Grossmont Union High School District

Grossmont Union High School District

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

Addendum No. 3

Date: August 12, 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 02
- 2. RFI & Substitution Request Log (08.12.22)
- 3. #096700 Fluid Applied Flooring Substitution Request (Not Approved)
- 4. CN-2983 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
- 3. RFI numbers that are not shown are Pending RFIs that will be issued in future addenda

THIS ENDS ADDENDUM NO. 3

Dena Johnson, Senior Project Manager - GUHSD

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August 12,2022

ADDENDUM NO. 2

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. 2 in the space provided on the Bid Form. Failure to do so may subject bidder to disqualification.

CHANGES TO SPECIFICATIONS

Item No.	2.1 2.1.1	Reference Section 00 01 10 – Table of Contents Replace specifications section in its entirety with attached revised section 00 01 10
ltem No.	2.2 2.2.1	Reference Section 03 10 00 – Concrete Forming and Accessories Replace specifications section in its entirety with attached revised section 03 10 00
ltem No.	2.3 2.3.1	Reference Section 07 92 00- Joint Sealants Replace specifications section in its entirety with attached revised section 07 92 00
ltem No.	2.4 2.4.1	Reference Section 11 40 00 – Foodservice Equipment: Replace specification section in its entirety with attached revised section 11 40 00
ltem No.	2.5 2.5.1	Reference Section 22 05 17 – Sleeves and Sleeve Seal for Plumbing Piping: Replace specification section in its entirety with attached revised section 22 05 17
ltem No.	2.6 2.6.1	Reference Section 22 05 19- Meters and Gages for Plumbing Piping Replace specifications section in its entirety with attached revised section 22 05 19
ltem No.	2.7 2.7.1	Reference Section 22 11 23 – Domestic Water Pumps Replace specifications section in its entirety with attached revised section 22 11 23
ltem No.	2.8 2.8.1	Reference Section 22 13 19 – Sanitary Waste Piping Specialties Replace specifications section in its entirety with attached revised section 22 13 19
ltem No.	2.9 2.9.1	Reference Section 22 42 13.16 - Commercial Urinals Replace specifications section in its entirety with attached revised section 22 42 13.16

Item No. 2.10	Reference Section 22 42 16.13– Commercial Lavatories
2.10.1	Replace specifications section in its entirety with attached revised section 22 42 16.13
Item No. 2.11	Reference Section 22 47 13– Drinking Fountains
2.11.1	Replace specifications section in its entirety with attached revised section 22 47 13
Item No. 2.12	Reference Section 23 00 50 – Basic Mechanical Material and Methods

2.12.1 Replace specifications section in its entirety with attached revised section 23 00 50

CHANGES TO DRAWINGS -

Item No. 2.131 2.13.1	Reference Sheet T-1– Title Sheet / Sheet Index Added New Sheet P0-5.2 to Sheet Index per attached Revised Sheet T-1
Item No. 2.14	Reference Sheet AS0.2– Code/ Egress Site Plan
2.14.1	Added New Gate G8 at Electrical Yard and update Gate Schedule per attached Sketch ASK-2.1
2 1 4 2	Added New Backflow preventor location to match Civil per attached Sketch ASK-21
2.14.3	Revised Landscape Area per Demolition Plan change per attached Sketch ASK-2.1
Item No. 2.15	Reference Sheet AS-1.0- Demolition Site Plan
2.15.1	Revised Asphalt Paving Demolition extent per attached Sketch ASK-2.2
2.15.2	Showing Existing Shade Structure to be Demolished per attached Sketch ASK-2.2
2.15.3	Showing extent of Demolition for New irrigation tie in per attached Sketch ASK-2.2
2.15.4	Included Missing Demolition Keynotes for Detail 2/AS-1.0 per attached Sketch ASK-2.1
Item No. 2.16	Reference Sheet AS-1.1- Overall Site Plan
2.16.1	Revised new Asphalt Paving extent per attached Sketch ASK-2.3
2.16.2	Added New Gate G8 at Electrical Yard and Electrical Yard revisions per attached Sketch ASK-2.3
2.16.3	Showing extent of Patch back for new irrigation tie in per attached Sketch ASK-2.3
2.16.4	Added New Backflow preventor location to match Civil per attached Sketch ASK-2.3
2.16.5	Revised Landscape Area to match Demolition Plan change per attached Sketch ASK-2.3
Item No. 2.17	Reference Sheet AS-1.2 – Modernization Site Plan
2.17.1	Replace Sheet AS-1.2 with attached Revised sheet AS-1.2
Item No. 2.18	Reference Sheet AS1.3– Enlarged Site Plan
2.18.1	Updated Trash Enclosure keynote to 32.311 per attached Sketch ASK-2.4
Item No. 2.19	Reference Sheet ASD-4.0- Site Details
2.19.1	Included missing Keynotes per attached SketchASK-2.5
2.19.2	Added new detail (E) Retaining Wall Demo per attached Sketch ASK-2.6
Item No. 2.20	Reference Sheet A1-1.0- Building 900 Floor Plan and RCP
2.20.1	Updated Door 907B to an overhead coiling door per attached Sketch ASK-2.7& ASK2.8
2.20.2	Revised Keynote for Wall Mounted Monitors per attached Sketch ASK-2.7
2.20.3	Added Detail Reference to RCP for Classroom 914 per attached Sketch ASK-2.8
Item No. 2.21	Reference Sheet A1-4.0 – Building 900 Building Elevations
2.21.1	Replace Sheet A1-4.0 with attached Revised sheet A1-4.0
Item No. 2.22	Reference Sheet A1-5.0 – Building 900 Building Elevations & Sections
2.22.1	Replace Sheet A1-5.0 with attached Revised sheet A1-5.0
Item No. 2.23	Reference Sheet A1-5.1- Building 900 Building Sections
2.23.1	Replace Sheet A1-5.1 with attached Revised sheet A1-5.1
Item No. 2.24	Reference Sheet A1-7.1– Building 900 Interior Elevations
2.24.1	Updated Keynote to Reflection/ Detention RM #908 Interior Elevation per attached Sketch ASK-2.9
Item No. 2.25	Reference Sheet A1-7.2- Interior Elevations
2.25.1	Updated Keynote 11.521 detail reference per attached Sketch ASK-2.9
Item No. 2.26	Reference Sheet A1-8.0- Building 900 Door & Window Schedule
2.26.1	Revised Door 907B to an overhead coiling door per attached Sketch ASK-2.10

Item No. 2.27	Reference Sheet A2-3.0- Building 400 New Food Service Roof Plan
2.27.1	Provided detail reference and keynote for the refrigerant condensers per attached sketch ASK2.11
Item No. 2.28	Reference Sheet A2-4.0– Building 400 Building Elevations
2.28.1	Replace Sheet A2-4.0 with attached Revised sheet A2-4.0
Item No. 2.29	Reference Sheet A2-8.0- Building 400 Door Schedule & Window Types
2.29.1	Removed Motorized Roller Shade references per attached Sketch ASK-2.12
Item No. 2.30 2.30.1	Reference Sheet AD2.1- Wall Details Added Can wash Elevation References and provided Plumbing detail reference per attached Sketch ASK-2.13
Item No. 2.31	Reference Sheet AD3.0- Details Roof Details
2.31.1	Updated Dimension for Mechanical Curb Flashing per attached Sketch ASK-2.6
Item No. 2.32	Reference Sheet AD3.1 Roof Details
2.32.1	Added New detail for Refrigeration Unit Curb per attached Sketch ASK-2.11
Item No. 2.33	Reference Sheet AD-6.2 – Door & Window Details
2.33.1	Replace Sheet AD-6.2 with attached Revised sheet AD-6.2
Item No. 2.34	Reference Sheet AD-8.0 – Miscellaneous Details
2.34.1	Replace Sheet AD-8.0 with attached Revised sheet AD-8.0
Item No. 2.35	Reference Sheet ID-1.0
2.35.1	Replace Sheet ID-1.0 with attached Revised sheet ID-1.0
Item No. 2.36	Reference Sheet M0-0.2- Mechanical Schedules
2.36.1	Replace Sheet M0-0.2 with attached Revised sheet M0-0.2
Item No. 2.37	Reference Sheet M0-5.1- Mechanical Details
2.37.1	Replace Sheet M0-5.1 with attached Revised sheet M0-5.1
Item No. 2.38	Reference Sheet M2-2.1- Mechanical Kitchen Floor Plan
2.38.1	Replace Sheet M2-2.1 with attached Revised sheet M2-2.1
Item No. 2.39	Reference Sheet P0-0.2- Plumbing Schedules
2.39.1	Replace Sheet P0-0.2 with attached Revised sheet P0-0.2
Item No. 2.40	Reference Sheet P0-5.1- Plumbing Details
2.40.1	Replace Sheet P0-5.1 with attached Revised sheet P0-5.1
Item No. 2.41	Reference Sheet P0-5.2- Plumbing Details
2.41.1	Added New Sheet
Item No. 2.42	Reference Sheet P1-3.1- Plumbing Enlarged Plans
2.42.1	Replace Sheet P1-3.1 with attached Revised sheet P1-3.1
Item No. 2.43	Reference Sheet P2-3.1- Plumbing Enlarged Plans
2.43.1	Replace Sheet P2-3.1 with attached Revised sheet P2-3.1
Item No. 2.44	Reference Sheet E1.1–Overall Site Plan
2.44.1	Replace Sheet E-1.1 with attached Revised sheet E-1.1
Item No. 2.45	Reference Sheet E2.1- BLDG. 900 Floor Plan- Lighting
2.45.1	Replace Sheet E2.1 with attached Revised sheet E2.1
Item No. 2.46	Reference Sheet E2.2- Kitchen Floor Plan- Lighting
2.46.1	Replace Sheet E2.2 with attached Revised sheet E2.2
Item No. 2.47	Reference Sheet E2.3- Fixture Schedule
2.47.1	Replace Sheet E2.3 with attached Revised sheet E2.3

Item No. 2.48	Reference Sheet E3.1-Bldg. 900 Floor Plan – Power
2.48.1	Replace Sheet E3.1 with attached Revised sheet E3.1
Item No. 2.49	Reference Sheet E3.2- Kitchen Floor Plan- Power
2.49.1	Replace Sheet E3.2 with attached Revised sheet E3.2
Item No. 2.50	Reference Sheet E4.1- Kitchen Floor Plan - Communications
2.50.1	Replace Sheet E4.1 with attached Revised sheet E4.1
Item No. 2.51	Reference Sheet E4.2- Kitchen Floor Plan - Communications
2.51.1	Replace Sheet E4.2 with attached Revised sheet E4.2

ATTACHMENTS - GHS New Kitchen and Weight Room

Specifications:	00 01 10, 03 10 00, 07 92 00, 11 40 00, 22 05 17, 22 05 19, 22 11 23, 22 13 19, 22 42 13.16,
	22 42 16.13, 22 47 13, 23 00 50
Sketches:	ASK-2.1, ASK-2.2, ASK-2.3, ASK-2.4, ASK-2.5, ASK-2.6, ASK-2.7, ASK-2.8, ASK-2.9, ASK-2.10,
	ASK-2.11, ASK-2.12, ASK-2.13
Drawings:	T-1, AS-1.2, A1-4.0, A1-5.0, A1-5.1, A2-4.0, AD-6.2, AD8.0, ID-1.0, M0-0.2, M0-5.1, M2-2.1,
	P0-0.2, P0-5.1, P0-5.2, P1-3.1, P2-3.1, E1.1, E2.1, E2.2, E2.3, E3.1, E3.2, E4.1, E4.2

END OF ADDENDUM 2 CENSED ARC C Nh. ST ATE 10 Exp Roger Clarke, Principal OF CALL

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Addendum 1

SECTION 03 10 00 CONCRETE FORMING AND ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Openings for other work.
- B. Form accessories.
- C. Form stripping.

1.02 RELATED REQUIREMENTS

- A. Section 03 20 00 Concrete Reinforcing.
- B. Section 04 20 00 Unit Masonry: Reinforcement for masonry.
- C. Section 05 12 00 Structural Steel Framing: Placement of embedded steel anchors and plates in cast-in-place concrete.
- D. Section 05 50 00 Metal Fabrications: Placement of embedded steel anchors and plates in cast-in-place concrete.
- E. Section 31 23 16 Excavation: Shoring and underpinning for excavation.
- F. Section 32 13 13 Site Concrete: Sidewalks, curbs and gutters.

1.03 REFERENCE STANDARDS

- A. ACI 117 Specification for Tolerances for Concrete Construction and Materials.
- B. ACI 301 Specifications for Concrete Construction.
- C. ACI 318 Building Code Requirements for Structural Concrete.
- D. ACI 347R Guide to Formwork for Concrete.
- E. PS 1 Structural Plywood.
- F. CBC Chapter 19A.

1.04 DEFINITIONS

- A. Unexposed Finish: A general-use finish, with no appearance criteria, applicable to all formed concrete concealed from view after completion of construction.
- B. Exposed Finish: A general-use finish applicable to all formed concrete exposed to view and including surfaces which may receive a paint coating (if any).

1.05 SUBMITTALS

- A. See Section 01 30 00 Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on void form materials and installation requirements.
 - 1. Form release agent.

C. Shop Drawings: Indicate pertinent dimensions, materials, bracing, and arrangement of joints and ties.

1.06 QUALITY ASSURANCE

- A. Industry Standard: Formwork design and construction shall be in accordance with ACI 301, ACI 318, and ACI 347R.
- B. Maintain one copy of each installation standard on site throughout the duration of concrete work.
- C. Regulatory Requirements: Conform to formwork construction requirements of the California Building Code (CBC) Title 24, Part 2, Chapter 19A as amended and adopted by authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver prefabricated forms and installation instructions in manufacturer's packaging.
- B. Store prefabricated forms off ground in ventilated and protected manner to prevent deterioration from moisture.

PART 2 PRODUCTS

2.01 FORMWORK - GENERAL

- A. Provide concrete forms, accessories, shoring, and bracing as required to accomplish cast-inplace concrete work.
- B. Design and construct concrete that complies with design with respect to shape, lines, and dimensions.
- C. Chamfer outside corners of beams, joists, columns, and walls.
- D. Comply with applicable state and local codes with respect to design, fabrication, erection, and removal of formwork.
- E. Comply with relevant portions of ACI 301, ACI 318, and ACI 347R.
- F. Provide materials for contact with concrete which impart suitable surface quality to completed concrete. Use the following form types:
 - 1. Forms for Exposed Finish Concrete:
 - a. Plywood, metal, metal-framed plywood faced, or other acceptable panel-type materials to provide continuous, straight, smooth, exposed surfaces.
 - b. Furnish in largest practical sizes to minimize number of joints and to conform to joint system shown on the Drawings.
 - 2. Forms for Unexposed Finish Concrete:
 - a. Plywood, lumber, metal, or another acceptable material.
 - b. Provide lumber dressed on at least two edges and one side for tight fit.
 - c. When unexposed concrete is intended to receive waterproofing, provide form as for exposed finish concrete.

G. Provide materials to construct formwork to support forming materials in contact with concrete, of sufficient capacity to withstand pressures of concrete placement and to support concrete in place until cured, without distortion.

2.02 WOOD FORM MATERIALS

- A. Softwood Plywood for Concealed Surfaces: PS 1, undamaged face C Grade, Group 2 Plugged EXT or APA Structural I Sheathing.
- B. Hardboard: For curved surfaces, tempered hardboard, Masonite Corp., or equal.
- C. Lumber: Douglas fir or douglas fir-larch species; appropriate for intended use grade; with grade stamp clearly visible.
 - 1. Sound and undamaged straight edges, and solid knots, to maintain principal shores to support concrete until minimum strength is achieved as approved by Structural Engineer.
- D. Embedded Nailers: Clear all heart redwood or pressure preservative-treated (PPTDF) douglas fir, edges reverse beveled to key into concrete.

2.03 FORMWORK ACCESSORIES

- A. Form Ties: Removable, adjustable-length or snap-off type, galvanized metal, fixed length, cone type, with waterproofing washer, free of defects that could leave holes larger than 1 inch in concrete surface.
- B. Form Release Agent: Capable of releasing forms from hardened concrete without staining or discoloring concrete or forming bugholes and other surface defects, compatible with concrete and form materials, and not requiring removal for satisfactory bonding of coatings to be applied.
 - 1. Composition: Colorless, reactive, water-based or solvent-based compound.
 - 2. Do not use materials containing diesel oil or petroleum-based compounds.
 - 3. Does not impair subsequent treatments of concrete surfaces or bond of applied coatings.
 - 4. VOC Content: In compliance with applicable local, State, and federal regulations.
 - 5. Products:
 - a. SpecChem, LLC; Bio Strip WB (water-based): www.specchemllc.com/#sle.
 - b. W. R. Meadows, Inc; Duogard: www.wrmeadows.com/#sle.
 - c. Substitutions: See Section 01 60 00 Product Requirements.
- C. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required, of sufficient strength and character to maintain formwork in place while placing concrete.
- D. Embedded Anchor Shapes, Plates, Angles and Bars: As specified in Section 05 50 00.
- E. Screed Pins and Chairs:
 - 1. Provide units that leave no metal closer than 1-1/2 inch to the plane of the exposed concrete surface.
 - 2. Manufacturers:
 - a. Grann Adjustable Quick Screed (800/554-7266).
 - b. Dayton Richmond (800/745-3700).

- c. Aztek (877/531-3344).
- d. Substitutions: See Section 01 60 00 Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify lines, levels and centers before proceeding with formwork. Ensure that dimensions agree with drawings.

3.02 SYSTEM REQUIREMENTS

- A. Formwork Design Requirements: Formwork products and execution specified herein are for finish surface quality only.
 - 1. Design, layout and construction of formwork shall be solely the responsibility of the Contractor.
 - 2. Design and construct formwork, shoring and bracing to conform to California Building Code (CBC), Title 24, Part 2, Chapter 19A requirements and ACI 318.
 - 3. Resulting concrete shall conform to shapes, lines and dimensions indicated and required.
- B. Coordination:
 - 1. Coordinate Work specified in this Section with other Sections which require placement of embedded products and provision of openings and recesses.
 - 2. If formwork is placed after reinforcement, resulting in insufficient concrete cover over reinforcement, request instructions from the Architect before proceeding.

3.03 EARTH FORMS

- A. Earth (Soil) Forms, General: Except as otherwise indicated on Drawings, conform to ACI 301, ACI 347R and California Building Code (CBC) requirements. Refer also to notes on Structural Drawings.
- B. Hand trim sides and bottom of earth forms. Remove loose soil prior to placing concrete.

3.04 ERECTION - FORMWORK

- A. Erect formwork, shoring and bracing to achieve design requirements, in accordance with requirements of ACI 301, ACI 347R and California Building Code (CBC) Title 24, Part 2 requirements.
- B. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to overstressing by construction loads.
 - 1. Use form ties of sufficient strength and sufficient quantities to prevent formwork spreading.
 - 2. Maintain principal shores to support concrete until minimum required strength is achieved.
- C. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.

- 1. Design and fabricate forms for easy removal, without impact, shock, or damage to concrete surfaces or other portions of the work.
- 2. Design to support all applied loads until concrete is adequately cured, within allowable tolerances and deflection limits.
- D. Align joints and make watertight. Keep form joints to a minimum. Make forms watertight to prevent leakage of concrete mortar. Locate form joints, at exposed concrete, to be symmetrical about center of panel, unless otherwise noted. Align joints symmetrically at exposed conditions.
- E. Permanent openings: Provide openings to accommodate Work specified in other Sections. Size and locate openings accurately. Securely support items built into forms; provide additional bracing at openings and discontinuities in formwork.
- F. Temporary openings: Provide temporary openings for cleaning and inspection. Provide drain openings at bottoms of formwork to allow water to drain. Locate temporary openings in most inconspicuous locations at base of forms, closed with tight-fitting panels designed to minimize appearance of joints in finished concrete Work.
- G. Obtain approval before framing openings in structural members that are not indicated on drawings.
- H. Coordinate this section with other sections of work that require attachment of components to formwork.
- I. If formwork is placed after reinforcement, resulting in insufficient concrete cover over reinforcement, request instructions from Architect before proceeding.
- J. Inspection: Before placing of concrete, and after placement of reinforcing steel in the forms, provide notification so that proper inspection can be made. Make such notification at least 2 working days in advance of placing concrete.
- K. Rejection of Defective Work: Any movement or bellying of forms during construction or variations in excess of the tolerances specified shall be considered just cause for the removal of such forms and, in addition, the concrete construction so affected. Reconstruct forms, place new concrete and required reinforcing steel at no additional cost to the District.

3.05 APPLICATION - FORM RELEASE AGENT

- A. Form Release Agent: Provide either form materials with factory applied non-absorptive liner or field applied form coating to comply with applicable air quality regulations for VOC. If field applied coating is employed, thoroughly clean and recondition formwork and reapply coating before each use. Rust on form surfaces is not acceptable.
- B. Apply form release agent on formwork in accordance with manufacturer's recommendations.
- C. Apply prior to placement of reinforcing steel, anchoring devices, and embedded items.
- D. Do not apply form release agent where concrete surfaces to receive special finishes or applied coverings that are affected by agent. Soak inside surfaces of untreated forms with clean water. Keep surfaces coated prior to placement of concrete.

3.06 INSERTS, EMBEDDED PARTS, AND OPENINGS

- A. Provide formed openings where required for items to be embedded in passing through concrete work.
 - 1. Install accessories in accordance with manufacturer's instructions and referenced standards, level, straight and plumb.
- B. Locate and set in place items that are cast directly into concrete.
- C. Coordinate with work of other sections in forming and placing openings, slots, reglets, recesses, sleeves, bolts, anchors, other inserts, and components of other work.
 - 1. Openings: Size and locate formed openings, depressions, recesses and chases to accommodate products to be applied to, built into and pass through concrete Work. Coordinate size, location and placement of inserts, embedded products, openings and recesses with Work specified in other Sections.
 - 2. Anchors and Other Devices: Set and build into concrete formwork anchorage devices and other embedded products required for Work to be attached to or supported by concrete elements.
 - 3. Locating Embedded Products and Openings: Use setting drawings, diagrams, instructions and templates to set embedded products.
 - 4. Screeds: Set screeds and establish level for tops of concrete slabs and leveling for finish surfaces. Shape surfaces as indicated on the Drawings. Provide cradle, pad or base type screed supports for concrete over waterproof membranes and vapor retarders.
- D. Install accessories in accordance with manufacturer's instructions, so they are straight, level, and plumb. Ensure items are not disturbed during concrete placement.
- E. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection. Locate openings at bottom of forms to allow flushing water to drain.
- F. Close temporary openings with tight fitting panels, flush with inside face of forms, and neatly fitted so joints are not apparent in exposed concrete surfaces.

3.07 FORM CLEANING

- A. Clean forms as erection proceeds, to remove foreign matter within forms.
- B. Clean formed cavities of debris prior to placing concrete.
 - 1. At above grade forms, flush with water or use compressed air to remove remaining foreign matter. Ensure that water and debris drain to exterior through clean-out ports.
 - 2. During cold weather, remove ice and snow from within forms. Do not use de-icing salts. Do not use water to clean out forms, unless formwork and concrete construction proceed within heated enclosure. Use compressed air or other means to remove foreign matter.
- C. Formwork Reuse: Do not reuse wood and plywood forming materials which contact concrete, except as follows:
 - 1. High density plywood may be cleaned and reused for exposed concrete.
 - 2. Unfaced plywood may be reused for concealed concrete.
 - 3. Steel and fiberglass forming materials may be cleaned and reused.

D. Patching and Repairs: Patch tie holes with sheet metal patches and restore forms to like new condition prior to reuse.

3.08 FORMWORK TOLERANCES

- A. Construct formwork to maintain tolerances required by ACI 117, unless otherwise indicated.
 - 1. Also as specified in ACI 301, ACI 318, and ACI 347R, unless otherwise specified or indicated.
- B. Camber slabs and beams in accordance with ACI 301.

3.09 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00 Quality Requirements.
- B. Inspect erected formwork, shoring, and bracing to ensure that work is in accordance with formwork design, and to verify that supports, fastenings, wedges, ties, and items are secure.
 - 1. Comply with CBC Table 1705A.3, item 12.
- C. Do not reuse wood formwork more than 3 times for concrete surfaces to be exposed to view. Do not patch formwork.

3.10 FORM REMOVAL

- A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads.
 - 1. Comply with California Building Code (CBC) requirements.
 - 2. Formwork supporting weight of concrete may not be removed until concrete has reached a minimum of specified 28-day compressive strength and no earlier than 21 days after pour.
 - 3. Removal of Load Bearing Formwork:
 - a. Do not remove shoring and forms supporting weight of concrete, such as beam soffits, joists, slabs, and other structural elements, until concrete has attained its 28 day specified compressive strength, unless otherwise specified or permitted by the Structural Engineer of Record.
 - b. Determine the actual compressive strength has attained is adequate to support the weight of the concrete and superimposed loads.
 - c. Maintain curing and protection operations after form removal.
 - 4. Removal of Non Load Bearing Formwork After Superimposed Loads or as Approved by Engineer:
 - a. Provided that concrete has hardened sufficiently, that it is not damaged, and has achieved sufficient strength to support its own weight and all imposed construction and design loads, forms not actually supporting weight of concrete or weight of soffit forms may be removed after concrete has cured at not less than 50 degrees F for 24 hours.
 - b. Maintain curing and protection operations after form removal.

- B. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.
 - 1. Remove formwork progressively so no unbalanced loads are imposed on structure. Remove formwork without damaging concrete surfaces.
 - 2. Remove or snap off metal spreader ties inside wall surface. Cut nails and form ties off flush and leave surfaces level and clean.
- C. Store removed forms to prevent damage to form materials or to fresh concrete. Discard damaged forms.

3.11 PATCHING

- A. Schedule: Patch forming and tie holes immediately after form removal.
- B. Cleaning: Clean surface of all loose materials and soiling.
- C. Patching: Patch all holes and depressions with grouting gun and grout mix of one part cement and 2-1/2 parts mortar sand.

3.12 FORMWORK SCHEDULE

- A. Footings and Walls, Not Exposed to View: Site fabricated plywood or lumber, coated with form release agent.
- B. Footings and Walls, Exposed to View: Site fabricated plywood, coated with form release agent compatible with applied finish coatings.

END OF SECTION

SECTION 07 92 00 JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Nonsag gunnable joint sealants.
- B. Self-leveling pourable joint sealants.
- C. Joint backings and accessories.

1.02 RELATED REQUIREMENTS

- A. Section 01 61 16 Volatile Organic Compound (VOC) Content Restrictions: Additional requirements for sealants and primers.
- B. Section 07 25 00 Weather Barriers: Sealants required in conjunction with air barriers and vapor retarders.
- C. Section 09 21 16 Gypsum Board Assemblies: Sealing acoustical and sound-rated walls and ceilings.

1.03 REFERENCE STANDARDS

- A. ASTM C661 Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer.
- B. ASTM C794 Standard Test Method for Adhesion-In-Peel of Elastomeric Joint Sealants.
- C. ASTM C834 Standard Specification for Latex Sealants.
- D. ASTM C919 Standard Practice for Use of Sealants in Acoustical Applications.
- E. ASTM C920 Standard Specification for Elastomeric Joint Sealants.
- F. ASTM C1087 Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems.
- G. ASTM C1193 Standard Guide for Use of Joint Sealants.
- H. ASTM C1311 Standard Specification for Solvent Release Sealants.
- I. ASTM C1330 Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants.
- J. ASTM C1521 Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints.
- K. ASTM D2240 Standard Test Method for Rubber Property--Durometer Hardness.
- L. SCAQMD 1168 Adhesive and Sealant Applications.
- M. SWRI (VAL) SWR Institute Validated Products Directory.

1.04 SUBMITTALS

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

- B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
 - 1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
 - 2. List of backing materials approved for use with the specific product.
 - 3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
 - 4. Substrates the product should not be used on.
 - 5. Substrates for which use of primer is required.
 - 6. Installation instructions, including precautions, limitations, and recommended backing materials and tools.
 - 7. Sample product warranty.
 - 8. Certification by manufacturer indicating that product complies with specification requirements.
 - 9. SWRI Validation: Provide currently available sealant product validations as listed by SWRI (VAL) for specified sealants.
- C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.
- D. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.
- E. Samples for Verification: Where custom sealant color is specified, obtain directions from Architect and submit at least two physical samples for verification of color of each required sealant.
- F. Preconstruction Laboratory Test Reports: Submit at least four weeks prior to start of installation.
- G. Preinstallation Field Adhesion Test Reports: Submit filled out Preinstallation Field Adhesion Test Reports log within 10 days after completion of tests; include bagged test samples and photographic records.

1.05 QUALITY ASSURANCE

- A. Maintain one copy of each referenced document covering installation requirements on site.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- C. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.
- D. Preconstruction Laboratory Testing: Arrange for sealant manufacturer(s) to test each combination of sealant, substrate, backing, and accessories.
 - 1. Adhesion Testing: In accordance with ASTM C794.
 - 2. Compatibility Testing: In accordance with ASTM C1087.

- 3. Allow sufficient time for testing to avoid delaying the work.
- 4. Deliver to manufacturer sufficient samples for testing.
- 5. Report manufacturer's recommended corrective measures, if any, including primers or techniques not indicated in product data submittals.
- 6. Testing is not required if sealant manufacturer provides data showing previous testing, not older than 24 months, that shows satisfactory adhesion, lack of staining, and compatibility.
- E. Field Adhesion Test Procedures:
 - 1. Allow sealants to fully cure as recommended by manufacturer before testing.
 - 2. Have a copy of the test method document available during tests.
 - 3. Take photographs or make video records of each test, with joint identification provided in the photos/videos; for example, provide small erasable whiteboard positioned next to joint.
 - 4. Record the type of failure that occurred, other information required by test method, and the information required on the Field Quality Control Log.
 - 5. When performing destructive tests, also inspect the opened joint for proper installation characteristics recommended by manufacturer, and report any deficiencies.
 - 6. Deliver the samples removed during destructive tests in separate sealed plastic bags, identified with project, location, test date, and test results, to District.
 - 7. If any combination of sealant type and substrate does not show evidence of minimum adhesion or shows cohesion failure before minimum adhesion, report results to Architect.
- F. Destructive Field Adhesion Test: Test for adhesion in accordance with ASTM C1521, using Destructive Tail Procedure.
 - 1. Sample: At least 18 inches long.
 - 2. Minimum Elongation Without Adhesive Failure: Consider the tail at rest, not under any elongation stress; multiply the stated movement capability of the sealant in percent by two; then multiply 1 inch by that percentage; if adhesion failure occurs before the "1 inch mark" is that distance from the substrate, the test has failed.
 - 3. If either adhesive or cohesive failure occurs prior to minimum elongation, take necessary measures to correct conditions and re-test; record each modification to products or installation procedures.
 - 4. Record results on Field Quality Control Log.
 - 5. Repair failed portions of joints.

1.06 WARRANTY

- A. See Section 01 78 00 Closeout Submittals, for additional warranty requirements.
- B. Correct defective work within a five year period after Date of Substantial Completion.
- C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal, exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Non-Sag Sealants: Permits application in joints on vertical surfaces without sagging or slumping.
 - 1. Adhesives Technology Corporation: www.atcepoxy.com.
 - 2. Bostik Inc: www.bostik-us.com.
 - 3. Dow Corning Corporation: www.dowcorning.com/construction/sle.
 - 4. Fortifiber Building Systems Group: www.fortifiber.com/sle.
 - 5. Hilti, Inc: www.us.hilti.com/#sle.
 - 6. Master Builders Solutions by BASF: www.master-builders-solutions.basf.us/en-us/#sle.
 - 7. Momentive Performance Materials, Inc (formerly GE Silicones): www.momentive.com/sle.
 - 8. Pecora Corporation: www.pecora.com.
 - 9. QUIKRETE Companies: www.quikrete.com/#sle.
 - 10. Sherwin-Williams Company: www.sherwin-williams.com.
 - 11. Sika Corporation: www.usa-sika.com.
 - 12. Specified Technologies Inc: www.stifirestop.com/#sle.
 - 13. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com/#sle.
 - 14. W.R. Meadows, Inc: www.wrmeadows.com/sle.
 - 15. Substitutions: See Section 01 60 00 Product Requirements.
- B. Self-Leveling Sealants: Pourable or self-leveling sealant that has sufficient flow to form a smooth, level surface when applied in a horizontal joint.
 - 1. Adhesives Technology Corporation: www.atcepoxy.com.
 - 2. Bostik Inc: www.bostik-us.com.
 - 3. Dayton Superior Corporation: www.daytonsuperior.com.
 - 4. Dow Corning Corporation: www.dowcorning.com/construction/sle.
 - 5. Master Builders Solutions by BASF: www.master-builders-solutions.basf.us/en-us/#sle.
 - 6. Pecora Corporation: www.pecora.com.
 - 7. QUIKRETE Companies: www.quikrete.com/#sle.
 - 8. Sherwin-Williams Company: www.sherwin-williams.com.
 - 9. Sika Corporation: www.usa-sika.com.
 - 10. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com/#sle.
 - 11. W.R. Meadows, Inc: www.wrmeadows.com/sle.
 - 12. Substitutions: See Section 01 60 00 Product Requirements.

2.02 JOINT SEALANT APPLICATIONS

- A. Scope:
 - 1. Exterior Joints: Seal open joints, whether or not the joint is indicated on drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to, the following items.
 - a. Wall expansion and control joints.
 - 1) Unit Masonry.
 - 2) Cement Plastering System.
 - 3) Metal and Composite Panels.
 - 4) Siding.
 - b. Construction joints in cast-in-place concrete
 - c. Joints between door, window, and other frames and adjacent construction.
 - d. Joints between different exposed materials.
 - e. Openings below ledge angles in masonry.
 - f. Control and expansion joints in ceilings and other overhead surfaces.
 - g. Other joints indicated below.
 - 2. Interior Joints: Do not seal interior joints unless specifically indicated to be sealed. Interior joints to be sealed include, but are not limited to, the following items.
 - a. Joints between door, window, and other frames and adjacent construction.
 - b. Control and expansion joints on exposed interior surfaces of exterior walls.
 - c. Perimeter joints of exterior openings where indicated.
 - d. Control and expansion joints in tile.
 - e. In sound-rated wall and ceiling assemblies, gaps at electrical outlets, wiring devices, piping, and other openings; between wall/ceiling and other construction; and other flanking sound paths.
 - 1) Exception: Such gaps and openings in gypsum board finished stud walls and suspended ceilings.
 - 2) Exception: Through-penetrations in sound-rated assemblies that are also firerated assemblies.
 - f. Other joints indicated below.
 - 3. Do not seal the following types of joints.
 - a. Intentional weepholes in masonry.
 - b. Joints indicated to be treated with manufactured expansion joint cover or some other type of sealing device.
 - c. Joints where sealant is specified to be provided by manufacturer of product to be sealed.
 - d. Joints where installation of sealant is specified in another section.
 - e. Joints between suspended panel ceilings/grid and walls.

- B. Type EP-1 Exterior Joints: Use non-sag non-staining silicone sealant at storefront and openings, unless otherwise indicated.
- C. Type SM-1 Lap Joints in Sheet Metal Fabrications: Butyl rubber, non-curing.
- D. Type SM-1 Lap Joints between Manufactured Metal Panels: Butyl rubber, non-curing.
- E. Type CP-1 Control and Expansion Joints in Concrete Paving: Self-leveling polyurethane "traffic-grade" sealant.
- F. Type IP-1 Interior Joints: Use non-sag polyurethane sealant, unless otherwise indicated.
- G. Type IA-1 Wall and Ceiling Joints in Non-Wet Areas: Acrylic emulsion latex sealant.
- H. Type WP-1 Wall and Ceiling Joints in Wet Areas: Non-sag polyurethane sealant for continuous liquid immersion.
- I. Type FS-1 Joints between Fixtures in Wet Areas and Floors, Walls, and Ceilings: Mildewresistant silicone sealant; white.
- J. Type IA-1 In Sound-Rated Assemblies: Acrylic emulsion latex sealant.
- K. Type WFP-1 Other Floor Joints: Self-leveling polyurethane "traffic-grade" sealant.
- L. Interior Wet Areas: restrooms and kitchens; fixtures in wet areas include plumbing fixtures, countertops, cabinets, and other similar items.
- M. Sound-Rated Assemblies: Walls and ceilings identified as "STC-rated", "sound-rated", or "acoustical".

2.03 JOINT SEALANTS - GENERAL

- A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.
- B. Colors: As indicated on the drawings. Match adjacent surface.

2.04 NONSAG JOINT SEALANTS

- A. Type NS-1 Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
 - 1. Movement Capability: Plus and minus 50 percent, minimum.
 - 2. Hardness Range: 15 to 35, Shore A, when tested in accordance with ASTM C661.
 - 3. Color: To be selected by Architect from manufacturer's full range.
 - 4. Cure Type: Single-component, neutral moisture curing.
 - 5. Service Temperature Range: Minus 20 to 180 degrees F.
 - 6. Manufacturers:
 - a. Dow Chemical Company; DOWSIL 790 Silicone Building Sealant: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.
 - b. Dow Chemical Company; DOWSIL 791 Silicone Weatherproofing Sealant: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.
 - c. Dow Chemical Company; DOWSIL 795 Silicone Building Sealant: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.

- d. Momentive Performance Materials, Inc (formerly GE Silicones): www.momentive.com/sle.
- e. Pecora Corporation; Pecora 864 NST (Non-Staining Technology): www.pecora.com/#sle.
- f. Sika Corporation; Sikasil WS-290: www.usa-sika.com/#sle.
- g. Sika Corporation; Sikasil WS-295: www.usa-sika.com/#sle.
- h. Substitutions: See Section 01 60 00 Product Requirements.
- B. Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
 - 1. Movement Capability: Plus and minus 25 percent, minimum.
 - 2. Color: To be selected by Architect from manufacturer's full range.
 - 3. Cure Type: Single-component, neutral moisture curing
 - 4. Service Temperature Range: Minus 65 to 180 degrees F.
 - 5. Manufacturers:
 - a. Fortifiber Building Systems Group; Moistop Sealant: www.fortifiber.com/#sle.
 - b. Dow Chemical Company; DOWSIL 999-A Building and Glazing Sealant: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.
 - c. Pecora Corporation; Pecora 890FTS (Field Tintable Smooth): www.pecora.com/#sle.
 - d. Momentive Performance Materials, Inc (formerly GE Silicones): www.momentive.com/sle.
 - e. Sherwin-Williams Company; Silicone Rubber All Purpose Sealant: www.sherwinwilliams.com/#sle.
 - f. Sika Corporation; Sikasil GP: www.usa-sika.com/#sle.
 - g. Substitutions: See Section 01 60 00 Product Requirements.
- C. Type FS-1 Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
 - 1. Color: White.
 - 2. Manufacturers:
 - a. BASF Construction Chemicals-Building Systems; OmniPlus, by Sonneborn Building Products Div.: www.buildingsystems.basf.com.
 - b. Dow Corning Corporation; 786 Silicone Sealant: www.dowcorning.com.
 - c. Momentive Performance Materials, Inc (GE Silicones products); Silpruf SCS 1700 Sanitary: www.momentive.com.
 - d. Pecora Corporation; Pecora 898 NST (Non-Staining Technology): www.pecora.com/#sle.
 - e. Sika Corporation; Sikasil GP: www.usa-sika.com/#sle.
 - f. Substitutions: See Section 01 60 00 Product Requirements.

- D. Type ST-1 Silyl-Terminated Polyether (STPE) and Polyurethane (STPU) Sealant: ASTM C920, Grade NS, Uses M and A; single component; not expected to withstand continuous water immersion or traffic.
 - 1. Movement Capability: Plus and minus 35 percent, minimum.
 - 2. Hardness Range: 20 to 40, Shore A, when tested in accordance with ASTM C661.
 - 3. Color: To be selected by Architect from manufacturer's full range.
 - 4. Service Temperature Range: Minus 40 to 180 degrees F.
 - 5. Manufacturers:
 - a. Sherwin-Williams Company; Stampede 100 Low-Modulus Hybrid Urethane Sealant: www.sherwin-williams.com/#sle.
 - b. Substitutions: See Section 01 60 00 Product Requirements.
 - 6. Hardness Range: 20 to 35, Shore A, when tested in accordance with ASTM C661.
 - 7. Color: To be selected by Architect from manufacturer's full range.
 - 8. Service Temperature Range: Minus 40 to 180 degrees F.
 - 9. Manufacturers:
 - a. Sherwin-Williams Company; Stampede-1/-TX Polyurethane Sealant: www.sherwin-williams.com/#sle.
 - b. Sika Corporation; Sikaflex-1a: www.usa-sika.com/#sle.
 - c. Sika Corporation; Sikaflex-15 LM: www.usa-sika.com/#sle.
 - d. W. R. Meadows, Inc; POURTHANE NS: www.wrmeadows.com/#sle.
 - e. Substitutions: See Section 01 60 00 Product Requirements.
- E. Type WP-1 Polyurethane Sealant for Continuous Water Immersion: ASTM C920, Grade NS, Uses M and A; single or multi-component; explicitly approved by manufacturer for continuous water immersion; suitable for traffic exposure when recessed below traffic surface .
 - 1. Movement Capability: Plus and minus 35 percent, minimum.
 - 2. Hardness Range: 20 to 35, Shore A, when tested in accordance with ASTM C661.
 - 3. Color: To be selected by Architect from manufacturer's full range.
 - 4. Service Temperature Range: Minus 40 to 180 degrees F.
 - 5. Manufacturers:
 - a. Sika Corporation; Sikaflex-1a: www.usa-sika.com/#sle.
 - b. Substitutions: See Section 01 60 00 Product Requirements.
- F. Non-Sag "Traffic-Grade" Polyurethane Sealant: ASTM C920, Grade NS, Uses M and A; single or multi-component; explicitly approved by manufacturer for continuous water immersion and traffic without the necessity to recess sealant below traffic surface.
 - 1. Movement Capability: Plus and minus 25 percent, minimum.
 - 2. Hardness Range: 40 to 50, Shore A, when tested in accordance with ASTM C661.
 - 3. Color: To be selected by Architect from manufacturer's full range.

- 4. Service Temperature Range: Minus 40 to 180 degrees F.
- G. Type IA-1 Acrylic Emulsion Latex: Water-based; ASTM C834, single component, non-staining, non-bleeding, non-sagging; not intended for exterior use.
 - 1. Color: To be selected by Architect from manufacturer's full range.
 - 2. Grade: ASTM C834; Grade Minus 18 Degrees C (0 Degrees F).
 - 3. Manufacturers:
 - a. Hilti, Inc; CP 506 Smoke and Acoustical Sealant: www.us.hilti.com/#sle.
 - b. Hilti, Inc; CP 572 Smoke and Acoustical Spray Sealant: www.us.hilti.com/#sle.
 - c. Pecora Corporation: www.pecora.com.
 - d. Sherwin-Williams Company; 950A Siliconized Acrylic Latex Caulk: www.sherwinwilliams.com/#sle.
 - e. Specified Technologies Inc; Smoke N' Sound Acoustical Sealant: www.stifirestop.com/#sle.
 - f. Substitutions: See Section 01 60 00 Product Requirements.
- H. Non-Curing Butyl Sealant: Solvent-based; ASTM C1311; single component, non-sag, nonskinning, non-hardening, non-bleeding; vapor-impermeable; intended for fully concealed applications.

2.05 SELF-LEVELING SEALANTS

- A. Self-Leveling Silicone Sealant: ASTM C920, Grade P, Uses M and A; single or multicomponent, explicitly approved by manufacturer for traffic exposure when recessed below traffic surface; not expected to withstand continuous water immersion.
 - 1. Movement Capability: Plus 100 percent, minus 50 percent, minimum.
 - 2. Hardness Range: 0 to 15, Shore A, when tested in accordance with ASTM C661.
 - 3. Color: To be selected by Architect from manufacturer's full range.
 - 4. Service Temperature Range: Minus 40 to 180 degrees F.
 - 5. Manufacturers:
 - a. Sika Corporation; Sikasil 728SL: www.usa-sika.com/#sle.
 - b. Substitutions: See Section 01 60 00 Product Requirements.
 - 6. Hardness Range: 35 to 55, Shore A, when tested in accordance with ASTM C661.
 - 7. Color: To be selected by Architect from manufacturer's full range.
 - 8. Service Temperature Range: Minus 40 to 180 degrees F.
 - 9. Manufacturers:
 - a. Pecora Corporation: www.pecora.com.
 - b. Sherwin-Williams Company; Stampede 1SL Polyurethane Sealant: www.sherwinwilliams.com/#sle.
 - c. Sika Corporation; Sikaflex-1c SL: www.usa-sika.com/#sle.
 - d. Substitutions: See Section 01 60 00 Product Requirements.

- B. Type WFP-1 Self-Leveling Polyurethane Sealant for Continuous Water Immersion: Polyurethane; ASTM C920, Grade P, Uses M and A; single or multi-component; explicitly approved by manufacturer for traffic exposure and continuous water immersion.
 - 1. Movement Capability: Plus and minus 25 percent, minimum.
 - 2. Hardness Range: 35 to 55, Shore A, when tested in accordance with ASTM C661.
 - 3. Color: To be selected by Architect from manufacturer's full range.
 - 4. Service Temperature Range: Minus 40 to 180 degrees F.
 - 5. Manufacturers:
 - a. Sika Corporation; Sikaflex-1c SL: www.usa-sika.com/#sle.
 - b. W. R. MEADOWS, Inc; POURTHANE SL: www.wrmeadows.com/#sle.
 - c. Substitutions: See Section 01 60 00 Product Requirements.
- C. Self-Leveling Polysulfide Sealant: ASTM C920, Grade P, Uses M and A; multicomponent; explicitly approved by manufacturer for traffic exposure and continuous water immersion.
 - 1. Movement Capability: Plus and minus 25 percent.
 - 2. Hardness Range: 30 to 55, Shore A, when tested in accordance with ASTM C661.
 - 3. Color: To be selected by Architect from manufacturer's full range.
 - 4. Service Temperature Range: Minus 40 to 180 degrees F.
 - 5. Manufacturers:
 - a. W.R. Meadows, Inc; Deck-O-Seal (pourable): www.wrmeadows.com/#sle.
 - b. Substitutions: See Section 01 60 00 Product Requirements.
- D. Rigid Self-Leveling Polyurethane Joint Filler: Two part, low viscosity, fast setting; intended for cracks and control joints not subject to significant movement.
 - 1. Hardness Range: Greater than 100, Shore A, and 50 to 80, Shore D, when tested in accordance with ASTM C661.
 - 2. Manufacturers:
 - a. ARDEX Engineered Cements; ARDEX ARDIFIX: www.ardexamericas.com/#sle.
 - b. Substitutions: See Section 01 60 00 Product Requirements.
- E. Semi-Rigid Self-Leveling Polyurea Joint Filler: Two-component, 100 percent solids; intended for filling cracks and control joints not subject to significant movement; rigid enough to support concrete edges under traffic.
 - 1. Durometer Hardness, Type A: 75, minimum, after seven days when tested in accordance with ASTM D2240.
 - 2. Color: To be selected by Architect from manufacturer's standard colors.
 - 3. Joint Width, Minimum: 1/8 inch.
 - 4. Joint Depth: Provide product suitable for joints from 1/8 inch to 1 inch in depth excluding space for backer rod.
 - 5. Manufacturers:
 - a. Adhesives Technology Corporation; Crackbond JF-311: www.atcepoxy.com/#sle.

- b. ARDEX Engineered Cements; ARDEX ARDISEAL RAPID PLUS: www.ardexamericas.com/#sle.
- c. Euclid Chemical Company; EUCO QWIKjoint UVR: www.euclidchemical.com/#sle.
- d. Nox-Crete Inc; DynaFlex JF-85: www.nox-crete.com/#sle.
- e. Substitutions: See Section 01 60 00 Product Requirements.

2.06 ACCESSORIES

- A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
 - 1. Type for Joints Not Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type C Closed Cell Polyethylene.
 - 2. Type for Joints Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type B Bi-Cellular Polyethylene.
 - 3. Closed Cell and Bi-Cellular: 25 to 33 percent larger in diameter than joint width.
- B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.
- C. Masking Tape: Self-adhesive, nonabsorbent, non-staining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.
- D. Joint Cleaner: Non-corrosive and non-staining type, type recommended by sealant manufacturer; compatible with joint forming materials.
- E. Primers: Type recommended by sealant manufacturer to suit application; non-staining.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that joints are ready to receive work.
- B. Verify that backing materials are compatible with sealants.
- C. Verify that backer rods are of the correct size.
- D. Preinstallation Adhesion Testing: Install a sample for each test location indicated in the test plan.
 - 1. Test each sample as specified in PART 1 under QUALITY ASSURANCE article.
 - 2. Notify Architect of date and time that tests will be performed, at least seven days in advance.
 - 3. Record each test on Preinstallation Adhesion Test Log as indicated.
 - 4. If any sample fails, review products and installation procedures, consult manufacturer, or take whatever other measures are necessary to ensure adhesion; re-test in a different location; if unable to obtain satisfactory adhesion, report to Architect.
 - 5. After completion of tests, remove remaining sample material and prepare joint for new sealant installation.

3.02 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.
- E. Concrete Floor Joints That Will Be Exposed in Completed Work: Test joint filler in inconspicuous area to verify that it does not stain or discolor slab.

3.03 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C1193.
- C. Perform acoustical sealant application work in accordance with ASTM C919.
- D. Measure joint dimensions and size joint backers to achieve the following, unless otherwise indicated:
 - 1. Width/depth ratio of 2:1.
 - 2. Neck dimension no greater than 1/3 of the joint width.
 - 3. Surface bond area on each side not less than 75 percent of joint width.
- E. Install bond breaker backing tape where backer rod cannot be used.
- F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
- G. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.
- H. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.
- I. Concrete Floor Joint Filler: After full cure, shave joint filler flush with top of concrete slab.

3.04 FIELD QUALITY CONTROL

- A. District will employ an independent testing agency to perform field quality control inspection and testing as specified in PART 1 under QUALITY ASSURANCE article.
- B. Non-Destructive Adhesion Testing: If there are any failures in first 100 linear feet, notify Architect immediately.
- C. Destructive Adhesion Testing: If there are any failures in first 1000 linear feet, notify Architect immediately.
- D. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.
- E. Repair destructive test location damage immediately after evaluation and recording of results.

3.05 POST-OCCUPANCY

A. Post-Occupancy Inspection: Perform visual inspection of entire length of project sealant joints at a time that joints have opened to their greatest width; i.e. at low temperature in thermal cycle. Report failures immediately and repair.

END OF SECTION

SECTION 11 40 00

FOODSERVICE EQUIPMENT

PART 1 - GENERAL

1.01 SCOPE

- A. The work referred to in this section consists of furnishing all labor and material required to provide and deliver all equipment hereinafter specified into the building. Specified equipment must be supplied per specifications without substitution. If "or equal" is adjacent to model number substitutions may be accepted if all criteria of specified brand is met or exceeded. If the alternate model is not approved by the owner/School District for any reason the specified item must be supplied at no additional cost. Un-crate, assemble, hang, set in place, level, and completely install all equipment, exclusive of final utility connections. Final utility connections to all equipment shall be part of the work under additional appropriate sections of the work and not part of the food service work.
- B. Coordinate Owner/School District and Vendor-supplied equipment noted on the drawings or in the specifications as NIKEC. Show on roughing in Plans and sizes, utilities, and other requirements as furnished in the Specifications, by Owner/School District or appropriate supplier in submittals as if the equipment is contractor furnished.
- C. Field measurements shall be made prior to installation of any equipment item.
- D. The cutting of holes in equipment for pipe, drains, electrical outlets, etc., required for this installation, shall be part of this work. Work shall conform to the highest standards of workmanship and shall include welded sleeves, collars, ferrules and escutcheons.
- E. Repair of all damage to the premises as a result of the equipment installation as well as the removal of all debris left by the work of this section.
- F. Food service equipment and fixtures shall be cleaned and ready for operation at the time the facility is turned over to the Owner/School District for final inspection by the Owner's/School District's Representative.

1.02 RELATED DOCUMENTS

- A. Related Sections include the following:
 - 1. Division 1 Section "01 60 00 Product Requirements". Conditions for acceptance of products by manufacturers and for substitutions. Unless specifically noted, no substitutions will be considered
 - 2. Division 1 Section 01 78 00 Closeout Submittals: Regarding "Warranty" requirements
 - 3. Division 5 Section "Metal Fabrications" for equipment supports.
 - 4. Divisions 22 Plumbing and 23 Heating, Ventilation, and Air Conditioning in various sections for supports, anchors and seals. General requirements for supports and anchors for pipe and duct systems associated with food service equipment.

- 5. Refer to Division 23 "Heating, Ventilation, and Air Conditioning (HVAC)" for supply and exhaust fans; exhaust ductwork; service roughing-ins; drain traps; atmospheric vents; valves, pipes, and fittings; fire-extinguishing systems; and other materials required to complete food service equipment installation.
- 6. Division 26 Section "Electrical" for connections to fire alarm systems, wiring, disconnects, and general requirements and other electrical materials required in addition to those specified, as applicable to electrical work associated with food service equipment.
- B. All electric services including wiring to, and final connections to, the fixtures except, as specified differently in the specifications, drawings, or herein.
- C. All water, waste and gas services to the fixtures including shut-off valves, trim, traps, etc., and final connections to the fixtures, except as specified differently in the specifications, drawings, or herein.
- D. All hood or ventilator duct work above the connection position on such exhaust hoods or exhaust ventilators, except as specified differently in the specifications, drawings, or herein. Final welded connections at the junction point of exhaust hoods or exhausts ventilators, shall be part of the food service work.
- E. Floors, quarry tile, concrete bases, walls, ceilings, finishes and related building work, except as specified differently in the specifications, drawings or herein.

1.03 DEFINITIONS

- A. Terminology Standard: Refer to NSF 2, "Food Equipment" or other applicable NSF standards for definitions of food service equipment and installation terms not otherwise defined in this Section or in other referenced standards.
- B. OFOI: Owner Furnished Owner Installed Equipment. Where indicated, Owner/School District will furnish and install equipment items.
- C. OFCI: Owner Furnished Contractor Installed Equipment. Where indicated, Owner/School District will furnish equipment to be installed by Contractor.
- D. CFCI: Contractor Furnished Contractor Installed Equipment.
- E. NIKEC: Not Included in Kitchen Equipment Contract.
- F. KEC: Kitchen Equipment Contractor

1.04 SUBMITTALS

- A. Product Data: For each type of food service equipment indicated. Include manufacturer's specification and cut sheet with model number etc. and cover page indicating utility etc., and accessories and requirements for access and maintenance clearances, water and drainage, power or fuel, and service-connections including roughing-in dimensions.
- B. Shop Drawings: For food service equipment not manufactured as standard production and catalog items by manufacturers. Include plans, elevations, sections, roughing-in dimensions, fabrication details, service requirements, and attachments to other work.
 - 1. Wiring Diagrams: Details of wiring for power, signal, and control systems and differentiating between manufacturer-installed and field-installed wiring.
- 2. Piping Diagrams: Details of piping systems and differentiating between manufacturerinstalled and field-installed piping.
- C. Coordination Drawings: For locations of food service equipment and service utilities. Key equipment with item numbers and descriptions indicated in Contract Documents. Include plans and elevations of equipment, access- and maintenance-clearance requirements, details of concrete or masonry bases and floor depressions, and service-utility characteristics.
- D. Contract Document Drawings:
 - 1. Drawings furnished, constitute a part of these specifications show locations of equipment and general arrangement of mechanical and electrical services. Necessary deviation from the illustrated arrangements to meet structural conditions, shall be considered a part of the work of this section. Such deviations shall be made without expense to the owner/School District.
 - 2. The drawings are for the assistance and guidance of the Food Service Equipment Contractor. Exact locations shall be governed by the building configuration. The Food Service Equipment Contractor shall accept his contract with this understanding.
 - 3. Should there be a conflict between the drawings and the specifications, the specifications shall govern. Upon discovery, all errors, omissions, conflicts, and ambiguities are to be submitted to the Architect via formal RFI for clarification and resolution. A clarification memo or addendum will be issued, if required. If no RFI is submitted, the Contractor shall assume responsibility for that which places the greatest burden upon the Contractor. No allowances will be made in favor of the Contractor for errors, omissions, conflicts, or ambiguities reported after award of contract.
- E. Utility Roughing-in Drawings:
 - 1. The Food Service Equipment Contractor shall prepare and submit one bond or a valid print, of all roughing-in drawings, showing information necessary for the roughing-in of refrigerant lines, syrup/beer lines, plumbing, steam, mechanical and electrical utility requirements. Drawings shall also include construction requirements necessary for all equipment including floor depressions, raised bases, wall blocking, wall recesses and any critical dimensions for specific equipment requirements. Approval will be made upon one print which will be returned to the Food Service Equipment Contractor for reproduction purposes. Drawings not properly submitted in this format, will not be reviewed. Drawings without an "Approved" or an " Approved as Noted" stamp, will not be reviewed. Drawings and will not be allowed on the job site.
 - a. Furnished four (4) sets "Approved" and/or "Approved as Noted" shop drawings, for distribution to the field, as directed.
- F. Shop Fabrication Drawings: The Food Service Equipment Contractor shall prepare and submit one bond or original print, of all shop drawings, showing all information necessary for fabrication and installation of the work of this section. Approval will be made upon one print

which will be returned to the Food Service Equipment Contractor for reproduction purposes. Drawings not properly submitted in this format, will not be reviewed. Drawings without an "Approved" or an "Approved as Noted" stamp, will not be considered an authorized shop drawing and will not be allowed on the job site.

- G. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available for exposed products with color finishes.
- H. Samples for Verification: Of each type of exposed finish required, minimum 4-inch- (100-mm-) square or 6-inch- (150-mm-) long sections of linear shapes and of same thickness and material indicated for work. Where finishes involve normal color and texture variations, include Sample sets showing the full range of variations expected.
- I. Product Certificates: Signed by manufacturers of refrigeration systems or their authorized agents certifying that systems furnished comply with requirements and will maintain operating temperatures indicated in the areas or equipment that they will serve.
- J. Maintenance Data: Operation, maintenance, and parts data for food service equipment to include in the maintenance manuals specified in Division 1. Include a product schedule as follows:
 - 1. Product Schedule: For each food service equipment item, include item number and description indicated in Contract Documents, manufacturer's name and model number, and authorized service agencies' addresses and telephone numbers.

1.05 QUALITY ASSURANCE

- A. Kitchen Equipment Contractor Qualifications: Kitchen Equipment Contractor (KEC) to be licensed by state regulating board and shall have completed no fewer than five (5) Food Service Installations similar in material, design, and extent to that indicated for this Project, which have resulted in satisfactory in-service performance.
- B. Fabricator Qualifications: Fabricators shall have been regularly engaged in the manufacture of Food Service Equipment of the types, capacities, and sizes required, whose products have been in satisfactory use in similar service for no fewer than five (5) years.
- C. Source Limitations: Obtain each type of food service equipment through one source from a single manufacturer.
- D. Product Options: Drawings indicate food service equipment based on the specific products indicated. Other manufacturers' equipment with equal size and performance characteristics may be considered. Refer to Division 1 Section 01 60 00 Product Requirements.
- E. Pre-installation Conference: Conduct conference at Project site to comply with requirements of Division 1 Section 01 30 00 Administrative Requirements. Review methods and procedures related to food service equipment including, but not limited to, the following:
 - 1. Review access requirements for equipment delivery.
 - 2. Review equipment storage and security requirements.
 - 3. Inspect and discuss condition of substrate and other preparatory work performed by other trades.
 - 4. Review structural loading limitations.

- 5. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
- F. All equipment shall be provided new, in unused condition, and of the latest manufacturer's model, unless otherwise specified. If the model specifications vary significantly from the item specified, provide equipment submittal for review and approval for installation.

1.06 CODES AND REGULATIONS

- A. All work shall be in strict conformance with all federal, state, local codes, laws, regulations, and rules of agencies/authorities having jurisdiction.
- B. All work under this section shall comply, as applicable, with:
 - National Fire Protection Association Standard(NFPA), including NFPA 17, NFPA 17A, NFPA 54, NFPA 70, NFPA 96.
 - 2. National Sanitation Foundation (NSF), including NSF-7. Provide equipment that bears NSF Certification Mark.
 - 3. Underwriters Laboratories (UL). Provide electric and fuel-burning equipment and components that are evaluated by UL for fire, electric shock, and casualty hazards according to applicable safety standards, and that are UL certified for compliance and labeled for intended use.
 - 4. Baking Industry Sanitation Standards Committee (BISSC). Provide bakery equipment that complies with current ANSI/BISSC/Z50.2. standard section 3.0 General Principles of Design
 - 5. National Electric Manufacturer's Association (NEMA)
 - 6. American Society of Mechanical Engineers must carry the (ASME) stamp. Fabricate and label steam-generating and closed steam-heating equipment to comply with ASME Boiler and Pressure Vessel Code.
 - 7. American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). Provide mechanical refrigeration systems complying with the American Society of Heating, Refrigerating and Air-Conditioning Engineers' ASHRAE 15, "Safety Code for Mechanical Refrigeration".
 - 8. Occupational Safety and Health Act (OSHA) Standards.
 - 9. American Disability Act (ADA) Standards.
 - 10. California Building Code (CBC).
 - 11. California Fire Code (CFC).
 - 12. California Electrical Code (CEC).
 - 13. American Gas Association (AGA)
 - 14. American National Standards Institute (ANSI). Comply with applicable ANSI standards for electric-powered and gas-burning appliances; for piping to compressed-gas cylinders; and for plumbing fittings, including vacuum breakers and air gaps, to prevent siphonage in water piping.
 - 15. Sheet Metal and Air Conditioning Contractors National Association (SMACNA).
 - a. Where applicable, fabricate food service equipment to comply with SMACNA "Kitchen Equipment Fabrication Guidelines", unless otherwise indicated.

- b. Seismic Restraints: When applicable, provide seismic restraints for food service equipment according to the Sheet Metal and Air Conditioning Contractors National Association's (SMACNA) "Kitchen Equipment Fabrication Guidelines," appendix 1, "Guidelines for Seismic Restraints of Kitchen Equipment," unless otherwise indicated.
- 16. Listing and Labeling: Provide electrically operated equipment or components specified in this Section that are listed and labeled.
 - a. The Terms "Listed" and "Labeled": As defined in the National Electrical Code, Article 100.
 - b. Listing and Labeling Agency Qualifications: A "Nationally Recognized Testing Laboratory" (NRTL) as defined in OSHA Regulation 1910.7.
- 17. Accessibility
 - a. Food Service Equipment: Where provided, check-out aisles, sales counters, service counters, food service lines, queues, and waiting lines shall comply with CBC Sections 11B-227 and 11B-904. The top of tray slides shall be 28" minimum and 34" maximum above the finish floor or ground. Space and elements within food service employee work areas shall meet the requirements of CBC Section 11B-203.9 only.
 - b. Lockers: CBC Section 11B-225.2.1. At least 5%, but no fewer than one of each type of lockers shall be ADA accessible and comply with CBC Section 11B-811.
 - c. Provide U-Shaped pulls or touch latches at all accessible casework. CBC Section 11B-811.4
 - d. Walk-in coolers and freezers shall have entry and exit door hardware that complies with all of the requirements of CBC Section 11B-404.2.8.1 and maneuvering clearances at the exterior side per CBC Section 11B-404.2.4 and 11B-404.2.4.4. Doors shall be flush (in-fitting) type, self-closing, 36-inches by a minimum of 80-inches high.
 - e. Walk-in cooler and freezer doors shall be mounted with three cam-lift hinges and posiseal (hydraulic, not spring) adjustable door closers. Door hardware shall be chrome plated. Mounting height of latching hardware shall be 34 to 40 inches above finish floor. All hardware shall meet the requirements of CBC 11B-404.2.7 and 11B-309.4.
 - f. Walk-in coolers and freezers shall have level maneuvering clearances at the exterior side (CBC 11B-404.2.4) and accessible entry and exit door hardware (CBC 11B-404.2.7).
- C. The Kitchen Equipment Contractor shall certify that all work and materials comply with Federal, State and Local laws, ordinances, and regulations, and is confirmed by the local inspector having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver Food Service Equipment in containers designed to protect the equipment and finish until installation. Make arrangements to receive equipment, when required, at the project site or to hold in a warehouse until delivery can be made to the job site.
- B. Storage: Store Food Service Equipment in the original containers and in a location to provide adequate protection to equipment while not interfering with other construction operations.

- C. Handling: Handle Food Service Equipment carefully to avoid damage to components, enclosures, and finish. Do not install damaged Food Service Equipment. Replace and return damaged components to the Manufacturer.
- D. Owner Furnished Equipment: The KEC will receive, accept and store the Owner/School District Furnished Equipment until installation. The KEC shall assume responsibility for the equipment and its condition upon receipt of the equipment by him or his representative.

1.08 PROJECT CONDITIONS

- A. Field Measurements: Verify dimensions of food service equipment installation areas by field measurements before equipment fabrication and indicate measurements on Shop Drawings and Coordination Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
 - 1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish required dimensions and proceed with fabricating equipment without field measurements. Coordinate construction to ensure actual dimensions correspond to established dimensions.

1.09 COORDINATION

- A. Coordinate equipment layout and installation with other work, including light fixtures, HVAC equipment, and fire-suppression system components.
- B. Coordinate location and requirements of service-utility connections.
- C. Coordinate size, location, and requirements of concrete bases, positive slopes to drains, floor depressions, and insulated floors. Concrete, reinforcement, and formwork requirements are specified in Division 3 Section "Cast-in-Place Concrete."
- D. Coordinate installation of roof curbs, equipment supports, and roof penetrations.

1.10 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner/School District of other rights the Owner/School District may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents. Warranty period: 2 years from date of completion. Refer to Division 1 Section 01 78 00 Closeout Submittals for warranty information.
- B. Refrigeration Compressor Warranty: 5 years from date of completion. Submit a written warranty signed by manufacturer agreeing to repair or replace compressors that fail in materials or workmanship within the specified warranty period.
- C. Not included in warranty:
 - 1. Breakage Due to negligence
 - 2. Faulty operation

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Stainless-Steel Sheet, Strip, Plate, and Flat Bar. ASTM A 666, Type 304, stretcher leveled, and in finish specified in "Stainless Steel Finishes" Article.
- B. Stainless-Steel Tube: ASTM A 554, Grade MT-304, and in finish specified in "Stainless-Steel Finishes" Article.
- C. Zinc-Coated Steel Sheet: ASTM A 653, G115 (ASTM A 653M, Z350) coating designation; commercial quality; cold rolled; stretcher leveled; and chemically treated.
- D. Zinc-Coated Steel Shapes: ASTM A 36 (ASTM A 36M), zinc-coated according to ASTM A 123 requirements.
- E. Plastic Laminate: Complying with NEMA LD 3 and NSF 35 requirements; NSF certified for enduse application indicated; 0.050 inch (1.27 mm) thick for horizontal and vertical surfaces and 0.042 inch (1.07 mm) thick for post-formed surfaces; smooth texture; and easily cleanable.
 - 1. Color: As selected by Architect from manufacturer's full range of colors.
- F. Plywood and Lumber: Provide plywood and lumber as specified in Division 6 Section 06 20 00 Finish Carpentry.
- G. Sealant: ASTM C 920; Type S, Grade NS, Class 25, Use NT. Provide elastomeric sealant NSF certified for end-use application indicated. Provide sealant that, when cured and washed, meets requirements of Food and Drug Administration's 21 CFR, Section 177.2600 for use in areas that come in contact with food.
 - 1. Color: As selected by Architect from manufacturer's full range of colors.
 - 2. Backer Rod: Closed-cell polyethylene, in diameter larger than joint width.
- H. Tempered Glass: ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated surfaces), Type I (transparent), Class 1 (clear), Quality q3 (glazing select). Provide products complying with ANSI Z97.1, manufactured by horizontal (roller-hearth) process, and 6 mm thick, unless otherwise indicated. Provide exposed safety edges, if any, seamed before tempering.
- I. Plastic: Except for plastic laminate, provide plastic materials and components complying with NSF 51.
- J. Sound Dampening: NSF-certified, nonabsorbent, hard-drying, sound-deadening coating. Provide coating compounded for permanent adhesion to metal in 1/8-inch (3-mm) thickness that does not chip, flake, or blister.
- K. Gaskets: NSF certified for end-use application indicated; of resilient rubber, neoprene, or PVC that is nontoxic, stable, odorless, nonabsorbent, and unaffected by exposure to foods and cleaning compounds.

2.02 ACCESSORIES

- A. Cabinet Hardware: Provide NSF-certified, stainless-steel hardware for equipment items as indicated.
- B. Casters: NSF-certified, standard-duty, stainless-steel, swivel stem casters with 5-inch- (125-mm-) diameter wheels, polyurethane tires with 1-inch (25-mm) tread width, and 200-lb (90-kg) load capacity per caster. Provide brakes on 2 casters per unit.

2.03 FABRICATION, GENERAL

- A. Fabricate food service equipment according to NSF 2 requirements. Factory assemble equipment to greatest extent possible.
- B. Plastic-Laminate and Wood Casework: Fabricate according to requirements specified in Division 6 Section 06 41 00 Architectural Wood Casework.
- C. Welding: Use welding rod of same composition as metal being welded. Use methods that minimize distortion and develop strength and corrosion resistance of base metal. Provide ductile welds free of mechanical imperfections such as gas holes, pits, or cracks.
 - 1. Welded Butt Joints: Provide full-penetration welds for full-joint length. Make joints flat, continuous, and homogenous with sheet metal without relying on straps under seams, filling in with solder, or spot welding.
 - 2. Grind exposed welded joints flush with adjoining material and polish to match adjoining surfaces.
 - 3. Where fasteners are welded to underside of equipment, finish reverse side of weld smooth and un-depressed.
 - 4. Coat unexposed stainless-steel welded joints with suitable metallic-based paint to prevent corrosion.
 - 5. After zinc-coated steel is welded, clean welds and abraded areas and apply SSPC-Paint 20, high-zinc-dust-content, galvanizing repair paint to comply with ASTM A 780.
- D. Fabricate field-assembled equipment prepared for field-joining methods indicated. For metal butt joints, comply with referenced SMACNA standard, unless otherwise indicated.
- E. Where stainless steel is joined to a dissimilar metal, use stainless-steel welding material or fastening devices.
- F. Form metal with break bends that are not flaky, scaly, or cracked in appearance; where breaks mar uniform surface appearance of material, remove marks by grinding, polishing, and finishing.
- G. Sheared Metal Edges: Finish free of burrs, fins, and irregular projections.
- H. Provide surfaces in food zone, as defined in NSF 2, free from exposed fasteners.
- I. Cap exposed fastener threads, including those inside cabinets, with stainless-steel lock washers and stainless-steel cap (acorn) nuts.
- J. Provide pipe slots on equipment with turned-up edges and sized to accommodate service and utility lines and mechanical connections.
- K. Provide enclosures, including panels, housings, and skirts, to conceal service lines, operating components, and mechanical and electrical devices including those inside cabinets, unless otherwise indicated.
- L. Seismic Restraints:
 - 1. Fabricate to comply with referenced "SMACNA Guidelines for Seismic Restraint of Kitchen Equipment" in any State, province, or jurisdiction that has legislated this requirement as necessary for acceptance. This shall include:
 - a. Identifying these items on his submittal drawings, Plans, Elevations, and Sections.
 - b. Showing required SMACNA methods of restraint on his submittal drawings.
 - c. Referencing the appropriate detail(s).

- d. Obtain regulatory approval for all seismic engineering details
- **2.04 STAINLESS-STEEL EQUIPMENT:** for all parts of custom tables, tops, benches, sinks, cabinets, etc., as drawn or as specified, shall be AICI type 304 (18-8 Austenitic). All gauges called for shall be U.S. Standard Gauges. "S/S" or "S.S.", as shown in the drawings or specifications, shall indicate stainless steel.
 - A. Edges and Backsplashes: Provide equipment edges and backsplashes indicated complying with referenced SMACNA standard, unless otherwise indicated.
 - B. Apply sound dampening to underside of metal work surfaces, including sinks and similar units. Provide coating with smooth surface and hold coating 1 inch (25 mm) back from open edges for cleaning.
 - C. Tables: Fabricate with reinforced tops, legs, and reinforced undershelves or cross bracing to comply with referenced SMACNA standard, unless otherwise indicated, and as follows:
 - 1. Tops: Minimum 0.0781-inch- (1.984-mm-) thick stainless steel, unless otherwise indicated.
 - 2. Legs: 1-5/8 inch (41.3 mm) OD, minimum 0.0625-inch- (1.588-mm-) thick stainless steel with stainless-steel gusset and adjustable insert bullet-type feet with minimum adjustment of 1 inch (25 mm) up or down without exposing threads, unless otherwise indicated.
 - 3. Undershelves: Minimum 0.625-inch- (1.588-mm-) thick stainless steel, unless otherwise indicated.
 - 4. Top and Undershelf Reinforcement: Provide minimum 0.0781-inch- (1.984-mm-) thick, stainless-steel reinforcing, unless otherwise indicated.
 - 5. Cross Bracing: 1-1/4 inch (31.75 mm) OD, minimum 0.0625-inch- (1.588-mm-) thick stainless steel, unless otherwise indicated.
 - D. Base Cabinets: Fabricate with reinforced tops, bases, and reinforced undershelves to comply with referenced SMACNA standard, unless otherwise indicated, and as follows:
 - 1. Bodies: Minimum 0.0500-inch (1.27-mm) thick stainless steel, unless otherwise indicated.
 - 2. Tops: Minimum 0.0781-inch (1.984-mm) thick stainless steel, unless otherwise indicated.
 - 3. Bases, as indicated on Drawings and Specifications:
 - a. Legs: 1-5/8 inch (41.3 mm) OD, minimum 0.0625-inch- (1.588-mm-) thick stainless steel with stainless-steel gusset and adjustable insert bullet-type feet with minimum adjustment of 1 inch (25 mm) up or down without exposing threads, unless otherwise indicated.
 - b. Curb: 0.079-inch (2.0066-mm) thick galvanized steel, fully welded and reinforced where necessary
 - 4. Undershelves: Minimum 0.625-inch- (1.588-mm-) thick stainless steel, unless otherwise indicated.
 - 5. Top and Undershelf Reinforcement: Provide minimum 0.0781-inch- (1.984-mm-) thick, stainless-steel reinforcing, unless otherwise indicated.
 - E. Sinks: Fabricate of minimum 0.0781-inch- (1.984-mm-) thick stainless steel with fully welded, 1-piece construction. Construct 2 sides and bottom of sink compartment from 1 stainless-steel

sheet with ends welded integral and without overlapping joints or open spaces between compartments. Provide double-wall partitions between compartments with 1/2-inch- (13-mm-) radius rounded tops that are welded integral with sink body. Cove horizontal, vertical, and interior corners with 3/4-inch (19-mm) radius. Pitch and crease sinks to waste for drainage without pooling. Seat wastes in die-stamped depressions without solder, rivets, or welding.

- 1. Wastes: 2-inch (50-mm) nickel-plated bronze, rotary-handle waste assembly with stainless-steel strainer plate and nickel-plated brass, connected overflow.
- 2. Drainboards: Minimum 0.0781-inch- (1.984-mm-) thick stainless steel, pitched to sink at 1/8 inch/12 inches (3 mm/300 mm) of length. Reinforce drainboards with minimum 0.0781-inch- (1.984-mm-) thick stainless steel, unless otherwise indicated.
- 3. Legs: 1-5/8 inch (41.3 mm) OD, minimum 0.0625-inch- (1.588-mm-) thick stainless steel with stainless-steel gusset welded to 0.1094-inch- (2.779-mm-) thick, stainless-steel support plate. Provide adjustable insert bullet-type feet with minimum adjustment of 1 inch (25 mm) up or down without exposing threads, unless otherwise indicated.
- 4. Drainboard Braces: 1 inch (25 mm) OD, minimum 0.0625-inch- (1.588-mm-) thick stainless steel, unless otherwise indicated.
- 5. Cross Bracing: 1-1/4 inch (31.75 mm) OD, minimum 0.0625-inch- (1.588-mm-) thick stainless steel, unless otherwise indicated.
- F. Wall Shelves and Overshelves: Fabricate to comply with referenced SMACNA standard, unless otherwise indicated, and with minimum 0.0625-inch- (1.588-mm-) thick, stainless-steel shelf tops and 0.078 (14 ga.) stainless-steel brackets.
- G. Drawers: Provide lift-out type, 1-piece, die-stamped drawer pan fabricated from 0.050-inch-(1.27-mm-) thick stainless steel with radius corners inside. Support drawer pan with 0.0625inch- (1.588-mm-) thick, stainless-steel channel frame welded to drawer front. Provide 1-inch-(25-mm) thick, double-wall front fabricated from 0.0625-inch- (1.588-mm-) thick stainless steel and with integral recessed pull. Fill void in drawer front with semi-rigid fiberglass sound dampening. Mount drawers on NSF-certified, full-extension, stainless-steel drawer slides that have minimum 100-lb (45-kg) load capacity per pair, ball-bearing rollers, and positive stop. Mount drawer slides for self-closing on drawer housing as indicated.
- H. Doors: Provide hinged, stainless steel Type 304, 0.0500-inch (1.27-mm) thick doors, unless otherwise indicated.
 - 1. Double pan construction. Outside pan to have corners welded, ground smooth, and polished. Inner pan to be fitted tightly into outer pan with rigid sound deadening material such as Styrofoam.
 - 2. Door overall thickness to be 0.75" (19-mm) for non-refrigerated, 1-inch (25-mm) for refrigerated compartments with deep draw insulated interior liner, unless otherwise noted. Provide reinforcing to prevent flexing.
 - 3. Doors to be flush with mullions and have integral door pulls.
 - 4. Provide with self-aligning 20-lb pull magnetic catches, aligned with door pulls.

2.05 EXHAUST HOOD FABRICATION

- A. General: Fabricate hoods indicated from minimum 0.050-inch- (1.27-mm-) thick stainless steel, unless otherwise indicated. Comply with NFPA 96 and requirements of authorities having jurisdiction.
- B. Grease Removal: Provide removable, stainless-steel, grease filters width per drawing. Provide, minimum 0.0781-inch- (1.984-mm-) thick, stainless-steel filter frame and removable collection basins or troughs.
- C. Light Fixtures: Provide NSF-certified fixtures with lamps, vapor-tight sealed lenses, and wiring in stainless-steel conduit on hood exterior.
- D. Exhaust-Duct Collars: Minimum 0.0625-inch- (1.588-mm-) thick stainless steel.

2.06 STAINLESS-STEEL FINISHES

- A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying and designating finishes.
 - 1. Remove or blend tool and die marks and stretch lines into finish.
 - 2. Grind and polish surfaces to produce uniform, directional textured, polished finish indicated, free of cross scratches. Run grain with long dimension of each piece.
- B. Concealed Surfaces: No. 2B finish (bright, cold-rolled, unpolished finish).
- C. Exposed Surfaces: No. 4 finish (bright, directional polish).
- D. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.
- E. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipment.

2.07 WALK-IN COOLERS/FREEZER

- A. Panel Construction:
 - 1. Panels shall be pre-fabricated, sectionally constructed (4-inches thick for Coolers, 5-inches for Freezers, 5-inches for Ceiling), of tongue and groove design with foamed-in-place gaskets (not glued, stapled, or nailed) on the male side of all interior and exterior panels.
 - 2. Gaskets shall be impervious to stains, greases, oils, and mildew.
 - 3. Corner panels shall be 90-degree angles with coved corners and approximately 12-inches exterior horizontal measurements; interior partition walls shall utilize `T' panels with coved corners.
 - 4. Panels shall be completely filled with rigid 100% foamed-in-place R141b blown, non-CFC urethane between interior and exterior metal `skins' which have been die-formed and gauged for uniformity in size. Slab urethane or wood shall not be acceptable in any panel including doors, walls, floor, and ceiling.
 - 5. Insulation shall have a 95% closed cell structure with an average in-place density of 2.2 lbs. per cubic foot, and compression strength at yield point of 19 lbs. per square inch. Each panel shall have a thermal conductivity (K factor) of .14 BTU/hr/sq ft per degrees Fahrenheit per inch (R28 for Coolers, R36 for Freezers); and an overall coefficient of heat transfer (U factor) of not more than .035.

- 6. Floor panels: Floor panels shall be die stamped with 3/8-inch radius NSF coved corners. All plane intersections shall be drawn, not cut and welded. Panels shall be fabricated similar to other panels and designed to readily withstand uniformly distributed loads of 700 lbs. per square foot.
- B. Door Construction: Walk-in coolers and freezers shall have entry and exit door hardware that complies with all of the requirements of CBC Section 11B-404.2.8.1 and maneuvering clearances at the exterior side per CBC Section 11B-404.2.4 and 11B-404.2.4.4. Doors shall be flush (infitting) type, self-closing, 36-inches by a minimum of 80-inches high.
 - 1. Doors shall be mounted with three cam-lift hinges and posi-seal (hydraulic, not spring) adjustable door closers. Door hardware shall be chrome plated. Mounting height of latching hardware shall be 34 to 40 inches above finish floor. All hardware shall meet the requirements of CBC 11B-404.2.7 and 11B-309.4.
 - 2. Door latches shall lock and have a safety release to prevent entrapment (one quarter turn of the release handle unlocks the door from the inside).
 - 3. The freezer door will be provided with a low wattage (5 watts/foot) heater strip and a heated pressure relief port.
 - 4. Provide a solid-state electronic thermometer, pre-wired vapor proof light fixtures and pilot lights switch on each door section.
 - 5. The doorjambs, frames, and thresholds shall be made of durable Fiberglass Reinforced Plastic (FRP).
- C. Assembly: Panels shall be assembled by Posi-Locs or equal (no known equal), which shall be foamed-in-place and activated by a hex wrench. Floor panels shall utilize post tension construction within the floor panels. Access ports to locking devices shall be covered by snap caps and shall be located in interior of walk-in.
- D. Finishes: Refer to the Finish Schedule shown on the Foodservice Floor plan.
 - 1. Interior and exterior surfaces (walls, ceiling and closure panels): 0.040 Stucco embossed aluminum
 - 2. Exposed exterior 20-gauge Type 304 stainless steel, #3 finish
 - 3. Unexposed surfaces to be 26-gauge embossed galvanized steel
 - 4. Inside Floor: Verify on FS finish schedule and item specification.
- E. Accessories:
 - 1. Provide and install .10-inch corrosion-resistant T-31 aluminum alloy diamond tread kickplates to 42-inches high on interior and exterior doors and door panels.
 - 2. Provide closure panels to interior ceiling and all adjacent walls, finished with 90-degree angles at the box and the ceiling/wall; no raw edges will be accepted.
 - 3. Provide vinyl strip curtains.
 - 4. Provide externally mounted digital thermometer.
 - 5. Per document drawings, provide 14-inches by 24-inches view port unheated for cooler door, heated for freezer door.
- F. Insulated Floor Depressions: The FSEC shall provide styrofoam insulation for cooler and freezer floors. Insulation shall be 60 high load extruded polystyrene, 4-inch thick, with R-value, 75°F

mean temperature, min 5.0/inch°F ft square h/BTU; Compressive Strength: vertical, 60.0 lb/inch square; Water Absorption maximum 0.1% by volume.

- G. Approvals: Fire hazard classification according to ASTME-84 (UL723) shall be a flame spread rating of 25 or less with a certifying UL label attached to every panel showing the meeting of the fire code. Smoke development rating to be 450 or less; Factory Mutual approved; NSF-listed with an approved toxicity rating.
- H. Walk-in coolers and freezers shall have level maneuvering clearances at the exterior side (CBC 11B-404.2.4) and accessible entry and exit door hardware (CBC 11B-404.2.7).

2.08 REMOTE REFRIGERATION SYSTEMS

- A. Furnish and install mechanical refrigeration work as indicated and specified, complete and ready for use. Principal items of work include:
 - 1. Mechanical refrigeration systems, including compressor units, condensers, refrigerant piping, evaporator coils, control valves, compressor racks, weather covers and required miscellaneous items.
 - 2. Furnishing of motor starters and walk-in refrigerator/freezer thermostats for installation under Electrical Section.
 - 3. Sleeves, inserts, hangers, supports and other incidental items necessary to complete the work.
 - 4. Cutting and patching of nonstructural and other incidental items necessary to complete the work on this section.
 - 5. Testing, charging, adjusting, operational testing and cleaning of equipment. Conduct all tests as required by local inspecting agencies concerned with this project.
- B. Compressors and Condensing Unit: Factory assembled, hermetic compressors with air cooled condensers operating at such speed within recommended range of section and discharge pressures for economical operation and with required BTU rating per hour, sizes and capacities in accordance with specifications. Provide units of same manufacturer and type throughout, new standard cataloged, to operate with refrigerant that meets or exceeds current Department of Energy standards, such as R-290, R-407A, R-407C, or R-448A. Size for operation in 110 degrees Fahrenheit ambient conditions with an 80% duty cycle, capacities selected on 16 hour running time basis.
- C. Walk-In Cooler Defrost Timer Modules: Furnish and install a Grässlin FM1 STuZ (or equivalent) 24-Hour timer module with 15-minute interval captive trippers and Synchronous drive. SPDT switch shall be rated at: 21A Resistive, 2HP @ 250 VAC. To set the starting time and to provide time indication, the unit shall incorporate an authentic clock face. For override, the timer module shall contain a 3-way OFF/AUTO/ON switch. Freezer evaporator coils to include built-in electric defrost powered from remote condenser.
- D. Refrigerant Piping: Piping shall be furnished with liquid and suction refrigerant lines, condensate drain lines, thermostatic expansion valves, filter-driers, liquid-moisture indicators, heat exchangers, flexible connections, purge valves, crankcase pressure limiting valves and vibration isolators, as required.

- 1. Copper tubing for refrigerant piping shall conform to ASTM standard specifications, serial designation B88. All piping shall be Type L ACR hard drawn copper, or cleaned and sealed soft drawn Type L copper tubing, continuous without joints, as indicated:
 - a. For exposed areas, accessible furred ceiling spaces, and in walls or excavated trench type installations, use hard-copper tubing. Exposed tubing shall be run in a manner to preclude damage by activities in the area or shall be protected by conduit. Conduit shall have water evacuated and both ends completely sealed.
 - b. For piping run in conduit through inaccessible areas, such as under slab on grade, use soft copper tubing.
- 2. All refrigerant piping shall be properly supported by adjustable hangers spaced and adjusted as required.
- 3. All suction and refrigerant lines shall be insulated with minimum 0.5 inch ArmaFlex or equal cellular type insulation.
- 4. All piping at exterior of building to additionally include pipe jacket insulation to protect insulation and underlying pipe from corrosive atmospheres, physical damage, UV exposure, and water.
- 5. Metal pipe sleeves shall be provided where piping passes through walls, ceilings or floors. Space around the tubing shall be filled with mastic insulating compound.
- 6. All penetrations through walk-in cooler or freezer walls shall be fully insulated and sealed to be vapor tight to prevent condensation within any light fixtures, switch boxes, junction boxes, or any other fittings.
- 7. Refrigerant and drain lines shall be fully sealed and provided with escutcheon plates by the installer.
- 8. Install a permanent suction line filter in each compressor suction line with pressure fitting ahead of the filter to facilitation checking of the pressure drop through the filter.
- 9. Refrigeration piping shall be carefully installed to prevent vibration from compressor pulsations.

2.09 FOOD SERVICE EQUIPMENT SCHEDULE

These items are to be provided and installed by Kitchen Equipment Contractor (KEC), unless otherwise noted. All items Not in Kitchen Equipment Contract (NIKEC) are to be provided and installed as part of the General Contract Agreement.

ITEM NO. 1 - (C.F.C.I.) MOP SINK (1 REQ'D) NIKEC - Furnished and installed by Plumbing Contractor.

ITEM NO. 2 - (C.F.C.I.) MOP SINK FAUCET (1 REQ'D) NIKEC - Furnished and installed by Plumbing Contractor.

ITEM NO. 3 - (C.F.C.I.) MOP BROOM HOLDER (1 REQ'D) T&S Brass Model B-0653 (or District approved equal) Mop Hanger, stainless steel mop hanger, three spring loaded rubber grips, 17.68" long x 2.62" W ITEM NO. 4 - (C.F.C.I.) MOP SINK STORAGE WALL SHELF (1 REQ'D)

Custom Stainless Steel

Custom fabricated stainless steel wall shelf, minimum 16-gauge. To include: stainless steel knife brackets, 48" on center maximum. Fabricate per floor plan and detail sheets. Secure to wall with stainless steel pan head screws. Provide shop drawings for approval.

ITEM NO. 5 - (C.F.C.I.) AIR CURTAIN (1 REQ'D)

Mars Air Systems Model LPN248-1UA-OB

(or District approved equal)

LoPro Series 2 Air Curtain, for 48" wide door, unheated, galvanized steel cabinet, obsidian black powder coat finish, (1) 1/6 HP motor, 115v/60/1-ph, ETL

1 ea. Model 99-014 Door Limit Switch, indoor, plunger/roller type, remote mounted, 1 HP max, 250v, 20.0 amps, NEMA 2

ITEM NO. 6 - (D.F.C.I.) EMPLOYEE LOCKERS (3 REQ'D)

Salsbury Industries Model 62165GY-U

(or District approved equal)

Salsbury 12" Wide Double Tier Standard Metal Locker - 1 Wide - 6 Feet High - 15 Inches Deep - Gray

- 3 ea. Model 77695GY Salsbury Compartment Shelf for 12 Inches Wide 15 Inch Deep Metal Locker - Gray
- NOTE: to meet ADA requirements, additional shelves to be installed in lower locker compartments, no lower than 15" above the finished floor.

ITEM NO. 7 - (C.F.C.I.) WALK-IN FREEZER (1 LOT REQ'D)

Arctic Industries

Walk-in freezer with light(s), U.L. pre-fabricated insulated wall panels with NSF approved finish.

- 1 lot PANEL CONSTRUCTION: polyurethane foam insulation packed to a 2.3-lb. density with a high-density urethane perimeter. Interior cam locks to all wall, ceiling, and floor panels. Interior and exterior joints sealed by NSF approved gasket.
- 1 lot PANEL FINISHES: Interior Ceiling = 26-Gauge G90 Galvanized, Stucco Embossed, White; Interior Wall = 26-Gauge Acrylume or G90 Galvanized, Stucco Embossed; Exposed Exterior = Stainless Steel, #4 finish, w/ diamond tread wainscoting; Unexposed Exterior = 26-Gauge Acrylume or G90 Galvanized; Flooring (Freezer) = insulation only with concrete and wearing surface by others
- 1 lot PANEL ACCESSORIES: LED light fixtures. Matching vertical trim. Matching cove base. Matching closure panel. Diamond Tread Wainscoting for exposed exterior walls, 20-gauge stainless steel, +36" A.F.F.
- 1 lot DOOR FEATURES: Flush fitting, self-closing door with replaceable magnetic gasket and adjustable dual wiper blades. Hinges and locking handle with inside safety release. Hydraulic door closure, pre-wired exterior light switch, and one thermometer per compartment. Heated door opening and heated pressure relief vent for freezer only. Door quantity as shown on floor plan.

- 1 lot DOOR ACCESSORIES: Aluminum tread plate kick plates interior and exterior. Heated Triple-Pane vision panels. Plastic vinyl strip curtain.
- 1 lot Anchoring Provisions, Structural Engineering, & Stamped Drawings

ITEM NO. 8 - (C.F.C.I.) EVAPORATOR COIL, WALK-IN FREEZER (1 LOT REQ'D) RDT Model BEL0155

Evaporator coil, serving Walk-In Freezer (Item #7). Pre-built air defrost evaporator with all necessary controls. Freezer Evaporator Coils To Include: built-in electric defrost, powered from remote condenser.

See RDT drawings for more information.

1 lot Provide with KE2 Evaporator Efficiency or Eco-Smart demand defrost system, (1) required per evaporator.

ITEM NO. 9 - (D.F.C.I.) WALK-IN SHELVING (1 LOT REQ'D)

Metro

(or District approved equal)

Twenty-Four (24) units of 4-tier, wire-type, mobile shelving with NSF approved epoxy coated finish and casters. Verify size and quantity with field conditions.

- 28 ea. Model 1836NK3 Super Erecta[®] Shelf, wire, 36"W x 18"D, Metroseal[™] Green epoxycoated corrosion-resistant finish with Microban[®] antimicrobial protection, plastic split sleeves are included in each carton, NSF
- 8 ea. Model 1842NK3 Super Erecta[®] Shelf, wire, 42"W x 18"D, Metroseal[™] Green epoxycoated corrosion-resistant finish with Microban[®] antimicrobial protection, plastic split sleeves are included in each carton, NSF
- 4 ea. Model 1848NK3 Super Erecta[®] Shelf, wire, 48"W x 18"D, Metroseal[™] Green epoxycoated corrosion-resistant finish with Microban[®] antimicrobial protection, plastic split sleeves are included in each carton, NSF
- 4 ea. Model 1854NK3 Super Erecta[®] Shelf, wire, 54"W x 18"D, Metroseal[™] Green epoxycoated corrosion-resistant finish with Microban[®] antimicrobial protection, plastic split sleeves are included in each carton, NSF
- 4 ea. Model 2448NK3 Super Erecta[®] Shelf, wire, 48"W x 24"D, Metroseal[™] Green epoxycoated corrosion-resistant finish with Microban[®] antimicrobial protection, plastic split sleeves are included in each carton, NSF
- 48 ea. Model 2454NK3 Super Erecta[®] Shelf, wire, 54"W x 24"D, Metroseal[™] Green epoxycoated corrosion-resistant finish with Microban[®] antimicrobial protection, plastic split sleeves are included in each carton, NSF
- 96 ea. Model 63UPK3 Super Erecta[®] SiteSelect[™] Post, 61-13/16"H, for use with stem casters, Metroseal 3 Green epoxy coated corrosion-resistant finish with Microban[®] antimicrobial protection
- 96 ea. Model 5PCB Super Erecta[®] Stem Caster, swivel (with foot operated brake), 5" dia., 1-1/4" face, 300 lb. capacity, corrosion resistant, polyurethane flat wheel tread, polymer horn, includes bumper

ITEM NO. 10 - (C.F.C.I.) WALK-IN COOLER (1 LOT REQ'D) Arctic Industries Walk-in cooler with light(s), U.L. pre-fabricated insulated wall panels with NSF approved finish.

- 1 lot PANEL CONSTRUCTION: polyurethane foam insulation packed to a 2.3-lb. density with a high-density urethane perimeter. Interior cam locks to all wall, ceiling, and floor panels. Interior and exterior joints sealed by NSF approved gasket.
- 1 lot PANEL FINISHES: Interior Ceiling = 26-Gauge G90 Galvanized, Stucco Embossed, White; Interior Wall = 26-Gauge Acrylume or G90 Galvanized, Stucco Embossed; Exposed Exterior = Stainless Steel, #4 finish, w/ diamond tread wainscoting; Unexposed Exterior = 26-Gauge Acrylume or G90 Galvanized
- 1 lot PANEL ACCESSORIES: LED light fixtures. Matching vertical trim. Matching cove base. Matching closure panel.
- 1 lot DOOR FEATURES: Flush fitting, self-closing door with replaceable magnetic gasket and adjustable dual wiper blades. Hinges and locking handle with inside safety release. Hydraulic door closure, pre-wired exterior light switch, and one thermometer per compartment. Heated door opening and heated pressure relief vent for freezer only. Door quantity as shown on floor plan.
- 1 lot DOOR ACCESSORIES: Aluminum tread plate kick plates interior and exterior. Heated Triple-Pane vision panels. Plastic vinyl strip curtain.
- 1 lot Anchoring Provisions, Structural Engineering, & Stamped Drawings

ITEM NO. 11 - (C.F.C.I.) EVAPORATOR COIL, WALK-IN COOLER (1 LOT REQ'D)

RDT Model BEL0095

Evaporator coil, serving Walk-In Cooler (Item #10). Pre-built air defrost evaporator with all necessary controls. Cooler Evaporator Coils To include: Grasslin FM1-STuZ (or equivalent) timer module with interval captive trippers and Quartz drive with 3-way switch. See RDT drawings for more information.

1 lot Provide with KE2 Evaporator Efficiency or Eco-Smart demand defrost system, (1) required per evaporator.

ITEM NO. 12 - (C.F.C.I.) REFRIGERATION RACK (1 REQ'D)

RDT Model ZS1-02Z-CT3-AST

Outdoor Air-Cooled Refrigeration System (208-230/60/3). Verify location. Kitchen Equipment Contractor to run refrigeration line-sets to equipment. Electrical Contractor to provide power and control wiring to equipment. General Contractor to provide roof curb/cap, penetrations, and waterproofing. All evaporator coils to be powered through house circuit. Refrigeration system to include: coated condensers for salt-air environment and oil separator. NOTE: System is sized for a maximum line run of up to 100' (with a maximum of up to 45' vertical rise). See refrigeration drawings for more information.

- 1 ea. Extended Comp. Warranty
- 1 ea. 1-Year Labor Warranty

ITEM NO. 13 - (C.F.C.I.) CORNER GUARDS, L-SHAPE (3 REQ'D)

Custom Stainless Steel

Custom fabricated 16-gauge stainless steel corner guards at all exposed kitchen wall corners. 2"x2", from top of coved base to bottom of ceiling. Attach to wall without exposed fasteners. Verify quantity and height.

ITEM NO. 14 - (C.F.C.I.) CORNER GUARDS, U-SHAPE / WALL END CAPS (5 REQ'D) Custom Stainless Steel

Custom fabricated 16-gauge stainless steel corner guards at all exposed kitchen wall corners. 2"x2", from top of coved base to bottom of ceiling. Attach to wall without exposed fasteners. Verify quantity and height.

ITEM NO. 15 - SPARE NUMBER

ITEM NO. 16 - (D.F.C.I.) DRY STORAGE SHELVING (1 LOT REQ'D)

Metro

(or District approved equal)

Eleven (11) units of 4-tier, wire-type, mobile shelving with NSF approved epoxy coated finish and casters. Verify size and quantity with field conditions.

- 4 ea. Model 1836NC Super Erecta[®] Shelf, wire, 36"W x 18"D, chrome plated finish, plastic split sleeves are included in each carton, NSF
- 4 ea. Model 1848NC Super Erecta[®] Shelf, wire, 48"W x 18"D, chrome plated finish, plastic split sleeves are included in each carton, NSF
- 36 ea. Model 1854NC Super Erecta[®] Shelf, wire, 54"W x 18"D, chrome plated finish, plastic split sleeves are included in each carton, NSF
- 44 ea. Model 63UP Super Erecta® Post, 61-13/16"H, for use with stem casters, chrome plated finish
- 44 ea. Model 5PCB Super Erecta[®] Stem Caster, swivel (with foot operated brake), 5" dia., 1-1/4" face, 300 lb. capacity, corrosion resistant, polyurethane flat wheel tread, polymer horn, includes bumper

ITEM NO. 17 - (C.F.C.I.) ICE MAKER, CUBE-STYLE (1 REQ'D)

Hoshizaki Model KM-520MAJ

(or District approved equal)

Ice Maker, Cube-Style, 22"W, air-cooled, self-contained condenser, production capacity up to 556 lb/24 hours at 70°/50° (480 lb AHRI certified at 90°/70°), stainless steel finish, crescent cube style, R-404A refrigerant, 115v/60/1-ph, 10.6 amps, NSF, UL, ENERGY STAR[®]

- 1 ea. Model B-500SF Ice Bin, 30"W, top-hinged front-opening door, 500-lb ice storage capacity, for top-mounted ice maker, stainless steel exterior, painted legs included, protected with H-GUARD Plus Antimicrobial Agent, ETL, ETL-Sanitation
- 1 kit Model HS-2033 Top Kit, 8", ABS

ITEM NO. 18 - (C.F.C.I.) ICE BIN (1 REQ'D) Hoshizaki Model B-500SF Included with Ice Maker (Item #17). See Item #17 for more information.

ITEM NO. 19 - (C.F.C.I.) WATER FILTRATION SYSTEM, FOR MULTIPLE APPLICATIONS (1 REQ'D) 3M Purification Model HF160-CLS (or District approved equal) (5626002) 3M[™] Water Filtration Products Chloramines Reduction System with Scale Inhibitor, 15-7/8"H x 4-3/8"D, 2.2 gpm, 0.2 micron, 4,700 gallons capacity, reduces bacteria, sediment, chloramines, chlorine taste & odor, cyst, scale reduction, 1/2" FNPT, NSF certified (for coffee/hot tea & ice applications)

ITEM NO. 19.1 - (C.F.C.I.) BACKFLOW PREVENTER (1 REQ'D) NIKEC - Furnished and installed by Plumbing Contractor.

ITEM NO. 20 - (C.F.C.I.) HAND SINK, ADA COMPLIANT (2 REQ'D)

John Boos Model PBHS-ADA-P-STD-SSLR

(or District approved equal)

Pro-Bowl Hand Sink, wall mount, 14"W x 16" front-to-back x 5" deep bowl, (1) set of splash mount faucet holes with 4" centers, 1-7/8" drain, drain basket included, left & ride side splashes, soap & towel dispenser, removable front panel, includes mounting bracket, stainless steel construction, ADA compliant, NSF, CSA-Sanitation (Goose neck faucet included with wrist blades)

NOTE: provide hands-free faucet (Item #20.1), in lieu of standard faucet

ITEM NO. 20.1 - (C.F.C.I.) HANDS FREE ELECTRONIC FAUCET (2 REQ'D)

T&S Brass Model EC-3105-HG

(or District approved equal)

ChekPoint[™] Electronic Faucet, wall mount, 4" centers, rigid gooseneck spout, 2.2 GPM vandal resistant aerator, hydro-generator power supply, AC/DC control module with internal flow control, temperature control mixing valve with integral check valves, chrome-plated brass, flexible stainless steel supply hoses, ADA Compliant

ITEM NO. 21 - SPARE NUMBER

ITEM NO. 22 - SPARE NUMBER

ITEM NO. 23 - SPARE NUMBER

ITEM NO. 24 - (C.F.C.I.) 3-COMPARTMENT SINK (1 REQ'D)

Custom Stainless Steel

Custom fabricated, 14-gauge stainless steel 3-compartment sink with minimum (3) 20" x 28" x 14" deep basins, minimum 18" integral drainboard each side sloped to sink, and 8" high backsplash. Rear and cross rail supports to be fully welded to 1-5/8" diameter stainless steel tubular legs with adjustable bullet feet. Fabricate per floor plan and detail sheets. Provide shop drawings for approval.

- 1 ea. Furnish with (3) lever waste valve (Fisher model #22209, or equivalent) with handle support brackets welded to bottom of sink, per basin.
- 3 ea. Fisher Model 22209 DrainKing Waste Valve, with flat strainer, 12 GPM drain rate, dual teflon seals, stainless steel ball, cast red brass body

ITEM NO. 25 - (C.F.C.I.) PRE-RINSE FAUCET ASSEMBLY, WITH ADD ON FAUCET (1 REQ'D) Fisher Model 68195 (or District approved equal) Pre-Rinse Unit, spring, 8" backsplash mount, elbows, Add-On-Faucet with 14" swing spout, stainless steel ITEM NO. 26 - (C.F.C.I.) WALL SHELVES (2 REQ'D)

Custom Stainless Steel

Custom fabricated stainless steel wall shelves, minimum 16-gauge. To include: stainless steel knife brackets, 48" on center maximum. Fabricate per floor plan and detail sheets. Secure to wall with stainless steel pan head screws. Provide shop drawings for approval.

ITEM NO. 27 - (C.F.C.I.) POT RACK (1 REQ'D)

Custom Stainless Steel

Custom fabricated stainless steel pot rack with slip-on stainless steel pot hooks, minimum every 6". Constructed of 2" X 1/4" stainless steel flat bar with 14 gauge stainless steel knife brackets, maximum 48" on center. Fabricate per floor plan and detail sheets. Provide shop drawings for approval.

ITEM NO. 28 - (C.F.C.I.) WALL SHELF (1 REQ'D)

Custom Stainless Steel

Custom fabricated stainless steel wall shelf, minimum 16-gauge. To include: stainless steel knife brackets, 48" on center maximum. Fabricate per floor plan and detail sheets. Secure to wall with stainless steel pan head screws. Provide shop drawings for approval.

ITEM NO. 29 - (C.F.C.I.) SOILED DISH TABLE W/ SCRAP SINK (1 REQ'D)

Custom Stainless Steel

Custom fabricated 14-gauge stainless steel soiled dish table with integral scrap sink and quick drain. To include: removable perforated sink strainer, 16-gauge stainless steel under-shelf welded to 1-5/8" stainless steel tubular legs with adjustable bullet feet. Top to be sloped to dish machine. Fabricate per floor plan and detail sheets. Provide shop drawings for approval.

ITEM NO. 30 - (C.F.C.I.) PRE-RINSE FAUCET ASSEMBLY (1 REQ'D)

Fisher Model 67997

(or District approved equal)

Pre-Rinse Unit, spring, 8" backsplash mount, with elbows, stainless steel

ITEM NO. 31 - (C.F.C.I.) QUICK DRAIN (1 REQ'D)

Custom Stainless Steel

Integral component of Soiled Dish Table (Item #29).

ITEM NO. 32 - (C.F.C.I.) DISHWASHER, DOOR TYPE (1 REQ'D)

Hobart Model AM16T-BAS-2

(or District approved equal)

Dishwasher, door type, tall chamber (27"), high temp sanitizing, 208-240/60/3 (field convertible to single phase), 60 racks/hour, straight-thru or corner, user-friendly smart touchscreen controls, Sense-A-Temp[™] booster, electric tank heat, pumped rinse, pumped drain, auto-fill, stainless steel tank, frame, doors & feet, sheet pan rack, cULus, NSF, ENERGY STAR[®]

- 1 ea. Model WWST-STARTUP1YES Startup by Factory Trained Technician Confirmation of correct machine and utility installation; performance check to ensure machine is operating to factory specifications; adjustments as needed, and customer demo.
- 1 ea. Model DWT-AM16 Drain water tempering (single valve) kit with Pumped Drain Air Gap for BAS and Tall models
- 1 ea. Model ACC-INSTALL-HOB Accessory Installation for installation within 100 miles of a Hobart Service Office during normal business hours with appropriate notice; installation beyond 100 miles will be quoted by Service. Includes installation of this

item only, final electrical or plumbing connections by others. Recommendation: coordinate accessory installation with machine assembly/ installation

- 1 ea. Model DOOR-LOCK-AM16 Door lock kit Does not allow operator to open door until cycle is finished.
- 1 ea. Model POWERSUPPLY-AM16 Power supply for AM16 Accessories
- 1 ea. Model CORNER-INST-AM16 Splash Shield for Corner Installations Includes splash panel and sheet pan adaptor
- 1 ea. Model WTRHAMARREST-AM16 Water Hammer Arrestor Assembly includes ¾" brass pressure regulator, pressure gauge, shock arrestor and garden hose adapter
- 1 ea. Model FLNG-FT-AM16 Flanged Feet, Bolt Down Set of 4

ITEM NO. 33 - (C.F.C.I.) TYPE-2 STEAM EXHAUST HOOD (1 REQ'D) Captive-Aire

Custom fabricated, stainless steel Type-2 condensate hood with baffle and drip edge. Hang hood and provide stainless steel trim to ceiling with no exposed fasteners and all necessary stainless steel hood hanging materials. Fabricate per floor plan and detail sheets. Provide shop drawings for approval.

ITEM NO. 34 - (C.F.C.I.) EXHAUST FAN (1 REQ'D) NIKEC - Furnished and installed by Mechanical Contractor.

ITEM NO. 35 - SPARE NUMBER

ITEM NO. 36 - (C.F.C.I.) CLEAN DISH TABLE (1 REQ'D)

Custom Stainless Steel

Custom fabricated 14-gauge stainless steel clean dish table. To include: 10" high backsplash along all wall edges and 16-gauge stainless steel under-shelf, welded to 1-5/8" diameter stainless steel tubular legs with adjustable bullet feet. Top to be sloped to dish machine. Fabricate per floor plan and detail sheets. Provide shop drawings for approval.

ITEM NO. 37 - (D.F.C.I.) POT & PAN SHELVING (1 LOT REQ'D)

Metro

(or District approved equal)

Five (5) units of 4-tier, wire-type, mobile storage shelving with NSF approved finish and casters. Verify size and quantity with field conditions.

- 20 ea. Model 1836NK3 Super Erecta[®] Shelf, wire, 36"W x 18"D, Metroseal[™] Green epoxycoated corrosion-resistant finish with Microban[®] antimicrobial protection, plastic split sleeves are included in each carton, NSF
- 20 ea. Model 63UPK3 Super Erecta[®] SiteSelect[™] Post, 61-13/16"H, for use with stem casters, Metroseal 3 Green epoxy coated corrosion-resistant finish with Microban[®] antimicrobial protection
- 20 ea. Model 5MB Super Erecta[®] Stem Caster, swivel (with foot operated brake), 5" dia., 1-1/4" face, 200 lb. capacity, resilient rubber flat wheel tread, includes bumper
- ITEM NO. 38 SPARE NUMBER
- ITEM NO. 39 SPARE NUMBER
- ITEM NO. 40 SPARE NUMBER

ITEM NO. 41 - (C.F.C.I.) PREP TABLE W/ DOUBLE PREP SINK, ADA ACCESSIBLE (1 REQ'D) Custom Stainless Steel

Custom fabricated stainless steel prep table. To include: 6" stainless steel backsplash along all wall edges, 1-5/8" stainless steel tubular legs with fully welded cross bracing and adjustable bullet feet. Fabricate per floor plan and detail sheets. Provide shop drawings for approval.

2 ea. Integral 20" x 20" x minimum 6" deep prep sink basin

ITEM NO. 42 - (C.F.C.I.) FAUCET (1 REQ'D)

Fisher Model 57665

(or District approved equal)

Faucet, deck mount, 8" centers, 12" swing spout, lever handles with color coded indexes, 1/2" male inlets, stainless steel, ADA Compliant

ITEM NO. 43 - (C.F.C.I.) WALL SHELF (1 REQ'D)

Custom Stainless Steel

Custom fabricated stainless steel wall shelf, minimum 16-gauge. To include: stainless steel knife brackets, 48" on center maximum. Fabricate per floor plan and detail sheets. Secure to wall with stainless steel pan head screws. Provide shop drawings for approval.

ITEM NO. 44 - SPARE NUMBER

ITEM NO. 45 - (D.F.D.I.) MOBILE HEATED CABINET (2 REQ'D)

Cres Cor Model H137SUA12D

(or District approved equal)

Cabinet, Mobile Heated, insulated, top-mount heater assembly, recessed push/pull handles, magnetic latch, (12) sets chrome plated wire universal angle slides for 12" x 20" thru 18" x 26" pans on 4-1/2" centers, adjustable 1-1/2" centers, reversible dutch doors, (4) heavy duty 5" swivel casters (2) braked, anti-microbial latches, stainless steel construction, NSF, cCSAus, ENERGY STAR[®]

2 ea. 120v/60/1-ph, 1.5 kW, 12.0 amp, 10 ft power cord, NEMA 5-15P, standard

12 set Model 0621 281 K Extra Universal Angles (set of 2)

2 ea. Right-hand door swing (top & bottom doors), standard

4 ea. Key lock handles (per door) (2 required)

ITEM NO. 46 - (C.F.C.I.) ISLAND PREP TABLE W/ INTEGRAL PREP SINK (1 REQ'D) Custom Stainless Steel

Custom fabricated stainless steel prep table. To include: 6" stainless steel backsplash along all wall edges and stainless steel fixed under-shelf welded to 1-5/8" stainless steel tubular legs with fully welded cross bracing and adjustable bullet feet. Fabricate per floor plan and detail sheets. Provide shop drawings for approval.

1 ea. Integral 20" x 20" x minimum 12" deep prep sink basin (meets EHP-883)

3 ea. Provide with drawer(s), size quantity and location per drawings and detail sheets.

ITEM NO. 47 - (C.F.C.I.) FAUCET (1 REQ'D)

Fisher Model 57665

(or District approved equal)

Faucet, deck mount, 8" centers, 12" swing spout, lever handles with color coded indexes, 1/2" male inlets, stainless steel, ADA Compliant

ITEM NO. 48 - (D.F.D.I.) MICROWAVE OVEN (1 REQ'D)

Panasonic Model NE-1054F

(or District approved equal)

PRO Commercial Microwave Oven, 1000 watts, 0.8 cu. ft. capacity, (6) power levels, 2- & 3-stage cooking, 20 program memory capacity, touch control pad with Braille, 99-minute timer, programmable and manual operation, program list/cycle counter, self diagnostics, tone control, bottom energy feed, interior light, see-through door with "grab & go" handle, stainless steel front, 120v/60/1-ph, 13.4 amps, cord, NEMA 5-15P, cULus, NSF

ITEM NO. 49 - (D.F.D.I.) BUN / SHEET PAN RACK (2 REQ'D)

GSW USA Model AAR-2022W

(or District approved equal)

Bun Pan Rack, open sides, (20) 18" x 26" pan capacity, 2-1/2" spacing, welded angle slides, 6" casters (2) with brake, all welded 1" aluminum tubing, ETL

ITEM NO. 50 - (D.F.C.I.) MOBILE WORK TABLE (3 REQ'D)

John Boos Model ST4-2472SSK

(or District approved equal)

Work Table, 72"W x 24"D, 14/300 stainless steel flat top, with Stallion Safety Edge front & back, 90° turndown on sides, stainless steel legs & adjustable undershelf, adjustable bullet feet, NSF, CSA-Sanitation, KD

3 set Model CAS01-R Casters, 5", heavy duty, locking, for 1-5/8" diameter legs (set of 4)

ITEM NO. 51 - (D.F.D.I.) RETHERMALIZATION & HOLDING CABINET (2 REQ'D)

Cres Cor Model RO151FWUA18DE

(or District approved equal)

Quiktherm[™] Rethermalization/Convection/Hold Oven, AquaTemp[™], reach-in, full size, single cavity, (18) sets of universal angles adjustable on 1-1/2" center, fully insulated, solid state electric control convection oven, standard controls, with temp. & humidity control, LED digital display, field reversible Dutch doors, anti-microbial latches, integral drip trough, (4) heavy duty 5" swivel casters (2) braked, stainless steel construction, cCSAus, CSA

- 2 ea. 208v/60/3-ph, 8.0 kW
- 4 ea. Key lock handles (per door) (2 required)

2 set Model 0621 281 SS K Extra Universal Angles, stainless steel (set of 2)

ITEM NO. 52 - SPARE NUMBER

ITEM NO. 53A - (D.F.C.I.) CONVECTION OVEN, DOUBLE-DECK, GAS (1 REQ'D) Blodgett Model ZEPH-200-G-ES DBL

(or District approved equal)

Zephaire Convection Oven, gas, double-deck, bakery depth, capacity (5) 18" x 26" pans per compartment, (SSI-M) solid state infinite controls with 60 min. manual timer, two speed fans, porcelainized baking compartments, dependent glass doors, interior light, flue connector,

stainless steel front, sides and top, 6" stainless steel legs, 50,000 BTU each, cETLus, CE, NSF, ENERGY STAR®

- 1 ea. Natural gas
- 2 ea. 115v/60/1-ph, 8.0 amps, 2-wire with ground, cord & plug, 3/4 hp (per deck), standard
- 1 ea. Model SSI-D Top Oven: Solid State infinite with digital timer, standard
- 1 ea. Model SSI-D Bottom Oven: Solid State infinite with digital timer, standard
- 1 set 4" low profile plate casters (set)

ITEM NO. 53B - (D.F.C.I.) CONVECTION OVEN, GAS (1 REQ'D)

Blodgett Model ZEPH-200-G-ES

Included with Double-Stacked Convection Ovens (Item #53A). See Item #53A for more information.

ITEM NO. 54A - (D.F.C.I.) CONVECTION OVEN, DOUBLE-DECK, GAS (1 REQ'D)

Blodgett Model ZEPH-200-G-ES DBL

(or District approved equal)

Zephaire Convection Oven, gas, double-deck, bakery depth, capacity (5) 18" x 26" pans per compartment, (SSI-M) solid state infinite controls with 60 min. manual timer, two speed fans, porcelainized baking compartments, dependent glass doors, interior light, flue connector, stainless steel front, sides and top, 6" stainless steel legs, 50,000 BTU each, cETLus, CE, NSF, ENERGY STAR[®]

- 1 ea. Natural gas
- 2 ea. 115v/60/1-ph, 8.0 amps, 2-wire with ground, cord & plug, 3/4 hp (per deck), standard
- 1 ea. Model SSI-D Top Oven: Solid State infinite with digital timer, standard
- 1 ea. Model SSI-D Bottom Oven: Solid State infinite with digital timer, standard
- 1 set 4" low profile plate casters (set)

ITEM NO. 54B - (D.F.C.I.) CONVECTION OVEN, GAS (1 REQ'D)

Blodgett Model ZEPH-200-G-ES

Included with Double-Stacked Convection Ovens (Item #54A). See Item #54A for more information.

ITEM NO. 55 - (D.F.C.I.) TILTING SKILLET BRAISING PAN, GAS (1 REQ'D) Groen Model BPM-30GC (or District approved equal) Braising Pan, gas, 30-gallon capacity, 10" deep pan, 38" pan height, IPX6 water rated electronic Classic controls, manual tilt, standard etch marks, faucet bracket, round tubular open leg base, stainless steel construction, bullet feet, electric spark ignition, 104,000 BTU/hr, cCSAus, NSF, IPX6, Made in USA

- 1 ea. 115v/60/1-ph, 5.0 amps, standard
- 1 ea. Natural gas
- 1 ea. Model ELEV0-2000 For elevation between 0 and 2000 (When order is placed, all equipment with elevation specified will be assigned a different Part# by the factory)
- 1 ea. 2" Tangent draw-off with perforated strainer
- 1 ea. Model 159102 Drain cup & 8' hose assembly for TDO
- 1 ea. Model Z079995 Lip Strainer, for tilting braising pans
- 1 ea. Model 147150 Steamer Insert Kit 2 stacking racks, (2) perforated pans with covers,
 (1) pan lifter ((1) for 15 gal max (2) kits per 30 or 40 gal braising pan)
- 1 ea. Model 150247 Pan Carrier, universal style, fits all size and type braising pans (except TD/FPC, BPM-15E, BPM-15G)
- 1 ea. Model Z091870 Faucet, double pantry, with swing spout
- 1 ea. Model FL FOOTKIT 4 Flanged Feet, for all BPM & BPP models (set of 4)

ITEM NO. 56 - (C.F.C.I.) FLOOR TROUGH (1 REQ'D)

Custom Stainless Steel

Custom fabricated stainless steel floor trough with removable grates. See detail sheets for type and design. Fabricate per floor plan and detail sheets. Verify size and location requirements with equipment manufacturer's specification sheets. Coordinate location to be installed with Plumbing and General Contractors. Provide shop drawings for approval.

ITEM NO. 57 - (D.F.C.I.) 6-BURNER RANGE W/ CONVECTION OVEN BASE (1 REQ'D) Montague Company Model V136-5

(or District approved equal)

Legend[™] Heavy Duty Range, gas, 36", (6) 12" 30,000 BTU open burners, convection oven base, stainless steel front & 4" flue riser, black sides, 6" high adjustable stainless steel legs, 220,000 BTU, NSF, cETLus, CE

- 1 ea. Natural gas
- 1 ea. 120v/60/1ph, std.
- 1 ea. 1" Left rear manifold with pressure regulator (up to 500,000 BTU/hr)
- 1 ea. Cap & stainless steel manifold cover, left
- 1 ea. Cap & stainless steel manifold cover, right
- 1 ea. Sides, stainless steel for range
- 1 ea. Exterior bottom, 304 stainless steel for range
- 1 ea. Back, stainless steel for range
- 1 ea. Piezo Ignitor (oven only)
- 1 ea. Stainless steel burner box assembly, includes all stainless steel bottom, drip tray, drip tray glides, deflector shields & burner supports (beneath open tops and/or ribbon grates)

1 ea. Casters with 5" wheel 6" OA (set of 4)

ITEM NO. 58 - SPARE NUMBER

ITEM NO. 59 - SPARE NUMBER

ITEM NO. 60 - SPARE NUMBER

ITEM NO. 61 - (C.F.C.I.) TYPE-1 GREASE EXHAUST HOOD (1 REQ'D)

Captive-Aire

Type-1 grease exhaust hood, UL or ETL listed. Includes stainless steel baffle filters. Furnish per floor plan, detail sheets, and specifications. Field verification required. Hang hood and provide stainless steel trim to ceiling with no exposed fasteners and all necessary stainless steel hood hanging materials. Provide shop drawings for approval.

ITEM NO. 62 - (C.F.C.I.) EXHAUST FAN FOR EXHAUST HOOD (1 REQ'D) NIKEC - Furnished and installed by Mechanical Contractor.

ITEM NO. 63 - (C.F.C.I.) MAKE-UP AIR SYSTEM (1 REQ'D)

NIKEC - Furnished and installed by Mechanical Contractor.

ITEM NO. 64 - (C.F.C.I.) WALL METAL/FLASHING (1 LOT REQ'D)

Custom Stainless Steel

Custom fabricated 20-gauge stainless steel wall metal. From top of cove base to bottom of hood. Install with hem clips and without visible fasteners. Fabricate per floor plan and detail sheets. Provide shop drawings for approval.

1 lot Include custom fabricated, minimum 20 gauge, stainless steel hood skirt from top of hood to ceiling with knuckle type connections (no laps) and access panel, where necessary. Install with hem clips and without visible fasteners.

ITEM NO. 65 - (C.F.C.I.) QUICK GAS DISCONNECTS (1 LOT REQ'D)

T&S Brass

(or District approved equal)

Verify size and quantity with equipment.

- 1 kit Model HG-4C-48K Safe-T-Link Gas Connector Kit, 1/2" connection, 48" hose, stainless steel braiding with extruded coating, (1) Quick-Disconnect, (1) street "EL", ball valve, restraining cable adjustable for 3'to 5', 70,000 BTU / hr minium flow capacity
- 4 kit Model HG-4D-48K Safe-T-Link Gas Connector Kit, 3/4" connection, 48" hose, stainless steel braiding with extruded coating, (1) Quick-Disconnect, (1) street "EL", ball valve, restraining cable adjustable for 3'to 5', 180,000 BTU / hr minium flow capacity
- 1 kit Model HG-4E-48K Safe-T-Link Gas Connector Kit, 1" connection, 48" hose, stainless steel braiding with extruded coating, (1) Quick-Disconnect, (1) street "EL", ball valve, restraining cable adjustable for 3'to 5', 335,000 BTU / hr minium flow capacity

ITEM NO. 66 - (C.F.C.I.) FIRE SUPPRESSION SYSTEM (1 LOT REQ'D) Ansul Fire Protection Model R-102

Ansul: Wall Mounted Fire Suppression System. Design and installation of the kitchen hood fire suppression system. All equipment to be installed in a professional manner, in compliance with NFPA 96, 17A, UL 300 and local fire code requirements. Provide labor and materials for the

complete installation and testing of one (1) lot Ansul automatic fire suppression system to protect the exhaust hoods and appliances based on a plan review, equipment and services to include the following: Tanks in stainless steel enclosures; UL listed grease seal adapters; Pipe, nozzles, fittings, conduit in chrome; Fusible link detectors; Double throw micro-switches (4PDT); Manual Pull Station; Plan drawings and submittal pkg.; Final acceptance test w/Local authorities.

- 1 lot Gas shut-off valve to be furnished by K.E.C., installed by Plumbing Contractor.
- 1 lot Electrical Contractor is responsible for wiring main control panel, all fans per included schematic & shunt trip breaker

ITEM NO. 67 - (C.F.C.I.) REMOTE PULL STATION FOR FIRE SUPPRESSION SYSTEM (1 REQ'D) Ansul Fire Protection

Furnished and installed by Kitchen Equipment Contractor. Octagonal junction box to be roughed-in by Electrical Contractor.

ITEM NO. 68 - (C.F.C.I.) K-TYPE FIRE EXTINGUISHER (1 REQ'D)

Ansul Fire Protection

Furnished by Kitchen Equipment Contractor. Installed by General Contractor.

ITEM NO. 69 - (C.F.C.I.) GAS SHUT-OFF VALVE (1 REQ'D)

Ansul Fire Protection

Furnished by Kitchen Equipment Contractor. Installed by Plumbing and Electrical Contractors, as required.

ITEM NO. 70 - (C.F.C.I.) HOOD CONTROLS, WALL MOUNT CONTROL CABINET (1 REQ'D) Captive-Aire Model DCV-1011

See Captive-Aire hood drawings for more information.

ITEM NO. 71 - SPARE NUMBER

ITEM NO. 72 - SPARE NUMBER

ITEM NO. 73 - (D.F.C.I.) PASS-THRU REFRIGERATOR (2 REQ'D)

Victory Refrigeration Model RS-2D-S1-PT-HC

(or District approved equal)

UltraSpec[™] Series Refrigerator, Pass-thru, two-section, self-contained refrigeration, 48.33 cu. ft. capacity, (4) full height solid hinged doors, (6) silver freeze (chrome-style) shelves, stainless exterior & interior, standard depth cabinet, TOUCH POINT[™] electronic temperature control/indicator, LED lighting, expansion valve technology, Santoprene door gaskets with 2 year warranty, stainless steel breakers, R290 Hydrocarbon refrigerant, 1/3 HP, cULus, UL EPH Classified, UL-Sanitation, MADE IN USA

- 2 ea. Self-Contained refrigeration
- 2 ea. 115v/60/1-ph, 6.5 amps, with cord & NEMA 5-15P
- 2 ea. Control/Kitchen side door hinging: left door hinged on left, right door hinged on right standard
- 2 ea. Rear/Server side door hinging: left door hinged on left, right door hinged on right standard
- 20 ea. Model 10601201S Type "A/C" Tray Slide Pair, 1 tray slide set for (1) 18" x 26" or (2) 14" x 18" or (2) 12" x 20" Pans

- 2 ea. Stainless steel case back with stainless steel rear air grille, for reach-in models
- 2 ea. Model 00C31-055A 6" Seismic Legs (set of 4)

ITEM NO. 74 - (D.F.C.I.) PASS-THRU HEATED CABINET (2 REQ'D)

Cres Cor Model H137PSUA12D

(or District approved equal)

Cabinet, Mobile Heated, pass-thru, insulated, top-mount heater assembly, solid state electronic control with digital display, (12) sets of chrome plated wire universal angle slides adjustable on 4-1/2" centers adjustable 1-1/2" centers, field reversible dutch door, anti-microbial magnetic door latches, (4) 5" swivel casters (2) braked, stainless steel construction, NSF, cCSAus

2 ea. 120v/60/1-ph, 2.0 kW, 16 amp, standard

12 set Model 0621 281 K Extra Universal Angles (set of 2)

2 ea. Right-hand door swing for front door (top & bottom), standard

- 2 ea. Right-hand door swing for rear doors (top & bottom), standard
- 8 ea. Key lock handles (per door) (4 required)
- 2 set 6" bolt down leg, set of 4

ITEM NO. 75 - (D.F.C.I.) CASH REGISTER STAND (3 REQ'D)

G.A. Systems Inc. Model D3136A

(or District approved equal)

Cashier Stand Cabinet, 31-1/8"W x 36-3/8"D x 34"H, open understorage, (1) locking pin, stainless steel trim, galvanized steel body, (4) 3" plate non-marking swivel casters with brakes, ADA Compliant, ETL-Sanitation

3 ea. High pressure laminate exterior finish, available in custom colors - contact factory for color options

ITEM NO. 76 - (D.F.D.I.) P.O.S. SYSTEM & CARD READERS (3 REQ'D) NIKEC - Furnished and installed by District.

ITEM NO. 77 - (D.F.C.I.) SERVING COUNTER, COLD FOOD (3 REQ'D)

G.A. Systems Inc. Model C5

(or District approved equal)

Speedee Serv[®] Speedline Refrigerated Serving Cabinet, 63-3/16"W x 30-3/8"D x 34"H, bottommounted self-contained refrigeration (Refrigerated Snap In), 16/304 stainless steel top, holds (12) 4" deep or (24) 2" deep baskets, (2) aluminum sliding lids with locking bar, (2) locking pins, removable louvered front access panel, hot gas condensate evaporator, stainless steel interior & trim, galvanized body, (4) 3" plate non-marking swivel casters with brakes, R134a refrigerant, ADA Compliant, cULus, ETL-Sanitation

- 3 ea. 120v/60/1-ph, 1/3 HP, cord with NEMA 5-15P, standard
- 3 ea. High pressure laminate exterior finish, available in custom colors contact factory for color options
- 36 ea. Model B13204S Wire Basket, 20-11/16"W x 13-1/4"D x 4-9/16"H, rectangular, stainless steel wire construction

ITEM NO. 78 - (D.F.C.I.) HOT FOOD SERVING COUNTER / TABLE (3 REQ'D) G.A. Systems Inc. Model H5

(or District approved equal)

Speedee Serv[®] Speedline Heated Serving Cabinet, 63-3/16"W x 30-3/8"D x 34"H, 16/304 stainless steel top, (2) sliding lids with locking bar, holds (12) 4" deep or (24) 2" deep baskets, includes: (2) locking pins, stainless steel interior & trim, galvanized body, (4) 3" plate non-marking swivel casters with brakes, ADA Compliant, ETLus, ETL-Sanitation

- 3 ea. 120v/60/1-ph, 2700 watts, 22.0 amps, cord with NEMA 5-30P, standard
- 3 ea. High pressure laminate exterior finish, available in custom colors contact factory for color options
- 36 ea. Model B13204S Wire Basket, 20-11/16"W x 13-1/4"D x 4-9/16"H, rectangular, stainless steel wire construction

ITEM NO. 79 - (D.F.C.I.) SNEEZE GUARD, STATIONARY (3 REQ'D)

G.A. Systems Inc. Model DSN6330G

(or District approved equal)

Quick Click Adjustable Sneeze Guard, 63"W x 29"D x 22"H, double-sided, top mount, 1" round stainless steel tubing with brushed finish, 3/8" thick tempered glass with polished edges, independent angular adjustable, includes: hardware, ETL-Sanitation

ITEM NO. 80 - (D.F.C.I.) SERVING COUNTER, COLD FOOD (3 REQ'D)

G.A. Systems Inc. Model C5

(or District approved equal)

Speedee Serv[®] Speedline Refrigerated Serving Cabinet, 63-3/16"W x 30-3/8"D x 34"H, bottommounted self-contained refrigeration (Refrigerated Snap In), 16/304 stainless steel top, holds (12) 4" deep or (24) 2" deep baskets, (2) aluminum sliding lids with locking bar, (2) locking pins, removable louvered front access panel, hot gas condensate evaporator, stainless steel interior & trim, galvanized body, (4) 3" plate non-marking swivel casters with brakes, R134a refrigerant, ADA Compliant, cULus, ETL-Sanitation

- 3 ea. 120v/60/1-ph, 1/3 HP, cord with NEMA 5-15P, standard
- 3 ea. High pressure laminate exterior finish, available in custom colors contact factory for color options
- 36 ea. Model B13204S Wire Basket, 20-11/16"W x 13-1/4"D x 4-9/16"H, rectangular, stainless steel wire construction

ITEM NO. 81 - (D.F.C.I.) MILK COOLER (3 REQ'D)

Beverage Air Model ST34HC-S

(or District approved equal)

School Milk Cooler, cold wall, normal temperature, 34"W x 31-1/4"D x 41-1/8"H, 12.37 cu. ft., dual access, flat top carton capacities, (8) 13" x 13" x 11" or (4) 19" x 13" x 11 case capacities, self-latching doors/lids with safety bumpers, cylinder lock, wire floor racks, electronic control, manual defrost, stainless steel interior & exterior, R290 Hydrocarbon refrigerant, 1/2 HP, cULus, UL EPH Classified, UL-Sanitation, Made in USA

3 ea. 115v/60/1-ph, 4.0 amps, standard

3 ea. 4" Heavy duty casters, (2) with brakes, standard

ITEM NO. 82 - (C.F.C.I.) AIR CURTAIN (6 REQ'D) Mars Air Systems Model LPN236-1UA-OB (or District approved equal) LoPro Series 2 Air Curtain, for 36" wide door, unheated, galvanized steel cabinet, obsidian black powder coat finish, (1) 1/6 HP motor, 115v/60/1-ph, ETL

6 ea. Model 99-014 Door Limit Switch, indoor, plunger/roller type, remote mounted, 1 HP max, 250v, 20.0 amps, NEMA 2

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances, service-utility connections, and other conditions affecting installation and performance of food service equipment. Do not proceed with installation until unsatisfactory conditions have been corrected.
- B. Examine roughing-in for piping, mechanical, and electrical systems to verify actual locations of connections before installation.

3.02 INSTALLATION, GENERAL

- A. Install food service equipment level and plumb, according to manufacturer's written instructions, original design, and referenced standards.
- B. Complete equipment field assembly, where required, using methods indicated.
 - 1. Provide closed butt and contact joints that do not require a filler.
 - 2. Grind field welds on stainless-steel equipment smooth, and polish to match adjacent finish. Comply with welding requirements in "Fabrication, General" Article.
- C. Install equipment with access and maintenance clearances according to manufacturer's written instructions and requirements of authorities having jurisdiction.
- D. Provide cutouts in equipment, neatly formed, where required to run service lines through equipment to make final connections.
- E. Except for mobile and adjustable-leg equipment, securely anchor and attach items and accessories to walls, floors, or bases with stainless-steel fasteners, unless otherwise indicated.
- F. Install cabinets and similar equipment on concrete or masonry bases in a bed of sealant.
- G. Install hoods to comply with NFPA 96 requirements and to remain free from vibration when operating.
- H. Install seismic restraints according to referenced SMACNA standard.
- I. Install trim strips and similar items requiring fasteners in a bed of sealant. Fasten with stainlesssteel fasteners at 48 inches (1200 mm) on center, maximum.
- J. Install sealant in joints between equipment and abutting surfaces with continuous joint backing, unless otherwise indicated. Provide airtight, watertight, vermin-proof, sanitary joints.

3.03 PROTECTING

A. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and installer, that ensures food service equipment is without damage or deterioration at the time of Substantial Completion.

3.04 COMMISSIONING

- A. Startup Services: Engage factory-authorized service representatives to perform startup services and to demonstrate and train Owner's/School District's maintenance personnel as specified below.
 - 1. Coordinate food service equipment startup with service-utility testing, balancing, and adjustments. Do not operate steam lines before they have been cleaned and sanitized.
 - 2. Remove protective coverings and clean and sanitize equipment, both inside and out, and re-lamp equipment with integral lighting. Where applicable, comply with manufacturer's written cleaning instructions.
 - 3. Test each equipment item for proper operation. Repair or replace equipment that is defective in operation, including units that operate below required capacity or that operate with excessive noise or vibration.
 - 4. Test refrigeration equipment's ability to maintain specified operating temperature under heavy-use conditions. Repair or replace equipment that does not maintain specified operating temperature.
 - 5. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
 - 6. Test motors and rotating equipment for proper rotation and lubricate moving parts according to manufacturer's written instructions.
 - 7. Test water, drain, gas, steam, oil, refrigerant, and liquid-carrying components for leaks. Repair or replace leaking components.
 - 8. Train Owner's/School District's maintenance personnel on procedures and schedules related to startup and shutdown, troubleshooting, servicing, and preventive maintenance for each food service equipment item.
 - 9. Review data in the operation and maintenance manuals. Refer to Division 1 Section 01 78 00 Closeout Submittals.
 - Review data in the operation and maintenance manuals. Refer to Division 1 Section 01 78 00 - Closeout Submittals.
 - 11. Schedule training with Owner/School District Representative, through Architect, with at least 7 days' advance notice.

END OF SECTION

SECTION 22 05 17

SLEEVES AND SLEEVE SEALS FOR PLUMBING PIPING

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Sleeves.
 - 2. Sleeve-seal systems.
 - 3. Sleeve-seal fittings.
 - 4. Grout.

1.02 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

PART 2 - PRODUCTS

2.01 SLEEVES

- A. Galvanized-Steel-Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, zinc coated, with plain ends.
- B. PVC-Pipe Sleeves: ASTM D 1785, Schedule 40.
- C. Molded-PVC Sleeves: With nailing flange for attaching to wooden forms.

2.02 SLEEVE-SEAL SYSTEMS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Advance Products & Systems, Inc.
 - 2. CALPICO, Inc.
 - 3. Metraflex Company (The).
 - 4. Pipeline Seal and Insulator, Inc.
 - 5. Proco Products, Inc.
- B. Description: Modular sealing-element unit, designed for field assembly, for filling annular space between piping and sleeve.
 - 1. Sealing Elements: EPDM-rubber interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.
 - 2. Pressure Plates: Carbon steel.
 - 3. Connecting Bolts and Nuts: Carbon steel, with corrosion-resistant coating, of length required to secure pressure plates to sealing elements.

2.03 SLEEVE-SEAL FITTINGS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Presealed Systems.
- B. Description: Manufactured plastic, sleeve-type, waterstop assembly made for imbedding in concrete slab or wall. Unit has plastic or rubber waterstop collar with center opening to match piping OD.

2.04 GROUT

- A. Standard: ASTM C 1107/C 1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.
- B. Characteristics: Nonshrink; recommended for interior and exterior applications.
- C. Design Mix: 5000-psi (34.5-MPa), 28-day compressive strength.
- D. Packaging: Premixed and factory packaged.

PART 3 - EXECUTION

3.01 SLEEVE INSTALLATION

- A. Install sleeves for piping passing through penetrations in floors, partitions, roofs, and walls.
- B. For sleeves that will have sleeve-seal system installed, select sleeves of size large enough to provide 1-inch (25-mm) annular clear space between piping and concrete slabs and walls.
 - 1. Sleeves are not required for core-drilled holes.
- C. Install sleeves in concrete floors, concrete roof slabs, and concrete walls as new slabs and walls are constructed.
 - 1. Permanent sleeves are not required for holes in slabs formed by molded-PE or -PP sleeves.
 - 2. Cut sleeves to length for mounting flush with both surfaces.
 - a. Exception: Extend sleeves installed in floors of mechanical equipment areas or other wet areas 2 inches (50 mm) above finished floor level.
 - 3. Using grout, seal the space outside of sleeves in slabs and walls without sleeve-seal system.
- D. Install sleeves for pipes passing through interior partitions.
 - 1. Cut sleeves to length for mounting flush with both surfaces.
 - 2. Install sleeves that are large enough to provide 1/4-inch (6.4-mm) annular clear space between sleeve and pipe or pipe insulation.
 - 3. Seal annular space between sleeve and piping or piping insulation; use joint sealants appropriate for size, depth, and location of joint. Comply with requirements for sealants specified in Section 07 92 00 "Joint Sealants."
- E. Fire-Barrier Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with firestop materials. Comply with requirements for firestopping specified in Section 07 84 13 "Penetration Firestopping."

3.02 SLEEVE-SEAL-SYSTEM INSTALLATION

- A. Install sleeve-seal systems in sleeves in exterior concrete walls and slabs-on-grade at service piping entries into building.
- B. Select type, size, and number of sealing elements required for piping material and size and for sleeve ID or hole size. Position piping in center of sleeve. Center piping in penetration, assemble sleeve-seal system components, and install in annular space between piping and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make a watertight seal.

3.03 SLEEVE-SEAL-FITTING INSTALLATION

- A. Install sleeve-seal fittings in new walls and slabs as they are constructed.
- B. Assemble fitting components of length to be flush with both surfaces of concrete slabs and walls. Position waterstop flange to be centered in concrete slab or wall.
- C. Secure nailing flanges to concrete forms.
- D. Using grout, seal the space around outside of sleeve-seal fittings.

3.04 SLEEVE AND SLEEVE-SEAL SCHEDULE

- A. Use sleeves and sleeve seals for the following piping-penetration applications:
 - 1. Exterior Concrete Walls above Grade:
 - a. Piping Smaller Than NPS 6 (DN 150): Galvanized-steel-pipe sleeves.
 - 2. Exterior Concrete Walls below Grade:
 - a. Piping Smaller Than NPS 6 (DN 150): Galvanized-steel wall sleeves with sleeveseal system.
 - 1) Select sleeve size to allow for 1-inch (25-mm) annular clear space between piping and sleeve for installing sleeve-seal system.
 - 3. Concrete Slabs-on-Grade:
 - a. Piping Smaller Than NPS 6 (DN 150): Galvanized-steel wall sleeves with sleeveseal system.
 - 1) Select sleeve size to allow for 1-inch (25-mm) annular clear space between piping and sleeve for installing sleeve-seal system.
 - 4. Interior Partitions:
 - a. Piping Smaller Than NPS 6 (DN 150): Galvanized-steel-pipe sleeves.

END OF SECTION

SECTION 22 05 19

METERS AND GAGES FOR PLUMBING PIPING

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Bimetallic-actuated thermometers.
 - 2. Liquid-in-glass thermometers.
 - 3. Thermowells.
 - 4. Dial-type pressure gages.
 - 5. Test plugs.
- B. Related Sections:
 - 1. Division 22 Section " Domestic Water Piping" for water meters inside the building.

1.02 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

1.03 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of meter and gage, from manufacturer.

1.04 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For meters and gages to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.01 BIMETALLIC-ACTUATED THERMOMETERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Trerice, H. O. Co.
 - 2. Watts Regulator Co.; a div. of Watts Water Technologies, Inc.
 - 3. Weiss Instruments, Inc.
- B. Standard: ASME B40.200.
- C. Case: Liquid-filled and sealed type(s); stainless steel with 3-inch (76-mm) nominal diameter.
- D. Dial: Nonreflective aluminum with permanently etched scale markings and scales in deg F (deg C).
- E. Connector Type(s): Union joint, rigid, back and rigid, bottom, with unified-inch screw threads.
- F. Connector Size: 1/2 inch (13 mm), with ASME B1.1 screw threads.
- G. Stem: 0.25 or 0.375 inch (6.4 or 9.4 mm) in diameter; stainless steel.
- H. Window: Plain glass.

- Ring: Stainless steel. Ι.
- J. Element: Bimetal coil.
- K. Pointer: Dark-colored metal.
- L. Accuracy: Plus or minus 1 percent of scale range.

2.02 LIQUID-IN-GLASS THERMOMETERS

- A. Metal-Case, Industrial-Style, Liquid-in-Glass Thermometers:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Trerice, H. O. Co.
 - b. Weiss Instruments, Inc.
 - Or approved equal. c.
 - 2. Standard: ASME B40.200.
 - 3. Case: Cast aluminum; 7-inch (178-mm) nominal size unless otherwise indicated.
 - Case Form: Straight unless otherwise indicated. 4.
 - 5. Tube: Glass with magnifying lens and blue or red organic liquid.
 - 6. Tube Background: Nonreflective aluminum with permanently etched scale markings graduated in deg F (deg C).
 - 7. Window: Glass.
 - 8. Stem: Aluminum and of length to suit installation.
 - Design for Thermowell Installation: Bare stem. a.
 - 9. Connector: 1-1/4 inches (32 mm), with ASME B1.1 screw threads.
 - 10. Accuracy: Plus or minus 1 percent of scale range or one scale division, to a maximum of 1.5 percent of scale range.

2.03 THERMOWELLS

- A. Thermowells:
 - 1. Standard: ASME B40.200.
 - 2. Description: Pressure-tight, socket-type fitting made for insertion into piping tee fitting.
 - 3. Material for Use with Copper Tubing: CNR.
 - 4. Material for Use with Steel Piping: CRES.
 - 5. Type: Stepped shank unless straight or tapered shank is indicated.
 - 6. External Threads: NPS 1/2, NPS 3/4, or NPS 1, (DN 15, DN 20, or NPS 25,) ASME B1.20.1 pipe threads.
 - 7. Internal Threads: 1/2, 3/4, and 1 inch (13, 19, and 25 mm), with ASME B1.1 screw threads.
 - 8. Bore: Diameter required to match thermometer bulb or stem.
 - 9. Insertion Length: Length required to match thermometer bulb or stem.
 - 10. Lagging Extension: Include on thermowells for insulated piping and tubing.

- 11. Bushings: For converting size of thermowell's internal screw thread to size of thermometer connection.
- B. Heat-Transfer Medium: Mixture of graphite and glycerin.

2.04 PRESSURE GAGES

- A. Direct-Mounted, Metal-Case, Dial-Type Pressure Gages:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. AMETEK, Inc.; U.S. Gauge.
 - b. Watts Regulator Co.; a div. of Watts Water Technologies, Inc.
 - c. Weiss Instruments, Inc.
 - 2. Standard: ASME B40.100.
 - 3. Case: Liquid-filled type(s); cast aluminum or drawn steel; 4-1/2-inch (114-mm) nominal diameter.
 - 4. Pressure-Element Assembly: Bourdon tube unless otherwise indicated.
 - 5. Pressure Connection: Brass, with NPS 1/4 or NPS 1/2 (DN 8 or DN 15), ASME B1.20.1 pipe threads and bottom-outlet type unless back-outlet type is indicated.
 - 6. Movement: Mechanical, with link to pressure element and connection to pointer.
 - 7. Dial: Nonreflective aluminum with permanently etched scale markings graduated in psi (kPa).
 - 8. Pointer: Dark-colored metal.
 - 9. Window: Glass.
 - 10. Ring: Metal.
 - 11. Accuracy: Grade A, plus or minus 1 percent of middle half of scale range.

2.05 TEST PLUGS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Trerice, H. O. Co.
 - 2. Watts Regulator Co.; a div. of Watts Water Technologies, Inc.
 - 3. Weiss Instruments, Inc.
- B. Description: Test-station fitting made for insertion into piping tee fitting.
- C. Body: Brass or stainless steel with core inserts and gasketed and threaded cap. Include extended stem on units to be installed in insulated piping.
- D. Thread Size: NPS 1/4 (DN 8) or NPS 1/2 (DN 15), ASME B1.20.1 pipe thread.
- E. Minimum Pressure and Temperature Rating: 500 psig at 200 deg F (3450 kPa at 93 deg C).
- F. Core Inserts: Chlorosulfonated polyethylene synthetic and EPDM self-sealing rubber.
PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install thermowells with socket extending to center of pipe and in vertical position in piping tees.
- B. Install thermowells of sizes required to match thermometer connectors. Include bushings if required to match sizes.
- C. Install thermowells with extension on insulated piping.
- D. Fill thermowells with heat-transfer medium.
- E. Install direct-mounted thermometers in thermowells and adjust vertical and tilted positions.
- F. Install remote-mounted thermometer bulbs in thermowells and install cases on panels; connect cases with tubing and support tubing to prevent kinks. Use minimum tubing length.
- G. Install direct-mounted pressure gages in piping tees with pressure gage located on pipe at the most readable position.
- H. Install remote-mounted pressure gages on panel.
- I. Install valve and snubber in piping for each pressure gage for fluids.
- J. Install test plugs in piping tees.
- K. Install thermometers in the following locations:
 - 1. Inlet and outlet of each water heater.
- L. Install pressure gages in the following locations:
 - 1. Building water service entrance into building.
 - 2. Inlet and outlet of each pressure-reducing valve.
 - 3. Suction and discharge of each domestic water pump.

3.02 CONNECTIONS

A. Install meters and gages adjacent to machines and equipment to allow service and maintenance of meters, gages, machines, and equipment.

3.03 ADJUSTING

A. Adjust faces of meters and gages to proper angle for best visibility.

3.04 THERMOMETER SCHEDULE

- A. Thermometers at inlet and outlet of each domestic water heater shall be one of the following:
 - 1. Liquid-filled, bimetallic-actuated type.
 - 2. Direct-mounted, metal-case, vapor-actuated type.
 - 3. Industrial-style, liquid-in-glass type.
 - 4. Direct-mounted, light-activated type.
 - 5. Test plug with chlorosulfonated polyethylene synthetic self-sealing rubber inserts.
- B. Thermometer stems shall be of length to match thermowell insertion length.

3.05 THERMOMETER SCALE-RANGE SCHEDULE

- A. Scale Range for Domestic Cold-Water Piping: 0 to 150 deg F (Minus 20 to plus 70 deg C).
- B. Scale Range for Domestic Hot-Water Piping: 0 to 250 deg F (0 to 150 deg C).

3.06 PRESSURE-GAGE SCHEDULE

- A. Pressure gages at discharge of each water service into building shall be the following:
 - 1. Liquid-filled, direct -mounted, metal case.
 - 2. Test plug with chlorosulfonated polyethylene synthetic self-sealing rubber inserts.
- B. Pressure gages at inlet and outlet of each water pressure-reducing valve shall be the following:
 - 1. Liquid-filled Solid-front, pressure-relief, direct-mounted, metal case.
 - 2. Test plug with chlorosulfonated polyethylene synthetic self-sealing rubber inserts.
- C. Pressure gages at suction and discharge of each domestic water pump shall be the following:
 - 1. Liquid-filled, direct-mounted, metal case.
 - 2. Test plug with chlorosulfonated polyethylene synthetic self-sealing rubber inserts.

3.07 PRESSURE-GAGE SCALE-RANGE SCHEDULE

- A. Scale Range for Water Service Piping: 0 to 160 psi (0 to 1100 kPa).
- B. Scale Range for Domestic Water Piping: 0 to 160 psi (0 to 1100 kPa).

SECTION 22 11 23

DOMESTIC WATER PUMPS

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes the following all-bronze and bronze-fitted centrifugal pumps for domestic cold- and hot-water circulation:
 - 1. Close-coupled, horizontally mounted, in-line centrifugal pumps.
- B. Related Sections include the following:
 - 1. Specification Section 01 91 13 "General Commissioning Requirements".

1.02 SUBMITTALS

- A. Product Data: For each type and size of domestic water pump specified. Include certified performance curves with operating points plotted on curves; and rated capacities of selected models, furnished specialties, and accessories.
- B. Shop Drawings: Diagram power, signal, and control wiring.
- C. Operation and Maintenance Data: For domestic water pumps to include in emergency, operation, and maintenance manuals.

1.03 QUALITY ASSURANCE

- A. Product Options: Drawings indicate size, profiles, and dimensional requirements of domestic water pumps and are based on the specific system indicated. Refer to Division 01 Section "Product Requirements."
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. UL Compliance: Comply with UL 778 for motor-operated water pumps.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Retain shipping flange protective covers and protective coatings during storage.
- B. Protect bearings and couplings against damage.
- C. Comply with pump manufacturer's written rigging instructions for handling.

1.05 COORDINATION

A. Coordinate size and location of concrete bases. Concrete, reinforcement, and formwork requirements are specified in Division 3.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

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

2.02 CLOSE-COUPLED, HORIZONTALLY MOUNTED, IN-LINE CENTRIFUGAL PUMPS (CP-1 and CP-2)

- A. Manufacturers:
 - 1. GrundFos.
 - 2. Bell & Gossett Domestic Pump; ITT Industries.
 - 3. Armstrong Pumps Inc.
- B. Description: Factory-assembled and -tested, overhung impeller, single-stage, close-coupled, horizontally mounted, in-line centrifugal pumps as defined in HI 1.1-1.2 and HI 1.3; and designed for installation with pump and motor shafts mounted horizontally.
 - 1. Pump Construction: All bronze.
 - a. Casing: Radially split, cast iron, with threaded companion-flange connections for pumps with NPS 2 pipe connections and flanged connections for pumps with NPS 2-1/2 pipe connections.
 - b. Impeller: ASTM B 584, statically and dynamically balanced, closed, and keyed to shaft.
 - c. Shaft and Shaft Sleeve: Steel shaft, with copper-alloy shaft sleeve.
 - d. Seal: Mechanical, with carbon-steel rotating ring, stainless-steel spring, ceramic seat, and rubber bellows and gasket. Include water slinger on shaft between motor and seal.
 - e. Bearings: Oil-lubricated; bronze-journal or ball type.
 - 2. Shaft Coupling: Rigid type if pump is provided with coupling.
 - 3. Motor: Single speed, with grease-lubricated ball bearings. Comply with requirements in Division 22 Section "Common Motor Requirements for Plumbing Equipment."
- C. Capacities and Characteristics:
 - 1. Capacity: 3 gpm.
 - 2. Total Dynamic Head: 20 feet.
 - 3. Maximum Operating Pressure: 175 psig.
 - 4. Maximum Continuous Operating Temperature: 225 deg F.
 - 5. Inlet and Outlet Size: 3/4 inch.
 - 6. Speed: 1750 rpm.
 - 7. Motor Horsepower: 1/25.
 - 8. Electrical Characteristics:
 - a. Volts: 115.
 - b. Phases: Single.
 - c. Hertz: 60.
 - d. Full-Load Amperes: 1.7.

2.03 CONTROLS

- A. Thermostats: Electric; adjustable for control of hot-water circulation pump.
 - 1. Manufacturers:
 - a. Honeywell International, Inc.
 - b. Square D.
 - c. White-Rodgers Div.; Emerson Electric Co.
 - 2. Type: Water-immersion sensor, for installation in hot-water circulation piping.
 - 3. Range: 65 to 200 deg F.
 - 4. Operation of Pump: On or off.
 - 5. Transformer: Provide if required.
 - 6. Power Requirement: 120 V, ac.
 - 7. Settings: Start pump at 105 deg F and stop pump at 120 deg F.

2.04 BUILDING-AUTOMATION-SYSTEM INTERFACE

- A. Provide auxiliary contacts in pump controllers for interface to building automation system. Include the following:
 - 1. On-off status of each pump.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine roughing-in of domestic-water-piping system to verify actual locations of connections before pump installation.

3.02 PUMP INSTALLATION

- A. Comply with HI 1.4.
- B. Install pumps with access for periodic maintenance including removal of motors, impellers, couplings, and accessories.
- C. Independently support pumps and piping so weight of piping is not supported by pumps and weight of pumps is not supported by piping.
- D. Install close-coupled, horizontally mounted, in-line centrifugal pumps with motor and pump shafts horizontal.
- E. Install continuous-thread hanger rods and elastomeric hangers of sufficient size to support pump weight. Fabricate brackets or supports as required. Hanger and support materials are specified in Division 22 Section "Hangers and Supports for Plumbing Piping and Equipment."

3.03 CONTROL INSTALLATION

A. Install immersion-type thermostats in hot-water return piping.

3.04 CONNECTIONS

A. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

- B. Install piping adjacent to pumps to allow service and maintenance.
- C. Connect domestic water piping to pumps. Install suction and discharge piping equal to or greater than size of pump nozzles. Refer to Division 22 Section "Domestic Water Piping."
 - 1. Install flexible connectors adjacent to pumps in suction and discharge piping of the following pumps:
 - a. Close-coupled, horizontally mounted, in-line centrifugal pumps.
 - 2. Install shutoff valve and strainer on suction side of pumps, and check valve and throttling valve on discharge side of pumps. Install valves same size as connected piping. Refer to Division 22 Section "General-Duty Valves for Plumbing Piping" for general-duty valves for domestic water piping and Division 22 Section "Domestic Water Piping Specialties" for strainers.
 - 3. Install pressure gages at suction and discharge of pumps. Install at integral pressuregage tappings where provided or install pressure-gage connectors in suction and discharge piping around pumps. Refer to Division 22 Section "Meters and Gages for Plumbing Piping" for pressure gages and gage connectors.
- D. Ground equipment according to Division 26 Section "Low-Voltage Electrical Power Conductors and Cables."
- E. Connect wiring according to Division 26 Section "Low-Voltage Electrical Power Conductors and Cables."
- F. Connect thermostats to pumps that they control.
- G. Interlock pump with water heater burner and time delay relay.

3.05 STARTUP SERVICE

- A. Engage a factory-authorized service representative to perform startup service.
 - 1. Complete installation and startup checks according to manufacturer's written instructions.
 - 2. Check piping connections for tightness.
 - 3. Clean strainers on suction piping.
 - 4. Set thermostats for automatic starting and stopping operation of pumps.
 - 5. Perform the following startup checks for each pump before starting:
 - a. Verify bearing lubrication.
 - b. Verify that pump is free to rotate by hand and that pump for handling hot liquid is free to rotate with pump hot and cold. If pump is bound or drags, do not operate until cause of trouble is determined and corrected.
 - c. Verify that pump is rotating in the correct direction.
 - 6. Prime pump by opening suction valves and closing drains, and prepare pump for operation.
 - 7. Start motor.
 - 8. Open discharge valve slowly.
 - 9. Adjust temperature settings on thermostats.
 - 10. Adjust timer settings.

3.06 DEMONSTRATION

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

SECTION 22 13 19

SANITARY WASTE PIPING SPECIALTIES

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes the following plumbing specialties:
 - 1. Cleanouts.
 - 2. Floor drains.
 - 3. Floor sinks.
 - 4. Drain Receptors.

1.02 PERFORMANCE REQUIREMENTS

- A. Provide components and installation capable of producing piping systems with following minimum working-pressure ratings, unless otherwise indicated:
 - 1. Domestic Water Piping: 125 psig.
 - 2. Sanitary Waste and Vent Piping: 10-foot head of water.

1.03 SUBMITTALS

- A. Product Data: Include rated capacities and shipping, installed, and operating weights. Indicate materials, finishes, dimensions, required clearances, and methods of assembly of components; and piping and wiring connections for the following:
 - 1. Balancing valves, water filters, and strainers.
 - 2. Thermostatic water mixing valves and water tempering valves.
 - 3. Water hammer arresters, air vents, and trap seal primer valves and systems.
 - 4. Drain valves, hose bibbs, hydrants, and hose stations.
 - 5. Sleeve penetration systems.
- B. Shop Drawings: Diagram power, signal, and control wiring.
- C. Field test reports.
- D. Maintenance Data: For plumbing specialties to include in maintenance manuals. Include the following:
 - 1. Water filters.
 - 2. Thermostatic water mixing valves and water tempering valves.
 - 3. Trap seal primer valves and systems.

1.04 QUALITY ASSURANCE

- A. Product Options: Drawings indicate size, profiles, and dimensional requirements of plumbing specialties and are based on the specific system indicated. Refer to Division 01 Section "Product Requirements."
- B. Plumbing specialties shall bear label, stamp, or other markings of specified testing agency.

- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- D. ASME Compliance: Comply with ASME B31.9, "Building Services Piping," for piping materials and installation.
- E. NSF Compliance:
 - 1. Comply with NSF 14, "Plastics Piping Components and Related Materials," for plastic domestic water piping components. Include marking "NSF-pw" on plastic potable-water piping and "NSF-dwv" on plastic drain, waste, and vent piping.
 - 2. Comply with NSF 61, "Drinking Water System Components--Health Effects, Sections 1 through 9," for potable domestic water plumbing specialties.

1.05 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Water Filter Cartridges: Equal to 200 percent of amount installed for each type and size indicated.
 - 2. Operating Key Handles: Equal to 100 percent of amount installed for each key-operated hose bibb and hydrant installed.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. In other Part 2 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:
 - 1. Products: Subject to compliance with requirements, provide one of the products specified.
 - 2. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

2.02 CLEANOUTS

- A. Cleanouts, WCO: Comply with ASME A112.36.2M or ASME A112.3.1.
 - 1. Application: Wall cleanout.
 - 2. Products:
 - a. Josam Co.
 - b. Smith, Jay R. Mfg. Co.
 - c. Zurn Industries, Inc., Specification Drainage Operation
 - 3. Body or Ferrule Material: Cast iron.
 - 4. Clamping Device: Required.
 - 5. Outlet Connection: Threaded.
 - 6. Closure: Brass plug with straight threads and gasket.
 - 7. Adjustable Housing Material: Cast iron with threads.

- 8. Frame and Cover Material and Finish: Polished bronze.
- 9. Frame and Cover Shape: Round.

2.03 FLOOR DRAINS

- A. Floor Drains, FD-1: Comply with ASME A112.21.1M.
 - 1. Application: Shower drain.
 - 2. Products:
 - a. Josam Co.; Model 30000-Z-A.
 - b. Smith, Jay R. Mfg. Co.; Fig. 2005-A.
 - c. Zurn Industries, Inc., Specification Drainage Operation; Model Z-415.
 - 3. Body Material: Gray iron.
 - 4. Seepage Flange: Required.
 - 5. Clamping Device: Required.
 - 6. Outlet: Bottom.
 - 7. Exposed Surfaces and Interior Lining: Not required.
 - 8. Sediment Bucket: Not required.
 - 9. Top or Strainer Material: Nickel bronze.
 - 10. Top of Body and Strainer Finish: Chrome.
 - 11. Top Shape: Round.
 - 12. Dimensions of Top or Strainer: 5-inches diameter.
 - 13. Top Loading Classification: Light Duty.
 - 14. Trap Material: Cast iron.
 - 15. Trap Pattern: Standard P-trap with trap primer connection.
 - 16. Trap Features: Not required.
 - 17. Provide min. 3-inch waste connection.

2.04 FLOOR SINKS

- A. Floor Sinks, FS-1: Comply with ASME A12.21.1M.
 - 1. Application: Floor Sink.
 - 2. Products:
 - a. Josam Co.
 - b. Smith, Jay R. Mfg. Co.; Fig 3100.
 - c. Zurn Industries, Inc., Specification Drainage Operation; Model No. Z-1910.
 - 3. Body Material: Gray iron.
 - 4. Seepage Flange: Required.
 - 5. Clamping Device: Required.
 - 6. Outlet: Bottom.
 - 7. Exposed Surfaces and Interior Lining: Acid-resistant enamel.

- 8. Sediment Bucket: Not required.
- 9. Top Material: Gray iron.
- 10. Top Shape: Square.
- 11. Dimensions of Top or Strainer: 8-1/2 inch square.
- 12. Top Loading Classification: Medium Duty.
- 13. Trap Material: Cast iron.
- 14. Trap Pattern: Standard P-trap.
- 15. Trap Features: Trap seal primer valve drain connection.
- 16. Provide min. 3-inch waste connection.
- B. Drain Receptor, DR-1: Comply with ASME A112.21.2M.
 - 1. Applications: Drain receptor.
 - 2. Products:
 - a. Smith, Jay R. Mfg. Co.; Fig. 3970.
 - b. Or approved equal.
 - 3. Body Material: Cast iron.
 - 4. Dimensions of Body: 10 ½ inches diameter.
 - 5. Combination Flashing Ring and Gravel Stop: Required.
 - 6. Outlet: Bottom.
 - 7. Solid Water Dam.
 - 8. Extension Collars: Required.
 - 9. Underdeck Clamp: Required.
 - 10. Sump Receiver: Required.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Refer to Division 23 Section "Basic Mechanical Materials and Methods" for piping joining materials, joint construction, and basic installation requirements.
- B. Install expansion joints on vertical risers, stacks, and conductors if indicated.
- C. Install cleanouts in aboveground piping and building drain piping according to the following, unless otherwise indicated:
 - 1. Size same as drainage piping up to NPS 4. Use NPS 4 for larger drainage piping unless larger cleanout is indicated.
 - 2. Locate at each change in direction of piping greater than 45 degrees.
 - 3. Locate at minimum intervals of 50 feet for piping NPS 4 and smaller and 100 feet for larger piping.
 - 4. Locate at base of each vertical soil and waste stack.
- D. Install cleanout deck plates with top flush with finished floor, for floor cleanouts for piping below floors.

- E. Install cleanout wall access covers, of types indicated, with frame and cover flush with finished wall, for cleanouts located in concealed piping.
- F. Install flashing flange and clamping device with each stack and cleanout passing through floors with waterproof membrane.
- G. Install vent flashing sleeves on stacks passing through roof. Secure over stack flashing according to manufacturer's written instructions.
- H. Install floor drains at low points of surface areas to be drained. Set grates of drains flush with finished floor, unless otherwise indicated.
 - 1. Position floor drains for easy access and maintenance.
 - 2. Set floor drains below elevation of surrounding finished floor to allow floor drainage. Set with grates depressed according to the following drainage area radii:
 - a. Radius, 30 Inches or Less: Equivalent to 1 percent slope, but not less than 1/4inch total depression.
 - b. Radius, 30 to 60 Inches: Equivalent to 1 percent slope.
 - c. Radius, 60 Inches or Larger: Equivalent to 1 percent slope, but not greater than 1inch total depression.
 - 3. Install floor-drain flashing collar or flange so no leakage occurs between drain and adjoining flooring. Maintain integrity of waterproof membranes where penetrated.
 - 4. Install individual traps for floor drains connected to sanitary building drain, unless otherwise indicated.
- I. Fasten wall-hanging plumbing specialties securely to supports attached to building substrate if supports are specified and to building wall construction if no support is indicated.
- J. Fasten recessed-type plumbing specialties to reinforcement built into walls.
- K. Install wood-blocking reinforcement for wall-mounting and recessed-type plumbing specialties.
- L. Install traps on plumbing specialty drain outlets. Omit traps on indirect wastes unless trap is indicated.
- M. Install escutcheons at wall, floor, and ceiling penetrations in exposed finished locations and within cabinets and millwork. Use deep-pattern escutcheons if required to conceal protruding pipefittings.

3.02 CONNECTIONS

- A. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Install piping adjacent to equipment to allow service and maintenance.
- C. Connect plumbing specialties to piping specified in other Division 22 Sections.
- D. Ground equipment.
- E. Tighten electrical connectors and terminals according to manufacturer's published torquetightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
- F. Connect plumbing specialties and devices that require power according to Division 26 Sections.

3.03 LABELING AND IDENTIFYING

- A. Equipment Nameplates and Signs: Install engraved plastic-laminate equipment nameplate or sign on or near each backflow preventer, thermostatic water mixing valve, and trap seal primer system.
 - 1. Text: Distinguish among multiple units, inform operator of operational requirements, indicate safety and emergency precautions, and warn of hazards and improper operations, in addition to identifying unit.
 - 2. Refer to Division 23 Section "Identification for HVAC Piping and Equipment" for nameplates and signs.

3.04 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect field-assembled trap seal primer systems and their installation, including piping and electrical connections. Report results in writing.
 - 1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
 - 2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

3.05 PROTECTION

- A. Protect drains during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work.
- B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

3.06 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain trap seal primer systems. Refer to Division 1 Section "Closeout Procedures."

SECTION 22 42 13.16 COMMERCIAL URINALS

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Urinals.
 - 2. Flushometer valves.
 - 3. Supports.

1.02 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for urinals.
 - 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

1.03 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For flushometer valves to include in operation and maintenance manuals.

1.04 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Flushometer-Valve Repair Kits: Equal to 10 percent of amount of each type installed, but no fewer than one of each type.

1.05 DSA NOTES

- A. Plumbing fixtures and accessories provided in a toilet room or bathing room required to comply with CBC Section 11B-213.2 shall comply with CBC Section 11B-213-3.
- B. Effective March 1, 2017, all single-user toilet facilities shall be identified as Gender Neutral facilities by a door symbol that complies with CBC Sections 11B-216.8 and 11B-703.7.2.6.3. No pictogram, text, or braille is required on the symbol. If tactile jamb signage is provided, the signage shall comply with the appropriate technical requirements of CBC Section 11B-703. Examples of appropriate designations are "ALL-GENDER RESTROOM", "RESTROOM", or "UNISEX RESTROOM". DSA BU 17-01.
- C. Accessible plumbing fixtures shall comply with all the requirements in CBC Division 6.
- D. Clearance around accessible water closets and in toilet compartments shall be 60 inches minimum measured perpendicular from the side wall and 56 inches minimum measured perpendicular from the rear wall per CBC Section 11B-604.3.1.
- E. Heights and location of all fixtures shall be according to 2016 CBC Sections 11B-602 through 11B-612.

- F. Accessible fixture controls shall comply with CBC Sections 11B-602.3 for drinking fountains, 11B-604.6 for water closets, 11B-604.9.5 for childrens water closets, 11B-605.4 for urinals, 11B-606.4 for lavatories and sinks, 11B-607.5 for bathtubs, 11B-608.5 for showers, and 11B-611.3 for washing machines and clothes dryers.
- G. Accessible lavatories and sinks shall be mounted with the front of the nhigher of the rim or counter surface 34" maximum above the finish floor or ground. Depth of lavatories or sinks shall not interfere with knee and toe clearance provided in accordance with CBC Section 11B-306 when a forward approach is required. CBC Sections 11B-606.3 and 11B-606.7.
- H. Water supply and drain pipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks. CBC Section 11B-606.5.

PART 2 - PRODUCTS

2.01 WALL-HUNG URINALS

- A. Urinals UR-1: Wall hung, back outlet, washout, accessible.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Standard.
 - b. Kohler Co.
 - 2. Fixture:
 - a. Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.
 - b. Material: Vitreous china.
 - c. Type: Washout with extended shields.
 - d. Strainer or Trapway: Manufacturer's standard strainer with integral trap.
 - e. Water Consumption: Low.
 - f. Spud Size and Location: NPS 3/4 (DN 20), top.
 - g. Outlet Size and Location: NPS 2 (DN 50), back.
 - h. Color: White.
 - 3. Flushometer Valve: UR-1.
 - 4. Waste Fitting:
 - a. Standard: ASME A112.18.2/CSA B125.2 for coupling.
 - b. Size: NPS 2 (DN 50).
 - 5. Support: Type I Urinal Carrier with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture. Include rectangular, steel uprights.
 - 6. Urinal Mounting Height: Handicapped/elderly according to ICC A117.1.

2.02 URINAL FLUSHOMETER VALVES

- A. Lever-Handle, Diaphragm Flushometer Valves UR-1:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the following:

- a. Zurn Industries, LLC.
- 2. Standard: ASSE 1037.
- 3. Minimum Pressure Rating: 125 psig (860 kPa).
- 4. Features: Include integral check stop and backflow-prevention device.
- 5. Material: Brass body with corrosion-resistant components.
- 6. Exposed Flushometer-Valve Finish: Chrome plated.
- 7. Panel Finish: Chrome plated or stainless steel.
- 8. Style: Exposed.
- 9. Consumption: 0.125 gal. per flush.
- 10. Minimum Inlet: NPS 3/4 (DN 20).
- 11. Minimum Outlet: NPS 3/4 (DN 20).

2.03 SUPPORTS

- A. Type I Urinal Carrier:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Jay R. Smith Mfg. Co.
 - b. Josam Company.
 - c. Zurn Industries, LLC.
 - 2. Standard: ASME A112.6.1M.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before urinal installation.
- B. Examine walls and floors for suitable conditions where urinals will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. Urinal Installation:
 - 1. Install urinals level and plumb according to roughing-in drawings.
 - 2. Install wall-hung, back-outlet urinals onto waste fitting seals and attached to supports.
 - 3. Install accessible, wall-mounted urinals at mounting height for the handicapped/elderly, according to ICC/ANSI A117.1.
- B. Support Installation:
 - 1. Install supports, affixed to building substrate, for wall-hung urinals.
 - 2. Use off-floor carriers with waste fitting and seal for back-outlet urinals.
 - 3. Use carriers without waste fitting for urinals with tubular waste piping.
 - 4. Use chair-type carrier supports with rectangular steel uprights for accessible urinals.

- C. Flushometer-Valve Installation:
 - 1. Install flushometer-valve water-supply fitting on each supply to each urinal.
 - 2. Attach supply piping to supports or substrate within pipe spaces behind fixtures.
 - 3. Install lever-handle flushometer valves for accessible urinals with handle mounted on open side of compartment.
- D. Wall Flange and Escutcheon Installation:
 - 1. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations.
 - 2. Install deep-pattern escutcheons if required to conceal protruding fittings.
 - 3. Comply with escutcheon requirements specified in Section 22 05 18 "Escutcheons for Plumbing Piping."
- E. Joint Sealing:
 - 1. Seal joints between urinals and walls and floors using sanitary-type, one-part, mildew-resistant silicone sealant.
 - 2. Match sealant color to urinal color.
 - 3. Comply with sealant requirements specified in Section 07 92 00 "Joint Sealants."

3.03 CONNECTIONS

- A. Connect urinals with water supplies and soil, waste, and vent piping. Use size fittings required to match urinals.
- B. Comply with water piping requirements specified in Section 22 11 16 "Domestic Water Piping."
- C. Comply with soil and waste piping requirements specified in Section 22 13 16 "Sanitary Waste and Vent Piping."
- D. Where installing piping adjacent to urinals, allow space for service and maintenance.

3.04 ADJUSTING

- A. Operate and adjust urinals and controls. Replace damaged and malfunctioning urinals, fittings, and controls.
- B. Adjust water pressure at flushometer valves to produce proper flow.

3.05 CLEANING AND PROTECTION

- A. Clean urinals and fittings with manufacturers' recommended cleaning methods and materials.
- B. Install protective covering for installed urinals and fittings.
- C. Do not allow use of urinals for temporary facilities unless approved in writing by Owner.

SECTION 22 42 16.13 COMMERCIAL LAVATORIES

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Lavatories.
 - 2. Faucets.

1.02 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for lavatories.
 - 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

1.03 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Counter cutout templates for mounting of counter-mounted lavatories.

1.04 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For lavatories and faucets to include in operation and maintenance manuals.
 - 1. In addition to items specified in Section 01 78 23 "Operation and Maintenance Data," include the following:
 - a. Servicing and adjustments of automatic faucets.

1.05 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Faucet Washers and O-Rings: Equal to 10 percent of amount of each type and size installed.
 - 2. Faucet Cartridges and O-Rings: Equal to 5 percent of amount of each type and size installed.

1.06 PLUMBING FIXTURES

- A. Plumbing fixtures and accessories provided in a toilet room or bathing room required to comply with CBC Section 11B-213.2 shall comply with CBC Sections 11B-213.3.
- B. Accessible plumbing fixtures shall comply with all the requirements in CBC Division 6.
- C. Heights and location of all accessible fixtures shall be mounted according to CBC Section 11B-602 through 11B-612.

- D. Accessible fixture controls shall comply with CBC Sections 11B-602.3 for drinking fountains, 11B-604.6 for water closets, 11B-604.9.5 for children's water closets, 11B-605.4 for urinals, 11B-604.4 for lavatories and sinks, 11B-607.5 for bathtubs, 11B-608.5 for showers, and 11B-611.3 for washing machines and clothes dryers.
- E. Accessible lavatories and sinks shall be mounted with the front of the higher of the rim or counter surface 34" maximum above the finish floor or ground. Depth of lavatories or sinks shall not interfere with knee and toe clearance provided in accordance with CBC Section 11B-306 when a forward approach is required. CBC Sections 11B-606.3 and 11B-606.7
- F. Water supply and drain pipes under accessible lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under accessible lavatories and sinks. CBC Section 11B-606.5

PART 2 - PRODUCTS

2.01 VITREOUS-CHINA, WALL-MOUNTED LAVATORIES

- A. Accessible plumbing fixtures shall comply with all of the requirements of 2013 CBC Division 6.
- B. Heights and location of all fixtures shall be according to 2013 CBC Sections 11B-602 through 11B-612 and DSA Check List Fig. 15-A.
- C. Fixture controls shall comply with 2013 CBC Sections 11B-601.3 for drinking fountains, 11B-604.6 for water closets, 11B-605.4 for urinals, 11B-606.4 for lavatories and sinks, 11B-604.9.5 for children's water closets, 11B-608.5 for showers, and 11B-611.3 for washing machines and clothes dryers.
- D. Each accessible sink shall be a maximum of 6-1/2" deep. Sinks shall be mounted with the counter or rim no higher than 34" above the finish floor. 2013 CBC Section 11B-213.3.
- E. Water supply and drain pipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks. CBC Section 11B-606.
- F. Lavatory L-1 & L-2 (Accessible): Ledge back, vitreous china, wall mounted.
 - 1. American Standard
 - 2. Kohler
 - 3. Or approved equal.
 - 4. Fixture:
 - a. Standard: ASME A112.19.2/CSA B45.1.
 - b. Type: For wall hanging.
 - c. Nominal Size:Rectangle, 20 inches by 18 inches..
 - d. Faucet-Hole Punching: Three holes, 2-inch (51-mm) centers.
 - e. Faucet-Hole Location: Top.
 - f. Color: White.
 - g. Mounting Material: Chair carrier.
 - 5. Faucet: L-1 & L-2 (Accessible).
 - 6. Support: ASME A112.6.1M, Type II, concealed-arm lavatory carrier.

2.02 AUTOMATICALLY OPERATED LAVATORY FAUCETS

- A. Lavatory faucets intended to convey or dispense water for human consumption are to comply with the U.S. Safe Drinking Water Act (SDWA), requirements of the Authority Having Jurisdiction (AHJ), and with NSF 61/NSF 372, or be certified in compliance with NSF 61/NSF 372 by an American National Standards Institute (ANSI) accredited third-party certification body, that the weighted average lead content at wetted surfaces is less than or equal to 0.25 percent.
- B. Lavatory Faucets Automatic Type: Battery Powered Electronic Sensor Operated, Mixing, L-1 & L-2(Accessible):
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Chicago Faucets; Geberit Company.
 - b. Sloan Valve Company.
 - c. Zurn Industries, LLC.
 - 2. Standards: ASME A112.18.1/CSA B125.1 and UL 1951.
 - 3. 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.
 - 4. General: Include hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture hole punchings; coordinate outlet with spout and fixture receptor.
 - 5. Body Type: Single hole.
 - 6. Body Material: Commercial, solid-brass, or die-cast housing with brazed copper and brass waterway.
 - 7. Finish: Polished chrome plate.
 - 8. Maximum Flow Rate: 0.5 gpm (1.5 L/min.).
 - 9. Mounting Type: Deck, concealed.
 - 10. Spout: Rigid type.
 - 11. Spout Outlet: Aerator.
 - 12. Drain: Grid.

2.03 SUPPLY FITTINGS

- A. NSF Standard: Comply with NSF 61 and NSF 372 for supply-fitting materials that will be in contact with potable water.
- B. Standard: ASME A112.18.1/CSA B125.1.
- C. Supply Piping: Chrome-plated-brass pipe or chrome-plated copper tube matching water-supply piping size. Include chrome-plated-brass or stainless steel wall flange.
- D. Supply Stops: Chrome-plated-brass, one-quarter-turn, ball-type or compression valve with inlet connection matching supply piping.
- E. Operation: Loose key.
- F. Risers:
 - 1. NPS 1/2 (DN 15).

2. Chrome-plated, soft-copper flexible tube riser.

2.04 SUPPLY FITTINGS

- A. NSF Standard: Comply with NSF/ANSI 61 Annex G, "Drinking Water System Components -Health Effects," for supply-fitting materials that will be in contact with potable water.
- B. Standard: ASME A112.18.1/CSA B125.1.
- C. Supply Piping: Chrome-plated-brass pipe or chrome-plated copper tube matching water-supply piping size. Include chrome-plated-brass or stainless-steel wall flange.
- D. Supply Stops: Chrome-plated-brass, one-quarter-turn, ball-type or compression valve with inlet connection matching supply piping.
- E. Operation: Loose key.
- F. Risers:
 - 1. NPS 1/2 (DN 15).
 - 2. Chrome-plated, soft-copper flexible tube riser.

2.05 WASTE FITTINGS

- A. Standard: ASME A112.18.2/CSA B125.2.
- B. Drain: Grid type with NPS 1-1/4 (DN 32) offset and straight tailpiece.
- C. Trap:
 - 1. Size: NPS 1-1/2 by NPS 1-1/4 (DN 40 by DN 32).
 - 2. Material: Chrome-plated, two-piece, cast-brass trap and swivel elbow with 0.032-inch-(0.83-mm-) thick brass tube to wall; and chrome-plated, brass or steel wall flange.
- D. Lavatory Carrier:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Jay R. Smith Mfg Co; a division of Morris Group International.
 - b. MIFAB, Inc.
 - c. WATTS.
 - 2. Standard: ASME A112.6.1M.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before lavatory installation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. Install lavatories level and plumb according to roughing-in drawings.
- B. Install supports, affixed to building substrate, for wall-mounted lavatories.

- C. Install accessible wall-mounted lavatories at handicapped/elderly mounting height for people with disabilities or the elderly, according to ICC/ANSI A117.1.
- D. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons if required to conceal protruding fittings. Comply with escutcheon requirements specified in Section 22 05 18 "Escutcheons for Plumbing Piping."
- E. Seal joints between lavatories, counters, and walls using sanitary-type, one-part, mildewresistant silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 07 92 00 "Joint Sealants."
- F. Install protective shielding pipe covers and enclosures on exposed supplies and waste piping of accessible lavatories. Comply with requirements in Section 22 07 19 "Plumbing Piping Insulation."

3.03 CONNECTIONS

- A. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.
- B. Comply with water piping requirements specified in Section 22 11 16 "Domestic Water Piping."
- C. Comply with soil and waste piping requirements specified in Section 22 13 16 "Sanitary Waste and Vent Piping."

3.04 PIPING CONNECTIONS

- A. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.
- B. Comply with water piping requirements specified in Section 221116 "Domestic Water Piping."
- C. Comply with soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping."

3.05 ADJUSTING

- A. Operate and adjust lavatories and controls. Replace damaged and malfunctioning lavatories, fittings, and controls.
- B. Adjust water pressure at faucets to produce proper flow.
- C. Install new batteries in battery-powered, electronic-sensor mechanisms.

3.06 CLEANING AND PROTECTION

- A. After completing installation of lavatories, inspect and repair damaged finishes.
- B. Clean lavatories, faucets, and other fittings with manufacturers' recommended cleaning methods and materials.
- C. Provide protective covering for installed lavatories and fittings.
- D. Do not allow use of lavatories for temporary facilities unless approved in writing by Owner.

SECTION 22 47 13 DRINKING FOUNTAINS

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes drinking fountains and related components.

1.02 ACTION SUBMITTALS

- A. Product Data: For each type of drinking fountain.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
 - 2. Include operating characteristics, and furnished specialties and accessories.

1.03 CLOSEOUT SUBMITTALS

A. Maintenance Data: For drinking fountains to include in maintenance manuals.

PART 2 - PRODUCTS

2.01 DRINKING FOUNTAINS DF-1 (Indoor), DF-2 (Outdoor): Stainless Steel, wall mounted.

- 1. Stainless-Steel Drinking Fountains:
 - a. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - 1) Elkay Manufacturing Co. Model VRCTLDDWS
 - 2) Haws Corporation.
 - 3) Or equal.
- 2. Standards:
- a. Comply with 2010 ADAS + 2016 CBC.
- b. Comply with NSF 61.
- 3. Type Receptor: Slab.
- 4. Receptor Shape: Rectangular.
- 5. Back Panel: Stainless-steel wall plate behind drinking fountain.
- 6. Bubblers: Two, with adjustable stream regulator, located on deck.
- 7. Control: Push button.
- 8. Drain: Grid type with NPS 1-1/4 (DN 32) tailpeice.
- 9. Supply: NPS 3/8 (DN 10) with shutoff valve.
- 10. Waste Fitting: ASME A112.18.2/CSA B125.2, NPS 1-1/4 (DN 32) chrome-plated brass P-trap and waste.
- 11. Support: ASME A112.6.1M, Type III lavatory carrier.
- 12. Bottle filler.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine roughing-in for water-supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before fixture installation.
- B. Examine walls and floors for suitable conditions where fixtures will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. Install fixtures level and plumb according to roughing-in drawings. For fixtures indicated for children, install at height required by authorities having jurisdiction.
- B. Install off-the-floor carrier supports, affixed to building substrate, for wall-mounted fixtures.
- C. Install water-supply piping with shutoff valve on supply to each fixture to be connected to domestic-water distribution piping. Use ball or gate valve. Install valves in locations where they can be easily reached for operation. Valves are specified in Section 220523.12 "Ball Valves for Plumbing Piping" and Section 220523.15 "Gate Valves for Plumbing Piping."
- D. Install trap and waste piping on drain outlet of each fixture to be connected to sanitary drainage system.
- E. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons where required to conceal protruding fittings. Comply with escutcheon requirements specified in Section 220518 "Escutcheons for Plumbing Piping."
- F. Seal joints between fixtures and walls using sanitary-type, one-part, mildew-resistant, silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 079200 "Joint Sealants."

3.03 CONNECTIONS

- A. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.
- B. Comply with water piping requirements specified in Section 221116 "Domestic Water Piping."
- C. Install ball or gate shutoff valve on water supply to each fixture. Comply with valve requirements specified in Section 220523.12 "Ball Valves for Plumbing Piping" and Section 220523.15 "Gate Valves for Plumbing Piping."
- D. Comply with soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping."

3.04 ADJUSTING

A. Adjust fixture flow regulators for proper flow and stream height.

3.05 CLEANING

- A. After installing fixtures, inspect unit. Remove paint splatters and other spots, dirt, and debris. Repair damaged finish to match original finish.
- B. Clean fixtures, on completion of installation, according to manufacturer's written instructions.
- C. Provide protective covering for installed fixtures.

D. Do not allow use of fixtures for temporary facilities unless approved in writing by Owner.

SECTION 23 00 50

BASIC MECHANICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes the following basic mechanical materials and methods to complement other Division 23 Sections.
 - 1. Piping materials and installation instructions common to most piping systems.
 - 2. Concrete base construction requirements.
 - 3. Escutcheons.
 - 4. Dielectric fittings.
 - 5. Flexible connectors.
 - 6. Mechanical sleeve seals.
 - 7. Equipment nameplate data requirements.
 - 8. Labeling and identifying mechanical systems and equipment is specified in Division 23 Section "Identification for HVAC Piping and Equipment."
 - 9. Nonshrink grout for equipment installations.
 - 10. Field-fabricated metal and wood equipment supports.
 - 11. Installation requirements common to equipment specification sections.
 - 12. Cutting and patching.
 - 13. Touchup painting and finishing.
- B. Pipe and pipe fitting materials are specified in Division 23 piping system Sections.
- C. Related Sections include the following:
 - 1. Division 1 Section "LEED Requirements".

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, crawl spaces, 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.
- D. Concealed, Interior Installations: Concealed from view and protected from physical contact by building occupants. Examples include above ceilings and in duct shafts.
- E. Concealed, Exterior Installations: Concealed from view and protected from weather conditions and physical contact by building occupants, but subject to outdoor ambient temperatures. Examples include installations within unheated shelters.
- F. The following are industry abbreviations for rubber materials:

- 1. CR: Chlorosulfonated polyethylene synthetic rubber.
- 2. EPDM: Ethylene propylene diene terpolymer rubber.

1.03 SUBMITTALS

- A. Product Data: For dielectric fittings, flexible connectors, mechanical sleeve seals, and identification materials and devices.
- B. LEED Submittals: Provide cost data breakdown, recycle content and manufacturer name and location.
- C. Shop Drawings: Detail fabrication and installation for metal and wood supports and anchorage for mechanical materials and equipment.
- D. Coordination Drawings: For access panel and door locations.
- E. Coordination Drawings: Detail major elements, components, and systems of mechanical equipment and materials in relationship with other systems, installations, and building components. Show space requirements for installation and access. Indicate if sequence and coordination of installations are important to efficient flow of the Work. Include the following:
 - 1. Planned piping layout, including valve and specialty locations and valve-stem movement.
 - 2. Clearances for installing and maintaining insulation.
 - 3. Clearances for servicing and maintaining equipment, accessories, and specialties, including space for disassembly required for periodic maintenance.
 - 4. Equipment and accessory service connections and support details.
 - 5. Exterior wall and foundation penetrations.
 - 6. Fire-rated wall and floor penetrations.
 - 7. Sizes and location of required concrete pads and bases.
 - 8. Scheduling, sequencing, movement, and positioning of large equipment into building during construction.
 - 9. Floor plans, elevations, and details to indicate penetrations in floors, walls, and ceilings and their relationship to other penetrations and installations.
 - 10. Reflected ceiling plans to coordinate and integrate installation of air outlets and inlets, light fixtures, communication system components, sprinklers, and other ceiling-mounted items.
- F. Samples: Of color, lettering style, and other graphic representation required for each identification material and device.

1.04 QUALITY ASSURANCE

A. Equipment Selection: Equipment of higher electrical characteristics, physical dimensions, capacities, and ratings may be furnished provided such proposed equipment is approved in writing and connecting mechanical and electrical services, circuit breakers, conduit, motors, bases, and equipment spaces are increased. Additional costs shall be approved in advance by appropriate Contract Modification for these increases. If minimum energy ratings or efficiencies of equipment are specified, equipment must meet design and commissioning requirements.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver pipes and tubes with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe end damage and prevent entrance of dirt, debris, and moisture.
- B. Protect stored pipes and tubes from moisture and dirt. Elevate above grade. Do not exceed structural capacity of floor, if stored inside.
- C. Protect flanges, fittings, and piping specialties from moisture and dirt.
- D. Store plastic pipes protected from direct sunlight. Support to prevent sagging and bending.

1.06 SEQUENCING AND SCHEDULING

- A. Coordinate mechanical equipment installation with other building components.
- B. Arrange for pipe spaces, chases, slots, and openings in building structure during progress of construction to allow for mechanical installations.
- C. Coordinate installation of required supporting devices and set sleeves in poured-in-place concrete and other structural components, as they are constructed.
- D. Sequence, coordinate, and integrate installations of mechanical materials and equipment for efficient flow of the Work. Coordinate installation of large equipment requiring positioning before closing in building.
- E. Coordinate connection of mechanical systems with exterior underground and overhead utilities and services. Comply with requirements of governing regulations, franchised service companies, and controlling agencies.
- F. Coordinate requirements for access panels and doors if mechanical items requiring access are concealed behind finished surfaces. Access panels and doors are specified in Division 8 Section.
- G. Coordinate installation of identifying devices after completing covering and painting, if devices are applied to surfaces. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Dielectric Unions:
 - a. Epco Sales Inc.
 - b. Watts Industries, Inc.; Water Products Div.
 - c. Zurn Industries, Inc.; Wilkins Div.
 - 2. Dielectric Flanges:
 - a. Epco Sales Inc.
 - b. Watts Industries, Inc.; Water Products Div.
 - 3. Dielectric-Flange Insulating Kits:
 - a. Calpico, Inc.

- b. Central Plastics Co.
- 4. Dielectric Couplings:
 - a. Calpico, Inc.
 - b. Lochinvar Corp.
- 5. Dielectric Nipples:
 - a. Grinnell Corp.; Grinnell Supply Sales Co.
 - b. Victaulic Co. of America.
- 6. Mechanical Sleeve Seals:
 - a. Calpico, Inc.
 - b. Metraflex Co.
 - c. Thunderline/Link-Seal.

2.02 PIPE AND PIPE FITTINGS

- A. Refer to individual Division 23 piping Sections for pipe and fitting materials and joining methods.
- B. Pipe Threads: ASME B1.20.1 for factory-threaded pipe and pipe fittings.

2.03 JOINING MATERIALS

- A. Refer to individual Division 23 piping Sections for special joining materials not listed below.
- B. Pipe-Flange Gasket Materials: Suitable for chemical and thermal conditions of piping system contents.
 - 1. ASME B16.21, nonmetallic, flat, asbestos-free, 1/8-inch maximum thickness, unless thickness or specific material is indicated.
 - a. Full-Face Type: For flat-face, Class 125, cast-iron and cast-bronze flanges.
 - b. Narrow-Face Type: For raised-face, Class 250, cast-iron and steel flanges.
 - 2. AWWA C110, rubber, flat face, 1/8 inch thick, unless otherwise indicated; and full-face or ring type, unless otherwise indicated.
- C. Flange Bolts and Nuts: ASME B18.2.1, carbon steel, unless otherwise indicated.
- D. Plastic, Pipe-Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer, unless otherwise indicated.
- E. Solder Filler Metals: ASTM B 32.
 - 1. Alloy E: Approximately 95 percent tin and 5 percent antimony, lead free.
- F. Brazing Filler Metals: AWS A5.8.
 - 1. BCuP Series: Copper-phosphorus alloys.
 - 2. BAg1: Silver alloy.
- G. Welding Filler Metals: Comply with AWS D10.12 for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.
- H. Flanged, Ductile-Iron Pipe Gasket, Bolts, and Nuts: AWWA C110, rubber gasket, carbon-steel bolts and nuts.
- I. Couplings: Iron-body sleeve assembly, fabricated to match OD of plain-end, pressure pipes.

- 1. Sleeve: ASTM A 126, Class B, gray iron.
- 2. Followers: ASTM A 47 malleable iron or ASTM A 536 ductile iron.
- 3. Gaskets: Rubber.
- 4. Bolts and Nuts: AWWA C111.
- 5. Finish: Enamel paint.

2.04 DIELECTRIC FITTINGS

- A. General: Assembly or fitting with insulating material isolating joined dissimilar metals, to prevent galvanic action and stop corrosion.
- B. Description: Combination of copper alloy and ferrous; threaded, solder, plain, and weld-neck end types and matching piping system materials.
- C. Insulating Material: Suitable for system fluid, pressure, and temperature.
- D. Dielectric Unions: Factory-fabricated, union assembly, for 250-psig minimum working pressure at 180 deg F.
- E. Dielectric Flanges: Factory-fabricated, companion-flange assembly, for 150- or 300-psig minimum working pressure as required to suit system pressures.
- F. Dielectric-Flange Insulation Kits: Field-assembled, companion-flange assembly, full-face or ring type. Components include neoprene or phenolic gasket, phenolic or polyethylene bolt sleeves, phenolic washers, and steel backing washers.
 - 1. Provide separate companion flanges and steel bolts and nuts for 150- or 300-psig minimum working pressure as required to suit system pressures.
- G. Dielectric Couplings: Galvanized-steel coupling with inert and noncorrosive, thermoplastic lining; threaded ends; and 300-psig minimum working pressure at 225 deg F.
- H. Dielectric Nipples: Electroplated steel nipple with inert and noncorrosive, thermoplastic lining; plain, threaded, or grooved ends; and 300-psig minimum working pressure at 225 deg F.

2.05 MECHANICAL SLEEVE SEALS

A. Description: Modular design, with interlocking rubber links shaped to continuously fill annular space between pipe and sleeve. Include connecting bolts and pressure plates.

2.06 PIPING SPECIALTIES

- A. Sleeves: The following materials are for wall, floor, slab, and roof penetrations:
 - 1. Steel Sheet Metal: 0.0239-inch minimum thickness, galvanized, round tube closed with welded longitudinal joint.
 - 2. Steel Pipe: ASTM A 53, Type E, Grade A, Schedule 40, galvanized, plain ends.
 - 3. Cast Iron: Cast or fabricated "wall pipe" equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.
 - 4. Stack Sleeve Fittings: Manufactured, cast-iron sleeve with integral clamping flange. Include clamping ring and bolts and nuts for membrane flashing.
 - a. Underdeck Clamp: Clamping ring with setscrews.
 - 5. PE: Manufactured, reusable, tapered, cup shaped, smooth outer surface, with nailing flange for attaching to wooden forms.

- B. Escutcheons: Manufactured wall, ceiling, and floor plates; deep-pattern type if required to conceal protruding fittings and sleeves.
 - 1. ID: Closely fit around pipe, tube, and insulation of insulated piping.
 - 2. OD: Completely cover opening.
 - 3. Cast Brass: Split casting, with concealed hinge and set screw.
 - a. Finish: Rough brass.
 - b. Finish: Polished chrome-plate.
 - 4. Stamped Steel: One piece, with spring clips and chrome-plated finish.
 - 5. Stamped Steel: Split plate, with concealed hinge, spring clips, and chrome-plated finish.
 - 6. Cast-Iron Floor Plate: One-piece casting.

2.07 GROUT

- A. Nonshrink, Nonmetallic Grout: ASTM C 1107, Grade B.
 - 1. Characteristics: Post-hardening, volume-adjusting, dry, hydraulic-cement grout, nonstaining, noncorrosive, nongaseous, and recommended for interior and exterior applications.
 - 2. Design Mix: 5000-psig, 28-day compressive strength.
 - 3. Packaging: Premixed and factory packaged.

PART 3 - EXECUTION

3.01 PIPING SYSTEMS - COMMON REQUIREMENTS

- A. General: Install piping as described below, unless piping Sections specify otherwise. Individual Division 23 piping Sections specify unique piping installation requirements.
- B. General Locations and Arrangements: Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated, unless deviations to layout are approved on Coordination Drawings.
- C. Install piping at indicated slope.
- D. Install components with pressure rating equal to or greater than system operating pressure.
- E. Install piping in concealed interior and exterior locations, except in equipment rooms and service areas.
- F. Install piping free of sags and bends.
- G. Install exposed interior and exterior piping at right angles or parallel to building walls. Diagonal runs are prohibited, unless otherwise indicated.
- H. Install piping tight to slabs, beams, joists, columns, walls, and other building elements. Allow sufficient space above removable ceiling panels to allow for ceiling panel removal.
- I. Install piping to allow application of insulation plus 1-inch clearance around insulation.
- J. Locate groups of pipes parallel to each other, spaced to permit valve servicing.
- K. Install fittings for changes in direction and branch connections.

- L. Install couplings according to manufacturer's written instructions.
- M. Install pipe escutcheons for pipe penetrations of concrete and masonry walls, wall board partitions, and suspended ceilings according to the following:
 - 1. Chrome-Plated Piping: Cast brass, one piece, with set screw, and polished chromeplated finish.
 - 2. Uninsulated Piping Wall Escutcheons: Cast brass or stamped steel, with set screw.
 - 3. Uninsulated Piping Floor Plates in Utility Areas: Cast-iron floor plates.
 - 4. Insulated Piping: Cast brass or stamped steel; with concealed hinge, spring clips, and chrome-plated finish.
 - 5. Piping in Utility Areas: Cast brass or stamped steel, with set-screw or spring clips.
- N. Sleeves are not required for core drilled holes.
- O. Permanent sleeves are not required for holes formed by PE removable sleeves.
- P. Install sleeves for pipes passing through concrete and masonry walls, gypsum-board partitions, and concrete floor and roof slabs.
 - 1. Cut sleeves to length for mounting flush with both surfaces.
 - a. Exception: Extend sleeves installed in floors of mechanical equipment areas or other wet areas 2 inches above finished floor level. Extend cast-iron sleeve fittings below floor slab as required to secure clamping ring if ring is specified.
 - 2. Build sleeves into walls and slabs as work progresses.
 - 3. Install sleeves large enough to provide 1/4-inch annular clear space between sleeve and pipe or pipe insulation. Use the following sleeve materials:
 - a. Steel Pipe Sleeves: For pipes smaller than 6-inch NPS.
 - b. Steel, Sheet-Metal Sleeves: For pipes 6-inch NPS and larger, penetrating gypsumboard partitions.
 - c. Stack Sleeve Fittings: For pipes penetrating floors with membrane waterproofing. Secure flashing between clamping flanges. Install section of cast-iron soil pipe to extend sleeve to 2 inches above finished floor level. Refer to Division 7 Sections for flashing.
 - 1) Seal space outside of sleeve fittings with nonshrink, nonmetallic grout.
 - 4. Except for underground wall penetrations, seal annular space between sleeve and pipe or pipe insulation, using elastomeric joint sealants. Refer to Division 7 Sections for materials.
 - 5. Use Type S, Grade NS, Class 25, Use O, neutral-curing silicone sealant, unless otherwise indicated.
- Q. Aboveground, Exterior-Wall, Pipe Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Size sleeve for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.
 - 1. Install steel pipe for sleeves smaller than 6 inches in diameter.
 - 2. Install cast-iron "wall pipes" for sleeves 6 inches in diameter and larger.

- 3. Assemble and install mechanical sleeve seals according to manufacturer's written instructions. Tighten bolts that cause rubber sealing elements to expand and make watertight seal.
- R. Underground, Exterior-Wall, Pipe Penetrations: Install cast-iron "wall pipes" for sleeves. Seal pipe penetrations using mechanical sleeve seals. Size sleeve for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.
 - 1. Assemble and install mechanical sleeve seals according to manufacturer's written instructions. Tighten bolts that cause rubber sealing elements to expand and make watertight seal.
- S. Fire-Barrier Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with firestopping materials. Refer to Division 7 Sections for materials.
- T. Verify final equipment locations for roughing-in.
- U. Refer to equipment specifications in other Sections of these Specifications for roughing-in requirements.
- V. Piping Joint Construction: Join pipe and fittings as follows and as specifically required in individual piping specification Sections:
 - 1. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
 - 2. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
 - 3. Soldered Joints: Construct joints according to AWS's "Soldering Manual," Chapter "The Soldering of Pipe and Tube"; or CDA's "Copper Tube Handbook."
 - 4. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," Chapter "Pipe and Tube."
 - 5. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
 - a. Note internal length of threads in fittings or valve ends, and proximity of internal seat or wall, to determine how far pipe should be threaded into joint.
 - b. Apply appropriate tape or thread compound to external pipe threads, unless dry seal threading is specified.
 - c. Align threads at point of assembly.
 - d. Tighten joint with wrench. Apply wrench to valve end into which pipe is being threaded.
 - e. 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.
 - 6. Welded Joints: Construct joints according to AWS D10.12, "Recommended Practices and Procedures for Welding Low Carbon Steel Pipe," using qualified processes and welding operators according to "Quality Assurance" Article.
 - 7. Flanged Joints: Align flange surfaces parallel. Select appropriate gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Assemble joints by sequencing bolt tightening to make initial contact of flanges and

gaskets as flat and parallel as possible. Use suitable lubricants on bolt threads. Tighten bolts gradually and uniformly using torque wrench.

- W. Piping Connections: Make connections according to the following, unless otherwise indicated:
 - 1. Install unions, in piping 2-inch NPS and smaller, adjacent to each valve and at final connection to each piece of equipment with 2-inch NPS or smaller threaded pipe connection.
 - 2. Install flanges, in piping 2-1/2-inch NPS and larger, adjacent to flanged valves and at final connection to each piece of equipment with flanged pipe connection.
 - 3. Dry Piping Systems: Install dielectric unions and flanges to connect piping materials of dissimilar metals.
 - 4. Wet Piping Systems: Install dielectric coupling and nipple fittings to connect piping materials of dissimilar metals.

3.02 EQUIPMENT INSTALLATION - COMMON REQUIREMENTS

- A. Install equipment to provide maximum possible headroom, if mounting heights are not indicated.
- B. Install equipment according to approved submittal data. Portions of the Work are shown only in diagrammatic form. Refer conflicts to Architect.
- C. Install equipment level and plumb, parallel and perpendicular to other building systems and components in exposed interior spaces, unless otherwise indicated.
- D. Install mechanical equipment to facilitate service, maintenance, and repair or replacement of components. Connect equipment for ease of disconnecting, with minimum interference to other installations. Extend grease fittings to accessible locations.
- E. Install equipment giving right of way to piping installed at required slope.
- F. Install flexible connectors on equipment side of shutoff valves, horizontally and parallel to equipment shafts if possible.

3.03 PAINTING AND FINISHING

- A. Refer to Section 09 91 23 "Interior Painting" for paint materials, surface preparation, and application of paint.
- B. Apply paint to exposed piping according to the following, unless otherwise indicated:
 - 1. Interior, Ferrous Piping: Use semigloss, acrylic-enamel finish. Include finish coat over enamel undercoat and primer.
 - 2. Interior, Galvanized-Steel Piping: Use semigloss, acrylic-enamel finish. Include two finish coats over galvanized metal primer.
 - 3. Interior, Ferrous Supports: Use semigloss, acrylic-enamel finish. Include finish coat over enamel undercoat and primer.
 - 4. Exterior, Ferrous Piping: Use semigloss, acrylic-enamel finish. Include two finish coats over rust-inhibitive metal primer.
 - 5. Exterior, Galvanized-Steel Piping: Use semigloss, acrylic-enamel finish. Include two finish coats over galvanized metal primer.

- 6. Exterior, Ferrous Supports: Use semigloss, acrylic-enamel finish. Include two finish coats over rust-inhibitive metal primer.
- C. Paint visible sheet metal behind ceiling inlets and outlets flat black.
- D. Do not paint piping specialties with factory-applied finish.
- E. Damage and Touchup: Repair marred and damaged factory-painted finishes with materials and procedures to match original factory finish.

3.04 CONCRETE BASES

A. Construct concrete bases of dimensions indicated, but not less than 4 inches larger in both directions than supported unit. Follow supported equipment manufacturer's setting templates for anchor bolt and tie locations. Use 3000-psig, 28-day compressive-strength concrete and reinforcement as specified in Division 3 Section "Cast-in-Place Concrete."

3.05 ERECTION OF METAL SUPPORTS AND ANCHORAGE

- A. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor mechanical materials and equipment.
- B. Field Welding: Comply with AWS D1.1, "Structural Welding Code--Steel."

3.06 ERECTION OF WOOD SUPPORTS AND ANCHORAGE

- A. Cut, fit, and place wood grounds, nailers, blocking, and anchorage to support and anchor mechanical materials and equipment.
- B. Select fastener sizes that will not penetrate members if opposite side will be exposed to view or will receive finish materials. Tighten connections between members. Install fasteners without splitting wood members.
- C. Attach to substrates as required to support applied loads.

3.07 CUTTING AND PATCHING

- A. Cut, channel, chase, and drill floors, walls, partitions, ceilings, and other surfaces necessary for mechanical installations. Perform cutting by skilled mechanics of trades involved.
- B. Repair cut surfaces to match adjacent surfaces.

3.08 GROUTING

- A. Install nonmetallic, nonshrink, grout for mechanical equipment base bearing surfaces, pump and other equipment base plates, and anchors. Mix grout according to manufacturer's written instructions.
- B. Clean surfaces that will come into contact with grout.
- C. Provide forms as required for placement of grout.
- D. Avoid air entrapment during placing of grout.
- E. Place grout, completely filling equipment bases.
- F. Place grout on concrete bases to provide smooth bearing surface for equipment.
- G. Place grout around anchors.
- H. Cure placed grout according to manufacturer's written instructions.


GROSSMONT HIGH SCHOOL

GHS KITCHEN & WEIGHTROOM GROSSMONT UNION HIGH SCHOOL

KEYNOTES

EXISTING ACCESSIBLE VAN PARKING SIGN PER DETAIL 14/ASD-4.0 TO REMAIN, PROTECT IN PLACE EXISTING ACCESSIBLE PARKING SIGN PER DETAIL 9/ASD-4.0 TO REMAIN, PROTECT IN PLACE EXISTING DETECTABLE WARNING PER A#04-113655 TO REMAIN, PROTECT IN PLACE REMOVE EXISTING PAVEMENT MARKINGS AND PREPARE AREA FOR NEW PAVEMENT MARKINGS PER 7/ASD-4.0. ∕2∖

ADD.







REFERENCE DETAIL AS-1.1

PARTIAL OVERALL SITE PLAN

GROSSMONT HIGH SCHOOL

GHS KITCHEN & WEIGHTROOM GROSSMONT UNION HIGH SCHOOL

KEYNOTES

	02.201	EXISTING CHAINLINK FENCE TO REMAIN
	02.208	EXISTING RETAINING WALL TO REMAIN, PROTECT IN
		PLACE
	02.210	EXISTING RETAINING WALL AND PLANTER BOX TO
	~~~~~~	REMAIN, PROTECT IN PLACE
Ę	02,223	EXISTING ÁC PÁVING TO REMAIN, PROTECT IN PLACE.
`	03.352	STAMPED CONCRETE PER SPECS
	26.565	SITE LIGHTING PER E1.1
	32.141	ASPHALT UNIT PAVING PER 2/C3.0
	32.312	8'-0" HIGH VINYL COATED CHAIN LINK FENCE, SEE
		11/ASD-1.0
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**GHS KITCHEN & WEIGHTROOM** 

### GHS KITCHEN & WEIGHTROOM GROSSMONT UNION HIGH SCHOOL

### **GROSSMONT HIGH SCHOOL**

### **REVISED KEYNOTE LEGEND**

REFERENCE: ASD-4.0

02.211	EXISTING ACCESSIBLE VAN PA
02.212	EXISTING ACCESSIBLE PARKIN
02.213	EXISTING PASSENGER LOADIN
02.214	EXISTING CONCRETE WHEELS
02.215	EXISTING DETECTABLE WARNI
02.216	EXISTING 3" PAVEMENT MARKI
02.217	EXISTING LOADING AND UNLO
02.218	EXISTING ISA SYMBOL PER DE
	PARKING STRIPING
02.219	EXISTING FIXED BOLLARD PER
02.220	EXISTING WHITE PAVEMENT M
32.172	TOW-AWAY PARKING SIGN PER
32.173	DETECTABLE WARNING TILES
32.174	WARNING RAIL PER DETAIL 11
32.175	NEW ACCESSIBLE PARKING SIG
32.176	RELOCATED CONCRETE WHEEL
32.177	NEW ISA PARKING EMBLEM PE
32.178	NEW 3" BLUE PAVEMENT MARK
32,179	NEW 3" WHITE PAVEMENT STR
- ~	mmmmm.

# KEYNOTES

ARKING SIGN PER DETAIL 14/ASD-4.0 TO REMAIN, PROTECT IN PLACE NG SIGN PER DETAIL 9/ASD-4.0 TOREMAIN, PROTECT IN PLACE NG SIGN PER A#04-113655 TO REMAIN, PROTECT IN PLACE TOP PER DETAIL 15/ASD-4.0 TO REMAIN, PROTECT IN PLACE ING PER A#04-113655 TO REMAIN, PROTECT IN PLACE ING TO REMAIN DADING ZONE PER A#04-113655 ETAIL 20/ASD4.0, FRONT EDGE OF ISA SYMBOL TO ALIGN WITH EDGE OF

R DETAIL 1/ASD-4.0 MARKINGS TO REMAIN, PROTECT IN PLACE R DETAIL 3/ASD-4.0 PER DETAIL 4/ASD-2.0 1/ASD-4.0 IGN TO MATCH EXISTING SIGNS PER DETAIL 9/ASD4.0 L STOP PER 15/ASD-4.0 ER 20/ASD-4.0 RIPING, 36" O.C. ADD.





### **GROSSMONT HIGH SCHOOL**

### **BLDG 900 PARTIAL FLOOR PLAN**

REFERENCE DETAIL 1/A1-1.0

**GHS KITCHEN & WEIGHTROOM GROSSMONT UNION HIGH SCHOOL** 



# **KEYNOTES**

10.112 MARKERBOARD, SEE DETAIL 6/AD-5.0 11.522 PROJECTOR PER 13/AD-8.0 11.524 WALL MOUNTED MONITOR (O.F.C.I.) PER DETAIL 10/AD-8.0 22,471 HI-LO DRINKING FOUNTAIN PER-PLUMBING, FLOOR PLAN 2/P1-2.2 (BLDG 900)

<u>∕2</u>∖

ADD.

**REFERENCE SHEET A1-1.0** 



# **GROSSMONT HIGH SCHOOL**

**GHS KITCHEN & WEIGHTROOM GROSSMONT UNION HIGH SCHOOL** 





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06.405 BASE CABINET

FULL HEIGHT CABINET WITH DOORS, SEE DETAIL 11/AD-5.0 06.407

PLASTIC LAMINIATE COUNTERTOP WITH BACKSPLASH AT BASE CABINET, SEE ELEVATIONS FOR CASEWORK BELOW 06.412

PLASTIC LAMINIATE COUNTERTOP WITH BACKSPLASH, OPEN BELOW, SEE DETAIL 14/AD-5.0 06.413

06.415 PLASTIC LAMINIATE FILLER PANEL 08.110



22.471

- TACKABLE WALL PANEL SYSTEM, SEE DETAIL 1/AD-8.0 10.114 FIRE EXTINGUISHER CABINET ′∕2∖ 10.441

- 11.521 PROJECTION SCREEN PER(4/E4.9 ADD.
- WALL MOUNTED MONITOR (O.F.C.I.) PER DETAIL 10/AD-8.0 11.524
- ROLLER WINDOW SHADE, SEE DETAIL 4/AD-6.1 12.241
- HI-LO DRINKING FOUNTAIN PER PLUMBING FLOOR PLAN 2/P1-2.2 (BLDG 900) & DETAILS 21 & 22/AD-1.0

- DOOR AND FRAME, REFER TO ARCHITECTURAL FLOOR PLAN FOR TYPE
- STOREFRONT ASSEMBLY, REFER TO ARCHITECTURAL FLOOR PLAN FOR TYPE 08.410
- 08.510 WINDOW, REFER TO ARCHITECTURAL FLOOR PLAN FOR TYPE
- 09.725 PROTECTIVE METAL WALL PANELING, ALUMINUM DIAMOND TREAD
- 09.731 CERAMIC WALL TILE, REFER TO FINISH SCHEDULE IN SHEET ID-1.0
- 10.112 MARKERBOARD, SEE DETAIL 6/AD-5.0

	DOOR SCHEDULE - WEIGHT ROOM																						
					DOOR	MEASUREM	1ENTS		LOCKABLE			DO	OR		FRAME			DETAILS					
DOOR	ROOM	1	DOOR F	RAME				HDWR	FROM THE	PANIC										FIRE	STC		Lock
No.	No.	ROOM NAME	TYPE 1	TYPE W	/IDTH	HEIGHT	THICKNESS	GROUP	INSIDE	HDWR	MATERIAL	FINISH	COLOR	MATERIAL	FINISH	COLOR	HEAD	JAMB	SILL	RATING	RATING	REMARKS	Туре
901A	901	SPORTS MEDICINE	F	3	s' - 0"	7' - 0"	1 3/4"	08	YES	YES	ALUM/GLASS	FF	ALUM-1	ALUM	FF	ALUM-1	15/AD-6.1	19/AD-6.1	11/AD-6.1				
901B	901	SPORTS MEDICINE	F	3	s' - 0"	7' - 0"	1 3/4"	08	YES	YES	ALUM/GLASS	FF	ALUM-1	ALUM	FF	ALUM-1	15/AD-6.1	19/AD-6.1	11/AD-6.1				
902A	902	P.E. ATTENDANT/ STORAGE	Н	3	s' - 0"	7' - 0"	1 3/4"	08			ALUM/GLASS	FF	ALUM-1	ALUM	FF	ALUM-1	15/AD-6.1	14&19/AD-6.1	11/AD-6.1				
902B	902	P.E. ATTENDANT/ STORAGE	A	3	' - 6"	7' - 0"	1 3/4"	09			HM	PSG	P-6	HM	PSG	P-6	20/AD-6.0	19/AD-6.0	26A/AD-6.0	-	-		
903	903	ELEC	A	3	s' - 0"	7' - 0"	1 3/4"	10			HM	PSG	P-6	НМ	PSG	P-6	17/AD-6.0	18/AD-6.0	6/AD-6.0	-	-		
904	904	BOYS R.R.	A	3	s' - 0"	7' - 0"	1 3/4"	11			HM	PSG	P-6	HM	PSG	P-6	12/AD-6.0	13/AD-6.0	11/AD-6.0	-	-	UNDERCUT DOOR PER	
																						MECHANICAL SHEET M1-2.1	
905	905	GIRLS R.R.	A	3	5' - 0"	7' - 0"	1 3/4"	11			HM	PSG	P-6	HM	PSG	P-6	12/AD-6.0	13/AD-6.0	11/AD-6.0	-	-	UNDERCUT DOOR PER	
																						MECHANICAL SHEET M1-2.1	
906	906	DATA	A	3	5' - 0"	7' - 0"	1 3/4"	05			HM	PSG	P-6	HM	PSG	P-6	17/AD-6.0	18/AD-6.0	6/AD-6.0	-	-		
907	907	WEIGHT ROOM	A	3	5' - 0"	7' - 0"	1 3/4"	06	YES	YES	HM	PSG	P-6	HM	PSG	P-6	17/AD-6.0	18/AD-6.0	16/AD-6.0	-	-		
907A	907	WEIGHT ROOM	H	3	' - 0"	<u>Z'-0"</u>	1 3/4"	08	YES	YES	ALUM/GLASS	FF	ALUM-1	ALUM	FF	ALUM-1	15/AD-6.1	14&19/AD-6.1	11/AD-6.1 SIM	\			
907B	907	WEIGHT ROOM	G		2' - 1"	11' - 5"	Ő".	18	~ ~ ~	$\gamma \gamma \gamma$	JY STL	ſ ĚFÉ Ĺ	STL-1	<u>STL</u>	FF	STL-1	ັ 9/AD-6.0	~4/AD-6.0	16/AD-6.0 / Z	<u>-</u>			
907C	907	WEIGHT ROOM	G	1	1' - 1"	11' - 5"	0"	18	-000-0-		STL	FF	STL-1	STL	FF	STL-1	9/AD-6.0	4/AD-6.0	16/AD-6.0 AD	D			
908	908	REFLECTION/ DETENTION ROOM	F	3	s' - 0"	7' - 0"	1 3/4"	21	YES	YES	ALUM/GLASS	FF	ALUM-1	ALUM	FF	ALUM-1	15/AD-6.1	19/AD-6.1	11/AD-6.1				
909A	909	COACHES OFFICE	F	3	s' - 0"	7' - 0"	1 3/4"	12	YES		HM	PSG	P-6	HM	PSG	P-6	20/AD-6.0	19/AD-6.0	26B/AD-6.0				
909B	909	COACHES OFFICE	A	3	s' - 0"	7' - 0"	1 3/4"	12	YES		HM	PSG	P-6	HM	PSG	P-6	20/AD-6.0	19/AD-6.0	26D/AD-6.0	-	-		
910	910	PUBLICATIONS	C	6	o' - 0"	7' - 0"	2"	13	YES		ALUM/GLASS	FF	ALUM-1	ALUM	FF	ALUM-1	15/AD-6.1	14 /AD-6.1	11/AD-6.1				
911	911	UNISEX R.R.	A	3	s' - 0"	7' - 0"	1 3/4"	14			HM	PSG	P-6	НМ	PSG	P-6	12/AD-6.0	13/AD-6.0	11/AD-6.0	-	-		
912	912	CUSTODIAL	A	3	s' - 0"	7' - 0"	1 3/4"	05			HM	PSG	P-6	НМ	PSG	P-6	17/AD-6.0	18/AD-6.0	6/AD-6.0	-	-		
913	913	STORAGE	E	5	5' - 0"	7' - 0"	1 3/4"				HM	PSG	P-6	НМ	PSG	P-6							
914	914	CLASSROOM	C	6	o' - 0"	8' - 0"	2"	15	YES	YES	ALUM/GLASS	FF	ALUM-1	ALUM	FF	ALUM-1	15/AD-6.1	19/AD-6.1	11/AD-6.1				
914	914	CLASSROOM	С	6	5' - 2"	8' - 0"	2"	16	YES	YES	ALUM/GLASS	FF	ALUM-1	ALUM	FF	ALUM-1	17/AD-6.0	18/AD-6.0	6/AD-6.0				

REFERENCE: A1-8.0

### BLDG 900 DOOR SCHEDULE

### **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





### GHS KITCHEN & WEIGHTROOM

GROSSMONT UNION HIGH SCHOOL

RUHNAU 1-30-55 CLARKE ARCHITECTS

ASK-2.11

08-12-22

### **GROSSMONT HIGH SCHOOL** GHS KITCHEN & WEIGHTROOM

### **REVISED WINDOW TYPES**

**GROSSMONT UNION HIGH SCHOOL** 

REFERENCE: 1 / A2-8.0







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

# RUHNAU CLARKE ARCHITECTS

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

# **TYPICAL ABBREVIATIONS**

@ & <	AT AND ANGLE	FOF FOM FOS	FACE OF FINISH FACE OF MASONRY FACE OF STUD	PLAS PLWD PSG	PLASTIC PLYWOOD PAINT SEMI-GLOSS
ACPL ACT AFF	ACOUSTIC PLASTER ACOUSTIC TILE ABOVE FINISHED FLOOR	FRPF FS FURN	FIREPROOF/FIREPROOFING FINISHED SURFACE FURNISH/FURNITURE	PTD PTN P	PAINTED PARTITION
BB BD BLKG BOS	BULLETIN BOARD BOARD BLOCKING BOTTOM OF STRUCTURE	GA GALV GB GC GL	GAUGE GALVANIZED GRAB BAR GENERAL CONTRACTOR GLASS M: GLUE LAMINATED	R RD REF REINF REQD	RADIUS/RISER RUBBER BASE ROOF DRAIN REFERENCE REINFORCED REQUIRED
CAB CEM CF CJ	CABINET CEMENT CUBIC FEET CONTROL JOINT	GLO-LA GPL GWB GWW	GYPSUM PLASTER GYPSUM WALLBOARD WATER RESISTANT GWB	RO RQMT RSLB RT RWL	REQUIREMENT RESILIENT BASE RUBBER TREAD RAIN WATER LEADER
CL CLF CLG CLR CMU COL CONC CONT CPL CPT CSWK	CENTERLINE CHAIN LINK FNECE CEILING CLEAR CONCRETE MASONRY UNIT COLUMN CONCRETE CONTINUOUS CEMENT PLASTER CARPET CASEWORK	H HDW HORIZ HR HSS HT ID INSUL INT	HIGH HARDWARE HORIZONTAL HOUR HOLLOW STRUCTURAL STEEL HEIGHT INSIDE DIAMETER INSULATION INTERIOR	SB SC SHT SHTG SIM SM SRF SS	SPLASH BLOCK SOLID CORE SHEET SHEATHING SIMILAR SHEET METAL SEAMLESS RESILIENT FLOORING SERVICE SINK/ STAINLESS STEEL
CT DET DF DIM	CERAMIC TILE DETAIL DRINKING FOUNTAIN DIMENSION	JH JST JT	JOIST HANGER JOIST JOINT	STD STL STN STR SUSP	STANDARD STEEL STAIN STRUCTURAL/STRUCTURE SUSPENDED
DL DN DP DR	DOOR LOUVER DOWN DEMOUNTABLE PARTITION DOOR	LAM LT LVR	LAMINATE LIGHT LOUVER	T TB TC	TILE / TEMPERED GLASS TACK BOARD TOP OF CONCRETE CURB
DRF DS DSA DWGS	DOOR FRAME DOWN SPOUT DIVISION OF STATE ARCHITECT DRAWINGS	MACH MAX MECH MFR MH MIN	MACHINE MAXIMUM MECHANICAL MANUFACTURER MANHOLE MINIMUM	TEL TEMP TJ TOC TOP TOR	TELEPHONE TEMPERATURE TOOLED JOINT TOP OF CANOPY TOP OF PARAPET TOP OF BOOF
(E) EA EJ ELEC ELEV	EXISTING EACH EXPANSION JOINT ELECTRIC ELEVATION	ML MO MS MTD MTL	METAL LATHE MASONRY OPENING METAL STUD MOUNTED METAL	TOS TOW TW TYP	TOP OF STRUCTURE TOP OF WALL TOP OF WALK TYPICAL
ENCL EP EQ EQUIP EW EWC	ENCLOSORE EPOXY EQUAL EQUIPMENT EACH WAY ELECTRIC WATER COOLER	NIC NO NTS O	NOT IN CONTRACT NUMBER NOT TO SCALE ROUND	UC UNO UOS	UNDER CUT/ UNDER COUNTER UNLESS NOTED OTHERWISE UNDERSIDE OF STRUCTURE
EXP EXT FC	EXPANSION/EXPOSED EXTERIOR FINISH CEILING	OC OD OFCI	ON CENTER OUTSIDE DIAMETER OWNER FURNISHED/ CONTRACTOR INSTALLED	VC VCT VERT	VINYL COATED VINYL COMPOSITION TILE VERTICAL
FD FEC FF	FLOOR DRAIN FIRE EXTINGUISER CABINET FINISHED FLOOR / FACTORY FINISH	OFOI OH OPNG	OWNER FURNISHED/ OWNER INSTALLED OPPOSITE HAND/ OVERHEAD OPENING OPPOSITE	VIF VSF VT VTR VWC	VERIFIED IN FIELD VINYL SHEET FLOORING VINYL TILE VENT THROUGH ROOF VINYL WALL COVERING
FG FHC FIN FLR	EQUIPMENT FINISHED GRADE FIRE HOSE CABINET FINISH FLOOR	P PA PFIN PL	PAINT PLANTING AREA PRE FINISHED PLATE/PROPERTY LINE	W/ WD WI WIN W/O WWF	WITH WOOD WOODWORK INSTITUTE WINDOW WITHOUT WELD WIRE FABRIC
BUTI		EC		MВ	OLS
DIRE DIRE VIEW	CTION OF VIEW CUT		DOOR TAG		<u>101</u> 20 MIN.
SHEE OCCI <u>EXTI</u>	ET ON WHICH DETAIL	A101	WINDOW TAG —		$\rightarrow$ $1t$
VIEW SHEE OCCI	V ON SHEET	_1 A101	SIM KEYNOTE CONSTRUCTION KI NUMBER	EY NOTE	X.X A101
DET	AIL REFERENCE TO DRAWI	NGS	ASSOCIATED DETA REFERENCE	.IL ——	
VIEW SHEE OCCU	V ON SHEET	A101	CASEWORK IDENTIFICATION	l <u>:</u>	
DIRE	CTION OF VIEW		HEIGHT		

RAL SYMBC	DLS
DOOR TAG DOOR TAG DOOR RATING	
WINDOW TAG	<b>I</b> t
KEYNOTE CONSTRUCTION KEY NOTE — NUMBER — ASSOCIATED DETAIL — REFERENCE	X.X X A101
CASEWORK IDENTIFICATION: DEPTH	

_____40 ∕<u>___</u>30 INDICATES SPECIAL CONDITION W.I.C. NUMBER I FNGTH -LOCK ----EXPLANATION OF SPECIAL CONDITION IF NEEDED

RADIUS/RISER RUBBER BASE ROOF DRAIN REFERENCE REINFORCED REQUIRED ROUGH OPENING REOUTREMENT RESILIENT BASE RUBBER TREAD RAIN WATER LEADER SPLASH BLOCK SOLID CORE SHEET

STAIN TRUCTURAL/STRUCTURE SUSPENDED TILE / TEMPERED GLASS TACK BOARD TOP OF CONCRETE CURB TELEPHONE FEMPERATURE OOLED JOINT FOP OF CANOPY TOP OF PARAPET TOP OF ROOF TOP OF STRUCTURE

> VINDOW **VITHOUT** WELD WIRE FABRIC

# **GENERAL NOTES**

- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS O THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. THE CONTRACTOR SHALL COMPLY WITH CALIFORNIA FIRE CODE, CHAPTER 33 FOR FIRE SAFETY DURING CONSTRUCTION.
- CONTRACTOR WILL BE REQUIRED TO PROVIDE AND INSTALL ALL EQUIPMENT AND RELATED ITEMS AS SHOWN IN THESE DOCUMENTS AND AS SPECIFIED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO BID AND TO DETERMINE THE WORK NECESSARY TO COMPLETE THE PROJECT.
- 4. ALL WORK SHALL CONFORM TO TITLE 24, CALIFORNIA CODE OF REGULATIONS (C.C.R.) AND SECTION CHANGES TO THE DIVISION OF THE STATE ARCHITECT-APPROVED DRAWINGS AND SPECIFICATIONS
- SHALL BE MADE BY ADDENDA OR CONSTRUCTION CHANGE DOCUMENTS FOR CHANGES TO THE STRUCTURAL, ACCESSIBILITY OR FIRE-SAFETY PORTIONS OF THE PROJECT. CHANGES SHALL BE SUBMITTED TO AND APPROVED BY DSA PRIOR TO COMMENCEMENT OF THE WORK SHOWN THEREON [CAC 4-338 (C)].
- A PROJECT INSPECTOR, EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT, SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR IS DEFINED IN SECTION 4-342, PART 1, TITLE 24, C.C.R.
- THE ARCHITECT OF RECORD SHALL HAVE THE RIGHT TO MAKE FINAL JUDGMENTS RELATIVE TO SUBMITTAL DRAWING REVISIONS IN ORDER TO ENSURE COMPLIANCE WITH ENGINEERING STANDARDS, APPLICABLE CODES, AND ARCHITECTURAL INTENT.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF EXISTING CONDITIONS ON THE JOB SITE PRIOR TO THE START OF ANY WORK. NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND CONSTRUCTION DOCUMENTS. EXISTING CONDITIONS ARE INDICATED AS A RESULT OF INFORMATION SHOWN ON AVAILABLE DOCUMENTS. ANY DAMAGE TO EXISTING CONDITIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- THE EXISTENCE OR LOCATION OF ANY UNDERGROUND UTILITIES, PIPES, OR STRUCTURE SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, EXISTING UTILITIES ARE AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL ASCERTAIN THE TRUE VERTICAL AND HORIZONTAL LOCATION AND SIZE OF ALL UNDERGROUND UTILITIES AND SHALL BE RESPONSIBLE FOR DAMAGE TO ANY PUBLIC OR PRIVATE UTILITIES SHOWN OR NOT SHOWN HEREON.
- 10. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ADEQUACY AND SAFETY OF THE DESIGN/ERECTION OF BRACING, SHORING, TEMPORARY SUPPORTS AND SCAFFOLDING.
- UNDER NO CIRCUMSTANCE SHALL WORKING DIMENSIONS BE SCALED FROM PLANS, SECTIONS, OR DETAILS ON THE DRAWINGS.
- 12. ALL STANDARDS, MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE STATE BUILDING CODES, ORDINANCES, REGULATIONS, AND LAWS.
- 13. WHERE ANY CONFLICT OCCURS BETWEEN THE REQUIREMENTS OF FEDERAL, STATE AND LOCAL LAWS, CODES, ORDINANCES, RULES AND REGULATIONS, THE MOST STRINGENT SHALL GOVERN. 14. ITEMS MARKED "TYP." OR "TYPICAL" SHALL APPLY IN ALL CASES UNLESS SPECIFICALLY INDICATED OTHERWISE.
- . THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF REQUIREMENTS BETWEEN THE DISCIPLINES (ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL, AND ELECTRICAL, ETC.) AND BETWEEN DRAWING AND SPECIFICATION IN ORDER TO ENSURE THAT ALL ITEMS SHOWN IN RELATIONSHIP TO ONE ANOTHER OR SHOWN IN MULTIPLE LOCATIONS ARE IN AGREEMENT. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT REGARDING ANY DISCREPANCIES, ERRORS, OMISSIONS OR INCONSISTENCIES AND SHALL NOT PROCEED WITH THE WORK UNTIL CLARIFICATION HAS BEEN ISSUED BY THE ARCHITECT.
- 16. MAINTAIN THE INTEGRITY OF ALL EXISTING RATED ASSEMBLIES U.N.O. GRADING PLANS DRAINAGE IMPROVEMENTS, ROAD & ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES. INSPECTOR OF RECORD
- (IOR CLASSIFICATION 2) FABRICATION AND INSTALLATION OF DEFERRED SUBMITTALS ITEMS SHALL NOT BE STARTED UNTIL CONTRACTORS DRAWINGS, SPECIFICATIONS, AND ENGINEERING CLACULATION FOR THE ACTUAL SYSTEMS TO BE INSTALLED HAVE BEEN ACCEPTED AND SIGNED BY THE ARCHITECT OR STRCUTURAL ENGINEER AND APPROVED BY THE DSA. LIST DEFERRED SUBMITTAL ITEMS FOR THIS PROJECT.
- 19. A DSA ACCEOTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRCIT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT
- 20. THE INTENT OF THESE DRAWINGS AND SPECIFCIATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NONCOMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINSIHED WORK WILL NOT COMLY WITH TITILE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS. DETAILING AND SPECIFYING THE REQUIRES WORK

4-317 (C), PART 1 , TITLE 24, CCR)

**PROJECT No. :1-30-55** 

Room name

ROOM TAG ROOM NAME

ROOM NUMBER

ELEVATION OCCURS

SHEET ON WHICH INTERIOR

INTERIOR ELEVATION VIEW

12,2022,12	1110/01						
RAWN BY:		CHECKED BY:					
SUE No	DATE	DESCRIPTION	REVISION No.2	DATE 08-12-22	DESCRIPTION	ADD 02	
SUE No	DATE	DESCRIPTION	REVISION No	DATE	DESCRIPTION		
SUE No	DATE	DESCRIPTION	REVISION No	DATE	DESCRIPTION		_
SUE No	DATE	DESCRIPTION	REVISION No	DATE	DESCRIPTION		



SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. (SECTION





# APPLICABLE AGENCIES

**STATE OF CALIFORNIA** DEPARTMENT OF GENERAL SERVICES **DIVISION OF THE STATE ARCHITECT** 10920 VIA FRONTERA ROAD, STE, 3 SAN DIEGO, CA 92127 TEL: (858) 674-5400

**COUNTY OF SAN DIEGO** DEPARTMENT OF ENVIRONMENTAL HEALTH AND QUAILTY FOOD AND HOUSING DIVISION P.O. BOX 12926 SAN DIEGO, CA 92112 TEL: (858) 505-6666

LOCAL FIRE AUTHORITY HEARTLAND FIRE AND RESCUE 8054 ALLISON AVEUNE LA MESA, CA 91942 TEL: (619) 667-1470

### SHEET COUNT: 1 CIVIL C-1.0 GRADING AND DRAINAGE C-1.1 GRADING AND DRAINAGE C-1.2 GRADING AND DRAINAGE C-2.0 UTILITY PLAN C-3.0 CIVIL DETAILS C-4.0 HORIZONTAL CONTROL PLAN SHEET COUNT: 6 LANDSCAPE IRRIGATION PLAN LI-1 IRRIGATION PLAN / LEGEND LI-2 IRRIGATION DETAILS LI-3 PLANTING PLAN LP-1 PLANTING PLAN / LEGEND LP-2 LP-3 PLANTING DETAILS SHEET COUNT: 6 ARCHITECTURE SITE AS0.2 CODE / EGRESS SITE PLAN AS0.3 ENLARGED EGRESS PLANS AS-1.0 DEMOLITION SITE PLAN AS-1.1 OVERALL SITE PLAN AS-1.2 MODERNIZATION SITE PLAN AS-1.3 ENLARGED SITE PLAN ASD-1.0 SITE DETAILS ASD-2.0 SITE DETAILS ASD-3.0 SITE DETAILS ASD-4.0 SITE DETAILS ARCHITECTURE - BUILDING 900 A1-1.0 FLOOR PLAN AND RCP A1-3.0 ROOF PLANS A1-4.0 BUILDING ELEVATIONS A1-5.0 BUILDING ELEVATIONS & SECTIONS A1-5.1 BUILDING SECTIONS A1-6.0 WALL SECTIONS A1-7.0 ENLARGED RESTROOM PLANS & ELEVATIONS A1-7.1 INTERIOR ELEVATIONS A1-7.2 INTERIOR ELEVATIONS A1-8.0 DOOR & WINDOW SCHEDULE ARCHITECTURE - BUILDING 400 A2-1.0 NEW FOOD SERVICE FLOOR & CLG PLANS A2-3.0 NEW FOOD SERVICE ROOF PLAN A2-4.0 BUILDING ELEVATIONS A2-5.0 BUILDING SECTIONS A2-6.0 WALL SECTIONS A2-7.0 ENLARGED PLAN & INTERIOR ELEVATIONS A2-8.0 DOOR SCHEDULE & WINDOW TYPES ARCHITECTURE DETAILS AD-1.0 ACCESSIBILITY & SIGNAGE DETAILS AD-2.0 WALL TYPES AD-2.1 WALL DETAILS AD-3.0 ROOF DETAILS AD-3.1 ROOF DETAILS AD-4.0 CEILING DETAILS AD-4.1 CEILING DETAILS AD-5.0 CASEWORK DETAILS AD-6.0 DOOR DETAILS AD-6.1 DOOR & WINDOW DETAILS AD-6.2 DOOR & WINDOW DETAILS AD-8.0 MISCELLANEOUS DETAILS SHEET COUNT: 39 INTERIORS ID-1.0 FINISHES PLAN / SCHED & CMF LEGEND SHEET COUNT: 1 STRUCTURAL S0-0.1 GENERAL NOTES S0-0.2 GENERAL NOTES S0-0.3 GENERAL NOTES S0-1.1 TYPICAL CONCRETE DETAILS S0-1.2 TYPICAL CONCRETE DETAILS S0-1.3 TYPICAL MASONRY DETAILS S0-1.4 TYPICAL STEEL DETAILS S0-1.5 TYPICAL WOOD DETAILS S0-1.6 TYPICAL WOOD DETAILS S0-1.7 TYPICAL WOOD DETAILS S0-1.8 TYPICAL WOOD DETAILS S1-1.1 BUILDING 900 FOUNDATION PLAN S1-3.1 BUILDING 900 ROOF FRAMING PLAN S2-1.0 BUILDING 400 FOUNDATION & ROOF FRAMING PLANS S2-1.1 CANOPY FRAMING DETAILS S3-1.1 SHADE CANOPY DETAILS SD-1.1 FOUNDATION DETAILS SD-2.1 ROOF FRAMING DETAILS

SD-2.3 ROOF FRAMING DETAILS SD-2.4 ROOF FRAMING DETAILS SHEET COUNT: 21

SD-2.2 ROOF FRAMING DETAILS

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

# SHEET INDEX

TINL	
ΜΕΛΗΔΝ	ΙζΔΙ
M0-0.1	MECHANICAL GENERAL NOTES, LEGEND
M0-0.2	MECHANICAL SCHEDULES
M0-0.3	MECHANICAL TITLE-24
M0-0.4 M0-0.5	MECHANICAL IIILE-24 MECHANICAL TITLE-24
M0-5.1	MECHANICAL DETAILS
M0-5.2	MECHANICAL DETAILS
M0-5.3	MECHANICAL DETAILS
M0-6.2	MECHANICAL CONTROLS
M0-6.3	MECHANICAL CONTROLS
M1-1.1	MECHANICAL WEIGHT ROOM ZONING FLOOR PLAN
M1-2.1	MECHANICAL WEIGHT ROOM FLOOR PLAN
M1-2.2 M2-1.1	MECHANICAL WEIGHT ROOM ROOF PLAN MECHANICAL KITCHEN ZONING FLOOR PLAN
M2-2.1	MECHANICAL KITCHEN FLOOR PLAN
M2-2.2	MECHANICAL KITCHEN ROOF PLAN
SHEET C	OUNT: 17
PLUMBIN	
P0-0.1 P0-0.2	PLUMBING GENERAL NOTES, LEGEND
P0-1.1	PLUMBING SITE PLAN
P0-4.1	PLUMBING RISER DIAGRAMS
P0-4.2	PLUMBING RISER DIAGRAMS
P0-5.1	
P1-2.1	PLUMBING WEIGHT ROOM DEMO & UNDERGROUND PLANS
P1-2.2	PLUMBING WEIGHT ROOM ROOF PLAN
P1-3.1	PLUMBING ENLARGED PLANS
P2-2.1	
P2-2.2 P2-3.1	PLUMBING ENLARGED PLANS
TOTAL S	HEET COUNT: 13
ELECTRI	CAL
E1.0	OVERALL SITE PLAN
E1.2	SITE ELECTRICAL DETAILS
E2.0	TITLE 24
E2.1	BLDG. 900 FLOOR PLAN - LIGHTING
E2.2	FIXTURE SCHEDULE
E2.4	LIGHTING CONTROL DIAGRAM
E2.5	EMERGENCY LIGHTING DETAILS
E2.6	LIGHTING DETAILS
E2.7 E2.8	LIGHTING DETAILS
E3.1	BLDG 900 FLOOR PLAN - POWER
E3.2	KITCHEN FLOOR PLAN - POWER
E3.3	POWER DETAILS
E4.0	COMMUNICATION LEGEND & NOTES
E4.1 E4.2	BLDG 900 FLOOR PLAN - COMMUNICATIONS
E4.3	VOICE/DATA INFRASTRUCTURE RISER DIAGRAM AND DETAILS
E4.4	COMMUNICATION DETAILS
E4.5	COMMUNICATION DETAILS
E4.6	COMMUNICATION DETAILS
E4.7 F4.8	
E4.9	AUDIO-VISUAL DETAILS
E4.10	AUDIO-VISUAL DETAILS
E5.1	BLDG 900 FLOOR PLAN - FIRE ALARM
E5.2 E5.3	FIRE ALARM SCHEDULES AND RISER
E5.4	FIRE ALARM DETAILS AND CALCULATIONS
E6.1	BLDG 900 FLOOR PLAN - MECHANICAL
E6.2	BLDG 900 ROOF PLAN
E6.3 E6.4	KITCHEN ROOF PLAN MECHANICAL SCHEDULE
E7.1	ONE- LINE DIAGRAM
E7.2	ONE - LINE DETAILS
E7.3	UNE- LINE DETAILS
E0.1 F9.1	PANEL SCHEDULES
E9.2	PANEL SCHEDULES
SHEET C	OUNT: 40
FOOD SE	
К U К 1	FOODSERVICE FLOOR PLAN
K 2	FOODSERVICE FOUIPMENT SCHEDULE
К З	FOODSERVICE ELECTRICAL ROUGH-INS
K 4	FOODSERVICE PLUMBING ROUGH-INS
K 5	
К б К 7 1	FOODSERVICE ELEVATIONS
K 7.2	FOODSERVICE TYPICAL DETAILS
K 7.3	FOODSERVICE SEISMIC DETAILS
K 8.1	FOODSERVICE EXHAUST HOODS
K 8.2	FUUDSERVICE EXHAUST HOODS
ко.э К 8.4	FOODSERVICE EXHAUST HOODS
K 8.5	FOODSERVICE EXHAUST HOODS
K 8.6	FOODSERVICE EXHAUST HOODS
K 8.7	FOODSERVICE EXHAUST HOODS
К 9.1 кор	FUUDSERVICE EQUIPMENT WALK-INS
SHEET C	OUNT: 19
TOTAL S	

# rossmont High School Unified chool District, Facilities Planning 5751 Palmer Way Suite ( 100 Murray Drive (PO Box Carlsbad, CA 92010

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Food Service Orness Design Group, Inc. 5955 Mira Mesa Blvd. Suite H San Diego, CA,92121 Phone: 858.457.5955 Contact: Ken Relethford krelethford@ornessdesigngroup.cor

BUILDING FOR THE SITE ELECTRIC SERVICE CARTS.

PLANTING AREAS.

<b>9</b> CALIFORN	IA ADMINISTRATIVE CODE, PAR
19 CALIFORN 2018 INTERN	IA BUILDING CODE (CBC), PAR ATIONAL BUILDING CODE VOL
19 CALIFORN 2017 NATION	IA ELECTRICAL CODE (CEC), PA IAL ELECTRICAL CODE AND <b>20</b>
19 CALIFORN 2018 UNIFOR	IA MECHANICAL CODE (CMC) P M MECHANICAL CODE AND <b>20</b>
19 CALIFORN 2018 UNIFOR	IA PLUMBING CODE (CPC), PAR M PLUMBING CODE AND <b>2019</b>
<b>9</b> CALIFORN	IA ENERGY CODE, PART 6, TITL
19 CALIFORN 2018 INTERN	IA FIRE CODE, PART 9, TITLE 2 ATIONAL FIRE CODE AND <b>201</b>
19 CALIFORN 2018 INTERN	IA EXISTING BUILDING CODE ( ATIONAL EXISTING BUILDING
<b>9</b> CALIFORN	IA GREEN BUILDING STANDARI
<b>9</b> CALIFORN	IA REFERENCED STANDARDS, F
LE 19 C.C.R., L <b>6</b> ASME A17. TE: CAL/OSHA	PUBLIC SAFETY, STATE FIRE M 1/CSA B44-13 SAFETY CODE F A ELEVATOR UNIT ENFORCES C
RTIAL LIST (	OF APPLICABLE STANDARDS
A 13	STANDARD FOR THE INSTALLA SPRINKLER SYSTEMS (CA AME
A 14	STANDARD FOR THE INSTALLA
A 17	STANDARD FOR DRY CHEMICA
A 17A	STANDARD FOR WET CHEMICA
A 20	STANDARD FOR THE INSTALLA STATIONARY PUMPS FOR FIRE
A 22	STANDARD FOR WATER TANKS
A 24	STANDARD FOR THE INSTALLA PRIVATE FIRE MAINS & THEIR
A 72	NATIONAL FIRE ALARM & SIGN
A 80	STANDARD FOR FIRE DOORS
A 2001	STANDARD ON CLEAN AGENT SYSTEMS (CA AMENDED)
300	STANDARD FOR FIRE TESTING PROTECTION OF COMMERCIAL
164	AUDIBLE SIGNALING DEVICES INCLUDING ACCESSORIES
521	STANDARD FOR HEAT DETECT FIRE PROTECTIVE SIGNALING
1971	STANDARD FOR SIGNALING D
300	STANDARD FOR BLEACHERS, F SEATING, & GRANDSTANDS
A COMPLETE IFORNIA FIRE	E LIST OF APPLICABLE NFPA ST. E CODE CHAPTER 80.
CALIFORNIA	BUILDING CODE CHAPTER 35
L PARTS OF T	THE <b>2019</b> CALIFORNIA BUILDIN

ADMINISTRATIVE CODE (TITLE 24, PART 1, CHAPTER 4) IS JANUARY 8, **2019**.

**RUHNAUCLARKE.COM** 

### GHS KITCHEN & WEIGHTROOM **GROSSMONT HIGH SCHOOL** 1100 MURRAY DR, EL CAJON, CA 92020 **GROSSMONT UNION HIGH SCHOOL**

# TITLE SHEET & SHEET INDEX



ING CODE BECOME EFFECTIVE JANUARY 1, **2020** EXCEPT THE EFFECTIVE DATE FOR THE USE OF THE 2019 BUILDING ENERGY EFFICIENCY STANDARDS (TITLE 24, PART 1, CHAPTER 10) IS JANUARY 8, **2019** AND THE EFFECTIVE DATE FOR THE USE OF THE CALIFORNIA



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





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	1

![](_page_126_Figure_5.jpeg)

![](_page_126_Picture_6.jpeg)

		5/8" GYP. BD. #10 STAINLESS STEEL SCREW @ 6" O.C. 4 MIN. AT VERTICAL MULLION 2"x WOOD STUDS	S
		THERMAL BATT	
		COL., STUDS/ WIN. FRAME	
		1/2" PLYWOOD SHEATHING	
		EXTERIOR CEMENT PLASTER ASSEMBLY	
		#14 x 2" LONG PAN HEAD WOOD SCREW @ 12" O.C.	
		METAL RAIL SYSTEM	-UP SHUTTER J
		ADD.	
		EXTERIOR CEMENT PLASTER ASSEMBLY	
		2x WOOD STUDS PER PLAN	
		1/2" PLYWOOD SHEATHING	
		HEADER PER 1 STR. DET S0-1.5	
		#10 STAINLESS STEEL SCREWS @ 6" O.C. MIN. PER SIDE	
		SHIM	
		ALUM. PANNING	
		CONT. SEALANT/ BACKER ROD	
		FIXED GLAZING SYSTEM	
			v
			LL-UP SHUTTE
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												ROOM	FINI	SH SC	CHEDUI	LE - B	LDG 40	00		
			FLOOR		BASE		ELEVATION 1			ELEVATION 2			ELEVATION 3			ELEVATION 4			CEILING	
		MATERIAL	COLOR	MATERIAL	COLOR	MATERIAL	FINISH	COLOR	MATERIAL	FINISH	COLOR	MATERIAL	FINISH	COLOR	MATERIAL	FINISH	COLOR	MATERIAL	FINISH	COLOR
401	SERVICE LINES	EPOXY T	EPOXY-1	EPOXY T	EPOXY-1	FRP	FF FF	T-6 FRP-1	GWB/ GF	PSG/ FF	P-1/ GF-1 FRP-1	FRP	FF FF	T-3 FRP-1	GWB/ GF	PSG/ FF	P-1/ GF-1 FRP-1	ACT	FF FF	ACT-2
403	DRY STORAGE	T	T-7	T	T-7	FRP	FF	FRP-1	FRP	FF	FRP-1	FRP	FF	FRP-1	FRP	FF	FRP-1	GWB	PSG	P-1
404	WALK-IN COOLER	T	T-7	<u>T</u>	T-7	PER MFR	FF	-	PER MFR	FF	-	PER MFR	FF	-	PER MFR	FF	-	PER MFR	FF	-
405	WALK-IN FREEZER	T	T-7	Т Т	T-7	PER MFR GWB	FF PSG	- P-1	PER MFR GWB/ FRP	FF PSG/ FF	- P-1/ FRP-1	OWB/ FRP	FF PSG/ FF	- P-1/ FRP-1	PER_MFR GWB	FF PSG	- P-1	UOS	FF PSG	 P-5
407	UNISEX	T		T	$\frac{2}{T-7}$	T/ GWWB	FF/ PSG	T-2,3,4,5/ P-1	T/ GWWB	FF/ PSG	T-2,3,4,5/ P-1	T/ GWWB	FF/ PSG	T-2,3,4,5/ P-1	1 T/ GWWB	FF/ PSG	T-2,3,4,5/ P-1	GWWB	PSG	P-3
408	DATA	CONC	ADD. CONC-1	RB	ADD. RB-1	GWB	PSG	P-1	GWB	PSG	P-1	GWB	PSG	P-1	GWB	PSG	P-1	UOS	PF	P-5
409	ELEC.	CONC T	CONC-1	RB T		GWB	PSG	P-1 P-1	GWB	PSG	P-1	GWB	PSG	P-1	GWB	PSG	P-1 P-1		PF	P-5
410	OTTICE	I	1-7		1-7	GWB	F3G	F-1	GWB	F3G	F-1	GWD	F3G	F-1	GWB	F30	F-1	ACT	11	ACT-2
		1	FLOOR		BASE	1	ELEVATION 1			ELEVATION 2		ROOM	FINI ELEVATION 3	SH SC	CHEDUI	E – B	LDG 90	00	CEILIN	G
		MATERIAL	COLOR	MATERIAL	COLOR	MATERIAL	FINISH	COLOR	MATERIAL	FINISH	COLOR	MATERIAL	FINISH	COLOR	MATERIAL	FINISH	COLOR	MATERIAL	FINISH	COLOR
901	P E ATTENDANT/ STORAGE	CONC	CONC-1	RB		GWB/ TWP	PSG/ FF PSG	P-1/ TWP-2	GWB	PSG PSG	P-2 P-2 5	GWB/ TWP	PSG/ FF PSG	P-1/ IWP-1 P-1 5	GWB	PSG	P-2 P-2 5		PSG	ACI-1 P-5
903	ELEC					GWB	PSG	P-1	GWB	PSG	P-1	GWB	PSG	P-1	GWB	PSG	P-1	UOS	PF	P-5
904	BOYS R.R.	2 EPOXY	2 EPOXY-2	2 EPOXY	2 EPOXY-2	T/ GWWB	FF/ PSG	T-2,3,4,5/ P-1	T/ GWWB	FF/ PSG	T-2,3,4,5/ P-1	T/ GWWB	FF/ PSG	T-2,3,4,5/ P-1	1 T/ GWWB	FF/ PSG	T-2,3,4,5/ P-1	GWWB	PSG	P-3
905	GIRLS R.R.	ADD. EPOXY	ADD. <u>EPOXY-2</u>	ADD.		T/ GWWB	FF/ PSG	T-2,3,4,5/ P-1	T/ GWWB	FF/ PSG	T-2,3,4,5/ P-1	T/ GWWB	FF/ PSG	T-2,3,4,5/ P-1	1 T/ GWWB	FF/ PSG	T-2,3,4,5/ P-1	GWWB	PSG	P-3
907	WEIGHT ROOM	RF		RB/ T	RB-1/ T-3	GWB/T	PSG/ FF	P-1,4/ T-3	GWB/GF	PSG/ FF	P-1 P-5/ GF-2	GWB	PSG	P-1,5	GWB	PSG	P-1,2,5	GWB/ UOS	PES/ PF	P-4/ P-5
908	REFLECTION/ DETENTION ROOM	LVT/ CPT	LVT-2/ CPT	-1 RB	RB-1 AD	D. GWB	PSG	P-1	GWB/ TWP	PSG/ FF	P-1/ TWP-2	GWB	PSG	P-1	GWB/ TWP	PSG/ FF	P-1/ TWP-2	ACT	FF	ACT-1
909			RF-3	RB		GWB/ TWP	PSG/ FF	P-1/ TWP-1	GWB/ TWP	PSG/ FF	P-1/ TWP-2	GWB	PSG	P-4	GWB	PSG	P-1	ACT	FF	ACT-1
910							PSG FF/ PSG	P-2		PSG FF/ PSG	P-1 T-2 3 4 5/ P-1	GWB T/ GW/WB	PSG FF/ PSG	P-1 T-2 3 4 5/ P-1	GWB 1 T/ GWWB	PSG FE/ PSG	P-1 T-2 3 4 5/ P-1	GWWB	PSG	AC1-1 P-3
912	CUSTODIAL	ADD. CONC	ADD. CONC-1	ADD. RB	ADD. RB-1	GWB	PSG	P-1	GWB	PSG	P-1	GWB/ FRP	PSG/ FF	P-1/ FRP-1	GWB/ FRP	PSG/ FF	P-1/ FRP-1	UOS	PSG	P-5
913	STORAGE	LVT	LVT-1	RB	RB-1	GWB	PSG	P-1	GWB	PSG	P-1	GWB	PSG	P-1	GWB	PSG	P-1	GWB	PES	P-1
914	Heading	<u> </u>	TEM MA	-1 KB	KB-1	GWB	PES	P-1	GWB	PES	COL	_ORS,	MATE		S AND	FINIS	HES LI			P-1/ ACT-3
03 35 1	1 - CONCRETE FLOOR FINISHES	6			FE							CTODACE		ODTC	09 51 00 - ACOL	JSTICAL CEILINGS	66	ACT 1		
03 35 1	1 - CONCRETE FLOOR FINISHES		ONC-1 SEA	ALED NATURAL CONCRET	IE							MEDICINE	CUSTODIAN/ SP	ORIS	09 51 00 - ACO 09 51 00 - ACO	OUSTICAL CEILIN	GS	ACT-1 ACT-2	ARMSTRONG, ARMSTRONG,	, SCHOOL ZONE FINE FISSURED, SQUA , KITCHEN ZONE, SQUARE LAY-IN #67
04 05 1 <b>04 05 1</b>	1 - MASONRY MORTARING AND GRO . <b>1 - MASONRY MORTARING AND</b>	DUTING GROUTING M	I-1 OR	CO, MORTAR/GROUT, "G	RANITE"							TYPICAL			09 51 00 - ACO	USTICAL CEILIN	GS	ACT-3	ARMSTRONG,	OPTIMA, SQUARE LAY-IN #3160-WH,
04 20 0	0 - UNIT MASONRY			, - , - , -											09 65 00 - RES	ILIENT FLOORIN	G	LVT-1	ARMSTRONG,	, BIOME, ALTITUDE, "LOCH NESS", 9" >
04 20 0	0 - UNIT MASONRY	С	MU-1 STA	ACK BOND W/ MATCHING	G CMU CAP, "GRAY S	SLUMP" SHOT BLAS	Т					TRASH EN	CLOSURE		09 65 00 - RES	ILIENT FLOORIN	G	LVT-2	ARMSTRONG,	NATURAL CREATIONS WITH DIAMONI
06 41 0 06 41 0	0 - ARCHITECTURAL WOOD CASEW	EWORK P	L-1 WIL	SONART, STANDARD HF	PL FINISH, MATTE FI	NISH, "CEMENT D5	603"					TYPICAL @	CASEWORK		09 65 00 - RESI	LIENT FLOORING (	RUBBER BASE)			
<b>06 41 0</b> 06 83 1	0 - ARCHITECTURAL WOOD CAS 6 - FIBERGLASS REINFORCED PANE	EWORK P	L-2 WIL	SONART, WRITABLE SU	RFACE LAMINATE/M	ARKERBOARD, "DE	SIGNER WHITE" D3	54				TYPICAL @	TALL CASEWOR	K	<b>09 65 00 - RES</b> 09 65 66 - RESI	ILIENT FLOORIN LIENT ATHLETIC FL	IG (RUBBER BASE)	RB-1	JOHNSONITE,	, RUBBER BASE, 700 SERIES, "GREY",
06 83 1	6 - FIBERGLASS REINFORCED P	ANELING F	RP-1 PAN	NOLAM, CLASS A, SMOOT	TH, CLASSIC COLOR	"WHITE"						CUSTODIA	AL/ FOOD SERVIC	E	09 65 66 - RES			RF-1	MONDO, SPO	RT IMPACT 10MM, 'MEDIUM GREY', 36'
07 42 1. <b>07 42 1</b>	3.10 - PERFORATED METAL WALL PA	L PANELS M	IWP-1 MCI	NICHOLS, PERFORATED	METAL - ROUND #1	701921241, ALUMI	NUM, 8 GAUGE, 1" F	ROUND ON 1-1/4"	STAGERRED CENT	ERS, 58% OPEN AI	REA W/ PAINTED CU	JSTOM ELECTRIC	AL YARD ENCLOS	URE	09 65 66 - RES 09 65 66 - RES		C FLOORING C FLOORING	RF-2 RF-3	MONDO, SPO MONDO, SPO	RT IMPACT 10MM, 'DARK GREY', 36" X RT IMPACT 10MM, 'BLUE', 36" X 36"
07 42 1	3.23 - METAL COMPOSITE MATERIA	L WALL PANELS		APHIC PER ELEVATIONS,											09 65 66 - RES			RF-4	MONDO, SPO	RT IMPACT 10MM, 'GOLD', 36" X 36"
07 42 1 PANELS	3.23 - METAL COMPOSITE MATE	RIAL WALL M	ICP-1 CIT	ADEL, ENVELOPE RESER	VE (RV), SERIES "F	KYNAR 500 FINISI	H, "CHARCOAL GREY	Y"				ACCENT @	EXTERIOR		09 67 00 - FLUI	D-APPLIED FLOORI ID-APPLIED FLO	NG ORING	EPOXY-1	STONHARD,	STONECLAD UT, COLOR "4008 (LIGHT
07 42 1 PANELS	3.23 - METAL COMPOSITE MATE		ICP-2 CHA	ALLENGER SHEET METAL	., METAL SALES, "AS	H GRAY" (25)						FASCIA/ S	OFFII	Ź	/2\{09 67 00 - FLU \DD. ^{09 72 16 - ARCI}	ID-APPLIED FLO IITECTURAL VINYL	ORING GRAPHIC FILMS	EPOXY-2	STONHARD, 1	TBD, COLOR TBD W/ 6" INTEGRAL COV
07 62 0 07 62 0	0 - SHEET METAL FLASHING AND TH	D TRIM S	<b>M-1</b> CH4	ALLENGER SHEET METAL	., METAL SALES, "SL	ATE GREY" (W38)						COPING C	AP		<b>09 72 16 - ARC</b> 09 91 13 - EXTE	RIOR PAINTING	YL GRAPHIC FILMS	S GF-2	3M, CONTROI	TAC PRINT FILM 40C-10R (GLOSS)
08 33 1 <b>08 33 1</b>	3 - COILING COUNTER DOORS .3 - COILING COUNTER DOORS	S	TL-2 OVE	ERHEAD DOOR, ROLLING	G COUNTER DOOR, M		DLOR #9004 "SIGNA	L BLACK", SATIN	FINISH 2			P.E. ATTEI	NDANT/ STORAG	e /2	2 09 91 13 - EXT	ERIOR PAINTING	3	P-7 P-8	DUNN EDWAF DUNN EDWAF	RDS, "SALT BOX BLUE" DET562 RDS, "CRASHING WAVES" DE5810
08 33 2	3 - OVERHEAD COILING DOORS	S							ADD.					AD	D. 09 91 13 - EXT	ERIOR PAINTING	6	P-9	DUNN EDWAR	RDS, "SUMMER NIGHT" DE5811
08 36 1	3 - SECTIONAL DOORS	5			JIU, NAL CULUK #91	JUT JIGINAL DLACI									09 91 13 - EXT	ERIOR PAINTING	5 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	P-10		RDS, "SURFS UP" DET583 へ
08 36 1	3 - SECTIONAL DOORS	А	LUM-2 (NO	T USED $\frac{\chi^2}{\Lambda DD}$									<u>کر</u>		09 91 23 - INT			P-1	DUNN EDWAF	RDS, "COOL DECEMBER" DEW383
08 43 1	3 - ALUMINUM-FRAMED STOREFROM		LIIM 1 17												09 91 23 - INT	ERIOR PAINTING	6	P-2	DUNN EDWAF	RDS, "SURFS UP" DET583
08 43 1	0 - GLAZING (ARCHITECTURAL DEC	ORATIVE WINDOW	/ FILMS)	ADIA, ANODIZED, BLA	CKMATTE							TIPICAL			09 91 23 - INT	ERIOR PAINTING	i	P-3		RDS, "BONNIE BLUE" DE5807
08 80 0	0 - GLAZING (ARCHITECTURAL	DECORATIVE G	<b>F-1</b> 3M	FASARA, GLASS FINISHI	ES FROST, MATTE S	H2MLCRX 1270, MI	LKY CRYSTAL					BLDG 400	- SERVICE LINE S	STOREFRONTS	09 91 23 - INT 09 91 23 - INT	ERIOR PAINTING	3	P-4 P-5	DUNN EDWAR	RDS, "BLACK" DEA002 RL#476
09 24 0	0 - CEMENT PLASTERING				~~~~~										09 96 00 - HIGH	-PERFORMANCE C	OATINGS		THENES OF	
09 24 0	0 - CEMENT PLASTERING	C	PL-1 OM	EGA, TEXTURE 20/30 FIN		EGRAL COLOR TO		ARDS, "COOL DEC	EMBER" DEW383			TYPICAL @	EXTERIOR/ SOF	FITS	09 96 00 - HIG	n-PERFORMANC	E CUATINGS	P-6	INEMEC, CUS	DIOM COLOR TO MATCH DUNN EDWAR
09 24 0	0 - CEMENT PLASTERING	C	PL-2 OM	EGA, TEXTURE 20/30 FI	FINISH, INTEGRAL	COLOR TO MATCH I	DUNN EDWARDS, "S	אגטס, "EQUINOX" SALT BOX BLUE" D	DE1616 DET562						10 11 00 - VISU	AL DISPLAY UNITS	(TACKABLE WALL PA	NELS)	KUDUCEN	
09 24 0	0 - CEMENT PLASTERING	c	PL-4 <u>/2</u> <u>NO</u>	r used									>		PANELS)	UAL DISPLAY UN	115 (TACKABLE WA	ALL IWP-1	KURUSEAL, D	ESEKT SAND, "SUNBURST" 5922-08
09 24 0 09 24 0	0 - CEMENT PLASTERING 0 - CEMENT PLASTERING	C C	<b>PL-5</b> ADD.)∭ PL-6 סא	ÉGÁ, TEXTURE SMOOTH	FINISH, INTEGRAL ( FINISH, INTEGRAL (	COLOR TO MATCH	DUNN EDWARDS, "S DUNN EDWARDS, "S	Summer Night" d Surfs up" det583	DE5811 3				EXTERIOR		10 11 00 - VIS PANELS)	UAL DISPLAY UN	ITS (TACKABLE WA	LL TWP-2	FORBO, BULL	ETIN BOARD, "OYSTER SHELL" 2206
09 30 0	0 - TILING	-	$\wedge$	$\sim$	2								\		10 14 00 - SIGN	AGE				
09 30 0	0 - TILING	Т	-1 <u>/2 { NO</u>		ADD.										10 14 00 - SIG	NAGE		SIGN-1	DUNN EDWAF	RDS, TO MATCH DUNN EDWARDS "SUN
09 30 0 09 30 0	0 - TILING 0 - TILING	T T	-2 ADD.DAI -3 DAI	TILE, COLOR WAVE, "L TILE, COLOR WAVE, "F	EMON POPSICLE" #0 EATHER WHITE" #C	2w34, 3" x 6", 5/1 W02, 3" x 6", 5/16	o THICKNESS " THICKNESS (STAC	CKED INSTALLATIO	ON AT SERVICE LIN	IES/ DRINKING FO	UNTAIN)	ADD.WALL TILE	ACCENT @ RES	TROOMS	10 14 00 - SIG 10 21 13.19 - Pl	AGE	MPARTMENTS	51GN-2	DUNN EDWAF	אטס, וט MAICH DUNN EDWARDS "IGL
			-									SERVICE I DRINKING	LINES/ / WEIGHT	ROOM	<b>10 21 13.19 - F</b> 10 26 00 - WALL	AND DOOR PROT	COMPARTMENTS ECTION	TP-1	SCRANTON, H	HINY HIDERS, "GREY", OP TEXTURE
09 30 0 09 30 0	0 - TILING 0 - TILING	T T	-4 DAI -5 DAI	IILE, COLOR WAVE, "T TILE, COLOR WHEEL CI	WILIGHT BLUE" #C\ LASSIC, "ARCTIC WI	w14, 3" X 6", 5/16' HITE" #0190, 3" X	[·] THICKNESS 6", GLOSS FINISH,	5/16" THICKNESS	, STAGGERED INST	TALLATION (STACK	ED INSTALLATION	WALL TILE AT CAN WALL TILE	ACCENT @ RES TYPICAL @ RES	TROOMS TROOMS/	<b>10 26 00 - WA</b> 10 51 13 - Meta	L <b>L AND DOOR PR</b>	OTECTION	WP-1	KOROSEAL, K	COROGARD CORNER GUARD #GS10, S
09 30 0	0 - TILING	т	-6 TII	SH) EBAR, HEXART. POP A711	JL, 8" HEXAGON MA ⁻	ITE PORCELAIN TI	E, INSTALLED RANF	DOMLY				EXTERIOR WALL TTLF	CAN WASH E ACCENT @ SFR	VICE LINES	10 51 13 - MET	AL LOCKERS		LK-1	SALSBURY IN	DUSTRIES, STANDARD METAL LOCKER
09 30 0	0 - TILING	T	- <b>7</b> DAI	-TILE, QUARRY TEXTUR	ES, "ASHEN GRAY" ;	#OT03, 6" X 6" W/	COVE BASE #Q3565	5 5" X 6", 1/2" TH	ICKNESS			FLOOR TIL	_E/ COVE BASE @	FOOD	12 24 00 - WINE <b>12 24 00 - WIN</b> E	DOW SHADES IDOW SHADES		RS-1		
09 30 0	0 - TILING (GROUT)												$\sim\sim\sim\sim$	$\sim$	12 36 00 - COUN	NTERTOPS		A		
09 30 0 09 30 0	0 - TILING (GROUT) 0 - TILING (GROUT)	G	-1 CUS	STOM BUILDING PRODUC	CTS, COLOR "WARM CTS, COLOR "SNOW	GRAY" WHITE "						2 GROUT @ ADD.GROUT @	FOOD SERVICE I	ELOOR TILE	<b>12 36 00 - COU</b> 12 48 13 - ENTR <b>12 48 13 - FNT</b>	INTERTOPS ANCE FLOOR MATS RANCE FLOOR M	S AND FRAMES ATS AND FRAMES	PL-3	- WILSONART,	STANDARD HPL FINISH, MATTE FINIS
															32 13 13 - SITE	CONCRETE			eenentoen	

32 13 13 - SITE CONCRETE

![](_page_129_Figure_1.jpeg)

NATURAL CONCRETE, TEXTURE FINISH PER PLANS

CONC-2

CONC-3

CONC-4

CONC-5

![](_page_129_Picture_3.jpeg)

![](_page_129_Figure_5.jpeg)

ROOM NO.

401 402 403

404

405

REMARKS

SEE FOOD SERVICE DWGS FOR ADDTL INFO

SEE FOOD SERVICE DWGS FOR ADDTL INFO

![](_page_129_Picture_6.jpeg)

![](_page_129_Picture_8.jpeg)

PES PL PF PSG	PAINT, EGGSHELL PLASTIC LAMINATE PAINT, FLAT PAINT, SEMI-GLOSS
RB RES RF RS	RUBBER BASE RESINOUS/EPOXY FLOORING RUBBER FLOORING ROLLER SHADE SYSTEM
S SCW SEAL SSM ST STV SV	SEAL SOLID CORE WOOD SEALED CONCRETE SOLID SURFACE MATERIAL STAIN WOOD COLOR STONE TILE VENEER SHEET VINYL
T TWP	TILE TACKABLE WALL PANEL
U.O.S.	UNDERSIDE OF STRUCTURE
VCT VF VWC	VINYL COMPOSITION TILE VINYL FABRIC VINYL WALL COVERING
WD WS	WOOD WALL SYSTEM

	CONCRETE	FLOORING	
LVT-2		CONC-1	
	EPOXY FLO	ORING	
RF-3		EPOXY-1	
RF-4		EPOXY-2	2
	CORNER GL	JARDS	).
T-7		WP-1	
	PER SF	PEC SECTION 10 2	5 00
			$\frown$
ISHES LEGEN	ND FOR ADDI	TIONAL INFORMAT	TION ID-1.0
ALL	TILE	E PATT	ERNS
			EPOXY-2 (EXCEPT @ RM 407=T-7) T-2 ADD.
			T-3
<u>K WALL</u>			T-4

	PACKAGE ROOF TOP UNIT SCHEDULE																							
														PAC	KAGE	ROOF	TOP	UNIT	SCHE	DULE				
					EVAPO	RATOR FAN				COOLING C	APACITY		HEATIN	NG COIL		ELEC	RICAL		MIN	FILT	ERS	MAX.		
SYMBOL	DESCRIPTION	AREA SERVED	BLDG SERVED	CFM	E.S.P.	DRIVE	H.P.	AMB (°F)	EDB (°F)	EWB (°F)	TOTAL CAP. (MBH)	SENSIBLE CAP. (MBH	INPUT MBH	MIN. AFUE/TE	MCA	MOCP	V	PH.	OSA CFM	2 TK.	MERV	OPER. WT. (LBS)	SCCR (min. RMS)	REMARKS
RTU K-1	CAPTIVEAIRE CASRTV2-1.200-18-10T-DOAS	KITCHEN	KITCHEN	4000	0.5	BELT	5.0	95	80	67	74.01	57.94	50/72	82	33.8	40	460	3		2"	13	1922	10kA	1 3 5 7 9 12 13 16
RTU K-2	CARRIER 48GCLM05	KITCHEN SERVICE LINES	KITCHEN	1600	0.5	BELT	1.0	95	80	67	49.96	37.06	60.0	81	11	15	480	3	480	2"	13	1450	5kA	1 3 4 5 6 8 11 15
RTU M-1	CARRIER 48LCD007	MUSEUM	MUSEUM ROOM	2400	0.5	BELT	1.0	95	80	67	74.01	57.94	50 / 72	82	20	25	480	3	720	2"	13	2200	10kA	12345678914
RTU W-1	CARRIER 48GCLM05	P.E. ATTENDANT, STORAGE	WEIGHT ROOM	1600	0.5	BELT	1.0	95	80	67	49.96	37.06	60.0	81	11	15	480	3	480	2"	13	1450	5kA	1345681115
RTU W-2	CARRIER 48GCLM05	SPORTS MEDICINE	WEIGHT ROOM	1600	0.5	BELT	1.0	95	80	67	49.96	37.06	60.0	81	11	15	480	3	480	2"	13	1450	5kA	12345681115
RTU W-3	CARRIER 48LCD09         WEIGHT ROOM         WEIGHT ROOM         0.5         BELT         1.0         95         80         67         104.19         78.2         120/150         80         25         30         480         3         1020         2"         13         2900         10kA         1 3 4 5 6 7 8 9 10																							
RTU W-4	CARRIER 48GCLM05	COACHES OFFICE, REFLECTION ROOM AND PUBLICATIONS	WEIGHT ROOM	925	0.5	BELT	1.0	95	80	67	49.96	37.06	60	81	11	15	480	3	480	2"	13	1450	5kA	1 3 4 5 6 8 11
					02 SENSO	RS AND IMPLE		/ 3		FD 4				ATOR ROOF		5 PR		POST MAN	UFACTURE			6 PF	ROVIDE SEPA	

7 PROVIDE SMOKE DETECTOR TO BE LOCATED IN SUPPLY AIR DUCT. (8) SUPPLY AND RETURN AIR DUCTWORK SHALL BE LINED PER 233113. (9) ARI EER 13.0 / IEER 19.4 (11) ARI SEER 16.1 (12) INTERLOCK EF-K-1 WITH RTU-K-1 (13) IEER 18.6 (14) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15) 1 HP MODULATING POWER EXHAUST 2.5 FLA, 3.1 MCA, 5.6 MOCP, 480V/3 PHASE (15 16) CAPTIVE AIR UNIT HAS A RETURN AIR DAMPER TO BE CLOSED WHEN KITCHEN HOOD AND DISHWASHER FANS ARE "ON". THE DAMPER WILL OPEN WITH THE KICHEN IS IN UNOCCUPIED MODE OR WHEN KITCHEN HOOD AND DISHWASHER FANS ARE "OFF" AND RTU-K-1 WILL OPERATE AT LOW SPEED (2000 CFM).

	DUCILESS SPLIT SYSTEM SCHEDULE																								
						INDOOR I	FAN SECTIC	N				OUTDOOR SE	CTION							COMBINI	ED CAPACITY				
SYMBOL	DESCRIPTION	BUILDING SERVED	SERVICE	INDOOR	FAN		ELECTRIC	CAL DATA	I				ELI	ECTRICAL D	ATA		OPER.			COOLING	;		0000	REFRIGERANT TYPE	REMARKS
				CFM	DRIVE	V	PH	Hz	OPER WT. LBS.	SYMBOL	DESCRIPTION	MCA	MOCP	V	PH	Hz	LBS.	TOTAL CAP. MBH	SENSIBLE CAP. MBH	AMB °F	ENT DB °F	ENT WB °F	SEER		
DFC K-1	CARRIER 40MAQBO9B-3	KITCHEN	DATA R00M #127	360 HIGH SPD	DIRECT	208	1	60	30	DCU K-1	CARRIER 38MAQB09R-3	9	15	208	1	60	115	3-13 MBH		95	75	65	25.0	R410A	123456
W-1	CARRIER 40MAQBO9B-3	WEIGHT ROOM	ELECTRICAL ROOM #151	360 HIGH SPD	DIRECT	208	1	60	30	DCU W-1	CARRIER 38MAQB09R-3	9	15	208	1	60	115	3-13 MBH		95	75	65	25.0	R410A	123456
DFC W-2	CARRIER 40MAQBO9B-3	WEIGHT ROOM	DATA ROOM #148	360 HIGH SPD	DIRECT	208	1	60	30	DCU W-2	CARRIER 38MAQB09R-3	9	15	208	1	60	115	3-13 MBH		95	75	65	25.0	R410A	123456
DFC M-1	CARRIER 40MAQBO9B-3	MUSEUM	PUBLICATIONS ROOM #901	360 HIGH SPD	DIRECT	208	1	60	30	DCU M-1	CARRIER 38MAQB09R-3	9	15	208	1	60	115	3-13 MBH		95	75	65	25.0	R410A	123456
	OR UNIT POWERED BY OUTDOO	R UNIT 2 REMO	TE CONTROLLER MOUNTED	O ON WALL ③	UNIT CFM	RATED AT H	HIGH SPEED	D(4) PROV	IDE INTEGR	RAL CONDENS	ATE PUMP (5) PROVIDE WITH CONDE	ENSER COIL GUA	RDS AND C	OATING 6	) 1" MERV	13 FILTER									

														EXHAUST FAN SCHEDULE
								MIN		МО	TOR		MAX.	
SYMBOL	DESCRIPTION	SERVES	LOCATION	CFM	ESP	DRIVE	RPM	WHEEL DIA.	BHP.	MAX HP.	VOLTAGE	PHASE	OPER WT. (LBS.)	R
EF W-1	L. COOK ACE-D 135C17D	WEIGHT ROOM TOILETS	ROOF	600	1.25	DIRECT	1497	17"	0.332	0.5	480	3	45	12
EF M-1	L. COOK ACE-D 90C15DL	MUSEUM TOILET ROOM	ROOF	100	0.75	DIRECT	1600	15"	70.3w	0.125	120	1	30	
EF M-2	L. COOK ACE-D 90C15DL	MUSEUM CUSTODIAL RM.	ROOF	100	0.75	DIRECT	1600	15"	70.3w	0.125	120	1	30	
EF M-3	L. COOK ACE-D 90C15DL	MUSEUM PUBLICATIONS RM.	ROOF	100	0.75	DIRECT	1600	15"	70.3w	0.125	120	1	30	(1) (3)
EF K-1	CAPTIVEAIRE DU18HF-A	KITCHEN TYPE 1 HOODS	ROOF	3420	1.5	DIRECT	1389		1.89	3.0	480	3	320	4 5 7
EF K-2	CAPTIVEAIRE DU12HF-A	KITCHEN DISHWASHER	ROOF	500	0.5	DIRECT	1232		0.073	0.25	208	1	65	6)
EF K-3	L. COOK ACE-D 90C15DH	KITCHEN BLDG TOILET, CUST	ROOF	200	0.5	DIRECT	1550	15"	76.8w	0.125	120	1	30	12
1 PROV	IDE BACKDRAFT DAMPER A	ND SOUND ATTENUAT			TERLOCK W	ITH BMS SYS	STEM 3	INTERLOCK	WITH LIGH	т ѕѡітсн (	4 INTERL	OCK EF-K-1	WITH RTU-	K-1 $(5)$ with vented roof curb $(6)$ interlock with switch on wall $(7)$

**PROJECT No. :1-30-55** 8/11/2022 9:19:18 AM

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

SEE ANCHORAGE DETAIL 1/M0-5.2

			AIF	R DISTRIBUTION SCHED	ULE	
SYMBOL	TYPE	NECK SIZE	CFM RANGE	MODEL	ACCESSORIES	STYLE
		6"	0-140	FOR INSTALLATION IN		
		8"	141-210	LAY-1N CEILING: TITUS PAS-AA PERFORATED		
	SUPPLY	10"	211-275	FACE.	OPPOSED	MODULAR
	AIR	12"	276-400		BLADE DAMPER	CORE
		14"	401-450	HARD CEILING: 6"Ø: 12X12 FACE		
		16"	451-570	8"Ø & 10"Ø: 16X16 FACE 12"Ø & ABOVE: 24X24 FACE		
SYMBOL	TYPE	NECK SIZE	CFM RANGE	MODEL	ACCESSORIES	STYLE
		6"	0-155	FOR INSTALLATION IN		
		8"	156-250	PAR-AA PERFORATED FACE		
B	EXHAUST AIR	10"	251-375		OPPOSED BLADE DAMPER	EXHAUST, OR TRANSFER AIR
		12"	376-475	FOR INSTALLATION IN HARD CEILING:		GRILLE
		14"	476-640	8"Ø & ABOVE: 24X24 FACE		
		12X6	250			
		30X6	500			
	AIR	18X8	535	TITUS 300RL DOUBLE DEFLECTION	OPPOSED BLADE	SIDEWALL SUPPLY AIR
		36X8	800			
		46X6	800			
		30X12	1000			
	AIR	30X16	1500	DOUBLE DEFLECTION.	BLADE DAMPER	RETURN AIR
		48X12	1800			
NOTE:	REFER TO	ARCHITECTU	JRAL REFLE	ECTED CEILING PLAN FOR FINAL LOCATIONS A	ND CEILING TYPE	

![](_page_130_Picture_13.jpeg)

CONSULTANT BRANDING

![](_page_130_Picture_14.jpeg)

![](_page_130_Picture_18.jpeg)

AGENCY APPROVAL File No: #####A###-###

![](_page_130_Picture_20.jpeg)

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![](_page_130_Picture_22.jpeg)

# **PROJECT No. :1-30-55** 8/11/2022 9:19:19 AM

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 DATE_____

 REVISION No
 1
 DATE
 8-01-2022 DESCRIPTION
 ADDENDUM 1

 REVISION No
 2
 DATE
 8-16-2022 DESCRIPTION
 ADDENDUM 2

 REVISION No
 DATE
 DESCRIPTION

 REVISION No
 DATE
 DESCRIPTION

![](_page_131_Figure_3.jpeg)

![](_page_132_Figure_0.jpeg)

![](_page_132_Picture_2.jpeg)

PROJECT No.	:1-30-55
3/11/2022 8:50:10 AM	

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![](_page_133_Picture_2.jpeg)

							PLU	MBING E	QUIPME	NT SCHEDULE	
			ELECTRI	CAL DATA		CAP	ACITY	STORAGE			
SYMBOL	TYPE	POWER (HP)	VOLTS (V)	PHASE (PH)	HERTZ (HZ)	INPUT (MBH)	OUTPUT (MBH)	VOLUME (GALLON)	WEIGHT (LBS)	DESCRIPTION	LOCATION
WH 1	WATER HEATER		120	1	60	150		100	1053	AO SMITH BTH-150(A), 90 DEGREE TEMPERATURE RISE @ 198 GALLONS, 98% THERMAL EFFICIENCY.	KITCHEN
ET 1	EXPANSION TANK							6.6	52	TACO PAX25, 150 PSIG WORKING PRESSURE.	KITCHEN
CP 1	CIRCULATION PUMP	1/12	120	1	60				13	GRUNDFOS UP26-96BF, LEAD FREE, 3 GPM @ 20 FT. T.D.H.	KITCHEN
MX 1	MIXING VALVE									LEONARD LV-981A-LF, LEAD FREE, THERMOSTATIC, 15 GPM @ MAX 6 PSI PRESSURE DROP. 2.5 GPM MINIMUM FLOW CAPACITY.	KITCHEN
WH 2	WATER HEATER					75.1		80	685	AO SMITH BL-80, 90 DEGREE TEMPERATURE RISE @ 81 GPH, 81% THERMAL EFFICIENCY.	WEIGHT ROOM
ET 2	EXPANSION TANK							6.6	52	TACO PAX25, 150 PSIG WORKING PRESSURE.	WEIGHT ROOM
CP 2	CIRCULATION PUMP	1/12	120	1	60				13	GRUNDFOS UP26-96BF, LEAD FREE, 3 GPM @ 20 FT. T.D.H.	WEIGHT ROOM
	MIXING VALVE									LEONARD TM-26-LF, LEAD-FREE, THERMOSTATIC, 15 GPM @ MAX 20 PSI PRESSURE DROP, 1 GPM MINIMUM FLOW CAPACITY.	WEIGHT ROOM
GI 1	GREASE INTERCEPTOR							1000		JENSEN PRECAST JP1000G.	EXTERIOR
	SAMPLE BOX								1400	JENSEN PRECAST JP-200, 24" SAMPLE BOX.	EXTERIOR
	CONDENSATE DRAIN PUMP	1/50						1	1400	LITTLE GIANT VCL-14 SERIES, ABS HOUSING.	VARIOUS

							PLUMBING
				ROUGH-IN	1		
SYMBOL	FIXTURE	HW	CW	w	TRAP	V	
	WATER CLOSET		1"	4"	INTEGRAL	2"	AMERICAN STANDARD, MA ZURN Z600AV, EXPOSED M
WC 2	WATER CLOSET - ACCESSIBLE		1"	4"	INTEGRAL	2"	AMERICAN STANDARD, MA ZURN Z600AV, EXPOSED M
	URINAL - ACCESSIBLE		3/4"	2"	2"	1 1/2"	AMERICAN STANDARD WAS ZURN Z6003 AV EXPOSED N
$\begin{pmatrix} L \\ 1 \end{pmatrix}$	LAVATORY	1/2"	1/2"	2"	1 1/2"	1 1/2"	AMERICAN STANDARD LUC CHICAGO FAUCETS MVP F/
$\begin{pmatrix} L \\ 2 \end{pmatrix}$	LAVATORY - ACCESSIBLE	1/2"	1/2"	2"	1 1/2"	1 1/2"	AMERICAN STANDARD LUC CHICAGO FAUCETS MVP F/
$\left\langle \begin{array}{c} S \\ 1 \end{array} \right\rangle$	SINK - ACCESSIBLE	1/2"	1/2"	2"	1 1/2"	1 1/2"	JUST SL-ADA-1921-A-GR, SI JUST J-1174-KS, GOOSENE
$\left\langle \begin{array}{c} S\\ 2 \end{array} \right\rangle$	SINK	1/2"	1/2"	2"	1 1/2"	1 1/2"	SWAN MF-F VERITEK, FLOC CHICAGO FAUCET 891-E2-3
(FD) 1	FLOOR DRAIN			3"	3"	1 1/2"	ZURN, Z415B, DURA-COATE
$\langle FS \\ 1 \rangle$	FLOOR SINK			3"	3"	1 1/2"	ZURN Z1910, 8" X 8" SQUAR
	MOP SINK			3"	3"	1 1/2"	AMERICAN STANDARD 774 CHICAGO FAUCETS 897-MF
(HB) 1	HOSE BIB (EXTERIOR)		3/4"				ZURN Z1341, EXTERNAL VA
HB 2	HOSE BIB (INTERIOR)		3/4"				ACORN 8140, STAINLESS S
	DRINKING FOUNTAIN		3/4"	2"	2"	2"	HAWS 1119.14, BOTTLE FILI
	DRINKING FOUNTAIN		3/4"	2"	2"	2"	HAWS 1119.14, BOTTLE FILI
	TRAPPRIMER		1/2"				PPP/P1-500, CORROSION R
(RD) 1	ROOF DRAIN						ZURN ZC-100-C-R, CAST IR
	OVERFLOW ROOF DRAIN						ZURN ZC-100-C-R-89, CAST
CWB 1	CLOTHES WASHER BOX						GUY GRAY, OUTLET BOX
	DRAIN RECEPTOR						ZURN Z127, 8-1/2" DIAMETE
WHA 1	WATER HAMMER ARRESTOR						PRECISION PLUMBING PRC

![](_page_133_Picture_6.jpeg)

![](_page_133_Picture_7.jpeg)

### FIXTURE SCHEDULE REMARKS ADERA FLOWISE TOILET #2855.128, FLOOR MOUNTED, ELONGATED BOWL, VITREOUS CHINA, 15" HEIGHT MANUAL FLUSH VALVE, 1.28 GPF MADERA, FLOWISE TOILET #2857.111, FLOOR MOUNTED, ELONGATED BOWL, VITREOUS CHINA, 16-1/2" HEIGHT, ACCESSIBLE. MANUAL FLUSH VALVE, 1.28 GPF, ACCESSIBLE. ASHBROOK, WHITE VITREOUS CHINA, ACCESSIBLE. D MANUAL FLUSH VALVE, 0.5 GPF, ACCESSIBLE. CERNE 0356.41, WALL HUNG, VITREOUS CHINA. P FAUCETS 333-E2805-665PSHAB, MANUAL METERING FAUCET, DECK MOUNTED, SINGLE HOLE SINGLE SUPPLY, 0.5 GPM FLOW. JCERNE, 0356.41, WALL HUNG, VITREOUS CHINA, ACCESSIBLE. P FAUCETS 333-E2805-665PSHAB, MANUAL METERING FAUCET, DECK MOUNTED, SINGLE HOLE SINLE SUPPLY, 0.5 GPM FLOW, ACCESSIBLE. , SINGLE BOWL, 316 STAINLESS STEEL, 19X21X6.5" BOWL, 3 HOLE, CENTER REAR DRAIN, ACCESSIBLE. NECK, 1.5 GPM FLOW, ACCESSIBLE. OOR MODEL, LAUNDRY TUB, WHITE. 2-317CP, MANUAL SINK FAUCET, DECK MOUNTED. ATED CAST IRON BODY, TYPE B POLISHED NICKEL BRONZE LIGHT-DUTY STRAINER. ARE RECEPTOR, DEEP CAST IRON BODY, MEDIUM-DUTY GRATE. 741.000, VINYL RIM GUARD, ENAMELED CAST IRON. MPCP, WALL MOUNTED. ACUUM BREAKER. S STEEL RECESSED HOSE BOX WITH WALL FLANGE. ILLER MODEL 1920, DUAL WALL MOUNT, 304 STAINLESS STEEL, INDOOR, ACCESSIBLE FILLER MODEL 1920 DUAL WALL MOUNT, 304 STAINLESS STEEL, OUTDOOR, ACCESSIBLE. RESISTANT BRASS. IRON DOME, UNDERDECK CLAMP. T IRON DOME, UNDERDECK CLAMP, 2" HIGH EXTERNAL DAM. ETER DECK RECEPTOR DRAIN, DURA-COATED CAST IRON BODY. RODUCTS MM-500TH PROVIDE BOX. SEE DETAIL 3 ON SHEET P0-5.1.

![](_page_133_Picture_9.jpeg)

![](_page_133_Picture_13.jpeg)

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![](_page_134_Picture_2.jpeg)

![](_page_134_Figure_3.jpeg)

![](_page_135_Figure_0.jpeg)

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

![](_page_135_Figure_3.jpeg)

![](_page_135_Figure_4.jpeg)

18

19

20 21 2" CW UP. 1" MPG UP.

![](_page_135_Picture_6.jpeg)

PLUMBING ENLARGED PLANS

**GHS KITCHEN & WEIGHTROO** GROSSMONT HIGH SCHO 1100 MURRAY DR, EL CAJON, CA 92 GROSSMONT UNION HIGH SCHO

![](_page_135_Picture_9.jpeg)

AGENCY APPROVAL File No: 37-H4 A#04-12089

![](_page_135_Picture_11.jpeg)

3/4" CONDENSATE DRAIN DOWN IN WALL AND DRAIN INDIRECT TO FLOOR SINK. MECHANICAL EQUIPMENT SHOWN FOR REFERENCE ONLY. SEE MECHANICAL DRAWINGS

GAS PRESSURE REGULATOR, SOV & EARTHQUAKE VALVE (SEE DETAIL 1/P0-5.1). REGULATE FROM MEDIUM TO LOW PRESSURE GAS. PROVIDE NEW EMERGENCY GAS SHUT OFF VALVE AND SIGNAGE PER CPC 1210.9.3.

![](_page_135_Figure_17.jpeg)

![](_page_136_Figure_0.jpeg)

![](_page_136_Picture_2.jpeg)

Poway, CA 92064 www.jce-inc.com RUHNAU C L A R K E ARCHITECTS

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

GENCY APPROVAL

2 SEE FLOOR PLANS FOR EQUIPMENT/IDF ROOM REQUIREMENTS

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 LOSE PROTECTION AT ANY TIME AFTER SCHOOL HOURS.

4 PROVIDE (2) 20A/1P CIRCUIT BREAKERS IN EXISTING SPACES 10,12

E1.1

![](_page_137_Figure_0.jpeg)

## **PROJECT No. :1-30-55** 8/11/2022 11:39:42 AM

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![](_page_137_Picture_5.jpeg)

### KEY NOTES:

(1)	SEE ARCHITECTURAL PLA
2	2 #12 (HOT), 1 #10 (NEUTR
Э	3 #12 (HOT), 1 #10 (NEUTR
4	4 #12 (HOT), 2 #10 (NEUT
(5)	PROVIDE TRACK LIGHTIN

TRACK LIGHTING.

![](_page_137_Picture_9.jpeg)

BLDG 900 FLOOR PLAN - LIGHTING

![](_page_137_Picture_11.jpeg)

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

- LIGHTING

RUHNAU C L A R K E ARCHITECTS

1. REFERENCE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT

GENCY APPROVAL

3. REFERENCE E8 SERIES SHEETS FOR TYPICAL CONDUIT AND BACKBOX

INDICATES SWITCH AND OR OCCUPANCY SENSOR WHICH CONTROLS

REQUIRED TO CONNECT EACH LIGHTING FIXTURES TO THEIR INDICATED

LANS FOR MOUNTING HEIGHT.

FRAL), 1 #12 (GND), 3/4"C.

FRAL), 1 #12 (GND), 3/4"C.

TRAL), 1 #12 (GND), 3/4"C.

ING WITH MEDIUM FLOOD 4000K LIGHTING FIXTURE EVERY 8' AS MANUFACTURED BY TARGETTI #FORTYEIGHT LABEL 4. PROVIDE SEPARATE LIGHT SWITCH TO CONTROL ONLY THE

![](_page_137_Picture_31.jpeg)

## **PROJECT No. :1-30-55** 8/11/2022 11:39:45 AM

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![](_page_138_Figure_3.jpeg)

![](_page_138_Picture_5.jpeg)

### KEY NOTES:

- 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.

![](_page_138_Picture_10.jpeg)

KITCHEN FLOOR PLAN - LIGHTING

![](_page_138_Picture_12.jpeg)

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

LIGHTING

![](_page_138_Picture_15.jpeg)

www.jce-inc.com

![](_page_138_Picture_19.jpeg)

1. REFERENCE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT

AGENCY APPROVAL

4. LETTERS IN OR ADJACENT TO EACH FIXTURE OR FIXTURE ROW INDICATES SWITCH AND OR OCCUPANCY SENSOR WHICH CONTROLS

5. CIRCUIT HOMERUNS ARE INDICATED TO SHOW THE LOCATION AND 6. PROVIDE MINIMUM 3/4" CONDUIT AND #12 CIRCUIT CONDUCTORS AS REQUIRED TO CONNECT EACH LIGHTING FIXTURES TO THEIR INDICATED

1) SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHT.

(4) 4 #12 (HOT), 2 #10 (NEUTRAL), 1 #12 (GND), 3/4"C.

![](_page_138_Picture_29.jpeg)

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				ING	FIXT													
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	Volts	Lamps Watts Fixture Watts	Recessed / Ceiling Wall Recessed / 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	Volts	Lamps Watts Fixture Watts	No. Type Ceiling Surface / Cei	Wall Recessed / Wall Pendant Surface / Wall Pole	Description
	LITHONIA LIGHTING	WST LED SERIES		120							DAY-BRITE	EVO GRID 2X4		120				vide Ballast Type
	HUBBELL	GEOPAK SERIES TRP2				TRAPEZOIDAL WALL SCO	DNCE WITH INTEGRAL PHO	TOCELL MIN. 3000 LUME	INS		COLUMBIA	LTGR24	]			2'X4' T-GRID FIXTU MINIMUM 5000 LU	JRE WITH CENTER BAS MENS AT A CCT OF 400	SKET/CURVED DIFFUSER. 00 KELVIN. DRIVER
	MCGRAW EDISON	IST SERIES		□208							LITHONIA	2BLT	_	□208		VOLTAGE UNIVER	RSAL. 0-10v DIMMING.	
	VISIONR	PGAS SERIES	-	■277			1				CRUZE	ST	_	■277	40			
S5	GARDCO	101 SERIES	-	□480	30w	Provide Emergency Ballast Type 'EM'	Provide Custom Color Finish, to be selected at time submittal	See Detail		A1			-	□480	42W	Provide Emergency Ballast Type 'EM'	Provide Custom Color Finish, to be selected at time submittal	See Detail
	LIGMAN LIGHTING	ANDERSON SERIES		120			ED FIXTURE, 26" DIAMETER	FLAT HEAD WITH 3 ARM	ИS		PINNACLE ARCH. LIGHTING PHILIPS LEDALITE	EDGE EV3A SERIES TRUGROOVE		∎120			XTURE. 3''W X 5 1/8''D X 47''L	L. MINIMUM 2568 LUMENS AT A
			-	□208		RISING UP TO HEAD FROI MINIMUM 2,997 LUMEN, 40 MOUNTED ON 12'-0" ALUM	M POLE AND METAL BAND 000 KELVIN, 0-10v DIMMING MINUM POLE DESIGNED FO	BETWEEN BASE AND TO TYPE 5, CAST ALUMINU R 115 MPH WIND SPEED	OP, JM, D		LUMENWERX	VIA 3 LED (RECESSED)	_	□208		CCT OF 4000 KELVIN	. MATTE WHITE FINISH. 0-10	OV DIM.
			-	277		WITH MOTION SENSOR, V EXISTING POST TOP FIXT HEIGHT.	VERIFY FINISH WITH ARCHI IURES AT NEW BUILDINGS,	TECT, FIXTURE TO MATO FIELD VERIFY EXACT P	CH POLE		AXIS LIGHTING	BEAM3 LED SERIES		277				
					41	Provide Emergency	Provide Custom	See Detail	$\sum$		NEO-RAY	DEFINE 3 RECESSED			34.4w	Provide Emergency	Provide Custom Color Finish, to be	See Detail
SP				□480		Ballast Type 'EM'	selected at time submittal	E2	シ	C2				480		Ballast Type 'EM'	selected at time submittal	
	ELECTRIX	MHIGH SERIES	<u> </u> _ _ _ _  <b>_</b>	120							LITHONIA LIGHTING	ZL1N SERIES	_□ □ □ □  <b>□</b>  ■	120				
	OR EQUAL			L 208	-	RECTANGULAR WALL WA TEMPERATURE, VERIFY C	ASH SCONCE, MIN. 1500 LUI COLOR WITH ARCHITECT.	MENS, 4000K COLOR						□208		LINEAR SURFACE ST LUMENS AT A CCT O	RIP FIXTURE. 3 3/8"W X 3 1 F 5000 KELVIN. 0-10v DIM.	/4"H X 48 1/8"L. MINIMUM 5000
sw			-								WILLIAMS	75 LED SERIES	-					
				<b>2</b> 77	23w					M	METALUX	SNLED	-	■277 □480	45w	Provide		
SW				□480		Emergency Ballast Type 'EM'	Color Finish, to be selected at time submittal			D			-			Emergency Ballast Type 'EM'	Color Finish, to be selected at time submittal	
				∎ 120								SERIES BW165 SERIES		∎120				
		P180 SERIES		□208		SELF LUMINOUS EXIT SIG REQUIRED. SURFACE MO 20 YR LIFE AND PLASTIC	GN WITH GREEN LETTERING DUNT ABOVE DOOR OR CEI WHITE FRAME	G. NUMBER OF FACES A LING MOUNT AS REQUIF	NS RED.				-	□208		FLOOR PLANS FOR E	EXACT LENGTH OF AND DOWN EXACT LENGTH, 5 WATTS P 130 LM/FT DOWNLIGHT, 380	ER FOOT UPLIGHT, 5 WATTS PER LM/FT UPLIGHT, 4000 KELVIN.
$\left  \left\langle x \right\rangle \right $	LIGHTOLIER	TE SERIES	-		-					$\left  \left< D4 \right> \right $			-			WHITE FINISH. 0-10V	DIMMING	
	EVENLITE		-	■277	N/A								_	■277	40	Provide	Provide Custom	See Detail
		SERIES	_	□480		Emergency Ballast Type 'EM'	Color Finish, to be selected at time						_	□480		Emergency Ballast Type 'EM'	Color Finish, to be selected at time submittal	
X							Submittai			04	GOTHAM	6" EVO SERIES		120				
								COVENTRY	6LB79VWL SERIES				6 INCH DIAMETER MI LOCATION LISTED. V	NIMUM 3000 LUMENS AT A	CCT OF 400 KELVIN. WET ATIC POLYCARBONATE LENS.			
											PHILIPS LIGHTOLIER	CALCULITE LED GEN3		□208				
											FAIL-SAFE	LD6B	_	■277				
													_	□480	30w	Provide Emergency Ballast Type 'EM'	Provide Custom Color Finish, to be	See Detail
										G2	ALPHABET	NU6" SERIES						
														120		6 INCH SQUARE DOV		IMENS AT A CCT OF 4000 KELVIN.
											PHILIPS	P6S SERIES	_	□208		WET LOCATION LIST FINISH.	ED. VANDAL RESISITANT S	MOOTH CLEAR LENS, WHITE
										$\left  \left< \frac{G6}{G6} \right> \right $	LIGHTOLIER		-	<b>2</b> 77				
									Λ				-	□480	17w	Provide Emergency Ballast Type 'EM'	Provide Custom Color Finish, to be selected at time	See Detail
									$\frac{2}{2}$	- <del>66</del>	$\uparrow$	<u>+</u>				<u></u>	<u>~~</u> f~~ ^{subm} ttal	~~~
										y	<del></del>			<del>yuuu</del>				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
									KURTZON	2'X4'	_□ □ □ □  <b>□</b>  ■	∎120						
TING FIXTURE SCHEDULE KEY NOTES:								CSED024 SERIES		□208		ENCLOSED AND ( PRISMATIC ACRY WHITE DOOR FRA	GASKETED 2'X4' RECES LIC LENS (INVERTED) A AME, PROVIDE LENS AN	SED MOUNT FIXTURE125" AND FLUSH ALUMINUM ND FRAME NEOPRENE				
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						<b>K1</b>		GWL320	_			GASKETING, MINI DRIVER VOLTAGE	MUM 5000 LUMENS AT E UNIVERSAL. 0-10v DIM	A CCT OF 5000 KELVIN. MING.				
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).									NEWSTAR	57R SERIES	_	277	50	Provide	Provide Custom	See Detail		
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.								K1		WL RECESSED	 	□480		Emergency Ballast Type 'EM'	Color Finish, to be selected at time submittal	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
OF TH	LETE CATALOG S SCHEDULE FO	OR COMPLETE FIX	NUT BEEN PRO KTURE REQUIREI	MENTS.	KEFER	ENCE THE DESCRIF	FIION AND OPTIONS	D COLUMNS				2'X2'		120				
EMERG	SENCY POWER	FOR LIGHTING IS	SUPPLIED BY E	M GENE	RATOF	۶.					FAIL-SAFF	GRW		208		PRISMATIC ACRY WHITE DOOR FRA	LIC LENS (INVERTED) A ME, PROVIDE LENS AN	ND FLUSH ALUMINUM ND FRAME NEOPRENE
										<u>  &lt;к2</u>	LA LTG	GWL320	-			GASKETING, MINI DRIVER VOLTAGE	MUM 5000 LUMENS AT E UNIVERSAL. 0-10v DIM	A CCT OF 5000 KELVIN. IMING.
											NEWSTAR	57R SERIES	-	■2//	50	Provide	Provide Custom	See Detail
									К2				□480		Emergency Ballast Type 'EM'	Color Finish, to be selected at time submittal		

LIGHTIN 1. A

2.

З.

![](_page_139_Picture_10.jpeg)

Power | Lighting | Multimedia

12875 Brookprinter Place, Suite 300 Poway, CA 92064 P 858.679.4030 | F 858.513.0559 www.jce-inc.com

LTANT BRANDIN

![](_page_139_Picture_15.jpeg)

![](_page_139_Picture_16.jpeg)

![](_page_139_Picture_17.jpeg)

![](_page_139_Picture_18.jpeg)

![](_page_139_Picture_19.jpeg)

![](_page_140_Figure_0.jpeg)

## **PROJECT No. :1-30-55** 8/11/2022 11:39:52 AM

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![](_page_140_Figure_4.jpeg)

3775 TENTH STREET, RIVERSIDE CALIFORNIA 92501(951) 684 4664 / 5751 PALMER WAY, SUITE C, CARLSBAD CALIFORNIA 9201(960) 438 5899

- POWER

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

![](_page_140_Picture_8.jpeg)

GENCY APPROVAL

![](_page_140_Picture_10.jpeg)

Poway, CA 92064 www.jce-inc.com

![](_page_140_Picture_13.jpeg)

REFERENCE ARCHITECTURAL INTERIOR ELEVATIONS FOR EXACT LOCATION OF ALL WALL MOUNTED POWER DEVICES WHERE INDICATED AT MOUNTING HEIGHTS OTHER THAN +18".

4. NUMBERS ADJACENT TO EACH POWER DEVICE INDICATES THE CIRCUIT NUMBER TO WHICH THE DEVICE IS TO BE CONNECTED.

CIRCUIT HOMERUNS ARE INDICATED TO SHOW THE LOCATION AND NUMBER OF CIRCUITS TO BE GROUPED TOGETHER.

PROVIDE MINIMUM 3/4" CONDUIT AND #12 CIRCUIT CONDUCTORS AS REQUIRED TO CONNECT EACH POWER DEVICE TO THEIR INDICATED

FIELD VERIFY EXACT ROUTING LOCATION FOR CONCEALED CONDUITS AND RECEPTACLES PRIOR TO ROUGH-IN.

(1) FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.

5 EXTEND CIRCUIT WB-14 TO ALL FIRE SMOKE DAMPERS. SEE E5 SERIES FLOOR PLANS FOR EXACT QUANTITIES AND LOCATIONS OF DAMPERS.

(7) ELECTRICAL OUTLET FOR COMMUNICATIONS BACKBOARD @+42" AFF

8 DATA OUTLET AT CONTROL PANEL. COORDINATE WITH LOW VOLTAGE SYSTEM CONTRACTOR FOR PLACEMENT.

![](_page_140_Picture_27.jpeg)

E3.1

![](_page_141_Figure_0.jpeg)

RUHNAU

GENCY APPROVAL

C L A R K E ARCHITECTS

REQUIRED TO CONNECT EACH POWER DEVICE TO THEIR INDICATED

\E4.8/

SINGLE SWITCH. SEE ROOF PLANS FOR CIRCUITING INFORMATION

![](_page_141_Picture_29.jpeg)

![](_page_142_Figure_0.jpeg)

# **PROJECT No. :1-30-55** 8/11/2022 11:40:01 AM

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3775 TENTH STREET, RIVERSIDE CALIFORNIA 92501(951) 684 4664 / 5751 PALMER WAY, SUITE C, CARLSBAD CALIFORNIA 9201(960) 438 5899

![](_page_142_Picture_5.jpeg)

![](_page_142_Picture_6.jpeg)

![](_page_142_Picture_7.jpeg)

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

![](_page_142_Picture_9.jpeg)

GENCY APPROVAL

![](_page_142_Picture_14.jpeg)

LOCATION OF PROJECTOR AND OTHER AUDIO-VISUAL EQUIPMENT IS DIAGRAMMATICAL. EXACT LOCATION OF EQUIPMENT TO BE FIELD VERIFIED PRIOR TO INSTALLATION. LOCATION OF PROJECTOR AND

REQUIREMENTS, FOR JUNCTION BOX LOCATIONS, TYPES AND SIZES.

\E4.9/

2E4.10/

![](_page_142_Picture_38.jpeg)

1-30-55

E4.1

![](_page_143_Figure_0.jpeg)

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GENCY APPROVAL

RUHNAU C L A R K E ARCHITECTS

LOCATION OF PROJECTOR AND OTHER AUDIO-VISUAL EQUIPMENT IS DIAGRAMMATICAL. EXACT LOCATION OF EQUIPMENT TO BE FIELD VERIFIED PRIOR TO INSTALLATION. LOCATION OF PROJECTOR AND PROJECTOR MOUNT TO BE COORDINATED WITH LOCATION OF

REQUIREMENTS, FOR JUNCTION BOX LOCATIONS, TYPES AND SIZES.

ROUTE DATA CONDUIT TO IDF CLOSET AND SPARE CONDUIT TO NEAREST ACCESSIBLE CEILING. REFER TO FLOOR BOX DETAIL FOR

SUPPORT POST TO DECK ABOVE. REFER TO DRAWING DETAILS

LOCATION PRIOR TO INSTALLATION WITH CONSTRUCTION MANAGER.

![](_page_143_Picture_31.jpeg)
INTENTIONALLY LEFT BLANK





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	AI-I.0. Location of Gridline E does not match Foundation Plan, Sheet SI-I.I. Please advise	Architect drawing has been revised to match Structural Sheet SI-1.1
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	AI-I.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
11	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 #I
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





RFI #	Question	Response
18	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	Detail 6/AD-3.1 added to drawings, keynote 23.630 added to sheet A2-3.0, See ADD #2
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	Detail 21/AD-2.0 is not being referenced on Sheet A2-6.0 in the DSA Approved Set.
20	AD-8.0 Coordinate mounting to structure shown here with detail 4/E4.9. Please advise	Detail 15/AD8.0 has been removed and referencing E4.9 only
21	SI-I.I. Location of Gridline E does not match Plan I/AI-I.0.	Architectural Plan IAI-I.0 has been revised Gridline E now matches SI-I.I
22	M0-0.2 RTU-K-1. 4000 CFM does not match Sheet M2-2.1 indicating 3000 CFM total supply air distribution. Please advise	Schedule has been updated and added note 16 to RTU K-I and Sheet M2-2.1 has been revised to match.
23	M0-0.2 Separate electrical connections for the power exhaust are missing from the Electrical Roof Plans. Please advise	Separate power connection for power exhaust is called out on sheet E6.3 in key note 2.
24	P0-0.2. Lavatory L-2 is missing from Specification Section 22 42 16.13 - 2.01. Please advise	Revised. L-2 was added to the specifications.
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	Completed. RD-1, ORD-1, S-2 are added to the Plumbing Fixture Schedule see sheet P0-0.2.
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	Corrected. Reference to civil drawings for gas has been deleted.
27	P0-1.1. Roof drain line continuation and connection to below grade storm drain system is missing from	The DSA approved set already shows the storm drain Point of Connection per civil keynote 14,
27	Sheets C-1.0 and C-1.1. Typical all. Please advise	which is 5 feet outside the building footprint
28	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 per civil keynote 2 and 5, which is 5 feet outside the building footprint
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 1-1/4" gas line. See enlarged plan 2 on sheet P2-3.1
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.
31	P0-4.1 Four (4) floor sinks (FS-1) differ from Plan 1/P2-2.2 indicating floor drains (FD-1) in Room 401. Please advise	Corrected. P0-4.1 was corrected to match the floor plans.
32	PI-2.2. Exhaust vent for water heater WH-1 is missing. Please advise	Corrected. WH-I exhaust vent has been coordinated.
33	P2-2.1. 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 Points of connections per civil keynote 2 and 4, which is 5 feet outside building footprint.
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.
35	P2-2.2. Gridline H, between Gridlines 8 and 9. Gas water heater exhaust vent is missing. Please advise	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

### Grossmont Union High School District



#### Grossmont HS Kitchen and Weight Room Issue Date: 08/12/22

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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.I 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 - I.02.B Section 08 36 I 3 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.
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	II 40 00 - 2.09 Item No. II. 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 ZS1-02Z-CT3-AST does not match Equipment Schedule, Sheet K2, indicating RDT Model ZS1-02A-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
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





RFI #	Question	Response
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-1 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
92	22 34 00 - 3.01.H Section 22 05 23 Ball Valves for Plumbing Piping is missing from the Project Manual.	Section added.
93	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.	UR-2 has been deleted. See Plumbing Fixture Schedule on sheet P0-0.2.





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RFI #	Question	Response
94	22 42 16.13 - 3.05.D.1 Section 26 05 53 Identification for Electrical Systems is missing from the Project 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 PI-3.1 and is scheduled 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 Manual.	Spec section title has been revised to Cast In Place Concrete
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
103	23 08 00 - I.II Section 01 33 00 Submittal Procedures is missing from the Project Manual.	Section 1.11 has been removed
104	31 23 16.13 - 3.04.1 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\#1}" 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\#1}" 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
ш	32 84 00 - 1.01.B.1 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.	Revised
113	33 05 43 - 1.02.D Section 33 41 00 Subdrainage is missing from the Project Manual.	Paragraph to be deleted
114	33 05 43 - 1.02.F Section 33 52 16 Gas Hydrocarbon Piping is missing from the Project Manual.	Paragraph to be deleted
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





RFI #	Question	Response
	AI-I.0 Sectional Door must be coordinated with school. This is a risk for high school kids hanging on	
121	the track or throwing things on top of the track. Please confirm this door shall turn in to a coiling door	Sectional Door removed and replaced with coiling door system
	and not remain as a sectional door	
122	AI-I.0 Says printers will be relocated. Is it the intent to have the contractor move the printer and	District has contracted with 3rd party for printer/conv removal and reinstallation
122	reinstall it?	District has contracted with ord party for printer/copy removal and remstanation
123	AI-4.0 The pattern of plaster finish seems to have multiple color finishes to within a small SF area. Is	Revised to one plaster finish ref RCA Addendum 2 drawings
125	this intentional?	Revised to one plaster limitin, rel. NCA Addendum 2 drawings
124	4/AD-3.0 Coordinate with S-sheets. Platform is not shown in structural. Please advise or correct	Details on the Architectural sheets have been coordinated with Structural and will only be shown on
121	details	Arch Sheets
125	3/AD-3.0 Coordinate with roofing manuf. details. Roofing material must have minimum 8" vertical	Detail undated to reflect manufacturer installation requirement
125	upturn uninterrupted/change in direction. Please provide revised detail.	
	SI-I.I GL2.3-G: Bathroom does now show depressed slab. It's shown in the custodial rm. Custodial	
127	rm is sealed conc, not tile. Please confirm 2" depression is suitable for specified floor tile system (TYP	See approved structural drawings updated with 2" depressed slab for the bathrooms.
	all restrooms/depressed slab locations)	
128	SI-I.I Legend shows a symbol for change in elevation, but it isn't used at the restroom locations, only	See approved drawing for slab change used in the foundation plans
120	the slab elevation symbol is used. Please advise	
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.
133	E3.2 There are rooms unidentified and '?' marks are shown. Please advise	Room tags with ? Removed in RCA Addendum I
124	E4.4 APC/UPS not shown on drawings. Should be Contractor furnished and Contractor installed.	
134	Please confirm	UPS Not Snown in IDF Room Layout, snown in IDF Rack Detail #2/E4.3. UPS is CPCI
1.25	E4.6 APC/UPS not shown on drawings. Should be Contractor furnished and Contractor installed.	
135	Please confirm	UPS not Shown in IDF Room Layout, Shown in IDF Rack Detail #2/E4.3. UPS is CFCI
	E4.4 Plan shows voice coming from at 66 punch down block. District phones are VOIP not POT lines -	
136	phone ports need to have same CAT6 cable that data ports have. The 66 punch down block is still	Piger Shown as Detail #1/E4.2 Mains Fred only for direct Mains Trunk connections and MOIP
	required for FAX and alarms, 25 pair will work. Also, there needs to be a IU POTs patch panel in the	There Milled Detail for Veige Trunk Detail Proc
	rack that feeds back to a second 66 punch down block located next to the first 66 punch down block.	riones. Will aug Detail for Voice Trunk Fatch Fahel.
	Please advise	

### Grossmont Union High School District



RFI #	Question	Response
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
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.
149	P1-2.2 Washing machine, dryer and ice machine are not shown on plumbing plans, but there is a spec and it is shown on A1-1.0. 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 PI-3.1. Floor sink provided for ice machine see sheet PI-2.2.





RFI #	Question	Response
	E2.4 KN #1 shows the existing master lighting controller is in 'BLDG. GYM' and KN #11 says to	
150	provide control wiring as required by Manufacturer. However, EI.I site plan does not indicate which	Control wiring shall be pulled from MDF in Old Gym
	gym this control wiring should be pulled from. Please advise.	
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	
154	advise if a drain or waterproofing is required at either retaining wall	Detail 10/30-1.2 has been revised to show waterprobing and drain see Addendum r
155	#331416A #331416A appears to discuss fire sprinkler info but this project does not have fire sprinkler	The forms are be deleted as an budgeness are new involved.
155	scope. Please confirm this spec is N/A	The form can be deleted as no rydrants are now involved
	MI-2.2/M2-2.2 Rooftop condensing units are shown on Mechanical sheets, but plumbing sheets are not	
154	explicitly showing where condensate is supposed to be discharged. Please provide revised plumbing	Corrected. Condensate drains are routed to their respective drain receptors. See sheet PI-2.2 & P2-
130	plans to illustrate where each condensing unit shall discharge to. If condensing units shall discharge to	2.2.
	exterior drywells, please provide a detail	
	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,	
157	condensate piping, etc.). Please provide a detail for conduit/pipe supports for conduit/pipe that is	Revised. See detail I on sheet P0-5.2 per RCA ADD#2
	routed horizontally on the roof and coordinated with the roofing manufacturer to maintain roof	
	warranty.	
150	I/E4.9 Projectors say owner furnished, contractor installed. Please confirm projectors and projection	Projectors and screens are contractor furnished and installed. Note Corrected
130	screens shall be contractor furnished, contractor installed	rrojectors and screens are contractor furnished and installed. Note Corrected
	Please reference Bid Package CN 2999 Plumbing and Site Litilities, Item 44d, Please confirm that trade	CN-2989 Prime Contractor is expected to receive District Furnished, Contractor Installed (DFCI)
150	Please reference Bid Package CIN-2787 Flumbing and Site Otilities, item 44d. Please confirm that trade	items that CN-2989 Prime Contractor is responsible for installing. District Food Service
137	contractor Cit-2787 with not be required to receive official and install equipment supplied by the rood	Department will transport District furnished equipment and offload the equipment off truck/cart for
		CN-2989 Prime Contractor, as applicable
140	Please reference Bid Package CN 2999 Plumbing and Site Litilities Please provide Appendix 7	Appendix Z is provided in Attachment H -Scopes of Work - Reference 2nd page after 'Page 17 of 17'
100	Thease Telefence Bid Fackage CN-2707 Humbing and Site Othities. Thease provide Appendix 2.	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	In a general sense, relocation of items is not required prior to construction
	specialty package.	
162	Attachment F - Geotechnical Report: Boring Log #I is the only log that shows a concrete section	Correct Boring 'B-I' shows concrete beneath the asphalt concrete section
102	beneath the asphalt paving. Please confirm that is correct.	Contect. Doning D 1 shows concrete beneath the asphart concrete section.





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RFI #	Question	Response
163	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.
165	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.
168	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
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
174	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 hours of abatement work apply if Sec. 38 classifies nothing as 'additional'? Are we expected to only bid according to what's listed in the haz reports, and use the additional abatement hours for items not listed?	The additional 30 abatement hours are reserved for unforeseen conditions that are not documented in the Attachment E - Hazardous Material Report and Specifications. The 30 hours are treated similar to an allowance.
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





RFI #	Question	Response
180	Please advise on job start/project completion date?	See Notice to Bidders and General Conditions
182	KN 32.311 on AS-1.3 calls for Chain-link gate per schedule. However, gate schedule on AS-1.2, G2 gate is steel and directs us to 10/ASD-1, which does not show a chain-link fencing gate, but shows a corrugate steel siding gate	Updated Keynote to 32.313 reference Steel Gate per Gate Schedule
184	C-1.0 (upper right with note #4): For the purpose of estimating please provide the size of pipe, we will 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.
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.
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/PI-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.





<ul> <li>Per Bid Package CN-3982, them #22 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.</li> <li>Per Bid Package CN-3982, them #22 under part II Inclusions, states prime contractor to assume 200</li> <li>Square Fee 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.</li> <li>3/PI-3.1: Please provide a vare not route for the highlighted tran arm.</li> <li>201 2/PI-3.1: * Please provide a location, make and model of water hammer arrestors.</li> <li>202 12/PI-3.1: * Please provide a location, make and model of water hammer arrestors.</li> <li>203 2.PI-3.1: * Please provide a location, make and model of water hammer arrestors.</li> <li>204 2.PI-3.1: * Please provide a location, make and model of water hammer arrestors.</li> <li>205 2.PI-3.1: * arrestor have been provided a location, make and model see sheet P0- 0.2, PI-3.1: and P2-3.1.</li> <li>204 2.PI-3.1: * arrestor have been revised but aren't included in the addendum. Please provide</li> <li>205 2.PI-3.1: and P2-3.1.</li> <li>206 2.PI-3.1: and P2-3.1.</li> <li>207 2.PI-3.1: * arrestor have been revised but aren't included in the addendum. Please provide a location, make and model of water hammer arrestors.</li> <li>205 2.PI-3.1: and P2-3.1.</li> <li>206 2.PI-3.1: and P2-3.1.</li> <li>207 2.PI-3.1: and P2-3.1.</li> <li>208 2.PI-3.1: and P2-3.1.</li> <li>209 2.PI-3.1: and P2-3.1.</li> <li>200 3.PI-3.1: Please provide a water has required. If it is please provide a water has and model number.</li> <li>201 an obiding most of these items?</li> <li>202 4.PO-5.1: Please confirm that a gas meter is required. If it is p</li></ul>	RFI #	Question	Response
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PF Bid Package CN-3982, Item #22 under part II Inclusions, states prime contractor to assume 200       Confirmed.         198       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.         3/P1-3.1: Please provide a vent route for the highlighted tram arm.       Image: provide a vent route for the highlighted tram arm.       Corrected. Vent route provided for the trap arm see sheet P2-3.1         201       2/P1-3.1 + 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       2/P1-3.1 - 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.         203       Accessories, 042000 unit masonry and 792000 joint Sealants have been revised but aren't included in the Bid donum. Please provide       Missing Spec. section to be provided in RCA Addendum 2         204       Regarding Addendum 2 concerning Appendix Z - Food Service Equipment Scope Matrix (page 445 of 476), .       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 show cold water routing that will supply the 2 each HB-1 on the roof.       Confirmed. Gas meter		will make a difference in dump fee pricing.	
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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 Wall plate 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
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.
219	There is conflicting information in the scope of work versus the spec regarding Div22 and 23 control wiring being provided and installed by Div 26. Please provide clear direction on what Div 26 is required to supply	This question is not specifically referring to one page/section of any specification; therefore a general response shall be provided. Low-voltage conduit, wiring and devices for temperature control and HVAC systems shall be provided by CN-2990 - HVAC.
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

### Grossmont Union High School District



RFI #	Question	Response
221	Please provide current ARC Flash/Coordination study or please confirm that the current studies will be	Arc Flash/Coordination studies to be part of the contractor scope of work as stated in 262413 2.31-
	available to the awarded contractor	2.36.
222	Please provide current KAIC rating of the existing MSB so the proper Gear can be quoted based on	Main breaker in MSP is rated for 100kAIC
	existing conditions	
223	Please confirm pedestal on Sheet E1.1 and shown on detail E1.2 is existing and is capable of receiving	Dedestale and evidence and new devices shall be everyided to use loss the old devices
	new devices.	redestais are existing and new devices shall be provided to replace the old devices
	On sheet E1.1 there shows (2) 1-1/2 conduits stubbed out for Power for the pressbox but on Sheet	
224	EI.I doesn't show those conduits being picked up but in turn shows a power conduit from Panelboard	(2) I-1/2"C. conduits from new kitchen building are not required. Press box to be fed from existing
	A. Are the (2) $1-1/2$ " required and id so can you please provide what panel each $1-1/2$ should go to?	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.
224	Per Sheet E7.3 Detail 2, aluminum conductors are allowed, please provide aluminum conductor call	Aluminum conductors are not allowed
220	outs for sheet E7.I	Adminum conductors are not anowed.
	General note 6 on sheet E2.1 states ³ / ₄ inch conduit needs to be used for lighting control. In the specs	
228	MC Cable with integrated luminaire cable is allowed, please confirm that the later can be used in lieu of	MC cabling may be used for branch circuit wiring other than homeruns.
	this note. Typical to all pages in plan sets	
220	Please confirm that Homeruns need to be conduit only and MC can be used for all required circuiting	MC ashling way be used for burnets singuit wining other then the meaning
229	thereafter	The cabling may be used for branch circuit wiring other than nomerons.
230	Sheet E2.7 Detail I, Please confirm that the handhole needs to be provided at each light pole.	Confirmed
	End RFIs	



RFI #	Question	Response			
	Substitution Requests				
2	Is Technique an acceptable substitution for #096700 - Fluid Applied Flooring?	Not Approved/Rejected.			
	End Substitution Requests				

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

SUBSTITUTION REQUEST NO. ____001

DATE: 8.2.2022

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: Techniquex

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: _____Stonhard Stonclad UT

Project Manua	l Section Titl	e Fluid Applied Flooring	Number	2 Page	<u>3</u> Pa	aragraph	<u> </u>
Drawing No	096700 Flu	id Applied Flooring		Det	tail No.	2.02	
Proposed Subs	titution: D	iamondStone DiamondCre	ete BG				

Manufacturer: DiamondStone Tel: (877) 376-9935

A. Is the point-by-point comparative data attached? — REQUIRED BY A/E Yes

#### 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 <u>x</u> Yes_____
   Explain
- D. Does proposed substitution affect dimensions, gages, weights, etc. on Drawing? No X Yes_____ Explain ______

Grossmont Union High School District New Kitchen & Weight Room RCA Project No. 1-30-55

E.	Does proposed substitution require changes in Drawings or design and installation changes?
	(If yes, cost of these changes is the responsibility of the Contractor )
F.	Does proposed substitution affect product cost, delivery time, or construction schedule?
Ν	o ^x Yes Explain
G	Does proposed substitution comply with specified ICC Number, UL Rating, ASTM Numbers? No Yesx Explain
H.	Does proposed substitution affect other trades and systems such as wiring, piping, ductwork,
	structure, etc.? No <u>×</u> Yes (Explain which and how)
I.	Does proposed substitution product guarantee differ from that of the specified product?
	No_X_Yes Explain
	<ul> <li>Attach a listing of 3 similar projects (one in service for at least 3 years) using the proposed</li> <li>substitution.</li> </ul>
	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: Daron Mallmann 8.2.22
	.(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 SYSTEM THICKNESS (2.03.A.2) NOT PROVIDED COEFFECIENT OF FRICTION (2.01.B.2) NOT PROVIDED MULTIPLE PRODUCT OPTIONS ARE SPECIFIED

# DIAMONDSTONE®

### DIAMONDCRETE

Urethane cement, broadcast quartz, and urethane cement topcoat



TECHNIQUEX

DIAMONDSTONE

## DIAMONDCRETE

DiamondCrete is a four-component, 0% VOC urethane cement system. This system has unlimited moisture control, excellent chemical resistance, and outstanding impact resistance. DiamondCrete has a thermal coefficient of expansion that is almost identical to concrete so it moves with the concrete during extreme temperature changes. It is available with a choice of 4 different aggregates:

- Self-Leveling DiamondCrete BG
- Rake & Trowel DiamondCrete RT
- Trowel Grade DiamondCrete TG
- Cove Mortar DiamondCrete CM

### **DIAMONDCRETE FEATURES**

- Moisture Tolerant
- Thermal-Shock Resistant
- UV Resistant
- Chemical Resistant

### DIAMONDCRETE BG TYPICAL PROPERTIES

Compressive Strength (ASTM C-579)	8,500 psi
Tensile Strength (ASTM C-307)	1,400 psi
Flexural Strength (ASTM C-580)	2,700 psi
Hardness (Shore D) (ASTM D-2240)	85-90
Bond Strength (ASTM D-7234)	Concrete Failure
Impact Resistance (ASTM D-2794)	160
Abrasion Resistance (ASTM D-4060)	.023 gm/Loss
Coefficient of Expansion (ASTM C-531)	1.1 x 10 ⁻⁵
Water Absorption (ASTM C-413)	<.10
Service Temperature	-40 °F min; 250 °F max
VOC's	0 g/L

The data shown in this document reflect typical results based on laboratory testing under controlled conditions. Reasonable variations from the data shown above may result.

DiamondCrete is available neat or broadcast with quartz aggregate and grouted with either Polyaspartic Urethane 100, Diamond-Novolac or DiamondCrete Seal.

Like all urethane cements, it is necessary to honor the joints. Diamond-FJF urethane joint filler is recommended.

- Impact Resistant
- Qualified LEED® Product

### DIAMONDCRETE RT TYPICAL PROPERTIES

Compressive Strength (ASTM C-579)	8,500 psi
Tensile Strength (ASTM C-307)	1,400 psi
Flexural Strength (ASTM C-580)	2,700 psi
Hardness (Shore D) (ASTM D-2240)	85-90
Bond Strength (ASTM D-7234)	Concrete Failure
Impact Resistance (ASTM D-2794)	160
Abrasion Resistance (ASTM D-4060)	.023 gm/Loss
Flammability (ASTM D-635)	Self-Extinguishing
Water Absorption (ASTM C-413)	<.10
Service Temperature	-40 °F min; 250 °F max
VOC's	0g/L



## DIAMONDCRETE

### DIAMONDCRETE TG TYPICAL PROPERTIES

Compressive Strength (ASTM C-579)	8,500 psi
Tensile Strength (ASTM C-307)	1,400 psi
Flexural Strength (ASTM C-580)	2,700 psi
Hardness (Shore D) (ASTM D-2240)	85-90
Bond Strength (ASTM D-7234)	Concrete Failure
Impact Resistance (ASTM D-2794)	160
Abrasion Resistance (ASTM D-4060)	.023 gm/Loss
Coefficient of Friction Wet (ANSI/NFSI B101.1 Static & B101.3 Dynam	ic Incline >0.45
Flammability (ASTM D-635)	Self-Extinguishing
Coefficient of Expansion (ASTM C-531)	1.1 x 10 ⁻⁵
Water Absorption (ASTM C-413)	<.10
Service Temperature	-40 °F min; 250 °F max
VOC's	0 g/L

### POLYASPARTIC 100 TYPICAL PROPERTIES

Hardness (Shore D) (ASTM D-2240)	76
Bond Strength (ASTM D-4541)	Concrete Failure
Abrasion Resistance (ASTM D-4060)	23 mg/Loss
Volume Solids	100%
VOCs	50 gm/ltr

### DIAMOND-FJF JOINT FILLER TYPICAL PROPERTIES

Tensile Strength (ASTM D-412)	425 psi
Elongation (ASTM D-412)	550%
Hardness (Shore A) (ASTM D-2240)	50

### DIAMONDCRETE CM TYPICAL PROPERTIES

Compressive Strength (ASTM C-579)	8,500 psi
Tensile Strength (ASTM C-307)	1,400 psi
Flexural Strength (ASTM C-580)	2,700 psi
Hardness (Shore D) (ASTM D-2240)	75-80
Bond Strength (ASTM D-7234)	Concrete Failure
Abrasion Resistance (ASTM D-4060)	.023 gm/Loss
Slip Coefficient of Friction (ANSI/NFS B1	01.1) Meets ADA Flat and Ramp
Coefficient of Expansion (ASTM C-531)	1.1 x 10-5
Service Temperature	-40 °F min; 250 °F max

### DIAMONDCRETE SEAL TYPICAL PROPERTIES

Compressive Strength (ASTM C-579)	8,500 psi
Tensile Strength (ASTM C-307)	1,400 psi
Flexural Strength (ASTM C-580)	2,700 psi
Hardness (Shore D) (ASTM D-2240)	75-80
Bond Strength (ASTM D-7234)	Concrete Failure
Abrasion Resistance (ASTM D-4060)	.023 gm/Loss
Coefficient of Expansion (ASTM C-531)	1.1 x 10⁻⁵
Water Absorption (ASTM C-413)	<0.10
VOC's	0g/L

### DIAMOND-NOVOLAC TYPICAL PROPERTIES

Compressive Strength (ASTM D-695)	13,500 psi
Tensile Strength (ASTM D-638)	7,100 psi
Flexural Strength (ASTM D-790)	11,100 psi
Bond Strength (ASTM D-4541)	Concrete Failure
Abrasion Resistance (ASTM D-4060)	80-85 mg/Loss



## DIAMONDCRETE

### CHEMICAL RESISTANCE

See DiamondStone Chemical Resistance Guide.

### **CLEANING & MAINTENANCE**

See DiamondStone Cleaning Instructions.

### SURFACE PREPARATION

Apply only to clean and sound concrete substrates that are free of all coatings, sealers, curing compounds, oils, greases or any other contaminants. New concrete should be cured a minimum of 28 days. Concrete that has been contaminated with chemicals or other foreign matter must be neutralized or removed. Remove any laitance or weak surface layers. Prepare surface by mechanical means to achieve a profile equal to industry standards. All surface irregularities, cracks, expansion joints and control joints should be properly addressed prior to application.

### **PRECAUTIONS & LIMITATIONS**

DiamondStone, LLC recommends the use of slipresistant with this product. As with any surface, all spills should be removed as soon as possible to prevent a slipping hazard. Refer to Material Safety Data Sheet for detailed safety precautions. Do not apply when concrete temperature is less than 50° F or greater than 100° F. (Material cures slower at cooler temperatures, and working time will be substantially reduced at higher temperatures.) All components should be stored in a dry place at temperatures between 65° F and 85° F. Confirm product performance in specific chemical environment prior to use. Substrate temperature must be at least 5° F above the dew point.

### **EXCEPTIONS**

If DiamondStone resinous systems is specified, the system incorporates unlimited moisture control. If DiamondStone is not specified, the system will meet the basis of design on moisture limitations.

### **NO-NONSENSE WARRANTY**

TECHNIQUEX warrants materials & labor to be free from defects for a period of 5 years from the date of substantial completion of the work.

In the event a defect caused by materials or workmanship appears within 5 years, Techniquex's liability shall be limited to repair or replacement of the work in the defective area only, or at Techniquex's sole election, refund of a pro-rata portion of the contract price for the defective areas. This is the exclusive remedy against Techniquex for the work performed. Notification of a defect must be given to Techniquex in writing during the warranty period.

This limited warranty is exclusive and in lieu of all other warranties of any kind of nature whatsoever, including but not limited to implied warranties of merchantability and fitness for particular purpose, which are specifically excluded and disclaimed. Any and all remedies against Techniquex for defects are limited by this warranty, and in no event shall Techniquex be liable to owner or others for incidental or consequential damages.

### TECHNIQUEX

Techniquex sets the standard for resinous flooring for all industries that demand a world-class image & unsurpassed performance with floors that last. Techniquex developed the DiamondStone product line to establish the benchmark for quality, finish, and installation excellence.

Copyright © 2020 Techniquex, LLC 9035 E. Pima Center Pkwy Suite 7 Scottsdale, Arizona 85258 www.Techniquex.com

### **TECHNIQUEX**[®] Request for Substitution

9035 E. Pima Center Parkway, Suite 7 Scottsdale, AZ 85258. (877) 376-9935 www.Techniquex.com

Date: 8/1/2022

Project: GUHSD New Kitchen

Email: BaronAdelmann@Techniquex.com

Submitted By: Techniquex

Contract Phone: (602) 253-1471

#### 2.0 Specifications:

Specified Item: Stonhard Stonclad UT Spec Section: 096723 Resinous Flooring Proposed Substitution: DiamondStone DiamondCrete BG 3.0 Reason for Substitution Request:

- Cost Savings
- Meets & Exceeds Basis of Design

#### 4.0 Comparison:

Test Method	DiamondCrete BG	Stonclad UT
VOC's	0 g/l	53 g/l
Compressive Strength ASTM C-579	8,500 psi	7,700 psi
Tensile Strength ASTM C-307	1,400 psi	1,000 psi
Flexural Strength ASTM C-580	2,700 psi	2,400 psi
Impact Resistance ASTM D-2794	160	160
Bond Strength ASTM D-4541	Concrete Failure	Not Listed on Data Sheet
Abrasion Resistance ASTM D-4060	.023 gm/loss	.03 gm
Coefficient of Expansion ASTM C-531	1.1 x 10 ⁻⁵	1.1 x 10 ⁻⁵
Water Absorption ASTM C-413	<.10	< 1%
Service Temperature	-40° F Min; 250° F max	Not Listed on Data Sheet

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### 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 03** 

### STRUCTURAL/SITE CONCRETE - 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
    - 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
    - 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 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. <u>REINFORCING STEEL INCLUSIONS</u>: The following items are specifically included in the Reinforcing Steel scope of this Contract:
  - 1. 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. <u>No unidentified steel shall be used</u>. 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 manufacturer's 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:
- 1. 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 onsite 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 below-grade 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.
- 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.
- 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.
  - 3. 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.
- 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 thousand (3,000) additional square feet of asphalt grinding and overlay. Overlay includes a seal coat.
- 24. Prime Contractor includes eighty (80) 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.
- 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:
  - 1. 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 noncode 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. <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.
  - a) CN-2983 Allowance #1: Unforeseen Condition = \$20,000.00
- X. <u>ALTERNATES:</u> N/A
- XI. EXCLUSIONS: N/A

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