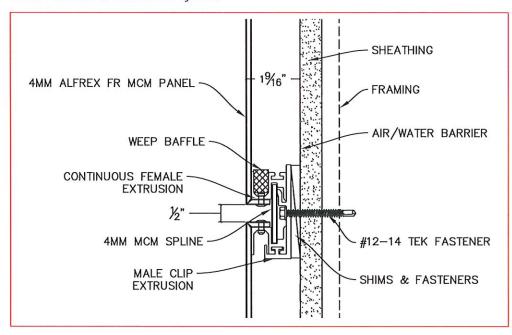


**FULL DETAILS** 

**TEST DATA** 

#### **ACCU-TRAC® LOW PROFILE DS**

Back Ventilated Rainscreen System



**FULL DETAILS** 

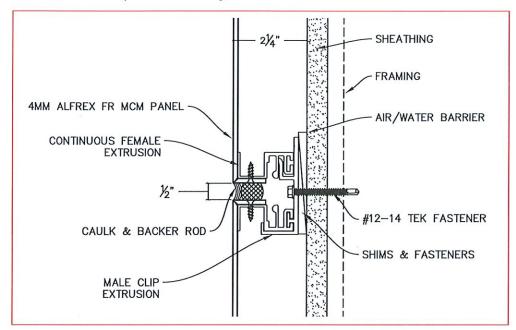
**DOCUMENTATION** 

The details below are provided for conceptual purposes only and are the property of Altech Panel Systems. Panel systems and assembly design, fabrication, and installation are provided by qualified fabricators and installers. Alfrex, LLC does not make any warranties, express or implied including merchantability and fitness for purpose.



**ACCU-TRAC® ES** 

Route & Return Exposed Sealant System

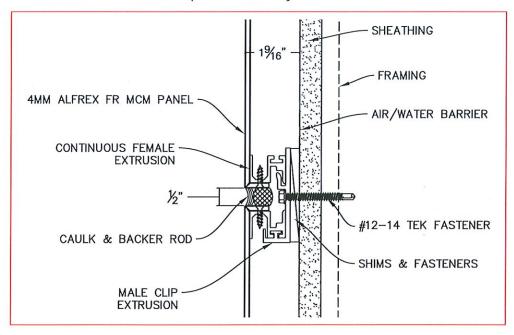


**FULL DETAILS** 

**TEST DATA** 

#### **ACCU-TRAC® LOW PROFILE ES**

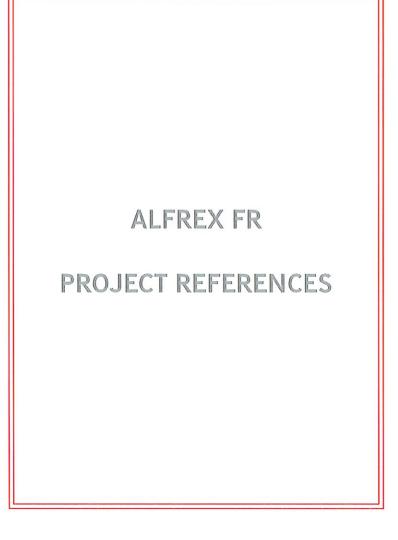
Low Profile Route & Return Exposed Sealant System



**FULL DETAILS** 

**DOCUMENTATION** 

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# **NORTH AMERICAN PROJECT REFERENCES**

Alfrex FR Metal Composite Material



Fire Resistant & Non-Combustible Cladding

LOCATION	PROJECT NAME	SIZE (SQFT)	ARCHITECTURAL FIRM	ARCHITECT CONTACT	GENERAL CONTRACTOR	GC CONTACT
Nova Scotia, Canada	Fenwick Tower / The Vuze	231,974	Stantec Architecture	866.782.6832	Templeton Construction	902.422.6901
Alberta, Canada	HAT at West Village	140,485	NORR Architect	403.264.4000	Cidex Group	403.245.6996
Ontario, Canada	Kipling Go Bus Station	87,904	Strasman Architects	416.588.1800	EllisDon Design-Build Inc.	905.896.8900
Manitoba, Canada	The Arc	62,870	Ark	647.777.3500	Concord Pacific	604.681.8882
Alberta, Canada	Casadona Place	59,077	Glbbs Gage	403.233.2000	EllisDon Design-Build Inc.	905.896.8900
Ontario, Canada	CAMH - 1st	48,731	KPMB Architects	416.977.5104	PLC Constructors Canada Inc.	905.276.7600
Ontario, Canada	SNC Lavalin Office	44,833	De Silva Architect	905.491.6823	Arguson Projects Inc.	905.848.0707
Alberta, Canada	The Windsor	37,303	NORR Architects	403.264.4000	Westpointe Building Services Inc.	587.774.9579
New York, USA	Victoria Theater	37,131	Aufgang Architects	845.368.0004	Flintlock Construction	914.630.7503
Alberta, Canada	HAT at East Village	34,395	NORR Architects	403.264.4000	Cidex Group	403.245.6996
Utah, USA	Fairbourne Station Office Tower	33,616	EDA Architects	801.531.7600	ICO Development	213.270.8000
Alberta, Canada	West Village - 1	29,536	NORR Architects	403.264.4000	Cidex Group	403.245.6996
Ontario, Canada	360 Oakville	18,116	B+H Architects	416.596.2299	Cooper Construction	905.829.0444
New Jersey, USA	Rutgers University Health Athletic Performance Center	17,018	Perkins Eastman	212.353.7200	Epic Management	732.752.6100
Ontario, Canada	Gateway Meadowvale	16,041	Quadrangle Architects	416.598.1240	Carttera Private Equities	416.593.4747
Utah, USA	Mountain Tech South	15,696	FFKR Architects	801.521.6186	R&O Construction	801.627.1403
Alberta, Canada	West Village - 2	12,658	NORR Architects	403.264.4000	Cidex Group	403.245.6996
Idaho, USA	Fruitland Subaru	10,127	BRS Architects	208.336.8370	ESI Construction	208.362.3040
New York, USA	Hutchinson Metro Center Tower II and Atrium	N/A	Newman Design	212.673.3110	McGowan	201.865.4666
Alberta, Canada	Canadian Blood Services	5,908	NORR Architects	403.264.4000	Bird Construction	403.319.0470
B. Columbia, Canada	Tempo Amenity Building	2,115	Robert Ciccozzi Architecture	604.687.4741	Cressey Development	604.683.1256



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Rutgers University Athletic Performance Center | New Jersey, USA

## **GLOBAL PROJECT REFERENCES**

Alfrex FR Metal Composite Material



COUNTRY	PROJECT NAME	ARCHITECTURAL FIRM	SIZE (SQFT)
Korea	The Hillstate	KMD Architects & Samoo Architects	753,480
Korea	Doosan We've The Zenith	De Stefano + Partners	317,538
Korea	Sangam Kaiser Palace	HAEAHN Architecture	269,100
Korea	Kolon-Parkpolis	Morphosis Architects	258,336
Korea	Seongnam City Hall	KMD Architects & Samoo Architects	129,168
Korea	OCI Central R&D center	HAEAHN Architecture + H Architecture	129,168
Korea	Dangin Power Plant of TAIHAN	Obra Architects	118,404
Korea	Lions Valley	Mass Studies	107,640
Korea	National Police Agency	H Architecture	96,876
Korea	KEPCO Research Institute	KEPCO Research Institute	75,348
Korea	Korea Land & Housing Corp	DRDS, Moo Young & Tomoon	16,146
Thailand	Honda Big Wing	VaSLab Architecture	53,820
Vietnam	Landmark 81 Tower	Atkins	484,380



# GROSSMONT UNION HIGH SCHOOL DISTRICT

# GROSSMONT HS KITCHEN AND WEIGHT ROOM MULTI-PRIME

ATTACHMENT H
BID PACKAGE

**CN-2982** 

DEMOLITION, ABATEMENT AND GRADING

# TRADE CONTRACTOR SPECIFIC PROVISIONS BID PACKAGE—CN-2982 DEMOLITION, ABATEMENT AND GRADING

**VERSION 03** 

### **DEMOLITION, ABATEMENT AND GRADING - VERSION 03**

The following clarifies certain inclusions, exclusions, and other information. This list is not inclusive of all work and is not limiting in any manner. This Exhibit shall supplement all General and Special Conditions in this Contract unless specifically noted herein to supersede them. This exhibit shall supersede all other conditions in the Contract and Contract Documents in the event of specific conflicts between the Documents.

- I. <u>GENERAL REQUIREMENTS</u>: The following general requirements apply to all work included in this contract:
  - 1. Full compliance and scope coverage with Specification Section(s):
    - DIVISION 00
    - DIVISION 01
    - 02 41 00 Demolition
    - 31 10 00 Site Clearing
    - 31 22 00 Grading
    - 31 23 16 Excavation
    - 31 23 16.13 Trenching
    - 31 23 23 Fill
    - Section 1 Asbestos: Asbestos Abatement and Disturbance and Asbestos-Related Work (Via Attachment E – Hazardous Material Report)

Full compliance and scope coverage with all other Project Scope and Specification Sections that interface with and require services related to this scope of work.

- 2. Prime Contractor and its subcontractors and/or lower tier contractors shall be a licensed contractor pursuant to the California Contractors License Law required for the performance of work in the appropriate classification(s) of contractor's license(s) for the work bid upon, and must maintain the license(s) throughout the duration of the Contract. License required for this work shall be A, or B, or C12 and C21 and C22.
- 3. Schedule of shop drawings, submittals, and dimension verifications: The following groups of shop drawings and submittals are not all-inclusive and are supplemental to requirements found elsewhere in the documents. These submittals shall be delivered to the Construction Manager not later than the below listed dates:

a. Dust / Noise Control Plan: Due: 5 Days after NTP

b. Staging Plan: Due: 5 Days after NTP

c. Haul Routes/Signage: Due: 5 Days after NTP
 d. Material Test Reports: Due: 5 Days after NTP
 e. Import Samples for Lab Analysis Due: 5 days after NTP
 f. Documentation of existing conditions Due: 5 days after NTP
 g. All Asbestos Abatement Submittals Due: 5 days after NTP

These due dates take precedence over other due dates found elsewhere in the Contract Documents. NTP = Notice to Proceed

- 4. Prime Contractor has reviewed the Project and is aware of existing conditions.
- 5. All work must be performed in strict accordance and complete compliance with all applicable Federal, State and local regulations, standards, and codes governing asbestos and hazardous materials abatement. The most recent edition of any relevant regulation, standard, document, or code shall be in effect. Where conflict among the requirements or with these regulations exists, the most stringent shall apply. Such governing agencies include but are not limited to the following:
  - U.S. Department of Labor, Occupational Safety and Health Administration (OSHA)
  - California Division of Occupational Safety and Health (DOSH)
  - U.S. Environmental Protection Agency (USEPA)
  - National Emissions Standard for Hazardous Air Pollutants (NESHAP)
  - Air Quality Management District (AQMD)
  - American National Standards Institute (ANSI)
- 6. All equipment as required to accomplish a complete scope of earthwork including hoisting, saw cutting, haul off of debris from site and dump fees.
- 7. Schedule: Prime Contractor shall issue to the Construction Manager a detailed Construction Schedule for this trade's work as it pertains to this Project. The work shall proceed in accordance with the Master Construction Schedule issued with the Construction Documents. This schedule shall be modified from time to time in order to properly coordinate and sequence the work; however, the Prime Contractor is responsible to supply sufficient manpower, equipment and material necessary to ensure the duration of time established for the Prime Contractor's work is maintained.

- 8. Prime Contractor shall coordinate all Fire Control requirements with the governing agency and include those costs in the base price of this contract. Maintain fire department access requirements, emergency access for District personnel and construction personnel.
- 9. Continuously clean all on and off-site roadways during earthwork/demolition, and ground improvement operations. Provide continuous cleanup of the streets and sidewalks during the haul off and import phases of the work. The Prime contractor shall have street cleaning equipment on site each day prior to starting the haul off and import operation. The Prime Contractor will not be permitted to start the haul off operation until the proper equipment is on site. Dispose of materials collected by the street sweeper in a proper manner off site.
- 10. Obtain and comply with all AQMD permits and CAL/OSHA safety requirements.
- 11. Provide dust and water control for demo, earthwork, and ground improvement operations. Site is to be sufficiently wetted at end of shift to prevent the need for off-hours dust control. Protect existing structures and surrounding areas from water damage due to dust control.
- 12. Include all necessary precautions (including potholing and/or exposing of each utility in the excavation zone) to prevent disturbing of known or unknown existing underground utilities and/or structures, which are not to be removed in this scope of work.
- 13. Provide protection of existing finishes to remain including installation and maintenance of dust and weather barriers for existing buildings. Special attention to protect existing hydrants, backflow preventers, meters, etc. shall be made.
- 14. Provide flagmen as required. It is understood that the work will take place within an operating campus and that the Prime contractor is solely responsible to protect the public and maintain un-interrupted access to the campus by the general public. Provide all barricades, etc. as required to achieve this.
- 15. Prime Contractor will be responsible for collateral damage to areas or finishes not scheduled for demolition as a result of his/her operations. Daily clean-up of all debris related to the Work of this Prime Contractor is required. All debris generated by this Prime Contractor shall be legally removed daily and disposed of offsite by this Prime Contractor.
- 16. It is understood that all scope inclusions contained in this bid package shall be provided by the Prime Contractor regardless of similar or identical inclusions found in other bid packages or trade contracts.

- 17. It is understood that the Trade Contractor Specific Provisions contained in the Contract Documents are a material element of this Contract and scope of work. It is specifically noted that the Prime Contractor shall be responsible for all requirements and clauses contained in these Trade Contractor Specific Provisions.
- 18. Include all necessary precautions to prevent disturbing of known or unknown existing underground utilities and/or structures which are not to be removed in this scope of work. Prior to any demo or grading, Prime Contractor shall develop a hazard plan highlighting existing utility locations including any as-built information that can be obtained. Prime Contractor shall provide their digital as-builts of located utilities. Shut-off valve and switch locations are to be identified in the plan. In addition, valve and switch locations are to be identified in the field and labeled for quick shutdowns in the event of a utility strike. The hazard plan shall be posted in the Construction Site Office for quick reference. Proper utility shut off keys are to be accessible at all times.
- 19. Provide all necessary railings, barricades and safety devices related to demolition work in compliance with all Local, State and Federal inspection agencies including temporary shoring and structural bracing. Remove all temporary items when no longer required.
- 20. Field verify existing conditions prior to start of any demolition/hazmat abatement.
- 21. Prime Contractor shall coordinate with the full set of Contract Documents and other trades to ensure that the limits of demolition are compatible with the requirements of all new installations. Prime Contractor has walked the project and has included all items for removal whether indicated on the plans or not. Coordinate opening sizes, locations, and edge conditions as required with CW Driver and other trades. Demolition of mechanical, electrical and plumbing components shown on the architectural and structural drawings will be performed by the Demolition Prime Contractor. The respective mechanical, electrical and plumbing (MEP) Prime Contractors will be responsible to cut, cap, safe-off, and disconnect the MEP components scheduled for demolition. Prime Contractor shall coordinate and mark out the MEP systems that are to be demolished with the MEP subcontractors in order to prevent removal of systems shown to remain.
- 22. Prime contractor acknowledges that there are existing mechanical, electrical and plumbing systems contained within the project boundaries that are scheduled to remain and will be in use during the course of construction. Not all electrical, plumbing and mechanical systems will be turned off and coordination and caution must be taken to ensure the safety

- of all occupants and employees. Prime contractor must also make necessary provisions to ensure the pool and associated equipment room remains functional for the school's use.
- 23. It is understood that all the Crane, Trucks, erection equipment, grading equipment and any other heavy equipment must be staged within the project site boundaries.
- 24. Provide, erect and dismantle all ladders and scaffolding required to perform work. Provide all required rigging and hoisting necessary to perform this scope of work. All lifts and material handling required to perform this scope of work shall be provided by this Contractor.
- 25. Prime Contractor shall maintain and record as-built information of his/her work in a current condition. Prime Contractor shall transfer all as-built information onto the record set of drawings located at the Construction Manager's Field Office. All transferred information shall be neat, legible and in accordance with the guidelines set forth in the contract documents. Failure to provide as-built information in a timely manner will result in progress payments being withheld.
- 26. This Prime Contractor acknowledges and includes the cost for all required off-hour, overtime and weekend work schedules as required to perform the work included in this contract and also coordinate this contract work with all other related trades. This contractor shall provide manpower and shift schedules (in advance of the actual work being performed) to the Construction Manager so that it can be analyzed against the Project's schedule requirements.
- 27. Daily clean-up of all debris related to the Work of this Bid Package Contractor is required. All debris generated by this Bid Package Contractor shall be legally removed daily and disposed of offsite by this Bid Package. All Bid Package Contractors, while on site, will provide a clean-up laborer to be included in the weekly clean-up effort for the duration of the project. For bidding purposes, Prime Contractor shall provide 2 hours per week of clean-up labor for 64 total weeks.
- 28. Prime Contractor shall coordinate with all subtrades/Primes as it relates to this scope of work. Verify dimensional requirements, locations, paths of travel, structural connections and any other scope as it relates to site conditions and other Prime Contractor's work. This coordination process shall occur prior to or concurrent with detailing to avoid conflicts and field coordination.
- 29. Prime Contractor shall supply all hoisting equipment, operators and support personnel necessary to safely erect and/or install all of the

- material or equipment included in this agreement.
- 30. Prime Contractor is required to properly staff the Project to maintain the Project's schedule and to ensure proper sequencing with other prime Contractors as required by the Construction Manager.
- 31. Prime Contractor acknowledges that space for storing materials within the worksite is limited. All delivery and storage of materials shall be scheduled and coordinated with the Construction Manager prior to shipping. Prime Contractor is responsible to assure that stocking of building materials does not overload the building structure or unreasonably impede the work of other trades. Prime Contractor shall promptly relocate stored and stockpiled materials when directed by Prime Contractor.
- 32. Prime Contractor is responsible to promptly remove from the project all surplus material and debris associated with its work.
- 33. Prime Contractor is responsible for scheduling and coordinating all deliveries required for this scope of work with the Construction Manager and other Prime Contractors. Prime Contractor to provide adequate flagmen, street closures, sidewalk closures, permits, traffic control, etc. for deliveries, transporting on site, pick-ups as required by the project schedule, specifications, job conditions and governing agencies within the jobsite limits. Prime Contractor shall adhere to OSHA safety standards while on the project site and shall engage their designated safety professional to make periodic jobsite walks for safety compliance. Any noted issues or concerns shall be reported to Construction Manager's Superintendent at the time of visit. Prime Contractor is responsible to maintain/repair/replace any temporary barricades. Prime Contractor acknowledges that parking space within the project boundaries is extremely limited. The only trucks in immediate use (Loading/Offloading, welding rigs, rigging, etc.) will be allowed to stage near work areas. Worker parking will be designated by the Construction Manager. Penalties for failure to comply with this requirement are the responsibility of the individual vehicle owner.
- 34. In the event of conflicts not clarified prior to bidding deadline, Prime Contractor shall assume the most stringent, higher quality and greater quantity of work for bidding purposes. If Prime Contractor still requires clarification after awarded the project, Prime Contractor shall generate an RFI. If appropriate, a deductive change order shall be issued if the clarification results in a reduced scope.
- 35. Prime Contractor understands that parking will not be permitted within the limits of work, staff parking, student parking or public parking spaces on campus, unless specifically allowed in the Contract Documents or agreed

- upon by the District. Prime Contractor acknowledges that food trucks are prohibited from entry to the construction limits of work and Valhalla High School campus. This General Requirement supersedes parking provisions outlined elsewhere in the Contract Documents.
- 36. Prime Contractor has reviewed all documents, including Southern Bleacher's & Orness Design Group's Drawings.
- **II. INCLUSIONS DEMOLITION**, **ABATEMENT AND GRADING**: The following items are specifically included in the scope of this contract:
  - 2. The intent of this contract is to provide all demolition, abatement, grading, trenching and fill work as required by the Contact Documents and as required to provide clear, unobstructed areas for new structures, utilities and work to be constructed. Provide miscellaneous "exploratory" demolition as required to complete coordination efforts included in this scope of work. Demolition should be performed in such a manner as to permit new work to begin without issue.
  - 3. Prime Contractor has included all excavation, trenching and back fill as per the contract documents including any removals and import – Underground MEP trenching/backfill is the exception. Any import shall be DTSC approved. Should there be any conflicts, the most stringent requirement shall apply. MEP Prime Contractors shall layout saw-cut and demo limits for concrete, asphalt or any other hardscape in the areas of new underground points of connection or underground MEP work. This Prime Contractor shall coordinate with appropriate MEP Prime Contractors, provide saw-cutting, per MEP Prime Contractor layout and demo/remove (including hauling debris) the associated hardscape that was saw-cut. MEP Prime Contractors shall provide trenching, shoring, underground utility installation, backfill material (per plans/specs)/import (per plans/specs) and compaction necessary to meet grade requirements for Concrete Prime Contractor. Concrete Prime Contractor shall cover necessary fine grading for new hardscape.
  - 4. Continuously clean all on and off-site roadways during demolition hauling operations. Dirt, debris or any other material cannot be left in a roadway over-night.
  - 5. Prime Contractor shall provide power for its own equipment. Temporary power may not be available when Prime Contractor's work starts.
  - 6. Provide protection of existing finishes to remain including installation and maintenance of dust and weather barriers. Prime Contractor shall protect existing finishes to remain and includes necessary means of protecting

- said finishes. Special attention to protect existing hydrants, backflow preventers, meters, etc. shall be made.
- 7. Prime Contractor acknowledges that space for storing materials within the job site is extremely limited and that the security of all Prime Contractor's equipment is the responsibility of the Prime Contractor.
- 8. Prime Contractor shall provide all overtime/shift work as required to achieve the durations in the construction schedule.
- 9. Prime Contractor shall saw-cut and remove concrete decks, floors and walls as needed for installation of ductwork, conduit and piping as shown in the DSA approved drawings. Layout will be by others.
- 10. Remove and dispose of all electrical fixtures, devices equipment, etc. not scheduled to remain. Specific areas of each building will be isolated to temporary power shutdowns in order for this Prime Contractor to complete demolition scope. Power will be de-energized by the Electrical Prime Contractor. Prime Contractor to coordinate said power shut downs with Electrical Prime Contractor in order to make areas safe to work.
- 11. Remove drywall ceilings, walls and misc. items required to install new work. Coordinate exact limits of removal with other subtrades as required. This specifically includes, but is not limited to, framing and drywall at the center elevator bank which is not explicitly shown on the drawings but required for new work.
- 12. Remove all site items as indicated and required to construct the new work. This includes but is not limited to: asphalt/AC paving, concrete paving, shrubs, trees, fencing, light poles, parking signs, bollards, CMU, fencing, outdoor showers, drinking fountains and similar.
- 13. Remove all flooring and setting materials. Remove all existing carpet, tack strips, nails, etc.
- 14. Remove all abandoned piping and conduits if within the depth of the new sub grade design for new foundations and/or paving.
- 15. Remove all building items as indicated and required to construct the new work. This includes but is not limited to: interior/exterior walls, ceiling, flooring, soffits, doors/frames, windows, sheet metal, millwork/finish carpentry, lockers, fixtures, roofing, skylights, and/or plaster on walls.
- 16. Sawcut exterior walls/openings as noted in structural. Do not notch, cut, or remove any posts. Consult with architect/engineer if field conditions differ from those shown as noted in plans.

- 17. Sawcut and removal of existing structural slab as pertaining to new foundations, new and/or existing plumbing, depressed slabs and other similar work.
- 18. Remove/haul off existing MEP. MEP Contractors to mark-out and safe-off all items including but not limited to: equipment, exhaust fans, ductwork, piping, supports, conduit, devices, and/or other miscellaneous accessories.
- 19. Provide all required setup, equipment, PPE for all asbestos abatement and lead removal.
- 20. Remove all asbestos and lead in all areas of demolition as noted in Hazardous Materials Survey Reports by Titan Environmental Solutions. Prime Contractor includes all Titan Environmental Solutions' Conclusions and Recommendations, including but not limited to the notes, "Any materials that have not been identified in this report should be considered suspect ACM/ACCM and handled as ACM unless sampled and proven to be non-ACM by a DOSH Certified Asbestos Consultant" and "Any paints/coatings that have not been identified in this report should be considered presumed LBP and handled as LBP unless sampled and proven to be non-LBP by a CDPH Certified Lead Inspector/Assessor."
- 21. Provide APCD notification as required and coordinate with Construction Manager.
- 22. Perform all necessary grading work per Soils Report by Leighton Consulting, Inc., i.e. site clearing rough grade, excavation, cut, fill, remove and recompact, export, import, and finish grade. Prime Contractor includes industry standard equipment or equipment recommended to perform the work described in the Geotechnical Report. Prime Contractor acknowledges the presence of cobble, gravel, and Stadium Conglomerate and includes provisions for removal, as necessary to complete this Prime Contractor's scope. Provisions for removal include, but are not limited to screening, breaking, utilizing appropriate heavy equipment, etc. Prime Contractor has reviewed the boring logs and acknowledges the presence of concrete sections beneath asphalt paving. Prime Contractor shall assume concrete identified in boring data to be present in a minimum of two hundred (200) square feet surrounding the associated boring location.
- 23. Include haul-off and disposal of all debris, existing fill materials, spoils and surplus soil/cobbles/boulders.
- 24. The building pads subgrade shall be prepared per the recommendations of the Geotechnical Report.

- 25. Hardscape and AC pavement areas subgrade shall be prepared per the recommendations of the Geotechnical Report.
- 26. Prime Contractor shall include all required import/export and laydown per contract documents and Geotechnical Report. If import is required, DTSC testing of import material to be included.
- 27. A mockup will be constructed by others that includes all building finishes and flatwork samples. Include minor grading (if needed) the demo and haul away of this mockup. Include 20 yards of material to be hauled off. This will require a separate mobilization for the demo and removal.
- 28. Grade all areas to plus +/- .1' (+/- 1/10').
- 29. Regrade all work areas after other Prime Contractors have completed utility installation.
- 30. Prime Contractor shall include eighty (80) additional demolition journeyman labor hours. The Construction Manager/District may authorize the use of these hours only.
- 31. Prime Contractor shall include thirty (30) additional abatement journeyman labor hours. The Construction Manager/District may authorize the use of these hours only.
- 32. Prime Contractor shall include fifty (50) additional grading journeyman labor hours. The Construction Manager/District may authorize the use of these hours only. This signifies labor hours only
- 33. Prime Contractor includes any temporary trash chute required for demolition/abatement activities.
- 34. Utility Shut-down requests must be submitted to the Construction Manager 72-hours in advance.
- 35. Jack hammering, cranes, excavators, saw-cutting and any other heavy equipment use shall be coordinated with the Construction Manager.
- 36. Prime Contractor shall include provisions for staffing the project with an ON-SITE Project Manager or Superintendent capable of making financial decisions & manpower decisions while contract scope or added scope is being performed. Prime Contractor shall account for this scope by explicitly including this item on the Prime Contractor's Schedule of values (SOV). This individual is prohibited from performing any work. The intent is for this individual to manage and supervise this Prime Contractor's scope while the Prime Contractor is performing scope on the project.

- 37. Prime Contractor shall coordinate with GUHSD for salvaging of existing equipment/site components prior to demo/abatement Prime Contractor includes salvaging all other equipment/material explicitly called out to be salvaged/saved in the Contract Documents, unless specifically noted otherwise.
- 38. Prime Contractor shall completely remove all hazardous material identified in the Hazmat Report (Attachment E), regardless of quantities provided within the report.
- 39. MEP, Fire Alarm & Utility Primes will mark-out demolition of existing equipment/systems. Prime Contractor shall coordinate via site demo mark-out meetings/job-walks with MEP, Fire Alarm & utility primes before and after abatement. Prime Contractor has reviewed all Contract Documents and has included demolition on sheets other than those explicitly named "Demolition" sheets.
- 40. Prime Contractor includes one hundred (100) additional labor hours. This item is intended to be inclusive of journeyman labor hours without equipment. The Construction Manager/District may authorize the use of these hours only.
- 41. Include additional concrete slab cutting and removal. For bidding purposes, assume one thousand (1,000) square feet and 8-inch-thick concrete slab. For bidding purposes, assume a section of 2 feet wide by 500 feet long. The Construction Manager/District may authorize the use of these hours only.
- 42. Prime Contractor has included multiple mobilizations to achieve the requirements of the contract. For bidding purposes, include six (6) mobilizations. A mobilization is defined as removal and return of equipment and materials. A crew leaving the site is not a demobilization.
- 43. Prime Contractor includes testing existing irrigation system with GUHSD and Landscape Prime Contractor prior to start of demolition activities, and at the end of the project.
- 44. In the event that the Prime Contractor is scheduled to perform work by the Construction Manager and the Prime Contractor does not arrive on-site or mutually agree upon a date of scope completion within 48-hours of a notice, the Construction Manager shall select an alternative Contractor to perform the work and shall back-charge the responsible Prime Contractor for the scope they did not perform.

- 45. Include temporarily capping any plumbing pipe where demolition of water fountains, showers, or any other plumbing-related equipment is scheduled to be removed.
- 46. Include resources to achieve the requirements of ALL "Demolition General Notes" shown on the Contract Drawings.
- 47. Include X-ray investigation of any existing concrete wall or structural wall that requires saw-cutting and removal of a portion of the wall. Contractor to submit X-ray results to Construction Manager & Structural Engineer prior to saw-cutting and removal portions of concrete walls or structural walls.
- 48. Prime Contractor includes all dumpsters, trash bins, hauling trucks, hazardous waste disposal, etc. to complete Prime Contractor's scope. Dumpsters, trash bins, haul trucks, hazard waste bins/trucks, etc. will not be provided for this Prime Contractor.
- 49. Prime Contractor shall participate in an abatement kick-off meeting with the hazardous abatement consultant within seven (7) of NTP.
- 50. Prime Contractor includes an additional two hundred (200) cubic yards of DTSC certified import soil, suitable for back-fill
- 51. Prime Contractor includes scope addressed in General Demolition Note #1 on E1.0.
- 52. Prime Contractor includes provisions to demo hardscape, and haul-off debris, trench and backfill-for underground electrical conduit shown on E1.1.
- 53. Prime Contractor includes demolition and removal of asphalt five (5) feet wide around the base of the existing Eucalyptus tree in the quad by hand. No heavy equipment can be used for this removal/demolition. Prime Contractor includes coordination with the project Arborist in order to carefully remove the asphalt without damaging the root structure of the tree.
- 54. Prime Contractor has reviewed Attachment J Logistics Plan and understands that a portion of the demolition work is in close proximity to the existing pool and pool deck. Prime Contractor shall include additional poly-sheeting and fabric mesh at the adjacent fence in order to prevent any collateral damage and/or debris falling on the pool deck. Prime Contractor shall include walking the pool deck at the conclusion of each day while performing demolition tasks adjacent to the pool deck fence in order to ensure foreign debris does not fall in the pool or on the pool deck.

- 55. Prime Contractor understands that the intent of the project is to abate both buildings at the same time. Prime Contractor shall sufficiently staff the project in order to facilitate abatement on both buildings at the same time as well as meeting the contractual durations provided in the Master Construction Schedule.
- 56. Prime Contractor includes demolition of all existing hardscape and existing concrete footings at existing bleachers. Prime Contractor shall assume existing concrete footings/caissons are the same size as the newly designed footings/caisson in Southern Bleacher's drawings. In addition to demolition and removal, Prime Contractor shall rough grade the bleacher site accordingly for the new hardscape underneath the new bleachers.
- 57. Prime Contractor includes all excavation, backfill and ¾" 1 ½" clean gravel at bleacher retaining wall, per 10/S0-1.2 (SSK-1.2) & RCA addendum 01. Prime shall provide shoring, per the Contract Documents and OSHA requirements, as applicable.
- 58. Prime Contractor includes provisions to remove & haul-off concrete slab and retaining wall, per KN #2.401 on ASK-2.2 and 1/ASK-2.6 in RCA addendum 02.
- 59. Prime Contractor shall demolish, remove and haul-off existing stage & steps shown on the plan south west corner of the project limits.

  Reference AS-1.0 and new concrete work shown on AS-1.1.
- IV. ALLOWANCES: The following allowances are included in this scope of work. The Construction Manager must agree to the price, type and extent of additional scope before work is started. Field Time and Material tickets must be signed by Construction Manager's superintendent on a daily basis to account for the time, material, and equipment used from these allowances. All time, material, and equipment used from these allowances will be billed against these allowances and any portion of the original allowance amount not used will be credited back to the Owner at the end of this Contract's scope of work as a deductive change order. This Article is separate and exclusive from all other Work required by the Contract.

CN-2982 Allowance #1: Unforeseen Demolition/Abatement = \$50,000.00

## V. **ALTERNATES:** N/A

### VI. <u>EXCLUSIONS:</u>

1. Electrical safe off (by Electrical Contractor)

- 2. Cutting and capping of gas and wet utilities (by Site Utility Contractor)
- 3. Survey (Provided by GUHSD)
- 4. Demolition and removal of existing below grade wet utilities (by Site Utility/Electrical Prime Contractor)
- 5. Trenching and backfill for site electrical utilities (by Electrical Prime Contractor)



# GROSSMONT UNION HIGH SCHOOL DISTRICT

# GROSSMONT HS KITCHEN AND WEIGHT ROOM MULTI-PRIME

ATTACHMENT H
BID PACKAGE

**CN-2983** 

STRUCTURAL/SITE CONCRETE

## TRADE CONTRACTOR SPECIFIC PROVISIONS BID PACKAGE—CN-2983 STRUCTURAL/SITE CONCRETE

**VERSION 04** 

#### STRUCTURAL/SITE CONCRETE - VERSION 04

The following clarifies certain inclusions, exclusions, and other information. This list is not inclusive of all work and is not limiting in any manner. This Exhibit shall supplement all General and Special Conditions in this Contract unless specifically noted herein to supersede them. This exhibit shall supersede all other conditions in the Contract and Contract Documents in the event of specific conflicts between the Documents.

- I. <u>GENERAL REQUIREMENTS:</u> The following General Requirements apply to all work included in this Contract:
  - 1. Full compliance and scope coverage with Specification Section(s):
    - DIVISION 00
    - DIVISION 01
    - 03 10 00 Concrete Forming and Accessories
    - 03 20 00 Concrete Reinforcing
    - 03 30 00 Cast-In-Place Concrete
    - 03 35 11 Concrete Floor Finishes
    - 03 35 33 Stamped Concrete Finishing
    - 05 11 Masonry Mortaring and Grouting
    - 04 20 00 Unit Masonry
    - 07 92 00 Joint Sealants
    - 09 05 61 Common Works Results for Flooring Preparation (For this Prime)
    - 09 67 00 Fluid-Applied Flooring
    - 32 11 23 Aggregate Base Courses
    - 32 12 16 Asphalt Paving
    - 32 13 13 Site Concrete
    - 32 17 13 Concrete Wheel Stops
    - 32 17 23 Pavement Markings
    - 32 17 26 Tactile Warning Surfacing
    - 32 31 13 Chain Link Fences and Gates
    - 32 84 00 Irrigation
    - 32 93 00 Planting

Full compliance and scope coverage with all other Project Scope and Specification Sections that interface with and require services related to this scope of work.

2. Prime Contractor and its subcontractors and/or lower tier contractors shall be a licensed contractor pursuant to the California Contractors License Law required for the performance of work in the appropriate classification(s) of contractor's license(s) for the work bid upon, and must maintain the license(s) throughout the duration of the Contract. License required for this work shall be B, or (C8 and C13 and C29 and C50)

- 3. Schedule of shop drawings, submittals, and dimension verifications: The following groups of shop drawings and submittals are not all-inclusive and are supplemental to requirements found elsewhere in the Contract Documents. These submittals shall be delivered to the Construction Manager not later than the below listed dates:
  - a. Concrete and Formwork Product Data. Including but not limited to: all Forming Systems; Concrete Product Data including Mix Designs for all mixes, Base and Sand Gradations and Data, Vapor Barriers, Curing Blankets, Curing Compounds, Sealers, Formwork Shop Drawings, Joint Layout Drawings, Material Certificates, Inserts, and Embeds, etc.
    - i. Due: 14 Calendar Days after Notice to Proceed
  - b. Rebar Shop Drawings for all Foundations and Slab on Grade
    - ii. Due: 14 Calendar Days after Notice to Proceed
  - c. #040511 Masonry Mortaring & Grout and #042000 Unit Masonry
  - iii. Due: 10 Calendar Days from Notice to Proceed
  - d. #033511 Concrete Floor Finishes & #096700 Fluid-Applied Flooring
  - iv. Due: 14 Calendar Days after Notice to Proceed
  - e. Meeting Minutes from Pre-Installation Meeting
    - v. Due: 1 week after meeting is held
  - f. ALL other contractual submittals
  - vi. Due: 28 Calendar Days from Notice to Proceed
  - vii. These due dates take precedence over other dates found elsewhere in the Contract Documents.
- 4. Prepare any coordination drawings required to show the interface between work provided by this Contract and others.
- 5. Procurement of Critical Long Lead Items: Prime Contractor shall be responsible to ensure that the following critical long lead items are delivered to the project site by the noted delivery date regardless of approval status.
- 6. Prime Contractor has included provisions to store fabricated material off-site until required installation date.
- 7. Schedule: Prime Contractor shall issue to the Construction Manager a detailed Construction Schedule for this trade's work as it pertains to this Project. The work shall proceed in accordance with the Master Construction Schedule issued with the Construction Documents. This schedule shall be modified from time to time in order to properly coordinate and sequence the work; however, the Prime Contractor is responsible to supply sufficient manpower, equipment

- and material necessary to ensure the duration of time established for the Prime Contractor's work is maintained as per the Construction.
- 8. Prime Contractor has reviewed the Project and is aware of existing conditions.
- 9. Provide flagmen as required. It is understood that the work will take place within an operating Campus and that the Prime Contractor is solely responsible to protect the public and maintain uninterrupted access to the campus by the general public. Provide all barricades, etc to achieve this. Perform during off-hours as required to avoid disruption of campus operations.
- 10. Comply with all City, County and State requirements, prepare haul route and obtain permits as required.
- 11. Prime Contractor will be responsible for collateral damage to areas or finishes not scheduled for demolition as a result of his operations.
- 12. CalOSHA compliant safety eye protection is required at all times for all personnel, workers, and visitors on the construction site in accordance with District Standards.
- 13. Include all work as referenced by notations: "by Concrete Contractor", "by General Contractor" (as it applies to the scope contained herein), or similar that may be noted throughout the entire set.
- 14. Prime Contractor shall provide protection of existing finishes to remain including installation and maintenance of dust and weather barrier.
- 15. It is understood that all scope inclusions contained in this bid package shall be provided by the Prime Contractor regardless of similar or identical inclusions found in other bid packages or trade contracts.
- 16. It is understood that the Trade Contractor Specific Provisions contained in the Contract Documents are a material element of this Contract and scope of work. It is specifically noted that the Prime Contractor shall be responsible for all requirements and clauses contained in these Trade Contractor Specific Provisions.
- 17. It is understood that all crane, trucks, concrete pumping equipment, wash outs, etc. must be staged within the project site boundaries. Prime Contractor must visit the site and prepare a pump plan prior to scheduling concrete pumping equipment
- 18. Provide, erect and dismantle all ladders and scaffolding required to perform work. Provide all required rigging and hoisting necessary to perform this scope of work. All lifts and material handling required to perform this scope of work shall be provided by the Concrete Contractor.
- 19. Prime Contractor shall maintain and record as-built information of his work in a current condition. The Prime Contractor shall transfer all as-built information onto the record set of drawings located at the Construction Manager's Field Office. All transferred information shall be neat, legible and in accordance with

- the guidelines set forth in the contract documents. Failure to provide as-built information in a timely manner will result in progress payments being withheld.
- 20. Daily clean-up of all debris related to the work of this Bid Package Contractor is required. All debris generated by this Bid Package Contractor shall be legally removed daily and disposed of off-site by this Bid Package Contractor. All Bid Package Contractors, while on site, will provide a clean-up laborer to be included in a weekly clean-up effort for the duration of the project. For bidding purposes, Prime Contractor shall provide 2 hours of clean-up labor for 65 total weeks.
- 21. Directly coordinate with all subtrades/Primes as it relates to this scope of work. Verify dimensional requirements, locations, paths of travel, structural connections and required sleeving and/or penetrations. Coordinate, framing, MEP trades, special equipment, interior finishes, etc. This coordination process shall occur prior to or concurrent with detailing to avoid conflicts and field coordination problems.
- 22. Prime Contractor shall supply all hoisting equipment, operators and support personnel necessary to safely erect and/or install all of the material or equipment included in this agreement.
- 23. Give 48-hour written notice to both Construction Manager and Inspector of Record <u>prior</u> to the initial start and all subsequent phases of shop fabrication.
- 24. Prime Contractor will have all required local and state licenses and certifications as to allow shop fabrication without deputy inspection. Prime Contractor's field welders will have all required licenses /certifications as required by the Contract Documents and Local Authorities. Where local/state welding requirements are more stringent than the specified welding requirements; the most stringent shall govern.
- 25. Prime Contractor is required to properly staff the Project to maintain the Project's schedule and to ensure proper sequencing with other prime Contractors as required by the Construction Manager.
- 26. This Prime Contractor acknowledges and includes the cost for all required off-hour, overtime and weekend work schedules as required to perform the work included in this contract and coordinate this contract work with all other related trades. This Prime contractor shall provide manpower and shift schedules (in advance of the actual work being performed) to the Construction Manager so that it can be analyzed against the Project's schedule requirements.
- 27. Prime Contractor is responsible to provide all layout for its work from survey control points and lines, including all building corners, grid lines, offsets, elevations, etc.
- 28. Provide all necessary protection for new work and adjacent finishes from Prime Contract work operations. Include steel plates, plywood, plastic and masking

- protection as required. Prime Contractor is responsible to maintain/repair/replace any temporary barricades that are moved or damaged by its work. Prime Contractor is responsible to protect all existing structures/MEPs/benchmarks/miscellaneous items as required by the Contract Documents during this Prime Contractor's work.
- 29. Prime Contractor acknowledges that space for storing materials within the worksite is limited. All delivery and storage of materials shall be scheduled and coordinated with the Construction Manager prior to shipping. Prime Contractor is responsible to assure that stocking of building materials does not overload the building structure or unreasonably impede the work of other trades. Prime Contractor shall promptly relocate stored and stockpiled materials when directed by Prime Contractor.
- 30. Prime Contractor is responsible to promptly remove from the project all surplus material and debris associated with its work.
- 31. Prime Contractor is responsible for scheduling and coordinating all deliveries required for this scope of work with the Construction Manager and other Prime Contractors. Prime Contractor to provide adequate flagmen, street closures, sidewalk closures, permits, traffic control, etc. for deliveries, transporting on site, pick-ups as required by the project schedule, specifications, job conditions and governing agencies within the jobsite limits.
- 32. Prime Contractor shall adhere to OSHA safety standards while on the project site and shall engage their designated safety professional to make periodic jobsite walks for safety compliance. Any noted issues or concerns shall be reported to Construction Manager's Superintendent at the time of visit. Prime Contractor is responsible to maintain/repair/replace any temporary barricades.
- 33. Prime Contractor acknowledges that parking space within the project boundaries is extremely limited. The only trucks in immediate use (Loading/Offloading, welding rigs, rigging, etc.) will be allowed to stage near work areas. Worker parking will be designated by the Construction Manager. Penalties for failure to comply with this requirement are the responsibility of the individual vehicle owner.
- 34. In the event of conflicts not clarified prior to bidding deadline, Prime Contractor shall assume the most stringent, higher quality and greater quantity of work for bidding purposes. If Prime Contractor still requires clarification after awarded the project, Prime Contractor shall generate an RFI. If appropriate, a deductive change order shall be issued if the clarification results in a reduced scope.
- 35. Prime Contractor shall furnish and install all mock-ups required by specifications found within this Prime Contractor's scope.
- 36. Prime Contractor shall include provisions to comply with all delegated-design submittal requirements found within their respective specification sections.

- 37. Prime Contractor shall comply with and include all General Notes shown on S0-0.1 S0-0.2 & S0-0.3
- 38. Prime Contractor understands that parking will not be permitted within the limits of work, staff parking, student parking or public parking spaces on campus, unless specifically allowed in the Contract Documents or agreed upon by the District. Prime Contractor acknowledges that food trucks are prohibited from entry to the construction limits of work and Grossmont High School campus. This General Requirement supersedes parking provisions outlined elsewhere in the Contract Documents. The general site wide storm water pollution prevention plan (SWPPP) or water Pollution Control Program (WPCP) will be prepared and implemented by this Prime Contractor. Prime Contractor shall assume full responsibility to maintain, monitor and modify the SWPPP/WPCP as required by state law and through the entire construction duration. Furnish, install, modify & maintain all SWPPP/WPCP improvements for the project duration, and remove when directed by the Construction Manager. This includes but is not limited to:
  - a. 4 ea. Rumble plates/shaker plates the full width of the construction entries
  - b. Fiber rolls around entire site.
  - c. All other SWPPP/WPCP improvements noted in the Contract Documents and required by law.
  - d. Keep SWPPP/WPCP plan located in Construction Managers Field Office current.
  - e. Include forty (40) man hours of labor to augment SWPPP/WPCP as directed by Construction Manager.
  - f. Include an additional twenty (20) hours of street sweeping. Hours to be used in four-hour blocks. This is in addition to the Prime Contractor's requirements and may only be used as directed by the Construction Manager. This may include street sweeping after Contractor has demobilized from the site.
- II. REINFORCING STEEL INCLUSIONS: The following items are specifically included in the Reinforcing Steel scope of this Contract:
  - Prime Contractor to furnish and install all reinforcing steel and related accessories for concrete work including but not limited to: footings, grade beams, stem walls, slab on grade, thickened slab edges, walls, curbs, equipment pads, housekeeping

- pads, masonry walls, patch-back, slab infills, etc. Include chairing/spacers of mesh if required by the Contract Documents.
- 2. All handling and off-loading of materials.
- 3. All hoisting for Contract work and material placement as required by schedule and access considerations.
- 4. Coordinate all shop fabrication / field inspection. (Costs of inspection by others.) Become completely familiar with testing requirements and coordination of mill certificates, labeling, tagging, and stamping of steel during the fabrication process, shipment to jobsite and erection. No unidentified steel shall be used. All steel will have mill certifications and be properly identified (source, heat or melt number, etc.). If required, the Inspection Firm will take steel samples and will perform destructive tests. Accordingly, purchase steel in such quantity, length, size, etc. to allow steel samples to be taken from the actual elements to be used in construction. Coordinate this "couponing" of the steel and provide the samples required by the Testing Laboratory. Provide adequate access for Inspectors to all elements of work. Means of access include ladders, lifts, scaffolds, etc. Costs for re-inspection of any work as a result of previous failed inspection will be the responsibility of this Prime Contractor.
- 5. Coordinate locations/placement of all reinforcing with all other building elements i.e., structural steel, embeds for other trades, electrical work, blockouts, sleeves, forming systems, etc. reposition reinforcing as required to provide proper clearances.
- 6. All material shall be clean of all scale, rust, oils, dirt, foreign matter etc., immediately prior to concrete placement.
- 7. Bracing/guying of all reinforcing work as required including columns, pilaster, walls, etc.
- 8. Directly coordinate with the Construction Manager and for all schedule and specific job requirements, as follows:
  - i. Delivery, stockpiling, staging and distribution of materials.
  - ii. Minor revisions in fabrication and dimensions to reinforcing steel/mesh due to actual field conditions, stepped footings, elevation changes, etc.
- 9. Remove all surplus reinforcing materials and debris from Project as directed by the Construction Manager.
- 10. Furnish and install all chairing and spacers for work as required. All rebar mats for SOG will be dobied (<u>pulling</u> is not acceptable).
- 11. Supply sufficient personnel during concrete placement (Pour Watch) to ensure reinforcement is maintained within the required tolerances.

- 12. Furnish, install, and maintain rebar dowel protectors in accordance with OSHA requirements.
- 13. Straighten/replace rebar/mesh that is temporarily removed, bent, and/or adjusted by other trades.
- 14. Welding of reinforcing steel as required per the Contract Documents. Welders must be certified by applicable organizations. Welding Certificates shall be furnished to Construction Manager as required per Specifications.
- III. <u>CONCRETE FLOOR FINISHES & FLUID-APPLIED FLOORING INCLUSIONS</u>: The following items are specifically included in the Structural & Site Concrete scope of this Contract:
  - 1. Include Concrete Floor Finishing noted as CONC-1 on the Color, Materials & Finishes Legend shown on ID-1.0 and all building Finish Plans and other such locations. Prime Contractor includes all concrete floor finishes applications noted in specification #033511 Concrete Floor Finishes. In addition to the requirements outlined in the specifications, Prime Contractor shall provide a record of material (gallons) used on the project via daily reports and invoices, as well as a record of cure time between coats. If the Prime Contractor proposes to use multiple manufacturers for concrete sealing and/or epoxy products, Prime Contractor must provide a letter from the manufacturers that states their products are compatible with one another and that the manufacturers will maintain their respective warranties.
  - 2. Prime Contractor shall furnish and install liquid densifier/hardener at all concrete floors/surfaces, per the Contract Documents (#033511-2.04A1,A2 & A3). Prime Contractor shall install products per the manufacturer's instructions and in coordination with the full extents of the plans and specifications.
  - 3. Prime Contractor shall furnish and install clear concrete sealer with a slip-resistant coating applicable to the clear sealer product at all CONC-1 areas. Prime Contractor shall install products per the manufacturer's instructions and in coordination with the full extents of the plans and specifications.
  - 4. Prime Contractor shall furnish and install all Fluid-Applied Flooring per #096700 and per plans. Prime Contractor shall prepare substrates per the manufacturer's instructions, per #096700 and per #090561-Common Work Results for Flooring Preparation.
  - 5. Prime Contractor includes moisture vapor emission testing, internal relative humidity testing and alkalinity (pH) tests at all areas where concrete sealer or fluid-applied flooring is schedule to be installed if the concrete sealer and/or the fluid-applied flooring manufacturer requires certain moisture content, relative humidity or pH levels prior to applying their product. Prime Contractor shall follow specific remediations per #090561-3.01C, as applicable.
  - 6. This Prime Contractor provides both the new concrete and the concrete sealer and fluid-applied flooring; therefore Prime Contractor is responsible for coordinating it's

- own work and ensuring that the concrete substrate meets the requirements of the concrete floor sealing and fluid-applied flooring manufacturer's substrate and preparation requirements.
- 7. Prime Contractor shall furnish and install floor protection at all concrete sealer & fluid-applied flooring areas. Floor protection shall be 'Skudo' type or better. Prime Contractor shall include removal of said floor protection.
- IV. <u>STRUCTURAL & SITE CONCRETE INCLUSIONS</u>: The following items are specifically included in the Structural & Site Concrete scope of this Contract:
- Furnish and install all Structural/CIP Concrete and Site Concrete including, but not limited
  to foundations, slabs on grade, thickened slab edges, curbs, footings for CMU/masonry,
  equipment pads, elevator pits, patch-back, slab infills, curbs at building walls where indicated,
  driveways, sidewalks, curb and gutter, flatwork, caulking or joint filling at exterior concrete,
  etc.
- 2. Include depressed slabs as indicated on Foundation Plans, architectural plans, plumbing plans and other such locations.
- 3. Furnish and install all Site Concrete including, but not limited to concrete paving, concrete steps/ stairs, curbs, sawcut and isolation joints, dowels, and all exterior joint sealants.
- 4. Include truncated domes where indicated in plans (if applicable).
- 5. Include interior and exterior housekeeping pads for all equipment and enclosures as required.
- 6. Prior to starting any work, check for ADA compliance as required to match and join adjacent surfaces.
- 7. Include patch-back of removed structural slab required for new foundations, plumbing, depressed slabs and other similar work. Include all work pertaining to patch-back including but not limited to doweling, drilling, epoxy, reinforcing.
- 8. Include aggregate base as required by Contract Document requirements. This includes but is not limited to the recommendations of the Geotechnical Report.
- 9. Obtain and pay for all concrete mix designs required for project. Mix designs shall comply with all Contract Document requirements.
- 10. Directly coordinate with all trades that require sleeves in concrete work. Verify dimensions, locations and special requirements of openings, penetrations, sleeves, and blockouts in concrete work with other trades prior to pours. Install sleeves and block-outs and infill later.
- 11. At buildings, install all metal stud anchor bolts and structural embeds in concrete. Framing Prime Contractor will provide the anchor bolts for Concrete Prime Contractor's installation. They will provide either a layout drawing or layout in the field. Concrete Prime contractor will complete the installation. Coordinate directly with other Prime Contractors that have

embedded items in concrete.

- 12. It is the responsibility of this Prime Contractor to coordinate and schedule all required testing and inspections for this scope of work. Construction Manager shall be notified of any and all such inspections and tests. Costs of inspection and testing will be by other except for re-inspection or premium time costs.
- 13. Install all concrete equipment pads, pits, depressions, keyways, sumps and curbing for all electrical, mechanical and plumbing items that are included in all Contract Documents. Verify the quantity, size and location with each respective trade; see Mech., Elec., Plumbing, Fire Protection and Architectural drawings for more specific information. Prime Contractor shall assume all floor mounted water heaters, transformers and lighting inverters require a concrete pad with a minimum distance of 8" from the edge of the pad to the centerline of the anchorage point of the equipment, unless a specific detail is referenced in the plans.
- 14. All exposed concrete walls and columns shall be constructed to the ACI standards for Architectural Concrete. This specifically includes form lumber and plywood, tie spacing, form liners, the use of fiberglass forms, form releases, patch and sack, pour rates, etc. All concrete textures and finishing of all concrete work, including sub slabs, as well as curing compounds and sealers shall be compatible with all other building components and finishes, i.e., waterproofing, roofing, tile flooring, flooring, adhesives, paint, etc.
- 15. Furnish and install construction joint slip dowels and smooth round bar as required.
- 16. Provide all cold joints, construction joints, expansion joints, control joints, keyways, sawcut joints, pre-formed joint fillers, etc., as required by the Contract Documents. If applicable, include foam or other separation materials at special conditions. Reference typical details throughout the Drawings. All joints shall be square and true using good equipment with sharp blades to accomplish cuts without spalling.
- 17. Install all embeds, inserts, anchor bolts, sleeves, reglets, handrail/guard rail sleeves etc., (furnished by others unless noted otherwise) in concrete work. Provide templates, racks, etc., as required to secure items during pouring operations.
- 18. Include all necessary patching, grinding, infill and sacking to any concrete work performed by the Prime Contractor.
- 19. This Prime Contractor is responsible for:
  - a. Keeping all streets and roads free of debris and repairing any damage caused by work operations.
  - b. Controlling dust during work operations.
  - c. Ensuring all work areas are adequately drained and bermed to prevent inundation by surface water.
  - d. Protecting designated areas or items from damage by work operations.
  - e. Flagmen, barricades, traffic control during work operations.
- 20. At the conclusion of all work and when directed by Construction Manager, power wash all exterior sidewalks and clean-up all sidewalk areas.

- 21. Place concrete fill around sleeves and penetrations below and around footings. This work will be exclusive, review all Contract Documents.
- 22. Building and Structural Grading: Concrete Contractor shall accept building pads and rough grading from Earthwork Contractor at +/- 0.5'. Prime Contractor will be responsible to provide all cut and fill (to balance) required to bring the building and immediately surrounding site to final subgrades. This Contract specifically includes all excavation and backfill of pits, walls, depressions, etc. for the project. Prime Contractor includes removal of their own spoils generated
- 23. Remove all surplus spoils. Prime Contractor is aware of the non-suitability of existing on-site soils that are not to be used as structural fill. All import soils must be certified free from health hazard contaminants in accordance with DTSC requirements. Prime Contractor is responsible for all costs associated with testing, research, and certification of the import site or materials plant to ensure import materials are in complete compliance.
- 24. All spoils generated by the work included in this Contract shall be removed from the site and disposed of in a legal manner by this Prime Contractor.
- 25. Include all necessary fine grading under and surrounding all concrete work.
- 26. Furnish and install crushed rock base materials below structural concrete work as required by the Contract Documents. Furnish and install all vapor barriers below slabs. Do not puncture vapor barrier with form stakes, screed pins or any other item. Seal all pipe and conduit penetrations in accordance with manufacturer's recommendations.
- 27. Provide block outs for all building materials/components/utilities, etc. as required. Include patching/infill of blockouts as required. Coordinate the sizes and locations with respective trades. (This includes column diamonds, wall blockouts, etc.)
- 28. Form both sides of all concrete structures below grade, i.e. retaining walls, stairs, etc. so that an acceptable surface for waterproofing is achieved. Prime Contractor includes all underground waterproofing at locations where this Prime Contractor has installed belowgrade concrete or as shown on drawings.
- 29. Clean, patch, grind all concrete areas to receive waterproofing as acceptable to the waterproofing manufacturer. This includes tops and faces of footings.
- 30. Immediately and continuously de-water and pump out to appropriate drainage receptacle; all footings, pits, structural excavations, etc., as required by water ponding and weather conditions. Automatic pumps shall be used during all off-hour periods of construction. Immediately clean, "muck-out", remove soft/muddy soils from all foundation and pit excavations as required by Inspector or Soils Engineer so that work may continue. If required, remove/replace formwork, reinforcing steel, embeds, etc., as required to clean out foundations/pits. Reference Supplemental Conditions for further rain damage prevention responsibilities.
- 31. Clean out of all concrete conveying equipment shall be performed at a location designated by the Construction Manager. Remove all debris, form materials, surplus materials, concrete,

- etc. from the site at regular intervals determined by Construction Manager. Protect all storm drains from contamination. Provide a SWPPP compliant contained washout area.
- 32. Provide and maintain rebar protection in accordance with CalOSHA approved methods.
- 33. Furnish and install all curing/hardener/sealer compounds. Verify and assure that all compounds are fully compatible with future flooring/finish applications.
- 34. Dobie all reinforcing on slabs during the concrete placing operations to insure proper coverage and location.
- 35. Install all required slab depressions and proper sloping of structural slabs for architectural concrete topping slabs, ceramic/quarry tile, special flooring, cast stone, thresholds, kitchen equipment, etc. Verify all dimensions and specific requirements with the respective trades. If a discrepancy occurs between the Contract Drawings, specifications and/or finish schedule, the Construction Manager shall be notified immediately. If a depression was not provided, or incorrectly placed, then make all required corrections.
- 36. Pre-saturate soils (if required).
- 37. Install all concrete within the required tolerances. For slab on grade, place slabs to achieve the specified Floor Flatness (FF) and Floor Levelness (FL) as required.
- 38. Include drilling and epoxy grouting for rebar dowels.
- 39. Install all structural steel anchor bolts (furnished by Structural Steel Contractor) that are installed in concrete walls, decks, foundations, etc. Construct templates as required for proper bolt placement and alignment. Level one nut to proper elevation in each bolt pattern for the Structural Steel Contractor.
- 40. Grout/dry-pack under structural steel columns, base plates, beam seats, wood sills, etc.
- 41. Protect all in slab/below slab embeds during and after concrete placement. This specifically includes but is not limited to electrical raceways, floor boxes, floor drains, etc.
- 42. Slope all floor slabs to drains as required by the Contract Documents.
- 43. The Concrete Contractor shall grade the area directly outside and inside the building.
  - a. To allow installation of concrete.
  - b. Backfill level to allow installation of scaffolding.

Re-contoured to final grades after scaffolding is removed.

- 44. All interior (non-sloping) slabs shall have a maximum deviation of 1/8" in 10' from design elevation. Correct all non-complying slabs.
- 45. Install all embeds, sleeves, inserts, ledger angles, bent plate, weld plates, beam seats, bearing plates, deck bearing angles and bent plates, beam shear plates, column anchor bolt clusters, anchor bolts and hooked bolts for framing, steel and all other attachment hardware that is embedded in concrete work as required. Fully coordinate requirements and locations

- of these embedded items with the affected trades. Protect and clean these embed items to allow removal, replacement and tightening of nuts.
- 46. At all anchor bolts and other embedded items, properly coat and clean all threads as required to allow tightening of bolts without further cleaning action. Install all washers and nuts on embeds.
- 47. Civil and Landscape Plans shall be referenced, as well as the architectural plans for the site work portion of concrete work.
- 48. Include flatwork joint sealant.
- 49. Prime Contractor shall install all reinforcing for site work concrete.
- 50. Prime Contractor shall dig all thickened edges for site work concrete, including but not limited to ramps, sidewalks, raised curb sections, etc.
- 51. Prime Contractor shall furnish and install base and subgrade preparation per concrete paving details and elevations shown in the Contract Documents.
- 52. Prime Contractor shall install all concrete control joints per plans and specs.
- 53. Prime Contractor shall utilize smooth face form boards for all exposed concrete forming such as the retaining wall.
- 54. Remove all spoils form the site.
- 55. Include all required concrete patch work in areas where new utilities are shown in areas of existing concrete. Patch work includes but is not limited to finish grading, base & other fill (as specified), doweling, epoxying, & new concrete section.
- 56. Include 10 ea. 40 CY trash dumpsters for all trades to use to dispose of non-hazardous debris. (Concrete wash out is not to be placed in these dumpsters).
- 57. Prime Contractor includes power washing all of its scope once completed.
- 58. Prime Contractor includes one hundred and twenty (120) additional journeyman labor hours. The Construction Manager/District may authorize the use of these hours only
- 59. Prime Contractor shall provide concrete joint (all types) layout shop drawings prior to pouring concrete. Concrete joints shall be installed per specifications and ACI standards.
- 60. Prime Contractor has included multiple mobilizations to achieve the requirements of the contract. For bidding purposes, include a minimum of seven (7) mobilizations. A mobilization is defined as removal and return of equipment and materials. A crew leaving the site is not a demobilization.
- 61. Prime Contractor will provide the resources necessary to achieve the multi-placement details required to achieve seat walls and benches. This may include, but is not limited to, cleaning of already placed footings, chipping and grinding to achieve sufficient amplitude for

- the cold joints and removing and replacing formwork so other trades can complete their incorporated scope.
- 62. Prime contractor will provide a mock-up of hardscape within 15 days of contract execution.
- 63. Prime Contractor includes all equipment pads required by the electrical drawings/specifications.
- 64. Prime Contractor has reviewed Attachment L DEHQ-FHD Approval and Conditions and shall comply with item #6.
- 65. Prime Contractor includes all concrete hardscape and reinforcement around and underneath the new bleachers at the sports stadium. All concrete foundations (i.e. footings, caissons, etc.) are by the Bleacher Prime Contractor.
- 66. Prime Contractor shall provide the concrete footings for the Decorative Perforated Aluminum Metal Panel (MWP-1) with the additional graphics, per AS-1.2, 1,13-15, 26, 28-30/ASD-2.0, 9&10/ASD-1.0 and 11&12/ASD-3.0. Prime Contractor shall provide it's own excavation, fine grading (as needed), forming, reinforcing, pouring, finishing and location (x, y, z coordinates) coordination with CN-2984. CN-2984 Prime Contractor shall provide footing layout and in-person coordination with CN-2983 in order to facilitate accurate installation. Prime Contractor shall include provisions to accommodate revisions shown in RCA Addendum 03, ASK-3.1, ASK-3.3 & ASK-3.3 (including fully filling the fence posts with concrete).
- 67. Prime Contractor shall furnish and install ALL light pole bases and power pedestals bases, per the plans and specifications. Coordinate with Electrical Prime Contractor for conduit rough-in. Reference E1.1, E2.3 & 1/E2.7 for locations of light poles. Prime Contractor shall provide it's own excavation, fine grading (as needed), export, etc. as needed to complete installation.
- 68. Prime Contractor shall furnish and install four thousand (4,000) square feet (SF) by three (3) feet deep 2-slack slurry below grade (no formwork required). The Construction Manager/District may authorize the use of this slurry only.
- 69. Prime Contractor shall include provisions to complete ALL depressed slabs, per plans, specifications and Addenda.
- 70. Prime Contractor has reviewed RCA Addendum 03 and acknowledges that ASK-3.19 is applicable for any concrete within the fire lane.
- V. <u>ASPHALT PAVING INCLUSIONS</u>: The following items are specifically included in the Asphalt Paving scope of this Contract:
  - 1. Contractor shall furnish and install all asphalt paving including subgrade preparation (scarification and re-compaction), aggregate base, asphalt curbs, asphalt swales, striping, HC striping, HC symbols, signage, and parking bumpers, etc., for a complete scope of work as required by the Contract Documents. Provide

paving sections as detailed. Compact subgrade and pavement base to specified levels of compaction. Paving sections greater than what is considered an overlay may be required to achieve the new grade elevations required by the contract documents. Contractor must include sufficient resources (labor, materials and associated methods (multiple lifts, alternative sections, etc.)) as needed to achieve the grades and elevations indicated on the contract documents.

- 2. Contractor shall verify existing conditions related to this scope of work prior to starting. Notify Construction Manager immediately in writing of any discrepancies between Contract Documents and existing conditions.
- Prepare subgrade in accordance with the Soils report and specifications. Remove minor irregularities by fine grading prior to placing aggregate base. Subcontractor shall flood test paving areas at the completion of work and correct any defects prior to striping.
- 4. Include grinding, overlaying, striping, parking bumpers, signage, etc. as required by the Contract Documents.
- 5. Contractor shall coordinate with the Site Utility Contractor to adjust valve cans, cleanouts, and manhole covers, etc. as required to match finish grades.
- 6. Include all required asphalt patch work in areas where new utilities are shown in areas of existing asphalt. Patch work includes but is not limited to finish grading, base & other fill (as specified), asphalt paving section and striping (if applicable).
- 7. Contractor shall include grinding and removal of leading edge of asphalt paving where new paving meets existing paving section.
- 8. Contractor shall verify exact locations of all utilities that may be encountered during constructions.
- 9. Contractor acknowledges that others will provide initial survey and staking only once. This Contractor will protect all stakes and hubs during constructions. If stakes are destroyed by this Contractor during construction, any additional surveying shall be the responsibility of this Contractor.
- 10. Contractor shall provide dust control during all work operations until all areas are 100% paved.
- 11. Contractor shall provide daily cleanup of streets and sidewalks during work operations.
- 12. Back fill curb cuts.
- 13. Sub grade will be left mostly at +/- .1'. However paving contractor will repair areas disturbed by traffic and other trades up to +/- .5'.
- 14. Prior to installing any work, verify ADA compliance with adjoining surfaces.

- 15. At all adjoining edges, sawcut and remove 1' of asphalt due to spalling, etc.
- 16. Include weed killer to subgrade prior to any new asphalt placement. Public School industry standard shall be assumed if a product is not specified.
- 17. Include patch and repair for landscape and irritation as required.
- 18. Prime Contractor includes resetting all existing vaults, pull-boxes and any other utility box scheduled to remain and those that are embedded in the existing asphalt or concrete surfaces schedule to be overlaid, resurfaced or replaced. If resetting the box is unfeasible, Prime Contractor includes full replacement of the vault/utility box. *Blending* or *feathering* the asphalt is not acceptable.
- 19. Prime Contractor includes sealing all new sections of asphalt paving and grind & overlay asphalt paving areas. Sealing shall adhere to the design requirements of Specification #321216.
- 20. Prime Contractor includes Petromat (Propex Fabrics Inc.) at all areas where new asphalt paving is shown.
- 21. Prime Contractor includes all pavement markings, as included in the Contract Documents. Reference associated addenda documentation for further clarification.
- 22. Prime Contractor includes repainting any fire lane pavement markings removed in areas where asphalt is replaced or ground-down and overlaid.
- 23. Prime Contractor includes three five thousand (35,000) additional square feet of asphalt grinding and overlay. Overlay includes a seal coat.
- 24. Prime Contractor includes eighty one hundred (\$100) additional journeyman labor hours for miscellaneous asphalt paving work. The Construction Manager/District may authorize the use of the these hours only.
- 25. Prime Contractor includes provisions for cure time of asphalt prior to sealing asphalt. Provisions include but are not limited to multiple mobilizations for sealing and striping/painting.
- 26. Prime Contractor to flood testing all AC paving surfaces. Correct any surface defects and ponding for compliance with the Contract Documents.
- 27. All asphalt paving sections shall comply with the specifications in addition to the recommendations found in the Geotechnical Report.
- 28. Prime Contractor has reviewed the existing site asphalt conditions, as well as the existing condition of the existing vault covers/lids. Prime Contractor shall include replacing eight (8) vault covers/lids at the size of 4'x8' 2'x3'. Replacement vault covers shall be galvanized vault/pullbox covers accommodating the following pullbox models: "Oldcastle 3313 Series, San Diego Precast 3313 Series or Jensen Precast 2436 Series." This scope item is inclusive of furnishing and installing said vault cover replacements.

- 29. Prime Contractor is solely responsible for assuring that finished pavement surfaces are in compliance with ADA maximum slopes, including cross slopes.
- 30. Prime Contractor shall adjust existing utility vaults, per keynote #12 on C-1.0 & C-1.1.
- 31. Prime Contractor includes provisions for wheel stops, per plans/specs and Addenda.
- VI. <u>MASONRY INCLUSIONS:</u> The following items are specifically included in the Masonry scope of this Contract:
  - 1. Contractor to furnish and install all new Concrete Masonry Units (CMU) per plans and specifications Interior, Exterior & Site.
  - 2. Contractor to furnish and install all masonry steel reinforcement and related accessories. Provide dowels as required.
  - 3. Prime Contractor includes all grout and mortar mix designs. Mix designs shall fully comply with all project requirements.
  - 4. All footing and slab preparation ahead of installation.
  - 5. Block anchors, wall ties and related hardware.
  - 6. Furnish and install masonry lintels and lintel angles as required.
  - 7. Hoist and install all embeds, pipe sleeves, inserts, frames, lintel angle, deformed bars, anchor bolts, joist bearing plates, deck bearing plates, beam bearing plates, bent plate, wall boxes, reinforcing steel, etc., FOB jobsite by others, as required. Fully coordinate all embed and attachment requirements with each Prime Contractor, including Rough Carpentry, Steel, Misc. Metals, Sheet Metal, Concrete, Plumbing, Electrical and Mechanical Prime Contractors. Each subtrade will provide layout of embedded items per approved shop drawings. Subcontractor shall grout solid all embed types in CMU walls. The other Prime Contractors shall offload, stock and transport embeds to coordinated location on site with the Construction Manager.
  - 8. Install weep holes as required.
  - 9. Fully grout all structural block outs for steel and other structural work including base plates.
  - 10. Coordinate all masonry openings, details, layout and embedded items with related sub trades. In the event of inconsistencies between Contract Documents or shop drawings, provide written notification to the Construction Manager.
  - 11. Set and grout door frames and window frames installed in masonry walls.
  - 12. Control joints.

- 13. Grouting in CMU cavities.
- 14. Engineer and provide temporary shoring for CMU walls and openings (as required). Install and remove bucks required for masonry work including openings, doors, windows, bond beams, etc.
- 15. Rough bucks for all openings in masonry.
- 16. All scaffolding, hoisting required for masonry work.
- 17. Layout for initial building control.
- 18. Cleaning of masonry walls.
- 19. Provide vertical rebar layout for dowels placed in foundations and other concrete structure that is associated with the masonry scope of work.
- 20. Coordinate all testing and inspections required for this scope of work. Provide access for inspection of work. Testing and inspections will be by others except for costs incurred as a result of remedial work and as described in the General Conditions.
- 21. Contractor to supply all reinforcing steel as a related to their scope of work.
- 22. Provide and maintain rebar protection in accordance with OSHA requirements for all rebar placed by this Contractor.
- 23. Contractor shall make a concerted effort to prevent grout, mortar, and soil from staining any exposed masonry surfaces that will be left raw masonry or painted in the future. This includes protection of base of walls from splashed mud, etc., protecting sills, ledges and other projections from mortar droppings.
- 24. Furnish, maintain and remove all scaffolding required for this scope of work. All scaffolding shall be OSHA compliant at all times. Contractor shall have a certified scaffolding "Competent Person" on site at all times during scaffold use. Contractor shall obtain OSHA permits for scaffold operations. Bridge over all primary building entry points and utility connections. Contractor shall permit other Trade Contractors to use their scaffolding if other Trade Contractors need to incorporate their work into the masonry scope of work. If Contractor wishes to issue a release of liability form for other Contractor's to sign, Construction Manager will ensure forms are signed prior to others using Mason's scaffolding.
- 25. Clean masonry and remove all efflorescence at the conclusion of all work when directed by Construction Manager.
- 26. All associated accessories, clips, reinforcing and anchors are a part of this work.
- 27. Include backer rod and sealant (color to be approve by architect) at control joints.
- 28. Masonry walls will be installed via high lift or low lift method at Construction

- Manager's discretion
- 29. Coordinate all masonry openings, details, layout and embedded items with related Prime Contractors.
- 30. Prime Contractor shall submit a staging plan to the Construction Manager for approval prior to commencing the Masonry scope.
- 31. Prime Contractor includes installation of mortar fill at locations where the CMU units change size. Create a smooth step transition to facilitate waterproofing application.
- 32. Properly break shell for flow of grout at masonry wall intersections
- VII. <u>CHAIN LINK FENCES & GATES INCLUSIONS:</u> The following items are specifically included in the Masonry scope of this Contract:
  - Furnish and install all chain link fences & gates as required by Contract Documents for complete installation. This includes all footings, reinforcement, and other miscellaneous accessories as necessary.
    - 2. Prime Contractor is responsible for drilling holes or hand excavation for posts to diameters and spacings indicated in the specifications and drawings. Scope includes furnish, placement of concrete for fence post footings. Includes final grading and touch up at fence posts.
    - 3. Prime Contractor shall field measure all openings and coordinate gate locations prior to fabrication.
    - 4. Furnish and install mesh, slats, metal kick plates, tube steel headers, masonry sleeves, hollow metal mounting plates for all hardware and as shown on the plans, etc. as indicated in the Contract Documents.
    - 5. Furnish, install and adjust all gate hardware per specifications. Scope includes hinges, padlock hardware, etc.
    - 6. Prime Contractor to observe all accessibility general details for code compliant installations as shown in the Contract Documents. Re-work caused due to non-code compliant installations will be the Subcontractor's responsibility. Submit an RFI prior to completing the work in the event the design intent / layout will not comply with the ADA code requirements.
- VIII. <u>LANDSCAPE AND IRRIGATION:</u> The following items are specifically included in the Landscape and Irrigation scope of this Contract:
  - 1. Landscape Irrigation System
  - 2. Landscape & Tree Plantings
  - 3. Existing Plants & Planting Area Removal/Demolition
  - 4. Existing Irrigation Safe-Off, Cut/Cap

- 5. Existing Irrigation Box, Vault, Valve Removal/Relocation
- 6. Existing Irrigation Boxes, Controller, Lines, etc. Protection
- 7. Pothole For Existing & New Irrigation and Landscape Items
- 8. Provide & Maintain Temporary Irrigation System
- 9. Tree & Plant Protection in Place with Scheduled Maintenance
- 10. Installation and Maintenance of Tree Protection Fencing at Trees to Remain
- 11. Protect Existing Utilities, Hardscape & Landscape Items to Remain
- 12. Excavation, Trenching and backfilling for irrigation systems
- 13. Fine grading (as needed)
- 14. Soil Amendment & Fertilizer
- 15. Rototilling, per spec
- 16. Weed Barrier Fabric
- 17. Gravel, Rubble & Bark Mulch
- 18. Seeding, Hydroseeding, & Pesticides
- 19. Root Barriers
- 20. Edging
- 21. Scheduled Maintenance During and Post Construction
- 22. Pruning, Weeding, Debris & Rock Removal
- 23. Tree Guying, Tree Stabilization, & Plant Tablets
- 24. Tree Watering and Observation Devices
- 25. Prime Contractor includes testing existing irrigation system with GUHSD prior to start of demolition activities, and at the end of the project. Prime Contractor includes capping any irrigation lines abandoned in-place as a result of demolition/grading for new flatwork.
- 26. Prime Contractor includes forty (40) additional journeyman labor hours for miscellaneous landscape & irrigation work. The Construction Manager/District may authorize the use of these hours only.
- 27. Prime Contractor shall monitor the existing Eucalyptus tree in the quad (reference Attachment J Logistics Plan) and notify the District of any health issues. GUHSD has contracted with an arborist for monitoring the Eucalyptus tree throughout the project, to provide a deep root fertilizer and to provide a grow regulator tree treatment. Prime Contractor shall coordinate it's landscaping & irrigation scope with the project Arborist accordingly.
- 28. Prime Contractor includes removal of 15,000 square feet (SF) of existing grass, preparing 15,000 SF of soil and installing 15,000 SF of sod. Prime Contractor is responsible for repairing any sprinkler heads damaged during the course of existing grass removal or fine grading.
- IX. ALLOWANCES: The following allowances are included in this scope of work. The Construction Manager must agree to the price, type and extent of additional scope before work is started. Field tickets must be signed by Construction Manager's Superintendent on a daily basis to account for the time, material, and equipment used from these allowances. All time, material, and equipment used from these allowances will be billed against these allowances and any portion of the original allowance amount not used will be credited back to the Owner at the end of this Contract's scope of work as a deductive change order. This Article is separate and exclusive from all other Work required by the Contract.

- a) CN-2983 Allowance #1: Unforeseen Condition = \$20,000.00
- X. ALTERNATES: N/A
- XI. EXCLUSIONS: N/A
  - a) #07 13 00 Sheet Waterproofing (By Finish Prime Contractor)



## GROSSMONT UNION HIGH SCHOOL DISTRICT

### GROSSMONT HS KITCHEN AND WEIGHT ROOM MULTI-PRIME

ATTACHMENT H
BID PACKAGE

CN-2984

ROUGH CARPENTRY/ STRUCTURAL STEEL / MISC. METALS

# TRADE CONTRACTOR SPECIFIC PROVISIONS BID PACKAGE—CN-2984 ROUGH CARPENTRY / STRUCTURAL STEEL / MISC. METALS

**VERSION 03** 

#### ROUGH CARPENTRY / STRUCTURAL STEEL / MISC. METALS - VERSION 03

The following clarifies certain inclusions, exclusions, and other information. This list is not inclusive of all work and is not limiting in any manner. This Exhibit shall supplement all General and Special Conditions in this Contract unless specifically noted herein to supersede them. This exhibit shall supersede all other conditions in the Contract and Contract Documents in the event of specific conflicts between the Documents.

- I. <u>GENERAL REQUIREMENTS:</u> The following General Requirements apply to all work included in this Contract:
  - 1. Full compliance and scope coverage with Specification Section(s):
    - DIVISION 00
    - DIVISION 01
    - 05 12 00 Structural Steel Framing
    - 05 31 00 Steel Decking
    - 05 50 00 Metal Fabrications
    - 05 52 13 Pipe and Tube Railings
    - 06 05 73 Wood Treatment
    - 06 10 00 Rough Carpentry
    - 06 17 33 Wood I-Joists
    - 06 18 00 Glue-Laminated Construction

Full compliance and scope coverage with all other Project Scope and Specification Sections that interface with and require services related to this scope of work.

- Prime Contractor and its subcontractors and/or lower tier contractors shall be a
  licensed contractor pursuant to the California Contractors License Law required for
  the performance of work in the appropriate classification(s) of contractor's
  license(s) for the work bid upon and must maintain the license(s) throughout the
  duration of the Contract. License required for this work shall be B, or (C5 and
  C51).
- 3. Schedule of shop drawings, submittals, and dimension verifications: The following groups of shop drawings and submittals are not all-inclusive and are supplemental to requirements found elsewhere in the Documents. These submittals shall be delivered to the Construction Manager no later than the below listed dates:
  - a. #051200 Structural Steel Framing (Including embeds)

Due: 10 Calendar Days after NTP is issued

b. #060573 – Wood Treatment

Due: 15 Calendar Days after NTP is issued

c. #061000 - Rough Carpentry

Due: 15 Calendar Days after NTP is issued

d. #061733 - Wood I-Joists

Due: 15 Calendar Days after NTP is issued

e. #061800 - Glue-Laminated Construction

Due: 10 Calendar Days after NTP is issued

f. Metal Decking

Due: 10 Calendar Days after NTP is issued

g. #ALL Other Contractual Submittals

Due: 30 Calendar Days after NTP is issued

These due dates take precedence over other dates found elsewhere in the Contract Documents.

- 4. Prepare any coordination drawings required to show the interface between work provided by this Contract and others.
- 5. Procurement of Critical Long Lead Items: Prime Contractor shall be responsible to ensure that the following critical long lead items are delivered to the project site by the noted delivery date.
- 6. Prime Contractor has reviewed the Project and is aware of existing conditions.
- 7. Schedule: Prime Contractor shall issue to the Construction Manager a detailed Construction Schedule for this trade's work as it pertains to this Project. The work shall proceed in accordance with the Master Construction Schedule issued with the Construction Documents. This schedule shall be modified from time to time in order to properly coordinate and sequence the work; however, the Prime Contractor is responsible to supply sufficient manpower, equipment and material necessary to ensure the duration of time established for the Prime Contractor's work is maintained as per the Construction.
- 8. Prime Contractor has included provisions to store fabricated material off-site until required erection date.
- 9. Provide flagmen as required. It is understood that the work will take place within an operating Campus and that the Prime Contractor is solely responsible to protect the public and maintain uninterrupted access to the campus by the general public. Provide all barricades, etc. to achieve this. Perform during off-hours as required to avoid disruption of campus operations.

- 10. Comply with all City, County and State requirements, prepare haul route and obtain permits as required.
- 11. Prime Contractor will be responsible for collateral damage to areas or finishes not scheduled for demolition as a result of his operations.
- 12. CalOSHA compliant safety eye protection is required at all times for all personnel, workers, and visitors on the construction site in accordance with District Standards.
- 13. Include all work as referenced by notations: "by Steel Contractor", "by Rough Carpentry Contractor", "Misc. Metals Contractor," or similar notations that may be noted throughout the entire set.
- 14. It is understood that all scope inclusions contained in this bid package shall be provided by the Prime Contractor regardless of similar or identical inclusions found in other bid packages or trade Contracts.
- 15. It is understood that the Trade Contractor Specific Provisions contained in the Contract Documents are a material element of this Contract and scope of work. It is specifically noted that the Prime Contractor shall be responsible for all requirements and clauses contained in these Trade Contractor Specific Provisions.
- 16. It is understood that all the crane, trucks, erection equipment, grading equipment and any other heavy equipment must be staged within the project site boundaries.
- 17. Provide, erect and dismantle all ladders and scaffolding required to perform work. Provide all required rigging and hoisting necessary to perform this scope of work. All lifts and material handling required to perform this scope of work shall be provided by this Prime Contractor.
- 18. Prime Contractor shall maintain and record as-built information of their work in a current condition. Prime Contractor shall transfer all as-built information onto the record set of drawings located at the Construction Manager's Field Office. All transferred information shall be neat, legible and in accordance with the guidelines set forth in the contract documents. Failure to provide as-built information in a timely manner will result in progress payments being withheld.
- 19. This Prime Contractor acknowledges and includes the cost for all required off-hour, overtime and weekend work schedules as required to perform the work included in this contract and coordinate this contract work with all other related trades. This Prime contractor shall provide manpower and shift schedules (in advance of the actual work being performed) to the Construction Manager so that it can be analyzed against the Project's schedule requirements.
- 20. Daily clean-up of all debris related to the Work of this Bid Package Contractor is required. All debris generated by this Bid Package Contractor shall be legally removed daily and disposed of offsite by this Bid Package. All Bid Package Contractors, while on site, will provide a clean-up laborer to be included in the

- weekly clean-up effort for the duration of the project. For bidding purposes, Prime Contractor shall provide a 2 hours of clean-up labor for 45 total weeks.
- 21. All Prime Contractors are responsible for covering of roof openings for a weather tight system prior to rain and rain clean-up. This Prime Contractor to consider the allotted rain days in the project schedule for budgeting purposes.
- 22. Prime Contractor shall coordinate with all subtrades/Primes as it relates to this scope of work. Verify dimensional requirements, locations, paths of travel, structural connections and any other scope as it relates to site conditions and other Prime Contractor's work. This coordination process shall occur prior to or concurrent with detailing to avoid conflicts and field coordination.
- 23. Prime Contractor shall supply all hoisting equipment, operators and support personnel necessary to safely erect and/or install all of the material or equipment included in this agreement.
- 24. Prime Contractor to give 48-hour written notice to both Construction Manager and Inspector of Record <u>prior</u> to the initial start and all subsequent phases of shop fabrication.
- 25. Prime Contractor will have all required local and state licenses and certifications as to allow shop fabrication without deputy inspection. Prime Contractor's field welders will have all required licenses /certifications as required by the Contract Documents and Local Authorities. Where local/state welding requirements are more stringent than the specified welding requirements; the most stringent shall govern.
- 26. Prime Contractor is required to properly staff the Project to maintain the Project's schedule and to ensure proper sequencing with other Prime Contractors as required by the Construction Manager.
- 27. Prime Contractor is responsible to provide all layout for its work from survey control points and lines, including all building corners, grid lines, offsets, elevations, etc.
- 28. Provide all necessary protection for new work and adjacent finishes from Prime Contract work operations. Include steel plates, plywood, plastic and masking protection as required. Prime Contractor is responsible to maintain/repair/replace any temporary barricades that are moved or damaged by its work. Prime Contractor is responsible to protect all existing structures/MEPs/benchmarks/miscellaneous items as required by the Contract Documents during this Prime Contractor's work.
- 29. Prime Contractor acknowledges that space for storing materials within the worksite is limited. All delivery and storage of materials shall be scheduled and coordinated with the Construction Manager prior to shipping. Prime Contractor is responsible to assure that stocking of building materials does not overload the building structure or unreasonably impede the work of other trades. Prime

- Contractor shall promptly relocate stored and stockpiled materials when directed by Prime Contractor.
- 30. Prime Contractor is responsible to promptly remove from the project all surplus material and debris associated with its work.
- 31. Prime Contractor is responsible for scheduling and coordinating all deliveries required for this scope of work with the Construction Manager and other Prime Contractors. Prime Contractor to provide adequate flagmen, street closures, sidewalk closures, permits, traffic control, etc. for deliveries, transporting on site, pick-ups as required by the project schedule, specifications, job conditions and governing agencies within the jobsite limits.
- 32. Prime Contractor shall adhere to OSHA safety standards while on the project site and shall engage their designated safety professional to make periodic jobsite walks for safety compliance. Any noted issues or concerns shall be reported to Construction Manager's Superintendent at the time of visit. Prime Contractor is responsible to maintain/repair/replace any temporary barricades.
- 33. The general site wide storm water pollution prevention plan (SWPPP) will be prepared and implemented by others. Subcontractor shall assume full responsibility to replace any broken sandbags or any other SWPPP type materials damaged by this Subcontractor during the course of this Subcontractor's work.
- 34. Prime Contractor acknowledges that parking space within the project boundaries is extremely limited. The only trucks in immediate use (Loading/Offloading, welding rigs, rigging, etc.) will be allowed to stage near work areas. Worker parking will be designated by the Construction Manager. Penalties for failure to comply with this requirement are the responsibility of the individual vehicle owner.
- 35. In the event of conflicts not clarified prior to bidding deadline, Prime Contractor shall assume the most stringent, higher quality and greater quantity of work for bidding purposes. If Prime Contractor still requires clarification after awarded the project, Prime Contractor shall generate an RFI. If appropriate, a deductive change order shall be issued if the clarification results in a reduced scope.
- 36. Prime Contractor shall furnish and install all mock-ups required by specifications found within this Prime Contractor's scope.
- 37. Prime Contractor shall include provisions to comply with all delegated-design submittal requirements found within their respective specification sections.
- 38. Prime Contractor understands that parking will not be permitted within the limits of work, staff parking, student parking or public parking spaces on campus, unless specifically allowed in the Contract Documents or agreed upon by the District. Prime Contractor acknowledges that food trucks are prohibited from entry to the construction limits of work and Grossmont High School campus.

- This General Requirement supersedes parking provisions outlined elsewhere in the Contract Documents.
- 39. Prime Contractor has reviewed all documents, including Food Service plans.
- 40. Finish Prime Contractor includes all in-wall flat-strap backing and rough carpentry Prime Contractor includes all in-wall and above ceiling structural wood-framed backing. Prime Contractor shall coordinate accordingly and layout backing where required for this Prime Contractor's scope.
- 41. Prime Contractor includes two hundred and fifty (250) additional journeyman labor hours for use by the Construction Manager. The Construction Manager/District may authorize the use of these hours only.
- II. <u>INCLUSIONS FOR ROUGH CARPENTRY AND EXTERIOR SHEATHING:</u> The following items are specifically included in the Rough Carpentry and Exterior Sheathing scope of this Contract:
  - 1. Include all work which is consistent with the defined scope of work in this Contract and that may be required by the entire set of drawings and specifications.
  - 2. Furnish and install all interior and exterior wood framing, components & accessories including, but not limited to, glued-laminated beams, prefabricated wood shapes, engineered wood products, shear wall panels, blocking, cants, nailers, furring, grounds, framing hardware, wood studs, structural composite lumber, glued-laminated beams, wood l-joists, web stiffeners, rafters, double joists, trusses, purlins, ledgers, cross bridging, struts, headers, sills, plywood infills, blocking, furring, stripping, double top plates, sill plates, shear plates, knee braces, trimmers, cripples, straps, strong-ties, hinge connectors, hangers, wood post bases, lag bolts, lag screws, end post bolting, nails at new building structure as required for a complete installation. Observe and include provisions to execute the general and structural notes for requirements regarding prefabricated wood lumber, glued laminated timbers and anchorage. Refer to structural drawing notes for required special inspections. Prime Contractor to notify Construction Manager 48 hours in advance on inspection requests.
  - 3. Prime Contractor is aware of the high level of quality control that this project demands. Prime Contractor shall replace and/or "power plane" all wood members throughout the project that exceed acceptable and specified tolerances. This includes all rough framing, moldings, sheathing, etc.
  - 4. Prime Contractor is responsible for furnishing and install of all framed-wall types indicated in the Contract Documents, in order to provide a complete scope of work. In the event that a wall is shown, but not identified with a wall type or stud size, Prime Contractor shall assume the most stringent wall type. Reference General Requirements of this scope for further explanation.
  - 5. Furnish and install all exterior rated/treated wood sheathing as required by the Contract Documents. Furnish and install all roof and parapet sheathing.

- 6. Furnish and install all wood furring, blocking, in-wall backing, in-ceiling backing, and frame outs for all building components mounted to walls. This specifically includes but is not limited to equipment, roof ladder, fixtures, signage, wall grab bars, mirror units, air-dryers, diaper-changing stations, metal toilet compartments, wall-mounted dispensers in restrooms, wall-mounted lavatories, utility shelving, lockers, casework, mop & broom holders, tack boards, AV equipment, wall-mount devices, etc., as shown on the drawings, details, and as specified. Take specific care to include the wood blocking and backing required by the details in the mechanical, electrical and plumbing drawings. Prime Contractor has accounted for direct coordination with Construction Manager and other Prime Contractors and other vendors to accomplish accurate layouts for backing. Provide fire-rated wood blocking where required by the Contract Documents.
- 7. Some blocking may appear unquantifiable at this time. For bidding purposes, assume the blocking supports for pipe runs, duct runs, mechanical support frames, roof mounted equipment and suspended equipment will occur every 4' for each system run. Blocking and backing for equipment is quantifiable based on the information provided in the equipment schedule and details. No change orders will be issued for blocking or backing for any scope of work included within the contract documents for the project.
- 8. Provide all framing cutouts, notching, openings, soffits, recessed/dropped ceiling areas, chases, reinforcing of framing, etc. shown on the drawings and as required by actual conditions for various architectural items, access panels, ceiling diffusers, plumbing/electrical/HVAC items, i.e., ductwork, equipment and piping. Coordinate directly with the respective trades and reference the MEP drawings for coordination purposes and details. Modify soffit framing dimensions as required to accommodate the designed duct sizes. Scope includes double joists at roof openings for mechanical equipment/duct, etc.
- 9. Prime Contractor shall furnish and install a 10' x 10' mock-up of a framed exterior wall exhibiting a typical framed condition (including window framing and sheathing) in addition to the specified mock-ups shown in specifications associated with this Prime Contractor's scope.
- 10. Prime Contractor is responsible for approved moisture content of materials to be installed in accordance with the project schedule. Prime Contractor is not permitted to stage wood products directly on soil.
- 11. Prime Contractor includes additional framing at any new MEP penetrations in existing or new walls and shall follow the applicable framed opening details in the structural drawings.
- 12. All work pertaining to wood framing at existing buildings and new construction as shown on in the Contract Documents. Prime Contractor includes all blocking shown in the Drawings in addition to what is shown in the structural drawings. This includes but is not limited to joists, beams, columns, plywood, seismic bracing and supports as required.

- 13. All plywood sheathing over framing as shown in drawings. Provide all wood nailers, wood backing, wood sheathing as shown on the Contract Documents. Wood backing supports for but not limited to doors, toilets accessories, projection screens, visual display boards, and areas for other miscellaneous items not specifically indicated but necessary. Flat strap backing by Finish Package.
- 14. Mechanical Platforms: Prime Contractor includes all support framing for roof top mechanical equipment, including but not limited to AC units, condensing units and exhaust fans regardless of what is shown on architectural, structural and mechanical plans. Prime Contractor includes the most stringent support framing requirements shown on 2, 3,4/AD-3.0, 17, 18, 19/S0-1.5, 15 &16/S0-1.7. Prime Contractor includes all plywood required at roof top equipment platforms. If height of platform is not specifically indicated in the plans, Prime Contractor shall include a platform height that is a minimum of eight (8) inches high from the level platform surface to the finish surface of the roofing system (not roof sheathing). Prime Contractor includes all necessary coordination between HVAC Prime Contractor and Finishes (Roofing) Prime Contractor in order to provide a complete and Prime warrantable system. Finish Contractor shall provide shimming/backing at pre-fabricated isolation curbs in order to provide themselves with an unobstructed 8" minimum vertical surface at roofing upturn locations.
- 15. Verify and coordinate dimensions for alcoves, walls and opening dimensions for equipment furnished by others. Particular attention to code mandated exiting clearance and handicap clearance dimensions is required. All work shall fully comply with current handicap codes (even if contrary to the Contract Documents and submittal approvals). This Prime Contractor shall request <a href="mailto:specific written direction">specific written direction</a> from the Construction Manager <a href="mailto:before">before</a> proceeding with any work that is non-compliant.
- 16. It is expressly understood that the framing details are diagrammatic in nature and that this Prime Contractor will be responsible for a complete installation. The details shown should be regarded as minimum parameters to perform the work.
- 17. Furnish all anchor bolts for framing that are embedded in new concrete / masonry, or screw anchors where applicable. Provide quantity survey and layout as required. Verify all layouts prior to concrete placement by concrete prime contractor. Provide layout drawings as needed.
- 18. Include all framing accessories as applicable to this Contract's scope of work, i.e., straps, bent plates, clips, "stickers", shims, angles fasteners, as shown on plans and required to attach/support framing to building structure. Framing accessories shall be installed as required to provide "true and straight" work especially where this Contract work is attached to other building components, Particular attention shall be paid to openings for windows, doors, and close tolerance conditions, etc.
- 19. All fire/smoke rated construction shall maintain continuous required ratings at all areas as required by the Contract Documents.
- 20. Prime Contractor includes one hundred (100) additional journeyman framing hours.

The Construction Manager/District may authorize the use of these hours only.

- 21. Where furring or framing systems are scheduled to be attached to an existing surface which is rough, uneven, not true or level, provide reconditioning of existing surfaces, shimming, building out and adjustments to the framing system as required to compensate for the substandard substrate.
- 22. All Prime Contractors are responsible for covering of roof openings for a weather tight system prior to rain and rain clean-up. Prime Contractor to consider the allotted rain days in the project schedule for budgeting purposes.
- 23. Prime Contractor has included multiple mobilizations to achieve the requirements of the contract. For bidding purposes, include six (6) mobilizations. A mobilization is defined as removal and return of equipment and materials. A crew leaving the site is not a demobilization.
- 24. Prime Contractor includes all structural framing, curbs and/or blocking required for exhaust fans, air-conditioning units, condensing units and any other new rooftop equipment requiring structural framing and/or blocking.
- 25. Prime Contractor includes all headers, bracing and associated rough framing associated with window head conditions regardless of the detail explicitly being called out at each condition.
- 26. Prime Contractor includes all necessary wall bracing, unless noted otherwise and regardless of the detail explicitly being called out at each location.
- 27. Prime Contractor includes stripped blocking to complete A1 head-wall condition at existing metal fascia in order to provide positive attachment for plaster 'J' Mold screed, Prime Contractor includes this typical condition regardless of the detail explicitly being called out at each location.
- 28. Prime Contractor includes provisions to provide backing for signage, when signage location is at a wood framed wall, regardless of the detail explicitly being called out at each condition.
- III. INCLUSIONS FOR STRUCTURAL STEEL, METAL DECKING & MISCELLANEOUS METALS: The following items are specifically included in the Structural Steel, Metal Decking & Miscellaneous Metals scope of this Contract:
  - 1. Furnish and Install all Structural steel, metal decking and Misc. Steel for the project.
  - 2. Prepare surfaces and set all anchors in existing concrete structures. This includes all surface preparation, drilling, expansion anchors, epoxy anchors, and other means for scope included in this contract.
  - 3. Prepare surfaces and install all connections where new steel connects to existing steel. This includes removal of existing paints/coatings, adjusting, coping and

- reconfiguring existing steel. Installing shear plates and other attachments, etc.
- 4. Furnish and install all structural steel columns, posts, beams, headers as shown on Foundation and Framing Plans and other such locations.
- 5. Furnish templates and anchor bolts for structural steel.
- 6. Furnish embeds and ledger angles. Provide layout of embeds to CMU/Concrete Prime Contractor, as it relates to CMU. CMU/Concrete Prime Contractor to set/install embeds. This Prime Contractor shall coordinate and be present during install to ensure embeds are set properly.
- 7. Include resources to level, cut, adjust and weld on the countertop support brackets as needed by site conditions. This will permit the initial brackets to be built long and cut to length based on final field conditions.
- 8. Furnish and install structural supports required for projection screens.
- 9. Furnish and install structural supports required for coiling counter doors, sectional overhead doors and similar. Structural supports include but are not limited to steel headers, vertical HSS jamb posts/columns, 'L' angle iron, plates and all associated anchorage and welding of said structural supports. Break metal at the coiling doors is by others.
- 10. Furnish and install metal decking for all shade structures, per Details 2,3,4,5 on sheet AS-1.3, per structural sheets and specifications.
- 11. Furnish and install all other miscellaneous metals items including but not limited to: plates, clips, steel pipe, bent plates, channels, angle iron, railings, exterior steel site handrail/guardrails, partition supports, ladders, ladder tie downs, steel assemblies, metal angles, countertop steel, steel at storefront jambs, brackets, supports, angles, etc. Include all required bolts, fasteners, inserts, sleeves etc.
- 12. Furnish and install handrails and guardrails at concrete stairs and ramps, per Details 8,18,19,20,23,25,28,29 and 30 on sheet ASD-3.0 and other such locations.
- 13. Furnish and install metal service gate and associated hardware as shown in 4/AS-1.3 and 10/ASD-1.0. Embedded steel to be provided by this Prime Contractor and installed by others.
- 14. Furnish and install aluminum checker-plate in Weight Room 907 as shown on 1/A1-7.2 and other such locations.
- 15. Cost of preparation and printing of all shop drawings for base Contract work items, including all revisions to shop drawings during the approval process and up until payment of retention.
- 16. Coordinate this scope of work with all other related trades such as, MEP trades, special equipment, interior finishes, etc. Coordinate/Verify slope of steel and top of steel elevations with roof slope/drainage plan. Notify construction manager of any

- inconsistencies prior to fabrication. This coordination process shall occur prior to or concurrent with detailing to avoid conflicts and field coordination problems.
- 17. Prime Contractor shall notify Construction Manager in writing of all inconsistencies in the project drawings/specifications and subsequent shop drawings <u>prior</u> to fabrication.
- 18. Prime Contractor is responsible for obtaining answers to unanswered questions on returned shop drawings from the Architect/Engineer through the Construction Manager. Prime Contractor will <u>directly</u> coordinate with other trades to ensure proper sizing and dimensioning of openings, etc. are detailed.
- 19. Give proper written notice to both Construction Manager and Testing Laboratory prior to the initial start and all subsequent phases of shop fabrication.
- 20. Prime Contractor will have all required local and state licenses. Prime Contractor's field welders will have all required licenses /certifications as required by the Contract Documents and Local Authorities.
- 21. Coordinate all shop fabrication / field inspection (for costs relating to inspection see General Conditions). Become completely familiar with testing requirements and coordination of mill certificates, labeling, tagging, and stamping of steel during the fabrication process, shipment to jobsite and erection. No unidentified steel shall be used. All steel will have mill certifications and be properly identified (source, heat or melt number, etc.). If required, the Inspection Firm will take steel samples and will perform destructive tests. Accordingly, purchase steel in such quantity, length, size, etc. to allow steel samples to be taken from the actual elements to be used in construction. Coordinate this and provide the samples required by the Testing Laboratory. Provide adequate access for Inspectors to all elements of work. Means of access include ladders, lifts, scaffolds, etc. Costs for re-inspection of any work as a result of previous failed inspection will be the responsibility of this Prime Contractor.
- 22. Verify and accept elevations and placement of anchor bolts and embedded items prior to each erection sequence of work. Construction Manager shall be notified immediately of any problems so that such problems can be corrected before the steel is onsite ready for installation. This verification does not qualify as a mobilization.
- 23. Prime paint steel as required by Contract Documents. Include touch up as required by job conditions.
- 24. Galvanize steel as required by Contract Documents. Include touch up as required by job conditions. Unless specifically noted otherwise, Prime Contractor shall galvanize all exposed metal that has been installed by this Prime Contractor.
- 25. Protect all floor and roof openings during erection per OSHA and local requirements. Prime Contractor shall immediately replace all opening protection removed for installation of work.

- 26. Supply all electrical power for welding.
- 27. All work including railings shall dimensionally comply with all applicable building codes including ADA. Proper vertical and horizontal distance and clearance in stairs shall be detailed and verified before fabrication and erection. Maintain proper clearances between stair framing and wall construction so that fire ratings can be maintained, (i.e., multiple layers of drywall, fireproofing material, etc. if applicable to this Project).
- 28. Fabricate and assemble misc./structural steel which attaches to concrete work, i.e., beam pockets/pilasters so that adequate adjustment and alignment of embedded items (i.e., anchor bolts) is allowed for. Field measure all conditions where possible before fabrication. Enlarge holes in steel and/or add necessary weld plate washers where required by conditions of miss-aligned embedded items and/or the Contract Documents.
- 29. All structural steel edge and closure angles shall be installed true, level and within concrete form work/finish tolerances in areas where concrete is poured against edge and closure angles. Where a steel deck closure is not specifically shown. Steel Contractor will provide a deck closure consistent with the details found on the Contract Documents. Where the deck is flush with supporting steel the closure shall be gauge metal unless otherwise noted. Where the deck cantilevers the supporting steel; the closure shall be bent plate.
  - Special attention shall be made to coordinating height of closure angles with height of concrete, particularly in sloped areas.
- 30. The <u>minimum</u> height of all steel closure angles that retain concrete shall be the total thickness of concrete at each location. If applicable, this clause corrects the condition where the drawings indicate a closure angle that is less than the concrete thickness. Reduce the height of angles for conditions of depressions /block outs i.e., areas of expansion joints.
- 31. Obtain all permits for cranes and equipment as required by Local Authorities.
- 32. Include all metal 1/8" or heavier, including 10 gauge, unless specifically modified by this Exhibit/Scope of Work.
- 33. Prime Contractor has reviewed the site conditions and includes all items as may be needed to complete the work in and around existing jobsite obstructions. Cranes will not be allowed beyond the site perimeter.
- 34. Where local/state welding requirements are <u>more</u> stringent than the specified welding requirements; the most stringent shall govern.
- 35. Immediately after all steel work is complete, clean all exposed steel to be painted from oils, scale, piece marks and other elements detrimental to applying finish paint.

- 36. After completion of all steel work, provide as-built information including connection details, beam and column size changes, and elevation information. Construction Manager shall approve format of as-built information.
- 37. Prime Contractor includes all angle iron required to support metal decking.
- 38. Prime Contractor includes eighty (80) additional journeyman labor hours for miscellaneous steel work. The Construction Manager/District may authorize the use of these hours only.
- 39. Prime Contractor shall furnish and install the decorative fence, G7 gate (with associated hardware) and 3/8" Decorative Perforated Aluminum Metal Panel (MWP-1) with the additional graphics, per AS-1.2, 1,13-15, 26, 28-30/ASD-2.0, 9&10/ASD-1.0, 11&12/ASD-3.0 and ID-1.0. CN-2983 is responsible for furnishing and installing the fence post footings. CN-2984 Prime Contractor shall provide footing layout and in-person coordination with CN-2983 in order to facilitate accurate installation. Prime Contractor shall furnish and install all revised scope shown on ASK-3.1, ASK-3.3 & ASK-3.4, with exception to painting the graphic on the metal panel, footings, and filling steel posts with concrete. Prime Contractor's decorative fence scope includes but is not limited to ALL HSS steel posts, ALL vertical 2-1/2" x 2-1/2" x ½" angled steel, ALL welding, 14 gauge "U" edging, ½" DIA. Tamper resistant S.S. fasteners, angled steel top and bottom rails, 8 gauge decorative perforated aluminum metal panel (MWP-1), ALL gates, ALL gate hardware, coordination with other Prime Contractors and associated pre-bid RFIs.
- IV. <u>ALLOWANCES</u>: The following allowances are included in this scope of work. The Construction Manager must agree to the price, type and extent of additional scope before work is started. Field tickets must be signed by Construction Manager's Superintendent on a daily basis to account for the time, material, and equipment used from these allowances. All time, material, and equipment used from these allowances will be billed against these allowances and any portion of the original allowance amount not used will be credited back to the Owner at the end of this Contract's scope of work as a deductive change order. This Article is separate and exclusive from all other Work required by the Contract.
  - CN-2984 Allowance #1: Unforeseen Conditions = \$10,000.00

VII. ALTERNATES: N/A

#### VIII. <u>EXCLUSIONS:</u>

Flat-strap metal backing – Finish Prime Contractor



## GROSSMONT UNION HIGH SCHOOL DISTRICT

### GROSSMONT HS KITCHEN AND WEIGHT ROOM MULTI-PRIME

ATTACHMENT H
BID PACKAGE

CN-2985

FINISHES, ROOFING, SHEET METAL, GLAZING, DOORS/ FRAMES/ HARDWARE, DRYWALL, INSULATION, PLASTER, FLOORING, PAINT, CEILINGS, FINAL CLEAN

## TRADE CONTRACTOR SPECIFIC PROVISIONS BID PACKAGE: CN-2985

FINISHES, ROOFING, SHEET METAL, GLAZING, DOORS/FRAMES/HARDWARE, DRYWALL, INSULATION, PLASTER, FLOORING, PAINT, CEILINGS, FINAL CLEAN

**VERSION 02** 

# FINISHES / ROOFING / SHEET METAL / GLAZING / DOORS / FRAMES / HARDWARE / FRAMING / DRYWALL / INSULATION / CEILINGS / PLASTER / FLOORING / PAINT / CEILINGS / FINAL CLEAN – VERSION 02

The following clarifies certain inclusions, exclusions, and other information. This list is not inclusive of all work and is not limiting in any manner. This Exhibit shall supplement all General and Special Conditions in this Contract unless specifically noted herein to supersede them. This exhibit shall supersede all other conditions in the Contract and Contract Documents in the event of specific conflicts between the Documents.

- I. <u>GENERAL REQUIREMENTS:</u> The following General Requirements apply to all work included in this Contract:
  - 1. Full compliance and scope coverage with Specification Section(s):
    - DIVISION 00
    - DIVISION 01
    - 06 20 00 Finish Carpentry
    - 06 41 00 Architectural Wood Casework
    - 07 13 00 Sheet Waterproofing (For this Prime)
    - 07 21 00 Thermal Insulation
    - 07 25 00 Weather Barriers
    - 07 42 13.23 Metal Composite Material Wall Panels
    - 07 54 00 Thermoplastic Membrane Roofing
    - 07 62 00 Sheet Metal Flashing & Trim
    - 07 72 00 Roof Accessories
    - 07 92 00 Joint Sealants
    - 07 95 13 Expansion Joint Cover Assemblies
    - 08 06 71 Door Hardware Schedule
    - 08 11 13 Hollow Metal Doors and Frames
    - 08 14 16 Flush Wood Doors
    - 08 31 00 Access Doors and Panels
    - 08 33 13 Coiling Counter Doors
    - 08 33 23 Overhead Coiling Doors
    - 08 36 13 Sectional Doors
    - 08 43 13 Aluminum Framed Storefronts
    - 08 56 59 Service and Teller Window Units
    - 08 71 00 Door Hardware
    - 08 80 00 Glazing
    - 09 05 61 Common Work Results for Flooring Preparation
    - 09 21 16 Gypsum Board Assemblies

- 09 22 36 Lath
- 09 24 00 Cement Plastering
- 09 30 00 Tiling
- 09 51 00 Acoustical Ceilings
- 09 65 66 Resilient Flooring
- 09 65 66 Resilient Athletic Flooring
- 09 91 13 Exterior Painting
- 09 91 23 Interior Painting
- 09 96 00 High-Performance Coatings
- 09 96 23 Graffiti-Resistant Coatings
- 12 36 00 Countertops

Full compliance and scope coverage with all other Project Scope and Specification Sections that interface with and require services related to this scope of work.

- 2. Prime Contractor and its subcontractors and/or lower tier contractors shall be a licensed contractor pursuant to the California Contractors License Law required for the performance of work in the appropriate classification(s) of contractor's license(s) for the work bid upon, and must maintain the license(s) throughout the duration of the Contract. License required for this work shall be B.
- 3. Schedule of shop drawings, submittals, and dimension verifications: The following groups of shop drawings and submittals are not all-inclusive and are supplemental to requirements found elsewhere in the Documents. These submittals shall be delivered to the Construction Manager no later than the below listed dates:
  - a. #075400 Thermoplastic Membrane Roofing

Due: 10 Calendar Days after Preliminary Notice of Award

b. #081113 – Hollow Metal Doors and Frames

Due: 10 Calendar Days after Notice to Proceed

c. #081416 - Flush Wood Doors

Due: 10 Calendar Days after Notice to Proceed

d. #084313 – Aluminum Framed Storefronts

Due: 10 Calendar Days after Notice to Proceed

e. #087100 - Door Hardware

Due: 10 Calendar Days after Notice to Proceed

#### f. ALL other Contractual Submittals

Due: 30 Calendar Days after Notice to Proceed

These due dates take precedence over other dates found elsewhere in the Contract Documents.

- 4. Prepare any coordination drawings required to show the interface between work provided by this Contract and others.
- 5. Procurement of Critical Long Lead Items: Contractor shall be responsible to ensure that critical long lead items are delivered to the project site in time to execute Prime Contractor's work per the Master Construction Schedule.
- 6. Contractor has included the costs for off-site storage of project materials.

Schedule: Prime Contractor shall issue to the Construction Manager a detailed Construction Schedule for this trade's work as it pertains to this Project. The work shall proceed in accordance with the Master Construction Schedule issued with the Construction Documents. This schedule shall be modified from time to time in order to properly coordinate and sequence the work; however, the Prime Contractor is responsible to supply sufficient manpower, equipment and material necessary to ensure the duration of time established for the Prime Contractor's work is maintained as per the Construction.

- 7. Contractor has reviewed the Project and is aware of existing conditions.
- 8. Contractor will be responsible for collateral damage to areas or finishes not scheduled for demolition as a result of his operations.
- 9. It is understood that all scope inclusions contained in this bid package shall be provided by the Contractor regardless of similar or identical inclusions found in other bid packages or trade Contracts.
- 10. It is understood that the Project Specific Provisions contained in the Contract Documents are a material element of this Contract and scope of work. It is specifically noted that the Contractor shall be responsible for all requirements and clauses contained in the Project Specific Provisions.
- 11. In the event of conflicts not clarified prior to bidding deadline, Prime Contractor shall assume the most stringent, higher quality and greater quantity of work for bidding purposes. If Prime Contractor still requires clarification after awarded project, Prime Contractor shall generate an RFI. If appropriate, a deductive change order shall be issued if the clarification results in a reduced scope of work.
- 12. Provide for all layout as required for work included in this Contract.

- 13. Include minor demolition (up to 1' back) where new work meets an existing surface.
- 14. All patching where existing walls need to be opened to install new work /blocking, etc.
- 15. Install weather barriers at all areas.
- 16. The rough carpentry contractor will provide all rough carpentry as required by the contract drawings and in accordance with all applicable codes and standards. It is anticipated, and hereby a requirement of this contract, that some minor shimming, leveling, blocking, etc. will be required in order to complete this Prime Contractor's scope of work. This Prime Contractor is responsible for all unidentified but necessary shimming, leveling, blocking, etc. in order to provide complete systems for the scope of this contract.
- 17. Prime Contractor shall include provisions to comply with all delegated-design submittal requirements found within their respective specification sections.
- 18. Prime Contractor understands that parking will not be permitted within the limits of work, staff parking, student parking or public parking spaces on campus, unless specifically allowed in the Contract Documents or agreed upon by the District. Prime Contractor acknowledges that food trucks are prohibited from entry to the construction limits of work and Valhalla High School campus. This General Requirement supersedes parking provisions outlined elsewhere in the Contract Documents.
- **II. GENERAL CONSTRUCTION INCLUSIONS:** The following General Construction items are specifically included in the scope of this Contract:
  - 1. Prime Contractor shall include eight hundred (800) journeyman hours miscellaneous work. The Construction Manager/District may authorize the use of these hours only.
  - 2. Daily clean-up of all debris related to the Work of this Contractor is required. All debris generated by this Contractor shall be legally removed daily and disposed of offsite by this Contractor. All Contractors, while on site, will provide a clean-up laborer to be included in the weekly clean-up effort for the duration of the project. For bidding purposes, Prime Contractor shall provide 2 hours per week of clean-up labor for 64 total weeks.
  - 3. Provide 10 ea. temporary fire extinguishers with stands. Locate as direct by Construction manager.
  - 4. Provide 5 ea. temporary restrooms serviced 2x /week for the full duration of the

project; from start date thru completion date.

- 5. Provide 5 ea. temporary handwash stations, serviced 2x/week for full duration of the project; from start date thru completion date.
- 6. Provide 50 ea. 40 CY Dumpsters including trash removal for use by all trades to dispose of non-hazardous materials. These will be used over the full duration of the project, from start date thru completion date.
- 7. Prime Contractor shall furnish and install the 5' extended Foreign Object Debris (FOD) Screen at the existing pool deck, per Attachment J Logistics Plan. 5' FOD screen shall be properly supported along the existing chain-link fence such that the screen prevents and debris from entering the pool deck area. Prime Contractor shall coordinate attachment methods with on-site superintendent and School. In addition, Prime Contractor shall provide full height .6mil (Minimum) poly sheeting over the existing pool fence on the bldg side of the fence for the full duration of the project. Prime Contractor includes replacing said poly sheeting one time throughout the project.
- 8. Prime Contractor shall furnish and install two (2) temporary knox locks for the temporary vehicular entrance gates at the site. Prime Contractor shall coordinate directly with the local fire authority to ensure the temporary knox locks are satisfactory.
- 9. Prime Contractor shall include forty (40) journeyman hours for moving site construction fencing to accommodate project activities. The Construction Manager/District may authorize the use of these hours only.
- **III. <u>FINAL CLEANING INCLUSIONS:</u>** At conclusion of project, provide final cleaning with all required supervision, labor, material, supplies, equipment, taxes, and insurance to professionally complete this project as follows:
  - 1. Clean all exterior and interior windows and frames.
  - 2. Clean and sanitize all restrooms and janitor's closets.
  - 3. Vacuum all carpet areas, clean topset base.
  - 4. Sweep and machine scrub all vinyl and ceramic tile floors, and polished concrete floor. Install a minimum (3) coats of wax on all vinyl floors.
  - 5. Clean all doors, frames, hardware, cabinets, counters, shelves, sinks, workstations, and drawers.

- 6. Clean light fixtures, air vents, grills, switches, water coolers, fire hose boxes, overhead piping/ductwork/ light troughs, etc.
- 7. Clean mechanical and electrical rooms, wipe down equipment, sweep floors, spot clean all walls.
- 8. Remove smudges and washable marks from floors, walls, and ceilings.
- 9. Clean all areas of the new modular elevator, elevator mechanical room and other such areas.
- Each room and area shall be inspected and accepted by C.W. Driver at the beginning of each shift. Acceptance shall be granted upon C.W. Driver signing off each room on the plans.
- 11. Clean all casework, inside and out. Clean and shine all casework fixtures.
- 12. Power wash all exterior hardscape and building roof.
- 13. Provide final cleaning in two phases. One full cleaning will occur prior to punch list and one full cleaning will occur after punch list, prior to Owner occupancy.
- 14. Include fifty (50) journeyman hours and equipment for additional interior cleanup beyond the scope of this Contract. The Construction Manager/District may authorize the use of these hours only.
- 15. Prime Contractor includes Power washing the existing exterior walls for preparation of this Prime Contractor's scope and once fully at the end of the project.
- **IV. FIRESTOPPING/CAULKING/SEALANT INCLUSIONS**: The following items are specifically included in the firestopping scope of this Contract:
  - 1. Furnish and install fire-safing, firestopping, and smoke stopping materials at floor and roof deck edges, between stud walls, on top of stud walls and partitions, and storefronts/window walls as required to maintain ratings. Materials shall be furnished and installed per applicable code and Specification requirements. Include fire-safing / fire stopping as required to seal all deck edges and deck penetrations as required weather specifically shown or not on the Contract Documents.
  - 2. Furnish and install all caulking and sealant at all areas requiring painting. Reference painting scope section of this Scope of Work.
  - 2. Properly coordinate the sequence of work with the Construction Manager and all other related trades. Include move-ins as required by the Master Project

Schedule.

- V. <u>WATERPROOFING INCLUSIONS:</u> The following items are specifically included in the Waterproofing scope of this contract:
  - Furnish and install all waterproofing per the Contract Documents. Furnish and install all waterproofing products exactly as specified and in full compliance with the manufacturer's instructions.
  - 2. Furnish and install protection board at areas in contact with dirt backfill. Protection board shall be adhered to the waterproofing membrane in a manner approved by the manufacturer so that backfill operations can proceed uninterrupted. If protection board cannot be fastened, Contractor shall provide labor to place the protection board during all backfill operations. Contractor and inspector shall walk the installed waterproofing system after installation and document its condition prior to backfill operations.
  - 3. All waterproofing shall be installed with neat, clean even lines at grade level and at exposed conditions. The final termination point above grade shall be determined by the Construction Manager prior to start of work. The Contractor shall provide proper elevation/termination points at areas of waterproofing as required by the Construction Manager. This Contractor shall snap lines between the termination points of the waterproofing. All layout shall be reviewed with the Construction Manager and Concrete Contractor prior to application. This Contractor shall remove all excess or incorrectly located waterproofing materials.
  - 4. Prime Contractor shall coordinate waterproofing installation with CN-2983 prior to installation.
  - 5. Prime Contractor includes all waterproofing at metal wall panels installations and shall ensure waterproofing is compliant with the metal wall panel manufacturer.
  - 6. Clean all surfaces to receive waterproofing to insure proper application. Include removal of fins and projections from substrate. Include fill of spalls and cracks. Provide cove stick if required by manufacturer. Extend waterproofing over footings.
  - 7. Prime Contractor shall furnish and install all 'term sill plate barriers' per RCA Addendum 03.
- VI. <u>FINISH CARPENTRY INCLUSIONS:</u> The following items are specifically included in the Finish Carpentry scope of this Contract:
  - 1. Furnish and install all finish carpentry, plastic laminate work, solid surface work, cabinets, glass doors at cabinets, custom fabricated casework, shelves, countertops, Plastic Paneling, cubbies, storage units, tiered shelves and closet rods, etc. as required by the Contract Documents. All millwork shall be

- manufactured in accordance with WIC standards. All millwork shall bear WIC compliance label.
- 2. Furnish and install proper anchorage of all work as required by the Contract Documents. Concealed backing for this scope of work shall be located and verified by this Contractor and installed by others. All other anchorage devices for this scope of work shall be by this Contractor.
- 3. Hoisting of all materials is included. Contractor shall deliver and stock materials per sequencing of rooms or areas as directed by Contractor. Material shall be fabricated to allow for stocking through doorways and/or opening that will exist at the time of jobsite delivery.
- 4. Contractor to provide all engineering required for proper installation of items. Shop drawings/details/calculations to be submitted for approval.
- 5. Provide continuous backing for floor base at all base cabinets. Toe kick backing shall be pressure treated.
- 6. Plastic laminate tops with all trim and backsplash as shown. Coordinate all countertop openings for equipment furnished metal as selected by the Architect.
- 7. Include installation of grommets in the work as per the Contract Documents. Grommets may be plastic or finished metal as selected by Architect. Assume twice as many grommets as indicated in the drawings and coordinate final location with the CM and site.
- 8. Include all cutouts and access panels in cabinets for computer equipment. Coordinate all work to allow installation of computer equipment without further rework of casework.
- 9. Include cutouts, access panels, chase ways, and penetrations for all plumbing and electrical equipment, and fixtures mounted to casework and/or countertops. Include all backing and mounting hardware. Make provisions for future service requirements. Coordinate this work with other trades.
- 10. Include all plastic laminate colors per the Contract Documents. Where a particular color is not specifically designed, provide custom color at Architect's discretion.
- 11. Include a total of forty (40) journeyman labor hours for miscellaneous finish carpentry. The Construction Manager/District may authorize the use of these hours only.
- 12. Coordinate with all trades including framing, plumbing, electrical, and flooring Contractors to ensure proper alignment, backing, and cutouts. Field modifications may be required if sufficient coordination does not take place.

- 13. It is the responsibility of this Contractor to directly coordinate with the Plumbing Contractor and confirm in writing the sink locations, including trap assembly locations.
- 14. Include all caulking and sealing of this work and to that of adjacent and dissimilar materials as required for weatherproofing or appearance. Caulking and sealant materials shall be compatible with all materials and conform to the Contract Document requirements. Coordinate caulking color with the Construction Manager.
- 15. Furnish and install all cabinetry hardware and locks as specified and required for a complete functional installation. Provide keying as coordinated with the site. Contractor should assume that each space will have casework keyed differently than the adjacent space.
- 16. Immediately following installation of countertops, this Contractor shall install continuous cardboard protection on all horizontal surfaces. Remove protection prior to acceptance and as directed by the Contractor.
- 17. Provide wood substructure to support all countertops.
- 18. Fully coordinate all work with other trades to ensure final construction with all applicable work by other trades meets all codes and will fit as indicated on the drawings. Coordinate all dimensions for cutouts with other trades.
- VII. <u>INSULATION INCLUSIONS:</u> The following items are specifically included in the Insulation scope of this Contract:
  - 1. All interior and exterior thermal, sound, fire and other insulation located in the walls, ceilings, under roof decking and otherwise.
  - 2. Furnish and install batt insulation at new interior and exterior walls.
  - 3. Furnish and install batt insulation at exterior wall infills as required.
  - 4. Furnish and install batt insulation at underside of roof assembly at skylight and mechanical unit infill areas as required.
  - 5. Furnish and install fiberglass batt insulation as shown above storefront heads, sectional door head, and other such locations.
  - 6. Furnish and install sound insulation as indicated.
  - 7. Fire safing and fire sealants at all areas noted on the plans and specifications. (All safing and sealants for MEP/FP trades penetrating rated walls is by others).

8. All clips, fasteners, pins, wires, adhesives, etc. as required by specification, code, job conditions and manufacturer's requirements to attach/retain work in place. All materials and methods will conform to the required fire ratings of the design intent.

**VIII. ROOFING INCLUSIONS**: The following items are specifically included in the Roofing scope of this contract:

- 1. Furnish and install all roofing, dens deck at roofs, roofing insulation, roofing tapered insulation, and protection board
- 2. Include roofing at new RTU curbs for new mechanical equipment and other components.
- 3. The Contractor, prior to the start of work, will schedule a Pre-installation roofing conference. The purpose of this meeting will be to coordinate all details of the work to ensure the final product is accepted and warranted. The personnel in attendance shall include the roofing system manufacturer's representative, the Owner, the Architect, all affected trades, and the Construction Manager. This Contractor shall chair the meeting, take and distribute minutes, and implement discussion items as required. This Contractor shall coordinate an independent roof inspection by a firm selected by the Construction Manager.
- Coordinate all testing and inspections required for this scope of work. Provide access for inspection of work. Testing and inspection will be by others except for costs incurred as a result of remedial work.
- 5. Install the specified roof system in accordance with both the Project Specifications and the manufacturer's requirements. Include the any tapered roof insulation system at all areas. The tapered insulation shall be designed in accordance with the Contract Documents to achieve proper drainage in all areas. Where a conflict exists, the more stringent requirements shall apply. Install products as recommended to receive required guarantee and warranty. Install tapered insulation on all canopy roofs, low point shall be 1" of insulation at drains.
- 6. Contractor shall protect in place all items to remain on roof.
- 7. Furnish and install roof insulation board, cant boards, crickets, caulking and sealants, wood blocking and nailers, etc. as required for a complete roofing system.
- 8. Inspect and accept all substrate surfaces and building components prior to application of roof systems. Contractor shall timely notify the Construction Manager in writing of all problems requiring corrective action. Upon Contractor acceptance of substrate surfaces and building components, Contractor shall install roofing system. If ponding or other unacceptable conditions are discovered

- after the application is complete, Contractor shall correct the problem at no additional cost.
- 9. Provide proper methods and materials approved by roof system manufacturer to seal and flash all penetrations as required (MEP penetrations, supports, etc.) for both horizontal and vertical. This may be extensive; reference MEP drawings.
- 10. Contractor to clean all roof/overflow drain assemblies after work is complete.
- 11. Perform water test on roof areas at completion of work. Contractor shall correct any "ponding" or leaks prior to acceptance.
- 12. Furnish and install flashing compatible with specified roofing system at all roof and overflow drains.
- 13. Furnish/install roof walk pads as shown.
- 14. Extend roof membrane up walls to manufacturer's required height or per the drawings, whichever is greater.
- 15. Extend waterproofing over mechanical/electrical pads and curbs whether shown or not.
- 16. Provide crickets (whether shown or not) on roofing drawings for all MEP curbs and pads for drainage. Refer to MEP, Architectural, and Structural drawings. Contractor to provide a Tapered Roof Insulation Plan showing the layout for the roof, including all crickets, and identifying the finish insulation height at each corner of the roof curbs, platforms, ducts and penetrations. Contractor must submit the tapered Roof Insulation Plan with his submittals and provide copies for the Architect, Plumber, Mechanical, Sheet Metal, and electrical contractors for review and comment prior to start of construction.
- 17. Include <u>all</u> manufacturers' flashings/terminations, etc. at all locations where roof terminates.
- 18. Provide a separate move on after the roof is complete for thirty-five (35) manhours of final additional penetration flashings. The Construction Manager/District may authorize the use of these hours only.
- 19. All work shall comply with the manufacturer's installation instructions.
- 20. Terminate all work in accordance with manufacturer's instructions. Provide clean lines at termination edges. Extend up or down adjacent surfaces to guarantee waterproofing.
- 21. Provide all surface prep of substrate including washing, blasting, fin removal, filling, etc.

- 22. Verify and accept substrates moisture content prior to performing work.
- 23. Ensure all materials to be used are VOC compliant.
- 24. Joint sealants are to be included by Contractor wherever necessary.
- 25. Recommended contact adhesives and reinforcing strips are to be suggested in writing by manufacturer.
- 26. Do not store materials in direct sunlight. Materials are to be stored in conditions recommended by manufacturer.
- 27. Roof submittal shop drawings must specifically address the requirements of this project. Manufacturer's standard details that do not apply to this specific project are not acceptable as shop drawings. Prime Contractor understands that Architectural drawings are included to supplement the roofing manufacturer's project specific shop drawings/details. Prime Contractor includes all work required to achieve the Roofing Manufacturer's roofing warranty.
- 28. Contractor to receive, install, ensure weathertight and warrant, ladder tie downs.
- 29. Roof top mechanical equipment: Provide at least an eight (8) inch upturn requirement at all mechanical curbs/platforms and perform all leveling, as needed to receive a warrantable system from the roofing manufacturer. Leveling can include but is not limited to 2x blocking, plywood, rigid insulation and any other rigid surface that is acceptable to the roofing manufacturer. Prime Contractor includes all substrate required to provide a level surface at all upturn locations in order to achieve the roofing manufacturer's roofing warranty. This includes providing the necessary leveling substrate at rooftop unit isolator curbs. Reference 5, 6 & 7 /M0-5.1, 1/M0-5.2 & HVAC Prime Contractor's approved submittal for mechanical isolator curbs. Prime Contractor shall coordinate with HVAC Prime Contractor for rooftop unit isolator spring access door port locations and height in order to coordinate curb substrate height and roofing upturn height. Prime Contractor shall not install roofing over said access door ports. Access door ports must remain accessible. Rough Framing Prime Contractor will only provide built platforms at condensing units and exhaust fan units, as well as rough framing support underneath roof sheathing. It is this Prime Contractor's responsibility to include all necessary support framing or leveling required to achieve the specified roof warranty beyond any built-up platforms for condensing units and exhaust fan units.
- 30. Provide cant strips, shims or furring to cover all exposed hardware and structural elements that extend into the roof membrane. Prime Contractor includes all other cant strips required, per the manufacturer's project specific roofing details.
- 31. Prime Contractor shall include fifteen thousand (15,000) square feet of *peel-and-stick* roofing for use of temporarily waterproofing the roofs in the event the

specified roofing material is unable to arrive by the date the roofing system is scheduled to be installed on the approved Master Baseline Schedule. Prime Contractor includes installing the temporary *peel and stick*, in addition to removing the *peel and stick* if the specified manufacturer does not allow the Prime Contractor to install the specified roofing system over the *peel and stick* roofing material.

- 32. Prime Contractor includes roofing revisions for refrigerant unit curb, per 1/ASK-2.11 in RCA Addendum 02 and per the roofing manufacturer's requirements to achieve the roofing warranty.
- 33. Prime Contractor includes roofing manufacturer compliant TPO boots at ALL pipe and conduit roof penetrations in addition to any scope shown in the Contract Documents. Prime Contractor specifically includes ALL 4lb. lead flashing required at refrigerant piping roof penetrations per 6/M0-5.1 in RCA Addendum 02.
- **IX.** METAL WALL PANELS, SHEET METAL FLASHING AND TRIM INCLUSIONS: The following items are specifically included in the Metal Roofing, Metal Wall Panels, Sheet Metal Flashing and Trim scope of this Contract:
  - 1. Furnish and install new corrugated metal panels.
  - 2. Furnish and install all sheet metal flashing and trim in accordance with the Contract Documents including but not limited to:
    - a. All reglet flashings and counter flashings.
    - b. Fascia and cap flashings.
    - c. Gutters and downspouts.
    - d. Drip edge flashings.
    - e. Doors/windows.
    - f. Coiling/sectional overhead doors.
    - g. Canopies.
    - h. Louvers.
    - i. Flashing at walkway.
    - j. Flashing at concrete benches.
    - k. All wall flashings.
    - I. Roof edge flashing and accessories.
    - m. Weather barriers.
    - n. Seismic separations.
    - If directed by Construction Manager, provide 2-piece metal flashings (reglet and flashing) in lieu of one piece to facilitate the construction schedule.
    - p. Prefinished formed metal flashings.
    - q. Base flashing.
    - Coping system including cleats, miters, wall terminations and ends.

- s. Drips above doors, roof edges and windows.
- t. Architectural metal louvers that are not connected to HVAC systems
- u. AC unit counter flashings.
- v. HVAC Pad flashing and pad cover.
- w. All work finish per specifications.
- x. Curb and Roof Hatch (if shown).
- y. Include additional thirty-five (35) journeyman labor hours for additional flashing that will be required as directed by Construction Manager.
- z. Provide all hoisting for work under this Contract.
- aa. Provide all high lifts/ roof top temporary fall protection devices to install work under this Subcontract.
- bb. All exposed fasteners in pre-finished materials will be similarly finished.
- cc. Provide all sealants and caulking of this specification section to adjacent materials in accordance with specification section 079200.
- dd. Provide all shimming/ spacers, etc. for work included in this Contract to that of work provided by others.
- ee. Provide all pre-finishing of all items unless specifically called out for as not pre-finished.
- ff. All waterproof membranes, etc. behind work in this contract including all break metals, drips, flashings, etc. and supports for sheet metal work.
- X. <u>DOORS, FRAMES, AND HARDWARE INCLUSIONS:</u> Doors, frames, and hardware with all required supervision, labor, material, supplies, equipment, taxes, and insurance to professionally complete this project as follows:

### A. <u>HOLLOW METAL DOORS, AND HOLLOW METAL FRAMES (Including Window Frames and Glazing)</u>

- 1. METAL DOORS AND FRAMES Furnish and install all hollow metal frames and doors as indicated on the construction documents. This includes all window frames as noted. Provide all material required for a complete, finished and properly operating opening as intended by the Contract Documents.
- 2. DOOR AND FRAME FINISH Doors and frames to be provided complete with specified finish. Paint coat to be provided by this Prime Contractor
- 3. DOOR AND FRAME PREPARATION All doors and frames shall be prepared for finish hardware cut-outs, backing, electrified hardware, etc. All fabrication shall be based on the reviewed hardware and hollow metal schedules that are issued to Prime Contractor directly from Construction Manager. Hardware location and preparation shall comply with all current codes and handicap requirements.
- 4. FIRE RATINGS All work to have factory-applied fire rating labels as required on contract documents. All rating labels shall mechanically fastened (NO STICKERS).

- 5. STC RATINGS Include all STC rated doors and frames as required.
- 6. ANCHORAGE Furnish the proper types of clips, anchors, and fasteners to attach frames to building framing.
- 7. DOOR ACCESSORIES Furnish vision lite frames, louvers, fusible link louvers, astragals, and fasteners in doors where required by Contract Documents and applicable building codes.
- 8. TEMPORARY DOORS Furnish and install fifteen (15) temporary doors with temporary lockable hardware and functional hinges as requested by C.W. Driver. The intent of this scope is to provide a security contingency.
- 9. MATERIAL DELIVERIES All hollow metal frames must be delivered to jobsite for installation as indicated in the Project Schedule. Identify each door and frame using the same numbering system used on the Architectural drawings. Coordinate with C. W. Driver's Project Superintendent for exact delivery dates.
- 10. HARDWARE PREPARATION Provide preparation for all hollow metal frames / doors for security and electronic hardware as required by Contract Documents.
- 11. CONSTRUCTION CORES Prime Contractor includes construction key cores for all existing and new doors schedule in the project. Prime Contractor shall coordinate a date/time to install new cores in existing doors at the start of the project with the District's locksmith. Prime Contractor shall expect to perform this task within the first two weeks of the project start date.

#### B. WOOD DOORS

- 1. CERTIFICATION- Provide labels or certificates indicating that installed work complies with AWMAC/WI (NAAWS) requirements for grade or grades specified.
- 2. STORAGE- Wood doors shall be stored per the manufacturer's instructions and per the specifications.

#### C. FINISH HARDWARE

- FINISH HARDWARE- Provide and install all finish hardware indicated on the construction documents. Provide all material required for a complete, finished and properly operating opening as intended by the Contract Documents. Provide cylinders only for aluminum storefront doors.
- 2. PANIC HARDWARE- Include all Panic Hardware as indicated in the Contract Documents.
- 3. HARDWARE ACCESSORIES- Include proper screws, accessories and fasteners to install materials in wood doors, hollow metal and aluminum materials.

- 4. MAINTENANCE TOOLS- Furnish a minimum of (3) three complete sets of maintenance and adjustment tools for items such as closers, locksets, etc.
- 5. KEYING- Provide all keying per the Contract Documents and in accordance with the Owner's keying schedule. Provide I/C cores and keys during construction (two sets, one of which for electrical room). Coordinate with Elevator Contractor on Key Activation Hardware.
- 6. FIRE RATINGS- All hardware shall be suitable for installation in rated walls where applicable.
- 7. PROJECT CONDITIONS- Where hardware types have not been noted, provide hardware groups consistent with similar conditions found elsewhere in the project, the most conservative condition will apply.
- 8. THRESHOLDS- Furnish and install new thresholds at all door frames. Prime Contractor specifically includes custom thresholds at all door locations in resilient athletic flooring areas regardless of specific hardware specified in the hardware schedule. Prime Contractor shall ensure the finish threshold accommodates the resilient athletic flooring thickness.
- XI. <u>GLAZING/STOREFRONT INCLUSIONS:</u> The following items are specifically included in the Glazing scope of this Contract:
  - 1. Furnish and install all glass/glazing for interior and exterior windows, pass-thru windows, sidelites, and vision lites as shown in Contract Documents. This includes fixed and operable windows as indicated.
  - 2. Include all work which is consistent with the defined scope of work in this Contract and that may be required by the entire set of drawings and specifications. Where a conflict exists, the more stringent requirement shall be included.
  - Verify and coordinate dimensions for alcoves, walls and opening dimensions for equipment furnished by others. Particular attention to code mandated exiting clearance and handicap clearance dimensions is required. All work shall fully comply with current handicap codes (even if contrary to the Contract Documents and submittal approvals). This Contractor shall request specific written direction from the Construction Manager before proceeding with any work that is non-compliant.
  - 4. Furnish/install/maintain scaffolding for this Contractor's work operations and other trades that will be installing work that is concurrent, integrated, or after Contractor's operation is complete at no additional cost to the trades or the Owner. Trades will be required to sign reasonable wavers and to provide insurance that is customary for this application. All scaffolding shall fully comply with OSHA requirements. Contractor shall disassemble scaffolding following completion of work.

- 5. Protect the roofing membrane and/or waterproof deck coating systems with temporary plywood protection and other means during the installation of the work installed under this Contract in such areas to guarantee the roofing and waterproofing systems will not be compromised.
- 6. Furnish and install caulking and sealant in this system and between work in this Contract and all other dissimilar materials. Include caulking between Contract work and hollow metal frames, plaster, trim/accessories, concrete, decking, windows and storefronts, metal panels, etc., as required by the Contract Documents.
- 7. Coordinate with the framing contractor to ensure window mullions align with interior framed walls as required by the contract documents.
- 8. Furnish and install all aluminum-framed storefronts. At the conclusion of installation, Prime Contractor shall provide a water-spray test per the specifications and shall provide a written report and video recording of the test for record.
- XII. <u>COILING DOORS & OVERHEAD SECTIONAL DOORS INCLUSIONS:</u> The following items are specifically included in the Coiling Counter Doors & Overhead Sectional Doors scope of this Contract:
  - 1. Prime Contractor to provide and install all 20-gauge painted galvanized break metal required to complete the coiling/overhead door systems.
  - 2. Prime Contractor to include all required angle iron or support metal required to support the coiling counter door system that is not specifically shown in the structural drawings or architectural drawings. This can be additional support steel recommended by the coiling door manufacturer. Structural steel Prime Contractor will furnish and install all miscellaneous metal shown in the structural and architectural drawings for the coiling door system(s).
  - 3. Include all work which is consistent with the defined scope of work in this Contract and that may be required by the entire set of drawings and specifications. Where a conflict exists, the more stringent requirement shall be included. Structural supports to be by Structural Steel Contractor.
- XIII. <u>DRYWALL, FRAMING, LATH & PLASTER INCLUSIONS:</u> The following items are specifically included in the Drywall, Framing, Lath and Plaster scope of this Contract:
  - 1. Include all work which is consistent with the defined scope of work in this Contract and that may be required by the entire set of drawings and specifications. Where a conflict exists, the more stringent requirement shall be included.

- Provide all necessary protection for new/existing work and adjacent finishes from over-spray and Contract work operations. Include masking and protection as required. Include power washing of adjacent surfaces following completion of operations as a result of over-spray and Contract work causing staining, discoloration, etc. Protect floor slabs; subsequent finishes require clean bonding substrate.
- Verify and coordinate dimensions for alcoves, walls and opening dimensions for equipment furnished by others. Particular attention to code mandated exiting clearance and handicap clearance dimensions is required. All work shall fully comply with current handicap codes (even if contrary to the Contract Documents and submittal approvals). This Contractor shall request specific written direction from the Construction Manager before proceeding with any work that is non-compliant.
- 4. Protect the roofing membrane and/or waterproof deck coating systems with temporary plywood protection and other means during the installation of the work installed under this Contract in such areas to guarantee the roofing and waterproofing systems will not be compromised.
- 5. Furnish and install caulking and sealant in this system and between work in this Contract and all other dissimilar materials. Include caulking between Contract work and hollow metal frames, plaster, trim/accessories, concrete, decking, windows and storefronts, metal panels, etc., as required by the Contract Documents.
- 6. All drywall, framing, plaster, lathing, and accessories, (i.e., weep screeds, plaster grounds, casings, corner beads, reveal mountings, aluminum reveals, vented reveals, control joints, etc.) required by the Contract Documents and for a complete job.
- 7. Furnish and install all exterior and interior plaster systems as required by the Contract Documents. Include all lathing, flashing paper, lathing accessories (i.e., weep screeds, plaster grounds, corner/edge trims, casings, control joints, reveal moldings, venting at soffits, etc.) as required by the Contract Documents and for a complete job. This includes new plaster at the Modular Elevator and Elevator Mechanical Room, new plaster soffit at the new walkway, plaster at the infill areas, and other such areas.
- 8. Provide patch and repair of plaster at new and/or expanded openings at locations shown in Contract Documents.
- 9. Plaster scope of work shall include, but is not limited to the following details:
  - a. All plaster accessories as identified in the Contract Documents.
- 10. Include all wires, hangers, and straps, etc., to support work included in this

Contract. All work and suspension systems to comply with code requirements.

- 11. Provide all framing and suspending structural systems in order to install work under obstructions (i.e. under plenum mounted equipment, ductwork, etc.) Include trapeze systems, if necessary, below congested/oversized ducts and other MEP obstructions.
- 12. Provide all seismic bracing and supports as required at all walls and suspended drywall ceilings.
- 13. Furnish/install hat channels, furring, backing behind expansion joints, sheet metal items and other items requiring it.
- 14. All patching and drywall work at opening penetrations required for other trades and equipment, e.g., ducts, fire dampers, pipes, conduits, lights, elevator rail brackets, doors, frames, J-boxes, etc.
- 15. All fire/smoke rated construction shall maintain continuous required ratings at all areas as required by the Contract Documents.
- 16. Furnish and install all interior drywall board and finishing as required by the Contract Documents. Provide flat taped joints and surfaces on drywall backing board located behind ceramic tile. Provide fire rated and moisture resistant board/compounds where required by code and the Contract Documents. Include all trims, accessories, casings, corner/edge trims, reveals, moldings, etc. as required by the Contract Documents and for a complete job.
- 17. Furnish and install all drywall board and finishing at infill areas on exterior walls as required by the Contract Documents.
- 18. Contractor to provide drywall at all framing when directed by the Construction Manager as required to commence acoustical ceiling grid installation. This may or may not be in sequence with drywall production work but will be performed as necessary for acoustical ceiling grid installation. Taping may not be in place prior to the start of acoustical grid installation due to schedule requirements. If this is the case, provide all protection of acoustical ceiling as necessary.
- 19. Coordinate all special requirements and sequence of drywall installation with the Casework Contractor and the Electrical Contractor. Provide openings in walls/soffits for wiring and equipment requirements.
- 20. Provide all custom trim, molds, reveals, shadow molds, frye reveals, f-stops, etc.
- 21. Installation of drywall and finish taping in heavy traffic areas, i.e., corridors, stairwells, etc. that are subject to damage shall not be started until directed <u>in writing</u> by Construction Manager.
- 22. Provide finish tape behind all equipment/fixtures/lockers, etc. as is consistent with

- the taping requirements of the area in question i.e. do not merely fire tape behind these areas.
- 23. Skim coat all existing surfaces as required to prepare it for subsequent finishes. Provide all "float coats" etc. as required by the Contract Documents (i.e. U.S.G. first coat etc.). Provide full coordination to ensure materials used are completely compatible with subsequent finishes.
- 24. Include all items to ensure STC rated rooms meet or exceed the specified parameters. Include all sealants. Sound seal all MEP/FP penetrations.
- 25. Include backer rod and caulking where exterior plaster trim is adjacent to finishes/materials installed by others.
- 26. Frame out for all access doors/panels/hatches provided by other trades as required by actual job conditions. Provide the proper framing at each location.
- 27. Frame out, furnish, and install all access doors, panels, and hatches shown on the Contract Documents. Access doors provided by Contractor shall be fire rated as required to comply with applicable codes. Additionally, unless specified to the contrary, access doors in finished area shall be of the "concealed" type, (i.e. tapeable flange/drywall insert in drywall applications; plaster flange/plaster insert for plaster applications, etc.)
- 28. Install acoustical sealant as required by the Contract Documents at sound and /or rated construction.
- 29. All scaffolding provided by Contractor will "bridge" over primary entry points to the building to allow uninterrupted access. Additionally, scaffold will "bridge" over key utility tie in points that are not yet complete.
- 30. Furnish and install any soffit vents shown on the plan.
- 31. All interior drywall partitions shall be full height <u>unless specifically shown</u> <u>otherwise</u>. This includes insulation and drywall. This supersedes the Contract drawings. Where plywood and drywall meet, provide trim to protect drywall edge.
- 32. Install all HM door and window frames set in all walls. Include anchoring to concrete floor as required.
- 33. Provide all weep screeds.
- 34. Provide one hundred and fifty (150) journeyman hours for miscellaneous drywall work. The Construction Manager/District may authorize the use of these hours only.
- 35. Provide all safety supplies and signs. Furnish and install continuous galvanized vent screeds.

- 36. Provide moisture resistant (purple) drywall board for top-down drywall as directed by the construction manager. This product may be installed prior to the building being weatherized and will extend down to the ceiling elevation.
- 37. Prime Contractor shall furnish and install all backing for all Prime Contractors, per 9/S0-1.6, 33/K-7.3 and per coordination with Prime Contractors. Prime Contractor shall formally notify all Prime Contractors two (2) weeks in advance of hanging drywall to coordinate backing locations/extents.
- XIV. ACOUSTICAL CEILING SYSTEMS, ACOUSTICAL WALL AND CEILING PANELS/DIFFUSERS INCLUSIONS: The following items are specifically included in the Acoustical Ceiling Systems, Acoustical Wall and Ceiling Panels/Diffusers scope of this Contract:
  - Furnish and install all acoustical grid and panel ceiling and wall systems as required by the Contract Documents and specifications. This includes all acoustical wall panels, pyramidal ceiling diffusers as shown. Include all necessary suspension systems and seismic requirements as mandated by code and the Contract Documents.
  - 2. Furnish and install all support/seismic wires for all light fixtures, projection mounts, projector screens, and diffusers /registers within the acoustic ceilings. Furnish and install all pre-finished wall/perimeter angles, edge trim, frye reglet, reveals, miscellaneous trim, etc. at all conditions where the ceilings intersect adjoining surfaces, terminate at light coves, and terminate at drywall soffits etc.
  - 3. Furnish and install acoustical ceiling panels and all necessary trim at the exposed bottom surfaces of ceiling mounted equipment.
  - 4. Furnish and install caulking between work installed under this Contract and dissimilar materials.
  - 5. Fully coordinate all Contract work with all other related trades that interface with the work included in this Contract. Proper coordination shall occur before any work or suspensions systems/wires are installed. Reference all Contract Documents and trade shop drawings.
  - 6. Coordinate all work and dimension requirements with related trades, i.e. dimensions of framed/drywall ceiling soffits. Coordinate installation and location of all wires and suspension system components with all other work above ceiling systems (i.e. ducts, piping, equipment, light fixtures, etc.). This includes coordination with all related building trade Contractors.
  - 7. All hanger wires shall have a looped twisted end after installation for protection of workmen below.
  - 8. Grid and suspension systems shall be configured and constructed in a manner that allows the minimum amount of disassembly at locations where access

hatches, projection screens, operable walls, wall mounted cabinets, doors and HVAC equipment are located above the ceiling systems, i.e., corridors. This may include special splices in the main runners.

- 9. Provide all cut outs, etc. as required for other trades in the acoustic ceiling panels.
- 10. Include an additional twenty (20) ceiling tiles and necessary labor to replace damaged tiles prior to final punch walk. This requirement is in addition to the specified attic stock required by specifications.
- 11. Coordinate the installation of all ceiling mounted equipment with the responsible Contractor to ensure that all backing is securely mounted and not supported by the ceiling system. Ceiling Contractor to provide all cut-outs/trim/bracing to incorporate other systems into the ceiling system.
- 12. Include all compression struts/ bracing as required by code and the Contract Documents. The most conservative shall apply.
- 13. Contractor responsible for all wood blocking for their own systems, including but not limited to, compression posts, splay wires, etc.
- 14. Prime Contractor includes all forty-five (45) degree splay wires, per details shown on AD4.0 and per the Interpretation of Regulations (IR)-25.2.13.
- 15. Prime Contractor has included multiple mobilizations to achieve the requirements of the contract and this Scope of Work subsection. For bidding purposes, include two (2) mobilizations. A mobilization is defined as removal and return of equipment and materials. A crew leaving the site is not a demobilization.
- **XV.** <u>FLOORING INCLUSIONS:</u> The following items are specifically included in the Flooring scope of this Contract:
  - 1. Provide all floor preparation and treatment for floor product installation. Prime Contractor specifically includes the preparation required as outlined per specification #090561 Common Work Results for Flooring Preparation and per the associated flooring manufacturer's installation instructions. Prime Contractor shall assume ALL concrete substrates will require the use of a remedial floor coating, per #090561-2.01C. Prime Contractor shall select moisture control product from the list provided that is compatible and compliant with the associated flooring product that this Prime Contractor receives approval on via the submittal process.
  - 2. Prime Contractor is responsible for coordinating with the Concrete Prime Contractor to ensure floors are poured and finished per this Prime Contractor's flooring manufacturer's requirements.

- 3. Include resilient athletic flooring and base as indicated on Color, Materials, & Finishes Legend on ID-1.0.
- 4. Prime Contractor shall install all flooring systems per the manufacturer's instructions and specifications.
- 5. Provide fifty (50) journeyman hours of flooring field labor. The Construction Manager/District may authorize the use of these hours only.
- 6. Prime Contractor has included multiple mobilizations to achieve the requirements of the contract and this Scope of Work subsection. For bidding purposes, include four (4) mobilizations. A mobilization is defined as removal and return of equipment and materials. A crew leaving the site is not a demobilization
- XVI. <u>CERAMIC TILING INCLUSIONS</u>: The following items are specifically included in the Ceramic Tiling scope of this Contract:
  - 1. Provide all floor and wall preparation and treatment for tile product installation.
  - 2. All wall tile with either mortar set or thin set as indicated.
  - 3. Include all caulking and sealing of all ceramic tile.
  - 4. Include waterproofing membrane on tiled floors and walls.
- **XVII.** PAINTING: The following General Construction items are specifically included in the Painting scope of this Contract:
  - 1. This contractor shall examine all project documents including architectural drawings; structural drawings, civil drawings, specifications, etc. include all work shown on the contract documents relevant to your scope of work.
  - 2. Provide for all interior and exterior painting including water repellant sealers per the contract documents. Provide for all high-performance coatings per the contract documents.
  - 3. Provide all sealants for your scope of work and any work that touches your work. Include application of two coats of paint prior to the installation of all casework, a move-on so all casework can be installed, and a move-on for the third coat.
  - 4. Paint all exposed plumbing lines.
  - 5. Paint all supply and return grilles in accent painted ceiling areas.
  - 6. Provide water repellant and anti-graffiti coatings per Contract Documents.
  - 7. Include all task lighting as required for this contractor's scope of work.

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- 8. MSDS sheets for all materials to be used on site are to be submitted to the Construction Manager jobsite trailer within ten working days following the award of this scope.
- 9. Provide and maintain all required ventilation throughout the duration of all work included in this scope.
- 10. Furnish/install/maintain all scaffolding, ladder, work platforms, etc. for this as required to perform your work. This does not relieve the contractor of responsibility for compliance with all safety or maintenance requirements. Provide all required rigging and hoisting necessary to perform this scope of work. All lifts and material handling required to perform this scope of work shall be provided by the Prime Contractor. All scaffolding shall fully comply with OSHA requirements. Contractor shall disassemble scaffolding following completion of work.
- 11. Painting contractor is to provide all finish caulking at the interior doors and window frames. Also include all finishes caulking around all items that will be set in a metal stud and gypsum partition (i.e., fire extinguisher cabinets, fire hose cabinets, etc.) This finish caulking is to be neat and finished product.
- 12. Painting contractor is responsible for both installation and removal of protection of all painting.
- 13. Painting contractor is responsible to mask off all U.L. label, nameplates, etc. during the painting process.
- 14. Include painting all surfaces as shown on the drawings or described in the specifications.
- 15. Paint all exposed steel as indicated on contract documents.
- 16. Paint all guardrails, handrails and associated hardware as indicated on contract documents, typical.
- 17. Paint exposed metal flashing as shown on the plans.
- 18. Paint all new corrugated metal panels to match as shown on Contract Documents.
- 19. Paint existing and new exterior cement plaster.
- 20. Paint interior gyp walls, ceilings, and soffits as shown on the plans and finish schedule.
- 21. Paint all hollow metal doors and frames as shown on Contract Documents.
- 22. Paint exterior soffits.

- 23. Paint all exposed ceiling, ductwork, conduits, piping, etc.
- 24. Paint roof number signs on buildings as shown on Contract Documents.
- 25. Prime Contractor shall provide caulking/sealant at all drywall areas.
- 26. Include sixty (60) journeyman hours for painting. The Construction Manager/District may authorize the use of these hours only.
- 27. Prime Contractor shall furnish and install painting the decorative perforated aluminum metal panel fence at the exterior electrical yard, per ASK-3.1, ASK-3.3, ASK-3.4 AS-1.2, 1,13-15, 26, 28-30/ASD-2.0, 9&10/ASD-1.0, 11&12/ASD-3.0 and ID-1.0. For bidding purposes, Prime Contractor shall assume painting three (3) different colors, per 11 & 12/ASD-3.0 and per Specification #099600.
- 28. Prime Contractor shall NOT furnish or install any Graffiti-Resistant Coatings (#099623) as part of this project, regardless of what is shown in the plans/specifications. Specification #099623 Graffiti-Resistant Coatings will be deleted in forthcoming addendum.
- XVIII. ALLOWANCES: The following allowances are included in this scope of work. The Construction Manager must agree to the price, type and extent of additional scope before work is started. Field tickets must be signed by Construction Manager's Superintendent on a daily basis to account for the time, material, and equipment used from these allowances. All time, material, and equipment used from these allowances will be billed against these allowances and any portion of the original allowance amount not used will be credited back to the Owner at the end of this Contract's scope of work as a deductive change order. This Article is separate and exclusive from all other Work required by the Contract.
  - CN-2985 Allowance #1: Unforeseen Conditions = \$25,000

#### XIX. ALTERNATES: N/A

#### XX. EXCLUSIONS:

- i. Specialty casework Wenger (by Specialties)
- ii. Sealed concrete finishing (by Concrete Prime Contractor)
- iii. Specification #096700 Fluid-Applied Flooring (by Concrete Prime Contractor)



# GROSSMONT UNION HIGH SCHOOL DISTRICT

### GROSSMONT HS KITCHEN AND WEIGHT ROOM MULTI-PRIME

ATTACHMENT H
BID PACKAGE

CN-2986

**SPECIALTIES** 

# TRADE CONTRACTOR SPECIFIC PROVISIONS BID PACKAGE: CN-2986 SPECIALTIES – VERSION 02

#### **SPECIALTIES - VERSION 02**

The following clarifies certain inclusions, exclusions, and other information. This list is not inclusive of all work and is not limiting in any manner. This Exhibit shall supplement all General and Special Conditions in this Contract unless specifically noted herein to supersede them. This exhibit shall supersede all other conditions in the Contract and Contract Documents in the event of specific conflicts between the Documents.

- I. <u>GENERAL REQUIREMENTS:</u> The following General Requirements apply to all work included in this Contract:
  - 1. Full compliance and scope coverage with Specification Section(s):
    - DIVISION 00
    - DIVISION 01
    - 06 83 16 Fiberglass Reinforced Panels (FRP)
    - 07 92 00 Joint Sealants
    - 09 72 16 Architectural Vinyl Graphic Film
    - 10 11 00 Visual Display Units
    - 10 14 00 Signage
    - 10 21 13.19 -Toilet Compartments
    - 10 26 00 Wall and Door Protection
    - 10 28 00 Toilet Accessories
    - 10 44 00 Fire Protection Specialties
    - 10 56 13 Metal Storage Shelving
    - 10 56 23 Wire Storage Assemblies
    - 12 24 00 Window Shades

Full compliance and scope coverage with all other Project Scope and Specification Sections that interface with and require services related to this scope of work.

- 2. Prime Contractor and its subcontractors and/or lower tier contractors shall be a licensed contractor pursuant to the California Contractors License Law required for the performance of work in the appropriate classification(s) of contractor's license(s) for the work bid upon, and must maintain the license(s) throughout the duration of the Contract. License required for this work shall be B or C-61.
- 3. Schedule of shop drawings, submittals, and dimension verifications: The following groups of shop drawings and submittals are not all-inclusive and are supplemental to requirements found elsewhere in the Documents. These submittals shall be delivered to the Construction Manager no later than the below listed dates:
  - a. #102113.19 Toilet Compartments

Due: 15 calendar days after Notice to Proceed

b. #105613 – Metal Storage Shelving

Due: 15 Calendar Days after Notice to Proceed

c. #105623 – Wire Storage Assemblies

Due: 15 Calendar Days after Notice to Proceed

d. ALL Other Contractual Submittals

Due: 30 Calendar Days after Notice to Proceed

These due dates take precedence over other dates found elsewhere in the Contract Documents.

- 4. Prepare any coordination drawings required to show the interface between work provided by this Contract and others. This includes but is not limited to:
  - Rough Opening Dimensions, Wall Backing Drawings, Backsplashes, Bracing, MPE Coordination Drawings, Pressure treated backing behind toe kicks.
- 5. Prime Contractor has included the costs for off-site storage of project materials.
- 6. Schedule: Prime Contractor shall issue to the Construction Manager a detailed Construction Schedule for this trade's work as it pertains to this Project. The work shall proceed in accordance with the Master Construction Schedule issued with the Construction Documents. This schedule shall be modified from time to time in order to properly coordinate and sequence the work; however, the Prime Contractor is responsible to supply sufficient manpower, equipment and material necessary to ensure the duration of time established for the Prime Contractor's work is maintained as per the Construction.
- 7. Provide flagmen as required. It is understood that the work will take place within an operating Campus and that the Prime Contractor is solely responsible to protect the public and maintain uninterrupted access to the campus by the general public. Provide all barricades, etc. to achieve this.
- 8. Prime Contractor will be responsible for collateral damage to areas or finishes not scheduled for demolition as a result of his operations.
- 9. It is understood that all scope inclusions contained in this bid package shall be provided by the Prime Contractor regardless of similar or identical inclusions found in other bid packages or trade contracts.
- 10. It is understood that the Project Specific Provisions contained in the Contract Documents are a material element of this Contract and scope of work. It is specifically noted that the Prime Contractor shall be responsible for all requirements and clauses contained in the Project Specific Provisions.
- 11. In the event of conflicts not clarified prior to bidding deadline, Prime Contractor shall assume the most stringent, higher quality and greater quantity of work for

- bidding purposes. If Prime Contractor still requires clarification after awarded project, Prime Contractor shall generate an RFI. If appropriate, a deductive change order shall be issued if the clarification results in a reduced scope of work.
- 12. Provide, erect and dismantle all ladders and scaffolding required to perform work. Provide all required rigging and hoisting necessary to perform this scope of work. All lifts and material handling required to perform this scope of work shall be provided by the Electrical Prime Contractor.
- 12. Prime Contractor shall have a current California Contractor's License Classification as listed on the Notice to Bidders and shall keep same current through-out the duration of the project.
- 13. Prime Contractor understands that parking will not be permitted within the limits of work, staff parking, student parking or public parking spaces on campus, unless specifically allowed in the Contract Documents or agreed upon by the District. Prime Contractor acknowledges that food trucks are prohibited from entry to the construction limits of work and Grossmont High School campus. This General Requirement supersedes parking provisions outlined elsewhere in the Contract Documents.
- 14. Daily clean-up of all debris related to the work of this Bid Package Contractor is required. All debris generated by this Bid Package Contractor shall be legally removed daily and disposed of off-site by this Bid Package Contractor. All Bid Package Contractors, while on site, will provide a clean-up laborer to be included in a weekly clean-up effort for the duration of the project. For bidding purposes, Prime Contractor shall provide a 2 hours of clean-up labor for 35 total weeks.
- 15. Finish Prime Contractor includes all in-wall flat-strap backing and rough carpentry Prime Contractor includes all in-wall and above ceiling structural wood-framed backing. Prime Contractor shall coordinate accordingly and layout backing where required for this Prime Contractor's scope.
- 16. Prime Contractor includes eighty (80) additional labor hours to be authorized by the Construction Manager.
- II. <u>VISUAL DISPLAY UNIT INCLUSIONS:</u> The following items are specifically included in the Visual Display Boards scope of Work:
  - 1. Furnish and install all sliding and fixed white boards per Contract Documents.
  - 3. Prime Contractor shall properly coordinate locations of backing and support with the Finish Prime Contractor if flat-strap backing is required. All other backing shall be by the Rough-Carpentry Prime Contractor.
  - 4. Properly coordinate the dimensions and alignment of the joints in the white boards with the joints and other building components.

- 5. Prime Contractor shall clean all boards prior to completion.
- 6. Prime Contractor shall provide coordinated shop drawings to demonstrate this Prime Contractor has coordinated other wall devices and no obstructions will be present during installation. If this Prime Contractor fails to coordinate wall devices or penetrations prior to in-wall rough-in, Prime Contractor is responsible for compensating the associated MEP contractor to relocate the in-wall rough-in.
- **III.** <u>SIGNAGE INCLUSIONS:</u> The following items are specifically included in the Signage scope of Work:
  - 1. Furnish and install all interior room and code related signage as required by Contract Documents.
  - 2. Properly coordinate the dimensions and alignment of signage with other building components.
  - 3. Prime Contractor is aware that coordination with the school/District is expected in order to achieve the correct color/textures choices, as well as defining room/bldg. names.
  - 4. Prime Contractor shall furnish and install ALL Building ID Letters, per plan elevation, details, specifications, etc.
  - 5. Prime Contractor shall furnish and install ALL signage included in the bleacher plans.
  - 6. Prime Contractor shall furnish and install ALL Safe Dispersal Area Signs. Reference ASK-1.2 in Bleacher Addendum 01 and 7/ASD-1.0.
- IV. <u>VINYL GRAPHICS INCLUSIONS:</u> The following General Construction items are specifically included in the Painting, Vinyl Graphics, & Wall Covering scope of this Contract:
  - 1. This contractor shall examine all project documents including architectural drawings; structural drawings, civil drawings, specifications, etc. include all work shown on the contract documents relevant to your scope of work.
  - 2. Furnish and apply all interior and exterior custom vinyl graphic lettering and logos as indicated on the Contract Documents.
  - 3. Furnish and apply all custom vinyl graphic wall covering in all areas noted as GF-2 on Color, Materials, & Finishes Legend on ID-1.0, elevations, and other such locations.
  - 4. Furnish and install all vinyl signage and vinyl graphics.
  - 5. Prime Contractor includes direct coordination with Finishes Prime Contractor for verifying level finish of wall surface is acceptable for vinyl installation. Prime Contractor shall follow the specification requirements for examining and preparing the wall surfaces prior to installation.

- V. <u>TOILET/SHOWER PARTITIONS AND ACCESSORIES INCLUSIONS:</u> The following items are specifically included in the Toilet/Shower Partitions and Toilet Accessories scope of this Contract:
  - Layout, furnish and install all toilet/shower partitions and compartments, urinal screens, and all accessories including but not limited to: grab bars, toilet paper and towel dispensers, trash receptacles, soap dispensers, napkin dispensers and receptacles, soap dispensers, seat cover dispensers, framed mirrors, janitor room items, mop racks, coat hooks, hand dryers, folding shower benches, etc. and all other accessories at all interior and exterior locations as required by the Contract Documents.
  - Toilet/shower partitions shall be from the specified manufacturer and specified finish. All exposed toilet partition items shall be of the same finish. Provide doors for handicap partition walls. Provide framework, etc. for doors to fit in the drywall partitions. Coordinate partition supports and backing with Framing and Structural Steel Prime Contractors.
  - 3. Toilet accessories shall be as specified without substitutions. Include all items as shown in all Contract Documents and as required by code. Coordinate all backing requirements with Framing Prime Contractor.
  - 4. Prime Contractor is responsible to fully coordinate the layout of all accessories and partitions to avoid conflict with floor drains, light fixtures, plumbing fixtures, electrical outlets etc. Prime Contractor shall fully coordinate layout and conflicts with the other Prime Contractors prior to the "framing stage" of construction. Confirm that handicapped requirements are provided for in the Documents, alert the Construction Manager whenever any conflict with handicapped requirements are discovered.
  - 5. Provide all anchors, fasteners, trim, hardware, caulking and sealants as required.
  - 6. This Prime Contractor shall clean and remove all protective coverings from the work as directed by Construction Manager.
  - 7. Provide final adjustments to partition doors and hardware prior to Final Acceptance as directed by the Construction Manager.
- VI. FIRE PROTECTION SPECIALTIES INCLUSIONS: The following items are specifically included in the Fire Protection Specialties scope of Work:
  - 1. Furnish and install all fire extinguishers and fire extinguisher cabinets as noted in the documents. Coordinate built-in cabinets with the framing Prime Contractor.
- VII. METAL STORAGE SHELVING AND WIRE STORAGE ASSEMBLIES INCLUSIONS: The following items are specifically included in the Storage scope of Work:

- 1. Furnish and install all Metal Storage Shelving and Wire Storage Assemblies per Contract Documents.
- 2. Prime Contractor shall properly coordinate locations of backing and support with the Finish Prime Contractor if flat-strap backing is required. All other backing shall be by the Rough-Carpentry Prime Contractor.
- 3. Prime Contractor shall provide coordinated shop drawings to demonstrate this Prime Contractor has coordinated other wall devices and no obstructions will be present during installation. If this Prime Contractor fails to coordinate wall devices or penetrations prior to in-wall rough-in, Prime Contractor is responsible for compensating the associated MEP contractor to relocate the in-wall rough-in.
- **VIII.** PROJECTION SCREENS INCLUSIONS: The following items are specifically included in the Projection Screens scope of Work:
  - 1. Furnish and install projector screens as shown in elevations in classrooms, meeting rooms, and other such locations per the Contract Documents.
  - 2. Furnish and install mounts for projector screens, audio-video and similar per the Contract Documents.
  - 3. Furnish and install extension hardware if required.
- **IX.** WALL AND DOOR PROTECTION INCLUSIONS: The following items are specifically included in the Wall and Door Protection scope of Work:
  - 1. Furnish and install all wall and door protection according to requirements indicted for design, performance, dimensions and member sizes, including thickness of components.
  - 2. Surface mounted, metal corner guards fabricated as one piece from formed or extruded metal with formed edges.
  - 3. Install corner protection according to manufacturer's written instruction, level, plumb and true to line without distortion.
  - 4. After completion of installation, clean plastic covers and accessories using standard ammonia-based household cleaning agent. Remove excess adhesive using methods recommended by manufacturer.
- VI. ALLOWANCES: N/A
- X. ALTERNATES: N/A

XI.	EXCLUSIONS: N/A								
	1.	Roof number signage (by Finishes)							



## GROSSMONT UNION HIGH SCHOOL DISTRICT

### GROSSMONT HS KITCHEN AND WEIGHT ROOM MULTI-PRIME

ATTACHMENT H
BID PACKAGE

CN-2989

PLUMBING AND SITE UTILITIES

# TRADE CONTRACTOR SPECIFIC PROVISIONS BID PACKAGE: CN-2989 PLUMBING AND SITE UTILITIES

**VERSION 03** 

#### PLUMBING AND SITE UTILITIES - VERSION 03

The following clarifies certain inclusions, exclusions, and other information. This list is not inclusive of all work and is not limiting in any manner. This Exhibit shall supplement all General and Special Conditions in this Contract unless specifically noted herein to supersede them. This exhibit shall supersede all other conditions in the Contract and Contract Documents in the event of specific conflicts between the Documents.

- I. <u>GENERAL REQUIREMENTS:</u> The following General Requirements apply to all work included in this contract:
  - 1. Full compliance and scope coverage with Specification Section(s):
    - DIVISION 00
    - DIVISION 01
    - 07 92 00 Joint Sealants
    - 08 31 00 Access Doors (For this Prime Only)
    - 11 40 00 Foodservice Equipment (For this Prime Only)
    - DIVISION 22 In its entirety
    - 22 05 23 General Duty Valves for Plumbing Piping
    - 23 11 23 Facility Natural Gas Piping
    - 23 51 23 Gas Vents
    - 31 23 16.13 Trenching (For this Prime Only)
    - 31 23 23 Fill (For this Prime Only)
    - 33 01 10.58 Disinfecting of Site Water Distribution Piping
    - 33 05 43 Corrosion Protection
    - 33 14 16 Site Water Distribution Piping
    - 33 31 13 Site Sanitary Sewer Piping
    - 33 41 00 Subdrainage
    - 33 42 11 Stormwater Gravity Piping
    - 33 42 30 Stormwater Drains

Full compliance and scope coverage with all other Project Scope and Specification Sections that interface with and require services related to this scope of work.

- 2. Prime Contractor shall have a current California Contractor's License Classification as listed on the Notice to Bidders and shall keep same current through-out the duration of the project. License required for this work shall be A, or B, or (C34 and C36).
- 3. Schedule of shop drawings, submittals, and dimension verifications: The following groups of shop drawings and submittals are not all-inclusive and are supplemental to requirements found elsewhere in the documents. These submittals shall be delivered to the Project Manager not later than the below listed dates:
  - a. #223300 Electric, Domestic Water-Heaters

Due: 15 Calendar Days after Notice to Proceed

b. #223400 – Fuel-Fired, Domestic Water-Heaters

Due: 15 Calendar Days after Notice to Proceed

c. #224100 – Commercial Plumbing Fixtures

Due: 15 Calendar Days after Notice to Proceed

d. #224213.13 – Commercial Water Closets

Due: 15 Calendar Days after Notice to Proceed

e. #224213.16 – Commercial Urinals

Due: 15 Calendar Days after Notice to Proceed

f. #224216.13 – Commercial Lavatories

Due: 15 Calendar Days after Notice to Proceed

g. #224216.16 – Commercial Sinks

Due: 15 Calendar Days after Notice to Proceed

h. #224713 – Drinking Fountains

Due: 20 Calendar Days after Notice to Proceed

i. Division 33 Submittals

Due: 15 Calendar Days after Notice to Proceed

j. ALL Remaining Contractual Submittals

Due: 30 Calendar Days after Notice to Proceed

These due dates take precedence over other dates found elsewhere in the Contract Documents.

- 4. Prepare any coordination drawings required to show the interface between work provided by this contract and others. This includes but is not limited to:
  - a. Plumbing Equipment Layout Drawings
  - b. Above Ceiling Coordination Drawings
  - c. Through Wall Piping Penetration Drawings
  - d. Underground Piping Coordination Drawings
  - e. Equipment or Mechanical Room Layout Coordination Drawings

- 5. Procurement of Critical Long Lead Items: Prime Contractor shall be responsible to ensure that critical long lead items are delivered to the project site as required to meet the Master Project Schedule.
- 6. Prime Contractor has included the costs for off site storage of project materials.
- 7. Schedule: Prime Contractor shall issue to the Construction Manager a detailed Construction Schedule for this trade's work as it pertains to this Project. The work shall proceed in accordance with the Master Construction Schedule issued with the Construction Documents. This schedule shall be modified from time to time in order to properly coordinate and sequence the work; however, the Prime Contractor is responsible to supply sufficient manpower, equipment and material necessary to ensure the duration of time established for the Prime Contractor's work is maintained as per the Construction.
- 8. Prime Contractor has reviewed the Project and is aware of existing conditions.
- 9. Prime Contractor has reviewed the on-site soils conditions and fully understands and acknowledges the quality of the existing soil. For bidding purposes Prime Contractor shall include export of all excavated soils and import of select material for fill and backfill in complete compliance with the Contract Documents for all existing utility backfill and grading areas. Include haul-off and disposal of all debris, existing fill materials, spoils and surplus soil/cobbles/boulders. Prime Contractor includes industry standard equipment or equipment recommended to perform the work described in the Geotechnical Report. Prime Contractor acknowledges the presence of cobble, gravel, and Stadium Conglomerate and includes provisions for removal, as necessary to complete this Prime Contractor's scope. Provisions for removal include, but are not limited to screening, breaking, utilizing appropriate heavy equipment, etc. Prime Contractor has reviewed the boring logs and acknowledges the presence of concrete sections beneath asphalt paving. Prime Contractor shall assume concrete identified in boring data to be present in a minimum of two hundred (200) square feet surrounding the associated boring location.
- 10. Provide flagmen as required. It is understood that the work will take place within an operating Campus and that the Prime Contractor is solely responsible to protect the public and maintain uninterrupted access to the campus by the general public. Provide all barricades, etc to achieve this. Perform during off-hours as required to avoid disruption of campus operations.
- Any required utility shutdowns shall be coordinated with the Construction Manager and the District 14 days in advance. It is understood that the operations of a functioning campus shall not be interrupted. Therefore, shutdowns may need to occur after hours and on weekends. Prime Contractor has included the costs for this off-hour work.
- 12. Prime Contractor will be responsible for collateral damage to areas or finishes not scheduled for demolition as a result of their operations.

- 13. Include all work as referenced by notations: "by Plumbing or Utility Contractor," or similar notations that may be noted throughout the entire set.
- 14. It is understood that all scope inclusions contained in this bid package shall be provided by the Prime Contractor regardless of similar or identical inclusions found in other bid packages or trade contracts.
- 15. It is understood that the Trade Contractor Specific Provisions contained in the contract documents are a material element of this Contract and scope of work. It is specifically noted that the Prime Contractor shall be responsible for all requirements and clauses contained in the Trade Contractor Specific Provisions
- 16. Prime Contractor shall maintain and record as-built information of his work in a current condition. The Prime Contractor shall transfer all as-built information onto the record set of drawings located at the Construction Manager's Field Office. All transferred information shall be neat, legible and in accordance with the guidelines set forth in the contract documents. Failure to provide as-built information in a timely manner will result in progress payments being withheld.
- 17. Properly coordinate the locations and dimensional requirements (including specific dimensions shown on the plans) of all contract work items with all other trade work items so that conflicts, incorrect locations, inadequate space/clearance, and similar types of circumstances are avoided. Prime Contractor shall verify that all work items will fit within the designed wall cavities, ceiling spaces, furred areas, etc., <a href="mailto:before">before</a> any affected building elements are constructed (i.e. foundations, slab on grade, elevated deck, etc.
- 18. This Prime contractor acknowledges and includes the cost for all required off-hour, overtime and weekend work schedules as required to perform the work included in this contract and also coordinate this contract work with all other related trades. This contractor shall provide manpower and shift schedules (in advance of the actual work being performed) to the Construction Manager so that it can be analyzed against the Project's schedule requirements.
- 19. Prime Contractor is required to properly staff the Project to maintain the Project's schedule and to ensure proper sequencing with other Prime Contractors as required by the Construction Manager.
- 20. Prime Contractor is responsible to provide all layout for its work from survey control points and lines, including all building corners, grid lines, offsets, elevations, etc.
- 21. Provide all necessary protection for new work and adjacent finishes from Prime Contract work operations. Include steel plates, plywood, plastic and masking protection as required. Prime Contractor is responsible to maintain/repair/replace any temporary barricades that are moved or damaged by its work. Prime Contractor is responsible to protect all existing structures/MEPs/benchmarks/miscellaneous items as required by the Contract Documents during this Prime Contractor's work.

- 22. Prime Contractor acknowledges that space for storing materials within the worksite is limited. All delivery and storage of materials shall be scheduled and coordinated with the Construction Manager prior to shipping. Prime Contractor is responsible to assure that stocking of building materials does not overload the building structure or unreasonably impede the work of other trades. Prime Contractor shall promptly relocate stored and stockpiled materials when directed by Prime Contractor.
- 23. Prime Contractor is responsible to promptly remove from the project all surplus material and debris associated with its work.
- 24. Prime Contractor is responsible for scheduling and coordinating all deliveries required for this scope of work with the Construction Manager and other Prime Contractors. Prime Contractor to provide adequate flagmen, street closures, sidewalk closures, permits, traffic control, etc. for deliveries, transporting on site, pick-ups as required by the project schedule, specifications, job conditions and governing agencies within the jobsite limits.
- 25. Prime Contractor shall adhere to OSHA safety standards while on the project site and shall engage their designated safety professional to make periodic jobsite walks for safety compliance. Any noted issues or concerns shall be reported to Construction Manager's Superintendent at the time of visit. Prime Contractor is responsible to maintain/repair/replace any temporary barricades.
- 26. The general site wide storm water pollution prevention plan (SWPPP) will be prepared and implemented by others. Prime Contractor shall assume full responsibility to replace any broken sandbags or any other SWPPP type materials damaged by this Prime Contractor during the course of this Subcontractors work.
- 27. Prime Contractor acknowledges that parking space within the project boundaries is extremely limited. The only trucks in immediate use (Loading/Offloading, welding rigs, rigging, etc.) will be allowed to stage near work areas. Worker parking will be designated by the Construction Manager. Penalties for failure to comply with this requirement are the responsibility of the individual vehicle owner.
- 28. In the event of conflicts not clarified prior to bidding deadline, Prime Contractor shall assume the most stringent, higher quality and greater quantity of work for bidding purposes. If Prime Contractor still requires clarification after awarded the project, Prime Contractor shall generate an RFI. If appropriate, a deductive change order shall be issued if the clarification results in a reduced scope.
- 29. Prime Contractor shall furnish and install all mock-ups required by specifications found within this Prime Contractor's scope.

- 30. Prime Contractor shall include provisions to comply with all delegated-design submittal requirements found within their respective specification sections.
- 31. Prime Contractor understands that parking will not be permitted within the limits of work, staff parking, student parking or public parking spaces on campus, unless specifically allowed in the Contract Documents or agreed upon by the District. Prime Contractor acknowledges that food trucks are prohibited from entry to the construction limits of work and Valhalla High School campus. This General Requirement supersedes parking provisions outlined elsewhere in the Contract Documents.
- 32. Perform all coring and sleeving (as required by actual Project requirements) for all contract work. If required, include proper types of steel sleeves at penetrations. Prime Contractor includes X-ray or pachometer investigation before coring into concrete.
- 33. Provide Fire, Smoke, Sound and/or Architectural caulking and sealants at all plumbing penetrations as required by the contract documents. The intent of this general inclusion is for each Prime Trade Contractor to be responsible for their own penetrations as it relates to their scope of work.
- 34. Furnish and install all necessary Unistrut, angles, channels, brackets, backing, threaded rod, miscellaneous steel fasteners, etc. as required to install all fixtures and piping work included in this contract, including seismic supports and sway bracing. All work shall comply with applicable codes and Contract Documents.
- 35. Furnish and install proper support under piping and similar items that run horizontally on the roof membrane.
- 36. Furnish and install all items as required to properly seal all piping penetrations on the roof. Each piping penetration shall be a minimum of 18" from raised platforms, curbs, and adjacent penetrations. Roof penetrations shall not interfere with the operation or servicing of equipment (i.e. piping shall not be located in front of equipment access doors).
- 37. The locations, configuration, sizes and height of roof penetrations shall be fully compatible with the type of roof system and manufacturer's warranty. The Roofing contractor shall approve all such items prior to installation. The design, proper sequence and installation of jacks, flashings, and drains shall be coordinated with the installation of the roofing system. The height of all penetrations shall be a minimum of 8" above the highest point of the finished roof surface. Overall dimensions must be based on the thickness of the insulating concrete fill system, rigid insulation, etc., as applicable.
- 38. Verify the exact location and finish height of each floor and deck drain in the interior rooms and exterior areas of the building before installation. Each drain shall be fully compatible and appropriate with the waterproofing systems and

- thickness of the composite floor materials. The location of the drains shall be placed properly, symmetrically and as required to avoid conflict with all other building components (i.e. toilet partitions, etc.)
- 39. All equipment, fixtures, piping and work including installation shall fully comply with the current handicap codes (even if contrary to the Contract Documents and submittal approvals by the Engineer). Prime Contractor shall request specific written direction from the Construction Manager <u>before</u> proceeding with any work that is non-compliant.
- 40. Furnish and coordinate all plumbing fixture and equipment templates for cutouts in cabinetry and all other building components as applicable.
- 41. Include all excavation and backfill work as required for systems included in this contract. All excavation, bedding materials, backfill and compaction shall be pursuant to requirements of specifications, drawings, and this exhibit. All areas of excavation shall be returned to existing grades upon completion of work. Include handwork/grading around piping, vaults, etc. Haul from the site all spoils generated by the work included in this Contract.
- 42. Include all sawcutting, coring, minor demolition, and removal of debris from the site as required to install the Contract work in areas required by the Contract Documents. In all cases, this Prime contractor shall properly layout and review the extent of all such work with Construction Manager prior to start of any work. This specifically includes any sidewalk/fireroad removals as required. Sawcut to the nearest joint. Remove all debris from site.
- 43. Furnish and install specified labeling, stenciling, tagging and identification of work included in this Contract. This includes all heat trace cable and detection tape required by the plumbing contract documents and/or building codes; whichever is more stringent.
- 44. Furnish and install all access doors required for plumbing work. The proper type and finish of architectural access doors shall be provided. The type and finish may or may not be specifically listed in the plumbing and/or architectural specification sections. Prime Contractor to assume stainless steel access doors in bathroom walls. Coordinate all openings with the respective Prime contractors (i.e. framing, acoustic ceiling, etc.) The Framing Contractor shall provide the openings in the framing systems. Prime Contractor understands that the intent is to use one manufacturer for all exposed interior access doors.
- 45. The water piping system within the building shall be energized at all times during installation of drywall.
- 46. Properly secure all sleeves, work and fixtures that are cast into concrete work so that movement does not occur during placement. Verify proper location and placement before concrete placement.

- 47. This Prime contractor shall provide manpower and shift schedules (in advance of the actual work being performed) to the Construction Manager so that it can be analyzed against the Project's schedule requirements.
- 48. All piping diagrams and plumbing plans are schematic in nature only and actual routing of piping will vary due to actual job conditions. Include all necessary relocations and re-routing as required for a complete and functional system. Piping should be expected to be relocated up to 10' in order to avoid obstructions. Prime Contractor to install scope of work in accordance with the coordinated drawings/files. Any deviations that affect other systems shall require approval of the design team prior to installation.
- 49. Provide, erect and dismantle all ladders and scaffolding required to perform work. Provide all required rigging and hoisting necessary to perform this scope of work. All lifts and material handling required to perform this scope of work shall be provided by the Plumbing contractor.
- 50. Finish Prime Contractor includes all in-wall flat-strap backing and rough carpentry Prime Contractor includes all in-wall and above ceiling structural wood-framed backing. Prime Contractor shall coordinate accordingly and layout backing where required for this Prime Contractor's scope.
- 51. Daily clean-up of all debris related to the Work of this Prime Contractor is required. All debris generated by this Prime Contractor shall be legally removed daily and disposed of offsite by this Prime Contractor. All Prime Contractors, while on site, will provide a clean-up laborer to be included in the weekly clean-up effort for the duration of the project. For bidding purposes, Prime Contractor shall provide a 2 hours of clean-up labor for 54 total weeks.
- **III. PLUMBING INCLUSIONS:** The following items are specifically included in the Plumbing scope of this Contract:
  - 1. All Plumbing work shown on the Plumbing Drawings. Scope includes but is not limited to: building and domestic water, sanitary sewer and vent, storm drain, gas, water heaters, roof, overflow and area drains, drinking fountains, hose bibs, condensate drain systems, water closets, urinals, lavatories, sinks, mop sinks, eyewashes, floor drains, PRVs, piping insulation, all other plumbing fixtures, accessories, and equipment required by the Contract Documents.
    - Scope includes complete <u>site</u> gas system including regulators, etc, per the Civil and Plumbing Drawings.
  - 2. Provide temporary water as follows:
    - a. Provide 2 each hose bibs to be located onsite as directed by Construction Manager. Connect to nearest water source and remove when directed by Construction Manager.
    - b. Provide hydrometer at closest hydrant for 16 months. Water usage cost to be paid by others. Prime Contractor includes coordination with Water District.
  - 3. Furnish and install all site and building natural gas work. Include a pressure

- regulator and an earthquake valve as required by code and the Contract Documents.
- 4. Furnish and install roof drain/overflow drain. Connect to site storm drain system. Prime Contractor to include all roof drain components, including but not limited to drain body, frame and drain dome cover, per the Contract Documents. Prime Contractor includes coordination of roof drain installation sequence as it relates to roofing. Prime Contractor includes roof drain removal and temporary protection at all roof drains called out to be removed and replaced.
- 5. Provide vibration isolators and steel support rails for plumbing equipment.
- 6. Provide concrete anchors, thrust blocks and encasement for underground piping as required.
- 7. Furnish and install protective insulation and covering over all exposed fixture piping and valves as required by the Contract Documents.
- 8. Fully coordinate the locations and installation of all drains located within the building with the Structural Steel and Sheet Metal/Finishes Contractors. All drain leader piping shall be routed within the wall cavities.
- 9. Furnish and install drain pans and associated piping at the water heaters.
- 10. Furnish and install all waste line clean-outs as required by code, the Contract Documents and as required to provide proper access to all points of the system. Clean-outs shall be located in a manner that does not interfere with any building components and at inconspicuous locations. Floor clean-outs shall not be located in marble, tile or wood floors nor shall wall clean-outs be located in public side of walls. Exterior clean-outs shall not be installed in paved areas without consent of Construction Manager. Exterior clean-outs shall be installed in landscape areas whenever possible.
- 11. All plumbing fixtures and drains shall be adequately protected so that no foreign matter can enter. Additionally, protect so that they cannot be used prior to building occupancy.
- 12. Clean out and flow test all lines prior to project completion. Upon project completion and when directed by the Construction Manager, flush all drains, remove and clean all filters, strainers, etc.
- 13. Provide final connections to existing services, new equipment and work supplied under this contract and equipment supplied by others as defined by the Contract Documents.
- 14. Furnish and install water heater platforms/and other equipment supports as required by the Contract Documents.
- 15. Properly flush and sterilize the new domestic water piping system.

Disconnect/reconnect water mains at meters as required to charge system with chemicals. Provide chlorinating certificates at completion of all testing. Properly flush all faucets (without strainers installed) fixture supply valves, toilet flush valves, etc.

- 16. Provide bacteria testing upon completion of work.
- 17. Polish all floor drain covers at conclusion of Project.
- 18. Isolate any piping through concrete floors as required to prevent contact with concrete. Properly support all pipes below decks as required.
- 19. Coordinate with Structural drawings for all piping installed below grade.
- 20. Locate all valves as required for ease of accessibility. Coordinate with all work by other trades. Relocate valves as required if not easily accessible.
- 21. Design/Engineer all supports, hangers, bracing, etc. for ceiling and wall mounted plumbing items. Provide engineered shop drawings for approval by the Architect/Engineer. Reference associated specification requirements for further clarification.
- 22. If required, Prime Contractor will be required to utilize trapeze type supports to bridge under obstruction.
- 23. Provide complete equipment layout drawings for all work provided by this Prime Contractor as required to ensure all equipment will fit in designed areas. Provide all additional supports, mounting/anchorage systems, to comply with this requirement.
- 24. Install all work within casework as required to conceal piping to the maximum extent possible.
- 25. All exterior bolts install through Sheet Metal pad covers shall be set in mastic and have waterproof seal.
- 26. Connect condensate drains and secondary drains. Prime Contractor shall coordinate with HVAC Prime Contractor for manufacturer requirements on condensate drain discharge. If plumbing and mechanical plans do not explicitly shown where condensate shall be discharged from RTUs/DCUs, Prime Contractor shall assume condensate routes and discharges to the nearest mop sink in the same building.
- 27. All below slab piping rough in shall be installed below subgrade. (i.e. below gravel and sand base).
- 28. Furnish and install all catch basins, area drains and trench drains. Prime Contractor shall set the fixture to designed grade and make the final tie-in/connection.

- 29. All Prime Contractors are responsible for covering of roof openings for a weather tight system prior to rain and rain clean-up. Prime Contractor to consider the allotted rain days in the project schedule for budgeting purposes.
- 30. Reference the Site Utility plans for the point of connections. Extend piping to diagrammatic locations of POCs.
- 31. Label all piping per specifications and applicable building codes.
- 32. Furnish and install all supports for plumbing and plumbing equipment.
- 33. Furnish and install all rooftop flashing for plumbing work.
- 34. Provide concrete anchors, thrust blocks and encasement for underground piping as required.
- 35. Include wrapping of below grade pipe per Contract Documents.
- 36. Include all mixing valves.
- 37. Furnish and install all Unistrut, angles, channels, brackets, backing, threaded rod, miscellaneous steel fasteners, etc. as required to install all fixtures and piping work included in this subcontract, including seismic supports and sway bracing. All work shall comply with applicable codes and Contract Documents.
- 38. Prime Contractor includes plumbing safe-off and demolition coordination per the following: Properly identify and make safe all existing plumbing services as required to facilitate the demolition (including a mark-out job-walk) and/or retrofit work within the scope of the Project. Clearly identify all equipment and fixtures scheduled to be demolished for removal by the demolition contractor. Lay out the extents of the demolition. If there is equipment or fixtures that should have been demolished and were not properly identified by the plumbing Prime Contractor but are remaining after demolition, this Prime Contractor will be responsible for having them removed. If there are fixtures or equipment scheduled to remain but not properly identified by this Prime Contractor prior to demolition, this Prime Contractor will be required to buy the replacement equipment. Prime Contractor shall include re-cutting, re-grinding and any other required preparation of point of connections where existing equipment/material was removed by the demolition Prime Contractor. Prime Contractor shall account for and participate in on-site jobwalks at the beginning of the project specifically for coordinating demolition/safeoff.
- 39. Furnish and install all fixture mounts.
- 40. Prime Contractor Includes eighty (80) journeyman labor hours for miscellaneous plumbing work. The Construction Manager/District may authorize the use of these hours only.
- 41. Prime Contractor has included multiple mobilizations to achieve the requirements of the contract. For bidding purposes, include five (5) mobilizations. A mobilization

- is defined as removal and return of equipment and materials. A crew leaving the site is not a demobilization.
- 42. Prime Contractor includes provisions to accommodate multiple commissioning/functional testing in order to achieve the project milestones and completion dates shown in the project schedule.
- 43. Prime Contractor shall coordinate plumbing points of connection (POC) with other Prime Contractor's finish equipment/ systems accordingly. If this Prime Contractor fails to properly coordinate final POCs with other Prime Contractors prior to completing installation, and the POC is wrong and not feasible given the site conditions, the Prime Contractor will be responsible for the costs to relocate the power, low voltage, or fire alarm infrastructure and any subsequent remedial work as a result of the relocation.
- 44. Prime Contractor shall include food service equipment scope noted in the Orness drawing sheets and Foodservice Equipment Specification (#114000) regardless of what is shown on other sheets in the plans. Prime Contractor's food service scope includes but is not limited to:
  - a. All plumbing rough-in Unless specifically noted otherwise.
  - b. Final connections of all food service equipment requiring plumbing/pipe work (water, sewer, gas, etc.) Unless specifically noted otherwise.
  - c. Prime Contractor shall cover all scope noted in the Orness plans or #114000 specifications that note scope by plumbing contractor, 'P.C.', PC, or any reference to plumber.
  - d. Receiving equipment supplied by 'KEC' (Kitchen Equipment Contractor)/Food Service Equipment Prime Contractor that requires this Prime Contractor's final connection/installation.
  - e. Prime Contractor shall reference Appendix Z Food Service Equipment Scope Matrix for additional clarification of food service scope responsibility.
- 45. Prime contractor has reviewed Attachment L DEHQ-FHD Approval and Conditions and shall comply with items #4 & 5.
- 46. Prime Contractor shall include provisions to execute scope, as shown in supplemental Appendix Z Food Service Equipment Scope Matrix. In the event the plans or specification #114000 conflicts with the Appendix Z matrix and explicitly states a certain contractor shall provide or install specific scope, Prime Contractor shall assume the plans or specification #114000 governs. Appendix Z is meant to help clarify the involvement of multiple Prime Contractors for each specific kitchen equipment.
- IV. <u>SITE UTILITIES INCLUSIONS:</u> The following items are specifically included in the Site Utilities scope of this Contract:

- 1. Furnish and install the site storm drain piping and structures. Include all manholes, clean out, structures, inlets, Catch Basins, Area Drains, boxes, headwall, etc.
- 2. Furnish and install natural gas piping, per the Contract Documents. Include an earthquake valve as required by code and the Contract Documents.
- 3. Include potholing, cutting, and capping of all existing site underground wet & dry utilities. Prime Contractor shall include potholing at all utility point of connections/tie-ins. Prime Contractor shall include five additional exploratory potholes (6' deep, by a 4' diameter) as directed by the Construction Manager.
- 4. Include removal of all existing site underground wet & dry utilities, as indicated in the Contract Documents. Removal includes saw-cutting and removing concrete & asphalt, potholing, soil removal, hauling, backfill to finish grade for concrete/asphalt paving Prime Contractor, compaction and any other means to complete utility removal.
- 5. Reference all Civils, drawings for additional information and scope.
- 6. If shown include furnishing and installing of all required grates, frames, and angles for storm utilities.
- 7. Provide all required thrust blocks for pressure lines installed under this Bid Package.
- 8. Purchase and leave at the Construction Manager's jobsite trailer a "key" for on-site water lines and a spanner wrench for shutting down/turning on fire hydrants.
- 9. All spoils generated from the underground utilities scope of work shall be removed/exported from the jobsite. Include in base bid all costs associated with this export.
- 10. Furnish and install all concrete and rebar as it pertains to your work. This includes, but is not limited to catch basins, thrust blocks, and other site utility structures.
- 11. Include a separate move-on for any required adjustments of manhole covers, boxes, etc. prior to asphalt paving. This includes adjustment of existing manholes to grade.
- 12. Locate and mark existing underground utilities prior to beginning work.
- 13. This Prime Contractor is responsible for coordinating with other underground Prime contractors for inverts and grades.
- 14. The scope of work includes dust control as required for installation of this work.
- 15. Approval shall be obtained from Construction Manager and the local jurisdiction for all haul routes to and from the project site, and in and around the site.

- 16. This Prime contractor will be held responsible for retesting costs caused by failed compaction tests.
- 17. Include coordination with the grading contract and all other trades relative to your scope of work.
- 18. Provide all measures (including temporary services) in order to keep occupied portions of the campus fully operational.
- 19. Provide isolators and steel support rails for plumbing equipment as required by the Contract Documents. Include wrapping of below grade pipe per Contract Documents.
- 20. Raise or lower all existing vaults, lids, boxes in work area to match new grades as required. If Prime Contractor is unable to adjust existing vaults to match new grades, Prime Contractor includes replacing said existing vaults. Prime Contractor includes the demolition and removal of all below-grade existing utilities, as indicated in the Construction Documents. This scope may be shown on other drawings other than the Plumbing sheets.
- 21. Prime Contractor shall slurry in this Prime Contractor's trenches, as applicable in civil and plumbing details for this Prime Contractor's underground rough-in.
- 22. Include all excavation, trenching and backfill work as required for systems included in this Contract. All excavation, trenching, bedding materials, shoring, underground utility installation, backfill and compaction shall be pursuant to requirements of specifications, drawings, and this Contract. All areas of excavation shall be returned to existing grades prior to completion of work. Include handwork/grading around conduits, vaults, etc. Haul-off from the site all spoils generated by the work included in this Contract. Any import shall be DTSC approved. Prime Contractor includes lay-out for saw-cut and demo limits for coordination with Demo Prime Contractor. Concrete Prime Contractor shall cover necessary fine grading for new hardscape. Prime Contractor includes all slurry required in this Prime Contractor's trenches, per the plans/Specifications.
- 23. Prime Contractor Includes forty (40) journeyman labor hours for miscellaneous site utility work. The Construction Manager/District may authorize the use of these hours only.
- 24. Immediately and continuously de-water and pump out to appropriate drainage receptacle; all excavations as required by water ponding and weather conditions. Automatic pumps shall be used during all off-hour periods of construction. Immediately clean, "muck-out", remove soft/muddy soils from all pit/trench excavations as required by Inspector or Soils Engineer so that work may continue. Reference Supplemental Conditions for further rain damage prevention responsibilities.
- 25. In addition to requirements found within specifications #221316, #221413, #333113 & #334211, Prime Contractor includes flushing and video-recording all

storm drains found within the project limits/logistics plan to verify drainpipes are clear of obstructions prior to construction operations starting. This requirement includes but is not limited to catch basins, below-grade storm drain pipe, abovegrade storm drain pipe and roof drains (drain bodies and overflows).

- V. <u>ALLOWANCES:</u> The following allowances are included in this scope of work. Construction Manager must agree to the price, type and extent of additional scope before work is started. Field tickets must be signed by Construction Manager's Superintendent on a daily basis to account for the time, material, and equipment used from these allowances. All time, material, and equipment used from these allowances will be billed against these allowances and any portion of the original allowance amount not used will be credited back to the Owner at the end of this Contract's scope of work as a deductive change order. This Article is separate and exclusive from all other Work required by the Contract.
  - CN-2989 Allowance #1: Unforeseen Conditions = \$40,000.00
  - VI. ALTERNATES: N/A
- VII. EXCLUSIONS:
  - 1. Gutters and downspouts (by Finishes Contractor)



### APPENDIX Z - FOOD SERVICE EQUIPMENT SCOPE MATRIX

GHS Kitchen & Weight Room Project - Food Service Scope Matrix

 CN-2987
 Prime: Food Service Equipment

 CN-2989
 Prime: Plumbing

 CN-2990
 Prime: HVAC

 CN-2991
 Prime: Electrical

 District
 Owner Furnished

*Refer to K-2 Orness sheet, Specification #114000 & associated Scope of Work for further clarification. Coordinate backing with respective Prime Contractor. MEP Prime Contractors perform final utility connections of equipment, unless specifically noted otherwise - "Installation by' column represents setting/anchoring equipment, NOT 'final utility connections'

Equipment Item #	cally noted otherwise - 'Installation by' column represents setting/anchorin  Description	Furnished	Infrastructure	Infrastructure #2 (MEP-FA) By	Installation By	Notes
	MOP SINK, FLOOR MOUNTED (24"x24"x12")	By CN-2989	CN-2989	N/A	CN-2989	
3	MOP SINK FAUCET RACK, BRUSH/BROOM	CN-2989 CN-2987	CN-2989 N/A	N/A N/A	CN-2989 CN-2987	
4	WALL STORAGE WALL SHELF	CN-2987	N/A	N/A	CN-2987	
5	AIR CURTAIN	CN-2987	CN-2991	CN-2991	CN-2991	
7	EMPLOYEE LOCKERS WALK-IN FREEZER w/ LIGHTS	District CN-2987	N/A CN-2991	N/A CN-2989	CN-2987 CN-2987	Coordinate lockers with Concrete Prime  Coordinate with Concrete Prime
8	WALK-IN FREEZER EVAPORATOR COIL (FAN) W/KE2 CONTROL	CN-2987	CN-2991	CN-2989	CN-2987	Coordinate with Concrete Prime
9	WIRE SHELVING, FREESTANDING	District	N/A	N/A	CN-2987	Constitute with Consume Drive
10	WALK-IN COOLER W/ LIGHTS  WALK-IN COOLER EVAPORATOR COIL (FAN) W/KE2 CONTROL	CN-2987 CN-2987	CN-2991 CN-2991	CN-2989 CN-2989	CN-2987 CN-2987	Coordinate with Concrete Prime Coordinate with Concrete Prime
12	REFRIGERATION RACK	CN-2987	CN-2991	CN-2989	CN-2987	
13	CORNER GUARDS, L-SHAPE CORNER GUARDS, U-SHAPE	CN-2987 CN-2987	N/A N/A	N/A N/A	CN-2987 CN-2987	
15	SPARE NUMBER	N/A	N/A	N/A	N/A	
16	DRY SHELVING, FREESTANDING	District	N/A	N/A	CN-2987	
17	ICE MACHINES BIN, ICE	CN-2987 CN-2987	CN-2991 CN-2989	CN-2989 N/A	CN-2987 CN-2987	Plumber & electrician make connections
19	WATER FILTER, ICE	CN-2987	CN-2989	N/A	CN-2987	
19.1	BACKFLOW PREVENTOR HAND SINK, WALL MOUNT	CN-2989	CN-2989	N/A N/A	CN-2989 CN-2989	
20.1	FAUCET, ELECTRIC	CN-2987 CN-2987	CN-2989 CN-2991	CN-2989	CN-2989 CN-2989	
21	INTELLIGATE WEB-BASED GATEWAY	N/A	N/A	N/A	N/A	
22	INTELLISENSOR FOR TEMPERATURE & DOOR SPARE NUMBER	N/A N/A	N/A N/A	N/A N/A	N/A N/A	
23	3 - COMPARTMENT SINK	CN-2987	CN-2989	N/A	CN-2989	
25	PRE-RINSE FAUCET, BACKSPLASH MOUNT	CN-2987	CN-2989	N/A	CN-2989	
26 27	WALL STORAGE WALL SHELF POT RACK, STAINLESS STEEL	CN-2987 CN-2987	N/A N/A	N/A N/A	CN-2987 CN-2987	
28	WALL STORAGE WALL SHELF	CN-2987	N/A	N/A	CN-2987	
29	SOILED DISH TABLE W/ SCRAPPED SINK PRE-RINSE FAUCET. BACKSPLASH MOUNT	CN-2987	CN-2989	N/A	CN-2989	
30 31	PRE-RINSE FAUCET, BACKSPLASH MOUNT  QUICK DRAIN	CN-2987 CN-2987	CN-2989 CN-2989	N/A N/A	CN-2989 CN-2989	
32	WAREWASHER, DOOR TYPE, HIGH TEMP w/ BOOSTER	CN-2987	CN-2991	CN-2989	CN-2989	
33 34	TYPE-II STEAM EXHAUST HOOD EXHAUST FAN	CN-2987 CN-2990	CN-2990 CN-2990	CN-2990 CN-2991	CN-2987 CN-2990	
35	SPARE NUMBER	N/A	N/A	N/A	N/A	
36	DISH TABLE, CLEAN	CN-2987	N/A	N/A	CN-2987	
37 38	POT SHELVING, FREESTANDING SPARE NUMBER	District N/A	N/A N/A	N/A N/A	CN-2987 N/A	
39	SPARE NUMBER	N/A	N/A	N/A	N/A	
40	SPARE NUMBER	N/A	N/A	N/A	N/A	
41	PREP TABLE w/ DOUBLE PREP SINK, ADA FAUCET	CN-2987 CN-2987	CN-2989 CN-2989	N/A N/A	CN-2989 CN-2989	
43	WALL STORAGE WALL SHELF	CN-2988	N/A	N/A	CN-2987	
44 45	SPARE NUMBER INSULATED HOT CABINET, MOBILE	N/A District	N/A CN-2991	N/A CN-2991	N/A District	
46	ISLAND PREP TABLE W/ INTEGRAL PREP SINK	CN-2988	CN-2989	N/A	CN-2989	
47	FAUCET	CN-2988	CN-2989	N/A	CN-2989	
48 49	COMMERCIAL MICROWAVE OVEN RACK, PAN	District District	CN-2991 District	CN-2991 District	District District	
50	WORK TABLE	District	N/A	N/A	CN-2987	
51 52	COOK & HOLD QUIKTHERM, MOBILE SPARE NUMBER	District N/A	CN-2991	CN-2991	District	
53A	CONVECTION OVEN, GAS	District	N/A CN-2991	N/A CN-2989	N/A CN-2989	
53B	CONVECTION OVEN, GAS	District	CN-2991	CN-2989	CN-2989	
54A 54B	CONVECTION OVEN, GAS CONVECTION OVEN, GAS	District District	CN-2991 CN-2991	CN-2989 CN-2989	CN-2989 CN-2989	
55	TILTING SKILLET, GAS	District	CN-2991	CN-2989	CN-2989	
56	FLOOR TROUGH	CN-2987	CN-2989	N/A	CN-2989	
57 58	6-BURNER RANGE w/ CONVECTION OVEN, GAS SPARE NUMBER	District N/A	CN-2991 N/A	CN-2989 N/A	CN-2989 N/A	
59	SPARE NUMBER	N/A	N/A	N/A	N/A	
60	SPARE NUMBER TYPE-I GREASE EXHAUST HOOD w/ LIGHTS	N/A CN-2987	N/A CN-2990	N/A CN-2991	N/A CN-2987	
62	EXHAUST FAN	CN-2990	CN-2990	CN-2991	CN-2990	
63	MAKE-UP AIR	CN-2990	CN-2990	CN-2991	CN-2990	
64 65	STAINLESS STEEL WALL PANELS  QUICK GAS DISCONNECT	CN-2987 CN-2987	N/A CN-2989	N/A N/A	CN-2987 CN-2989	
66	FIRE SUPPRESSION SYSTEM; ANSUL AUTOMAN	CN-2987	CN-2991	CN-2989	CN-2987	Electrical Prime has E+FA infrastructure to box microswitches and gas valve reset relay
67	REMOTE PULL STATION FOR FIRE SUPPRESSION SYSTEM	CN-2987	CN-2991	CN-2989	CN-2987	Electrician rough-in conduit. KEC has pull box & cables
68 69	K-TYPE FIRE EXTINGUISHER, RECESSED  GAS SHUT OFF VALVE	CN-2987 CN-2987	N/A CN-2989	N/A N/A	CN-2987 CN-2989	Plumber installs shut-off valve. Electrician wires back to hood ansul cabinet
70	WALL MOUNTED CONTROL CABINET	CN-2987	CN-2990	CN-2989	CN-2990	and the second second
71 72	SPARE NUMBER SPARE NUMBER	N/A N/A	N/A N/A	N/A N/A	N/A N/A	
72	REFRIGERATOR, PASS-THRU	District	CN-2991	N/A N/A	N/A CN-2987	
74	CABINET, WARMING & HOLDING, PASS-THRU	District	CN-2991	N/A	CN-2987	
75 76	P.O.S. & CART P.O.S. & CARD READER	District District	N/A CN-2991	N/A CN-2991	CN-2987 District	
76	SERVING CART, COLD	District	CN-2991 CN-2991	N/A	CN-2987	
78	SERVING CART, HOT	District	CN-2991	N/A	CN-2987	
79 80	DOUBLE SIDED SNEEZE GUARD, SELF-SERVE SERVING CART, COLD	District District	N/A CN-2991	N/A N/A	CN-2987 CN-2987	
81	MILK COOLER	District	CN-2991	N/A	CN-2987	
82	AIR CURTAIN	CN-2987	CN-2991	N/A	CN-2987	



## GROSSMONT UNION HIGH SCHOOL DISTRICT

### GROSSMONT HS KITCHEN AND WEIGHT ROOM MULTI-PRIME

ATTACHMENT H
BID PACKAGE

**CN-2990** 

**HVAC & CONTROLS** 

# TRADE CONTRACTOR SPECIFIC PROVISIONS BID PACKAGE: CN-2990 HVAC & CONTROLS

**VERSION 02** 

### **HVAC & CONTROLS - VERSION 02**

The following clarifies certain inclusions, exclusions, and other information. This list is not inclusive of all work and is not limiting in any manner. This Exhibit shall supplement all General and Special Conditions in this Contract unless specifically noted herein to supersede them. This exhibit shall supersede all other conditions in the Contract and Contract Documents in the event of specific conflicts between the Documents.

- I. <u>GENERAL REQUIREMENTS:</u> The following General Requirements apply to all work included in this Contract:
  - 1. Full compliance and scope coverage with Specification Section(s):
    - DIVISION 00
    - DIVISION 01
    - 07 92 00 Joint Sealants
    - 08 31 00 Access Doors (For this Prime Only)
    - 11 40 00 Foodservice Equipment (For this Prime Only)
    - DIVISION 23 In its entirety (With Exception to #23 11 23 & #23 51 23)

Full compliance and scope coverage with all other Project Scope and Specification Sections that interface with and require services related to this scope of work.

- 2. Contractor shall have a current California Contractor's License Classification as listed on the Notice to Bidders and shall keep same current through-out the duration of the project. License required for this work shall be C-20.
- 3. Schedule of shop drawings, submittals, and dimension verifications: The following groups of shop drawings and submittals are not all-inclusive and are supplemental to requirements found elsewhere in the documents. These submittals shall be delivered to the Project Manager not later than the below listed dates:
  - a. #233113 Metal Ducts

Due: 20 Calendar Days after Notice to Proceed

b. #233300 – Duct Accessories

Due: 20 Calendar Days after Notice to Proceed

c. #233416 - Centrifugal HVAC Fans

Due: 15 Calendar Days after Notice to Proceed

d. #233423 – HVAC Power Ventilators

Due: 15 Calendar Days after Notice to Proceed

e. #233713 - Diffusers, Registers & Grilles

#### Due: 20 Calendar Days after Notice to Proceed

f. #237313 – Modular Outdoor Central-Station Air-Handling Units

Due: 15 Calendar Days after Preliminary Notice of Award

g. #237416.11 – Packaged, Small-Capacity, Rooftop Air-Conditioning Units

Due: 15 Calendar Days after Preliminary Notice of Award

h. #238126 – Split-System Air-Conditioners

Due: 20 Calendar Days after Notice to Proceed

i. ALL other Contractual Submittals

Due: 30 Calendar Days after Notice to Proceed

These due dates take precedence over other dates found elsewhere in the Contract Documents.

- 4. Prepare any coordination drawings required to show the interface between work provided by this Contract and others. This includes but is not limited to:
  - a. Structural Penetration Drawings
  - b. Equipment Layout Drawings
  - c. Above Ceiling Coordination Drawings
- 5. Procurement of Critical Long Lead Items: Contractor shall be responsible to ensure that critical long lead items are delivered to the project site as required to maintain the Master Project Schedule.
- 6. Contractor has included the costs for off-site storage of project materials.
- 7. Schedule: Contractor shall issue to the Construction Manager a detailed Construction Schedule for this trade's work as it pertains to this Project. The work shall proceed in accordance with the Master Construction Schedule issued with the Construction Documents. This schedule shall be modified from time to time in order to properly coordinate and sequence the work; however, the Contractor is responsible to supply sufficient manpower, equipment and material necessary to ensure the duration of time established for the Contractor's work is maintained as per the Construction.
- 8. Provide flagmen as required. It is understood that the work will take place within an operating Campus and that the Contractor is solely responsible to protect the public and maintain uninterrupted access to the campus by the general public. Provide all barricades, etc. to achieve this. Perform during off-hours as required to avoid disruption of campus operations.

- 9. Contractor will be responsible for collateral damage to areas or finishes not scheduled for demolition as a result of his operations.
- It is understood that all scope inclusions contained in this bid package shall be provided by this Contractor regardless of similar or identical inclusions found in other bid packages or trade Contracts.
- 11. It is understood that the Project Specific Provisions contained in the Contract Documents are a material element of this Contract and scope of work. It is specifically noted that the Contractor shall be responsible for all requirements and clauses contained in the Project Specific Provisions.
- 12. In the event of conflicts not clarified prior to bidding deadline, Prime Contractor shall assume the most stringent, higher quality and greater quantity of work for bidding purposes. If Prime Contractor still requires clarification after awarded project, Prime Contractor shall generate an RFI. If appropriate, a deductive change order shall be issued if the clarification results in a reduced scope of work.
- 13. <u>Building Dimension Verification</u>: Contractor shall issue a plan and letter to the Construction Manager in the form of a submittal that locates and verifies exact dimensions for the following items:
  - A. Locations and sizes of formed concrete housekeeping pads.
  - B. Dimensional size confirmation of all <a href="mailto:mechanical rooms">mechanical rooms</a> (located within the building interiors and /or exterior service yard, as applicable); are sufficient in size to accommodate all of the designed HVAC equipment, ductwork and piping. This submittal shall confirm that the dimensions/ configuration of designed areas, the placement/ swing of doors, etc. are adequate for the design of the HVAC systems and will provide proper code required clearances.
  - C. Exact dimensional sizes and locations of all required framed/formed openings in all building elements, i.e., shafts, walls, floors, and decks. Dimensional locations shall be established from grid lines or other appropriate reference points. This information is required so that all required openings (by other trades) can be planned for and constructed accordingly.
- 14. It is understood that all major equipment items shall be delivered to the site in appropriately sized sections as required to allow rigging and installation of the equipment in each mechanical room / area through the physical space and openings allowed by the completed building structure. The Contractor shall place all equipment within these areas at scheduled times as designated by the Construction Manager to avoid delays to the surrounding work.
- 15. Provide Fire, Smoke, Sound and/or Architectural caulking and sealants at all duct/piping penetrations as required by the contract documents. The intent of this general inclusion is for each Prime Trade Contractor to be responsible for their

- own penetrations as it relates to their scope of work. Materials shall be furnished and installed per applicable code and Specification requirements.
- 16. All sleeves and penetrations for ductwork, piping, conduits, equipment, etc. shall be sealed with materials that are either specified or approved by the Architect.
- 17. Furnish and install all necessary angles, clamps, hangers, channels, Unistrut, supports, wires, cables, threaded rod, misc. steel, isolation devices, seismic anchorage, slack wires, backing, etc.; for all HVAC work, equipment and misc. items included in this Contract. All work shall comply with applicable codes and Contract Document requirements.
- 18. Contractor shall protect the roofing membrane and/or waterproof deck coating systems with temporary plywood protection during the installation of the HVAC work in such areas.
- 19. The locations, configuration, sizes and height of roof penetrations shall be fully compatible with the type of roof system and manufacturer's warranty. The Roofing Contractor shall approve all such items prior to installation. The design, proper sequence and installation of jacks/flashings shall be coordinated with the installation of the roofing system. The height of all penetrations shall be <u>a minimum of 8" above the highest point of the finished roof surface.</u> This includes all curbs, platforms, etc. Many of these will need to be custom-sized due to varying roof insulation height. The Contractor must verify the total combined thickness of the roof system and underlying substrate (i.e., concrete fill, rigid insulation, etc. as applicable), plus the minimum curb height <u>above</u> the top of the roof membrane.
- 20. Furnish and install proper support under piping and similar items that run horizontally on the roof membrane.
- 21. Include all <u>HVAC and similar related work items</u> as may be referenced throughout the Contract Documents by typical notations such as: by: "Mechanical Contractor" Contractor," "General Contractor," "MC", and similar, etc. that may be noted throughout the entire set of drawings and specifications.
- 22. If applicable, all components, equipment and work including installation shall fully comply with current handicap codes (even if contrary to the Contract Documents and submittal approvals by the Mechanical Engineer). Contractor shall request specific written direction from the Construction Manager before proceeding with any work or ordering any materials that are non-compliant.
- 23. Include all saw cutting, coring, minor demolition and removal of debris from the site as required to install the HVAC work in areas required by the Contract Documents. In all cases, Contractor shall properly layout and review the extent of all such work with the Construction Manager prior to start of any work.
- 24. Perform all specified labeling, stenciling, tagging and identification of all equipment, piping / ductwork systems, devices, etc., which are included in this Contract.

- 25. Furnish and install all access doors that are required for HVAC equipment, components and systems. The Finishes Prime contractor will only provide the access panels specifically identified on the architectural drawings. Coordinate all openings with the respective contractors, i.e.: Wood Framing Contractor.
- 26. Properly secure all sleeves, work, and equipment that are cast into concrete work so that movement does not occur during placement. Verify proper location and placement before concrete placement.
- 27. All prime / finish painting and factory finishes of HVAC work as specifically required by the Contract Documents.
- 28. Contractor shall maintain and record as-built information of his work in a current condition. The Contractor shall transfer all as-built information onto the record set of drawings located at the Construction Manager's Field Office. All transferred information shall be neat, legible and in accordance with the guidelines set forth in the contract documents. Failure to provide as-built information in a timely manner will result in progress payments being withheld.
- 29. Provide, erect and dismantle all ladders and scaffolding required to perform work. Provide all required rigging and hoisting necessary to perform this scope of work. All lifts and material handling required to perform this scope of work shall be provided by the HVAC contractor.
- 30. Daily clean-up of all debris related to the Work of this Contractor is required. All debris generated by this Contractor shall be legally removed daily and disposed of offsite by this Contractor. All Contractors, while on site, will provide a clean-up laborer to be included in the weekly clean-up effort for the duration of the project. For bidding purposes, Prime Contractor shall provide a 2 hours of clean-up labor for 40 total weeks.
- 31. Prime Contractor includes all testing, per the Contract Documents.
- 32. All Contractors are responsible for covering of roof openings for a weather tight system prior to rain and rain clean-up. Bid Package Contractor to consider the allotted rain days in the project schedule for budgeting purposes.
- 33. Prime Contractor understands that parking will not be permitted within the limits of work, staff parking, student parking or public parking spaces on campus, unless specifically allowed in the Contract Documents or agreed upon by the District. Prime Contractor acknowledges that food trucks are prohibited from entry to the construction limits of work and Grossmont High School campus. This General Requirement supersedes parking provisions outlined elsewhere in the Contract Documents.
- 34. Prime Contractor shall include provisions to comply with all delegated-design submittal requirements found within their respective specification sections.
- 35. Prime Contractor shall include forty (40) journeyman labor hours for miscellaneous

- work. The Construction Manager/District may authorize the use of these hours only.
- 36. Finish Prime Contractor includes all in-wall flat-strap backing and rough carpentry Prime Contractor includes all in-wall and above ceiling structural wood-framed backing. Prime Contractor shall coordinate accordingly and layout backing where required for this Prime Contractor's scope.
- **II. HVAC INCLUSIONS:** The following items are specifically included in the HVAC scope of this Contract:
  - 1. Furnish and install all HVAC system components as required by the Contract Documents including but not limited to: Roof top air handling equipment, exhaust systems, split systems, piping systems, ductwork systems, VFD's, Pumps, etc. The intent of this Prime Contractor is to provide a complete and functioning HVAC system as intended by the contract documents.
  - 2. The HVAC Contractor shall fully coordinate with the Electrical Contractor(s) with regards to the HVAC energy management/temperature control systems. The HVAC Contractor has reviewed all of the Contract Documents and acknowledges that each specific trade responsibility to furnish and install <a href="each">each</a> of the specified/shown components, conduit systems, equipment items and low/line voltage wiring are <a href="elearly defined">clearly defined</a> between the Division 23 and Division 26 trades so that all items required by the Contract Documents are installed. It is specifically understood that all low-voltage conduit, wiring and devices for temperature control and HVAC system shall be provided by the HVAC Contractor unless <a href="mailto:specifically and solely">specifically and solely</a> noted on the Electrical Contract Documents to be provided by Electrical contractor.
  - 3. The HVAC Contractor shall fully coordinate with the Electrical and Fire Alarm Contractors with regards to the smoke/fire dampers, and duct/mechanical equipment smoke detection systems. The HVAC Contractor has reviewed all of the Contract Documents and acknowledges that each specific trade responsibility to furnish and install each of the specified/ shown components, conduit systems, equipment items, and low/line voltage wiring are clearly defined between the Division 23 and Division 26 trades so that all items required by the Contract Documents are installed.
  - 4. Include all <u>HVAC</u> and similar related work items as may be referenced throughout the Contract Documents by typical notations such as: by: "Mechanical Contractor", "Contractor", "MC", and similar, etc. that may be noted throughout the entire set of drawings and specifications. Included items, but not limited to, shall be all equipment listed on sheet M0.2, mechanical piping, controls and control wiring, commissioning, pathways to interconnect building systems, associated sheet metal work, and housekeeping pads.
  - 5. The locations, configuration, sizes and height of roof penetrations shall be fully compatible with the type of roof system and manufacturer's warranty. The Roofing

Prime Contractor shall approve all such items prior to installation. The design, proper sequence and installation of jacks/flashings shall be coordinated with the installation of the roofing system. The height of all penetrations shall be <u>a minimum of 8" above the highest point of the finished roof surface.</u> This Prime Contractor must verify the total combined thickness of the roof system and underlying substrate (i.e., insulating concrete fill system, rigid insulation, etc. as applicable), plus the minimum curb height above the top of the roof membrane.

- 6. Maintain the designed fire/smoke/sound ratings at all penetrations/pockets/shafts/recesses in the building construction. If required, include proper types of steel sleeves at penetrations. Include fire caulking at rated walls. It is the intent of this clause that the HVAC Contractor be responsible for sealing all of the penetrations provided as part of the scope of this Contract.
- 7. If applicable, all components, equipment and work including installation shall fully comply with current ADA codes (even if contrary to the Contract Documents and submittal approvals by the Mechanical Engineer). Prime Contractor shall request specific written direction from the Construction Manager before proceeding with any work or ordering any materials that are non-compliant.
- 8. Furnish and install all air louvers that are shown on the Mechanical Plans and/or directly connected to ductwork. Include steel angles, bird screens, and associated flashing/caulking, etc. Coordinate all openings with the respective trades (i.e. concrete, drywall, framing, plaster, etc.).
- 9. Furnish and install all pitch pans, roof jacks, flashings/counter flashings, caulking, etc., as required for penetrations of equipment, ductwork, piping, etc. Penetrations shall have a minimum of 18" horizontal separation between adjacent penetrations. Roof penetrations shall not interfere with the operation or servicing of equipment i.e.: piping / ductwork shall not be located in front of equipment access doors. Provide all supports in roof area. All caulking and flashings shall be completely compatible with the roofing system.
- 10. Furnish / install all vent pipes, caps, etc., for HVAC equipment.
- 11. Furnish and install condensate drain lines/piping for all mechanical equipment included in this Contract that is shown on M drawings. Also include condensate and secondary drain pans where shown/specified. The Plumbing Contractor will only provide condensate drain lines and make up water supply lines that are specifically shown on the Plumbing Plans. The HVAC Contractor will provide all condensate lines not shown on the plumbing drawings as required to properly drain all condensate pans, lines etc. to the nearest approved receptacle.
- 12. Furnish and install condensate pans under all FCU whether specifically shown or not.
- 13. Furnish and install all miscellaneous sheet metal work associated with and required for the mechanical work including sheet metal equipment pad covers for all rooftop equipment. The Sheet Metal (Finishes) Contractor will not provide any

- sheet metal items associated with the HVAC scope of work.
- 14. Furnish and install all fire and fire/smoke dampers as shown on the drawings and as required to maintain rated construction. Include all fire rated caulking and packing materials required to encase ducts and damper assemblies at points of penetration through fire rated and smoke rated construction. Include all steel angles, sleeves, access doors, and accessories required for a complete installation. The Electrical contractor will provide low voltage power and fire alarm control/monitoring for the dampers.
- 15. Arrange and pay for independent air/water balance testing, adjustments and reports in accordance with the Contract Documents.
- 16. Furnish and install all vibration isolators, steel support rails and frames for HVAC equipment as required by the Contract Documents.
- 17. Design/Engineer for all supports, hangers, bracing, etc. for ceiling, wall and roof mounted mechanical items. Provide engineered shop drawings for approval by the Architect/Engineer as required.
- 18. Furnish and install custom prefabricated roof curbs for all rooftop ductwork penetrations, HVAC units, exhaust fans and equipment. Tops of curbs shall be pitched to drain. Rough Carpentry Prime Contractor shall provide all structural blocking on the under-side of the roof deck/sheathing and shall provide any rough-framed platform explicitly shown in the structural/architectural drawings. The Finish Prime Contractor shall fill the void in the pre-fabricated HVAC curb in order to maintain the 8" upturn for the roofing warranty. This Prime Contractor shall coordinate accordingly with the Rough-carpentry Prime Contractor and the Finish Prime Contractor.
- 19. Provide hoods over all exterior through wall penetrations. Seal all wall penetrations.
- 20. Furnish and install sheet metal housekeeping pad covers under all equipment provided by this contractor that is not self-flashing or has roofing terminating into it.
- 21. All exterior bolts installed through sheet metal pad covers, etc. shall be set in mastic and have waterproof seal.
- 22. Provide trapeze hangers for use under/over-sized obstructions.
- 23. Provide all transition pieces from louvers to duct work.
- 24. <u>T-Bar</u> ceiling wires for HVAC registers/diffusers will be provided by others with layout provided by the HVAC Contractor. HVAC Contractor will be responsible for all trapeze and other installations where overhang obstructions prohibit/limit the use of ceiling wires. All other ceiling supports for HVAC work will be provided by the HVAC Contractor. Include new and temporary support of HVAC grills to remain in existing print shop.

- 25. All Contractors are responsible for covering of roof openings for a weather tight system prior to rain and rain clean-up. Bid Package Contractor to consider the allotted rain days in the project schedule for budgeting purposes.
- 26. Custom pitch all roof curbs to match roof slope.
- 27. Prime Contractor to include HVAC safe off and demolition coordination per the following: Properly identify and make safe all existing mechanical services as required to facilitate the demolition and/or retrofit work within the scope of the Project. This specifically includes evacuation and removal of refrigerants and hydronic fluids. Clearly identify all equipment and fixtures scheduled to be demolished for removal by the demolition contractor. Lay out the extents and limits of the demolition. If there is equipment or fixtures that should have been demolished and were not properly identified by the HVAC Prime Contractor but are remaining after demolition, this Prime Contractor will be responsible for having them removed. If there are fixtures or equipment scheduled to remain but not properly identified by this Prime Contractor prior to demolition, this Prime Contractor will be required to buy the replacement equipment. Prime Contractor shall account for and participate in on-site job-walks at the beginning of the project specifically for coordinating demolition/safe-off.
- 28. Prime Contractor includes dimensioned mark out of all roofing demolition required to facilitate this Prime Contractor's new roof top unit work. Prime Contractor shall account for curb/blocking attachments. Any remobilization or extra costs from the demolition Prime Contractor to return to the site or redirect labor to demolish/remove additional roofing to accommodate roof top unit installation is the responsibility of this Prime Contractor.
- 29. Prime Contractor includes refrigerant piping rough-in and shop drawings for routing of refrigerant piping. Prime Contractor to route refrigerant piping per manufacturer's instructions and per applicable codes for this project.
- 30. Prime Contractor includes mark out of all utility points of connection from other Prime Contractors as it relates to this Prime Contractor's rooftop equipment.
- 31. Prime Contractor to carry provisions for re-cutting, re-grinding or preparing any POC's where existing equipment or material was removed by the demolition Prime Contractor. For example, the demolition contractor may cut a pipe with a chop saw leaving a rough end. This contractor is responsible for cutting and grinding that end to properly connect to any new work.
- 32. Furnish and install the link seals at all through pipe penetrations.
- 33. Prime Contractor shall include food service equipment scope noted in the Orness drawing sheets and Foodservice Equipment Specification (#114000) regardless of what is shown on other sheets in the plans. Prime Contractor's food service scope includes but is not limited to:
  - a. All ductwork rough-in Unless specifically noted otherwise.

- b. Final connections of all food service equipment requiring HVAC or HVAC controls work Unless specifically noted otherwise.
- c. All test and balance and commissioning required for kitchen building.
- d. Prime Contractor shall cover all scope noted in the Orness plans or #114000 specifications that note scope by HVAC contractor, 'HVAC', Mechanical Contractor, 'M.C.', MC, or any reference to HVAC.
- e. Receiving equipment supplied by 'KEC' (Kitchen Equipment Contractor)/Food Service Equipment Prime Contractor that requires this Prime Contractor's final connection/installation.
- f. Prime Contractor shall reference Appendix Z Food Service Equipment Scope Matrix for additional clarification of food service scope responsibility.
- 34. Prime Contractor includes all manual volume dampers, as indicated on 2/M0-5.1 and associated specifications. Unless a more stringent requirement is noted in the plans or specifications, this detail shall take precedence for manual volume damper requirements and takeoff.
- 35. Prime Contractor includes duct supports and bracing, per Sheet M0-.1, M0-5.2, M0-5.3 and other applicable plan sheets & Specifications.
- 36. Prime Contractor shall specifically include provisions to comply with ALL General Notes #1-18 on M0-0.1.
- 37. Prime Contractor shall include one hundred (100) journeyman labor hours for miscellaneous HVAC work. The Construction Manager/District may authorize the use of these hours only.
- 38. Prime Contractor has included multiple mobilizations to achieve the requirements of the contract. For bidding purposes, include six (6) mobilizations. A mobilization is defined as removal and return of equipment and materials. A crew leaving the site is not a demobilization.
- 39. Prime Contractor includes provisions to accommodate multiple commissioning/functional testing in order to achieve the project milestones and completion dates shown in the project schedule.
- 40. Prime Contractor has reviewed Attachment L DEHQ-FHD Approval and Conditions and shall comply with item #9
- 41. Prime Contractor shall include provisions to execute scope, as shown in supplemental Appendix Z Food Service Equipment Scope Matrix. In the event the plans or specification #114000 conflicts with the Appendix Z matrix and explicitly states a certain contractor shall provide or install specific scope, Prime Contractor shall assume the plans or specification #114000 governs. Appendix Z is meant to help clarify the involvement of multiple Prime Contractors for each

- specific kitchen equipment.
- 42. Prime Contractor includes damper, controls, conduit and wiring to achieve new remark #16 on M0-0.2, per RCA addendum 01
- 43. Prime Contractor includes 2" 2 ½" copper pipe sleeve for refrigerant piping and all associated insulation for refrigerant piping roof penetrations, per 6/M0-5.1 (RCA Addendum 02) and associated specifications.
- III. ALLOWANCES: The following allowances are included in this scope of work. The Construction Manager must agree to the price, type and extent of additional scope before work is started. Field tickets must be signed by Construction Manager's Superintendent on a daily basis to account for the time, material, and equipment used from these allowances. All time, material, and equipment used from these allowances will be billed against these allowances and any portion of the original allowance amount not used will be credited back to the Owner at the end of this Contract's scope of work as a deductive change order. This Article is separate and exclusive from all other Work required by the Contract.
  - CN-2990 Allowance #1: Unforeseen Conditions = \$10,000.00
- IV. ALTERNATES: N/A
- V. <u>EXCLUSIONS:</u> N/A



#### APPENDIX Z - FOOD SERVICE EQUIPMENT SCOPE MATRIX

GHS Kitchen & Weight Room Project - Food Service Scope Matrix

 CN-2987
 Prime: Food Service Equipment

 CN-2989
 Prime: Plumbing

 CN-2990
 Prime : HVAC

 CN-2991
 Prime: Electrical

 District
 Owner Furnished

*Refer to K-2 Orness sheet, Specification #114000 & associated Scope of Work for further clarification. Coordinate backing with respective Prime Contractor. MEP Prime Contractors perform final utility connections of equipment, unless specifically noted otherwise - 'Installation by' column represents setting/anchoring equipment, NOT 'final utility connections'

unless specifically noted otherwise - 'Installation by' column represents setting/anchoring equipment, NOT 'final utility connections'							
Equipment	Description	Furnished	Infrastructure	Infrastructure	Installation By	Notes	
Item #	•	CNLODGO	#I (MEP-FA) By	#2 (MEP-FA) By N/A		****	
	MOP SINK, FLOOR MOUNTED (24"x24"x12") MOP SINK FAUCET	CN-2989 CN-2989	CN-2989 CN-2989	N/A	CN-2989 CN-2989		
	RACK, BRUSH/BROOM	CN-2987	N/A	N/A	CN-2987		
	WALL STORAGE WALL SHELF	CN-2987	N/A	N/A	CN-2987		
5	AIR CURTAIN	CN-2987	CN-2991	CN-2991	CN-2991		
	EMPLOYEE LOCKERS	District	N/A	N/A	CN-2987	Coordinate lockers with Concrete Prime	
	WALK-IN FREEZER w/ LIGHTS	CN-2987	CN-2991	CN-2989	CN-2987	Coordinate with Concrete Prime	
	WALK-IN FREEZER EVAPORATOR COIL (FAN) W/KE2 CONTROL WIRE SHELVING, FREESTANDING	CN-2987	CN-2991 N/A	CN-2989 N/A	CN-2987 CN-2987	Coordinate with Concrete Prime	
	WALK-IN COOLER W/ LIGHTS	District CN-2987	N/A CN-2991	CN-2989	CN-2987 CN-2987	Coordinate with Concrete Prime	
	WALK-IN COOLER W/ LIGHTS  WALK-IN COOLER EVAPORATOR COIL (FAN) W/KE2 CONTROL	CN-2987	CN-2991	CN-2989	CN-2987	Coordinate with Concrete Prime	
	REFRIGERATION RACK	CN-2987	CN-2991	CN-2989	CN-2987		
	CORNER GUARDS, L-SHAPE	CN-2987	N/A	N/A	CN-2987		
14	CORNER GUARDS, U-SHAPE	CN-2987	N/A	N/A	CN-2987		
	SPARE NUMBER	N/A	N/A	N/A	N/A		
	DRY SHELVING, FREESTANDING	District	N/A	N/A	CN-2987		
	ICE MACHINES BIN, ICE	CN-2987 CN-2987	CN-2991 CN-2989	CN-2989 N/A	CN-2987 CN-2987	Plumber & electrician make connections	
	WATER FILTER, ICE	CN-2987	CN-2989	N/A	CN-2987		
	BACKFLOW PREVENTOR	CN-2989	CN-2989	N/A	CN-2989		
	HAND SINK, WALL MOUNT	CN-2987	CN-2989	N/A	CN-2989		
	FAUCET, ELECTRIC	CN-2987	CN-2991	CN-2989	CN-2989		
	INTELLIGATE WEB-BASED GATEWAY	N/A	N/A	N/A	N/A		
	INTELLISENSOR FOR TEMPERATURE & DOOR	N/A	N/A	N/A	N/A		
	SPARE NUMBER	N/A	N/A	N/A	N/A		
	3 - COMPARTMENT SINK	CN-2987	CN-2989	N/A	CN-2989		
	PRE-RINSE FAUCET, BACKSPLASH MOUNT WALL STORAGE WALL SHELF	CN-2987 CN-2987	CN-2989 N/A	N/A N/A	CN-2989 CN-2987		
	POT RACK, STAINLESS STEEL	CN-2987	N/A	N/A	CN-2987		
	WALL STORAGE WALL SHELF	CN-2987	N/A	N/A	CN-2987		
	SOILED DISH TABLE w/ SCRAPPED SINK	CN-2987	CN-2989	N/A	CN-2989		
30	PRE-RINSE FAUCET, BACKSPLASH MOUNT	CN-2987	CN-2989	N/A	CN-2989		
	QUICK DRAIN	CN-2987	CN-2989	N/A	CN-2989		
	WAREWASHER, DOOR TYPE, HIGH TEMP w/ BOOSTER	CN-2987	CN-2991	CN-2989	CN-2989		
	TYPE-II STEAM EXHAUST HOOD EXHAUST FAN	CN-2987 CN-2990	CN-2990 CN-2990	CN-2990 CN-2991	CN-2987 CN-2990		
	SPARE NUMBER	N/A	N/A	N/A	N/A		
	DISH TABLE, CLEAN	CN-2987	N/A	N/A	CN-2987		
	POT SHELVING, FREESTANDING	District	N/A	N/A	CN-2987		
38	SPARE NUMBER	N/A	N/A	N/A	N/A		
	SPARE NUMBER	N/A	N/A	N/A	N/A		
	SPARE NUMBER	N/A	N/A	N/A	N/A		
	PREP TABLE w/ DOUBLE PREP SINK, ADA	CN-2987	CN-2989	N/A	CN-2989		
	FAUCET WALL STORAGE WALL SHELF	CN-2987 CN-2988	CN-2989 N/A	N/A N/A	CN-2989 CN-2987		
	SPARE NUMBER	N/A	N/A	N/A	N/A		
	INSULATED HOT CABINET, MOBILE	District	CN-2991	CN-2991	District		
	ISLAND PREP TABLE w/ INTEGRAL PREP SINK	CN-2988	CN-2989	N/A	CN-2989		
	FAUCET	CN-2988	CN-2989	N/A	CN-2989		
	COMMERCIAL MICROWAVE OVEN	District	CN-2991	CN-2991	District		
	RACK, PAN	District	District	District	District		
	WORK TABLE COOK & HOLD QUIKTHERM, MOBILE	District District	N/A CN-2991	N/A CN-2991	CN-2987 District		
	SPARE NUMBER	N/A	N/A	N/A	N/A		
	CONVECTION OVEN, GAS	District	CN-2991	CN-2989	CN-2989		
53B	CONVECTION OVEN, GAS	District	CN-2991	CN-2989	CN-2989		
	CONVECTION OVEN, GAS	District	CN-2991	CN-2989	CN-2989		
	CONVECTION OVEN, GAS	District	CN-2991	CN-2989	CN-2989		
	TILTING SKILLET, GAS	District	CN-2991 CN-2989	CN-2989	CN-2989		
	FLOOR TROUGH  6-BURNER RANGE w/ CONVECTION OVEN, GAS	CN-2987 District	CN-2989 CN-2991	N/A CN-2989	CN-2989 CN-2989		
	SPARE NUMBER	N/A	N/A	N/A	N/A		
	SPARE NUMBER	N/A	N/A	N/A	N/A		
	SPARE NUMBER	N/A	N/A	N/A	N/A		
	TYPE-I GREASE EXHAUST HOOD w/ LIGHTS	CN-2987	CN-2990	CN-2991	CN-2987		
	EXHAUST FAN	CN-2990	CN-2990	CN-2991	CN-2990		
	MAKE-UP AIR	CN-2990	CN-2990	CN-2991	CN-2990		
	STAINLESS STEEL WALL PANELS QUICK GAS DISCONNECT	CN-2987 CN-2987	N/A CN-2989	N/A N/A	CN-2987 CN-2989		
	FIRE SUPPRESSION SYSTEM; ANSUL AUTOMAN	CN-2987 CN-2987	CN-2989 CN-2991	N/A CN-2989	CN-2989 CN-2987	Electrical Prime has E+FA infrastructure to box microswitches and gas valve reset relay	
	REMOTE PULL STATION FOR FIRE SUPPRESSION SYSTEM	CN-2987	CN-2991	CN-2989	CN-2987	Electrician rough-in conduit. KEC has pull box & cables	
	K-TYPE FIRE EXTINGUISHER, RECESSED	CN-2987	N/A	N/A	CN-2987		
	GAS SHUT OFF VALVE	CN-2987	CN-2989	N/A	CN-2989	Plumber installs shut-off valve. Electrician wires back to hood ansul cabinet	
	WALL MOUNTED CONTROL CABINET	CN-2987	CN-2990	CN-2989	CN-2990		
	SPARE NUMBER	N/A	N/A	N/A	N/A		
	SPARE NUMBER	N/A	N/A	N/A	N/A		
	REFRIGERATOR, PASS-THRU  CABINET, WARMING & HOLDING, PASS-THRU	District	CN-2991 CN-2991	N/A N/A	CN-2987 CN-2987		
	P.O.S. CART	District District	N/A	N/A N/A	CN-2987 CN-2987		
	P.O.S. & CARD READER	District	CN-2991	CN-2991	District		
	SERVING CART, COLD	District	CN-2991	N/A	CN-2987		
	SERVING CART, HOT	District	CN-2991	N/A	CN-2987		
	DOUBLE SIDED SNEEZE GUARD, SELF-SERVE	District	N/A	N/A	CN-2987		
80	SERVING CART, COLD	District	CN-2991	N/A	CN-2987		
80 81		District District CN-2987	CN-2991 CN-2991 CN-2991	N/A N/A N/A	CN-2987 CN-2987 CN-2987		



## GROSSMONT UNION HIGH SCHOOL DISTRICT

## GROSSMONT HS KITCHEN AND WEIGHT ROOM MULTI-PRIME

ATTACHMENT H
BID PACKAGE

CN-2991

ELECTRICAL / LOW VOLTAGE / AUDIO VISUAL

# TRADE CONTRACTOR SPECIFIC PROVISIONS BID PACKAGE: CN-2991 ELECTRICAL / LOW VOLTAGE / AUDIO VISUAL

**VERSION 03** 

#### **ELECTRICAL & LOW VOLTAGE & AUDIO VISUAL - VERSION 03**

The following clarifies certain inclusions, exclusions, and other information. This list is not inclusive of all work and is not limiting in any manner. This Exhibit shall supplement all General and Special Conditions in this Contract unless specifically noted herein to supersede them. This exhibit shall supersede all other conditions in the Contract and Contract Documents in the event of specific conflicts between the Documents.

- I. <u>GENERAL REQUIREMENTS:</u> The following General Requirements apply to all work included in this Contract:
  - 1. Full compliance and scope coverage with Specification Section(s)
    - DIVISION 00
    - DIVISION 01
    - 07 92 00 Joint Sealants
    - 08 31 00 Access Doors and Panels (For this Prime Only)
    - 11 40 00 Foodservice Equipment (For this Prime Only)
    - DIVISION 26 In its entirety
    - DIVISION 27 In its entirety
    - DIVISION 28 In its entirety
    - 31 23 16.13 Trenching (For this Prime only)
    - 312323 Fill (For this Prime only)

Full compliance and scope coverage with all other Project Scope and Specification Sections that interface with and require Electrical services unless modified or excluded by this Exhibit.

- Prime Contractor shall have a current California Contractor's License Classification
  as listed on the Notice to Bidders and shall keep same current through-out the
  duration of the project. License required for this scope is C-10.
- 3. Schedule of shop drawings, submittals, and dimension verifications: The following groups of shop drawings and submittals are not all-inclusive and are supplemental to requirements found elsewhere in the documents. These submittals shall be delivered to the Project Manager not later than the below listed dates:
  - a. #262213 Dry Type Transformer

Due: 10 Calendar Days after Preliminary Notice of Award

b. #262413 - Switchboard

Due: 10 Calendar Days after Preliminary Notice of Award

c. #262416 - Panelboards

Due: 10 Calendar Days after Preliminary Notice of Award

d. #263323 – Emergency Lighting Equipment

Due: 15 Calendar Days after Preliminary Notice of Award

e. #265114 - LED Lighting Fixtures and Lamps

Due: 15 Calendar Days after Preliminary Notice of Award

f. Division 27 Submittals

Due: 15 Calendar Days after Preliminary Notice of Award

g. Division 28 Submittals

Due: 15 Calendar Days after Preliminary Notice of Award

h. ALL Remaining Contractual Submittals

Due: 20 Calendar Days after Notice to Proceed

These due dates take precedence over other dates found elsewhere in the Contract Documents.

- 4. Prepare any coordination drawings required to show the interface between work provided by this Contract and others. This includes but is not limited to:
  - a. Electric Room Layout Drawings
  - b. Below Grade Coordination Drawings
  - c. Above Ceiling Coordination Drawings
- 5. Procurement of Critical Long Lead Items: Prime Contractor shall be responsible to ensure that the critical long lead items are delivered as required to comply with the requirements and intent of the master building schedule.
- 6. Schedule: Prime Contractor shall issue to the Construction Manager a detailed Construction Schedule for this trade's work as it pertains to this Project. The work shall proceed in accordance with the Master Construction Schedule issued with the Construction Documents. This schedule shall be modified from time to time in order to properly coordinate and sequence the work; however, the Prime Contractor is responsible to supply sufficient manpower, equipment and material necessary to ensure the duration of time established for the Prime Contractor's work is maintained as per the Construction Documents.
- 7. Prime Contractor has reviewed the Project and is aware of existing conditions.

- 8. Prime Contractor has included the costs for offsite storage of project materials including all switchgear and light fixtures for the duration of the project.
- 9. Provide flagmen as required. It is understood that the work will take place within an operating Campus and that the Prime Contractor is solely responsible to protect the public and maintain uninterrupted access to the campus by the general public. Provide all barricades, etc. to achieve this. Perform work during off-hours as required to avoid disruption of campus operations.
- 10. Prime Contractor will be responsible for collateral damage to areas or finishes not scheduled for demolition as a result of his operations.
- 11. It is understood that the Trade Contractor Specific Provisions contained in the contract documents are a material element of this Contract and scope of work. It is specifically noted that the Prime Contractor shall be responsible for all requirements and clauses contained in the Trade Contractor Specific Provisions
- 12. It is understood that the Project Specific Provisions contained in the Contract Documents are a material element of this Contract and scope of work. It is specifically noted that the Prime Contractor shall be responsible for all requirements and clauses contained in the Project Specific Provisions.
- 13. <u>Building Dimension Verification</u>: Prime Contractor shall issue a plan and/or letter to the Construction Manager in the form of a submittal that locates and verifies exact dimensions for the following items:
  - a. Locations and sizes of formed concrete housekeeping pads.
  - b. Size confirmation of interior rooms in each location where electrical equipment and panels will be installed; stating that the area, configuration of walls, placement and swing of doors, and dimensions designed are adequate and will meet codes.

#### Due: 20 Working Days after Notice to Proceed

- 14. Perform all coring and/or sleeving (as required by actual project requirements) for all contract work. If required, include proper types of steel sleeves at penetrations. Prime Contractor includes X-ray or pachometer investigation before coring into concrete.
- 15. Provide Fire, Smoke, Sound and/or Architectural caulking and sealants at all electrical penetrations as required by the Contract Documents. The intent of this general inclusion is for each Prime Trade Contractor to be responsible for their own penetrations as it relates to their scope of work. Include sound pads at J-boxes and similar penetrations if required by the Project's specifications.
- 16. Contractor shall maintain and record as-built information of his work in a current condition. The Contractor shall transfer all as-built information onto the record set of drawings located at the Construction Manager's Field Office. All

- transferred information shall be neat, legible and in accordance with the guidelines set forth in the contract documents. Failure to provide as-built information in a timely manner will result in progress payments being withheld.
- 17. This contractor acknowledges and includes the cost for all required off-hour, overtime and weekend work schedules as required to perform the work included in this contract and coordinate this contract work with all other related trades. This contractor shall provide manpower and shift schedules (in advance of the actual work being performed) to the Construction Manager so that it can be analyzed against the Project's schedule requirements.
- 18. Prime Contractor is required to properly staff the Project to maintain the Project's schedule and to ensure proper sequencing with other prime Contractors as required by the Construction Manager.
- 19. Prime Contractor is responsible to provide all layout for its work from survey control points and lines, including all building corners, grid lines, offsets, elevations, etc.
- 20. Provide all necessary protection for new work and adjacent finishes from Prime Contract work operations. Include steel plates, plywood, plastic and masking protection as required. Prime Contractor is responsible to maintain/repair/replace any temporary barricades that are moved or damaged by its work. Prime Contractor is responsible to protect all existing structures/MEPs/benchmarks/miscellaneous items as required by the Contract Documents during this Prime Contractor's work.
- 21. Prime Contractor acknowledges that space for storing materials within the worksite is limited. All delivery and storage of materials shall be scheduled and coordinated with the Construction Manager prior to shipping. Prime Contractor is responsible to assure that stocking of building materials does not overload the building structure or unreasonably impede the work of other trades. Prime Contractor shall promptly relocate stored and stockpiled materials when directed by Prime Contractor.
- 22. Prime Contractor is responsible to promptly remove from the project all surplus material and debris associated with its work.
- 23. Prime Contractor is responsible for scheduling and coordinating all deliveries required for this scope of work with the Construction Manager and other Prime Contractors. Prime Contractor to provide adequate flagmen, street closures, sidewalk closures, permits, traffic control, etc. for deliveries, transporting on site, pick-ups as required by the project schedule, specifications, job conditions and governing agencies within the jobsite limits.
- 24. Prime Contractor shall adhere to OSHA safety standards while on the project site and shall engage their designated safety professional to make periodic jobsite walks for safety compliance. Any noted issues or concerns shall be

- reported to Construction Manager's Superintendent at the time of visit. Prime Contractor is responsible to maintain/repair/replace any temporary barricades.
- 25. The general site wide storm water pollution prevention plan (SWPPP) will be prepared and implemented by others. Subcontractor shall assume full responsibility to replace any broken sandbags or any other SWPPP type materials damaged by this Subcontractor during the course of this Subcontractors work.
- 26. Prime Contractor acknowledges that parking space within the project boundaries is extremely limited. The only trucks in immediate use (Loading/Offloading, welding rigs, rigging, etc.) will be allowed to stage near work areas. Worker parking will be designated by the Construction Manager. Penalties for failure to comply with this requirement are the responsibility of the individual vehicle owner.
- 27. In the event of conflicts not clarified prior to bidding deadline, Prime Contractor shall assume the most stringent, higher quality and greater quantity of work for bidding purposes. If Prime Contractor still requires clarification after awarded the project, Prime Contractor shall generate an RFI. If appropriate, a deductive change order shall be issued if the clarification results in a reduced scope.
- 28. Prime Contractor shall furnish and install all mock-ups required by specifications found within this Prime Contractor's scope.
- 29. Prime Contractor shall include provisions to comply with all delegated-design submittal requirements found within their respective specification sections.
- 30. Furnish and install all necessary angles, clamps, hangers, channels, Unistrut, supports, wires, cables, threaded rod, misc. steel, isolation devices, seismic anchorage, slack wires, backing, etc.; for all electrical work, equipment, misc. items and light fixtures included in this Contract. All work shall comply with applicable codes and Contract Document requirements.
- 31. If applicable, furnish and install proper support under conduits and similar items that run horizontally on the roof membrane.
- 32. The locations, configuration, sizes and height of roof penetrations shall be fully compatible with the type of roof system and manufacturer's warranty. The Roofing Prime Contractor shall approve all such items prior to installation. The design, proper sequence and installation of jacks/flashings shall be coordinated with the installation of the roofing system. The height of all penetrations shall be a minimum of 8" above the highest point of the finished roof surface. Overall dimensions must be based on the thickness of the insulating concrete fill system, rigid insulation, etc., as applicable.
- 33. Install labeled pull ropes in all spare or empty conduits and conduit systems that are installed under this Contract to be used by other Trades.

- 34. All fixtures, equipment and work including installation shall fully comply with current handicap codes (even if contrary to the Contract Documents and submittal approvals by the Engineer). This Prime Contractor shall request specific written direction from the Construction Manager before proceeding with any work that is non-compliant.
- 35. Furnish and coordinate all electrical fixture/equipment templates for cutouts in cabinetry and all other building components, as applicable.
- 36. Include all excavation, trenching and backfill work as required for systems included in this Contract. All excavation, trenching, bedding materials, shoring, underground utility installation, backfill and compaction shall be pursuant to requirements of specifications, drawings, and this Contract. All areas of excavation shall be returned to existing grades prior to completion of work. Include handwork/grading around conduits, vaults, etc. Haul-off from the site all spoils generated by the work included in this Contract. Any import shall be DTSC approved. Prime Contractor includes lay-out for saw-cut and demo limits for coordination with Demo Prime Contractor. Concrete Prime Contractor shall cover necessary fine grading for new hardscape. Prime Contractor includes all slurry required in underground trenches, per the Contract Documents Example: 2/E1.2.
- 37. All light fixture lenses shall be protected by plastic wrapping during the construction period. Remove the plastic wrapping at the completion of the project or as directed by the Construction Manager. Prime Contractor shall also perform the final cleaning of all equipment, light fixtures and fixture lenses at a time as directed by Construction Manager.
- 38. Perform all specified labeling, stenciling, tagging and identification of all equipment, conduit systems, devices, fixtures, etc., which are included in this Contract.
- 39. Furnish and install all access doors required for electrical work. The proper type and finish of architectural access doors shall be provided. The type and finish may or may not be specifically listed in the electrical and/or architectural specification sections. Coordinate all openings with the respective Prime contractors (i.e. framing, acoustic ceiling, etc.) The Framing Contractor shall provide the openings in the framing systems. Prime Contractor understands that the intent is to use one manufacturer for all exposed interior access doors.
- 40. Provide, erect and dismantle all ladders and scaffolding required to perform work. Provide all required rigging and hoisting necessary to perform this scope of work. All lifts and material handling required to perform this scope of work shall be provided by the Electrical contractor.
- 41. Prime Contractor shall maintain and record as-built information of his work in a current condition. The Prime Contractor shall transfer all as-built information onto the record set of drawings located at the Construction Manager's Field Office. All transferred information shall be neat, legible and in accordance with the guidelines set forth in the contract documents. Failure to provide as-built information in a timely manner will result in progress payments being withheld.

- 42. All Prime Contractors are responsible for covering of roof openings for a weather tight system prior to rain and rain clean-up.
- 43. Prime Contractor understands that parking will not be permitted within the limits of work, staff parking, student parking or public parking spaces on campus, unless specifically allowed in the Contract Documents or agreed upon by the District. Prime Contractor acknowledges that food trucks are prohibited from entry to the construction limits of work and Grossmont High School campus. This General Requirement supersedes parking provisions outlined elsewhere in the Contract Documents.
- 44. Daily clean-up of all debris related to the Work of this Bid Package Contractor is required. All debris generated by this Bid Package Contractor shall be legally removed daily and disposed of offsite by this Bid Package. All Bid Package Contractors, while on site, will provide a clean-up laborer to be included in the weekly clean-up effort for the duration of the project. For bidding purposes, Prime Contractor shall provide a 2 hours of clean-up labor for 60 total weeks.
- II. <u>ELECTRICAL INCLUSIONS:</u> The following items are specifically included in the scope of this Contract:
  - 1. All electrical work within the building and site including but not limited to: Electrical Power, Lighting, Communication Systems, Cable Trays, Audio Visual Systems, Clock Systems, Intrusion System, Video Surveillance Security, Fire detection and alarm and all other electrical systems as required by the Contract Documents.
  - 2. Furnish and install all primary, secondary and emergency site underground conduits. Include all items necessary for a complete electrical power service entrance for the designed P.O.C. Coordinate all work and requirements with the serving utilities.
  - 3. Furnish and install a complete fire alarm system, including, but not limited to, conduit, wire, devices, control panels, etc. Coordinate work with HVAC contractor.
  - 4. Furnish/install concrete encasement of underground duct banks as required.
  - 5. Furnish/install all pre-cast concrete pull/splice boxes, transformer pad/slab boxes, frames, covers, plates, grating, manhole covers/frames, grounding devices, and all other accessories required by the Contract Documents and utility company.
  - 6. Furnish and install the Tele/IDF cabinets as noted on the Contract Documents.
  - 7. Furnish and install all electrical grounding systems as required for systems and services that are included in this Contract's scope of work and in the Project's scope of work. Additionally, the Electrical Contractor shall fully coordinate the Building's primary grounding system with all appropriate Trades if this system is connected to/or an integral part of the Project's concrete foundations.
  - 8. Furnish and install plywood backboards for all Electrical/Signal/Communication and similar systems that are shown and required by the Contract Documents.

Backboards shall be fire retardant plywood unless otherwise noted.

- 9. The Electrical Contractor shall fully coordinate with the Mechanical Contractor(s) with regards to the HVAC energy management/ temperature control systems. The Electrical Contractor has reviewed all the Contract Documents and acknowledges that each specific trade's responsibility to furnish and install <u>each</u> of the specified/ shown components, conduit systems, equipment items and low/line voltage wiring are <u>clearly defined</u> between the Electrical & Mechanical/HVAC Trades so that all items required by the Contract Documents are installed.
- 10. Include all electrical rough-in, conduit, conductors, line/low-voltage, and final connections to equipment items / work included in this Contract and that which is supplied others; i.e. electrified door hardware, motorized-shades/drapes, projection screens/projectors, drinking fountains, operable walls, door hardware, hand dryers, exhaust fans, Clock systems, fire detection/alarm system, rollup doors, etc.
- 11. Furnish/install all necessary conduit, wiring, connections required for bells and supervisory systems.
- 12. Furnish, install, relocate and maintain temporary construction power within the building areas and site. Provide a sufficient quantity of power distribution boxes so that no portion of the site is more than 100' from a power outlet. Electrical Contractor shall furnish all "spider" boxes, cords, connectors, etc. for a complete system. A minimum of two (2) spider boxes / at each building and as required for power by other trades for the full duration of the project. Prime Contractor shall provide step-down transformer(s) from existing distribution panels/electrical panels that are available for use of this project. Available power sources are identified in Appendix A Available Power Sources.
- 13. Furnish, install, relocate and maintain all temporary construction light strings and light fixtures throughout the project as required by the Construction Manager. Light levels in all interior areas shall meet minimum OSHA requirements. Furnish and replace all light bulbs/lamps as required throughout the construction period.
- 14. Disconnect the power & data to the Construction Manager's trailer & IOR's Trailer at the completion of the project. Coordinate with the Construction Manager.
- 15. Furnish/install power (line/low voltage as applicable), circuiting, wiring and all connections to electrified hardware and related components that are listed in the finish hardware specification section and/or as otherwise required by the Contract Documents. Coordinate all rough-in locations with the Hardware Contractors.
- 16. Furnish/install electrical rough-in and final connections for all electrical items that are within casework and millwork elements.
- 17. Furnish and install all electrically illuminated and/or self-illuminated exit signage and "low level" exit signage as required by the Contract Documents.
- 18. Include removal, repair, re-routing and re-installation of existing electrical

- work/services that is required by Contract Documents and that which can be reasonably anticipated to be necessary for proper interface with the new work, existing facilities and construction phasing requirements.
- 19. T-bar ceiling wires for light fixtures will be provided by others with layout provided by Electrical Contractor. Electrical Contractor will furnish and install for an additional 5% of all light fixture T-bar/wires to replace those existing ceiling wires lost during construction. Electrical Contractor will be responsible for all trapeze and other installation methods where overhead obstructions prohibit/limit the use of ceiling wires. All other above ceiling supports for electrical work will be by the Electrical Contractor.
- 20. Electrical Contractor to provide power for drinking fountains noted on the plumbing and architectural drawings whether specifically noted or not on electrical prints.
- 21. Include Security Camera System per the contract documents.
- 22. All conduits located below the slab on grade shall be located below sub-grade and not in the sand/gravel base.
- 23. Prime Contractor includes electrical safe-off and demolition coordination of the following: Properly identify and make safe all existing electrical services as required to facilitate the demolition (including a mark-out job-walk) and/or retrofit work within the scope of the Project. Clearly identify all equipment and fixtures scheduled to be demolished for removal by the demolition contractor. Lay out the extents of the demolition. If there is equipment or fixtures that should have been demolished and were not properly identified by the electrical Prime Contractor but are remaining after demolition, this Prime Contractor will be responsible for having them removed. If there are fixtures or equipment scheduled to remain but not properly identified by this Prime Contractor prior to demolition, this Prime Contractor will be required to buy the replacement equipment. Prime Contractor shall include re-cutting, re-grinding and any other required preparation of point of connections where existing equipment/material was removed by the demolition Prime Contractor. Prime Contractor shall account for and participate in on-site jobwalks at the beginning of the project specifically for coordinating demolition/safe-
- 24. Provide temporary power and temporary low voltage systems as required to keep occupied portions of the campus operational during construction. Occupied portions of the campus include but are not limited to: buildings, storage units, parking lots (lighting), electrical rooms, IDF rooms, sport facilities, pool equipment room, Gym buildings, etc. It is Prime Contractor's means and methods to maintain power and low-voltage systems throughout the duration of the project. The maintenance of power and low-voltage may not be specifically detailed or noted on the plans.
- 25. Provide electrical connection to all Owner Furnished and Contractor Furnished equipment.

- 26. Provide temporary generators if required during shutdowns to keep occupied portions of the campus completely operational. Prime Contractor shall assume all power shutdowns will be performed outside normal school operating hours (6:30am 4:00pm) with the understanding that sporting events can take place in adjacent buildings/facilities until 10pm, Monday through Friday. Power/data shutdowns will be expected to be coordinated with the school/District a minimum of two weeks in advance to ensure the school and site is prepared for the event.
- 27. Include all sway bracing and supports for pendant lights.
- 28. Provide all assisted listening devices.
- 29. Provide all supports for speakers, audio visual equipment, etc. at all locations.
- 30. Prime Contractor shall perform the required short-circuit, arc-flash and coordination studies as required by the Contract Documents. If Prime Contractor installs electrical equipment prior to the Engineer of Record reviewing and approving the above-mentioned studies, Prime Contractor shall modify/fix any of the electrical equipment that the Electrical Engineer notes as requiring modification/fixes, at no additional cost to the District.
- 31. Include complete audio-visual systems.
- 32. Prime Contractor shall fully coordinate with the Mechanical Prime Contractor with regards to the smoke/fire dampers and duct/mechanical equipment smoke detection systems. The Electrical Prime Contractors shall provide all work related to the fire alarm system. This specifically includes but is not limited to:
  - Duct detectors shall be provided by the electrical contractor, installed into the duct by the mechanical contractor and wired by the electrical contractor.
  - Fire Smoke Dampers shall be provided and installed by the mechanical contractor. All line-voltage, low voltage, transformers and signal/alarm wiring and connections shall be made by the electrical subcontractor. This specifically includes all low voltage and step-down transformers required for a complete system.
  - Variable Frequency Drives shall be furnished and installed by the mechanical contractor. All line voltage to and from the VFD, and all Fire Alarm connections shall be by the electrical subcontractor. Electrical contractor provides final connections/landing.
- 33. Prime Contractor includes re-programming the fire alarm and intrusion detection systems of existing cafeteria and existing museum/P.E. building prior to demo. Prime Contractor includes a temporary addressable FA panel, until the new addressable panel is installed, per the Contract Documents. For bidding purposes, assume the full duration of the project.

- 34. Prime Contractor includes one hundred and twenty (120) journeyman labor hours for miscellaneous work. The Construction Manager/District may authorize the use of these hours only.
- 35. Prime Contractor includes twenty (20) journeyman labor hours for low-voltage work. The Construction Manager/District may authorize the use of these hours only.
- 36. Prime Contractor has included multiple mobilizations to achieve the requirements of the contract. For bidding purposes, include seven (7) mobilizations. A mobilization is defined as removal and return of equipment and materials. A crew leaving the site is not a demobilization.
- 37. Prime Contractor includes all temporary lighting for all Prime Trades throughout the duration of the project and shall adhere to OSHA candela requirements for work area access & egress. In addition, Prime Contractor shall provide task lighting as required to complete this Prime Contractor's scope.
- 38. Prime contractor includes all motor starters required to start-up mechanical equipment.
- 39. Prime Contractor includes refeeding all utility vaults scheduled to be removed
- 40. Prime contractor includes all power, low-voltage & fire alarm rough-in required at each coiling door.
- 41. Prime Contractor includes provisions to comply with all suspended ceiling system requirements for Prime Contractor's finish applications installed within the ceiling grid system, per AD-4.0. Prime Contractor shall include any additional requirements found within the Interpretation of Regulations (IF) 25-2.13 if said requirement is more stringent than the requirements found within the drawings/specifications.
- 42. Prime Contractor includes lighting control for all rooms, regardless of any explicitly being shown in the plans. Prime Contractor shall assume industry standard and assume the controls are fed from the nearest lighting control panel.
- 43. Prime Contractor includes provisions to accommodate multiple commissioning/functional testing in order to achieve the project milestones and completion dates shown in the project schedule.
- 44. Prime Contractor shall coordinate power, low-voltage, fire alarm points of connection (POC) with other Prime Contractor's finish equipment/systems accordingly. If this Prime Contractor fails to properly coordinate final POCs with other Prime Contractors prior to completing installation and the POC is wrong and not feasible given site conditions, this Prime Contractor will be responsible for the costs to relocate the power, low-voltage or fire alarm infrastructure and any subsequent remedial work as a result of the relocation.

- 45. Prime Contractor includes one (1) 120V duplex receptacle and associated infrastructure for each HVAC control router, regardless of what is shown in the electrical plans.
- 46. Prime Contractor shall furnish and install all hood switches, light switches, interlock relays and associated wiring & conduit for exhaust fans. Reference M0-6.3 and associated specifications for further clarification.
- 47. Prime Contractor shall provide sufficient power to all water heaters, hot water circulating pumps & instantaneous water heaters regardless of what is shown on the electrical plans. Prime Contractor shall review the associated specifications of said equipment to ensure sufficient power is provided.
- 48. Prime Contractor shall include food service equipment scope noted in the Orness drawing sheets and Foodservice Equipment Specification (#114000) regardless of what is shown on other sheets in the plans. Prime Contractor's food service scope includes but is not limited to:
  - All electrical, fire alarm and low-voltage infrastructure for food service equipment, as shown in the Orness drawing sheets and Foodservice Equipment Specification.
  - All conduit, wiring, j-boxes, receptacles & raceways
  - Prime Contractor shall cover all scope noted in the Orness plans or #114000 specifications that note scope by electrician contractor, 'E.C.', fire alarm contractor, low-voltage contractor, or any reference to an electrician.
  - Final connections of all equipment requiring power, fire alarm or low-voltage Unless specifically noted otherwise.
  - Receive equipment supplied by 'KEC' (Kitchen Equipment Contractor)/Food Service Equipment Prime Contractor that requires this Prime Contractor's final connection/installation.
  - Prime Contractor shall reference Appendix Z Food Service Equipment Scope Matrix for additional clarification of food service scope responsibility.
- 49. Prime Contractor includes all provisions to complete scope shown on E1.2, including the 6" DIA perforated drain pipe, per 6/E1.2.
- 50. Prime Contractor includes all power and low-voltage infrastructure for the new stadium press-box and ticket-booth building.
- 51. Prime Contractors includes furnishing and installing all floor boxes and floor box pour floor pans. Prime Contractor shall coordinate with concrete Prime Contractor to ensure floor boxes are located properly pre-pour and shall be present during the

- day of the pour to ensure floor boxes remain level and undisturbed. It is this Prime Contractor's responsibility to provide a level floor box with a floor box lid that is code-compliant and free from trip hazards.
- 52. Prime Contractor is responsible for any scope referenced in the plans and specifications as 'by the electrical contractor.'
- 53. Prime Contractor shall coordinate & provide a new meter at new distribution panelboard 'DPHK'.
- 54. Prime Contractor shall salvage and reinstall existing submeters per Appendix B Salvage Submeters.
- 55. Prime Contractor has reviewed Attachment L DEHQ-FHD Approval and Conditions and shall comply with item #7.
- 56. Prime Contractor shall include provisions to execute scope, as shown in supplemental Appendix Z Food Service Equipment Scope Matrix. In the event the plans or specification #114000 conflicts with the Appendix Z matrix and explicitly states a certain contractor shall provide or install specific scope, Prime Contractor shall assume the plans or specification #114000 governs. Appendix Z is meant to help clarify the involvement of multiple Prime Contractors for each specific kitchen equipment.
- 57. Prime Contractor shall assume all manholes and pull-boxes are full of water/liquid and require pumping and legal dumping offsite. We understand that the water level in the existing manholes and pull-boxes are unquantifiable at the time of bid based on the unexpected amount of rainfall and frequency of water evaporation; therefore Prime Contractor includes forty (40) journeyman labor hours for pumping vault liquid, hauling liquid and legally dumping liquid at an appropriate facility.
- 58. Prime Contractor includes furnishing & installing two hundred (200) lineal feet (LF) of 1/2" conduit and CAT-6 cable. This shall include installation of pull-string and coiling extra slack in a single gang box with a blank faceplate. CAT-6 cable at head-end shall be coordinated with the Construction Manager.
- 59. Prime Contractor shall provide a minimum of (10) work lights (minimum 4,000 lumens) to be fixed to the existing pool fence and (5) minimum 4' tall tripod work lights (minimum 4,000 lumens) locations to be coordinated with the District. Prime Contractor shall include labor to install the above-mentioned lights.
- 60. Prime Contractor has reviewed the on-site soils conditions and fully understands and acknowledges the quality of the existing soil. For bidding purposes Prime Contractor shall include export of all excavated soils and import of select material for fill and backfill in complete compliance with the Contract Documents for all existing utility backfill and grading areas. Include haul-off and disposal of all debris, existing fill materials, spoils and surplus soil/cobbles/boulders. Prime Contractor includes industry standard equipment or equipment recommended to perform the work described in the Geotechnical Report. Prime Contractor

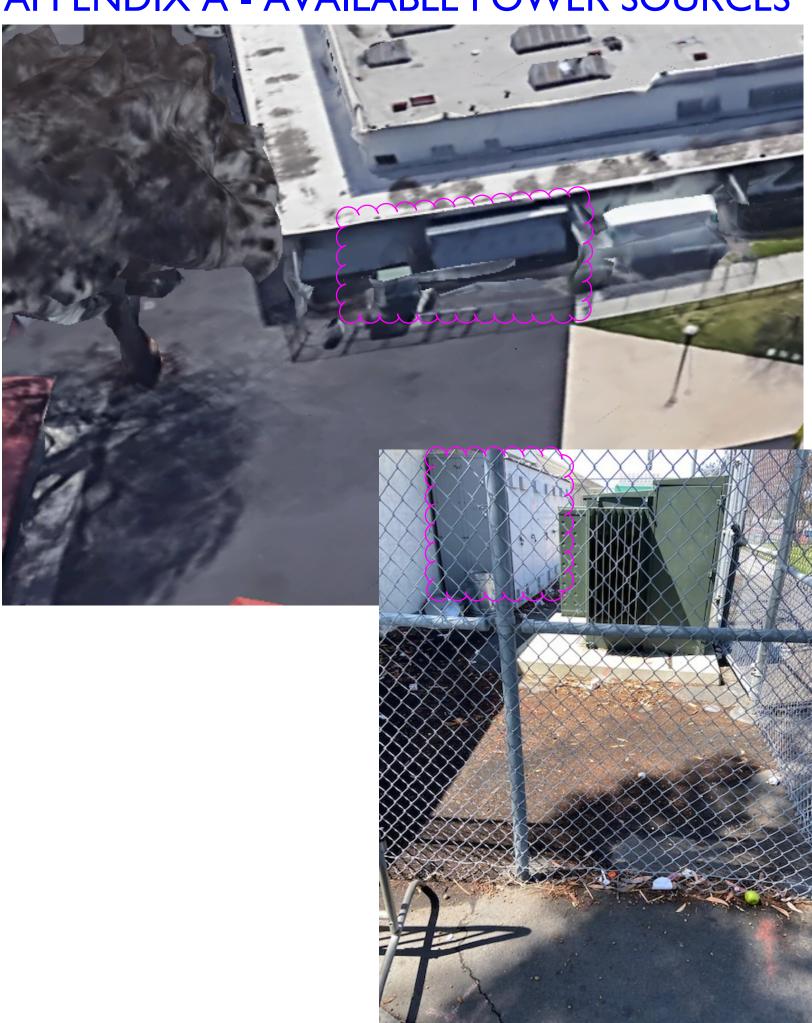
acknowledges the presence of cobble, gravel, and Stadium Conglomerate and includes provisions for removal, as necessary to complete this Prime Contractor's scope. Provisions for removal include, but are not limited to screening, breaking, utilizing appropriate heavy equipment, etc. Prime Contractor has reviewed the boring logs and acknowledges the presence of concrete sections beneath asphalt paving. Prime Contractor shall assume concrete identified in boring data to be present in a minimum of two hundred (200) square feet surrounding the associated boring location.

- 61. Prime Contractor shall furnish and install fire-rated plywood backboards, anchorage and fire-rated painting, per 7/E4.5, 2&3/E4.4 and per applicable specifications.
- 62. Provide separate power supply and disconnects for modulating power exhausts with economizers at ALL rooftop HVAC equipment regardless if the HVAC mechanical schedules require power disconnects at each rooftop HVAC equipment.
- 63. Immediately and continuously de-water and pump out to appropriate drainage receptacle; all excavations as required by water ponding and weather conditions. Automatic pumps shall be used during all off-hour periods of construction. Immediately clean, "muck-out", remove soft/muddy soils from all pit/trench excavations as required by Inspector or Soils Engineer so that work may continue. Reference Supplemental Conditions for further rain damage prevention responsibilities.
- 64. Finish Prime Contractor includes all in-wall flat-strap backing and rough carpentry Prime Contractor includes all in-wall and above ceiling structural wood-framed backing. Prime Contractor shall coordinate accordingly and layout backing where required for this Prime Contractor's scope.
- 65. Prime Contractor includes all flat screen monitors, per keynote #11.523 on A2-1.0 & RCA Addendum 01.
- III. <u>ALLOWANCES:</u> The following allowances are included in this scope of work. Construction Manager must agree to the price, type and extent of additional scope before work is started. Field tickets must be signed by Construction Manager's Superintendent on a daily basis to account for the time, material, and equipment used from these allowances. All time, material, and equipment used from these allowances will be billed against these allowances and any portion of the original allowance amount not used will be credited back to the Owner at the end of this Contract's scope of work as a deductive change order. This Article is separate and exclusive from all other Work required by the Contract.
  - CN-2991 Allowance #1: Unforeseen Conditions = \$25,000.00
- II. ALTERNATES: N/A
- III. EXCLUSIONS:

a.	Light pole bases and power pedestal bases.



## APPENDIX A - AVAILABLE POWER SOURCES

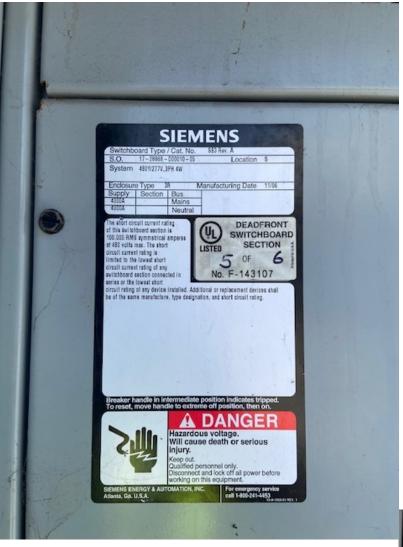




















SIEMENS ENERGY & AUTOMATION, INC.

Atlanta, Ga. U.S.A.

For emergency service call 1-800-241-4453

#### SIEMENS

Switchboard Type / Cat. No. S.O. 17-2888 - AUUU3U - U3

S.O.

System 480Y/277V,3PH 4W

Enclosure Type 3H Supply Section Bus 15URA 15URA Mains Manufacturing Date 1800A Neutral

The short circuit current rating of this switchboard section is 65,000 RMS symmetrical amperes at 480 volts max. The short circuit current rating is limited to the lowest short circuit current rating of any switchboard section connected in series or the lowest short circuit rating of any device installed. Additional or replacement devices shall be of the same manufacture, type designation, and short circuit rating.





#### DANGER

Hazardous voltage. Will cause death or serious injury.

Keep out.
Qualified personnel only.
Disconnect and lock off all power before working on this equipment.

SIEMENS ENERGY & AUTOMATION, INC. Allanta, Ga. U.S.A.

For emergency service call 1-800-241-4453

ANEL 2		FED FROM: T2			
3	SPARE SPARE	2	FIRE ALARM		
5	SPARE	6	RECEPTACLE RECEPTACLE		
9	SPACE SPACE	8	SPACE		
11	SPACE SPACE	10	SPACE		
15	SPACE	14	SPACE		
	SPACE	18	SPACE SPACE		



#### SIEMENS

P1 2081/120 3 Ph 4 W 250 Amos Max

Enimum size II, listed opinetier bit-but box for this panet: 20" If S 3.79" OF S 32" H (See main device or breaker)



08/25/06 Das Stemens Gr - 2 filter planes to come present 1" circuit species

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12



### APPENDIX B - SALVAGE SUBMETERS

#### GHS FOOD SERVICE SUBMETERING SCOPE

(Revised June 28, 2022)

#### Pre-demolition scope -

Remove (5) existing Honeywell E34 submeters, including over current protection devices, and current transducers monitoring the following existing electrical panels:

- Electrical Panel "A" -- E34-208200-R04 (return to District)
- Electrical Panel "B" E34-208100-R04 (return to District)
- Electrical Panel "C" E34-208100-R04 (return to District)
- Electrical Panel "E" E34-208200-R04 (return to District)
- Electrical Panel "P1" E34-208400-R04 (return to District)

#### Construction scope -

 Distribution Panelboard "DPHK"- Install a <u>new</u> Honeywell E34-480/400-R04KIT* submeter, TBWC/OCP-3P over current device, and current transducers onto electrical panel feeds.

^{*}Division 26 to provide an Ethernet RJ45 connection to District's network. Controls Contractor to provide integration of submeter into the District's EMS to allow for the monitoring of Food Service KW usage.



#### APPENDIX Z - FOOD SERVICE EQUIPMENT SCOPE MATRIX

GHS Kitchen & Weight Room Project - Food Service Scope Matrix

 CN-2987
 Prime: Food Service Equipment

 CN-2989
 Prime: Plumbing

 CN-2990
 Prime: HVAC

 CN-2991
 Prime: Electrical

 District
 Owner Furnished

*Refer to K-2 Orness sheet, Specification #114000 & associated Scope of Work for further clarification. Coordinate backing with respective Prime Contractor. MEP Prime Contractors perform final utility connections of equipment, unless specifically noted otherwise - "Installation by' column represents setting/anchoring equipment, NOT 'final utility connections'

Equipment Item #	cally noted otherwise - 'Installation by' column represents setting/anchorin  Description	Furnished	Infrastructure	Infrastructure #2 (MEP-FA) By	Installation By	Notes
	MOP SINK, FLOOR MOUNTED (24"x24"x12")	By CN-2989	CN-2989	N/A	CN-2989	
3	MOP SINK FAUCET RACK, BRUSH/BROOM	CN-2989 CN-2987	CN-2989 N/A	N/A N/A	CN-2989 CN-2987	
4	WALL STORAGE WALL SHELF	CN-2987	N/A	N/A	CN-2987	
5	AIR CURTAIN	CN-2987	CN-2991	CN-2991	CN-2991	
7	EMPLOYEE LOCKERS WALK-IN FREEZER w/ LIGHTS	District CN-2987	N/A CN-2991	N/A CN-2989	CN-2987 CN-2987	Coordinate lockers with Concrete Prime  Coordinate with Concrete Prime
8	WALK-IN FREEZER EVAPORATOR COIL (FAN) W/KE2 CONTROL	CN-2987	CN-2991	CN-2989	CN-2987	Coordinate with Concrete Prime
9	WIRE SHELVING, FREESTANDING	District	N/A	N/A	CN-2987	Constitute with Consume Drive
10	WALK-IN COOLER W/ LIGHTS  WALK-IN COOLER EVAPORATOR COIL (FAN) W/KE2 CONTROL	CN-2987 CN-2987	CN-2991 CN-2991	CN-2989 CN-2989	CN-2987 CN-2987	Coordinate with Concrete Prime Coordinate with Concrete Prime
12	REFRIGERATION RACK	CN-2987	CN-2991	CN-2989	CN-2987	
13	CORNER GUARDS, L-SHAPE CORNER GUARDS, U-SHAPE	CN-2987 CN-2987	N/A N/A	N/A N/A	CN-2987 CN-2987	
15	SPARE NUMBER	N/A	N/A	N/A	N/A	
16	DRY SHELVING, FREESTANDING	District	N/A	N/A	CN-2987	
17	ICE MACHINES BIN, ICE	CN-2987 CN-2987	CN-2991 CN-2989	CN-2989 N/A	CN-2987 CN-2987	Plumber & electrician make connections
19	WATER FILTER, ICE	CN-2987	CN-2989	N/A	CN-2987	
19.1	BACKFLOW PREVENTOR HAND SINK, WALL MOUNT	CN-2989	CN-2989	N/A N/A	CN-2989 CN-2989	
20.1	FAUCET, ELECTRIC	CN-2987 CN-2987	CN-2989 CN-2991	CN-2989	CN-2989 CN-2989	
21	INTELLIGATE WEB-BASED GATEWAY	N/A	N/A	N/A	N/A	
22	INTELLISENSOR FOR TEMPERATURE & DOOR SPARE NUMBER	N/A N/A	N/A N/A	N/A N/A	N/A N/A	
23	3 - COMPARTMENT SINK	CN-2987	CN-2989	N/A	CN-2989	
25	PRE-RINSE FAUCET, BACKSPLASH MOUNT	CN-2987	CN-2989	N/A	CN-2989	
26 27	WALL STORAGE WALL SHELF POT RACK, STAINLESS STEEL	CN-2987 CN-2987	N/A N/A	N/A N/A	CN-2987 CN-2987	
28	WALL STORAGE WALL SHELF	CN-2987	N/A	N/A	CN-2987	
29	SOILED DISH TABLE W/ SCRAPPED SINK	CN-2987	CN-2989	N/A	CN-2989	
30 31	PRE-RINSE FAUCET, BACKSPLASH MOUNT  QUICK DRAIN	CN-2987 CN-2987	CN-2989 CN-2989	N/A N/A	CN-2989 CN-2989	
32	WAREWASHER, DOOR TYPE, HIGH TEMP w/ BOOSTER	CN-2987	CN-2991	CN-2989	CN-2989	
33 34	TYPE-II STEAM EXHAUST HOOD EXHAUST FAN	CN-2987 CN-2990	CN-2990 CN-2990	CN-2990 CN-2991	CN-2987 CN-2990	
35	SPARE NUMBER	N/A	N/A	N/A	N/A	
36	DISH TABLE, CLEAN	CN-2987	N/A	N/A	CN-2987	
37 38	POT SHELVING, FREESTANDING SPARE NUMBER	District N/A	N/A N/A	N/A N/A	CN-2987 N/A	
39	SPARE NUMBER	N/A	N/A	N/A	N/A	
40	SPARE NUMBER	N/A	N/A	N/A	N/A	
41	PREP TABLE w/ DOUBLE PREP SINK, ADA FAUCET	CN-2987 CN-2987	CN-2989 CN-2989	N/A N/A	CN-2989 CN-2989	
43	WALL STORAGE WALL SHELF	CN-2988	N/A	N/A	CN-2987	
44 45	SPARE NUMBER INSULATED HOT CABINET, MOBILE	N/A District	N/A CN-2991	N/A CN-2991	N/A District	
46	ISLAND PREP TABLE W/ INTEGRAL PREP SINK	CN-2988	CN-2989	N/A	CN-2989	
47	FAUCET	CN-2988	CN-2989	N/A	CN-2989	
48 49	COMMERCIAL MICROWAVE OVEN RACK, PAN	District District	CN-2991 District	CN-2991 District	District District	
50	WORK TABLE	District	N/A	N/A	CN-2987	
51 52	COOK & HOLD QUIKTHERM, MOBILE SPARE NUMBER	District N/A	CN-2991	CN-2991	District	
53A	CONVECTION OVEN, GAS	District	N/A CN-2991	N/A CN-2989	N/A CN-2989	
53B	CONVECTION OVEN, GAS	District	CN-2991	CN-2989	CN-2989	
54A 54B	CONVECTION OVEN, GAS CONVECTION OVEN, GAS	District District	CN-2991 CN-2991	CN-2989 CN-2989	CN-2989 CN-2989	
55	TILTING SKILLET, GAS	District	CN-2991	CN-2989	CN-2989	
56	FLOOR TROUGH	CN-2987	CN-2989	N/A	CN-2989	
57 58	6-BURNER RANGE w/ CONVECTION OVEN, GAS SPARE NUMBER	District N/A	CN-2991 N/A	CN-2989 N/A	CN-2989 N/A	
59	SPARE NUMBER	N/A	N/A	N/A	N/A	
60	SPARE NUMBER TYPE-I GREASE EXHAUST HOOD w/ LIGHTS	N/A CN-2987	N/A CN-2990	N/A CN-2991	N/A CN-2987	
62	EXHAUST FAN	CN-2990	CN-2990	CN-2991	CN-2990	
63	MAKE-UP AIR	CN-2990	CN-2990	CN-2991	CN-2990	
64 65	STAINLESS STEEL WALL PANELS  QUICK GAS DISCONNECT	CN-2987 CN-2987	N/A CN-2989	N/A N/A	CN-2987 CN-2989	
66	FIRE SUPPRESSION SYSTEM; ANSUL AUTOMAN	CN-2987	CN-2991	CN-2989	CN-2987	Electrical Prime has E+FA infrastructure to box microswitches and gas valve reset relay
67	REMOTE PULL STATION FOR FIRE SUPPRESSION SYSTEM	CN-2987	CN-2991	CN-2989	CN-2987	Electrician rough-in conduit. KEC has pull box & cables
68 69	K-TYPE FIRE EXTINGUISHER, RECESSED  GAS SHUT OFF VALVE	CN-2987 CN-2987	N/A CN-2989	N/A N/A	CN-2987 CN-2989	Plumber installs shut-off valve. Electrician wires back to hood ansul cabinet
70	WALL MOUNTED CONTROL CABINET	CN-2987	CN-2990	CN-2989	CN-2990	and the second
71 72	SPARE NUMBER SPARE NUMBER	N/A N/A	N/A N/A	N/A N/A	N/A N/A	
72	REFRIGERATOR, PASS-THRU	District	CN-2991	N/A N/A	N/A CN-2987	
74	CABINET, WARMING & HOLDING, PASS-THRU	District	CN-2991	N/A	CN-2987	
75 76	P.O.S. & CART P.O.S. & CARD READER	District District	N/A CN-2991	N/A CN-2991	CN-2987 District	
76	SERVING CART, COLD	District	CN-2991	N/A	CN-2987	
78	SERVING CART, HOT	District	CN-2991	N/A	CN-2987	
79 80	DOUBLE SIDED SNEEZE GUARD, SELF-SERVE SERVING CART, COLD	District District	N/A CN-2991	N/A N/A	CN-2987 CN-2987	
81	MILK COOLER	District	CN-2991	N/A	CN-2987	
82	AIR CURTAIN	CN-2987	CN-2991	N/A	CN-2987	

