Stantec Architecture Inc.
910 Louisiana Street, Suite 2600, Houston TX 77002

ADDENDUM

Addendum Number One (01)
TO PLANS AND SPECIFICATIONS FOR
Alvin ISD Elementary School #23
STANTEC Project Nos.: 214001269

STANTEC ARCHITECTURE INC.
910 Louisiana Street, Suite 2600
HOUSTON, TEXAS 77002



September 8, 2025

NOTE: If you have questions about this Addendum, please contact:
Mark Jackson mark.jackson@stantec.com or
Stewart Williams stewart.williams@stantec.com

This Addendum is generally separated into sections for convenience; however, all contractors, subcontractors, material suppliers and other involved parties shall be responsible for reading the entire Addendum. Failure to list an item(s) in all affected sections of this Addendum does not relieve any party affected from performing per instructions, provided the information is set forth one time anywhere in the Addendum.

This document shall become attached to and part of the Construction Documents for the aforementioned project.

PRIOR APPROVAL

The following products and/or manufacturers have been approved for bidding on this job. All requirements of the specifications and drawings MUST be met by these products at no additional cost to the Owner. Only those products that are specified, or which are listed below, will be accepted on this project.

1. Section 10 73 26, Aluminum Walkway Covers;
    a. Add approved manfacturer **ARK Metal Builders, LLC**
    b. Add approved manfacturer **Canopy Solutions, LLC**
2. Section 07 27 26, Fluid-Applied Membraine Air Barrier
    a. Add approved manufacturer **Pecora Air Barrier System**

GENERAL ITEMS

1. See attached Bidder's RFI list. Any items not answered yet will be in Addendum #2.
2. See attached Narrative by CMTA (MEP)
3. See attached Narrative by FDP (Food Service)
4. See attached survey issued for convinience. The version on sheet C002 may be too blurry when printed.

SPECIFICATIONS

The following sections are being replaced with modifications:

1. 00 01 10 – Master Table of Contents
2. 00 73 00 – Supplementary Conditions
3. 01 21 00 – Cost Allowances
4. 04 43 00 – Adhered Stone Masonry
5. 04 73 00 – Manufactured Stone Masonry
6. 08 71 00 – Door Hardware
7. 08 80 00 – Interior glazing
8. 08 88 56 – Ballistic Impact Resistant Glazing
9. 09 21 16 – Gypsum Board Assemblies
10. 32 01 90 – Operation & Maintenance of Planting
11. 32 18 16 – Synthetic Turf Surfacing for Playground (updated name also)

DRAWINGS

1. **ARCHITECTURAL**:
   a. A111, A112, A121, A122, A131, A201, A202, A203, A311, A501, A502, A711, A713, A816, A821, A822, A823, A901, A902, A911

2. **CIVIL**
   a. C100

3. **LANDSCAPE**
   a. N/A

4. **FOOD SERVICE**
   a. QF1, QF1.4A, QG1.5, QF1.6, QF1.7, QF1.8, QF1.9, QF2.0, QF2.1, QF2.2

5. **MECHANICAL**
   a. M602

6. **ELECTRICAL**
   a. N/A

Z

7. **PLUMBING**
   a. P002, P101, P104, P211, P212, P214, P221, P222, P223, P303, P401

8. **TECHNOLOGY**
   a. T213

NUMBER OF ATTACHMENTS:

1. Bidders RFI log: 8.5x11 (03) pages
2. Narratives: 8.5x11 (06) pages
3. Specifications: 8.5x11 (124) pages
4. Drawings: 30"x42" (45) sheets (includes survey sheet)

END OF ADDENDUM NUMBER ONE (01)

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Stewart Wiliams
Stantec
910 Louisiana Street, Suite 2600
Houston, TX 77002

Date: September 08, 2025

Reference: Alvin Independent School District
Elementary No. 23
Section 11 40 00 – Food Service Equipment
Addendum No. 01

Mr. Williams,

The following items are required to be included in Addendum No. 01

Section 11 40 00 Food Service Equipment Specifications

A. Item No. 102 Cold Storage Assembly to be revised as follows:

41. Installation to be completed by Factory Approved / Authorized installer. Refer to Section 2.33 Submittal drawings to include factory approval letter or certificate. The warranty will not start until letter has been provided to FDP confirming installation meets manufacturer requirements.
42. Manufacturer to provide reinforcement as required above Freezer and Cooler exterior doors for mounting of Refrigeration Systems KE2 controllers.

B. Item No. 103 Cold Storage Refrigeration to be revised as follows:
1. Cold Zone to be omitted as alternate manufacturer. Provide RDT only.

C. Item No. 103 Cold Storage Refrigeration to be revised as follows:
7. *KE2 Evap Controllers located per Owner requirements. KE2 Eco Smart controller to be mounted at exterior of assembly, above the door, and LAN connection is to be provided.*

Section 11 40 00 Food Service Equipment Drawings

A. Sheet QF1 - FS GENERAL COORDINATION NOTES to be issued in its entirety.
B. QF1.4A - FS RO SYSTEM
C. Sheet QF1.5 FS ELECTRICAL PLAN to be revised as follows:
   1. Omit connection E103E1 at Walk in Freezer evaporator coil.
   2. Omit connection E103E2 at Manager's Office.
D. Sheet QF1.6 - FS CONDENSING UNITS to be issued in its entirety.
E. QF1.7 - FS WALK-INS to be issued in its entirety.
F. QF1.8 - FS SERVING COUNTERS to be issued in its entirety.
G. QF1.9 - FS ELEVATIONS to be issued in its entirety.
H. QF2.0 - FS SECTIONS & DETAILS to be issued in its entirety.
I. QF2.1 - FS DETAILS to be issued in its entirety.
J. QF2.2 - FS DETAILS to be issued in its entirety.

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Spec Section

- Section 23 09 10 – FACILITIES MONITORING SYSTEM
  - Added specification system to project manual
- Section 23 25 00 – HVAC WATER TREATMENT
  - Added Chem-Aqua as acceptable manufacturer

Drawings

Plumbing Drawings:

1. Sheet P002 – PLUMBING SITE PLAN
   - Revised storm points of connection.
   - Revised sanitary POC callouts.
2. Sheet P101 – LEVEL 1 - UNDERSLAB PLUMBING PLAN - AREA A
   - Sink locations revised.
3. Sheet P211 – LEVEL 1 - PLUMBING PLAN - AREA A
   - Added Mech room floor sinks.
   - Added hot water balancing valve tags.
4. Sheet P212 – LEVEL 1 - PLUMBING PLAN - AREA B
   - Added hot water balancing valve tags.
5. Sheet P214 – LEVEL 1 - PLUMBING PLAN - AREA D
   - Revised to pick up new sink.
6. Sheet P221 – LEVEL 2 - PLUMBING PLAN - AREA A
   - Added Mech room floor sinks.
7. Sheet P222 – LEVEL 2 - PLUMBING PLAN - AREA B
   - Added Mech room floor sinks.
   - Removed classroom sinks.
8. Sheet P223 – LEVEL 2 - PLUMBING PLAN - AREA C
   - Revised to pick up new sink.
9. Sheet P303 – PLUMBING ENLARGED PLANS
   - Revised sanitary.
10. Sheet P401 – PLUMBING DETAILS
    - Revised detail.

Mechanical Drawings:

1. Sheet M602 – MECHANICAL SCHEDULES
   - FAN SCHEDULE
     i. ADDED NUMBERING IN REMARKS COLUMN.
   - GRILLES, REGISTERS, & DIFFUSERS SCHEDULE
     i. ADDED NUMBERING IN REMARKS COLUMN.

Electrical Drawings:

1. Sheet E001 – ELECTRICAL LEGEND
    - Item 1

Technology Drawings:

1. Sheet T213 TECHNOLOGY PLAN – FIRST FLOOR – AREA C
    - Added data drops at combi oven.
    - Added data drops at walk-in cooler & freezer controllers.

Alvin ES #23 - Bidders RFI and other Clarifications

Stantec Architects

RFI #	Topic	Question	Response	Addendum #
1	Qualifications	When do you want the qualifications package turned in?	Submit qualifications with the base bid form. We need 1 printed, organized, and bound hard copy of all bid forms and qualifications. We also want 2 USB drives with a copy of everything organized into one PDF the same way. Understandably, there will be some forms that won't be scanned if they are making late changes. Those forms can remain loose. .	1
2	Bid Form	How many copies do you want of the bid form and alternate form?	Submit qualifications with the base bid form. We need 1 printed, organized, and bound hard copy of all bid forms and qualifications. We also want 2 USB drives with a copy of everything organized into one PDF the same way. Understandably, there will be some forms that won't be scanned if they are making late changes. Those forms can remain loose. .	1
3	Library Shelving	Nothing showing the sizes of the library shelving or quantities.	Will be clarified in Addendum #1	1
4	door schedule and hardware	After reviewing the documents I've noticed the door schedule is incomplete as well as the hardware sets in the specifications. The door schedule is missing assigned hardware sets, frame elevations and details. The hardware sets, in the specifications, are missing the assigned door numbers. I have no way of knowing which hardware set belongs to which opening. Also, the bidding documents are dated 9-1-25 and final construction documents are dated 8-18-25. Is there another set of final construction documents dated after 9-1-25? Typically, final construction documents are issued after bidding documents. Based on these documents, I can put a Budget together and send it by the bid date.	Door HW: Will be clarified in Addendum #1 Bid Documents: Final CDs was when we issued for permitting. Bid Documents is for bidding. After bidding we will issue an IFC set for consolidation.	1
5	G101	Confirming Project will be Type IIA construction.	Yes per the CDs	1
6	00 01 16	Will the bid date be extended beyond 9/16/25?	No	1
7	None	Confirming Permit will be from Iowa Colony?	Yes but there is also a drainage district and MUD that reviews the drawings.	1
8	08 71 00 / A501	Please provide a complete door hardware specification with the door numbers listed for each type of hardware. Also, please provide an updated door schedule showing the hardware sets for each door.	Will be clarified in Addendum #1	1
9	A201	Please provide a complete exterior material schedule with filled in information for the Concrete Masonry Units, Metal Soffit, Glazing, and Aluminum Frames	Will be clarified in Addendum #1	1
10	A1, B1 / A203	Please identify the exterior finish between gridlines 25 and 32 on detail A1 on A203, and between gridlines D and F on detail B1 on A203. The finish shown is not in the exterior material schedule and there is no callout shown.	Will be clarified in Addendum #1	1
11	A4, C4 / A202	Please identify the exterior finish between gridlines 33 and 41 on detail A4 on A202, and between gridlines U and AC on detail C4 on A202. The finish shown is not in the exterior material schedule and there is no callout shown.	Will be clarified in Addendum #1	1
12	A621, A622	Please clarify ceiling material at overhang of roof at the north end of the overhang between areas A and B	Will be clarified in Addendum #1	1
13	M601	Confirming all Remarks under the respective equipment schedule are applicable to all scheduled equipment or is there a notes column that will show specific notes?	For this sheet, schedule remarks apply to all their respective scheduled equipment.	1

Alvin ES #23 - Bidders RFI and other Clarifications

Stantec Architects

RFI #	Topic	Question	Response	Addendum #
14	M602	Confirming 48" extension tube and or guy wires are needed for the Circulation Fan	It shall be the responsibility of the mechanical contractor to coordinate with the architect for the exact location and mounting height of the fan. Determine, based on height and location, whether an extension tube is required and install per the manufacturer's recommendations.	1
15	M602	Please provide remarks for the fan schedule, specific for occuapncy sensor, t-stat, disconnect and vsd.	SEE FAN SCHEDULE/M602 - ADDENDUM 1	1
16	M602	Please provide opening size for E3 grilles and details for R-5.	SEE GRILLES, REGISTERS, & DIFFUSRES SCHEDULE/M602 - ADDENDUM 1	1
17	P102	Should the sump pump sanitary line be a force line? Will it be copper?	The line is after a sump pump so it will be pressurized yes. Copper is permitted but not required.	1
18	21 13 00	Confirming if preaction dry pipe sprinklers are needed for this project.	Preaction dry pipe spriklers are not needed for this project.	1
19	Wage Rates	The specifications include a document titled “Federal Compliance Guidelines for the use of Federal Funds”. Will this project be funded by federal funds? If so do all subcontractors need to meet Davis Bacon Wage requirements – Wage Rates? Are subcontractors also required to pay any fringe benefits? If so, please provide the Davis Bacon Wage Rates and Fringe Benefits that will be required of the subcontractors. Please advise.	This project is not federally funded	1
20	Wage Rates	Specification 00 73 43 defines project wage rates, but it is unclear if these comply with the Davis Bacon Act described in the “Federal Compliance Guidelines for the use of Federal Funds” document included in the specifications. Please confirm that the contractor is to utilize the wage rates in Specification 00 73 43. Also, please confirm that fringe benefits do not need to be included, or please provide fringe benefit requirements.	Use 00 73 43. Not federally funded	1
21	Federal Funding	The specifications include a document titled “Federal Compliance Guidelines for the use of Federal Funds”. Paragraph 1.3 of this document requests HUB Certifications. The proposal forms do not appear to request HUB participation. Will general contractors be scored on HUB participation?	No, not federally funded.	1
22	Isurance	Reference Article 11 of the Supplementary Conditions 00 73 00. The supplementary Conditions do not state if the Contractor is responsible for providing Builder’s Risk Coverage. Per the standard edition of the A201 General Conditions, it is the responsibility of the Owner to provide Builder’s Risk or Property Insurance, unless the contract documents explicitly define it as a requirement of the contractor. Is the contractor or the owner responsible for Builder’s Risk Insurance? Please advise.	00 73 00 Updated	1
23	Food Service	Only QF1.0, QF1.1, QF1.2, QF1.3, QF1.4, and QF1.5 were included for Foodservice drawings. Please provide the other 9 sheets listed on the drawing list.	Refer to sheets issued in Addendum #1	1
24	Roofing	C2/A300 shows mod bit roofing, but the specs include 07 54 23 PVC Fleeceback as the only roofing section. Please clarify.	The roof is to be the specified hybrid roof.	1
25	Playground	AS03 labels the playground area as synthetic turf. There is no specification section for syn turf, but does include 32 18 16 Engineered Loose Fill Mulch. Please clarify where these products will be used and provide a specification for synthetic turf if it will be used.	The specification has been revised to be the synthetic turf system. Refer to updated 32 18 16.	1
26	Library Shelving	Please provide a schedule or elevations for all free standing library furnishings.	Addendum 1 will clarify the library shelving	1
27	Openings	Please provide floor plans with frame types labeled for all openings.	Frame types added to the plans	1

Alvin ES #23 - Bidders RFI and other Clarifications

Stantec Architects

RFI #	Topic	Question	Response	Addendum #
28	Ballistic Glazing	Ballistic glazing in a standard Kawneer curtain wall will not have guaranteed performance by most ballistic glass manufacturers, please advise if full ballistic rated systems should be bid.	see updated spec	1
29	Storefront	Unsupported vertical mullions in storefront layouts (i.e. AA, BB, CC, EE) may not be able to account for the deadload when engineered. Please advise.	All storefront systems are continuous vertical mullions.	1
30	Door Frames	Many of the details referenced for interior frames 1 through 12 are for hollow metal, but the door schedules show them as aluminum, please clarify.	Details corrected	1
31	Door	Room A141 has a door on the east wall without a label and is not found on the door schedule, please advise.	Refer to A139 for similar door type and hardware.	1
32	Translucent Wall	The specifications contain 08 45 00 'Translucent Wall and Rough Assemblies'. Are there any present in the project?	No. this section will be deleted.	1
33	Survey	Please provide a topographic survey with clearer elevations. Most existing elevations are able to be read from grading plans, but these are not available for under the building.	The survey is on sheet C002 however it appears a little blurry. We are issueing a clean version of the survey in this addendum.	1
34	Shelving	Shelving is shown in B130, Literacy Lib/Office. Please advise on type and sizing.	this is metal shelving and NIC. It will be turned to dashed lines	1
35	Door HW	The door schedule does not provide detail references or hardware sets, and the hardware specification does not include door #s. Please provide these.	hardware sets are beling updated in Addendum #1	1
36	Tile Patterns	Please provide pattern repeats for tile at corridors and restrooms.	Typical corridor tile patterns are elevations E1 and E3 on sheet A821. Typical toilet room tile patterns are the elevations on sheet A824.	1

DOCUMENT 00 01 10 – MASTER TABLE OF CONTENTS

Note: This Master Table of Contents includes **all** specification sections for the Project regardless of origin. Sections marked by asterisk (*****) below are provided by consultants to the Architect or Owner and are not covered by the Architect's seal. Refer to attached supporting Tables of Contents to identify Consultant responsible for a particular section.

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*00 01 14	Sealed Landscape Table of Contents
00 01 15	List of Drawings – Reference Drawing Sheet **G002**

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*00 01 16	Invitation to Proposers
*00 22 13	Supplementary Instructions to Proposers and Attached Forms
*00 23 13	Ranking Criteria for Competitive Sealed Proposals (CSP)
*00 31 32	Geotechnical Data
00 41 00	Proposal Form (Base & Unit Prices)
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00 43 13	Proposal Security
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00 60 00	Bonds and Certificates
*00 73 00	Supplementary Conditions
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01 22 00	Unit Prices
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01 25 13	Product Substitutions
01 26 00	Contract Modification Procedures
01 29 00	Applications for Payment
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01 30 10	Mechanical and Electrical Coordination
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01 32 00	Notification of Architect Requirements
*01 32 23	Survey and Layout Data
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01 42 19	Reference Standards and Definitions
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*01 57 10	TPDES Requirements
*01 57 19	Temporary Environmental Controls
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01 60 00	Product Requirements
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01 73 29 Cutting and Patching
*01 74 16 Site Maintenance
*01 74 19 Construction Waste Management and Disposal
01 78 00 Warranties
*01 80 00 Special Owner Requirements
*01 91 13 General Commissioning Requirements
*01 91 14 Commissioning Authority Responsibilities

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*02 41 13.10 Removing Existing Pavement and Structures

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03 35 43 Special Concrete Floor Finishes
03 52 16 Insulating Concrete Roof Fill
*03 62 00 Non-Shrink Grout

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04 05 03 Masonry Mortaring and Grouting
04 20 00 Unit Masonry Assemblies
*04 29 00 Engineered Unit Masonry
04 43 00 Adhered Stone Masonry
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*05 12 00 Structural Steel Framing
*05 12 13 Architecturally Exposed Structural Steel
*05 21 00 Steel Joist Framing
*05 31 00 Steel Decking
*05 40 00 Cold-Formed Metal Framing
05 50 00 Metal Fabrications
05 51 00 Metal Stairs
05 52 00 Metal Railings

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06 10 53 Miscellaneous Rough Carpentry
06 20 24 Interior Finish Carpentry and Millwork
06 42 19 Plastic Laminate Wall Panels
06 61 16 Solid Surfacing Fabrications
06 61 19 Quartz Surfacing Fabrications

DIVISION 07 - THERMAL AND MOISTURE PROTECTION
07 13 00 Sheet Waterproofing
07 19 16 Concrete Floor Sealer and Finish
07 21 13 Thermal Wall Insulation
07 27 26 Fluid Applied Membrane Air Barrier
07 42 13 Metal Soffit Panels
07 54 23 Multiply PVC Kee Fleeceback Membrane Roofing
07 62 00 Sheet Metal Flashing and Trim
07 71 00 Roof Specialties
07 72 33 Roof Hatches
07 81 00 Applied Fireproofing
07 84 00 Firestopping
07 90 00 Joint Protection
07 95 00 Premanufactured Expansion Joint Systems

DIVISION 08 - OPENINGS

08 11 13 Standard Steel Doors and Frames
08 14 16 Flush Wood Doors
08 31 13 Access Doors and Frames
08 32 13 Sliding Aluminum-Framed Glass Doors
08 33 13 Overhead Counter Doors
08 33 23 Overhead Coiling Doors
08 34 73 Sound Control Door Assemblies
08 41 13 Aluminum-Framed Entrances and Storefronts
08 44 13 Glazed Aluminum Curtain Walls
08 45 00 Translucent Wall and Roof Assemblies
08 56 54 Ballistic Rated Transaction Windows
*08 71 00 Door Hardware
*08 74 00 Access Control Monitoring System
08 80 00 Interior Glazing
08 88 56 Ballistic and Impact-Resistant Glazing
08 91 00 Louvers

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09 21 16 Gypsum Board Assemblies
09 30 00 Tiling
09 51 13 Lay-In Acoustical Panel Ceilings
09 54 23 Linear Metal Ceiling System
09 64 13 Finish Wood Stage Steps
09 65 00 Resilient Flooring and Base
09 65 66 Resilient Athletic Flooring
09 66 23 Resinous Matrix Terrazzo Flooring – Alternate
09 68 16 Carpeting
09 72 00 Wall Coverings
09 72 16.16 Rigid Sheet Vinyl Wall Protection
09 77 00 FRP Wall Panels
09 77 23 Fabric Wrapped Wall Panels
09 90 00 Painting and Coating
09 96 53 Elastomeric Coatings

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10 11 00 Visual Display Surfaces
10 14 00 Graphics Panels, Plaques, and Building Letters
10 14 26 Post and Panel Signs
10 21 15 Solid Plastic Toilet Compartments
10 26 41 Ballistic-Resistant Fiberglass Panels
10 28 00 Toilet Accessories
10 28 10 Miscellaneous Specialties
10 44 00 Fire Protection Specialties
10 51 13 Metal Wardrobe Lockers
10 73 26 Aluminum Walkway Covers and Canopies
10 75 00 Flags and Flagpoles

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11 52 13 Projection Screens
11 61 43 Stage Curtains and Tracks
11 66 00 Athletic Equipment
11 66 24 Basketball Backstops

11 68 13 Playground Equipment and Structures

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12 21 13 Horizontal Louver Blinds
12 32 16 Manufactured Plastic Laminate-Clad Casework
12 56 51 Manufactured Library Furniture
12 93 00 Site Furnishings

DIVISION 13 – NOT USED

DIVISION 14 – CONVEYING EQUIPMENT
14 24 01 Hydraulic Passenger Elevators

DIVISIONS 15 Through 20: Not Used

End of Master TOC Volume 1

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*21 01 50	Fire Protection Materials and Methods
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*22 05 53	Identification for Plumbing Piping and Equipment
*22 07 19	Plumbing Piping Insulation
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*23 21 14 Hydronic Specialties
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*23 31 00 HVAC Ducts and Casings
*23 33 00 Air Duct Accessories
*23 34 23 HVAC Power Ventilators
*23 34 39 High Volume Low Speed Propeller Fans
*23 36 00 Air Terminal Units
*23 38 13 Commercial Kitchen Hoods
*23 38 13.01 Residential Kitchen Range Hood for Commercial Buildings
*23 51 00 Breechings, Chimneys, and Stacks
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*26 22 00 Low Voltage Transformers
*26 24 13 Switchboards
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*26 28 13 Fuses
*26 28 16.13 Enclosed Circuit Breakers
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*27 41 16 Integrated Audo Video Systems and Equipment – Common Requirements
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*31 06 20.17 Utility Backfill Materials
*31 11 00 Clearing and Grubbing
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*31 22 16 Fine Grading
*31 22 17 Topsoil
*31 23 15 Building Earthwork
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*32 11 13.13 Lime-Treated Subgrades
*32 11 29.13 Lime-Fly Ash-Treated Base Courses
*32 13 13.00 Concrete Paving
*32 13 13.13 Concrete Pavement Curing
*32 13 13.25 Concrete Sidewalks
32 13 17 Integrally Colored Decorative Concrete Paving
*32 13 73 Concrete Paving Joints and Sealants
*32 16 13 Curbs and Gutters
*32 17 23 Pavement Markings
32 18 16 ~~**Playground Protective Surfacing**~~ **Synthetic Turf Surfacing for Playground**
32 31 13 Chain Link Fences and Gates
32 31 19 Decorative Metal Fences and Gates
32 31 25 Louvered Fencing and Gates
*32 84 00 Planting Irrigation
*32 91 13 Soil Preparation
*32 91 14 Planting Media
*32 92 00 Turf and Grasses
*32 92 13 Hydromulch Seeding
*32 93 00 Plants

DIVISION 33 – UTILITIES

*33 05 13 Manholes and Structures
*33 05 13.13 Manhole Grade Adjustment
*33 05 16.13 Precast Concrete Utility Structures
*33 05 16.16 Concrete for Utility Construction
*33 06 10.14 Polyvinyl Chloride (PVC) Pipe
*33 06 10.15 Ductile Iron Pipe and Fittings
*33 06 40.10 HDPE Solid and Profile Wall Pipe
*33 06 40.11 Reinforced Concrete Pipe
*33 11 00 Water Utility Distribution Piping
*33 12 13.10 Tapping Sleeves and Valves
*33 12 13.12 Wet Connections
*33 12 16 Water Utility Distribution Valves
*33 12 19 Water Utility Distribution Fire Hydrants
*33 12 40 Valve Boxes, Meter Boxes, and Meter Vaults
*33 13 00 Disinfecting of Water Utility Distribution
*33 13 00.10 Hydrostatic Testing of Pipelines
*33 31 00 Sanitary Utility Sewerage Piping
*33 31 00.10 Acceptance Testing for Sanitary Sewers
*33 41 00 Storm Utility Drainage Piping
*33 49 13 Storm Drainage Manholes, Frames, and Covers

End of Master TOC Volume 2

ALVIN ISD SUPPLEMENTARY CONDITIONS TO THE AIA DOCUMENT A201-2017 GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

The following supplements modify the "General Conditions of the Contract for Construction", AIA Document A201, Sixteenth Edition, 2017. Where a portion of the General Conditions is modified or deleted by these Supplementary Conditions, the unaltered portions of the General Conditions shall remain in effect. As appropriate, for purposes of this Request for Proposal, the term "Bid" shall mean "Proposal" and the term "Bidder" shall mean "Offeror", wherever they appear in the Construction Documents. The term "Contractor" shall include a Construction Manager-at-Risk.

ARTICLE 1 -- GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1 THE CONTRACT DOCUMENT

Delete Section 1.1.1 in its entirety and substitute the following:

1.1.1 The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Performance Bond, Labor and Material Payment Bond, Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to propose, instructions to Proposers, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's Proposal or portions of Addenda relating to proposal requirements).

To the extent any provision in the Supplementary Conditions to these AIA Document A201-2017 General Conditions, issued by Owner, conflicts with any provision in the Supplementary Conditions issued by the Architect; the Supplementary Conditions to these AIA Document A201-2017 General Conditions issued by Owner shall control.

1.1.3 THE WORK

Add the following sentence at the end of this section:

It also includes all supplies, skill, supervision, transportation services and other facilities and things necessary, proper or incidental to the carrying out and completion of the terms of the contract and all other items of cost or value needed to produce, construct and fully complete the public work identified by the Contract Documents.

1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

Add the following Sections:

1.2.1.2 Precedence of the Contract Documents: The most recently issued Document takes precedence over previous issues of the same Document. The order of precedence is as follows with the highest authority listed as"1".

.1 Contract Modifications (such as Change Orders) signed by the Contractor and Owner.
.2 The Agreement. (AIA Document A101-2017)
.3 The Supplementary Conditions
.4 The General Conditions of the Contract for Construction
.5 Addenda, with those of later date having precedence over those of earlier date
.6 Drawings and Specifications

Should these Documents disagree in themselves, the Architect and Owner will select the appropriate method for performing the Work, to facilitate avoiding increases in the Contract cost.

1.2.1.3 Relation of Specifications and Drawings: To be equivalent in authority and priority. Should they disagree in themselves, or with each other, prices shall be based on the most expensive combination of quality and quantity of Work indicated. In the event of the above mentioned disagreements, the resolution shall be determined by the Architect and Owner.

1.6 NOTICE

Delete the text of Section 1.6.1 in its entirety and substitute the following:

1.6.1 Written notice shall be deemed to have been duly served if delivered in person to the individual or a member of the firm or entity or to an officer at the corporation for which is was intended, or if delivered at or sent by certified mail, or by registered or certified mail, or by courier service providing proof of delivery, to the last business address known to the party giving notice, or if delivered by facsimile or other electronic communications to the offices of the person or corporation for which it was intended. For facsimiles or other electronic communications received after 5:00 p.m. on a business day, or on a weekend or legal holiday on which the recipient's offices are closed, notice shall be deemed to have been duly served on the next business day.

Delete the text of Section 1.6.2 in its entirety.

Add Section 1.9 as follows:

1.9 MISCELLANEOUS OTHER DEFINITIONS

1.9.1 ADDENDA, ADDENDUM

Documents issued by the Architect prior to execution of the Owner Contractor Agreement for this Project that modify or clarify the Proposal Documents. All addenda become a part of the Contract Documents.

1.9.2 ALTERNATE PROPOSAL(S)

A separate amount stated on a separate Proposal Form which, if accepted by the Owner, will be added to or deducted from the Base Proposal. If accepted, the work that corresponds to the alternate proposal will become part of the agreement between Owner and Contractor. Alternate proposals shall remain valid for the same period of time as the Base Proposal after receipt of proposals, regardless if an Owner Contractor Agreement has been executed, unless indicated otherwise herein.

1.9.3 APPROVED, APPROVED EQUIVALENT, APPROVED EQUAL, OR EQUAL

The terms Approved, Approved Equivalent, Approved Equal, and Or Equal, relate to the substitution of products or systems approved in writing by the Architect. Refer to Paragraph 3.4.2, Substitution of Products and Systems, for procedures which must be followed after award of contract. The substitution procedure process to be followed prior to receipt of proposals is described in the Instructions to Bidders.

1.9.4 BASE PROPOSAL

The Contractor's proposal for the Work, not including any Alternates.

1.9.5 CONTRACT TIME

The period of time which is established in the Contract Documents for Substantial Completion of the Work. This period of time is subject to authorized adjustments as enumerated in the Contract Documents.

1.9.6 DATE OF AGREEMENT

The date the Owner formally awards a Contract for Construction of the Work. This date will be inserted in the first page of the Agreement between Owner and Contractor and shall be referenced in Performance Bond and Payment Bond forms. See also Date of Commencement of Work.

1.9.7 DATE OF COMMENCEMENT OF THE WORK

The date of a written Notice to Proceed to the Contractor for a given portion of the Work. This date constitutes day zero (0) of the stated Contract Time. The Notice to Proceed will be issued after the District has received and validated the Contractor's Payment Bond, Performance Bond and Insurance.

1.9.8 DATE OF FINAL COMPLETION

The end of construction. See AIA Document A201, Section 9.10.

1.9.9 DAY

The following days are referenced in the documents:

.1 Calendar Days. Extensions of time granted for Regular Work Days lost, if any, will be converted to Calendar Days.

.2 Holidays: The days officially recognized by the construction industry in this area as a holiday; normally limited to the observance days of New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and the day after and Christmas Day.

.3 Regular Work Days: All calendar days except holidays, Saturdays, and Sundays. Requests for extensions of time shall be requested on the basis of Regular Work Days, and those days, if approved, will be converted to calendar days by multiplying by a factor of one and four-tenths (1.4).

.4 No extensions of the Contract Time will be granted due to inclement weather, except as provided in Section 8.3.1.

1.9.10 NOTICE TO PROCEED

A notice that may be given by the Owner to the Contractor that directs the Contractor to start the Work. It may also establish the Date of Commencement of the Work.

1.9.11 PROVIDE

Whenever the word "provide" is used in these documents, it shall mean the same as "furnish and install".

1.9.12 PUNCH LIST

A comprehensive list prepared by the Contractor prior to Substantial Completion to establish all items to be completed or corrected; this list may be supplemented by the Architect or Owner. See AIA Document A201, Section 9.8.

1.9.13 UNIT PRICES

A cost for a unit of work as described in the Contract Documents. The Owner may add or deduct Unit Price work at the amounts stated on the Proposal Form and such amounts shall not be subject to additional mark up by the Contractor or his subcontractors."

ARTICLE 2 – OWNER

2.1 GENERAL

Delete the text of Section 2.1.1 in its entirety and substitute the following:

2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. All parties understand that only the Board of Trustees for the Owner acting as a body corporate has the authority to bind the Owner with respect to all matters requiring the Board's approval under current policy of the Board of Trustees for the Owner, including, but not limited to, Change Orders. Except as otherwise provided in Section 4.2.1, the Architect does not have authority to bind the Owner with respect to matters requiring the Owner's approval or authorization. The term "Owner" means the Owner or the Owner's authorized representative.

Delete the text of Section 2.1.2 in its entirely.

2.2 EVIDENCE OF THE OWNER'S FINANCIAL ARRANGEMENTS

After the first sentence of Section 2.2.1, delete the remainder of Section 2.2.1 in its entirety. Delete

Sections 2.2.2 and 2.2.3 in their entirety.

2.3 INFORMATION AND SERVICES REQUIRED OF THE OWNER

Delete Section 2.3.6 in its entirety.

~~Delete Section 2.3.6 in its entirety and replace it with the following:~~

~~2.3.6 The Contractor will be furnished free of charge 25 copies of the Drawings and 25 copies of the Project Manual.~~

~~These copies may have been used during the Bid/Proposal process and it is the Contractor's responsibility to determine their completeness and to request replacement of any missing portions. Additional new copies will be furnished at the cost of reproduction, postage, and handling.~~

2.5 OWNER'S RIGHT TO CARRY OUT THE WORK

Delete the text of Section 2.5. in its entirety and substitute the following:

If the Contractor defaults or neglects to carry out the work in accordance with the Contract Documents and fails, after receipt of written notice from the Owner, to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case, an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the actual cost of correcting such deficiencies, including the Owner's expenses and compensation for the Architect's additional services and expenses made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to the prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner within thirty (30) days of receipt of written notice from the Owner therefor.

Add Section 2.6 as follows:

2.6 OWNER'S LACK OF LIABILITY TO THIRD PARTY

2.6.1 The Owner is not responsible for the acts and/or omissions of, or contractually involved with, any subcontractors, suppliers of labor or materials, and/or their respective employees or agents or any other third-party claimants. Such claimants shall not constitute third party beneficiaries under this contract. The Contractor and/or his Surety solely shall deal with, take responsibility for, and be liable to such parties under this Contract. Contractor will indemnify and defend the Owner from any legal actions against Owner for unpaid bills of subcontractors.

Add Section 2.7 as follows:

2.7 OWNER'S RIGHT TO OCCUPY THE PROJECT

2.7.1 The Owner shall have the right to occupy or use without prejudice to the right of either party, any completed or largely completed portions of the project, notwithstanding the time for completing the entire work or such portions may not yet have expired. Such occupancy and use shall not constitute acceptance of any work not in accordance with the Contract Documents. If the Contractor determines that said occupancy may cause a delay to the completion of the project, he shall notify the Owner in writing immediately.

2.7.2 Refer to Article 11 Insurance and Bonds regarding property insurance requirements in the event of such occupancy.

2.7.3 If Contractor has not completed the obligations of the Contract Documents by the dates established by subsequent Amendments to the Agreement Between Owner and Construction Manager, the Owner shall have the right to occupy or use the entire project.

ARTICLE 3 -- CONTRACTOR

3.1 GENERAL

Add Section 3.1.4 as follows:

3.1.4 The Contractor must be fully qualified under any state or local licensing laws for Contractors in effect at the time and at the location of the work. The Contractor is responsible for determining that all of his subcontractors and prospective subcontractors are duly licensed in accordance with the law.

3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

Delete the last sentence of Section 3.2.4 in its entirety and substitute the following:

If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field

measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities provided such errors, inconsistencies, omissions, differences, or nonconformities could not have been ascertained from a careful study of the Contract Documents.

Add Sections 3.2.5, 3.2.6 and 3.2.7 as follows:

3.2.5 The Contractor shall make a reasonable attempt to interpret the Contract Documents before asking the Architect for assistance in interpretation. The Contractor shall not ask the Architect for observation of work prior to the Contractor's field superintendent's personal inspection of the work and his determination that the work of all major subcontractors, to allow the subcontractor to demonstrate his understanding of the documents to the Architect and to allow the subcontractor to ask for any interpretation he may require.

3.2.6 If, in the opinion of the Architect, the Contractor does not make a reasonable effort to comply with the above requirements of the Contract Documents and this causes the Architect or his Consultants to expend an unreasonable amount of time in the discharge of the duties imposed on him by the Contract Documents, then the Contractor shall bear the cost of compensation for the Architect's additional services made necessary by such failure. The Architect will give the Contractor prior notice of intent to bill for additional services related to Sections 3.2.5, 3.2.6 and 3.7 before additional services are performed.

3.2.7 If the Contractor has knowledge that any of the products or systems specified will perform in a manner that will limit the Contractor's ability to satisfactorily perform the work or to honor his Warranty, he shall promptly notify the Architect in writing, providing substantiation for his position. Any necessary changes, including substitutions of materials, shall be accomplished by appropriate Modification.

3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

Delete the last sentence of Section 3.3.1 in its entirety and substitute the following:

If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any resulting loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures, but only to the extent the Owner would be responsible for any such losses or damages under state and/or federal law.

Add Sections 3.3.4 and 3.3.5 as follows:

3.3.4 The Contractor is especially cautioned to coordinate the routing of mechanical and electrical items prior to commencing these operations.

3.3.5 Contractor shall bear sole responsibilities for design and execution of acceptable trenching and shoring procedures, in accordance with Texas Government Code, Section 2166.303 and Texas Health and Safety Code, Subchapter C, Sections 756.021, et seq. On trench excavations in excess of 5 feet in depth, Contractor shall pay a qualified engineer, experienced in the engineering design and preparation of drawings and specifications for compliance with state requirements for trenching and shoring, to prepare and professionally seal detailed drawings and specifications directing Contractor in the safe execution of trenching and shoring.

3.3.6 Any time that the Contractors' employees, subcontractors and their agents and employees, and other persons or entities performing portions of the work for or on behalf of the Contractor or any of its subcontractors are on site, the work shall be supervised by a qualified employee of the Contractor.

3.4 LABOR AND MATERIALS

Delete Section 3.4.2 in its entirety and replace it with the following:

3.4.2 The materials, products, and the systems covered by these specifications have been selected as a standard because of quality, particular suitability, or record of satisfactory performance. It is not intended to preclude the use of equivalent or better materials, products, or systems provided that same meets the requirements of the particular project and have been approved in an addendum as a substitution prior to the submission of bids. If prior written approval in an addendum has not been obtained, it will be assumed that the Bid is based upon the materials, products, and systems described in the Bidding Documents and no substitutions will be permitted, except as provided hereinafter.

.1 If, after award of contract, the Contractor of one of his Subcontractors, or Suppliers determines that any of the

products or systems specified will perform in a manner that will limit the Contractor's ability to satisfactorily perform the work or to honor the Warranty, the Contractor shall promptly notify the Architect, in writing, providing detailed substantiation for his position. Any changes deemed necessary by the Owner and Architect, including substitution of materials and change in Contract Sum, either upward or downward, if any, shall be accompanied by appropriate Modification.

.2 After the Contract has been executed, the Owner and Architect will consider a formal request for the substitution of products on the Work in place of those specified only under the conditions set forth in specification referring to Product Options and Substitutions.

.3 Requests for substitution, received by the Architect later than forty five (45) days after "Notice to Proceed" or "Date of Commencement of the Work" (whichever occurs first), may result in additional costs to the Owner. Contractor agrees to reimburse the Owner through deductive Change Order to the Contract, for all costs associated with such requests.

.4 By making request for substitutions based on Subparagraph 3.4.2 above, the Contractor

.1 Represents that the Contractor has personally investigated the proposed substitute product and determined that it is equivalent or superior in all respects to that specified, and is suitable for the intended purpose;

.2 Represents that the Contractor will provide the same warranty for the substitution that the Contractor would for that specified;

.3 Certifies that the cost data presented is complete and includes all related costs under this Contract except the Architect's redesign costs, and waives all claims for additional costs related to the substitution which subsequently become apparent; and

.4 Will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.

.5 Substitution requests shall be submitted on the forms included herein and in accordance with the process established in specification referring to Product Options and Substitutions.

Add the following Sections after Section 3.4.3

3.4.3.1 State law prohibits possession and/or use of alcohol and tobacco products on school property at all times.

.2 State law prohibits weapons or firearms on school property.

.3 There shall be zero tolerance for fraternization with students, teachers and any other school district personnel, Contractor will immediately remove any employee that violates this provision from the project.

.4 No glass bottles shall be brought on the construction site or Owner's property by any construction personnel.

3.5 WARRANTY

Delete the text of Section 3.5.1 in its entirety and substitute the following:

3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new, unless the Contract Documents require or permit otherwise. The contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect cause by abuse, material alteration to the Work not executed by the Contractor, insufficient maintenance or maintenance not in compliance with written instructions therefor, operation not in compliance with written instructions therefor, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

Add Sections 3.5.3, 3.5.4 and 3.5.5 as follows:

3.5.3 In the event of failure in the Work, including a specified product, whether during construction, or the correction period (which shall be one (1) year from the Date of Substantial Completion, except where a longer period as specified), the Contractor shall take prompt and appropriate measures to assure correction or replacement of the defective Work or any portion thereof, including manufactured products, whether notified by the Owner or the Architect. Upon correction of warranty items, the Contractor shall provide the Owner and Architect with written notification of said correction. This obligation shall survive acceptance of the Work under the Construction Contract.

3.5.4 The Contractual Correction Period for this Project is one (1) year from the date of Substantial Completion,

except for any extended warranties as specified within the Contract Documents. Items of Work not completed until after the deadline for Substantial Completions shall have their warranties (general and any extended warranty periods) extended by the period of time between the deadline for Substantial Completion and the actual completion of the Work. Such warranties shall be submitted to the Owner in writing, documenting such time extensions. This correction period shall not restrict or modify extended warranties called for or provided on systems, equipment or other specific portions of the Work.

3.5.5 The Contractor shall accompany the Owner and Architect for a complete reinspection of the Project approximately eleven (11) months after the Date of Substantial Completion and shall promptly complete any observed or reported deficiencies in the Work, including any uncompleted Punch List items or outstanding and incomplete warranty items. The contractor shall provide written notification to the Owner and Architect when said Punch List items and/or additional deficiencies observed have been corrected. This obligation shall survive acceptance of the Work under the Construction Contract.

3.6 TAXES

Delete Section 3.6 in its entirety and substitute the following:

The Owner qualifies for exemption from State and Local Sales and Use Taxes pursuant to the provision of Article 20.04(f) of the Texas Limited Sales, Excise and Use Tax Act. Taxes normally levied on the purchase, rental and lease of materials, supplies and equipment used or consumed in performance of the Contract may be exempted by issuing to suppliers an exemption certificate in lieu of tax. Exemption certificates comply with State Comptroller of Public Accounts Ruling No. 95-0.07. Any such exemption certificate

issued in lieu of tax shall be subject to State Comptroller of Public Accounts Ruling No. 95-0.09, as amended. Failure by the Contractor or Subcontractors to take advantage of the Owner's exemption and to obtain such exemption certificate shall make him responsible for paying taxes incurred on materials furnished on the Project without additional cost to or reimbursement by the Owner.

3.7 PERMITS, FEES, NOTICES AND COMPLIANCES WITH LAWS

After Section 3.7.1, add the following Sections:

3.7.1.1 The Owner shall pay directly to the governing authority the cost of all permanent property utility assessments and similar utility connection charges.

.2 The Contractor shall pay directly all temporary utility charges (excluding permanent power), utility district/company inspection fees, temporary tap charges, and temporary water meter charges and any other similar fees assessed by jurisdictional authority having control over this Project. The Contractor shall secure and pay for all governing authorities' permit fees.

.3 Fees payable to the Texas Department of Licensing and Regulation (TDLR) for document review relative to the Elimination of Architectural Barriers Act shall be paid by the Owner and the Architect will submit the documents to the TDLR for review and approval.

.4 The Contractor shall pay for all measures required for the SWPPP.

3.8 ALLOWANCES

Delete Section 3.8 in its entirety and substitute the following:

3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct and approve in writing. All unused allowance amounts shall be credited back to Owner, along with any markups included in the Contract Sum on such unused amounts.

3.9 SUPERINTENDENT

Delete Section 3.9.1 in its entirety and substitute the following:

3.9.1 The Contractor shall employ a competent superintendent, project manager and necessary assistants who shall

be in attendance at the Project site during performance of the Work, including Punch List work. The superintendent and project manager shall represent the Contractor, and unless provided otherwise in Section 3.1.1, communications given to the superintendent or project manager shall be binding as if given to the Contractor.

3.10 CONTRACTOR'S CONSTRUCTION AND SUBMITTAL SCHEDULES

Delete Section 3.10.1 and substitute the following:

3.10.1 Within 30 days of being awarded an Amendment, the Contractor shall prepare and submit for the Owner and Architect's review, a construction schedule for the Work, with critical path clearly defined. The schedule shall not exceed time limits current under the Contract Documents. For further schedule requirements refer to specification section regarding project schedules in the Project Manual.

Add the following clause to Section 3.10.2:

3.10.2 Requirements for the submittal schedule are outlined in the specifications. If the Contractor fails to submit a submittal schedule or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in the Contract Sum or extension of the Contract Time based on the time required for review of submittals.

Add Section 3.10.4 as follows:

3.10.4 The Contractor shall submit to the Architect, with each monthly Application for Payment; a copy of the progress schedule updated to reflect the current status of the project. The Contractor shall take whatever action necessary to assure that the project completion schedule is met.

3.11 DOCUMENTS AND SAMPLES AT THE SITE

Add Section 3.11.1 as follows:

3.11.1 The Contractor shall post all Addenda on Construction Documents prior to commencing work in the site.

3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

At Section 3.12.5, add the following Sections:

3.12.5 .1 If, in the opinion of the Architect, the Shop Drawings, Product Data, Samples and similar submittals are incomplete, indicate an inadequate understanding of the work covered by the submittals, or indicate a lack of study and review by the Contractor prior to submittal to the Architect, the submittals will be returned, unchecked, to the Contractor for correction of these three deficiencies and subsequent resubmittal. Additional service charges as outlined in 3.2.6 may be charged by the Architect in this event.

.2 The Architect will take no action on Shop Drawings, Product Data, and Samples that have not first been certified, by stamped, signed notation, as having been checked and approved by the Contractor for use in the Work, or that are not specifically required by the Contract Documents.

At Section 3.12.7, correct the word "approved" in the last line to read "accepted".

At Section 3.12.8, correct "Architect's approval" in the last line to read "Architect's acceptance".

At Section 3.12.9, correct "Architect's approval" in the last line to read "Architect's acceptance" and add the following Section:

3.12.9.1 Deviation from the requirements of the Contract Documents indicated on shop Drawings, Product Data, and Samples, does not constitute the required notification "in writing.

Add Sections 3.12.11 and 3.12.12 as follows:

3.12.11 The Contractor shall submit complete Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents to the Architect at least thirty (30) days prior to the date the Contractor needs the reviewed submittals returned. Where colors are to be selected by the Architect, submit all Samples in adequate time to allow the Architect to prepare a complete selection schedule. In general, all submittals requiring color selection shall be

submitted to the Architect within four weeks of the date of the contact for construction.

3.12.12 The Contractor shall submit digital PDF's of Shop Drawings, Product Data, and similar submittals in the proper format according to the procedures stipulated within the Contract Documents. Digitally submitted Shop Drawings will be reviewed and marked by the Architect and/or his consultants and returned to the Contractor for his use, distribution, correction or resubmittal as required. Contractor corrections or revisions shall be resubmitted to the Architect in accordance with same procedures. The digitally marked up prints will be retained by the Architect and his consultants. Samples shall be submitted directly to the Architect for review.

Add Section 3.12.13 as follows:

3.12.13 The Contractor shall provide MEP coordination drawings within a schedule mutually agreed upon by the Team and prior to installing the Work, showing how all piping, ductwork, lights, conduit, equipment, etc. will fit into the ceiling space allotted, including clearances required by the manufacturer, by code, or in keeping with good construction practice. Space for all trade elements must be considered on the same drawing. Drawings shall be at ¼ inch per foot minimum scale and shall include invert elevations and

sections required to meeting intended purpose. The Contractor may propose an alternate method of accomplishing MEP coordination. If the alternate method is approved by the Team, it may be utilized.

3.14 CUTTING AND PATCHING

Add Section 3.14.3 as follows:

3.14.3 Leave all chases, holes and openings, straight and true, of proper size, and cut them into existing work as may be necessary for the proper installation of the work. Consult with all Subcontractors concerned, regarding proper locations and size. In case of conflict between requirement for cutting and patching and any other requirement of the Work, submit request for direction before proceeding with the Work. In case of failure to leave or cut them in the proper place, openings shall be cut afterward at no expense to the Owner. No excessive cutting will be permitted, nor shall any piers or other structural members be cut without prior approval. After such work has been installed, satisfactorily and carefully fit around, close up, repair, patch, and point up all cuts. Work shall be done with proper tools by workmen of the particular trade to which work belongs and shall be done without extra expense to the Owner. No description of specific cutting, patching, digging, etc., required for the work under a Specification Section that may be required for the proper accommodation of that work to the work of other trades shall relieve the Contractor from responsibility described above.

3.15 CLEANING UP

Add Section 3.15.3 as follows:

3.15.3 Prior to the Architect's inspection for Substantial Completion the Contractor shall clean exterior and interior surfaces exposed to view; remove temporary labels, stains, and foreign substances; polish transparent and glossy surfaces; clean equipment and fixtures to a sanitary condition; replace air filters in mechanical equipment; clean roof, gutters, and downspouts; remove obstructions and flush debris from drainage systems; clean site; sweep paved areas and rake clean other surfaces; remove trash and surplus materials from the site.

3.18 INDEMNIFICATION

Delete Sections 3.18.1 and 3.18.2 in their entirety and replace them with the following:

3.18.1 TO THE FULLEST EXTENT PERMITTED BY LAW, CONTRACTOR SHALL INDEMNIFY DEFEND AND HOLD HARMLESS THE OWNER AND ITS TRUSTEES, OFFICERS, AGENTS, AND EMPLOYEES (COLLECTIVELY, THE "INDEMNIFIED PARTIES") FROM AND AGAINST ALL CLAIMS, LOSSES, EXPENSES, COSTS, DEMANDS, SUITS, CAUSES OF ACTION, AND DAMAGES, INCLUDING WITHOUT LIMITATION, ATTORNEYS' FEES AND EXPENSES, ATTRIBUTABLE TO BODILY INJURY, SICKNESS, DISEASE OR DEATH OF ANY EMPLOYEE OF CONTRACTOR, ITS AGENTS, OR ITS SUBCONTRACTORS OF EVERY TIER, EVEN IF THE BODILY INJURY, SICKNESS, DISEASE OR DEATH IS CAUSED BY OR ALLEGED TO HAVE BEEN CAUSED BY THE NEGLIGENCE, FAULT OR STRICT LIABILITY OF ANY OF THE INDEMNIFIED PARTIES.

FOR ALL CLAIMS NOT ADDRESSED IN THE ABOVE PARAGRAPH, CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS THE OWNER AND ITS TRUSTEES, OFFICERS, AGENTS, AND EMPLOYEES AND (COLLECTIVELY, THE "INDEMNIFIED PARTIES"), FROM AND AGAINST ALL CLAIMS, LOSSES, EXPENSES,

COSTS, DEMANDS, SUITS, CAUSES OF ACTION, AND DAMAGES, INCLUDING WITHOUT LIMITATION, ATTORNEYS' FEES AND EXPENSES, OF ANY NATURE WHATSOEVER ARISING OUT OF OR RELATED TO THIS AGREEMENT OR THE WORK TO BE PERFORMED UNDER THIS AGREEMENT, BUT ONLY TO THE EXTENT OF THE NEGLIGENCE OR OTHER FAULT OF THE CONTRACTOR, ITS AGENTS, REPRESENTATIVES, EMPLOYEES OR SUBCONTRACTORS OF ANY TIER.

3.18.2 It is understood and agreed that Subparagraph 3.18 above is subject to, and expressly limited by, the terms and conditions of TEX. CIV. PRACT. & REM. CODE ANN. 130.001-130.005 (Vernon Supp. 1989), as amended or modified, or any successor statute. Contractor shall not be obligated under

Subparagraph 3.18 to indemnify or hold harmless Architect or any agent, servant of employee of Architect from liability or damage that is caused by or results from:

.1 Defects in plans, designs or specifications prepared, approved or used by the Architect; or

.2 Negligence of the Architect in the rendition or conduct of professional duties called for or arising out of the Contract Documents and the plans, designs or specifications that are a part of the Contract Documents; and arises from:

.1 personal injury or death;
.2 property injury; or
.3 any other expense that arises from personal injury, death or property injury.

Add Section 3.18.3 as follows:

3.18.3 It is agreed with respect to any legal limitations, now or hereafter in effect and affecting the validity or enforceability of the indemnification obligation under Paragraph 3.18, such legal limitations are made a part of the indemnification obligation and shall operate to amend the indemnification obligation to the minimum extent necessary to bring the provision into conformity with the requirements of such limitations, and as so modified, the indemnification obligation shall continue in full force and effect.

Add Sections 3.19, 3.20, and 3.21 as follows:

3.19 RECORD DRAWINGS

3.19.1 Refer Owner's Closeout Procedures

3.20 PREVAILING WAGE RATES

3.20.1 As required by Chapter 2258 of the Texas Government Code Title 10 Prevailing Wage Rate, no employee used in this construction may be paid less than the minimum prevailing wage rate in effect for the Owner.

3.20.2 The Contractor and each Subcontractor and Sub-subcontractor shall pay to all laborers, workmen, and mechanics employed in execution of this Contract not less than rates set forth by law for each craft of type of workman or mechanic needed to execute this Contract.

3.20.3 Determination of prevailing wages shall not be construed to prohibit payment of more than the rates identified.

3.21 ANTITRUST VIOLATIONS

3.21.1 Contractor hereby assigns to Owner any and all claims for overcharges associated with this Contract which arise under the antitrust laws of the United States, 15 U.S.C.A. Section 1 et.seq. (1973). The Contractor shall include this provision in his contracts with each Subcontractor and Supplier. Each Subcontractor shall include such provision in contracts with Sub-subcontractors and suppliers.

3.22 THIRD-PARTY BENEFICIARY

3.22.1 No person or entity shall be deemed to be a third-party beneficiary of any provision(s) of this Contract; nor shall any provision(s) hereof be interpreted to create a right of action or otherwise permit anyone not a signatory party to the Contract to maintain an action for personal injury or property damage.

ARTICLE 4 – ARCHITECT

4.2 Administration of the Contract

Delete Section 4.2.2 in its entirety and substitute the following:

4.2.2 The Architect, as a representative of the Owner, will visit the site at intervals appropriate to the stage of the Contractor's operations (1) to become generally familiar with and to keep the Owner informed about the progress and quality of the portion of the Work completed, (2) to endeavor to guard the Owner

against defects and deficiencies in the work, and (3) to determine in general if the work is being performed in a manner indicating that the work, when fully completed, will be in accordance with the Contract documents. The Architect will be required to make on-site inspections as necessary to keep the Owner informed of the progress of the Work and as necessary to guard the Owner against defects and deficiencies in the Work. The Architect will neither have control over or charge of, no be responsible for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

Delete Section 4.2.6 in its entirety and substitute the following:

4.2.6 The Architect shall have authority to reject Work that does not conform to the Contract Documents. The Architect shall be required to promptly notify the Owner of any non-conforming Work and shall reject such non-conforming Work unless the Owner objects to the rejection in writing within twenty-four (24) hours of such notification. Whenever the Architect considers it necessary or advisable for implementation of the intent of the Contract documents, the Architect will have authority to require inspection or testing of the Work in accordance with the provisions of the Contract Documents, whether or not such Work is fabricated, installed or completed. Performance of any additional inspection or testing, which would result in additional cost to the Owner, shall require advance notice to and approval of the Owner. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work, except when the Contractor's inability to perform the Work is a result of design flaw, error or omission.

Add the following Section 4.2.8.1:

4.2.8.1 Allowance Expenditure will be authorized using Allowance Expenditure authorizations (AEA) executed by the Owner, the Architect and the Contractor. All Allowance Expenditure Authorizations will be incorporated into the contract by Change Order at the completion of the project. Work authorized by an AEA may be invoiced as it is completed.

Delete Section 4.2.13 in its entirety and substitute the following:

4.2.13 All decisions on matters relating to aesthetic effect shall initially be made by the Architect; however, all such decisions are subject to the Owner's written approval.

ARTICLE 5 – SUBCONTRACTORS

5.1 DEFINITIONS

At the end of Section 5.1.1 add the following sentence:

Wherever relevant, the term "Subcontractor" shall also include a person, or entity who supplies material or equipment for the Project.

5.2

At the end of Section 5.2.4, add the following sentence:

Prior to such change the Contractor shall notify the Architect of his intent and reasons for such proposed changes.

5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

Delete the last sentence of Section 5.4.1 in its entirety and substitute the following:

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract, but only to the extent permitted by law.

Delete the last sentence of Section **5.4.3** in its entirety.

ARTICLE 7 -- CHANGES IN THE WORK

7.1 GENERAL

Delete the text of Section 7.1.2 in its entirety and substitute the following:

7.1.2 A Change Order shall be based on agreement among the Owner, Contractor, and Architect, except when the Contract balance is amended as a result of Owner's Right to Carry out the Work under Section 2.4.1 or the Owner's assessment of liquidated damages as allowed by the Contract Documents. A Construction Change Directive requires agreement by the Owner or the Owner's representative and Architect, and may or may not be agreed to by the Contractor; an order for a minor change may be issued by the Architect alone.

Add Section 7.5 as follows:

7.5 ALLOWABLE MARKUPS FOR CHANGES IN THE WORK

7.5.1 Unless otherwise directed, the procedure and markup of the costs for additional work shall be determined in the following manner:

.1 Upon Change Proposal request, the Contractor shall quote the cost for changes in the work showing separately, credits and additional costs broken down by headings used in the Schedule of Values. Further breakdown into units of labor and materials may be required if agreement on cost cannot be reached using the breakdown by headings. The final cost shall be the amount of the Total Contract Value Change shown on the Change Proposal signed by the Contractor and Owner. For general construction work, not subcontracted, the Contractor shall consider as costs the actual invoice amount for additional materials, the sales tax on additional materials when applicable, the wages paid for additional direct labor, plus the Contractor's usual markup of wages to cover additional labor related costs such as insurance, taxes and fringe benefits.

.2 On changes executed within the Owner's Contingency Allowance, Contractor shall have included costs for combined overhead and profit, to the extent permitted by the Contract Documents, and General Conditions costs, including the cost of superintendents, field office expense, temporary facilities and services, small hand tools, construction equipment not specifically provided for the change in hand, home office expense, bond and building insurance premiums, and managing the Subcontractor's work, in his Base Contract amount. Allowed overhead and profit fee on Owner's Contingency Allowance changes to be included in the total cost to the Owner shall be based as follows:

.1 For each Subcontractor or Sub-subcontractor involved, for Work performed by that Subcontractor's of Sub-subcontractor's own forces, ten percent (10%) of the cost.

.2 For each Subcontractor, for Work performed by the Subcontractor's Sub-subcontractors, five percent (5%) of the amount due the Sub-subcontractors.

7.5.2 If any additional Work is authorized outside of or in excess of the Owner's Contingency Allowance, the combined overhead and profit for this work shall be based as follows:

.1 For the Contractor, for Work performed by the Contractor's own forces, a maximum total markup of ten percent (10%) of the actual cost on a lump sum project, or the Contractor's Construction Phase Fee on a Guaranteed Maximum Price Project.

.2 For Work performed by the Contractor's Subcontractor(s), five percent (5%) of the amount due the Subcontractor(s).

.3 For each Subcontractor or Sub-subcontractor involved, for work performed by that Subcontractor's or Sub-subcontractor's own forces, a maximum markup of ten percent (10%) of the actual cost.

.4 For each Subcontractor, for work performed by the Subcontractor's Sub-subcontractors, five percent (5%) of the amount due the Sub-subcontractor.

.5 Cost to which overhead and profit is to be applied shall be determined in accordance with Section 7.3.7.

7.5.3 In order to facilitate checking of quotations for extras or credits, all proposals, (except those so minor that their propriety can be seen by inspection), shall be accompanied by a complete and detailed itemization of costs including labor, materials, and Subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where

major cost items are Subcontracts, they shall be itemized also. In no case will a change be approved without such itemization.

7.5.4 Change orders, as they are accepted by the Owner, shall be entered under heading “Change Orders” in the next current Request for Payment.

7.5.5 All credits to or deductions from the Contract Sum, a Contingency or an Allowance shall be calculated using the same methodology set forth in this Section 7.5. All unused Contingency or Allowance amounts shall be credited back to Owner prior to final payment, along with any markups included in the Contract Sum or GMP on such unused amounts.

ARTICLE 8 -- TIME

8.1 DEFINITIONS

At Section 8.1.4, add the following sentence:

See further definition of “Day” in Section 1.9.10.

8.3 DELAYS AND EXTENSIONS OF TIME

Delete Section 8.3.1 in its entirety and substitute the following:

8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other unforeseeable causes beyond the Contractor’s control, or by other causes which the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine. No extensions of the Contract Time will be granted for inclement weather, except for Force Majeure weather events consisting of named storms or government declared emergencies resulting from extreme weather.

Add Sections 8.3.4 and 8.3.5 as follows:

8.3.4 The parties hereto agree that time is of the essence of this Contract and that pecuniary damages would be suffered by the Owner if the Contractor does not substantially complete all Work called for in the Contract Document by the specified date, which damages are, by their very nature, difficult of ascertainment. It is therefore expressly agreed, as a part of the consideration inducing the Owner to execute this Contract that the Owner may deduct from the final payment made to the Contractor a sum equal to the amount stated stated in the Contract Documents, per phase for each and every Calendar Day beyond the agreed date which the contractor has agreed to for Substantial Completion of the Work included in the Contract Documents. It is expressly understood that said sum per day is agreed upon as a fair estimate of the pecuniary damages which will be sustained by the Owner in the event that the Work is not substantially completed within the agreed time, or with the legally extended time, if any, otherwise provided for herein. Said sum shall be considered as liquidated damages only, and in no sense shall be considered a penalty or forfeiture; said damage being caused by additional compensation to personnel, and other miscellaneous increased costs, all of which are difficult of exact ascertainment. The liquidated damages assessed herein shall be Owner’s sole remedy for time delays between the deadline for substantial completion and Contractor’s achievement of substantial completion.

8.3.5 Failure to complete and close-out the Project, and complete all Punch List items, within sixty (60) days after the scheduled Substantial completion date will additionally entitle the Owner to deduct from the final payment made to the Contractor a sum equal to the amount stated in the Contract Documents, per phase, for each and every Calendar Day beyond the 60-day close-out period. It is expressly understood that said sum per day is agreed upon as a fair estimate of the pecuniary damages which will be sustained by the Owner in the event that the Project close-out does not occur on a timely basis. Said sum shall be considered as liquidated damages only and in no sense shall be considered a penalty or forfeiture; said damage being caused by additional compensation to personnel, and other miscellaneous increased costs, all of which are difficult of exact ascertainment. If the Contractor is delayed through no fault of the Owner, the Substantial Completion is not achieved by the agreed contract completion date, the Project close-out period of sixty (60) days will not be extended by the number of days of delay past the actual Substantial completion date and will remain based upon the agreed contract completion date.

ARTICLE 9 -- PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

Add Section 9.1.1.1 as follows:

9.1.1.1 The Owner is exempt from payment of Texas State Sales Tax on materials required for the Work. Therefore, to comply with the law, the Contract Sum shall be broken down into the amount of cost for labor and the amount of cost for materials. This breakdown shall be provided by the Contractor within ten (10) days of award of Contract.

9.2 SCHEDULE OF VALUES

Add the following Sections:

9.2.1 General Contractor's cost for Contractor's fee, bonds and insurance, General Conditions, etc., shall be listed as individual line items.

9.2.2 Schedule of Values shall break each line into materials and labor. Once approved by the Owner and Architect, it shall be used as basis for reviewing Application for Payment but not be taken as evidence of market or other value.

9.2.3 Contractor's cost for various construction items shall be detailed. For example, concrete work shall be subdivided into footings, grade beams, floor slabs, paving, etc. These subdivisions shall appear as individual line items.

9.2.4 On major subcontracts, such as mechanical, electrical, and plumbing, the Schedule shall indicate line items and amounts in detail, (for example; underground, major equipment, fixtures, installation of fixtures, start up, etc.)

9.2.5 Costs for subcontract work shall be listed without any addition of General Contractor's costs for overhead, profit or supervision.

9.2.6 The Contractor shall include a value for the coordination documents/drawings on the schedule of values.

9.2.7 The Contractor shall include a value for the correction of deficiencies noted by the Commissioning Agent and the Test, Adjust and Balance consultant on the schedule of values for each sub-contractor subject to commissioning and test, adjust and balance requirements.

9.3 APPLICATIONS FOR PAYMENT

Delete Sections 9.3.1 and 9.3.2 in their entirety and replace them with the following:

9.3.1 Refer to Section 7.1.3 of the A133 Agreement for timelines related to Applications for Payment.

9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work which have been properly authorized by Construction Change Directives but not yet included in Change Orders.

9.3.2 Payments will be made on account of materials or equipment 1) incorporated in the Work; 2) suitably stored at the site; or 3) suitably stored at some off-site location, provided the following conditions are met for off-site storage:

.1 The location must be agreed to, in writing, by the Owner and Surety.

.2 The location must be a bonded warehouse.

.3 Surety must agree, in writing, to each request for payment.

.4 The Contractor must bear the cost of the Owner's and Architect's expenses related to visiting the offsite storage area for confirmation.

Payments for materials or equipment stored on or off the site shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the Owner to establish the Owner's title to such materials or equipment or otherwise protect the Owner's interest, including applicable insurance (naming the Owner as insured) and transportation to the site for those materials and equipment stored off the site. Under no circumstances will the Owner reimburse the Contractor for down payments, deposits, or other advance payments for materials or equipment, without prior written approval of Owner.

The Contractor acknowledges that the review of materials and/or equipment stored off the side is an additional service

of the Architect, and the Contractor shall be charged for that service. The cost for such service will be established by the Architect and is not subject to appeal.

Add Section 9.3.4 as follows:

9.3.4 The Contractor shall submit requests for payment in duplicate, using AIA Document G702, Application and Certificate of Payment, as the cover sheet. Continuation sheets showing in detail the amounts requested, etc., shall be submitted using AIA Document G703, Continuation Sheet, or a computerized version of these documents previously approved for use. The information provided on the continuation sheets in the Description of the Work and Scheduled Values columns shall match the corresponding information shown on the approved Schedule of Values. All blank spaces on AIA Document G702, Application and Certificate of Payment, must be completed and the signatures of the Contractor and Notary Public shall be original on each form. By submitting his application for payment, the Contractor certifies that the individual signing the application is authorized to do so.

9.6 PROGRESS PAYMENTS

Delete Section 9.6.1 in its entirety and substitute the following:

9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make progress payments in accordance with the following Section and Section 7.1.3 of the A133.

.1 Based upon the applications for payment and supporting documents submitted to the Architect by the Contractor and certification of the amount payable by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided in the Contract Documents for the period covered by the application for payment:

.2 Applications for Payment shall be submitted by the last day of the month. Not later than the last day of the following month, ninety-five percent (95%) of the portion of the Contract Sum properly allocable to labor, materials, and equipment incorporated in the Work and ninety-five percent (95%) of the portion of the Contract Sum properly allocable to materials and equipment suitably stored at the site or at some other location agreed upon in writing (subject to the conditions listed in Article 9.3.2 of the Supplementary Conditions to the Contract for Construction), for the period covered by the Application for Payment, less the aggregate of previous payments made by the Owner.

.3 Upon Substantial Completion of the entire Work, a sum sufficient to increase the total payments to ninety-five percent (95%) of the Contract Sum, less such amounts as the Architect shall determine for all incomplete Work and unsettled claims as provided in the Contract Documents.

At Section 9.6.2, insert the following sentence between the first and second sentence:

More specifically, if only five percent (5%) retainage is withheld by the Owner on payments to the Contractor, then the Contractor shall withhold only five percent (5%) retainage on payments to subcontractors; and subcontractors shall withhold only five percent (5%) retainage on payments to sub- subcontractors.

9.7 FAILURE OF PAYMENT

Delete the phrase “or awarded by binding dispute resolution.” Replace all references to “seven days” to “ten days.”

9.8 SUBSTANTIAL COMPLETION

At Section 9.8.2, add the following sentence at the end:

Should the Architect determine that the Contractor’s List of Items to be Completed or Corrected lacks sufficient detail or requires extensive supplementation, the list will be returned to the Contractor for revision, and inspection for determining the Date of Substantial Completion will be delayed until the List submitted is a reasonable representation of the work to be done.

Add Sections 9.8.6 and 9.8.7 as follows:

9.8.6 In order for the project or a major portion thereof to be considered substantially complete, the following conditions must be met:

.1 All inspections by governmental authorities having jurisdiction over the project must have been finalized, any remedial work required by those authorities must have been completed, and Certificates of Occupancy and similar governmental approval forms must have been issued and copies delivered to the Owner and Architect.

.2 All work, both interior and exterior, shall have been completed and cleaned except minor items which if completed after occupancy, will not, in the Owner’s opinion, cause interference to the Owner’s use of the building or any portion

thereof. A significantly large number of items to be completed or corrected will preclude the Architect from issuing a Certificate of Substantial Completion. The Owner and Architect will be the sole judge of what constitutes a significantly large number of items.

The following items are a partial specific list of requirements, as applicable to the Project, that must be completed prior to established Substantial Completion of all portions of the work (Including the Substantial Completion of the commissioning phase).

1. All fire alarm system components must be completed and demonstrated to the Owner.
2. Local fire marshal approval certificate, or similar Certificate of Occupancy from the governing agency, must be delivered to the Owner.
3. All exterior clean-up and landscaping must be complete.
4. All final interior clean-up must be complete.
5. All HVAC air and water balancing must be complete.
6. All required commissioning must be complete.
7. All Energy Management Systems must be complete and fully operational and demonstrated to the Owner.
8. All communications equipment, telephone system, and P.A. systems must be complete and demonstrated to the Owner.
9. All final lockset cores must be installed and all final Owner directed keying completed.
10. All room plaques and exterior signage must be completed.
11. All Owner demonstrations must be completed including kitchen equipment, HVAC equipment, plumbing equipment, and electrical equipment.
12. A final certificate of occupancy must be signed by the Contractor and delivered to the Owner.

9.8.7 After the date of Substantial Completion of the Project is evidenced by the Certificate of Substantial Completion, the Contractor will be allowed a period of time within which to correct all deficiencies attached to the Certificate of Substantial Completion as outlined in Section 8.3.4 of these supplementary conditions. Failure of the Contractor to complete such corrections within the stipulated time will be reported to the contractor's surety. In this report, the Contractor and surety will be informed that, should correction remain incomplete for fifteen (15) days, the Owner may initiate action to complete corrective work out of the remaining Contract funds in accordance with Article 14.2.

1 Should corrective work following Substantial Completion require more than one reinspection after notification by the Contractor that corrections are complete, the cost of subsequent inspections may also be deducted from the Contract funds remaining unpaid to the Contractor.

9.10 FINAL COMPLETION AND FINAL PAYMENT

At Section 9.10.2, add the following sentence at the end:
Prior to final payment, the Contractor shall meet all of the requirements of Owner's Closeout Procedures. Add Section

9.10.6 as follows:

9.10.6 Final Payment, constituting the entire unpaid balance of the Contract Sum, shall be paid by the Owner to the Contractor thirty-one (31) days after Substantial Completion of the Work unless otherwise stipulated in the Certificate of Substantial Completion, provided the Work has then been completed, the Contract fully performed, all Contract Close Out Documents have been submitted, and the Final Certificate for Payment has been issued by the Architect. The final payment will not be made until all of these conditions have been satisfied.

ARTICLE 10 -- PROTECTION OF PERSONS AND PROPERTY

Add Sections 10.2.9 and 10.2.10 as follows:

10.2.9 The performance of the foregoing services by the Contractor shall not relieve the Subcontractors of their responsibilities for the safety of persons and property and for compliance with all applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to the conduct of the Work.

10.2.10 The Contractor shall be responsible for taking all precautions necessary to protect the Work in place from any foreseeable weather conditions which could cause any potential damage to portions or all Work in place. The Contractor shall be responsible for performing all repairs and/or replacement of any Work that results from foreseeable weather conditions.

10.3 HAZARDOUS MATERIALS

Delete the text of Section 10.3.1 in its entirety and substitute the following:

10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing. The Owner, Contractor and Architect shall then proceed in the same manner described in Section 10.3.2.

Delete the text of Sections 10.3.3, 10.3.4 and 10.3.5 in their entirety. Delete the text

of Section 10.3.6 in its entirely and substitute the following:

10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a governmental agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all costs and expenses thereby incurred, but only to the extent provided by law.

Add Section 10.3.7 as follows:

10.3.7 As part of the construction contract close out process, and prior to receiving payment of any of the retainage, the Contractor and his subcontractors shall submit notarized statements pertaining to the above referenced hazardous materials.

ARTICLE 11 -- INSURANCE AND BONDS

Delete the text of Sections 11.1 through 11.5 and substitute the following Sections:

11.1 CONTRACTOR'S LIABILITY INSURANCE

The Owner reserves the right to review the insurance requirements during the effective period of any Contract to make reasonable adjustments to insurance coverages and limits when deemed reasonably prudent by Owner based upon changes in statutory laws, court decisions or potential increase in expense to loss.

11.2 The Owner requires the following minimum insurance coverages:

Types of Coverage	Limits of Liability	
Commercial General Liability	General Aggregate	$2,000,000.00
	Products / Completed Operations / Aggregate	$1,000,000.00
	Bodily Injury and Property Damage	$1,000,000.00
	Contractual	$1,000,000.00
	Personal and Advertising Injury	$1,000,000.00
	Fire Damage	$500,000.00
	Medical Expenses	$5,000.00

11.2.1 The Owner shall be named as an additional insured on a primary and noncontributory basis using form CG 2010 10 01 or similar endorsement providing equal or greater coverage in favor of the Owner.

Coverage shall include the following:

(a) Premises operations;

(b) Blanket Contractual Liability;
(c) Pollution;
(d) Products/Completed Operations;
(e) Broad Form Property Damage;
(f) Independent Contractors;
(g) Per project aggregate limit;
(h) Provide a statement of claims against the aggregate limit with each renewal certificate;
(i) X,C,U exclusions to be removed when underground work is performed; and
(j) Waivers of subrogation in favor of Owner and its officers, directors, representatives, agents and
employees shall be provided.

11.2.2 Automobile Liability Combined Single Limit
$1,000,000.00

(a) Comprehensive Automobile Liability Insurance to cover all vehicles owned by, hired by, or used on behalf of the Contractor.

(b) Owner and its officers, directors, representatives, agents and employees shall be endorsed as Additional Insureds, as their interests may appear.

(c) Waivers of subrogation in favor of Owner and its officers, directors, representatives, agents and employees shall be provided.

11.2.3 Workers' Compensation Statutory Limits

(a) Coverage at Statutory Limits with All States Endorsement

(b) Employer's Liability	Each Accident	$1,000,000.00
	Disease (Policy Limit)	$1,000,000.00
	Disease (Each Employee)	$1,000,000.00

(c) Waivers of subrogation in favor of Owner and its officers, directors, representatives, agents and employees shall be provided.

11.2.4 Excess or Umbrella Insurance (provides coverage in excess of primary Commercial General Liability, Automobile Liability, and Worker's Compensation Coverage B limits)

(a) Minimum coverage for the Contractor shall be one (1) times the Contract amount, subject to a minimum limit of $1,000,000.00 and a maximum limit of $25,000,000.00. Limits for primary policies may differ from those shown above when Excess (Umbrella) Insurance coverage is provided.

(b) Owner and its officers, directors, representatives, agents and employees shall be endorsed as Additional Insureds, as their interests may appear.

(c) Waivers of subrogation in favor of Owner and its officers, directors, representatives, agents and employees shall be provided.

11.3 The Contractor shall purchase and maintain property insurance upon the entire Work at the site to the full insurable value thereof. Such insurance shall be in a company or companies against which the Owner has no reasonable objection. This insurance shall include the interests of the Owner, the Contractor, Sub-Contractors and Sub-Subcontractors in the Work and shall insure against the perils of fire and extended coverage and shall include "All Risk" insurance for physical loss or damage including, without duplication of coverage, theft, vandalism and malicious mischief. If not covered under the All Risk insurance or otherwise provided in the Contract Documents, the Contractor shall effect and maintain similar property insurance on portions of the Work stored off of the site or in transit when such portion of the Work are to be included in an application for payment. If this insurance is written with stipulated amounts deductible under the terms of the policy, the contractor shall pay the difference attributable to deductions in any payments made by the insurance carrier or claims paid by

this insurance.

The Owner requires that the following insurance requirements be satisfied:
.1 No Work shall be commenced until all insurance requirements set forth in this Agreement have been approved by the Owner in writing.
.2 All insurance policies and certificates required hereunder shall be in form and content satisfactory to the Owner.
.3 The Owner shall be furnished an ACORD form Certificate of Insurance evidencing all policies and endorsements required by this Agreement prior to execution of the Contract and thereafter upon renewal or replacement of each required policy of insurance.
.4 Each Insurance coverage/policy shall contain a provision that at least thirty (30) days prior written notice shall be given to the Owner in the event of cancellation, material change, or non-renewal.
.5 Insurance shall be underwritten by a company licensed to do business in Texas, satisfactory to Owner and rated minimum A-VII by A.M. Best.
.6 The insurance coverages specified herein shall be maintained at all times during the term of the contract and, with the exception of builder's risk coverage, shall be maintained for a minimum of one(1) year thereafter.
.7 No deletions/exclusions from the standard coverage form are allowed without the prior written consent of the Owner.
.8 All insurance must be issued on an occurrence basis.
.9 The Contractor shall be responsible for all deductibles; the Owner shall approve the deductibles selected.
.10 With the exception of Excess Umbrella Coverage, the coverage afforded by each carrier must be a primary over any other applicable insurance.
.11 In addition to certificates of insurance, copies of policy endorsements must be provided (a) listing the Owner as Additional Insured, and (b) showing waivers of subrogation in favor of the Owner.

11.4 PERFORMANCE BOND AND PAYMENT BOND

Add the following Sections:

11.4.1 The Contractor shall provide a Performance Bond, in the penal sum equal to one hundred percent (100%) of the Contract Sum, if the formal Contract is in excess of One Hundred Thousand Dollars ($100,000.00) and a Labor and Material Payment bond, in the penal sum equal to one hundred percent (100%) of the Contract sum if the formal contract is in excess of Twenty Five Thousand Dollars ($25,000.00).

11.4.2 The Work will not be started until the bonds and issuing companies have been accepted as satisfactory by the Owner. The original bonds will be delivered to the Owner with an attached authorized power of attorney. Such Bonds shall be issued by a company authorized to do business in the State of Texas with an A.M. Best Company rating of a least A-X and included on the U.S. Department of the Treasury Listing of Approved Sureties (Dept. Circular 570).

11.4.3 The Performance Bond Form and the Payment Bond Form included herein shall be executed and submitted to the Architect in duplicate prior to commencement of the work. The surety companies must be acceptable to the Owner and licensed admitted carriers in the State of Texas; and the companies must appear in a current Federal Treasury list as Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds land as Acceptable Reinsuring companies.

11.4.4 Each bond shall be of penal sum equal to one hundred percent (100%) of the Contract Sum and shall be compatible with the provisions of the governing authority. The Contractor shall file copies of each bond with the county clerk and furnish the Owner with a file receipt. The bonds shall remain in force throughout the warranty period of the contract. The Work will not be started until the bonds and issuing companies have been accepted as satisfactory by the Owner. The original bonds will be delivered to the Owner with an authorized power of attorney attached.

11.4.5 Claims must be sent to the Contractor and his Surety in accordance with Article 5160, Revised Civil Statutes. The Owner will furnish in accordance with such Article, a copy of the

Payment Bond as provided therein to claimants upon request. All claimants are cautioned that no lien exists on the funds unpaid to the contractor on such Contract, and that reliance on notices sent to the Owner may result in loss of their rights against the Contractor and/or his Surety. The Owner is not responsible in any manner to a claimant for collection of unpaid bills, and accepts no responsibility because of any representation by any agent or employee.

11.5 WORKER'S COMPENSATION INSURANCE COVERAGE

11.5.1 Comply with the requirements of Rule 28, TAC §110.110, Reporting Requirements for Building or Construction Projects for Governmental Entities

11.5.2 DEFINITIONS:

.1 Certificate of coverage ("certificate"). A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing service as on a project, for the duration of the project.

.2 Duration of the project –includes the time from the beginning of the work on the project until the contractor's/person's work on the project has been completed and accepted by the governmental entity.

.3 Persons providing services on the project ("subcontractor" in §406.096)-includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity which furnishes persons to provide services on the project. "Services" include without limitation, providing hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply delivery, and delivery of portable toilets.

11.5.3 The Contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the Contractor providing services on the project, for the duration of the project.

11.5.4 The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract.

11.5.5 If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the project, the Contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.

11.5.6 The Contractor shall obtain from each person providing services on a project, and provide to the governmental entity:

.1 A certificate of coverage, prior to that person beginning work on the projects so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project, and

.2 No later than seven days after receipt by the Contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.

11.5.7 The Contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.

11.5.8 The Contractor shall notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the Contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.

11.5.9 The Contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers Compensation, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack coverage.

11.5.10 The Contractor shall contractually require each person with whom it contracts to provide services on a project, to:

.1 Provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any

coverage agreements, which meet the statutory requirements of Texas Labor code, Section 401.011(44) for

all of its employees providing services on the project, for the duration of the project.

.2 Provide the Contractor, prior to that person beginning work on the project, a certificate of coverage showing

that coverage is being provided for all employees of the person providing services on the project, for the

duration of the project.

.3 Provide the Contractor, prior to the end of the coverage period shown on the current certificate ends during

the duration of the project.

.4 Obtain from each other person with whom it contracts, and provides to the Contractor:

.1 A certificate of coverage, prior to the other person beginning work on the project, and

.2 A new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if

the coverage period shown on the current certificate of coverage ends during the duration of the project.

.5 Retain all required certificates of coverage on file for the duration of the project and for one year thereafter.

.6 Notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the

person knew or should have known, of any change that materially affects the provision of coverage of any

person providing services on the project, and

.7 Contractually require each person with whom it contracts, to perform as required by these subsections

(1)-(7), with the certificates of coverage to be provided to the person for whom they are providing services.

11.5.11 By signing this Contract or providing or causing to be provided a certificate of coverage, the Contractor is representing to the governmental entity that all employees of the Contractor who will provide services on the project will be covered by workers compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the Contractor to administrative penalties, criminal penalties, civil penalties, or other actions.

11.5.12 The Contractor's failure to comply with any of these provisions is a breach of contract by the Contractor which entitles the governmental entity to declare the contract void if the

Contractor does not remedy the breach within ten days after receipt of notice of breach from the governmental entity.

ARTICLE 12—UNCOVERING AND CORRECTION OF WORK

12.2.1 BEFORE SUBSTANTIAL COMPLETION

After Section 12.2.1 add the following Sections:

12.2.1.1 In the event of failure of a specified project, either during construction or the correction period, the Contractor shall take appropriate measures with the manufacturer of the product to assure correction or replacement of the defective products.

12.2.1.2 Refer to Owner's Closeout Procedures for further terms regarding warranties which will be required prior to final payment.

12.2.2 AFTER SUBSTANTIAL COMPLETION

After Section 12.2.2 add the following Section:

12.2.2.1 Approximately eleven months after substantial completion, the contractor shall accompany the Owner and Architect on an "end of the one year correction period" reinspection of the Project. Additional deficiencies observed or reported shall be corrected by the Contractor.

12.3 ACCEPTANCE OF NONCONFORMING WORK

Number the existing provision as Section 12.3.1, and add Section 12.3.2 as follows:

12.3.2 The Owner's use and/or occupancy of any or all of the Project site shall never be construed as an acceptance of Work not in conformance with Contract Documents. The Owner reserves the right to enforce provisions of the Contract unless the Owner's acceptance is provided to the Contractor in writing.

ARTICLE 13—MISCELLANEOUS PROVISIONS

Add Sections 13.7, 13.8 and 13.9 as follows:

13.7 EQUAL OPPORTUNITY

13.7.1 The contractor shall maintain policies of employment as follows:

.1 The Contractor and the Contractor's Subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin. The Contractor shall take affirmative action to insure that applicants are employed, and that employees are treated during employment without regard to their race, religion, color, sex or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.

13.8 CRIMINAL BACKGROUND CHECKS

The Contractor/Subcontractor shall certify the Criminal Background Check, as stated in Owner's Board Policy CJA and the form included herein, as required by Texas Education Code Section 22.0834 and Texas Administrative Code Section 153.1101 and 153.1117, and shall comply with all requirements of such laws and policy.

13.9 REQUIRED CERTIFICATIONS

Contractor hereby certifies that it is not a company identified on the Texas Comptroller's list of com
contracts with, or provide supplies or services to, a foreign organization designated as a Foreign T
the U.S. Secretary of State under federal law. Contractor hereby certifies and verifies that neither C

affiliate, subsidiary, or parent company of Contractor, if any (the "Contractor Companies"), boycotts agrees that Contractor and Contractor Companies will not boycott Israel during the term of this Agr of this Agreement, the term "boycott" shall mean and include terminating business activities or othe that is intended to penalize, inflict economic harm on, or limit commercial relations with Israel, or w doing business in Israel or in an Israeli-controlled territory.

ARTICLE 14—TERMINATION OR SUSPENSION OF THE CONTRACT

Delete the text of Section 14.1.3 in its entirety and substitute the following:

14.1.3 If one of the reasons described in Section 14.4.1 or 14.4.2 exists, the Contractor may, upon seven day's written notice to the Ower and Architect, terminate the Contract and recover from the Owner payment for Work executed as of the date of the notice, plus costs of demobilization.

14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

Delete the text of Section **14.4.3** in its entirety and substitute the following:

14.4.**3** In the case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed up to date of receipt of the notice of termination, plus costs of demobilization.

ARTICLE 15—CLAIMS AND DISPUTES

15.1 CLAIMS

Delete the text of Section **15.1.1** in its entirety and substitute the following:

15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of contract terms, payment of money, extension of time or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner, Architect, and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. Nothing herein shall require the Owner to make or file a Claim in order to assess liquidated damages provided for in the Contract Documents.

15.1.2 TIME LIMITS ON CLAIMS

Delete the last sentence of Section 15.1.2 in its entirety.

15.1.3 NOTICE OF CLAIMS

Delete the second sentence of Section 15.1.3 in its entirety and substitute the following:

Claims by either party must be initiated within ninety (90) days after occurrence of the event giving rise to such Claim or within ninety (90) days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

15.1.6 CLAIMS FOR ADDITIONAL TIME

Delete the text of Section 15.1.6.2 in its entirety and substitute the following:

15.1.6.2 No extenstions of the Contract Time will be granted for inclement weather, except as provided in Section 8.3.1.

15.1.7 CLAIMS FOR CONSEQUENTIAL DAMAGES

Delete the text of Section 15.1.7 in its entirety.

15.2 INITIAL DECISION

Delete the text of Section 15.2.1 in its entirety and substitute the following:

15.2.1 Claims, excluding those alleging an error or omission by the Architect or those arising after expiration of the period for correction of the Work, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. If the parties are unable to agree, any claim, dispute or matters arising out of the contract between the Architect, Owner and Contractor or any combination of those parties shall be submitted to a court of appropriate jurisdiction.

Delete the text of Section 15.2.5 in its entirety and substitute the following:

15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefore; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties, but subject to mediation, if both parties so agree, and subject to legal or equitable proceedings in a court having jurisdiction thereof. It is understood and agreed that, in the event that any dispute, controversy, or conflict arises during the design and construction of the Project or following its completion, the parties hereto will cooperate in good faith, if possible, to resolve the issues without resorting to litigation.

Delete the text of Sections 15.2.6 and 15.2.6.1 in

their entirety. Add the following Section 15.2.9

15.2.9 The prevailing party in any judicial proceeding arising from the Contract Documents shall recover its reasonable and necessary attorneys' fees.

15.3 MEDIATION

15.3.1 Delete the text of 15.3.1 in its entirety.

Delete Section 15.3.2 in its entirety and replace with the following:

15.3.2 The parties may mutually agree to resolve their claims by mediation which, unless the parties mutually agree otherwise, shall be in accordance with the Construction Industry Mediation Rules of the American Arbitration Association currently in effect. Request for mediation shall be filed in writing with the other party to the Contract. Mediation shall proceed in advance of legal or equitable proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing unless stayed for a longer period of agreement of the parties or court order.

15.4 ARBITRATION

Delete the text of Sections **15.4.1** through **15.4.3** and **15.4.4.1** through **15.4.4.3** in their entirety.

END OF DOCUMENT

SECTION 01 21 00 – COST ALLOWANCES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Administrative and procedural requirements governing handling and processing Allowances.

B. Related Sections:
   1. Section 01 22 00 - Unit Prices: Procedures for submitting and handling Unit Prices.
   2. Section 01 26 00 - Modification Procedures: Procedures for submitting and handling Change Orders.
   3. Section 01 40 00 - Quality Requirements: Use of allowances for inspection and testing agencies.

1.2 SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

B. Submit invoices or delivery slips to indicate actual quantities of materials delivered to the site for use in fulfillment of each allowance.

1.3 CONTINGENCY ALLOWANCES

A. Use the Owner’s contingency allowance only as directed for the Owner's purposes, and only by Contingency Fund Change Orders which designate amounts to be charged to the allowance.
   1. The Contractor's related costs for products or equipment ordered by the Owner under the contingency allowance, including delivery, installation, taxes, insurance, equipment rental, and similar costs are not part of the Contract Sum.
   2. CONTRACTOR shall include mark-up for overhead and profit for all allowances in their Base Proposal. No additional mark up, including labor burden, will be allowed on individual items provided under the allowances. This includes labor and material supplied by the CONTRACTOR and any SUB-CONTRACTORS.
   3. For change orders outside of allowances noted in the document, the CONTRACTOR will be allowed to add mark up for overhead and profit as stipulated in the contract documents.
   4. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order or transfer the remaining amounts to other allowances as directed by the Architect.

1.4 UNUSED MATERIALS

A. Return unused materials to the manufacturer or supplier for credit to the Owner, after installation has been completed and accepted.

B. Where it is not economically feasible to return unused material for credit and when requested by the Architect, prepare unused material for the Owner's storage, and deliver to the Owner's storage space as directed. Otherwise, disposal of excess material is the Contractor's responsibility.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 INSPECTION

A. Inspect products covered by an allowance promptly upon delivery for damage or defects.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related construction activities.

3.3 SCHEDULE OF ALLOWANCES

A. **Allowance Number 1 – Owner's Contingency Allowance:**

Include the sum of **$700,000.00** for use upon the Owner's instruction.

B. **Allowance Number 2 – Unforeseen Subsurface Conditions Allowance:**

Include the sum of **$100,000.00** for the approved removal or mitigation of unforeseen subsurface materials or conditions during earthwork operations.

C. **Allowance Number 3 – Authority Review Comments Allowance**:

Include the sum of **$100,000.00** for revisions to proposed design and construction as may be required by the City or County in review of construction documents for permitting.

D. **Allowance Number 4 – BDA Emergency Responder Radio System**:

Include the sum of **$100,000.00** for the contractor to bid and coordinate the installation of the BDA system once the building walls are up and the building is fully dried in. The Owner will coordinate the testing when appropriate and approve the install

E. **Allowance Number 5 – Potential Lift Station:**

Include the sum of $250,000.00 for a potential lift station that may be needed on site if the sewer connections are not at the elevation of the as-built plans provided by the MUD Engineer.

END OF SECTION

SECTION 04 43 00 – ADHERED STONE VENEER

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:
1. Stone masonry veneer adhered by Masonry Veneer Installation System over cement board substrate; identified on drawings as “Limestone Tiles”.
2. Sealant filled expansion joints in manufactured stone masonry.
3. Substrate preparation, application of specified membrane, and the furnishing and installation of stone, mortar, grout, and sealant to create a complete wall cladding system.

B. Related Sections:
1. Section 04 05 03 - Masonry Mortaring and Grouting: Mortar and grout for adhered masonry veneer.
2. Section 07 90 00 - Joint Protection: Requirements for backer rod and sealant at control and expansion joints.

1.2 REFERENCES

A. American Society for Testing and Materials:
1. ASTM C97: Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone.
2. ASTM C170: Standard Test Method for Compressive Strength of Dimension Stone.
3. ASTM C568: Standard Specification for Limestone Dimension Stone.
4. ASTM C880: Standard Test Method for Flexural Strength of Dimension Stone.

B. American National Standards Institute (ANSI):
ANSI A118.4: Specifications for Modified Dry-Set Cement Mortar.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal requirements.

B. Product Data:
1. Submit data for manufactured stone masonry and related accessories.
2. Submit data for cleaning solutions, including detailed description of methods, materials, equipment and site cleanup procedures to be used. Provide with letters of approval from manufacturer regarding the compatibility of proposed use of products together for cleaning purposes.

C. Samples:
1. Submit four samples of each type of stone masonry to illustrate color, texture and extremes of color range. Furnish additional samples when necessary to fully illustrate the complete range of highly variable materials.

D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 QUALIFICATIONS

A. Installer: Company specializing in performing Work of this section with minimum five years’ documented experience in installations of similar systems.

1.5 MOCKUP

A. Section 01 40 00 - Quality Requirements: Mockup requirements.

B. Construct mockup minimum 4 ft. x 4 ft. unless detailed otherwise in the drawings, including masonry, mortar and accessories, structural backup, flashings, wall insulation.
1. Structural backup wall to consist of cold formed metal framing, sheathing, fluid-applied

vapor barrier, insulation, and specified setting system.
2. Include a sealant-filled control joint.
3. Omit masonry above flashing to leave a 12-inch length of the flashing exposed to view.
4. Clean face of mockup with masonry cleaner using methods anticipated for the work.

C. Furnish removable cover to protect completed mock-up from rain or other environmental or site conditions that may alter its appearance.

D. Locate in well-lit area where approved Architect/Engineer.

E. Remove mockup when directed by Architect/Engineer, unless part of permanent construction.

1.6 PRE-INSTALLATION MEETINGS

A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Accept masonry units and accessories on site. Inspect for damage.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

B. Cold Weather Requirements: In accordance with ACI 530.1 when ambient temperature or temperature of masonry units is less than 40 degrees F.

C. Hot Weather Requirements: In accordance with ACI 530.1 when ambient temperature is greater than 100 degrees F or ambient temperature is greater than 90 degrees F with wind velocity greater than 8 mph.

1.9 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Coordinate work with work of other trades built into or adjoining masonry work.

PART 2 - PRODUCTS

2.1 STONE MATERIALS

1. Basis of Design: *LitePanel* as manufactured by U.S. Stone Industries and distributed by Upchurch Kimbrough.
2. Size: Nominal 3/4” thick, with a tolerance of +/- 1/16”. Random face using manufacturer’s standard face sizes as illustrated by the Architect.
3. Color(s) and Texture(s): As scheduled by the Architect.
4. Mortar Color: As selected by the Architect.
5. Edge: Factory-finished and square.
6. Full Mortar Joints required.
7. Mortar and Grout: As specified in Section 04 05 03.

2.2 FLASHING MATERIALS

A. Embedded:
1. Stainless Steel: Reference Section 07 62 00 Sheet Metal Flashing and Trim for material requirements.
2. Flexible Flashing: Reference Section 07 11 00 Dampproofing and Flexible Flashing.

B. Exposed
1. Stainless Steel: Reference Section 07 62 00 Sheet Metal Flashing and Trim for

material requirements.

2. Pre-Coated galvanized teel or aluminum sheet: Not allowed for embedment in masonry.

2.3 ACCESSORIES

A. Expansion Joint Filler: ASTM D1056, Grade 2A1, closed cell neoprene; oversized 50 percent to joint width; self-expanding.

B. Cleaning Solutions:
1. Job-Mixed Detergent Solution: Solution of 1/2-cup (0.14-L) dry measure tetrasodium polyphosphate and 1/2-cup (0.14-L) dry measure laundry detergent dissolved in 1 gal. (4 L) of water.
2. Proprietary Acidic Cleaner: Standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry and pigmented mortar surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.
3. Manufacturers:
   a. AHI Supply, www.ahi-supply.com.
   b. Diedrich Technologies, Inc., www.diedrichtechnologies.com.
   c. EaCo Chem, Inc., www.eacochem.com.
   d. ProSoCo, Inc., www.prosoco.com.
   e. Substitutions: Section 01 60 00 - Product Requirements.

2.4 SETTING AND FINISHING MATERIALS (LATICRETE SYSTEM)

A. Installed over cement board:

B. Waterproofing and Crack Isolation Membrane: *LATICRETE HYDRO BAN*, a thin, load-bearing, liquid-applied membrane.

C. Adhesive Mortar: *LATICRETE 254* Platinum Multipurpose Thin-Set Mortar, exceeding ANSI A118.4 and A118.11 requirements.

D. Grout: *LATICRETE PERMACOLOR* Grout for joints up to 1/2”. Color to be selected by Architect.

E. Movement Joints: *LATICRETE LATASIL* 100% Silicone Sealant. Color to be selected by Architect to match grout.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: coordination and project conditions.

B. Verify field conditions are acceptable and are ready to receive manufactured stone masonry work.

C. Verify items provided by other sections of work are properly sized and located.

D. Verify built-in items are in proper location, and ready for roughing into masonry work.

E. Verify cement backer board has been installed.

3.2 PREPARATION

A. Direct and coordinate placement of metal anchors supplied to other sections.

B. Furnish temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent support.

3.3 INSTALLATION

A. Establish lines, levels, and coursing indicated. Protect from displacement.

B. Maintain masonry courses to uniform dimensions.

C. Mortar Mixing: Mix in strict accordance with manufacturer's instructions. Allow mortar to slake as required. Do not retemper.

D. Mortar Application:
1. Using notched trowel as recommended by the stone system manufacturer, apply a continuous layer of mortar to the substrate.
2. Apply a thin, continuous "back-butter" coat of mortar to the back of each limestone panel immediately before setting.
3. Ensure 100% mortar coverage to prevent voids and ensure full support of stone.

E. Stone Setting:
1. Set stone panels in accordance with the approved submittals.
2. Maintain uniform joint widths of 3/8" using removable spacers.
3. Beat in each panel to ensure a level surface and proper bond. Periodically remove a stone panel to verify coverage.

F. Movement Joints: Install specified sealant in all movement joint locations as indicated in the drawings and per manufacturer's recommendations**.** Joints must be clean, dry, and free of debris before sealant application.

G. Grouting:
1. Allow stone and mortar to cure for a minimum of 24-48 hours before grouting.
2. Mix and apply specified grout according to manufacturer's instructions, ensuring joints are fully packed.
3. Clean excess grout from the stone surface before it fully cures, using as little water as possible to prevent discoloration.

H. Stain Prevention: As work progresses, prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.
1. Protect base of walls from rain-splashed mud and from mortar splatter by coverings spread on ground and over wall surface.
2. Protect sills, ledges, and projections from mortar droppings.
3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.

I. Protection of manufactured stone masonry units: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.

3.4 EMBEDDED FLASHINGS

A. Flexible Flashings: Ensure flexible flashing is properly installed at or above shelf angles, , ledges and other obstructions to the downward flow of water in the wall so as to divert such water to the exterior.

B. Sheet Metal Flashings: Coordinate with Division 7 section Sheet Metal Flashing and Trim for sheet metal flashings to be built-in to masonry work. Install metal flashing at metal panel and manufactured stone veneer interface as indicated in the drawings. Only specified stainless steel is approved to be built-in to masonry work unless otherwise specifically approved in writing by the Architect.

C. Lap end joints of flashings minimum 6 inches and seal watertight.

3.5 MISCELLANEOUS

A. Control and Expansion Joints: Continue masonry control and expansion joints through manufactured stone masonry units.

B. Cutting and Fitting:
   1. Cut and fit for chases, pipes, conduit, sleeves, grounds, and other items penetrating masonry. Coordinate with other sections of work to provide correct size, shape, and location.
   2. Obtain Architect/Engineer's approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.6 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.

B. Remove excess mortar and mortar smears as work progresses.

C. Replace defective mortar. Match adjacent work.

D. Clean soiled surfaces with cleaning solution.

E. Use non-metallic tools in cleaning operations.

3.7 DEFECTIVE CONSTRUCTION

A. Correct defects appearing in the finished work for a period of one year after the date of Substantial Completion.

B. Defects shall include, but not be limited to, cracking, separating of mortar, cracking, discoloration, or deterioration of masonry units, efflorescence in masonry units or joints, and water penetration through manufactured stone masonry or joints under normal exposure.

3.8 PROTECTION OF FINISHED WORK

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for protecting finished Work.

B. Protect exposed external corners subject to damage.

C. Protect base of walls from mud and mortar splatter.

D. Protect masonry and other items built into masonry walls from mortar droppings and staining caused by mortar.

E. Protect tops of masonry work with waterproof coverings secured in place without damaging masonry. Provide coverings where masonry is exposed to weather when work is not in progress.

END OF SECTION

SECTION 04 73 00 – MANUFACTURED STONE MASONRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:
1. Manufactured Stone Masonry: Calcium silicate product; may be identified as **"Arriscraft, size: 4" FACE"** on the drawings.
2. **Cut Stone: identified as "Limestone Tiles" on the drawings.**
3. Miscellaneous masonry ties, anchors, and accessories related to manufactured stone masonry.
4. **Substrate preparation, application of specified membrane, and the furnishing and installation of stone, mortar, grout, and sealant to create a complete and durable wall cladding system.**

B. Related Sections:
1. Section 04 05 03 - Masonry Mortaring and Grouting: Mortar and grout for Cast Stone.
2. Section 04 20 00 – Unit Masonry Assemblies.
3. Section 07 90 00 - Joint Protection: Rod and sealant at control and expansion joints.

1.2 REFERENCES

A. American Society for Testing and Materials
1. ASTM C73-14 – Standard Specification for Calcium Silicate Brick (Sand-Lime Brick).
2. **ASTM C97: Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone.**
3. **ASTM C170: Standard Test Method for Compressive Strength of Dimension Stone.**
4. **ASTM C568: Standard Specification for Limestone Dimension Stone.**
5. **ASTM C880: Standard Test Method for Flexural Strength of Dimension Stone.**

B. American Concrete Institute:
1. ACI 530 - Building Code Requirements for Masonry Structures.
2. ACI 530.1 - Specifications for Masonry Structures.

C. American National Standards Institute (ANSI):
1. **ANSI A108.1B: Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar.**
2. **ANSI A108.5: Specifications for Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar.**
3. **ANSI A118.4: Specifications for Modified Dry-Set Cement Mortar.**
4. **ANSI A137.1: Specifications for Ceramic Tile.**

D. Tile Council of North America (TCNA):
1. **TCNA Handbook for Ceramic, Glass, and Stone Tile Installation.**

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal requirements.

B. Product Data:
1. Submit data for manufactured stone masonry units, fabricated wire reinforcement, wall ties, anchors, and other accessories.
2. Submit data for cleaning solutions, including detailed description of methods, materials, equipment and site cleanup procedures to be used. Provide with letters of approval from manufacturer regarding the compatibility of proposed use of products together for cleaning purposes.

C. Samples:
1. Submit four samples of each type of manufactured stone masonry to illustrate color, texture and extremes of color range. Furnish additional samples when necessary to fully illustrate the complete range of highly variable materials.

D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

E. Submit certified test reports for the limestone, confirming compliance with ASTM C568 for the specified classification.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with ACI 530 Building Code Requirements for Masonry Structures and ACI 530.1 Specification for Masonry Structures.

1.5 QUALIFICATIONS

A. Installer: Company specializing in performing Work of this section with minimum ~~three~~ five years' documented experience.

1.6 MOCKUP

A. Section 01 40 00 - Quality Requirements: Mockup requirements.

B. Construct mockup minimum 4 ft. x 4 ft. unless detailed otherwise in the drawings, including masonry, mortar and accessories, structural backup, flashings, wall insulation, and weeps.
1. Structural backup wall to consist of CMU and cold formed metal framing.
2. Include a sealant-filled control joint.
3. Omit masonry above flashing to leave a 12 inch length of the flashing exposed to view.
4. Clean face of mockup with masonry cleaner using methods anticipated for the work.

C. Furnish removable cover to protect completed mock-up from rain or other environmental or site conditions that may alter its appearance.

D. Locate in well-lit area where approved Architect/Engineer.

E. Remove mockup when directed by Architect/Engineer, unless part of permanent construction.

1.7 PRE-INSTALLATION MEETINGS

A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Accept masonry units and accessories on site. Inspect for damage.

1.9 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

B. Cold Weather Requirements: In accordance with ACI 530.1 when ambient temperature or temperature of masonry units is less than 40 degrees F.

C. Hot Weather Requirements: In accordance with ACI 530.1 when ambient temperature is greater than 100 degrees F or ambient temperature is greater than 90 degrees F with wind velocity greater than 8 mph.

D. Bracing of Work in Progress:
1. Where masonry erection may be exposed to high winds, installation shall be

adequately braced until masonry construction has attained sufficient strength to resist wind forces.

2. Shores and forms shall not be removed until masonry construction has attained sufficient strength to support its own weight and all other construction or environmental loads

1.10 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Coordinate work with work of other trades built into or adjoining masonry work.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Manufacturers:
1. Arriscraft International, distributed by Upchurch Kimbrough Company, www.arriscraft.com.
2. U.S. Stone Industries, usstoneindustries.com
3. Substitutions: Section 01 60 00 – Product Requirements.

B. Manufactured Stone Masonry Units: ASTM C1364, architectural manufactured stone masonry units fabricated by dry casting methods, with fine grained texture, simulating natural cut stone.
1. Type: Calcium silicate masonry units meeting requirements of ASTM C73, Grade SW; solid units that have been pressure-formed and autoclaved to standard and special shapes.
2. Size(s): As indicated in the drawings.
3. Reinforce units as indicated and as required by ASTM C1364. Use galvanized or epoxy-coated reinforcement when covered with less than 1-1/2 inches of material.
4. Curing: Cure units to develop concrete quality, and to minimize appearance blemishes including non-uniformity, staining, or surface cracking.
5. Colors and Textures: As scheduled.
6. Mortar Color: As selected by the Architect.

C. Cut Stone: Natural Limestone, meeting the requirements of ASTM C568.
1. Thickness: 3/4", with a tolerance of +/- 1/16".
2. Size(s): As indicated in the drawings.
3. Curing: Cure units to develop concrete quality, and to minimize appearance blemishes including non-uniformity, staining, or surface cracking.
4. Finish: Honed, Plaza Gray.
5. Mortar Color: As selected by the Architect.
6. Fabrication: Stone shall be cut to the sizes indicated on the approved shop drawings. Edges shall be factory-finished and square.
7. Composition: ASTM C568, Medium density.

2.2 ANCHORS, TIES AND REINFORCEMENT **– MANUFACTURED STONE MASONRY UNITS**

A. Manufacturers:
1. AA Wire Products
2. Heckman Building Products (Dur-O-Wall), www.heckmannbuildingprods.com
3. Hohmann & Barnard, www.h-b.com
4. Masonry Reinforcing Corp. of America (Wire-Bond)
5. Substitutions: Section 01 60 00 - Product Requirements.

B. Strap Anchors: Bent steel, 1-1/2 inches wide x 24 inches long x 1/4 inch thick, with ends turned up not less than 2 inches; ASTM A153/A153M hot dip galvanized.

C. Veneer Ties for CFMF Stud Backup Walls: Rib-stiffened sheet metal plate anchors with screw holes top and bottom and projecting tabs with slotted holes for receiving vertical legs of adjustable wire ties; ASTM A153/A153M hot dip galvanized.
   1. Anchor Size: 2-3/4 inches wide by 3 inches high.
   2. Tie Size: 0.1875 inch diameter wire, length as required to extend to within 1 inch of veneer face.
   3. Tie Shape: Rectangular
   4. Fasteners: Steel drill screws, #10 diameter x length required to penetrate steel stud flange by not less than 3 exposed threads, complying with ASTM C954 except with hex washer head and neoprene washer, cadmium-plated.
   5. Basis of Design: Hohmann & Barnard HB-200/DA-213.

D. Veneer Ties for CMU Backup Walls: ASTM A82; ladder type joint reinforcement with adjustable eye and pintle type wire ties; ASTM A153/A153M hot dip galvanized.
   1. Tie Size: 0.1875 inch diameter wire, length as required to extend to within 1 inch of veneer face.
   2. Tie Shape: Rectangular
   3. Basis of Design: Hohmann & Barnard, #270 Ladder Eye-Wire.

E. Veneer Ties for Grade Beams and Concrete Backup Walls: Zinc-alloy barrel section with flanged head and eye, fastened with corrosion-resistant, self-drilling screw. Eye designed to receive tie and to serve as head for drilling fastener into concrete. Provide barrel length to suit cavity wall insulation thickness, allowing screw to seat directly against the concrete wall with flanged head covering hole in insulation.
   1. Tie Size: 0.1875 inch diameter wire, length as required to extend to within 1 inch of veneer face.
   2. Tie Shape: Triangular
   3. Basis of Design: Heckman Building Products, Pos-i-Tie.

F. Dovetail Anchors: Bent steel strap formed from 0.1046 inch thick steel, with 0.1875 inch diameter triangular-shaped wire tie sized to extend within 1 inch of masonry face; ASTM A153/A153M hot dip galvanized.

G. Steel Beam and Column Anchors: Crimped 1/4 inch diameter wire anchor welded to steel member, with 0.1875 inch diameter triangular-shaped wire tie for solid masonry and rectangular-shaped wire tie for hollow masonry, sized to extend within 1 inch of masonry face; ASTM A153/A153M hot dip galvanized.

2.3 EMBEDDED FLASHING MATERIALS **– MANUFACTURED STONE MASONRY UNITS**

A. Stainless Steel: Reference Section 07 62 00 Sheet Metal Flashing and Trim for material requirements.

B. Flexible Flashing: Reference Section 07 11 00 Dampproofing and Flexible Flashing.

C. Pre-Coated Galvanized Steel or Aluminum Sheet: Not allowed for embedment in masonry walls.

D. Galvanized or Precoated Steel Sheet: Not allowed for embedment in masonry walls.

2.4 EXPOSED FLASHING MATERIALS – CUT STONE

A. Stainless Steel: Reference Section 07 62 00 Sheet Metal Flashing and Trim for material requirements.

B. Pre-Coated Galvanized Steel or Aluminum Sheet: Not allowed for embedment in masonry walls.

2.5 SETTING AND FINISHING MATERIALS (LATICRETE SYSTEM) – CUT STONE

A. Waterproofing and Crack Isolation Membrane: *LATICRETE HYDRO BAN*, a thin, load-bearing, liquid-applied membrane.

B. Adhesive Mortar: *LATICRETE 254* Platinum Multipurpose Thin-Set Mortar, exceeding ANSI A118.4 and A118.11 requirements.

C. Grout: *LATICRETE PERMACOLOR* Grout for joints up to 1/2". Color to be selected by Architect.

D. Movement Joints: *LATICRETE LATASIL* 100% Silicone Sealant. Color to be selected by Architect to match grout.

2.6 ACCESSORIES

A. Expansion Joint Filler: ASTM D1056, Grade 2A1, closed cell neoprene; oversized 50 percent to joint width; self-expanding.

B. Weeps: Open head joints, maximum 3 inches high.

C. Cleaning Solutions:
1. Job-Mixed Detergent Solution: Solution of 1/2-cup (0.14-L) dry measure tetrasodium polyphosphate and 1/2-cup (0.14-L) dry measure laundry detergent dissolved in 1 gal. (4 L) of water.
2. Proprietary Acidic Cleaner: Standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry and pigmented mortar surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.
3. Manufacturers:
   a. AHI Supply, www.ahi-supply.com.
   b. Diedrich Technologies, Inc., www.diedrichtechnologies.com.
   c. EaCo Chem, Inc., www.eacochem.com.
   d. ProSoCo, Inc., www.prosoco.com.
   e. Substitutions: Section 01 60 00 - Product Requirements.

D. Steel Lintels: Size as indicated on Drawings, hot-dip galvanized.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: coordination and project conditions.

B. Verify field conditions are acceptable and are ready to receive manufactured stone masonry work.

C. Verify items provided by other sections of work are properly sized and located.

D. Verify built-in items are in proper location, and ready for roughing into masonry work.

3.2 PREPARATION

A. Direct and coordinate placement of metal anchors supplied to other sections.

B. Furnish temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent support.

3.3 INSTALLATION

A. Establish lines, levels, and coursing indicated. Protect from displacement.

B. Maintain masonry courses to uniform dimension. Form bed and head joints of uniform thickness.

C. Placing And Bonding:
1. Lay solid manufactured stone masonry units in full bed of mortar, with full head joints.

2. Buttering corners of joints or excessive furrowing of mortar joints are not permitted.
3. Remove excess mortar as work progresses.
4. Do not shift or tap units after mortar has achieved initial set. Where adjustment is required, remove mortar and replace.
5. Perform job site cutting of units with motor-driven saws to assure straight, clean, unchipped edges. Prevent broken masonry unit corners or edges. Where possible, use full-size units without cutting.
6. Install cut units with cut surfaces and edges concealed.
7. Select and arrange exposed units to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.

D. Weeps and Vents: Furnish weeps and vents in outer wythe at maximum 24 inches oc horizontally above through-wall flashing, above shelf angles and lintels, at bottom of walls, and above other obstructions of wall cavity continuity.

E. Stain Prevention: As work progresses, prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.
1. Protect base of walls from rain-splashed mud and from mortar splatter by coverings spread on ground and over wall surface.
2. Protect sills, ledges, and projections from mortar droppings.
3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.

F. Protection of manufactured stone masonry units: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.

G. Mortar Mixing: Mix LATICRETE 254 Platinum Mortar in strict accordance with manufacturer's instructions. Allow mortar to slake as required. Do not retemper.

H. Mortar Application:
1. **Using a notched trowel, apply a continuous layer of mortar to the substrate.**
2. **Apply a thin, continuous "back-butter" coat of mortar to the back of each limestone panel immediately before setting.**
3. **Ensure 100% mortar coverage to prevent voids and ensure full support of stone.**

I. Stone Setting:
1. **Set stone panels in accordance with the approved shop drawings and TCNA guidelines.**
2. **Maintain uniform joint widths.**
3. **Beat in each panel to ensure a level surface and proper bond. Periodically remove a stone panel to verify coverage.**

J. Movement Joints: Install LATASIL sealant in all movement joint locations as detailed in the drawings and specified by TCNA EJ171. Joints must be clean, dry, and free of debris before sealant application.

K. Grouting:
1. **Allow stone and mortar to cure for a minimum of 24-48 hours before grouting.**
2. **Mix and apply LATICRETE PERMACOLOR Grout according to manufacturer's instructions, ensuring joints are fully packed.**
3. **Clean excess grout from the stone surface before it fully cures, using as little water as possible to prevent discoloration.**

3.4 TIES AND ANCHORS

A. Install anchors attached to concrete and steel structural members:
1. Leave an open space not less than 1 inch in width between back of masonry and face of structural member. Keep open space free of mortar or other rigid materials.
2. Install anchors at maximum 16 inches o.c. vertically and horizontally.

B. Install Wall Ties at CMU Backup Walls:
1. Install wall ties at 16 inches oc vertically and maximum 16 inches oc horizontally.
2. Coordinate ties to accommodate installation of 16 inch widths of cavity wall insulation specified in Section 07 21 13.
3. Place additional wall ties within 12 inches of openings at intervals not exceeding 36 inches.

C. Install Wall Ties at CFMF Backup Walls:
1. Install wall tie anchor plates at 16 inches oc vertically and maximum 16 inches oc horizontally.
2. Coordinate anchor plates to accommodate installation of 16 inch widths of cavity wall insulation specified in Section 07 21 13.
3. Place additional wall ties within 12 inches of openings at intervals not exceeding 36 inches.
4. Secure wall tie anchor plates through sheathing to CFMF studs.

3.5 EMBEDDED FLASHINGS

A. Flexible Flashings: Ensure flexible flashing is properly installed at or above shelf angles, lintels, ledges and other obstructions to the downward flow of water in the wall so as to divert such water to the exterior through masonry weep openings.

B. Sheet Metal Flashings: Coordinate with Division 7 section Sheet Metal Flashing and Trim for sheet metal flashings to be built-in to masonry work. Only specified stainless steel is approved to be built-in to masonry work unless otherwise specifically approved in writing by the Architect.

C. Prepare masonry surfaces smooth and free from projections which could puncture flashing. Place through-wall flashing on sloping bed of mortar and cover with mortar. Seal penetrations in flashing with mastic before covering with mortar.

D. Extend flexible flashings horizontally to exterior face of masonry and neatly trim flush below weep holes.

E. Extend stainless steel flashings horizontally through exterior face of masonry and turn down to form counterflashing to roofing flashing or other flashing materials as indicated in the drawings. .

F. Turn flashings up minimum 8 inches and bed into mortar joint of CMU backup wall. Ensure that vertical leg of flexible flashings are properly sealed to sheathing over CFMF stud backup wall.

G. Lap end joints of flashings minimum 6 inches and seal watertight.

H. Ensure flashings are extended the full length of lintels and shelf angles and minimum of 4" into masonry each end; turn up ends not less than 2" to form end dams as recommended by BIA and illustrated in BIA Technical Note 7, Figure 21, current edition.

I. Turn flashings, fold, and seal at corners, bends, and interruptions.

3.6 LOOSE LINTELS

A. Install loose steel lintels for manufactured stone masonry unis for openings more than 12 inches wide.

B. Maintain minimum 8 inch bearing on each side of opening.

3.7 MISCELLANEOUS

A. Control and Expansion Joints: Continue masonry control and expansion joints through manufactured stone masonry units.

B. Built-In Work:
1. As work progresses, install built-in door and window frames, wood nailing strips, anchor bolts, plates, and other items to be built-in the work and furnished by other sections.
2. Install built-in items plumb and level.
3. Bed anchors of metal door and window frames in adjacent mortar joints. Fill frame voids solid with grout or mortar. Fill adjacent masonry cores with grout minimum 12 inches from framed openings.
4. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath in the joint below and rod mortar or grout into core.
5. Do not build in materials subject to deterioration.

C. Cutting And Fitting:
1. Cut and fit for chases, pipes, conduit, sleeves, grounds, and other items penetrating masonry. Coordinate with other sections of work to provide correct size, shape, and location.
2. Obtain Architect/Engineer's approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.8 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.

B. Remove excess mortar and mortar smears as work progresses.

C. Replace defective mortar. Match adjacent work.

D. Clean soiled surfaces with cleaning solution.

E. Use non-metallic tools in cleaning operations.

3.9 DEFECTIVE CONSTRUCTION

A. Correct defects appearing in the finished work for a period of one year after the date of Substantial Completion.

B. Defects shall include, but not be limited to, cracking, separating of mortar, cracking, discoloration, or deterioration of masonry units, efflorescence in masonry units or joints, and water penetration through manufactured stone masonry or joints under normal exposure.

3.10 PROTECTION OF FINISHED WORK

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for protecting finished Work.

B. Protect exposed external corners subject to damage.

C. Protect base of walls from mud and mortar splatter.

D. Protect masonry and other items built into masonry walls from mortar droppings and staining caused by mortar.

E. Protect tops of masonry work with waterproof coverings secured in place without damaging masonry. Provide coverings where masonry is exposed to weather when work is not in progress.

END OF SECTION

SECTION 08 71 00 – DOOR HARDWARE

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:

1. Mechanical and electrified door hardware
2. Electronic access control system components

B. Section excludes:
1. Windows
2. Cabinets (casework), including locks in cabinets.
3. Signage
4. Toilet accessories
5. Overhead doors

C. Related Sections:
1. Division 01 Section “Alternates” for alternates affecting this section.
2. Division 06 Section “Rough Carpentry”
3. Division 06 Section "Finish Carpentry”
4. Division 07 Section “Joint Sealants” for sealant requirements applicable to threshold installation specified in this section.
5. Division 08 Sections:

    a. “Metal Doors and Frames”
    b. “Flush Wood Doors”
    c. “Stile and Rail Wood Doors”
    d. “Interior Aluminum Doors and Frames”
    e. "Aluminum-Framed Entrances and Storefronts"
    f. “Stainless Steel Doors and Frames”
    g. “Special Function Doors”
    h. "Entrances”
6. Division 09 sections for touchup, finishing or refinishing of existing openings modified by this section.
7. Division 26 "Electrical" sections for connections to electrical power system and for low-voltage wiring.
8. Division 28 “Electronic Safety and Security” sections for coordination with other components of electronic access control system and fire alarm system.

1.02 REFERENCES

A. UL - Underwriters Laboratories
1. UL 10B - Fire Test of Door Assemblies
2. UL 10C - Positive Pressure Test of Fire Door Assemblies
3. UL 1784 - Air Leakage Tests of Door Assemblies
4. UL 305 - Panic Hardware

B. DHI - Door and Hardware Institute
   1. Sequence and Format for the Hardware Schedule
   2. Recommended Locations for Builders Hardware
   3. Key Systems and Nomenclature
   4. Installation Guide for Doors and Hardware

C. NFPA – National Fire Protection Association
   1. NFPA 70 – National Electric Code
   2. NFPA 80 – Standard for Fire Doors and Other Opening Protectives
   3. NFPA 101 – Life Safety Code
   4. NFPA 105 – Smoke and Draft Control Door Assemblies
   5. NFPA 252 – Fire Tests of Door Assemblies
   6. ADA - The Americans with Disabilities Act - Title III - Public Accommodations
   7. TAS – Texas Accessibility Standards

D. ANSI - American National Standards Institute

   1. ANSI A117.1 – 2017 Edition – Accessible and Usable Buildings and Facilities
   2. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties
   3. ANSI/BHMA A156.28 - Recommended Practices for Keying Systems
   4. ANSI/WDMA I.S. 1A - Interior Architectural Wood Flush Doors
   5. ANSI/SDI A250.8 - Standard Steel Doors and Frames

1.03 SUBMITTALS

A. General:
   1. Submit in accordance with Conditions of Contract and Division 01 Submittal Procedures.
   2. Prior to forwarding submittal:

      a. Comply with procedures for verifying existing door and frame compatibility for new hardware, as specified in PART 3, “EXAMINATION” article, herein.
      b. Review drawings and Sections from related trades to verify compatibility with specified hardware.
      c. Highlight, encircle, or otherwise specifically identify on submittals: deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.

B. Action Submittals:

   1. Product Data: Submit technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.

   2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:

      a. Wiring Diagrams: For power, signal, and control wiring and including:
         1) Details of interface of electrified door hardware and building safety and security systems.
         2) Schematic diagram of systems that interface with electrified door hardware.
         3) Point-to-point wiring.
         4) Risers.

3. Samples for Verification: If requested by Architect, submit production sample of requested door hardware unit in finish indicated and tagged with full description for coordination with schedule.

    a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

4. Door Hardware Schedule:

    a. Submit concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work critical in Project construction schedule.
    b. Submit under direct supervision of a Door Hardware Institute (DHI) certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) with hardware sets in vertical format (only) as illustrated by Sequence of Format for the Hardware Schedule published by DHI.
    c. Indicate complete designations of each item required for each opening, include:
        1) Door Index: door number, heading number, and Architect's hardware set number.
        2) Quantity, type, style, function, size, and finish of each hardware item.
        3) Name and manufacturer of each item.
        4) Fastenings and other pertinent information.
        5) Location of each hardware set cross-referenced to indications on Drawings.
        6) Explanation of all abbreviations, symbols, and codes contained in schedule.
        7) Mounting locations for hardware.
        8) Door and frame sizes and materials.
        9) Degree of door swing and handing.
        10) Operational Description of openings with electrified hardware covering egress, ingress (access), and fire/smoke alarm connections.

    d. Templates: After final approval of hardware schedule, provide templates for doors, frames and other work specified to be factory or shop prepared for door hardware installation.

5. Key Schedule:

    a. After Keying Conference, provide keying schedule that includes levels of keying, explanations of key system's function, key symbols used, and door numbers controlled.
    b. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
    c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
    d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
    e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion. Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
    f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.

C. Informational Submittals:
   1. Provide Qualification Data for Supplier, Installer and Architectural Hardware Consultant.
   2. Provide Product Data:

      a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
      b. Include warranties for specified door hardware.

   3. Buy American Certification: Manufacturer is accredited under an accredited third-party Quality Control Program, including IAS AC472 and based upon chapter 17 of the International Building Code (IBC).

D. Closeout Submittals:

   1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:

      a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
      b. Catalog pages for each product.
      c. Factory order acknowledgement numbers (for warranty and service)
      d. Final approved hardware schedule edited to reflect conditions as installed.
      e. Final keying schedule
      f. Copies of floor plans with keying nomenclature
      g. Copy of warranties including appropriate reference numbers for manufacturers to identify project.
      h. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.

E. Inspection and Testing:

   1. Submit written reports to the Owner and Authority Having Jurisdiction (AHJ) of the results of functional testing and inspection for:

      a. Fire door assemblies, in compliance with NFPA 80.
      b. Required egress door assemblies, in compliance with NFPA 101.

1.04 QUALITY ASSURANCE

A. Qualifications and Responsibilities:

   1. Supplier: Recognized architectural hardware supplier with record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that provides certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
   2. Installer: Qualified tradesperson skilled in the application of commercial grade hardware with experience installing door hardware similar in quantity, type, and quality as indicated for this Project.
   3. Architectural Hardware Consultant: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:

a. For door hardware: DHI certified AHC or DHC.
b. Can provide installation and technical data to Architect and other related subcontractors.
c. Can inspect and verify components are in working order upon completion of installation.
d. Capable of producing wiring diagram and coordinating installation of electrified hardware with Architect and electrical engineers.

4. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

B. Certifications:

1. Fire-Rated Door Openings:

a. Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction.
b. Provide only items of door hardware that are listed products tested by Underwriters Laboratories, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

2. Smoke and Draft Control Door Assemblies:

a. Provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105
b. Comply with the maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.

3. Electrified Door Hardware

a. Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.

4. Accessibility Requirements:

a. Comply with governing accessibility regulations cited in "REFERENCES" article 087100, 1.02.D3 herein for door hardware on doors in an accessible route. This project must comply with all Federal Americans with Disability Act regulations and all Local Accessibility Regulations.

C. Pre-Installation Meetings

1. Keying Conference

a. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
1) Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
2) Preliminary key system schematic diagram.
3) Requirements for key control system.
4) Requirements for access control.

5) Address for delivery of keys.

2. Pre-installation Conference

   a. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
   b. Inspect and discuss preparatory work performed by other trades.
   c. Inspect and discuss electrical roughing-in for electrified door hardware.
   d. Review sequence of operation for each type of electrified door hardware.
   e. Review required testing, inspecting, and certifying procedures.
   f. Review questions or concerns related to proper installation and adjustment of door hardware.

3. Electrified Hardware Coordination Conference:

   a. Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

D. Regulatory Requirements:

1. Floor stops: Do not locate in path of travel. Locate no more than 4 inches from walls, per DSA Policy #99-08 (Access).
2. Handles, pull, latches, locks, other operable parts:
   a. Panic hardware: locate between 36 inches to 44 inches above the finished floor.
   b. Tempered glass doors without stiles: bottom rail may be less than 10 inches if top leading edge is tapered 60 degrees minimum.
   c. Applied kickplates and armor plates: bevel the left and right edges; free of sharp or abrasive edges.
   d. Actuator location: conspicuously located, clear and level floor/ground space for forward or parallel approach.
   e. Where powered door serves an occupancy of 100 or more, provide back-up battery power or stand-by generator power, capable of supporting a minimum of 100 cycles.

E. Buy American Compliance: Materials provided under work of this section shall comply with the following requirements:

1. Buy American Act of 1933 BAA-41 U.S.C., 10a - 10d
2. Buy American Act provision of section 1605 of the American Recovery and Reinvestment Act of 2009 (ARRA)

F. Texas Department of Insurance Windstorm Requirements: When project falls under the Texas Department of Insurance Windstorm Inspection Program for Inland II. All products, materials and installation systems shall be evaluated and approved by the Texas Department of Insurance, Windstorm Inspection Program, and listed in the TDI Product Evaluation Index or approved by the Windstorm Engineer as outlined below. Products, materials and installation systems not presently approved by the Texas Department of Insurance, Windstorm Inspection Program, may be considered for this project however, they must be properly submitted through the Architect for review. This submittal shall be a part of the initial submittal process outlines in Section 013400 and requirements for this portion are detailed within the Texas Department of Insurance Windstorm Inspection website at the following location: www.tdi.state.tx.us/wind/submittal_requi.html.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site. Promptly replace products damaged during shipping.

B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package. Deliver each article of hardware in manufacturer's original packaging.

C. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.

D. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

E. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

F. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.06 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

E. Existing Openings: Where existing doors, frames and/or hardware are to remain, field verify existing functions, conditions and preparations and coordinate to suit opening conditions and to provide proper door operation.

1.07 WARRANTY

A. Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.

1. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.
2. Warranty Period: Beginning from date of Substantial Completion, for durations indicated in manufacturer's published listings.
   a. Mechanical Warranty
      1) Locks
         a) Schlage: 10 years
      2) Exit Devices
         a) Von Duprin: 10 years
      3) Closers
         a) LCN 4000 Series: 30 years
   b. Electrical Warranty
      1) Locks
         a) Schlage: 3 years
      2) Exit Devices
         a) Von Duprin: 3 years
      3) Closers
         a) LCN: 2 years

1.08 MAINTENANCE

A. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

B. Turn over unused materials to Owner for maintenance purposes.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Approval of manufacturers and/or products other than those listed as “Scheduled Manufacturer” or “Acceptable Manufacturers” in the individual article for the product category shall be in accordance with QUALITY ASSURANCE article, herein. Where “No Substitute” is noted, submittals and substitution requests for other products will not be considered.

B. Approval of products from manufacturers indicated in “Acceptable Manufacturers” is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer’s product.

C. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.02 MATERIALS

A. Fasteners
   1. Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.
   2. Furnish screws for installation with each hardware item. Finish exposed (exposed under any condition) screws to match hardware finish, or, if exposed in surfaces of other work,

to match finish of this other work including prepared for paint surfaces to receive painted finish.

3. Provide concealed fasteners for hardware units exposed when door is closed except when no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work unless thru-bolts are required to fasten hardware securely. Review door specification and advise Architect if thru bolts are required.
4. Install hardware with fasteners provided by hardware manufacturer.

B. Modification and Preparation of Existing Doors: Where existing door hardware is indicated to be removed and reinstalled.
1. Provide necessary fillers, Dutchmen, reinforcements, and fasteners, compatible with existing materials, as required for mounting new opening hardware and to cover existing door and frame preparations.
2. Use materials which match materials of adjacent modified areas.
3. When modifying existing fire-rated openings, provide materials permitted by NFPA 80 as required to maintain fire-rating.

C. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation. All closers and exit devices on labeled wood doors shall be through bolted if required by the door manufacturer.
1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

D. All hardware shall be installed with the Manufacturers standard screws as provided. The use of any other type of fasteners shall not be permitted. The general contractor shall provide wood blocking in all stud walls specified and/or scheduled to receive wall stops, No Exception.

2.03 HINGES

A. Manufacturers and Products:
1. Scheduled Manufacturer and Product: Ives 5BB series.

B. Requirements:
1. Provide hinges conforming to ANSI/BHMA A156.1.
2. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
    a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
    b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high
3. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
    a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
    b. Interior: Heavy weight, steel, 5 inches (127 mm) high
4. 2 inches or thicker doors:
    a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
    b. Interior: Heavy weight, steel, 5 inches (127 mm) high
5. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
6. Where new hinges are specified for existing doors or existing frames, provide new hinges of identical size to hinge preparation present in existing door or existing frame.
7. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
    a. Steel Hinges: Steel pins

b. Non-Ferrous Hinges: Stainless steel pins
c. Out-Swinging Exterior Doors: Non-removable pins
d. Out-Swinging Interior Lockable Doors: Non-removable pins, as specified
e. Interior Non-lockable Doors: Non-rising pins

8. Width of hinges: 4-1/2 inches (114 mm) at 1-3/4 inch (44 mm) thick doors, and 5 inches (127 mm) at 2 inches (51 mm) or thicker doors. Adjust hinge width as required for door, frame, and wall conditions to allow proper degree of opening.
9. Provide hinges with electrified options as scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component.
10. At labeled door's steel or stainless steel, bearing-type hinges shall be provided. For all doors equipped with closers provide bearing-type hinges.

2.04 CONTINUOUS HINGES

A. Stainless Steel
1. Manufacturers:

a. Scheduled Manufacturer: Ives.

2. Requirements:

a. Provide pin and barrel continuous hinges conforming to ANSI/BHMA A156.26., Grade 1.
b. Provide pin and barrel continuous hinges fabricated from 14-gauge, type 304 stainless steel.
c. Provide twin self-lubricated nylon bearings at each hinge knuckle, with 0.25-inch (6 mm) diameter stainless steel pin.
d. Provide hinges capable of supporting door weights up to 600 pounds, and successfully tested for 1,500,000 cycles.
e. On fire-rated doors, provide pin and barrel continuous hinges that are classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
f. Provide pin and barrel continuous hinges with electrified options as scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware.
g. Install hinges with fasteners supplied by manufacturer.
h. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

B. Aluminum Geared
1. Manufacturers:

a. Scheduled Manufacturer: Ives.

2. Requirements:

a. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
b. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
c. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.

d. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
e. On fire-rated doors, provide aluminum geared continuous hinges that are classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
f. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware.
g. Install hinges with fasteners supplied by manufacturer.
h. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

2.05 ELECTRIC POWER TRANSFER

A. Manufacturers:

a. Scheduled Manufacturer: Von Duprin EPT-10.

B. Requirements:
1. Provide power transfer with electrified options as scheduled in the hardware sets. Provide with number and gage of wires sufficient to accommodate electric function of specified hardware.
2. Locate electric power transfer per manufacturer's template and UL requirements, unless interference with operation of door or other hardware items.

2.06 FLUSH BOLTS

A. Manufacturers:
1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Rockwood.

B. Requirements:
1. Provide automatic, constant latching, and manual flush bolts with forged bronze or stainless-steel face plates, extruded brass levers, and with wrought brass guides and strikes. Provide 12 inch (305 mm) steel or brass rods at doors up to 90 inches (2286 mm) in height. For doors over 90 inches (2286 mm) in height increase top rods by 6 inches (152 mm) for each additional 6 inches (152 mm) of door height. Provide dust-proof strikes at each bottom flush bolt.

2.07 SURFACE BOLTS

A. Manufacturers:
1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Rockwood.

B. Requirements:
1. Surface bolt s to have 1″ throw for maximum security with concealed mounting that prevents vandalism. Units to be constructed of heavy-duty steel and UL listed up to three (3) hours when used on the inactive door of a pair up to 8′ in height.

2.08 COORDINATORS

A. Manufacturers:
   1. Scheduled Manufacturer: Ives.
   2. Acceptable Manufacturers: Burns, Rockwood.

B. Requirements:
   1. Where pairs of doors are equipped with automatic flush bolts, an astragal, or other hardware that requires synchronized closing of the doors, provide bar-type coordinating device, surface applied to underside of stop at frame head.
   2. Provide filler bar of correct length for unit to span entire width of opening, and appropriate brackets for parallel arm door closers, surface vertical rod exit device strikes or other stop mounted hardware. Factory-prepared coordinators for vertical rod devices as specified.

2.09 CYLINDRICAL LOCKS

A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product: Schlage ND series.
   2. Acceptable Manufacturers and Products: Sargent 10-Line, Falcon T.

B. Requirements:
   1. Provide cylindrical locks conforming to ANSI/BHMA A156.2 Series 4000, Grade 1, and UL Listed for 3-hour fire doors.
   2. Cylinders: Refer to “KEYING” article, herein.
   3. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2-inch latch throw. Provide proper latch throw for UL listing at pairs.
   4. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
   5. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
   6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
   7. Provide electrified options as scheduled in the hardware sets.
   8. Lever Trim: Solid cast levers without plastic inserts and wrought roses on both sides.

      a. Lever Design: Schlage RHODES.

2.10 PADLOCKS:

A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product: Schlage KS Series.

B. Requirements:
   1. Provide padlocks with 1-inch (25 mm) shackle height, unless noted otherwise, as specified.
   2. Cylinders: Refer to “KEYING” article, herein.

2.11 EXIT DEVICES

A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product: Von Duprin 99/33A series.
   2. Acceptable Manufacturers and Products: Sargent 80 series.
   3. Scheduled Manufacturer and Product: Von Duprin QEL (no substitutions)

B. Requirements:
   1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware.
   2. Cylinders: Refer to "KEYING" article, herein.
   3. Provide touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
   4. Touchpad must extend a minimum of one half of door width. No plastic inserts are allowed in touchpads.
   5. Provide exit devices with dead latching feature for security and for future addition of alarm kits and/or other electrified requirements.
   6. Provide exit devices with weather resistant components that can withstand harsh conditions of various climates and corrosive cleaners used in outdoor pool environments.
   7. Provide flush end caps for exit devices.
   8. Provide exit devices with manufacturer's approved strikes.
   9. Provide exit devices cut to door width and height. Install exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
   10. Mount mechanism case flush on face of doors or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
   11. Provide cylinder or hex-key dogging as specified at non-fire-rated openings.
   12. Provide dogging indicators (CDSI) for visible indication of dogging status where scheduled.
   13. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide type that can be removed by use of a keyed cylinder, which is self-locking when re-installed. Provide MT54 Wall Kits (unless noted otherwise in hardware set).
   14. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and were noted in hardware sets.
   15. Provide electrified options as scheduled.
   16. Provide exit devices with optional trim designs to match other lever and pull designs used on the project.

2.12 CYLINDERS/KEYING/KEYS

A. Provide all exterior and interior locks or Exit Devices requiring cylinders keyed to the existing Large Format Interchangeable Core Master Key System as instructed by the Owners Representative. Cylinders shall comply with performance requirements of ANSI A156.5. All keys shall be of nickel silver material only. The hardware supplier shall meet with the General Contractor, Architect and the Owners Representative at the project jobsite to determine all permanent keying requirements.

B. Cylinders shall be factory keyed, and factory maintained as directed by the owners Representative and the Architect. Provide (3) keys per cylinder.

C. Factory stamp all keys "Do not duplicate" and with key symbol as directed by the Owners Representative. Visual key control shall be provided on all permanent keys and cylinders.

D. Provide temporary keyed construction cores for the duration of the construction phase. Provide ten (10) construction day keys and three (3) construction control keys. All construction cores shall be returned to the hardware supplier upon installation of permanent cores.

E. Manufacturers and Products:
   1. Scheduled Manufacturer and Product: Sargent Signature R-series keyway.

2. Alvin ISD uses a Sargent Signature Key System with a Sargent "R" Series Keyway.
3. Visual Key Control to be used. Key Set/Number (Example A1, A2 etc.) to be stamped on key and on the face of cylinders.
4. The GGGM is to be cut on an "RN" Signature key blank.
5. Control Key to be built into the system and cut on an "RN" Signature key blank.
6. All Master keys are to be cut on a Signature Key blank.
7. All Exterior door cylinders are to be Signature Cylinders except for any GGGM1-5 exterior doors
8. All interior openings, keyed dog downs, and mullions are to be standard cylinders, non-signature unless noted otherwise. All GGGM1-5 openings are to be standard cylinders. Non-Signature; GGGM1: Maintenance - GGGM2 : Custodial - GGGM3 : Technology - GGGM4: Future use - GGGM5 : Food Service.
9. Contractor will install final cores in all door hardware.
10. Contractor to provide.
    1 lockable surface mounted key cabinet with capacity of 3 times the number of key changes, including all number tags and record keeping accessories.
    (Commonly referred to as a "Deluxe 2 Tag System").
11. After verifying key functions on installed hardware, the contractor will hang key cabinet and place all keys on tags and hooks in cabinet as directed by the owner.
12. Key Quantity: Furnish in the following quantities.
    Contractor to provide:

- 5 each of the following keys: GGMK - GMK - MK - SMK
- 6 Master Keys (per Master Key Level/Group)
- 6 keys per change key number for all cores except the common key.
- 12 Athletics Cross Keys for Male Coaches and 12 for Female Coaches.
- 100 Common keys (Interior hallway doors, break rooms, lounge, etc.)
- 4 Interchangeable Core Padlocks and cores.
- 10 Uncombinated Cores
- 100 key blanks

13. The factory shall package cut keys and cores separately in key set sequence and ship all keys, cores, and padlocks to the contractor or Alvin ISD Project Manager.
14. Bittings are to be supplied electronically to be uploaded in Keywizard Software.

2.13 KEY CONTROL SYSTEM

A. Manufacturers:
   1. Scheduled Manufacturer: Telkee.
   2. Acceptable Manufacturers: HPC, Lund.

B. Requirements:
   1. Provide key control system, including envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150% of number of locks required for Project.

      a. Provide complete cross index system set up by hardware supplier, and place keys on markers and hooks in cabinet as determined by final key schedule.
      b. Provide hinged-panel type cabinet for wall mounting.

2.14 DOOR CLOSERS

A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product: LCN 4040XP series.
   2. Acceptable Manufacturers and Products: Sargent 351 series.

B. Requirements:
   1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certified closers. Stamp units with date of manufacture code.
   2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
   3. Cylinder Body: 1-1/2-inch (38 mm) diameter with 5/8-inch (16 mm) diameter double heat-treated pinion journal.
   4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
   5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
   6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
   7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
   8. Pressure Relief Valve (PRV) Technology: Not permitted.
   9. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117 or has special rust inhibitor (SRI).
   10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.15 DOOR TRIM

A. Manufacturers:
   1. Scheduled Manufacturer: Ives.
   2. Acceptable Manufacturers: Burns, Rockwood.

B. Requirements:
   1. Provide push plates, push bars, pull plates, and pulls with diameter and length as scheduled.

2.16 PROTECTION PLATES

A. Manufacturers:
   1. Scheduled Manufacturer: Ives.
   2. Acceptable Manufacturers: Burns, Rockwood.

B. Requirements:
   1. Provide protection plates with a minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
   2. Sizes plates 2 inches (51 mm) less width of door on single doors, pairs of doors with a mullion, and doors with edge guards. Size plates 1 inch (25 mm) less width of door on pairs without a mullion or edge guards.
   3. At fire rated doors, provide protection plates over 16 inches high with UL label.

2.17 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:
   1. Scheduled Manufacturers: Glynn-Johnson.
   2. Acceptable Manufacturers: Rixson, Sargent.

B. Requirements:
   1. Provide overhead stop at any door where conditions do not allow for a wall stop or floor stop presents tripping hazard.
   2. Provide friction type at doors without closer and positive type at doors with closer.

2.18 DOOR STOPS AND HOLDERS

A. Manufacturers:
   1. Scheduled Manufacturer: Ives.
   2. Acceptable Manufacturers: Burns, Rockwood.

B. Provide door stops at each door leaf:
   1. Provide wall stops wherever possible. Provide concave type where lockset has a push button of thumbturn.
   2. Where a wall stop cannot be used, provide universal floor stops.
   3. Where wall or floor stop cannot be used, provide overhead stop.
   4. Provide roller bumper where doors open into each other and overhead stop cannot be used.

2.19 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Manufacturers:
   1. Scheduled Manufacturer: Zero International.
   2. Acceptable Manufacturers: National Guard, Reese.

B. Requirements:
   1. Provide thresholds, weather-stripping, and gasketing systems as specified and per architectural details. Match finish of other items.
   2. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
   3. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.
   4. Size thresholds 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width unless otherwise specified in the hardware sets or detailed in the drawings.

2.20 SILENCERS

A. Manufacturers:
   1. Scheduled Manufacturer: Ives.
   2. Acceptable Manufacturers: Burns, Rockwood.

B. Requirements:
   1. Provide "push-in" type silencers for hollow metal or wood frames.

2. Provide one silencer per 30 inches (762 mm) of height on each single frame, and two for each pair frame.
3. Omit where gasketing is specified.

2.21 FINISHES

A. Finishes for all hardware are as required in this specification and the hardware sets.

B. Special care is to be taken to make uniform the finish of all various manufactured items.

2.24 PROPRIETARY PRODUCTS

A References to specific products are used to establish quality standards of utility and performance. Unless otherwise approved provide only the specified product.

All other materials, not specifically described, but required for a complete and proper finish hardware installation, are to be selected by the Contractor, subject to the approval of the Architect and the Owners Representative.

Architect and the Owners Representative reserve the right to approve all the substitutions proposed for this specification. All requests for substitution to be made prior to bid in accordance with Division 1, General Requirements, and are to be in writing, hand delivered to the Architect. Two (2) copies of the manufacturer's brochures and a physical sample of each item in the appropriate design and finish shall accompany requests for substitution.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance. Verify doors, frames, and walls have been properly reinforced for hardware installation.

B. GC and Hardware Supplier to field-verify existing doors and frames receiving new hardware and existing conditions receiving new openings – prior to submittal/ordering. Verify that new hardware is compatible with existing door and frame preparation and existing conditions. Provide/replace all products/components necessary for complete, compliant, functioning opening.

C. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

D. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Where on-site modification of doors and frames is required:

1. Carefully remove existing door hardware and components being reused. Clean, protect, tag, and store in accordance with storage and handling requirements specified herein.
2. Field modify and prepare existing doors and frames for new hardware being installed.
3. When modifications are exposed to view, use concealed fasteners, when possible.
4. Prepare hardware locations and reinstall in accordance with installation requirements for new door hardware and with:

    a. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.
    b. Wood Doors: DHI WDHS.5 "Recommended Hardware Reinforcement Locations for Mineral Core Wood Flush Doors."
    c. Doors in rated assemblies: NFPA 80 for restrictions on on-site door hardware preparation.

3.03 INSTALLATION

A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.
    1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
    2. Custom Steel Doors and Frames: HMMA 831.
    3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."

B. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.

C. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.

D. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

E. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

F. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.

G. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated.

H. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

I. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.

J. Closer/Holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.

K. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

L. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

M. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

N. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

O. Door Bottoms and Sweeps: Apply to bottom of door, forming seal with threshold when door is closed.

3.04 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
   1. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.05 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items per manufacturer’s instructions to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.06 DOOR HARDWARE SETS

132563 OPT0391681 Version 5

Hardware Group No. 001 - OH DOOR

Provide each RU door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
	EA	NOTE	REMAINDER OF HARDWARE BY DOOR MFR.		

-COORDINATE HARDWARE WITH DOOR MFR.

Hardware Group No. 001SL - SLIDING

Provide each SL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
	EA	NOTE	REMAINDER OF HARDWARE BY DOOR MFR.		

-COORDINATE HARDWARE WITH DOOR MFR.

Hardware Group No. 103 - SGL OFFICE LOCK

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	ENTRANCE LOCK	ND53JSARD RHO	626	SCH
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 103W - SGL OFFICE LOCK

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 5 X 4.5 NRP	652	IVE
1	EA	ENTRANCE LOCK	ND53JSARD RHO	626	SCH
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 201 - SGL STORAGE LOCK CLOSER

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	ND80JSARD RHO	626	SCH
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	SURFACE CLOSER	4040XP-RW/EDA-TBSRT X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 201K - SGL STORAGE LOCK CLOSER (KP'S = SERVICE AREAS: KITCH, MECH)

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	ND80JSARD RHO	626	SCH
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	SURFACE CLOSER	4040XP-RW/EDA-TBSRT X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS OUTSWING ONLY	630	IVE
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 203 - SGL STORAGE LOCK

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	ND80JSARD RHO	626	SCH
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 203-CUST - SGL STORAGE LOCK

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	ND80JSARD RHO	626	SCH
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS OUTSWING ONLY	630	IVE
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 203AW - SGL STORAGE LOCK

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	ND80JSARD RHO	626	SCH
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
	SET	SEAL	PERIMETER SEAL BY FRAME MFR.		

Hardware Group No. 203W - SGL STORAGE LOCK

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	ND80JSARD RHO	626	SCH
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 203WK - SGL STORAGE LOCK KICKPLATE

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	ND80JSARD RHO	626	SCH
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS OUTSWING ONLY	630	IVE
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 212 - PAIR STORAGE LOCK

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
2	EA	MANUAL FLUSH BOLT	FB458-LENGTH REQD	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	ND80JSARD RHO	626	SCH
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
2	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	OVERLAPPING ASTRAGAL	383AA-DOOR HEIGHT	AA	ZER

Hardware Group No. 212LG - PAIR STORAGE LOCK LATCH GUARD

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
2	EA	MANUAL FLUSH BOLT	FB458-LENGTH REQD	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	ND80JSARD RHO	626	SCH
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	LATCH GUARD	LG10 OR SIM (AS REQD FOR FUNCTION)	630	IVE
2	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	OVERLAPPING ASTRAGAL	383AA-DOOR HEIGHT	AA	ZER

Hardware Group No. 341 - SGL PRIVATE TOILET - PRIVACY/INDICATOR CLSR

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	PRIVACY LOCK W/ OUTSIDE INDICATOR	ND40S RHO OS-OCC	626	SCH
1	EA	SURFACE CLOSER	4040XP-RW/EDA-TBSRT X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

-INDICATOR ON OUTSIDE OF DOOR.

Hardware Group No. 341-STF - SGL PRIVATE STAFF TOILET - KEYED LOCK/INDICATOR

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	FACULTY RESTROOM/HOTEL W/ OUTSIDE INDICATOR W/ INSIDE INDICATOR	L9485L 06A L583-363 OS-OCC IS-OCC XL13-439	626	SCH
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	SURFACE CLOSER	4040XP-RW/EDA-TBSRT X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

-INDICATOR ON OUTSIDE OF DOOR.

Hardware Group No. 343-PRE - SGL PRIVATE TOILET - PRIVACY/INDICATOR (PRE-K & SPED)

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	ENTRANCE/OFFICE LOCK W/ OUTSIDE INDICATOR	ND50JSARD RHO OS-OCC	626	SCH
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 553 - SGL STORAGE LOCK (CLASSROOM)

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	ND80JSARD RHO	626	SCH
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 553W - SGL STORAGE LOCK (CLASSROOM)

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	ND80JSARD RHO	626	SCH
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 710M - PAIR EXIT DEV - (HM) NO KRM GYM

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY HEIGHT AS REQ	628	IVE
1	EA	KEYED MULLION	KR4954-STAB-MT54	689	VON
1	EA	PANIC HARDWARE	99-EO-SNB INACTIVE	626	VON
1	EA	PANIC HARDWARE	CD-99-L-NL-06-SNB	626	VON
2	EA	SURFACE CLOSER	4040XP-RW/EDA-SNB X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
2	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER

NOTE: PROVIDE SCUSH ARMS (ONLY) WHEN WALL/FLOOR STOP IS NOT AN OPTION
VERIFY KEYED MULLION/WALL KIT LOCATIONS W/OWNER PRIOR TO ORDERING

Hardware Group No. 710M-NM - PAIR EXIT DEV - (HM) NO KRM GYM

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY HEIGHT AS REQ	628	IVE
1	EA	REMOVABLE MULLION	4954-STAB	689	VON
1	EA	PANIC HARDWARE	99-EO-SNB INACTIVE	626	VON
1	EA	PANIC HARDWARE	CD-99-L-NL-06-SNB	626	VON
3	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
2	EA	SURFACE CLOSER	4040XP-RW/EDA-SNB X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
2	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER

NOTE: PROVIDE SCUSH ARMS (ONLY) WHEN WALL/FLOOR STOP IS NOT AN OPTION
VERIFY KEYED MULLION/WALL KIT LOCATIONS W/OWNER PRIOR TO ORDERING

Hardware Group No. 711EL - SGL EXIT DEV L-NL

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	PANIC HARDWARE	LD-99-L-NL-06-SNB	626	VON
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	SURFACE CLOSER	4040XP-RW/EDA-TBSRT X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

NOTE: PROVIDE SCUSH ARMS (ONLY) WHEN WALL/FLOOR STOP IS NOT AN OPTION

Hardware Group No. C711 - SGL EXIT DEV ACCESS CONTROLLED

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY EPT HEIGHT AS REQ	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-99-L-NL-06-SNB 24 VDC	626	VON
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	SURFACE CLOSER	4040XP-RW/EDA-TBSRT X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	CREDENTIAL READER	MT11 - BY DIVISION 28	BLK	SCE
2	EA	DOOR CONTACT	BY SECURITY CONTRACTOR (QTY PER TECH DWGS)		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

NOTE: PROVIDE SCUSH ARMS (ONLY) WHEN WALL/FLOOR STOP IS NOT AN OPTION

Hardware Group No. C711WAP - SGL EXIT DEV ACCESS CONTROLLED, ARMOR PLATE

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY EPT HEIGHT AS REQ	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-99-L-NL-06-SNB 24 VDC	626	VON
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	SURFACE CLOSER	4040XP-RW/EDA-TBSRT X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
1	EA	ARMOR PLATE	8400 32" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	CREDENTIAL READER	MT11 - BY DIVISION 28	BLK	SCE
2	EA	DOOR CONTACT	BY SECURITY CONTRACTOR (QTY PER TECH DWGS)		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O
1	EA	DOOR BELL/BUZZER/INTERCOM	PROVIDE BY SECURITY (WHERE REQD)		B/O

NOTE: PROVIDE SCUSH ARMS (ONLY) WHEN WALL/FLOOR STOP IS NOT AN OPTION

Hardware Group No. CE201 - SGL LOCK - ACCESS CONTROLLED (CR'S AT ALL DF RMS/ELEC/MECH)

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	ND80JSARD RHO	626	SCH
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	ELECTRIC STRIKE	6211 FSE	630	VON
1	EA	SURFACE CLOSER	4040XP-RW/EDA-TBSRT X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
3	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	CREDENTIAL READER	MT11 - BY DIVISION 28	BLK	SCE
2	EA	DOOR CONTACT	BY SECURITY CONTRACTOR (QTY PER TECH DWGS)		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

Hardware Group No. CE201W - SGL LOCK - ACCESS CONTROLLED

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	ND80JSARD RHO	626	SCH
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	ELECTRIC STRIKE	6211 FSE	630	VON
1	EA	SURFACE CLOSER	4040XP-RW/EDA-TBSRT X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
3	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	CREDENTIAL READER	MT11 - BY DIVISION 28	BLK	SCE
2	EA	DOOR CONTACT	BY SECURITY CONTRACTOR (QTY PER TECH DWGS)		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

Hardware Group No. CR711 - SGL EXIT DEV ACCESS CONTROLLED

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY EPT HEIGHT AS REQ	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-99-L-NL-06-SNB 24 VDC	626	VON
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	SURFACE CLOSER	4040XP-RW/EDA-SNB X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	CREDENTIAL READER	MT11 - BY DIVISION 28	BLK	SCE
1	EA	DESK MOUNT BUTTON	660-PB OR SIM (PROVIDED BY SEC 28)	628	SCE
2	EA	DOOR CONTACT	BY SECURITY CONTRACTOR (QTY PER TECH DWGS)		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

NOTE: PROVIDE SCUSH ARMS (ONLY) WHEN WALL/FLOOR STOP IS NOT AN OPTION

Hardware Group No. CV710MA.B - PAIR EXIT DEV (ALUM VEST) ACCESS CONTROLLED - BALLISTIC EXTRA-THICK

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	ELEC CONTINUOUS HINGE	A150LL-628/A505-630 PT-TYPE REQD (BASIS OF DESIGN)	628	ABH
1	EA	CONTINUOUS HINGE	A150LL-628/A505-630-TYPE REQD (BASIS OF DESIGN)	628	ABH
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	KEYED MULLION	KR4954-STAB-MT54	689	VON
1	EA	PANIC HARDWARE	LD-99-EO-SNB INACTIVE	626	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-99-NL-OP-110MD-SNB 24 VDC ACTIVE	626	VON
2	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	90 DEG OFFSET PULL	8190-O 10" ACTIVE	630	IVE
2	EA	SURFACE CLOSER	4040XP-RW/EDA-SNB X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
2	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
	SET	SEAL	PERIMETER SEAL BY FRAME MFR.		
	SET	ASTRAGAL	MEETING STILE SEAL BY DOOR MFR.		
1	EA	CREDENTIAL READER	MT11 - BY DIVISION 28	BLK	SCE
	EA	BALANCE HARDWARE	BY DOOR MFG		B/O
3	EA	DOOR CONTACT	BY SECURITY CONTRACTOR (QTY PER TECH DWGS)		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

ADJUST AND ORDER ALL HARDWARE/COMPONENTS FOR DOOR THICKNESS AS NECESSARY. VERIFY THICKNESS FOR EACH OPENING AND COORDINATE ALL ASPECTS OF HARDWARE WITH DOOR MFG/S PRIOR TO ORDERING.

NOTE: PROVIDE SCUSH ARMS (ONLY) WHEN WALL/FLOOR STOP IS NOT AN OPTION
VERIFY KEYED MULLION/WALL KIT LOCATIONS W/OWNER PRIOR TO ORDERING

Hardware Group No. CVR711A.B - SGL EXIT DEV (ALUM VEST) ACCESS CONTROLLED - BALLISTIC EXTRA-THICK

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	ELEC CONTINUOUS HINGE	A150LL-628/A505-630 PT-TYPE REQD (BASIS OF DESIGN)	628	ABH
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-99-NL-OP-110MD-SNB 24 VDC	626	VON
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	90 DEG OFFSET PULL	8190-O 10" ACTIVE	630	IVE
1	EA	SURFACE CLOSER	4040XP-RW/EDA-SNB X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
	SET	SEAL	PERIMETER SEAL BY FRAME MFR.		
1	EA	CREDENTIAL READER	MT11 - BY DIVISION 28	BLK	SCE
1	EA	DESK MOUNT BUTTON	660-PB OR SIM (PROVIDED BY SEC 28)	628	SCE
	EA	BALANCE HARDWARE	BY DOOR MFG		B/O
2	EA	DOOR CONTACT	BY SECURITY CONTRACTOR (QTY PER TECH DWGS)		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

ADJUST AND ORDER ALL HARDWARE/COMPONENTS FOR DOOR THICKNESS AS NECESSARY. VERIFY THICKNESS FOR EACH OPENING AND COORDINATE ALL ASPECTS OF HARDWARE WITH DOOR MFG/S PRIOR TO ORDERING.

NOTE: PROVIDE SCUSH ARMS (ONLY) WHEN WALL/FLOOR STOP IS NOT AN OPTION

Hardware Group No. ER201A - SGL LOCK - REMOTE (DBL/CYLINDER)

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY HEIGHT AS REQ	628	IVE
1	EA	DBL CYL COMM LOCK	ND72JSARD RHO XN12-003	626	SCH
2	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	ELECTRIC STRIKE	6211 FSE	630	VON
1	EA	SURFACE CLOSER	4040XP-RW/EDA-TBSRT X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
1	EA	FLOOR STOP	FS436 (POSITION AT MAX OPENING DEGREE)	626	IVE
	SET	SEAL	PERIMETER SEAL BY FRAME MFR.		
1	EA	DESK MOUNT BUTTON	660-PB OR SIM (PROVIDED BY SEC 28)	628	SCE
1	EA	DOOR CONTACT	BY SECURITY CONTRACTOR (QTY PER TECH DWGS)		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

Hardware Group No. W714M-ENT - PAIR EXIT DEV EXTERIOR (TDI) ENTRY KRM

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY HEIGHT AS REQ	628	IVE
1	EA	FIRE RATED NON-KEYED REMOVABLE MULLION	HH-9954B	689	VON
1	EA	PANIC HARDWARE	LD-XP99-EO-SNB	626	VON
1	EA	PANIC HARDWARE	LD-XP99-NL-OP-110MD-SNB ACTIVE	626	VON
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	90 DEG OFFSET PULL	8190-O 10" ACTIVE	630	IVE
2	EA	SURFACE CLOSER	4040XP-RW/EDA-SNB X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
2	EA	FLOOR STOP	FS18S/18L (AS REQD)	BLK	IVE
1	EA	RAIN DRIP	142A DW + 4"	AA	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
2	EA	DOOR SWEEP	FAS-SEAL		STE
1	EA	THRESHOLD	655A-EV3-226-MSLA-FRAME WIDTH	A	ZER
1	SET	WEATHER STRIP	PS-074-HEAD & JAMBS		STC
2	EA	VIEWER	698	626	IVE
2	EA	DOOR CONTACT	BY SECURITY CONTRACTOR (QTY PER TECH DWGS) WHERE INDICATED		B/O

-VERIFY WINDSTORM “CERTIFICATION” OF SPECIFIED HARDWARE W/DOOR SYSTEM.
-HARDWARE BUILT AS BASIS-OF-DESIGN AROUND STEELCRAFT DOOR SYSTEM.
PROVIDE DOOR VIEWERS AT FLUSH EXTERIOR DOORS. CONFIRM QUANTITY/SCOPE WITH ARCHITECT PRIOR TO ORDERING.

NOTE: PROVIDE SCUSH ARMS (ONLY) WHEN WALL/FLOOR STOP IS NOT AN OPTION

Hardware Group No. W714MA - PAIR EXIT DEV EXTERIOR ALUM (TDI)

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY HEIGHT AS REQ	628	IVE
1	EA	REMOVABLE MULLION	KR4954XP-STAB-MT54	689	VON
1	EA	PANIC HARDWARE	LD-XP99-EO-SNB	626	VON
1	EA	PANIC HARDWARE	LD-XP99-NL-OP-110MD-SNB ACTIVE	626	VON
2	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	90 DEG OFFSET PULL	8190-O 10" ACTIVE	630	IVE
2	EA	SURFACE CLOSER	4040XP-RW/EDA-SNB X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
2	EA	FLOOR STOP	FS18S/18L (AS REQD)	BLK	IVE
1	EA	RAIN DRIP	142A DW + 4"	AA	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
	SET	SEAL	PERIMETER SEAL BY FRAME MFR.		
2	EA	DOOR SWEEP	39A-DOOR WIDTH	A	ZER
1	EA	THRESHOLD	655A-EV3-226-MSLA-FRAME WIDTH	A	ZER
	EA	BALANCE HARDWARE	BY DOOR MFG		B/O
2	EA	DOOR CONTACT	BY SECURITY CONTRACTOR (QTY PER TECH DWGS) WHERE INDICATED		B/O

-VERIFY WINDSTORM “CERTIFICATION” OF SPECIFIED HARDWARE W/DOOR SYSTEM.
-HARDWARE BUILT AS BASIS-OF-DESIGN AROUND KAWNEER DOOR SYSTEM.
-TDI BASIS OF DESIGN (WITH RIM DEVICES/MULLION) BASED ON 90" MAXIMUM STOREFRONT PANELS.
-IF STOREFRONT PANEL SIZE WILL EXCEED 90", PROVIDE ALTERNATIVE CONCEALED ROD "KAW-HH-9947" DEVICES WITHOUT REMOVABLE MULLION.

NOTE: PROVIDE SCUSH ARMS (ONLY) WHEN WALL/FLOOR STOP IS NOT AN OPTION
VERIFY KEYED MULLION/WALL KIT LOCATIONS W/OWNER PRIOR TO ORDERING

Hardware Group No. W714MA-NM - PAIR EXIT DEV EXTERIOR ALUM (TDI)

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY HEIGHT AS REQ	628	IVE
1	EA	REMOVABLE MULLION	4954XP STAB	689	VON
1	EA	PANIC HARDWARE	LD-XP99-EO-SNB	626	VON
1	EA	PANIC HARDWARE	LD-XP99-NL-OP-110MD-SNB ACTIVE	626	VON
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	90 DEG OFFSET PULL	8190-O 10" ACTIVE	630	IVE
2	EA	SURFACE CLOSER	4040XP-RW/EDA-SNB X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
2	EA	FLOOR STOP	FS18S/18L (AS REQD)	BLK	IVE
1	EA	RAIN DRIP	142A DW + 4"	AA	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
	SET	SEAL	PERIMETER SEAL BY FRAME MFR.		
2	EA	DOOR SWEEP	39A-DOOR WIDTH	A	ZER
1	EA	THRESHOLD	655A-EV3-226-MSLA-FRAME WIDTH	A	ZER
	EA	BALANCE HARDWARE	BY DOOR MFG		B/O
2	EA	DOOR CONTACT	BY SECURITY CONTRACTOR (QTY PER TECH DWGS) WHERE INDICATED		B/O

-VERIFY WINDSTORM “CERTIFICATION” OF SPECIFIED HARDWARE W/DOOR SYSTEM.
-HARDWARE BUILT AS BASIS-OF-DESIGN AROUND KAWNEER DOOR SYSTEM.
-TDI BASIS OF DESIGN (WITH RIM DEVICES/MULLION) BASED ON 90" MAXIMUM STOREFRONT PANELS.
-IF STOREFRONT PANEL SIZE WILL EXCEED 90", PROVIDE ALTERNATIVE CONCEALED ROD "KAW-HH-9947" DEVICES WITHOUT REMOVABLE MULLION.

NOTE: PROVIDE SCUSH ARMS (ONLY) WHEN WALL/FLOOR STOP IS NOT AN OPTION
VERIFY KEYED MULLION/WALL KIT LOCATIONS W/OWNER PRIOR TO ORDERING

Hardware Group No. WC714MA - PAIR EXIT DEV EXTERIOR ALUM (TDI) ACCESS CONTROLLED

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY HEIGHT AS REQ	628	IVE
1	EA	CONT. HINGE	112XY EPT HEIGHT AS REQ	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	REMOVABLE MULLION	KR4954XP-STAB-MT54	689	VON
1	EA	PANIC HARDWARE	LD-XP99-EO-SNB	626	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-XP99-NL-OP-110MD 24 VDC ACTIVE	626	VON
2	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	90 DEG OFFSET PULL	8190-O 10" ACTIVE	630	IVE
2	EA	SURFACE CLOSER	4040XP-RW/EDA-SNB X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
2	EA	FLOOR STOP	FS18S/18L (AS REQD)	BLK	IVE
1	EA	RAIN DRIP	142A DW + 4"	AA	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
	SET	SEAL	PERIMETER SEAL BY FRAME MFR.		
	SET	ASTRAGAL	MEETING STILE SEAL BY DOOR MFR.		
2	EA	DOOR SWEEP	39A-DOOR WIDTH	A	ZER
1	EA	THRESHOLD	655A-EV3-226-MSLA-FRAME WIDTH	A	ZER
1	EA	CREDENTIAL READER	MT11 - BY DIVISION 28	BLK	SCE
3	EA	DOOR CONTACT	BY SECURITY CONTRACTOR (QTY PER TECH DWGS)		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

-VERIFY WINDSTORM “CERTIFICATION” OF SPECIFIED HARDWARE W/DOOR SYSTEM.
-HARDWARE BUILT AS BASIS-OF-DESIGN AROUND KAWNEER DOOR SYSTEM.
-TDI BASIS OF DESIGN (WITH RIM DEVICES/MULLION) BASED ON 90" MAXIMUM STOREFRONT PANELS.
-IF STOREFRONT PANEL SIZE WILL EXCEED 90", PROVIDE ALTERNATIVE CONCEALED ROD "KAW-HH-9947" DEVICES WITHOUT REMOVABLE MULLION.

-INGRESS BY THE CREDENTIAL READER OR KEY OVERRIDE.
-FREE EGRESS BY THE PUSH PADS.

NOTE: PROVIDE SCUSH ARMS (ONLY) WHEN WALL/FLOOR STOP IS NOT AN OPTION
VERIFY KEYED MULLION/WALL KIT LOCATIONS W/OWNER PRIOR TO ORDERING

Hardware Group No. WC714MA-NM - PAIR EXIT DEV EXTERIOR ALUM (TDI) ACCESS CONTROLLED

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY HEIGHT AS REQ	628	IVE
1	EA	CONT. HINGE	112XY EPT HEIGHT AS REQ	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	REMOVABLE MULLION	4954XP STAB	689	VON
1	EA	PANIC HARDWARE	LD-XP99-EO-SNB	626	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-XP99-NL-OP-110MD 24 VDC ACTIVE	626	VON
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	90 DEG OFFSET PULL	8190-O 10" ACTIVE	630	IVE
2	EA	SURFACE CLOSER	4040XP-RW/EDA-SNB X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
2	EA	FLOOR STOP	FS18S/18L (AS REQD)	BLK	IVE
1	EA	RAIN DRIP	142A DW + 4"	AA	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
	SET	SEAL	PERIMETER SEAL BY FRAME MFR.		
	SET	ASTRAGAL	MEETING STILE SEAL BY DOOR MFR.		
2	EA	DOOR SWEEP	39A-DOOR WIDTH	A	ZER
1	EA	THRESHOLD	655A-EV3-226-MSLA-FRAME WIDTH	A	ZER
1	EA	CREDENTIAL READER	MT11 - BY DIVISION 28	BLK	SCE
3	EA	DOOR CONTACT	BY SECURITY CONTRACTOR (QTY PER TECH DWGS)		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

-VERIFY WINDSTORM “CERTIFICATION” OF SPECIFIED HARDWARE W/DOOR SYSTEM.
-HARDWARE BUILT AS BASIS-OF-DESIGN AROUND KAWNEER DOOR SYSTEM.
-TDI BASIS OF DESIGN (WITH RIM DEVICES/MULLION) BASED ON 90" MAXIMUM STOREFRONT PANELS.
-IF STOREFRONT PANEL SIZE WILL EXCEED 90", PROVIDE ALTERNATIVE CONCEALED ROD "KAW-HH-9947" DEVICES WITHOUT REMOVABLE MULLION.

-INGRESS BY THE CREDENTIAL READER OR KEY OVERRIDE.
-FREE EGRESS BY THE PUSH PADS.

NOTE: PROVIDE SCUSH ARMS (ONLY) WHEN WALL/FLOOR STOP IS NOT AN OPTION
VERIFY KEYED MULLION/WALL KIT LOCATIONS W/OWNER PRIOR TO ORDERING

Hardware Group No. WC714MA.MTK - PAIR EXIT DEV EXTERIOR ALUM (TDI) ACCESS CONTROLLED (MTK)

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY HEIGHT AS REQ	628	IVE
1	EA	CONT. HINGE	112XY EPT HEIGHT AS REQ	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	REMOVABLE MULLION	KR4954XP-STAB-MT54	689	VON
1	EA	PANIC HARDWARE	LD-XP99-EO-SNB	626	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-XP99-NL-OP-110MD 24 VDC ACTIVE	626	VON
2	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	90 DEG OFFSET PULL	8190-O 10" ACTIVE	630	IVE
2	EA	SURFACE CLOSER	4040XP-RW/EDA-SNB X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
2	EA	FLOOR STOP	FS18S/18L (AS REQD)	BLK	IVE
1	EA	RAIN DRIP	142A DW + 4"	AA	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
	SET	SEAL	PERIMETER SEAL BY FRAME MFR.		
	SET	ASTRAGAL	MEETING STILE SEAL BY DOOR MFR.		
2	EA	DOOR SWEEP	39A-DOOR WIDTH	A	ZER
1	EA	THRESHOLD	655A-EV3-226-MSLA-FRAME WIDTH	A	ZER
1	EA	MULTITECH READER	MTK15 BY SEC CONTR - NO SUBSTITUTION)	BLK	SCE
3	EA	DOOR CONTACT	BY SECURITY CONTRACTOR (QTY PER TECH DWGS)		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

-VERIFY WINDSTORM “CERTIFICATION” OF SPECIFIED HARDWARE W/DOOR SYSTEM.
-HARDWARE BUILT AS BASIS-OF-DESIGN AROUND KAWNEER DOOR SYSTEM.
-TDI BASIS OF DESIGN (WITH RIM DEVICES/MULLION) BASED ON 90" MAXIMUM STOREFRONT PANELS.
-IF STOREFRONT PANEL SIZE WILL EXCEED 90", PROVIDE ALTERNATIVE CONCEALED ROD "KAW-HH-9947" DEVICES WITHOUT REMOVABLE MULLION.

-INGRESS BY THE CREDENTIAL READER OR KEY OVERRIDE.
-FREE EGRESS BY THE PUSH PADS.

NOTE: PROVIDE SCUSH ARMS (ONLY) WHEN WALL/FLOOR STOP IS NOT AN OPTION
VERIFY KEYED MULLION/WALL KIT LOCATIONS W/OWNER PRIOR TO ORDERING

Hardware Group No. WC714MH-MEC - PAIR EXIT DEV EXTERIOR (TDI) ACCESS CONTROLLED ENTRY - MECH HO

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY HEIGHT AS REQ	628	IVE
1	EA	CONT. HINGE	112XY EPT HEIGHT AS REQ	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
2	EA	SURFACE BOLT	SB360 12" INACTIVE	US2C	IVE
1	EA	ELEC PANIC HARDWARE	RX-QEL-HH-9975-NL-L/TRIM-SNB 24 VDC ACTIVE	626	VON
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM) ACTIVE	626	SAR
1	EA	DOOR PULL	VR910M NL	630	IVE
2	EA	SURFACE CLOSER	4040XP-SHCUSH X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
2	EA	ARMOR PLATE	8400 32" X 2" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142A DW + 4"	AA	ZER
2	EA	DOOR SWEEP	FAS-SEAL		STE
1	EA	OVERLAPPING ASTRAGAL	383AA-DOOR HEIGHT OR BY DOOR MFG	AA	ZER
1	EA	THRESHOLD	655A-EV3-226-MSLA-FRAME WIDTH	A	ZER
1	SET	WEATHER STRIP	PS-074-HEAD & JAMBS		STC
2	EA	VIEWER	698	626	IVE
1	EA	CREDENTIAL READER	MT11 - BY DIVISION 28	BLK	SCE
3	EA	DOOR CONTACT	BY SECURITY CONTRACTOR (QTY PER TECH DWGS)		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

-VERIFY WINDSTORM “CERTIFICATION” OF SPECIFIED HARDWARE W/DOOR SYSTEM.
-HARDWARE BUILT AS BASIS-OF-DESIGN AROUND STEELCRAFT DOOR SYSTEM.
-PROVIDE DOOR VIEWERS AT FLUSH EXTERIOR DOORS. CONFIRM QUANTITY/SCOPE WITH ARCHITECT PRIOR TO ORDERING.
-INGRESS BY THE CREDENTIAL READER OR KEY OVERRIDE.
-FREE EGRESS BY THE PUSH PADS.

NOTE: PROVIDE SCUSH ARMS (ONLY) WHEN WALL/FLOOR STOP IS NOT AN OPTION
VERIFY KEYED MULLION/WALL KIT LOCATIONS W/OWNER PRIOR TO ORDERING

Hardware Group No. WC715-BOH - SGL EXIT DEV EXTERIOR (TDI) ACCESS CONTROLLED - BACK OF HOUSE MECH/ELEC/RECV

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY EPT HEIGHT AS REQ	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-XP99-NL-OP-110MD 24 VDC	626	VON
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	DOOR PULL	VR910 NL SNB	630	IVE
1	EA	SURFACE CLOSER	4040XP-RW/EDA-SNB X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS WHERE APPLICABLE	630	IVE
1	EA	FLOOR STOP	FS18S/18L (AS REQD)	BLK	IVE
1	EA	RAIN DRIP	142A DW + 4"	AA	ZER
1	EA	HEADER SEAL	429AA-1PC-HEADER WIDTH	AA	ZER
1	EA	DOOR SWEEP	FAS-SEAL		STE
1	EA	THRESHOLD	655A-EV3-226-MSLA-FRAME WIDTH	A	ZER
1	SET	WEATHER STRIP	PS-074-HEAD & JAMBS		STC
2	EA	VIEWER	698	626	IVE
1	EA	CREDENTIAL READER	MT11 - BY DIVISION 28	BLK	SCE
2	EA	DOOR CONTACT	BY SECURITY CONTRACTOR (QTY PER TECH DWGS)		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

-VERIFY WINDSTORM “CERTIFICATION” OF SPECIFIED HARDWARE W/DOOR SYSTEM.
-HARDWARE BUILT AS BASIS-OF-DESIGN AROUND STEELCRAFT DOOR SYSTEM.
-PROVIDE DOOR VIEWERS AT FLUSH EXTERIOR DOORS. CONFIRM QUANTITY/SCOPE WITH ARCHITECT PRIOR TO ORDERING.
-INGRESS BY THE CREDENTIAL READER OR KEY OVERRIDE.
-FREE EGRESS BY THE PUSH PAD.

NOTE: PROVIDE SCUSH ARMS (ONLY) WHEN WALL/FLOOR STOP IS NOT AN OPTION

Hardware Group No. WC715-ENT - SGL EXIT DEV EXTERIOR (TDI) ACCESS CONTROLLED ENTRY

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY EPT HEIGHT AS REQ	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-XP99-NL-OP-110MD 24 VDC	626	VON
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	90 DEG OFFSET PULL	8190-O 10"	630	IVE
1	EA	SURFACE CLOSER	4040XP-RW/EDA-SNB X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
1	EA	FLOOR STOP	FS18S/18L (AS REQD)	BLK	IVE
1	EA	RAIN DRIP	142A DW + 4"	AA	ZER
1	EA	HEADER SEAL	429AA-1PC-HEADER WIDTH	AA	ZER
1	EA	DOOR SWEEP	FAS-SEAL		STE
1	EA	THRESHOLD	655A-EV3-226-MSLA-FRAME WIDTH	A	ZER
1	SET	WEATHER STRIP	PS-074-HEAD & JAMBS		STC
2	EA	VIEWER	698	626	IVE
1	EA	CREDENTIAL READER	MT11 - BY DIVISION 28	BLK	SCE
2	EA	DOOR CONTACT	BY SECURITY CONTRACTOR (QTY PER TECH DWGS)		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

-VERIFY WINDSTORM “CERTIFICATION” OF SPECIFIED HARDWARE W/DOOR SYSTEM.
-HARDWARE BUILT AS BASIS-OF-DESIGN AROUND STEELCRAFT DOOR SYSTEM.
-PROVIDE DOOR VIEWERS AT FLUSH EXTERIOR DOORS. CONFIRM QUANTITY/SCOPE WITH ARCHITECT PRIOR TO ORDERING.
-INGRESS BY THE CREDENTIAL READER OR KEY OVERRIDE.
-FREE EGRESS BY THE PUSH PAD.

NOTE: PROVIDE SCUSH ARMS (ONLY) WHEN WALL/FLOOR STOP IS NOT AN OPTION

Hardware Group No. WC715V - SGL EXIT DEV EXTERIOR (TDI) ACCESS CONTROLLED - KITCHEN

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY EPT HEIGHT AS REQ	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-XP99-NL-OP-110MD 24 VDC	626	VON
1	EA	CYLINDER & PERM CORE (CONSTR CORES PROVIDED BY OWNER)	63-TYPE/QTY-REQUIRED CKC SIGNATURE (MATCH EXIST SYSTEM)	626	SAR
1	EA	DOOR PULL	VR910 NL SNB	630	IVE
1	EA	SURFACE CLOSER	4040XP-RW/EDA-SNB X MTG BRKT, SPCR/SUPPORT & PLATE AS REQ	689	LCN
1	EA	ARMOR PLATE	8400 32" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS18S/18L (AS REQD)	BLK	IVE
1	EA	RAIN DRIP	142A DW + 4"	AA	ZER
1	EA	DOOR SWEEP	FAS-SEAL		STE
1	EA	THRESHOLD	655A-EV3-226-MSLA-FRAME WIDTH	A	ZER
1	SET	WEATHER STRIP	PS-074-HEAD & JAMBS		STC
2	EA	VIEWER	698	626	IVE
1	EA	CREDENTIAL READER	MT11 - BY DIVISION 28	BLK	SCE
2	EA	DOOR CONTACT	BY SECURITY CONTRACTOR (QTY PER TECH DWGS)		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O
1	EA	DOOR BELL/BUZZER/INTERCOM	PROVIDE BY SECURITY (WHERE REQD)		B/O

-VERIFY WINDSTORM “CERTIFICATION” OF SPECIFIED HARDWARE W/DOOR SYSTEM.
-HARDWARE BUILT AS BASIS-OF-DESIGN AROUND STEELCRAFT DOOR SYSTEM.
-INGRESS BY THE CREDENTIAL READER OR KEY OVERRIDE.
-FREE EGRESS BY THE PUSH PAD.

DOOR VIEWERS MOUNTED AT 42" & 56" AFF (VERIFY HEIGHT WITH ARCHITECT)
NOTE: PROVIDE SCUSH ARMS (ONLY) WHEN WALL/FLOOR STOP IS NOT AN OPTION

END OF SECTION

SECTION 08 80 00 – INTERIOR GLAZING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes glass and glazing for the following:
1. Interior windows.
2. Door lights at interior doors.
3. Standard glazing for interior storefront systems.
4. ~~Laminated glazing for glass railing systems.~~
5. Laminated glazing to meet Forced Entry requirements.
6. Glass and glazing accessories and installation requirements are included in this section for other sections referencing this section.

B. Related Sections:
1. Section 07 90 00 - Joint Protection: Sealant and back-up material other than glazing sealants.
2. Section 08 11 13 - Standard Steel Doors and Frames: Glazing in interior steel doors and windows.
3. Section 08 14 16 - Flush Wood Doors: Interior door lights.
4. Section 08 41 13 - Aluminum-Framed Entrances and Storefronts.
5. Section 08 56 54 – Ballistic Rated Transaction Windows: Polycarbonate panel system.
6. Section 08 88 56 – Security Glazing: Ballistic and impact-resistant glazing.

1.2 REFERENCES

A. American National Standards Institute:
1. ANSI Z97.1 - Safety Glazing Materials Used in Buildings Safety.

B. American Society of Civil Engineers:
1. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.

C. ASTM International:
1. ASTM C509 - Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material.
2. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
3. ASTM C1036 - Standard Specification for Flat Glass.
4. ASTM C1048 - Standard Specification for Heat-Treated Flat Glass-Kind HS, Kind FT Coated and Uncoated Glass.
5. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation.

D. Consumer Products Safety Commission:
1. CPSC 16 CFR 1201 - Safety Standard for Architectural Glazing.

E. Glass Association of North America:
1. GANA - Sealant Manual.
2. GANA - Glazing Manual.
3. GANA - Laminated Glass Design Guide.

1.3 PRECONSTRUCTION TESTING

A. Preconstruction Adhesion and Compatibility Testing: Test each glazing type, tape sealant, gasket, glazing accessory, and glazing-framing member for adhesion to and compatibility with elastomeric glazing sealants.
1. Testing will not be required if data are submitted based on previous testing of current sealant products and glazing materials matching those submitted.

2. Use ASTM C 1087 to determine whether priming and other specific joint-preparation techniques are required to obtain rapid, optimum adhesion of glazing sealants to glazing, tape sealants, gaskets, and glazing channel substrates.
3. Test no fewer than eight samples of each type of material, including joint substrates, shims, sealant backings, secondary seals, and miscellaneous materials.
4. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
5. For materials failing tests, submit sealant manufacturer's written instructions for corrective measures including the use of specially formulated primers.

1.4 PERFORMANCE REQUIREMENTS

A. Glass Thickness: Glass thickness designations indicated are minimums and are for detailing only. Confirm glass thicknesses by analyzing Project loads and in-service conditions. Provide glass lites in the thickness designations indicated for various size openings, but not less than thicknesses and in strengths (annealed or heat treated) required to meet or exceed the following criteria:
1. Wind Loads: As indicated, but not less than wind loads required by ASCE 7 "Minimum Design Loads for Buildings and Other Structures": Section 6.0 "Wind Loads."
2. Probability of Breakage for Vertical Glazing: 8 lites per 1000 for lites set vertically or not more than 15 degrees off vertical and under wind action.
   a. Load Duration: 3 seconds.
3. Maximum Lateral Deflection: For exterior glass supported on all 4 edges, provide thickness required that limits center deflection at design wind pressure to 1/50 times the short side length or 1 inch, whichever is less.
4. Minimum Glass Thickness for Exterior Lites: Not less than 1/4 inch.

B. Thermal Movements: Provide glazing that allows for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures acting on glass framing members and glazing components.
1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

C. Thermal and Solar Optical Performance: Measured or calculated in accordance with the following:
1. U-Values: NFRC 100.
2. Solar Heat Gain Coefficients: NFRC 200.
3. Solar Optical Properties: NFRC 300.

1.5 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Product Data:
1. Glass and Plastic: Provide structural, physical, and thermal and solar optical performance characteristics, size limitations, special handling or installation requirements.
2. Glazing Sealants, Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors where exposed.

C. Samples:
1. Glass: Submit two samples 12x12 inch in size, of each type and color of glass specified, including spandrel, wire glass, insulated metal panels, and other glazing types as may be indicated.
2. Glazing Materials: Submit 12-inch-long bead of glazing sealant for each color other than black.

D. Manufacturer's Certificate: Certify sealed insulating glass and low-E coated glass meet or exceed specified requirements.

E. Installer's Certificate: Certify glass furnished without identification label is installed in accordance with Construction Documents and applicable code.

1.6 QUALITY ASSURANCE

A. Perform Work in accordance with GANA Glazing Manual for glazing installation methods.

B. Safety Glazing Products: Comply with testing requirements in 16 CFR 1201 and, for wired-glass, ANSI Z97.1.
1. Obtain safety glazing products permanently marked with certification label of the Safety Glazing Certification Council or another certification agency or manufacturer acceptable to authorities having jurisdiction.
2. Where glazing units are specified for lites more than 9 sq. ft. in exposed surface area, and lites of any size in certain hazardous locations such as sliding glass doors, doors and enclosures for bathtubs, showers, hot tubs, whirlpools, saunas, and steam rooms, provide glazing products that comply with Category II materials; for lites 9 sq. ft. or less in exposed surface area, provide glazing products that comply with Category I or II materials.

1.7 QUALIFICATIONS

A. Installer: Company specializing in performing Work of this section with minimum three years' experience.

1.8 PRE-INSTALLATION MEETING

A. Section 01 31 19 – Project Meetings: Schedule and coordinate pre-installation meeting that includes the trade(s) for the work of this Section and other trades that whose work is related to the work of this Section.

B. Convene minimum one week prior to commencing work of this Section.

1.9 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

B. Do not install liquid glazing sealants when ambient and substrate temperature conditions are outside limits permitted by glazing sealant manufacturer or below 40 deg F.

1.10 WARRANTY

A. Section 01 70 00 - Execution and Closeout Requirements: Product warranties and product bonds.

B. Furnish ten-year warranty to include coverage for coated glass units from coating deterioration or failure, and replacement of same.

C. Furnish ten-year warranty to include coverage for sealed glass units from seal failure, interpane dusting or misting, and replacement of same.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Typical Glazing:
1. Guardian Glass, www.guardianglass.com
2. Oldcastle Building Envelope www.oldcastlebe.com
3. Pilkington North America, Inc. www.pilkington.com
4. Viracon www.viracon.com
5. Vitro Architectural Glass (PPG) www.ppg.com
6. Substitutions: Section 01 60 00 - Product Requirements

B. Fire Rated Glazing:
1. SaftiFirst™ Fire Rated Glazing Solutions, www.safti.com.
2. Substitutions: Section 01 60 00 – Product Requirements.

2.2 MATERIALS

A. **TYPE GL-4**: Tempered glass; ASTM C1048, Type 1 transparent flat, Quality Q3, Kind FT fully tempered, Condition A uncoated, float glass with horizontal tempering; furnish tempered glass conforming to CPSC 16 CFR 1201 Category II.
   1. Clear Tempered Glass: Class 1 clear; minimum 1/4-inch thick.
   2. Locations: Use for all interior glazing except Security Glazing and polycarbonate systems.

~~B. **Type GL-5**: Single-pane laminated glass at interior railing systems.~~
   ~~1. Fabrication: Two fully tempered 3/8" glass plies bonded with an interlayer complying with ASTM C1172.~~
   ~~2. Total Thickness: Nominal ¾-inch.~~
   ~~3. Plastic Interlayer: Clear polyvinyl butyral.~~
   ~~4. Installed system shall comply with safety glazing requirements of the International Building Code (IBC) Section 2407 for guards, including ANSI Z97.1 Class A rating.~~
   ~~5. Glass panels shall meet performance tests including impact resistance and load requirements per ASTM E2358, Standard Specification for the Performance of Glass in Permanent Glass Railing Systems, Guards, and Balustrades.~~
   ~~6. Finish and protect edges to prevent delamination.~~
   ~~7. Sizes and mounting method per manufacturer's recommendations, fully supported at minimum edges or fixed with approved hardware.~~

C. **Type GL-7**: Single-pane laminated glass at interior storefront systems, fixed windows, and door lights at security vestibules.
   1. Fabrication: 1/4" clear annealed glass + 0.09" PVB interlayer + 1/4" clear annealed glass.
   2. Total Thickness: Nominal 9/16 inch.
   3. Plastic Interlayer: Clear polyvinyl butyral.
   4. Installed system shall meet TEA requirements and UL 972 for Delayed Forced Entry.

2.3 GLAZING ACCESSORIES

A. Dense Gaskets: Resilient extruded shape to suit glazing channel retaining slot; black color.
   1. Neoprene: ASTM C864.
   2. EPDM: ASTM C864.
   3. Silicone: ASTM C1115.

B. Soft Gaskets: ASTM C509 Type II; resilient extruded shape to suit glazing channel retaining slot; black color.
   1. Neoprene.
   2. EPDM.
   3. Silicone.

C. Pre-Formed Glazing Tape: Size to suit application.
   1. Preformed butyl compound with or without integral resilient tube spacing device; 10 to 15 Shore A durometer hardness; coiled on release paper; black color.
      a. Butyl Corner Sealant: ASTM C920 single component non-skinning butyl compatible with glazing tape; color to match tape.
      b. Interior Sealants and Sealant Primers: Maximum volatile organic compound content in accordance with SCAQMD Rule 1168.

D. Setting Blocks: Elastomeric material recommended by glass manufacturer, 80 to 90 Shore A durometer hardness, length of 0.1 inch for each square foot of glazing or minimum 4 inch x width of glazing rabbet space minus 1/16 inch x height to suit glazing method and pane weight and area.

E. Spacer Shims: Elastomeric material recommended by glass manufacturer, 50 to 60 Shore A durometer hardness, minimum 3-inch long x one half the height of glazing stop x thickness to suit application, self-adhesive on one face.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify openings for glazing are correctly sized and within acceptable tolerance.

C. Verify surfaces of glazing channels or recesses are clean, free of obstructions impeding moisture movement, weeps are clear, and ready to receive glazing.

3.2 PREPARATION

A. Clean contact surfaces with solvent and wipe dry.

B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

C. Prime surfaces scheduled to receive sealant.

3.3 INSTALLATION

A. Perform installation in accordance with GANA Glazing Manual.
1. Glazing Sealants: Comply with ASTM C1193.
2. Do not allow metal-to-glass contact.

B. Interior Dry Method (Tape and Tape) Installation:
1. Cut glazing tape to length and set against permanent stops, projecting 1/16 inch above sight line.
2. Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.
3. Rest glazing on setting blocks and push against tape for full contact at perimeter of pane or unit.
4. Place glazing tape on free perimeter of glazing in same manner described above.
5. Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.
6. Knife trim protruding tape.

3.4 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.

B. Remove glazing materials from finish surfaces.

C. Remove labels after Work is complete.

D. Clean glass and adjacent surfaces.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01 70 00 - Execution and Closeout Requirements: Protecting installed construction.

B. After installation, mark pane with an 'X' by using removable plastic tape or paste. Do not mark heat absorbing or reflective glass units.

END OF SECTION

SECTION 08 88 56 – BALLISTIC AND IMPACT-RESISTANT GLAZING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes glazed systems for the following products and applications of the following types:
   1. Glazing Types:
      a. Interior Ballistics-Rated Glass **and framing system**: Laminated all-glass sheets.
      b. Exterior Ballistics-Rated Glass: Insulated and Laminated dual-pane all-glass sheets and framing system.
      c. Exterior Impact-Resistant Glass: Insulated dual-pane all-glass sheets.

   2. Framing Types
      a. For Interior Ballistics-Rated Glass: Ballistic Resistant aluminum storefront framing provided under Section 08 41 13.
      b. For Exterior Impact-Resistant Glass: Impact-resistant aluminum storefront framing provided under Section 08 41 13 and Impact-Resistant aluminum curtain wall framing provided under Section 08 44 13.

B. Related Sections:
   1. Section 08 41 13 - Aluminum Framed Entrances and Storefronts: Both standard and impact-resistant aluminum framing for interior and exterior glazing, including ballistics-resistant interior glazing.
   2. Section 08 44 13 - Glazed Aluminum Curtain Walls: Impact-resistant aluminum curtainwall system for exterior security glazing.
   3. Section 08 80 00 – Typical Interior Glazing.
   4. Section 08 88 56 – Ballistic Rated Transaction Windows: Bullet-resistant polycarbonate protective vision panel system.

1.2 PRECONSTRUCTION TESTING

A. Preconstruction Adhesion and Compatibility Testing: Test each glazing type, tape sealant, gasket, glazing accessory, and glazing-framing member for adhesion to and compatibility with elastomeric glazing sealants.
   1. Testing will not be required if data are submitted based on previous testing of current sealant products and glazing materials matching those submitted.
   2. Use ASTM C 1087 to determine whether priming and other specific joint-preparation techniques are required to obtain rapid, optimum adhesion of glazing sealants to glazing, tape sealants, gaskets, and glazing channel substrates.
   3. Test no fewer than eight samples of each type of material, including joint substrates, shims, sealant backings, secondary seals, and miscellaneous materials.
   4. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
   5. For materials failing tests, submit sealant manufacturer's written instructions for corrective measures including the use of specially formulated primers.

1.3 REFERENCES

A. American Society of Civil Engineers:
   1. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.

B. ASTM International:
   1. ASTM C509 - Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material.
   2. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
   3. ASTM C1036 - Standard Specification for Flat Glass.

4. ASTM C1048 - Standard Specification for Heat-Treated Flat Glass-Kind HS, Kind FT Coated and Uncoated Glass.
5. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation.
6. ASTM C1349 - Standard Specification for Architectural Flat Glass Clad Polycarbonate.

C. Consumer Products Safety Commission:
1. CPSC 16 CFR 1201 - Safety Standard for Architectural Glazing.

D. Glass Association of North America:
1. GANA - Sealant Manual.
2. GANA - Glazing Manual.
3. GANA - Laminated Glass Design Guide.

E. Underwriters Laboratories:
1. UL 752 Testing for Ballistic Resistance at the ballistic levels.

1.4 SUBMITTALS

A. Product Data: Manufacturer's literature and testing data for each type of product indicated.

B. Ballistic-Resistant Glazing Samples: For each type of glazing unit; (2) nominal 6-inch square panels.

C. Glazed System Schedule and Shop Drawings:
1. Indicate glazing and framing types and sizes in overall plan drawing for each size opening and location. Use same designations indicated on Drawings.
2. Indicate all frame sections, glazing panel thickness, and all head, jamb, sill and intermediate details.

D. Product Certificates: For each type of product indicated, from manufacturer.

E. Preconstruction adhesion and compatibility test reports.

F. Warranties: Sample of manufacturer's warranties.

1.5 QUALITY ASSURANCE

A. Installer Qualifications:
1. Approved in writing by the security glazing manufacturer for the specific Project.
2. A qualified installer who employs glazing installers for this Project who are certified under the National Glass Association Glazier Certification Program.
3. Installation company can provide information completion of at least ten projects of similar size and scope within the past three-years.

B. System Qualifications:
1. Ballistic-rated glazing installed in this Project shall meet all testing requirements of Underwriters Laboratories UL 752 Testing for Ballistic Resistance at the ballistic level(s) specified.
2. Impact-resistant glazing installed in this Project shall meet testing requirements of ASTM F1233 at the impact-resistant level(s) specified.

C. Source Limitations for Security Glazing:
1. Obtain ballistics-rated glazing from single source manufacturer using the same type of lites, plies, interlayers, and spacers for each glazing type indicated.

2. Obtain impact-resistant glazing from single source manufacturer using the same type of lites, plies, interlayers, and spacers for each glazing type indicated.

D. Glazing Publications: Comply with published recommendations of security glazing and glazing material manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.

1. GANA Publications: GANA's "Laminated Glazing Reference Manual" and GANA's "Glazing Manual."

E. Glass Labeling: Permanently mark glazing with certification label of the manufacturer. Label shall indicate manufacturer's name and ballistic-resistant rating.

1.6 PRE-INSTALLATION MEETING

A. Section 01 31 19 – Project Meetings: Schedule and coordinate pre-installation meeting that includes the trade(s) for the work of this Section and other trades that whose work is related to the work of this Section.

B. Convene minimum one week prior to commencing work of this Section.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Protect security glazing and glazing materials according to manufacturer's written instructions. Prevent damage from condensation, temperature changes, direct exposure to sun, or other causes.

1.8 PROJECT CONDITIONS

A. Environmental Limitations: Do not proceed with glazing when ambient or substrate temperature conditions are outside limits permitted by glazing material manufacturer and when glazing channel substrates are wet from rain, frost, condensation, or other causes.

1. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or below 40-deg. F.

1.9 COORDINATION

A. Coordinate dimensions, including thickness, of security glazing and framing with dimensions of construction that receives security glazing.

1.10 WARRANTY

A. Manufacturer's standard warranty for ballistics-resistant glazing: System manufacturer agrees to replace materials that deteriorate or show defects within specified warranty period. Defects include delamination, interlayer yellowing, or observable loss of light transmission, failure of ballistics-resistance or impact-resistance at specified level(s).

1. Glazing Warranty Period: 5-years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SECURITY GLAZING

A. Manufacturers

1. U.S. Bullet Proofing; www.usbulletproofing.com
2. Ballistic Glass & Armor Solutions, LLC; www.ballisticglassandarmor.com
3. Armortex, Inc., www.armortex.com
4. Insulgard Security Products, www.insulgard.com
5. Oldcastle Building Envelope, www.obe.com
6. Pacific Bulletproof, www.pacificbulletproof.com
7. Substitutions: Section 01 60 00 - Product Requirements.

2.2 DESIGN OF SYSTEMS, GENERAL

A. Glazing Thickness and Layers: Where thickness is indicated, it is a minimum required thickness. Provide glazing in increased thicknesses as needed to comply with requirements indicated.

B. Framing Dimensions: Coordinate with framing contractor to ensure that frames provided have glazing gaps compatible with the proposed glazing thicknesses.
   1. Rabbet depth: 1-1/4”

C. Tempered Glass:
   1. ASTM C1048, Type 1 transparent flat, Quality Q3, Kind FT fully tempered, Condition A uncoated, float glass with horizontal tempering; furnish tempered glass conforming to CPSC 16 CFR 1201 Category II.
   2. Clear Tempered Glass: Class 1 clear.

D. Polycarbonate Sheet: Not applicable.

E. Low-E Coating: ASTM C1376, vacuum deposited, low-E coating applied to No. 2 face of clear glass in insulated panels for exterior glazing.
   1. Basis-of-Design: Guardian SNE50 or approved equivalent as required to meet Energy Code requirements for both clear and colored glass panels.

F. Laminated Units: All-glass laminated with clear polyvinyl butyral interlayer that complies with ASTM C 1349, Appendix X2, and has a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation. Provide laminated units that comply with requirements of ASTM C 1349 for maximum allowable laminating process blemishes and haze.

G. Glazing Sealants
   1. Compatibility: Provide glazing sealants that are compatible with materials they will contact, including glazing channel substrates
   2. VOC Content: For sealants used inside, not more than 250 g/L when calculated according to 40 CFR 59, Subpart D.
   3. Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.

H. Glazing Tapes
   1. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; non-staining and non-migrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and security glazing manufacturers for application indicated; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
      a. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
      b. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure

   2. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:

a. AAMA 810.1, Type 1, for glazing applications in which tape acts as the primary sealant.
b. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

I. Glazing Gaskets: Provided as integral part of aluminum framing system.

J. Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of ballistics-resistant glazing and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.

2.3 SYSTEM TYPES

A. Exterior Insulated Impact-Resistant Glass:
1. **TYPE GL-1**: Dual-pane system ASTM E2190 certified by Insulating Glass Certification Council; with aluminum and silicone edge seal; black edge seal color; purge interpane core space with dry hermetic air.
2. Basis of Design: Hurricane-Rated system manufactured by Guardian or approved equivalent by a specified manufacturer.
3. Total Unit Thickness: 1-5/16” minimum, including nominal 1/2" dry air core.
4. Outer Pane: Clear tempered glass 1/4" thickness with specified low-E coating applied to number 2 surface.
5. Inner Pane: Clear laminated glass consisting of 2-plies of 1/4” heat-strengthened glass bonded together with 0.090 SGP clear interlayer. Pane thickness nominal 9/16".

a. Thermal Performance - Nominal Values:
1) U-Value Winter: 0.29.
2) U-Value Summer: 0.27.
3) Solar Heat Gain Coefficient: 0.23.
4) Light to Solar Gain: 2.22.

b. Optical Performance - Nominal Values:
1) Visible Light Transmittance: 51%.
2) Visible Light Reflectance Outside: 12%.

B. Exterior Insulated Impact-Resistant Colored Glass:
1. **TYPE GL-2** : Same construction and hurricane rating as Type **GL-1**, except interlayer of inner pane is 0.090 SGP color as manufactured by *Vanceva*. Colors to be selected by Architect.

C. Exterior Insulated Impact-Resistant Spandrel Glass:
1. **TYPE GL-3**: Same construction and hurricane rating as Type **GL-1**, except Outer Pane is 1/4" spandrel glass; Type 1, Quality Q3 flat fully tempered clear glass with opaque ceramic coating on number 2 surface. Color to be selected by Architect.

D. Interior Bullet-Resistant Glass:
1. **TYPE GL-6**: Non-insulated, clear, all-glass laminate. Unit is designed to flex and absorb the energy of a bullet.
2. Basis of Design: ***USAW 400*** as manufactured by **U.S. Bullet Proofing** or approved equivalent all-glass laminated unit by a specified manufacturer.
3. Total Thickness: as required to meet Ballistic Resistance performance requirement.
~~4. Total Weight: 12.5 – 14.7 lbs. /ft^2.~~
5. System Performance
a. Ballistic Resistance: **Level 3** per UL 752 for any trajectory or angle to threat side.
b. Designed for conventional installation and glazing methods.
6. Framing System:
a. Material: Ballistic steel or aluminum material, specifically designed and tested to be used with the specified glazing.

b. Construction: Frame shall fully capture the glazing edge in a deep pocket. All joints and connections must be designed to prevent ballistic penetration.
c. Finish: As selected by the Architect from manufacturer's standard range.
d. Setting Blocks, Spacers, and Gaskets: Must be non-absorbent, high-density, and compatible with all glazing and framing components as recommended by the Manufacturer.
e. Sealants: Neutral-cure silicone or other sealant as recommended by the glazing manufactuer for structural and weatherproofing requirements.

E. Exterior Bullet-Resistant Glass:
1. TYPE GL-5: Insulated, clear, all-glass laminate interior pane with 1/2" dry air core and 1/4" glass exterior pane. Unit is designed to flex and absorb the energy of a bullet.
2. Basis of Design: *USAW 400B* as manufactured by U.S. Bullet Proofing or approved equivalent all-glass laminated unit by a specified manufacturer.
3. Total Thickness: as required to meet Insulated and Ballistic Resistance performance requirement.
4. System Performance
a. Ballistic Resistance: Level 3 per UL 752 for any trajectory or angle to threat side.
b. Designed for conventional installation and glazing methods.
5. Thermal Performance - Nominal Values:
a. U-Value Winter: 0.29.
b. U-Value Summer: 0.27.
c. Solar Heat Gain Coefficient: 0.23.
6. Framing System:
a. Material: Ballistic steel or aluminum material, specifically designed and tested to be used with the specified glazing.
b. Construction: Frame shall fully capture the glazing edge in a deep pocket. All joints and connections must be designed to prevent ballistic penetration.
c. Finish: As selected by the Architect from manufacturer's standard range.
d. Setting Blocks, Spacers, and Gaskets: Must be non-absorbent, high-density, and compatible with all glazing and framing components as recommended by the Manufacturer.
e. Sealants: Neutral-cure silicone or other sealant as recommended by the glazing manufactuer for structural and weatherproofing requirements.

2.4 MISCELLANEOUS GLAZING MATERIALS

A. General: Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of security glazing and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.

B. Interior glazing gaskets: preset sponge gasket, closed cell, non-staining EPDM with trim lip and factory molded corners meeting ASTM C509-06 EPDM specifications, Type II Option 1 and C-864-06. Use no PVC material.

C. Setting Blocks: Thermoplastic polyolefin rubber~~; "Santoprene" as manufactured by Exxon Mobile Corp. Type A, durometer hardness of 85, plus or minus 5~~.

D. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.

E. Spacers: Elastomeric blocks or continuous extrusions of hardness required by security glazing manufacturer to maintain glazing units in place for installation indicated.

F. Edge Blocks: Elastomeric material of hardness needed to limit security glazing lateral movement (side walking).

2.5 FABRICATION OF SYSTEMS

A. Fabricate security glazing in sizes required to fit openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine framing for security glazing, with Installer present, for compliance with the following:
1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
2. Minimum required face and edge clearances.
3. Effective sealing within framing members.

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

3.2 PREPARATION

A. Clean glazing channels and other framing members receiving security glazing immediately before glazing. Remove coatings not firmly bonded to substrates.

3.3 GLAZING, GENERAL

A. Comply with combined written instructions of manufacturers of security glazing, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

B. Protect edges of security glazing from damage during handling and installation. Remove damaged security glazing from Project site and legally dispose of off Project site. Damaged security glazing includes units with edge or face damage or other imperfections that, when installed, could weaken security glazing, impair performance, or impair appearance.

C. Apply primers to surfaces where required for adhesion of sealants, as determined by preconstruction testing.

D. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications unless otherwise required by glazing unit manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.

E. Do not exceed edge pressures stipulated by security glazing manufacturers for installing lites.

F. Provide spacers for security glazing lites where the length plus width is larger than 50 inches.
1. Locate spacers directly opposite each other on both inside and outside faces of security glazing. Install correct size and spacing to preserve required face clearances unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with performance requirements.
2. Provide 1/8-inch minimum bite of spacers on glazing lites and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.

G. Provide edge blocking where indicated or needed to prevent security glazing from moving sideways in glazing channel, as recommended in writing by security glazing manufacturer and according to requirements in referenced glazing publications.

H. Set security glazing in each series with uniform pattern, draw, bow, and similar characteristics.

I. Set coated security glazing with proper orientation so that coatings face exterior or interior as specified.

J. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.

K. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

3.4 GASKET GLAZING (DRY):

A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.

B. Insert soft compression gasket securely in place between glazing unit and frame or fixed stop, with joints miter cut and bonded together at corners.

C. Installation with Drive-in Wedge Gaskets: Center security glazing in openings on setting blocks and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in security glazing. Seal gasket joints with sealant recommended by gasket manufacturer.

D. Installation with Pressure-Glazing Stops: Center security glazing in openings on setting blocks and press firmly against soft compression gasket. Install dense compression gaskets and pressure-glazing stops, applying pressure uniformly to compression gaskets. Compress gaskets to produce a weathertight seal without developing bending stresses in security glazing. Seal gasket joints with sealant recommended by gasket manufacturer.

E. Install gaskets so they protrude past face of glazing stops.

3.5 TAPE GLAZING: Not applicable for gasketed frames

3.6 SEALANT GLAZING (WET): Not applicable for gasketed frames.

3.7 PROTECTION AND CLEANING

A. Protect exterior security glazing from damage immediately after installation by attaching crossed streamers to framing held away from glazing unit. Do not apply markers to security glazing surfaces. Remove nonpermanent labels, and clean surfaces.

B. Protect security glazing from contact with contaminating substances resulting from construction operations, including weld splatter. If, despite such protection, contaminating substances do come into contact with security glazing, remove substances immediately as recommended in writing by security glazing manufacturer.

C. Examine security glazing surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of

dirt, scum, alkaline deposits, or stains; remove as recommended in writing by security glazing manufacturer.

D. Remove and replace security glazing that is broken, chipped, cracked, or abraded or that is damaged from natural causes, accidents, or vandalism during construction period.

E. Wash security glazing on exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash security glazing as recommended in writing by security glazing manufacturer.

END OF SECTION

SECTION 09 21 16 - GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:
1. Metal stud wall framing.
2. Metal channel ceiling framing.
3. Gypsum board and joint treatment.
4. Rated shaft wall assemblies.
5. Impact-Resistant gypsum board.
6. Glass mat gypsum sheathing board.
7. Acoustic insulation and sealant.
8. **Cement board at exterior adhered stone masonry.**

B. Related Sections:
1. **Section 04 43 00 – Adhered Stone Masonry.**
2. Section 05 40 00 - Cold-Formed Metal Framing.
3. Section 06 10 53 - Miscellaneous Rough Carpentry: Wood blocking attached to metal stud framing.
4. Section 08 31 13 - Access Doors and Frames: Metal access panels.

1.2 REFERENCES

A. ASTM International:
1. ASTM C475 - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
2. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members.
3. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
4. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.
5. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board.
6. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness.
7. ASTM C1002 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases.
8. ASTM C1178 - Standard Specification for Glass Mat Water-Resistant Gypsum Backing Panel.
9. ASTM C1280 - Standard Specification for Application of Gypsum Sheathing.
10. ASTM C1396/C1396M - Standard Specification for Gypsum Board.
11. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
12. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
13. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

B. Gypsum Association:
1. GA 214 - Recommended Levels of Gypsum Board Finish.
2. GA 216 - Application and Finishing of Gypsum Board.
3. GA 600 - Fire Resistance Design Manual Sound Control.

C. Intertek Testing Services (Warnock Hersey Listed):
1. WH - Certification Listings.

D. Underwriters Laboratories Inc.:
1. UL - Fire Resistance Directory.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit data on metal framing, gypsum board, cementitious backer board, glass mat sheathing, joint materials, acoustic insulation and sealant, and fasteners.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with ASTM C840.

B. Fire Rated Wall and Ceiling Construction: Rating as indicated on Drawings, tested in accordance with ASTM E119.
   1. Fire Rated Ceilings and Partitions: Listed assembly by UL, WH, or GA.
   2. Fire Rated Shaft Wall Requirements: Listed assembly by UL, WH, or GA.

C. Environmental Limitations: Comply with ASTM C840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years' experience.

B. Installer: Company specializing in performing Work of this section with minimum three years' experience.

1.6 PRE-INSTALLATION MEETING

A. Section 01 31 19 – Project Meetings: Schedule and coordinate pre-installation meeting that includes the trade(s) for the work of this Section and other trades that whose work is related to the work of this Section.

B. Convene minimum one week prior to commencing work of this Section.

PART 2 - PRODUCTS

2.1 FRAMING MATERIALS

A. Manufacturers:
   1. ClarkDietrich Building Systems, www.clarkdietrich.com.
   2. General Rolling Mills., www.generalrollingmills.com.
   3. Marino\Ware, www.marinoware.com.
   4. Phillips Manufacturing, www.phillipsmfg.com.
   5. Substitutions: Section 01 60 00 - Product Requirements.

B. Studs: ASTM C645, galvanized sheet steel, C shape, 25 gage thick, depth as indicated.
   1. Furnish 20 gage studs at the following locations:
      a. Studs framing doors.
      b. Walls finished with tile.
      c. Walls finished with abuse resistant gypsum board.
      d. Studs supporting wall-mounted accessories and TV brackets.

C. Tracks: ASTM C645, galvanized sheet steel, depth and thickness to match studs.

D. Deep-Leg Deflection Track: ASTM C645, with 2-inch deep flanges, thickness to match studs.

E. Grid Suspension System for Interior Ceilings: ASTM C645, direct-hung system composed of main beams and interlocking cross-furring members.
   1. Manufacturers:
      a. Armstrong World Industries, Inc.; Furring Systems/Drywall.
      b. USG Interiors, Inc.; Drywall Suspension System.

F. Furring, Framing, and Accessories: ASTM C645.

G. Fasteners: ASTM C1002; Type S; length to suit application.

H. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

I. Suspension Wire: ASTM A641/A641M, Class 1 zinc coating, soft temper, 0.0625 inch diameter wire, or double strand of 0.0475 inch diameter wire.

2.2 GYPSUM BOARD MATERIALS

A. Manufacturers:
1. American Gypsum Co., www.americangypsum.com.
2. Georgia-Pacific Gypsum, www.gp.com
3. National Gypsum Company, www.nationalgypsum.com
4. Temple-Inland Inc., www.templeinland.com
5. USG Corporation www.usg.com

B. General: All specified types shall meet the following requirements unless otherwise noted:
1. Conform to ASTM C1396 section 5 (C 36), Grade X fire- resistant.
2. Ends square cut, tapered long edges wrapped.
3. 5/8” gypsum core faced and edge-wrapped with mold and moisture resistant 100% recycled paper.
4. Surface Burning Characteristics per ASTM E 84:
   a. Flame Spread = 0
   b. Smoke Developed = 0.
5. Intended for interior applications only.

C. Typical Gypsum Board Panels:
1. Basis of Design: FireBloc® Type X as manufactured by American Gypsum or approved equivalent by specified manufacturer.
2. Use throughout the interior of the Project except for specialized uses and locations requiring other panel types as indicated below.

D. Moisture-Resistant Gypsum Board:
1. Basis of Design: AquaBloc® Type X as manufactured by American Gypsum or approved equivalent by specified manufacturer.
2. 5/8” water-resistant gypsum core faced with mold and moisture resistant 100% recycled green-color paper
3. Water Absorption: Less than 5% per ASTM 1396.
4. Use at restrooms, shower rooms, custodial rooms and other areas subject to high moisture. Where board is not surfaced with tile, prepare for finish painting.
   a. Behind wall tile.
   b. Toilet room walls not receiving cementitious backer board.

E. Impact-Resistant Gypsum Board:
1. Basis of Design: M-Bloc® IR Type X Impact-Resistant board as manufactured by American Gypsum or approved equivalent by specified manufacturer.
2. 5/8” abuse, fire, mold and moisture-resistant fiberglass mesh reinforced gypsum core faced with mold and moisture resistant 100% recycled blue-color paper, and brown paper backing. fiberglass mesh fabric embedded into the core adjacent to the back of the panel to provide additional impact and penetration resistance
3. Abrasion-Resistance: Level 3 per ASTM C1629.
4. Indentation-Resistance: Level 1 per ASTM C1629.
5. Water Absorption: Less than 5% per ASTM 1396.
6. Use at locations as indicated in the drawings.

F. Fire Rated Assemblies:

1. Furnish one of the Type X panels specified above that meet the requirements for the specified fire rated assembly as well as the respective use and location requirements for Typical or Moisture-Resistant panels.

2. Furnish Type C gypsum board panels only where specifically indicated or where otherwise required for the indicated fire rated assembly.
   a. Basis of Design: FireBloc® Type C as manufactured by American Gypsum or approved equivalent by specified manufacturer.
   b. 5/8” Type X gypsum core with enhanced fire-resistant properties.

2.3 CEMENTITIOUS BACKER BOARD

A. Manufacturers:
   1. Custom Building Products; Wonderboard Cement Backerboard.
   2. FinPan, Inc.; Util-A-Crete Concrete Backer Board.
   3. National Gypsum Company; PermaBase Cement Board.
   4. USG Company; DUROCK Cement Board.

B. Cementitious Backer Board: ASTM C1325; High density, glass fiber reinforced, 1/2 inch thick; 24 inch wide, coated glass fiber tape for joints and corners.
   1. All shower walls.
   2. Wet walls behind lavatories, toilets, and urinals, and side walls adjacent to these fixtures.

2.4 GLASS MAT GYPSUM SHEATHING BOARD

A. Manufacturers:
   1. GlasRoc; BPB America Inc., www.glasroc.com.
   2. Dens-Glass Gold, Georgia-Pacific Gypsum, www.gp.com.
   3. GreenGlass, Temple-Inland, Inc., www.templeinland.com.
   4. Securock, USG Corporation, www.usg.com.

B. Glass-Mat Gypsum Sheathing Board: ASTM C1177/C1177M, paperless, with glass mat facing on, or embedded into, each side of a water-resistant gypsum core; 48 x 96 inch size, 1/2 inch thick.

C. Fasteners: ASTM C954; steel drill screws, in length recommended by sheathing manufacturer for thickness of sheathing board to be attached, with organic-polymer or other corrosion-protective coating having a salt-spray resistance of more than 800 hours according to ASTM B117.

2.5 ACCESSORIES

A. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced, thickness to match studs.
   1. If required by fire-resistance requirements for fire rated walls, furnish mineral fiber insulation complying with ASTM C665, Type I.

B. Acoustic Sealant: Non-hardening, non-skinning, for use in conjunction with gypsum board.

C. Gypsum Board Accessories: ASTM C1047; galvanized steel, aluminum coated steel, or rolled zinc; corner beads, edge trim, and expansion joints.
   1. Furnish Type LC bead at exposed panel edges.
   2. Furnish rolled zinc material at exterior locations.

D. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.

E. Joint Materials: ASTM C475; reinforcing tape, joint compound, and water.

F. Gypsum Board Screws: ASTM C1002, Type S; length to suit application.
   1. Use screws complying with ASTM C954 for fastening panels to cold formed metal framing specified in Section 05 40 00.
   2. Use screws recommended by manufacturer for fastening cementitious backer board to metal framing.

G. Knee-Wall Bracing

1. 2” x 2” x 1/8” wall steel tube fully-welded to 3-1/2” x 5” deep x 1/4” thick steel base plate with (4) pre-punched mounting holes.
2. Product: *SKB Knee Brace Kit* as manufactured by Softforms, www.kneewall.com, or approved equivalent.
3. Fasteners: 3/8” x 3-1/2” long expansion bolts as recommended by the manufacturer. Use (4) bolts per mounting plate.
4. Height: Fabricate or job-cut height of brace tube to be no lower than 2” below knee-wall height.
5. Spacing: Install braces at 48” maximum within low stud walls and fasten one metal stud on each side of brace using self-tapping screws at nominal 6” centers vertically.

H. End-Wall Trim
1. Where indicated provide prefinished aluminum end-wall trim at walls terminating on window mullions.
2. Type: *Cased Jamb* RN303 with RN425 caps as manufactured by Raco Interior or approved equivalent. Sized for scheduled wall finish thickness.
3. Finish: Anodized to match window system mullions.

I. Preformed Aluminum Reveals – Provide at transition of VWC and painted drywall:
1. Type: 6063 T5 alloy extruded aluminum open reveal *Deco SG* as manufactured by Schluter or approved equivalent by Fry.
2. Size(s): Reveal size 5/8” deep x 1/2” high or as indicated in the drawings.
3. Finish: Clear anodized aluminum.

2.6 GYPSUM BOARD SHAFT WALLS

A. General:
1. Provide gypsum board shaft-wall assemblies capable of withstanding the full air-pressure loads indicated for maximum heights of partitions without failing and while maintaining an airtight and smoke-tight seal. Evidence of failure includes deflections exceeding limits indicated, bending stresses causing studs to break or to distort, and end-reaction shear causing track (runners) to bend or to shear and studs to become crippled.
2. Fire-Resistance-Rated Assemblies: Provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction

B. Intermittent Air-Pressure Loads: 5 lbf/sq. ft. (0.24 kPa).

C. Deflection Limit: L/240.

D. Studs: Manufacturer's standard profile for repetitive members and corner and end members and for fire-resistance-rated assembly indicated.
1. Depth: As indicated.
2. Minimum Base Metal Thickness: Manufacturer's standard thicknesses that comply with structural performance requirements for stud depth indicated.

E. Track (Runner): Manufacturer's standard J-profile track with long-leg length as standard with manufacturer, but at least 2 inches (51 mm), in depth matching studs.
1. Minimum Base Metal Thickness: Manufacturer's standard thicknesses that comply with structural performance requirements for stud depth indicated.

F. Jamb Struts: Manufacturer's standard J-profile strut with long-leg length of 3 inches (76.2 mm), in depth matching studs, and not less than 0.0329 (0.84 mm) thick.

G. STC Rating: As indicated.

H. Cavity Insulation: Sound attenuation blankets.

2.7 CEMENT BOARD at THIN MASONRY APPLICATIONS

A. Manufacturers:

1. **National Gypsum Company*; PermaBase* Cement Board.**
2. **USG Company; *DUROCK* Cement Board.**

B. Cementitious Backer Board: ASTM C1325; High density, glass fiber reinforced, 5/8-inch thick; coated glass fiber tape for joints and corners.
1. **Membrane: Install #15 asphalt saturated felt directly behind cementitious backer board, overlapping joints 4"-6":**

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify site conditions are ready to receive work and opening dimensions are as indicated on drawings.

3.2 PREPARATION

A. Suspended Assemblies: Coordinate installation of suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive hangers at spacing required to support the Work and that hangers will develop their full strength.
1. Suspend overhead framing from structural members or floor slabs only; do not suspend members from steel roof decks.

B. Coordination with Sprayed Fire-Resistive Materials:
1. Before sprayed fire-resistive materials are applied, attach offset anchor plates or ceiling tracks to surfaces indicated to receive sprayed-on fire-resistive materials. Where offset anchor plates are required, provide continuous plates fastened to building structure not more than 24 inches o.c.
2. After sprayed fire-resistive materials are applied, remove them only to extent necessary for installation of gypsum board assemblies and without reducing the fire-resistive material thickness below that which is required to obtain fire-resistance rating indicated. Protect remaining fire-resistive materials from damage.

3.3 INSTALLATION

A. Metal Stud Installation:
1. Install studs in accordance with ASTM C754.
2. Metal Stud Spacing: 16 inches on center.
   a. Install studs 12 inches on center behind wall tile and elsewhere where indicated.
3. Refer to Drawings for indication of partitions extending stud framing through ceiling to structure above. Maintain clearance under structural building members to avoid deflection transfer to studs. Install deflection track at tops of walls to avoid axial loading.
4. For fire-resistance-rated and STC-rated partitions that extend to the underside of floor/roof slabs and decks or other continuous solid-structure surfaces to obtain ratings, install framing around structural and other members extending below floor/roof slabs and decks as needed to support gypsum board closures and to make partitions continuous from floor to underside of solid structure.
5. Do not bridge building expansion joints with framing or furring members. Frame both sides of joints independently.
6. Door Opening Framing: Install double studs at door frame jambs.
7. Blocking: Install blocking for support of plumbing fixtures, toilet partitions, wall cabinets, toilet accessories, and other wall-mounted items.
8. Where studs are installed directly against exterior walls, install asphalt-saturated felt isolation strip between studs and wall.

B. Curved Partitions:

1. Frame curved partitions to comply with GA-226 and with gypsum board manufacturer's applicable written recommendations, unless otherwise indicated.
2. Cut top and bottom tracks through leg and web at 2 inch intervals for arc length. In cutting lengths of track, allow for uncut straight lengths of not less than 12 inches at ends of arcs.
3. Bend track to uniform curve and locate straight lengths so they are tangent to arcs.
4. Support outside (cut) leg of track by clinching steel sheet strip, 1-inch high-by-thickness of track metal, to inside of cut legs using metal lock fasteners.
5. Begin and end each arc with a stud, and space intermediate studs equally along arcs at stud spacing recommended in writing by gypsum board manufacturer for radii indicated. On straight lengths of not less than 2 studs at ends of arcs, place studs 6 inches o.c.

C. Suspended Framing Installation:
1. Install suspension system components in sizes and spacings indicated on Drawings, but not less than those required by referenced installation standards for assembly types and other assembly components indicated.
2. Isolate suspension systems from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.
3. Suspend hangers from building structure as follows:
   a. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.
   b. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
   c. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.
4. Wire Hangers: Secure by looping and wire tying, either directly to structures or to inserts, eye screws, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause hangers to deteriorate or otherwise fail.
5. Flat Hangers: Secure to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.
6. Do not attach hangers or suspend members from steel roof deck.
7. Do not attach hangers to rolled-in hanger tabs of composite steel floor deck.
8. Do not connect or suspend steel framing from ducts, pipes, or conduit.
9. Laterally brace entire suspension system.
10. Grid Suspension Systems:
    a. Install grid suspension system in accordance with manufacturer’s instructions
    b. Attach perimeter edge angle where ceiling system meets vertical surfaces
    c. Mechanically join main beam and cross furring members to each other and butt-cut to fit into wall track.

D. Exterior Soffit Framing Installation:
1. Install in accordance with ASTM C754.
2. Coordinate location of hangers with other work.
3. Install soffit framing independent of walls, columns, and above soffit work.
4. Reinforce openings in suspension system which interrupt main carrying channels or furring channels, with lateral channel bracing. Extend bracing minimum 24 inches past each end of openings.
5. Do not attach hangers to steel deck tabs.
6. Do not attach hangers to steel roof deck. Attach hangers to structural members.
7. Do not connect or suspend steel framing from ducts, pipes, or conduit.
8. Brace system to resist lateral loads and wind uplift. Provide cross-bracing and

additional framing required to resist wind uplift for design loads of 20 psf inward and outward.

E. Interior Ceiling Framing Installation:
1. Install grid suspension system in accordance with manufacturer's instructions.
2. Laterally brace entire suspension system to building structure.
3. Install acoustic sealant between tops of partitions and bottom of ceiling board.

F. Gypsum Board Installation:
1. Install gypsum board in accordance with ASTM C840.
2. Erect single layer gypsum board in most economical direction, with ends and edges occurring over firm bearing.
   a. At fire-rated partitions, erect single layer gypsum board vertically, with edges and ends occurring over firm bearing.
3. Double Layer Applications: Place second layer parallel with first layer. Offset joints of second layer from joints of first layer. Stagger joints on opposite sides of partition.
4. Cover both faces of stud framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
5. Erect ceiling board panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in the central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
6. STC-Rated Assemblies: Seal construction at perimeters, behind control and expansion joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C919 and manufacturer's instructions for locating edge trim and closing off sound-flanking paths around or through gypsum board assemblies, including sealing partitions above acoustical ceilings.
7. Place acoustic insulation in partitions tight within spaces, around cut openings, behind and around electrical and mechanical items within or behind partitions, and tight to items passing through partitions.
8. Install acoustic sealant where indicated.
9. Seal penetrations of partitions by conduit, pipe, duct work, rough-in boxes, and.
10. Erect glass mat gypsum sheathing in accordance with ASTM C1280, horizontally, with edges butted and ends occurring over firm bearing.
11. Use screws when fastening gypsum board to metal furring or framing.
12. Place control joints consistent with lines of building spaces as indicated on Drawings. as directed.
13. Place corner beads at external corners as indicated on Drawings. Use longest practical length. Place edge trim where gypsum board abuts dissimilar materials.
14. Install cementitious backer board in the following locations:
    a. Shower walls.
    b. Rear and side walls (wet walls) adjacent to lavatories, toilets, and urinals.
15. Install moisture resistant gypsum board in the following locations:
    a. Behind wall tile.
    b. Toilet room walls not receiving cementitious backer board.
16. Install abuse resistant gypsum board in corridors within 4 feet of floor.
17. Apply gypsum board to curved walls in accordance with GA-216.

G. Joint Treatment:
1. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
2. Feather coats on to adjoining surfaces so that camber is maximum 1/32 inch.
3. Finish cementitious backer board in accordance with manufacturer's instructions.

H. Shaft Wall Assemblies
1. Install gypsum board shaft-wall assemblies to comply with requirements of fire-resistance rated assemblies indicated, manufacturer's written installation instructions, and ASTM C 754 for installing steel framing.
2. Install supplementary framing in gypsum board shaft-wall assemblies around openings

and as required for blocking, bracing, and support of gravity and pullout loads of fixtures, equipment, services, heavy trim, furnishings, and similar items that cannot be supported directly by shaft-wall assembly framing.

3. Where handrails directly attach to gypsum board shaft-wall assemblies, provide galvanized steel reinforcing strip with 0.0312 inch (0.79 mm) minimum thickness of base (uncoated) metal, accurately positioned and secured behind at least 1 face-layer panel.
4. At penetrations in shaft wall, maintain fire-resistance rating of shaft-wall assembly by installing supplementary steel framing around perimeter of penetration and fire protection behind boxes containing wiring devices, elevator call buttons, elevator floor indicators, and similar items.
5. Isolate gypsum finish panels from building structure to prevent cracking of finish panels while maintaining continuity of fire-rated construction.
6. Seal gypsum board shaft walls with acoustical sealant at perimeter of each assembly where it abuts other work and at joints and penetrations within each assembly. Install acoustical sealant to withstand dislocation by air-pressure differential between shaft and external spaces; maintain an airtight and smoke-tight seal; and comply with manufacturer's written instructions or ASTM C 919, whichever is more stringent.
7. In elevator shafts where gypsum board shaft-wall assemblies cannot be positioned within 2 inches (51 mm) of the shaft face of structural beams, floor edges, and similar projections into shaft, install 1/2 or 5/8 inch (12.7 or 15.9 mm) thick, gypsum board cants covering tops of projections.
    a. Slope cant panels at least 75 degrees from horizontal. Set base edge of panels in adhesive and secure top edges to shaft walls at 24 inches (610 mm) o.c. with screws fastened to shaft-wall framing.
    b. Where steel framing is required to support gypsum board cants, install framing at 24 inches (610 mm) o.c. and extend studs from the projection to the shaft-wall framing.

I. Marking of Fire Rated and Smoke Stop Partitions: All fire-rated partitions, smoke stop partitions, horizontal exit enclosures, and fire walls must be permanently marked above ceilings as follows: "FIRE AND SMOKE BARRIER - PROTECT ALL OPENINGS". Letters shall be minimum 2 1/2" in height and painted red. Provide one time per structural bay.

3.4 ERECTION TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum Variation of Finished Gypsum Board Surface from Flat Surface: 1/8 inch in 10 feet.

3.5 FIELD QUALITY CONTROL

A. Above-Ceiling Observation: Before Contractor installs gypsum board ceilings, Architect shall conduct an above-ceiling observation and report deficiencies in the Work observed. Do not proceed with installation of gypsum board to ceiling support framing until deficiencies have been corrected.

B. Notify Architect seven days in advance of date and time when Project, or part of Project, is to be ready for above-ceiling observation.

C. Before notifying Architect, complete the following in areas to receive gypsum board ceilings:
    1. Installation of 80 percent of lighting fixtures, powered for operation.
    2. Installation, insulation, and leak and pressure testing of water piping systems.
    3. Installation of air-duct systems.
    4. Installation of air devices.
    5. Installation of mechanical system control-air tubing.
    6. Installation of ceiling support framing.

3.6 SCHEDULES

A. Finishes in accordance with GA-214 Level:

1. **Level 1:** Embed tape at joints in ceiling plenum areas, concealed areas, on portions of walls above ceilings between the ceilings and the tops of walls and where indicated, unless a higher level of finish is required for fire-resistance-rated assemblies and sound-rated assemblies.

2. **Level 2:** Embed tape and apply first coat of joint compound to tape, fasteners, and trim flanges where panels are substrate for tile.

3. **Level 3:** Embed tape and apply separate first and fill coats of joint compound to tape, fasteners, and trim flanges where panels are substrate for medium or heavy textures or heavy-grade wallcoverings. Verify with wallcovering installer that gypsum board finish is acceptable for wallcovering application.

4. **Level 4** (Standard Finish): Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges where panels are substrate for light textures, flat paints, or standard vinyl wallcoverings.

5. **Level 5:** Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges, and apply skim coat of joint compound over entire surface where panels are substrate for gloss or semi-gloss paints.
   a. Provide at drywall panels in high-level natural or artificial lighting areas such as near glazed entries, clerestory windows, or down-lighting mounted on or near walls.
   b. Provide at drywall panels scheduled to receive dry-erase coatings or wall coverings to be used as dry-erase marker surfaces.

END OF SECTION

SECTION 32 01 90 – OPERATION & MAINTENANCE OF PLANTING

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Subject to the General and Special Conditions, this Section includes furnishing all labor, materials and equipment necessary to provide a landscape maintenance program including:

1. Running, monitoring, adjustments (both seasonal and plant needs based) and repair to the irrigation system.
2. Watering trees, shrubs and grass areas.
3. Replacement of plants that die.
4. Mowing and edging of school landscaping but not athletic fields.
5. Monitoring, weeding, and cultivating of plant material.
6. Application of organic fertilizers, insecticides, and herbicides.
7. General site clean up; removal of trash and products of maintenance.
8. Tree stakes and supports shall be removed by the District at a later date. Contractor shall not be responsible for this work.

B. Application of herbicides and pesticides on school facilities is heavily regulated by Texas Department of Agriculture Commercial Applicator. The landscape maintenance contractor shall meet with the school district's IPM (Integrated Pest Management) coordinator prior to the first day of school to discuss responsibilities and methods for complying with TDA documentation and regulation requirements.

C. Excluded: The football and practice fields are not a part of this scope.

1.02 EXTRA SERVICES

A. All services not covered under this contract shall be considered "extra services" and will be charged for separately according to the nature of the item of work. The consent and authorization of the Owner or their authorized representative must be obtained prior to the performance or installation of such "extra services" items and prior to purchase of any chargeable materials.

B. Such work may include by-products of vandalism or other site related work.

1.03 MAINTENANCE REQUIREMENTS

A. Maintenance period shall begin upon satisfactory completion of punch list items generated from the Substantial Completion Review for the installation of the project and after the 60 day grow-in maintenance period. The Contractor shall continue to maintain all landscape items including turf, trees, shrubs, groundcover and all underground irrigation for a period of 12 months.

B. Watering: Contractor is responsible for all watering (irrigation system operations and maintenance, adjustments, hand watering or temporary irrigation system). Watering shall consist of determining the plant watering requirements, adjustment of schedule and duration for coverage and elevation, and all other work required to maintain living plant material.

C. Trees, Shrubs, Groundcovers and Grass: Maintenance of new planting shall consist of watering, mowing, edging, cultivating, weeding, removal of undesirable volunteer plants, reseeding, mulching, re-staking, re-placing plants, tightening and repairing of guys, resetting plants to proper grades or upright position, restoration of the planting saucer and furnishing and applying such organic fertilizers, sprays and invigorates as are necessary to keep the plantings free of insects and disease and in thriving condition.

1.04 PROTECTION:

A. Protect planting areas against damage of all kinds during the period that the GC is on site. Maintenance may include temporary protection fences, barriers, and signs as required for protection. If any plants become damaged or injured because sufficient protection was not provided, treat or replace them as directed by the Owner at no additional cost to the Owner.

1.05 NEGLECT AND VANDALISM:

A. All plant material that is damaged or killed due to contractors operations, negligence or chemicals shall be replaced at no expense to the Owner. If plant damage or death is caused by conditions beyond the contractor's control, replacement shall be at the Owner's expense, but will need written authorization prior to replacement.

B. All water damage, either natural or man-made, resulting from contractor's neglect shall be corrected at the contractor's expense.

C. All damage to or thefts of landscaping not caused or allowed by the contractor shall be corrected by the contractor at the Owner's expense upon receipt of written authorization to proceed.

1.06 EMERGENCIES

A. Answer emergency or complaint calls regarding conditions in landscaped areas regarding fallen trees, broken water lines or other urgent site conditions and correct the problem or place warning signs and advise the Owner of the need for major work to be performed within 24 hours of the initial contact.

1.07 FINAL ACCEPTANCE

A. Work under this Section will be accepted by Owner’s representative upon satisfactory

completion of all work, including maintenance, but exclusive of any required replacement of plant materials. Upon the final acceptance, the Owner will assume responsibility for maintenance of the work.

B. Plant material shall all be in healthy vigorous condition with no signs of stress or declining health.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Materials required for installed items shall match those already in use including MicroLife organic fertilizer.

2.02 REQUIRED EQUIPMENT

A. Contractor shall furnish the following equipment:

1. Riding lawn mowers
2. Push lawn mowers
3. Gasoline powered edgers
4. Line trimmers
5. Miscellaneous hand tools, trimmers, pruners, rakes, brooms, etc.
6. Blowers
7. Others as needed

PART 3 - EXECUTION

3.01 WATERING

A. It shall be the responsibility of the Contractor to assure that the correct watering of plant materials is being accomplished through the following irrigation services:

1. Regular watering to all new trees.
2. Regular watering to the shrubs, perennials, ornamental grasses and sodded lawns.
3. All adjustments for water delivery and all repair of the irrigation system for any and all damage to the system during the course of the maintenance period.
4. Seasonally adjusting the irrigation controller.

B. The irrigation system will be thoroughly inspected once per month. Check clock setting, clock operation, head elevation and coverage, valve function, vacuum breaker, and verify that all heads are intact and secure. Contractor to repair any issues that he finds.

3.02 MAINTENANCE OF SODDED LAWN AND HYDROMULCH

A. Reseed areas as needed to get hydromulch areas growing and water.

B. The Contractor will be responsible for replacing soils that have eroded. Residual soils will be removed and if not mingled with objectionable materials, may be re-used in eroded areas.

C. Immediately upon observing any undesirable volunteer plants or seedlings, contractor shall promptly remove. The Contractor shall initiate a program of mechanical removal and maintain this program throughout the maintenance period.

D. Special effort shall be given to the control of fire ants infesting the site. After control is accomplished, the ant mounds shall be lowered and tamped to the existing grade.

E. Removal of debris from the site unrelated to horticultural maintenance (paper, bottles, cans, "Pirate" signs, etc.) and construction debris shall be the responsibility of the maintenance Contractor. Frequency shall be as per Landscape Maintenance Program.

F. Sod lawn areas shall be mowed and edged as a part of this section. Frequency shall be as per Landscape Maintenance Program. No mowing within 75’-100’ of children outside on site and no mowing during SCHOOL ZONE hours at drop off and pick up.

3.03 MAINTENANCE OF TREES, SHRUBS and GROUNDCOVERS

A. Contractor shall adjust and tighten as required all tree staking and guying. Removal will be performed by the Owner when deemed necessary.

B. Contractor shall deep water all new trees until there are definite signs the trees have established themselves and are pushing out new growth.

C. Contractor shall trim broken branches and trunk suckers from trees and shrubs. All pruning equipment shall be sharp and clean.

PART 4 - MAINTENANCE FREQUENCY SCHEDULE

4.01 MAINTENANCE OPERATIONS

Minimum Number of Visits per Month
January 2
February 2
March 4
April 4
May 4
June 4
July 4
August 4
September 4
October 3

November 3
December 2

4.02 TOPDRESS FERTILIZER

A. Sixty (60) days prior to expiration of 12 month maintenance obligation.

4.03 MULCHING, WEED CONTROL AND GUYING ADJUSTMENT

A. As required at each visit.

B. Add fresh mulch 30 days (30) prior to the expiration of 12 month maintenance obligation.

4.04 TRASH AND DEBRIS REMOVAL

A. Collect all trash and debris at each visit and dispose of off site.

END OF SECTION 32 01 90

SECTION 32 18 16 – SYNTHETIC TURF SURFACING FOR PLAYGROUND
REPLACED ENTIRELY BY ADDENDUM #01

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Synthetic turf surfacing, including artificial turf, subbase preparation and placement of aggregate base course, and turf infill.

B. Related Sections
1. Division 32 Section "Aggregate Base Course for Synthetic Turf Surfacing.
2. Division 33 Section "Subdrainage" for piping and drainage course serving as subbase for synthetic turf surfacing.

1.2 REFERENCES

A. ASTM International (ASTM): www.astm.org:
1. ASTM D1335 - Test Method for Tuft Bind of Pile Yarn Floor Coverings.
2. ASTM D2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials.
3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
4. ASTM E108 - Standard Test Methods for Fire Tests of Roof Coverings.
5. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.
6. ASTM F1015 - Standard Test Method for Relative Abrasiveness of Synthetic Turf Playing Surfaces.
7. ASTM F1292 - Standard Specification for Impact Attenuation of Surfacing Materials Within the Use Zone of Playground Equipment.
8. ASTM F1951 - Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment.

B. International Play Equipment Manufacturers Association (IPEMA): www.ipema.org.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Conference: Conduct conference at Project site following award of contract. Review methods and procedures related to synthetic turf surfacing installation including, but not limited to the following:
1. Review survey of subbase conditions.
2. Review delivery, storage, and handling procedures.

1.4 ACTION SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

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

C. Shop Drawings: Provide installation details including roll and seaming layout, methods of attachment and details at penetrations and terminations.
1. Show layout of marking plan (where indicated), indicating details for specified activity areas.

D. Samples: For each type of synthetic turf surfacing indicated.

1. Minimum 12-by-12-inch- square sample of synthetic turf surface with tufted perimeter line and carpet seam.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer.

B. Installation Schedule: Showing planned commencement and completion dates for each portion the Work; include critical dates indicated on Project Schedule.

C. Warranty: Sample of manufacturer's warranty as specified herein.

1.6 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. Seaming Materials: Sufficient quantity for 100 sq. ft.
2. Synthetic Turf Fiber: Sufficient quantity for 100 sq. ft.
3. Infill Material: Sufficient quantity for 100 sq. ft., in weatherproof bags.

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications: A firm experienced in manufacturing synthetic turf surfacing materials similar to those specified for this project, with a record of successful service for a minimum of 5 years.

B. Installer Qualifications: An experienced Installer certified by the manufacturer, employing workers trained and approved by manufacturer, who has successfully installed work similar in design and extent to that required for this Project, in not less than 5 projects of similar scope.

C. Source Limitations: Obtain synthetic turf surfacing materials through one source from a single manufacturer.
1. Provide secondary materials including adhesives, paint, thread, and repair materials of type and from source recommended by manufacturer of synthetic turf surfacing materials.

1.8 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit synthetic turf surfacing installation to be performed according to manufacturers' written instructions and warranty requirements.

1.9 COORDINATION

A. Coordinate installation of synthetic turf surfacing with installation of site paving, playground equipment, adjacent lawns, landscaping materials, site lighting, and related work

1.10 WARRANTY

A. Reference Section 01 70 00 - Execution and Closeout Requirements: Product warranties and product bonds.

B. Manufacturer's Warranty: Submit manufacturer's standard published limited warranty form in which manufacturer agrees to repair or replace components of synthetic turf surfacing installation installed by relief, within specified warranty period:
1. Failures include ultraviolet degradation, backing integrity, more than 50-percent loss of face fiber, and loss of tuft bind strength.
2. Warranty Period: Life of product.

C. Installer Project Warranty: Submit synthetic turf surfacing Installer's warranty, signed by

Installer, covering the Work of this Section, including installation of all components of synthetic turf surfacing system, for the following warranty period:
1. Warranty Period: Two years from date of Substantial Completion of the Project.

1.11 PERFORMANCE REQUIREMENTS

A. Certification: Provide synthetic turf surfacing system with safety performance testing certified by IPEM.

B. Shock Attenuation Value: Provide synthetic turf system with G-max value not exceeding 200 and Head Injury Criteria (HIC) not exceeding 1,000 in accordance with ASTM F 1292, based upon application and fall height indicated on Drawings.

C. Fire-Test-Response Characteristics: Provide products with the critical radiant flux classification indicated in Part 2, as determined by testing identical products per ASTM E648 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

D. Exterior Fire-Test Exposure: Provide synthetic turf surfacing materials identical to those of assemblies tested for Class A fire resistance according to ASTM E108 or UL 790 by Underwriters
Laboratories or another testing and inspecting agency acceptable to authorities having jurisdiction.

E. Accessibility Requirements: Comply with applicable provisions in [the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities and ICC A117.1 for recreation surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. SYNLawn, www.synlawn.com

B. Substitutions: Refence Section 01 60 00 - Product Requirements.

2.2 SYSTEM

A. *SYNTipede 321* As manufactured by SYNLawn and locally distributed/installed by McKenna Contracting, Inc., www.mckennacontracting.net .

1. Source Limitations: Reference 1.7C above.

B. System Description: Complete synthetic turf surfacing system, consisting of delustered UV-stabilized antimicrobial synthetic yarns bound to water-permeable bio-based primary and secondary backing. IPEMA-certified. Non-abrasive blades with low surface temperature. Anti-Static and Ultra Violet reflective pigment-enhanced.

C. Components

1. Artificial Turf Fiber and Construction Characteristics:
   a. Yarn, Turf Zone: Tufted polyethylene, high-emissivity omega shape.
      1) Color: Field green + apple.
      2) Denier, ASTM D1577: 10,800/6.
      3) Antimicrobial Protection: Sanitized®
      4) Antistatic Protection: StatBlock™
      5) IR Reflective: DualChill™
   b. Yarn, Thatch Zone: Polyethylene.
      1) Color: Field green + beige.

2) Denier: 5,000/8.

c. Finished Pile Height, ASTM D5823: 1 inch.

d. Face Weight, ASTM D5848: 60 oz/sq. yd.

e. Tuft Machine Gauge: 3/8 inch.

f. Backing, Primary: 6 oz./sq. yd. 15/18 polypropylene, 2 layers with fiber-reinforcing core.

g. Backing, Secondary: 22 oz. /sq. yd. bio-based urethane.
1) Enviroloc+™ Anti Fungi and Anti Algae blended into secondary backing.

h. Total Weight: 108 oz./sq. yd.

i. Infill: Silica sand ballast.

j. Temperature-Reducing Infill: Silica sand and moisture-retaining coated sand ballast.

D. Performance Characteristics
1. Tuft Bind, ASTM D1335: Not less than 8 lb.
2. Grab tear strength, ASTM D5034: Not less than 200 lbf.
3. Elongation to break, ASTM D2256: Not less than 30 percent.
4. Yarn breaking strength, ASTM D5793: Not less than 20 lb.
5. Foot Traffic Rating: 4.
6. Softness Rating: 2.
7. Flammability, ASTM D2859: Pass.
8. Fire Test Exposure, ASTM E108: Class A.

2.3 SUPPLEMENTARY TURF SURFACING SYSTEM MATERIALS

A. High Use Area Package: High density, crush-resistant component, configured for easy replacement without disturbing surrounding turf surfacing.
1. Product: SYNLawn, *TrampleZone*.

B. Fall Pad: Rubber, lead, and heavy metal-free non-degradeable porous elastic pad, with permeability of not less than that of specified artificial turf surfacing, composed of 100 percent recycled non- contaminated post-industrial closed cell polyethylene foam, geotextile weed barrier faced on one side.
1. Product: SYNLawn, Fall Pad.
2. Pad Thickness: As indicated on Drawings
3. IPEMA Fall Height, ASTM F1292: As indicated on Drawings.
4. Accessibility, ASTM F1951: Passes.
5. Rainfall Capacity, ASTM F1551: Not less than 30 inches per hour.

C. Turf Spikes: Manufacturer's approved fasteners.

D. Nailer Board: Manufacturer's approved nailer/edger board, resistive to deterioration by soil.

E. Infill Material: Silica sand in manufacturer’s recommended formula for application to synthetic turf surfacing.
1. Product: SYNLawn, Envirofill. Color as selected by the Architect.
2. Product: SYNLawn, T-Cool.

F. Game Lines and Markings: Provide game lines and markers in widths and colors according to requirements indicated on Drawings.
1. Application Method: Tufted in, to the maximum extent practicable, with remaining lines inlaid.

G. Paint: For non-tufted lines and markings: Manufacturer’s recommended paint for use on synthetic turf surfacing.

H. Glue, Seaming Fabric, and Thread: As recommended by manufacturer for application.

2.4 RELATED MATERIALS PROVIDED AND INSTALLED UNDER OTHER SECTIONS

A. Curbing: Custom concrete curb, paving, or sidewalk as indicated. Provided under Div. 32.

B. Aggregate Base Course: Sound crushed graded stone or gravel complying with ASTM D 448 for Size No. 8 or ASTM D 448 for Size No. 57. Provided under Div. 32.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine synthetic turf surfacing base and perimeter conditions, with Installer present, for compliance with requirements for installation tolerances, and other conditions affecting performance of the Work.
   1. Verify that substrate meets profile required.
   2. Confirm that base material, compaction of substrate, permeability, and drainage system installation meets requirements.

B. Proceed with installation only after any unsatisfactory conditions have been corrected. Proceeding with installation of artificial turf system indicates acceptance of sub base.

3.2 SUB BASE PREPARATION AND REQUIREMENTS – Provided Under Division 32

A. Reference Division 32 Section(s) for work related to preparation of sub base required for synthetic turf surfacing system.

B. Reference Division 32 Section(s) for work related to synthetic turf surfacing for requirements for preparing subbase for Work of this Section.

C. Coordinate with Division 32 work contractor to ensure sub base materials and installation are in accordance with synthetic turf surfacing manufacturer's requirements. Verify that substrates are sound and without high spots, ridges, holes, and depressions; that organic debris is removed; and that soil subgrade is graded level and properly compacted.

D. Ensure subgrade is finish graded with slope between 0.5 percent and 1.0 percent toward path of site drainage.
   1. Requirements include that subgrade is compacted in both directions with mechanical compacting equipment to achieve specified compaction at 90 percent standard Proctor.
   2. Ensure that subgrade is within 0.5 inch of design grade and that subgrade is within 0.25 inch-in-10-feet in any direction from design grade over entire playing surface.

3.3 AGGREGATE COURSE INSTALLATION REQUIREMENTS – Provided Under Division 32

A. Reference Division 32 Section(s) for work related to preparation of aggregate base required for synthetic turf surfacing system.

B. Coordinate with Division 32 work contractor to ensure aggregate base materials and installation are in accordance with synthetic turf surfacing manufacturer's requirements. Ensure aggregate base course is compact by tamping with plate vibrator to 90 percent of ASTM D-1557 maximum laboratory density, and screeded to depth indicated. Confirm minimum 4-inch base course is installed unless greater thickness is indicated.

3.4 SYNTHETIC TURF INSTALLATION

A. General: Comply with synthetic turf surfacing manufacturer's written installation instructions. Install synthetic turf surfacing over area and in thickness indicated.

B. Fall Pad: Place fall pads cut neatly and tightly abutted over entire area to receive synthetic turf surfacing. Tape seams with pad seam tape to secure pads in position prior to installing synthetic turf.

C. Artificial Turf: Loose-lay artificial turf and allow fabric to relax for period recommended by manufacturer. Stretch carpet and attach at perimeter in accordance with manufacturer's recommendations and approved submittals.

D. Seaming: Form seams flat and snug, with no gaps or fraying. Remove yarns that are trapped within seams. Form seams as recommended in synthetic turf manufacturer's written instructions using system manufacturer's provided or recommended materials.

E. Attachment: Attach turf fabric to perimeter restraint system in accordance with manufacturer's recommendations and approved submittals as recommended by the system manufacturer.

3.5 INSTALLATION, INFILL

A. Mix and install infill material components in accordance with manufacturer's requirements for approved system. Groom material and leave surface ready for use.

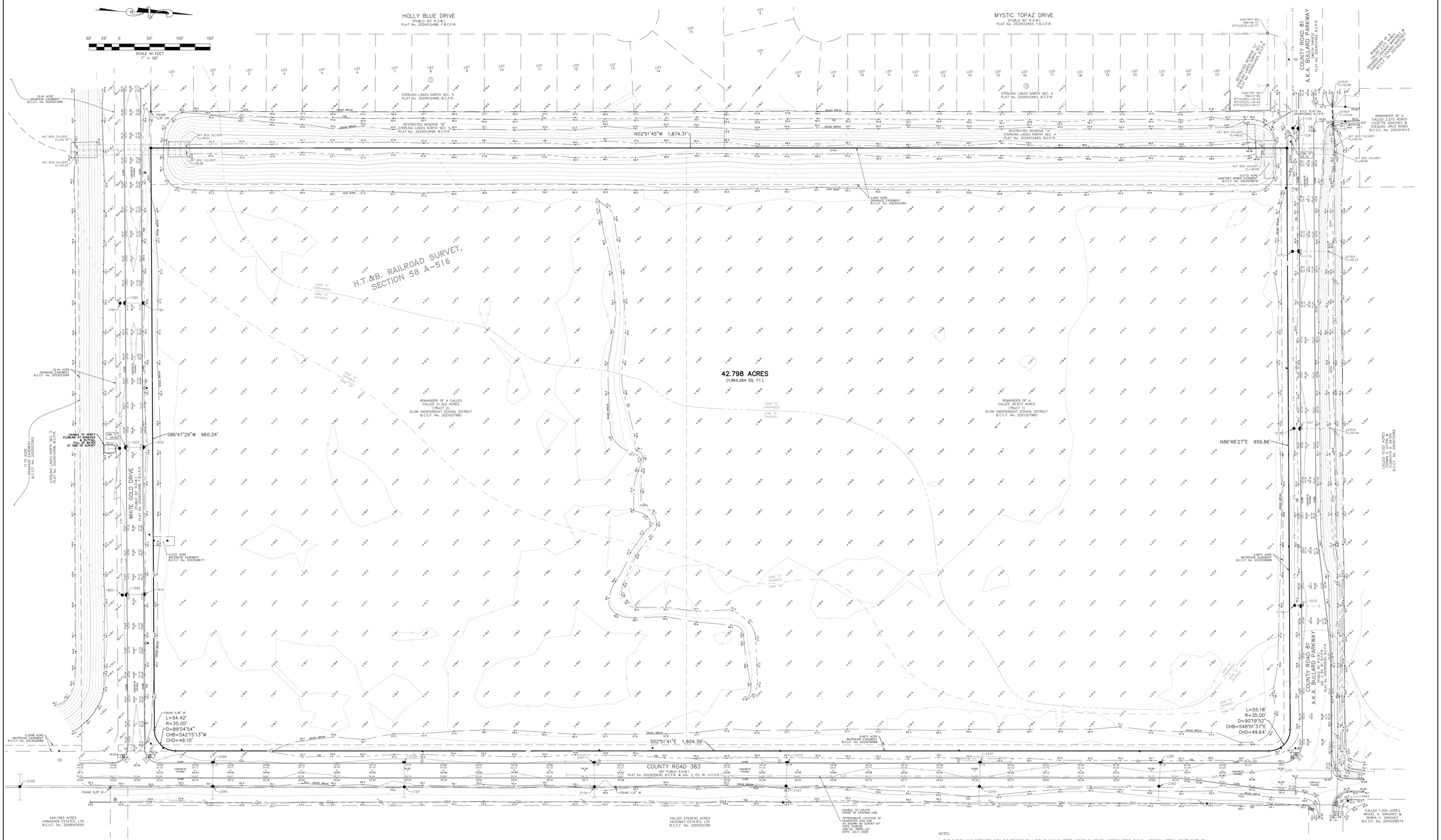
3.6 DEMONSTRATION

A. Instruct Owner's personnel in proper inspection and maintenance of synthetic turf surfacing. Review manufacturer's recommended maintenance procedures and warranty terms and conditions.

3.7 PROTECTION

A. Protect completed installation from damage. Prevent traffic over system prior to acceptance by Owner.

END OF SECTION



SYMBOLS

- FOUND 5/8-INCH IRON ROD W/CAP STAMPED "ELS" (UNLESS OTHERWISE NOTED)
- SET 5/8-INCH IRON ROD W/MILLER SURVEY CAP (UNLESS OTHERWISE NOTED)
- ANGLE POINT
- A.C. PAD
- BLOW OFF VALVE
- BOLLARD
- CABLE BOX
- CABLE MARKER
- CLEAN-OUT
- CURB INLET
- E-INLET
- ELECTRIC BOX
- ELECTRIC MANHOLE
- FIRE DEPARTMENT CONNECTION
- FLAG POLE
- FLUSH VALVE (FIRE HYDRANT)
- GAS METER
- GAS VALVE
- GRATE INLET
- GREASE TRAP
- GUY ANCHOR
- HANDICAPPED PARKING SPACE
- IRRIGATION CONTROL VALVE
- JUNCTION BOX
- LIGHT STANDARD
- WATER MANHOLE
- PIPELINE MARKER
- POWER POLE
- POWER POLE W/LIGHT
- SAMPLE WELL
- SANITARY MANHOLE
- SERVICE POLE
- SIGN
- SPRINKLER HEAD
- STORM MANHOLE
- TREE
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- TRAFFIC SIGNAL CONTROL BOX
- TRAFFIC SIGNAL POLE
- WATER METER
- WATER VALVE

LINE TYPES

- BARBED-WIRE FENCE
- WOOD FENCE
- CHAIN-LINK FENCE
- WROUGHT IRON FENCE
- OVERHEAD ELECTRIC LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND GAS LINE
- UNDERGROUND FIBER OPTIC LINE
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND STORM LINE < 24"
- UNDERGROUND STORM LINE > 24"
- STORM LINE CULVERT
- UNDERGROUND SANITARY LINE
- UNDERGROUND WATER LINE
- UNDERGROUND PIPELINE
- CURB AND GUTTER LINE
- EDGE OF CONCRETE
- EDGE OF ASPHALT
- EDGE OF GRAVEL
- HIGH BANK LINE
- GRADE BREAK LINE
- TOE SLOPE LINE
- TREE LINE

LEGEND

AC.	= ACRE
A.E.	= AERIAL EASEMENT
B.L.	= BUILDING LINE
CHB	= CHORD BEARING
CHD	= CHORD LENGTH
D.E.	= DRAINAGE EASEMENT
ESMT.	= EASEMENT
B.C.C.F.	= BRAZORIA COUNTY CLERK'S FILE
B.C.D.R.	= BRAZORIA COUNTY DEED RECORDS
B.C.M.R.	= BRAZORIA COUNTY MAP RECORDS
L	= LENGTH
L.E.	= LANDSCAPE EASEMENT
LTD.	= LIMITED
No.	= NUMBER
NR	= NON-RADIAL
P.U.E.	= PUBLIC UTILITY EASEMENT
PVT.	= PRIVATE
S.F.	= SQUARE FEET
SAN.S.E.	= SANITARY SEWER EASEMENT
STM.S.E.	= STORM SEWER EASEMENT
U.E.	= UTILITY EASEMENT
W.L.E.	= WATER LINE EASEMENT
P.O.B.	= POINT OF BEGINNING
I.R.	= IRON ROD
I.P.	= IRON PIPE
H.L.&P.	= HOUSTON LIGHTING AND POWER

STORM INVERT TABLE		
NUMBER	TYPE	INVERT
1050	STORM MANHOLE	TOP=56.06' 24"RCP(E)=49.56'
1128	CURB INLET	TOP=55.45' 24"RCP(S)=49.18'
1129	STORM MANHOLE	TOP=56.14' 24"RCP(N)=49.08' 24"RCP(E)=49.13' 24"RCP(S)=49.14'
1176	CURB INLET	TOP=55.35' 24"RCP(S)=49.36' 24"RCP(N)=49.31'
1177	STORM MANHOLE	TOP=56.28' 24"RCP(W)=49.94' 24"RCP(E)=49.12' 24"RCP(S)=49.12'
1537	CURB INLET	TOP=55.30' 24"RCP(S)=49.86' 24"RCP(N)=49.86'
1538	STORM MANHOLE	TOP=56.08' 24"RCP(W)=49.63' 24"RCP(E)=49.63' 24"RCP(S)=49.87'
1573	CURB INLET	TOP=55.54' 24"RCP(E)=50.37' 24"RCP(N)=50.37'
1574	STORM MANHOLE	TOP=56.51' 24"RCP(E)=50.33' 24"RCP(N)=50.35'
1780	CURB INLET	TOP=55.18' 24"RCP(E)=50.06' 24"RCP(S)=50.06'
1781	STORM MANHOLE	TOP=55.88' 24"RCP(E)=49.98' 24"RCP(W)=49.79'

STORM INVERT TABLE		
NUMBER	TYPE	INVERT
1790	CURB INLET	TOP=55.21' 24"RCP(S)=50.28'
1823	CURB INLET	TOP=54.61' 24"RCP(S)=49.24' 24"RCP(N)=49.46'
1824	STORM MANHOLE	TOP=54.91' 24"RCP(W)=48.64' 24"RCP(E)=47.50' 24"RCP(N)=48.71'
1832	CURB INLET	TOP=54.65' 24"RCP(S)=49.74'
1874	CURB INLET	TOP=54.76' 24"RCP(E)=49.61'
1882	CURB INLET	TOP=54.76' 24"RCP(S)=49.47' 24"RCP(N)=49.47'
1883	STORM MANHOLE	TOP=55.20' 24"RCP(W)=49.18' 24"RCP(E)=49.10'
2009	STORM MANHOLE	TOP=55.66' 36"RCP(N)=46.15' 24"RCP(E)=48.91' 24"RCP(W)=48.22' 24"RCP(S)=48.17'
2088	CURB INLET	TOP=54.67' 24"RCP(E)=48.55'
2089	STORM MANHOLE	TOP=55.67' 30"RCP(S)=46.82' 36"RCP(S)=45.69' 24"RCP(W)=47.39' 24"RCP(E)=47.27'
2125	CURB INLET	TOP=54.81' 24"RCP(E)=49.39'

STORM INVERT TABLE		
NUMBER	TYPE	INVERT
2129	STORM MANHOLE	TOP=55.68' 30"RCP(W)=47.52' 24"RCP(W)=48.98' 24"RCP(E)=48.54'
2154	STORM MANHOLE	TOP=55.66' 30"RCP(N)=48.12' 24"RCP(E)=49.00' 24"RCP(E)=49.23'
2167	CURB INLET	TOP=54.76' 24"RCP(E)=49.35'
2197	STORM MANHOLE	TOP=55.62' 24"RCP(W)=48.86' 30"RCP(S)=48.66' 24"RCP(E)=48.58' 24"RCP(E)=49.75'
2210	CURB INLET	TOP=54.96' 24"RCP(E)=49.72'
2241	CURB INLET	TOP=55.11' 24"RCP(E)=50.29'
2245	STORM MANHOLE	TOP=56.22' 24"RCP(W)=49.69' 24"RCP(S)=49.55' 24"RCP(E)=50.08' 24"RCP(E)=50.28'
2281	CURB INLET	TOP=55.28' 24"RCP(E)=50.48'
2282	STORM MANHOLE	TOP=56.53' 24"RCP(W)=50.21' 24"RCP(E)=50.13' 24"RCP(E)=50.59'

NOTES:

1. THIS SURVEY WAS PREPARED WITH THE BENEFIT OF A CITY PLANNING LETTER ISSUED BY TEXAS AMERICAN TITLE, FILE No. 2791024-07250, ISSUED DATE OF OCTOBER 18, 2024, WITH REGARD TO ANY RECORDED EASEMENTS, RIGHTS-OF-WAY OR SETBACKS AFFECTING THE SURVEYED PROPERTY. NO ADDITIONAL RESEARCH REGARDING THE EXISTENCE OF EASEMENTS, RESTRICTIONS, OR OTHER MATTERS OF RECORD HAS BEEN PERFORMED BY THE SURVEYOR.

2. ALL BEARINGS SHOWN HEREON ARE BASED ON MONUMENTED EAST LINE OF STERLING LAKES NORTH SEC. 4, A SUBDIVISION OF RECORD UNDER PLAT No. 2024012493, H.C.M.R. (S02°51'45"E)

3. AS PER SAID CITY PLANNING LETTER, THE SUBJECT TRACT IS AFFECTED BY A GRANT OF TELECOMMUNICATIONS EASEMENT, H.C.C.F. No. 2023050528. EASEMENT IS BLANKET IN NATURE AND NOT PLOTTABLE.

4. ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP No. 48039C0110K, EFFECTIVE DATE OF 12/30/2020, THE SURVEYED PROPERTY LIES WITHIN ZONE "X" (UNSHADED), AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, ZONE "X" (SHADED), AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD, AND ZONE "AE", SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT, BASE FLOOD ELEVATION DETERMINED.

5. THE FLOOD ZONE SEPARATION LINES SHOWN HEREON ARE APPROXIMATE AND BASED UPON GRAPHIC REPRESENTATION OF SUCH LINES AS PER SAID FEMA FLOOD INSURANCE RATE MAP.

6. ALL UNDERGROUND UTILITIES SHOWN HEREON ARE FROM SURFACE FEATURES, VISIBLE EVIDENCE, PARTIAL FIELD LOCATION BY TEXAS 811 ONE-CALL; ALL UNDERGROUND SANITARY AND STORM SEWER LINES ARE BASED ON SURFACE LOCATIONS AND INVERTS OF MANHOLES AND STORM INLETS. ALL COVER DEPTHS ON UNDERGROUND UTILITIES ARE AS PER LONESTAR LOCATING, LLC. ALL UNDERGROUND UTILITY LOCATIONS AND COVER DEPTHS SHOWN HEREON ARE TO BE CONSIDERED APPROXIMATE AND NEED TO BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION. LONESTAR LOCATING, LLC USES TRANSMISSION SIGNALS TO MARK THE LOCATION AND COVER DEPTHS OF THE UNDERGROUND UTILITIES. SOME UNDERGROUND UTILITIES SUCH AS WATER LINES, FIBER OPTIC LINES WITHOUT TRACERS, PLASTIC, FIBERGLASS AND PVC PIPES ARE NOT LOCATABLE BY TRANSMISSION SIGNALS.

7. PROJECT BENCHMARK: NOS MONUMENT HGCSD 75 (AW5683)
BEING A STAINLESS STEEL ROD IN SLEEVE STAMPED "HGCSD 75 1987" TO REACH THE BENCHMARK, FROM THE JUNCTION OF STATE HIGHWAY 6 AND FM ROAD 1128 IN MANVEL, GO EAST-SOUTHEAST ON STATE HIGHWAY 6 FOR 4.2 KM (2.6 MI) TO COUNTY ROAD 99 ON THE RIGHT, TURN RIGHT AND GO SOUTHERLY FOR 0.4 KM (0.25 MI) TO A ROAD (JUST AFTER CROSSING TRACKS), TURN LEFT AND GO EASTERLY FOR 0.2 KM (0.15 MI) TO A DRIVEWAY ON THE RIGHT AND THE STATION ON THE EAST SIDE OF DRIVEWAY. THE STATION IS A PUNCH MARK IN THE TOP OF A STAINLESS-STEEL ROD DRIVEN INTO THE GROUND AND INSIDE A 1-INCH PCV PIPE THAT IS 20 FEET LONG FILLED WITH GREASE THAT IS ENCASED IN A 5-INCH PVC PIPE WITH A LOOO CAP STAMPED "HGCSD 75 1987". THE ROD IS RECESSED 8 CM BELOW THE GROUND SURFACE. LOCATED 17.4 METERS (57.1 FT) SOUTH OF THE CENTERLINE OF ROAD, 6.0 METERS (19.8 FT) SOUTHEAST OF CENTER OF DRIVEWAY AND 0.9 METERS (3.1 FT) NORTHEAST OF FENCE AND CARSONITE WITNESS POST.
ELEVATION: 48.10' FEET NAVD88

8. TEMPORARY BENCHMARK (TBM) "A":
BEING A BRASS DISK STAMPED "CB-2" IN CONCRETE ON THE NORTH SIDE OF COUNTY ROAD 81 OVER WEST FORK CHOCOLATE BAYOU AT THE STREAM CENTERLINE.
ELEVATION: 56.51' FEET NAVD88

9. TEMPORARY BENCHMARK (TBM) "B":
BEING AN BOXED "X" CUT IN CONCRETE ON OVERFLOW STRUCTURE BEING +/- 300 FEET NORTH OF THE CENTERLINE INTERSECTION OF COUNTY ROAD 57 AND SOUTH BOUND HIGHWAY 288 ALONG THE NORTH R.O.W. OF COUNTY ROAD 57 BEING ON THE WEST-SOUTHWEST HIGH BANK OF WEST FORK CHOCOLATE BAYOU.
ELEVATION = 50.73' NAVD88

10. TEMPORARY BENCHMARK (TBM) "C":
BEING AN X-CUT ON CURB INLET SOUTH OF THE SUBJECT TRACT. BENCHMARK IS LOCATED +/- 535' WEST OF THE CENTERLINE INTERSECTION OF WHITE GOLD DRIVE AND COUNTY ROAD 383. BENCHMARK IS ALSO LOCATED +/- 500' EAST OF THE SOUTHWEST PROPERTY CORNER OF THE SUBJECT TRACT.
ELEVATION = 54.60' NAVD88

11. TEMPORARY BENCHMARK (TBM) "D":
BEING AN X-CUT ON CONCRETE SIDEWALK NORTH OF SUBJECT TRACT. BENCHMARK IS LOCATED +/- 13' NORTHWEST OF THE NORTHWEST PROPERTY CORNER OF THE SUBJECT TRACT. BENCHMARK IS ALSO LOCATED +/- 1050' WEST OF THE CENTERLINE INTERSECTION OF COUNTY ROAD 81 AND COUNTY ROAD 383
ELEVATION = 55.33' NAVD88

12. ALL ELEVATIONS AND CONTOURS PLOTTED HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

C.R. 81 & C.R. 383
ROSHARON, TEXAS, 77583

REVISED:

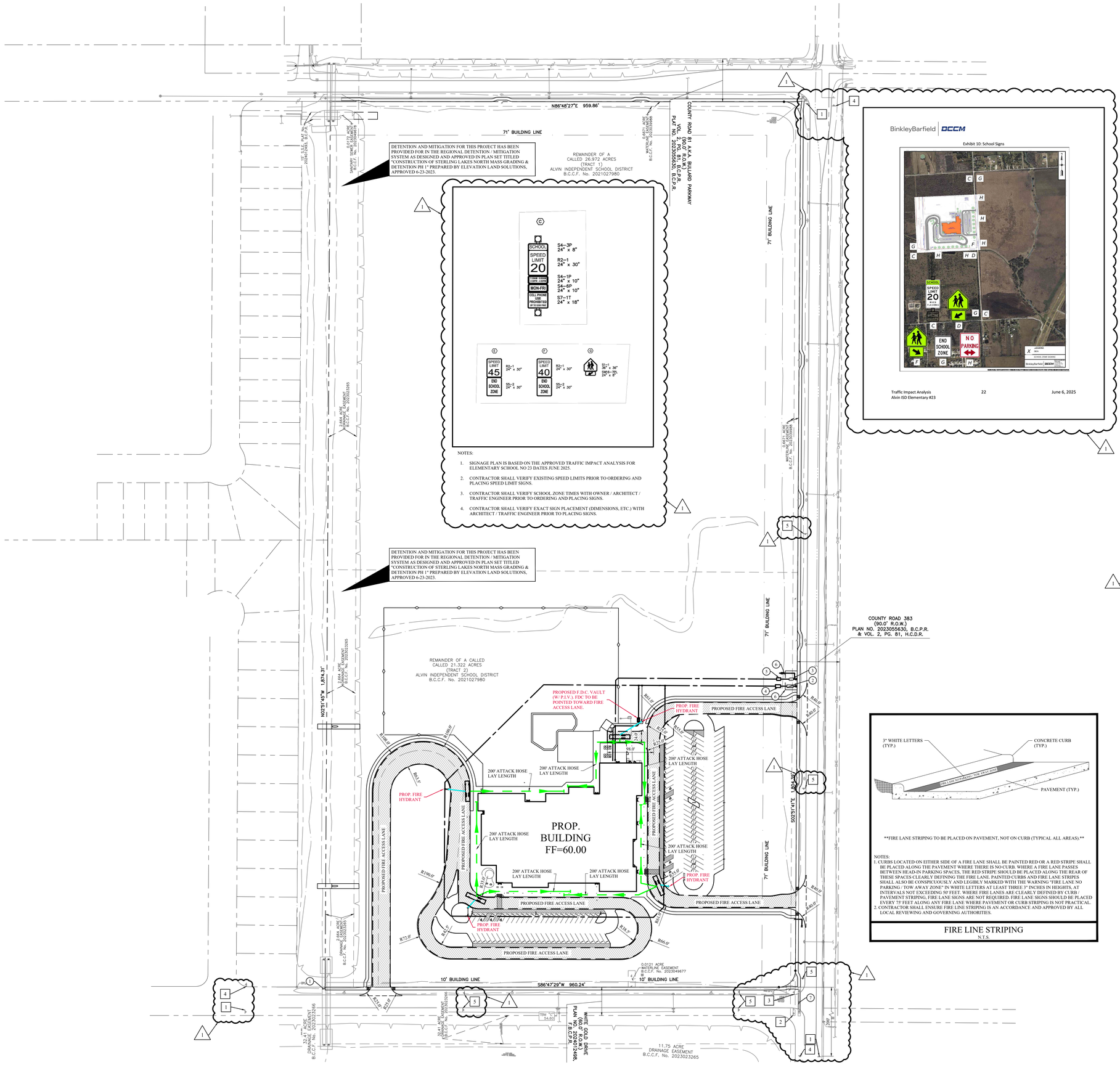
TOPOGRAPHIC SURVEY PLAT
42.798 ACRES
(1,864,284 SQ. FT.)

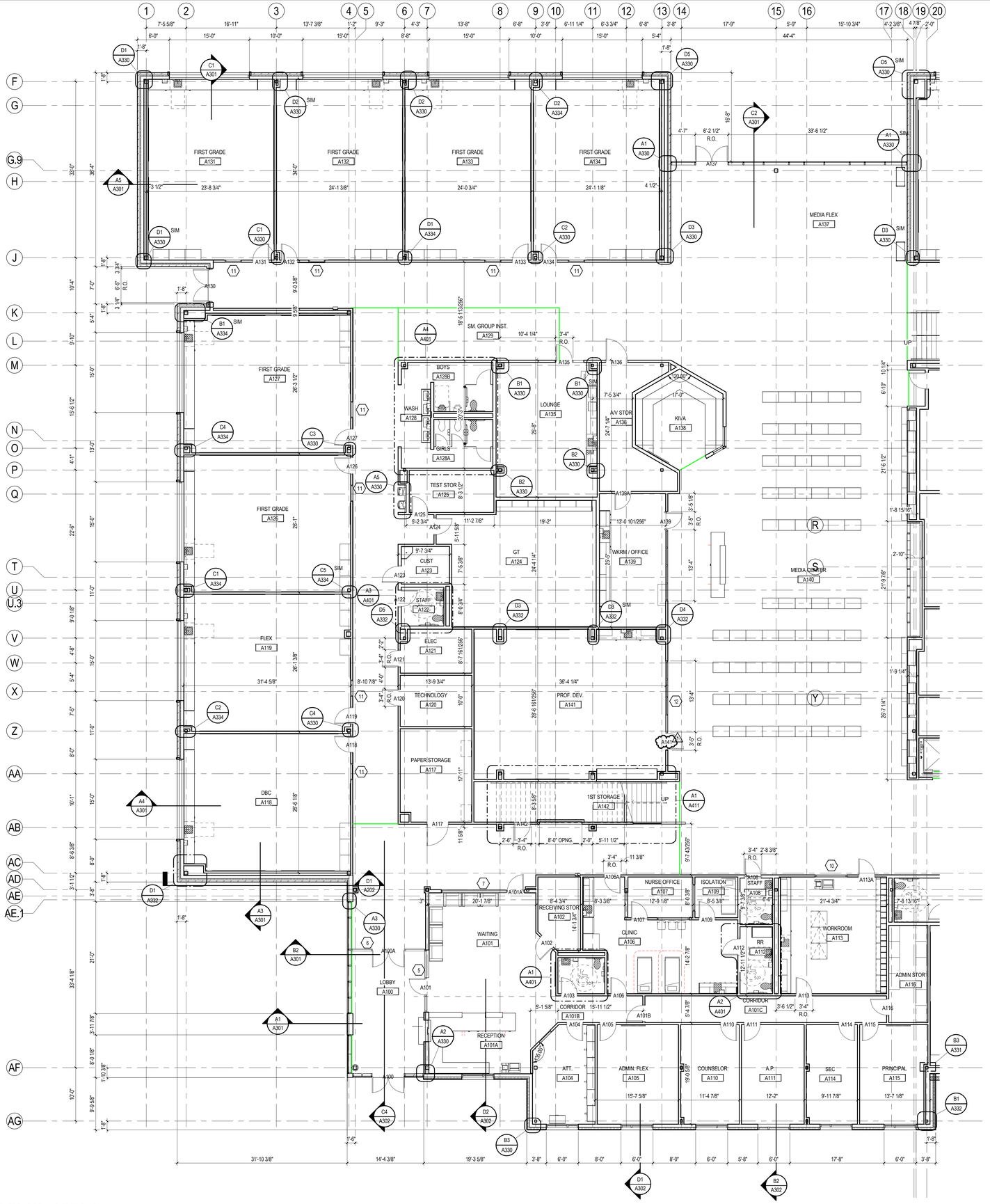
LOCATED IN THE
H.T.&B. RAILROAD SURVEY SECTION 58, A-516
BRAZORIA COUNTY, TEXAS

MillerSurvey
Miller Survey | Firm Reg. No. 10047100
1760 W. Sam Houston Pkwy N.
Houston, TX 77043
713.413.1900 | millersurvey.com

DCCM

JOB No.: 001567-05	SCALE: 1"= 50'	DATE: 10/23/2024	FIELD BOOK: 24-073/GG
DWG. No.: 001567-05-DWG	DRAWN BY: NPR	CHECKED BY: ARP	M&B No.: N/A


N86°48'27"E 959.86'
71' BUILDING LINE
DETENTION AND MITIGATION FOR THIS PROJECT HAS BEEN PROVIDED FOR IN THE REGIONAL DETENTION / MITIGATION SYSTEM AS DESIGNED AND APPROVED IN PLAN SET TITLED "CONSTRUCTION OF STERLING LAKES NORTH MASS GRADING & DETENTION PH 1" PREPARED BY ELEVATION LAND SOLUTIONS, APPROVED 6-23-2023.
REMAINDER OF A CALLED 26.972 ACRES (TRACT 1) ALVIN INDEPENDENT SCHOOL DISTRICT B.C.C.F. No. 2021027980
COUNTY ROAD 81 (A.K.A. BULLARD PARKWAY) (90.0' R.O.W.) PLAT NO. 20230565630, B.C.P.R.
0.4971 ACRE WATERLINE EASEMENT B.C.C.F. No. 2023049677
0.6172 ACRE DRAINAGE EASEMENT B.C.C.F. No. 2023049678
2.664 ACRE DRAINAGE EASEMENT B.C.C.F. No. 2023023265
SCHOOL SPEED LIMIT 20 WHEN FLASHING MON-FRI CELL PHONE USE PROHIBITED WHILE DRIVING
S4--3P 24" x 8"
R2--1 24" x 30"
S4--1P 24" x 10"
S4--6P 24" x 10"
S7--1T 24" x 18"
SPEED LIMIT 45 END SCHOOL ZONE
R2--1 24" x 30"
S5--1 24" x 30"
SPEED LIMIT 40 END SCHOOL ZONE
R2--1 24" x 30"
S5--2 24" x 30"
S1--1 36" x 36" SW8--3PL 24" x 8"
NOTES:
1. SIGNAGE PLAN IS BASED ON THE APPROVED TRAFFIC IMPACT ANALYSIS FOR ELEMENTARY SCHOOL NO 23 DATES JUNE 2025.
2. CONTRACTOR SHALL VERIFY EXISTING SPEED LIMITS PRIOR TO ORDERING AND PLACING SPEED LIMIT SIGNS.
3. CONTRACTOR SHALL VERIFY SCHOOL ZONE TIMES WITH OWNER / ARCHITECT / TRAFFIC ENGINEER PRIOR TO ORDERING AND PLACING SIGNS.
4. CONTRACTOR SHALL VERIFY EXACT SIGN PLACEMENT (DIMENSIONS, ETC.) WITH ARCHITECT / TRAFFIC ENGINEER PRIOR TO PLACING SIGNS.
BinkleyBarfield | DCCM
Exhibit 10: School Signs
SCHOOL SPEED LIMIT 20 WHEN FLASHING
END SCHOOL ZONE
NO PARKING
Traffic Impact Analysis Alvin ISD Elementary #23
22
June 6, 2025
DETENTION AND MITIGATION FOR THIS PROJECT HAS BEEN PROVIDED FOR IN THE REGIONAL DETENTION / MITIGATION SYSTEM AS DESIGNED AND APPROVED IN PLAN SET TITLED "CONSTRUCTION OF STERLING LAKES NORTH MASS GRADING & DETENTION PH 1" PREPARED BY ELEVATION LAND SOLUTIONS, APPROVED 6-23-2023.
REMAINDER OF A CALLED 21.322 ACRES (TRACT 2) ALVIN INDEPENDENT SCHOOL DISTRICT B.C.C.F. No. 2021027980
COUNTY ROAD 383 (90.0' R.O.W.) PLAN NO. 20230565630, B.C.P.R. & VOL. 2, PG. 81, H.C.D.R.
N02°51'43"W 1,874.31'
S02°51'43"E 1,874.31'
PROPOSED F.D.C. VAULT (W/ P.I.V.), FDC TO BE POINTED TOWARD FIRE ACCESS LANE.
PROP. FIRE HYDRANT
PROPOSED FIRE ACCESS LANE
200' ATTACK HOSE LAY LENGTH
PROP. BUILDING FF=60.00
R190.0'
R73.0'
R43.5'
R30.0'
R24.0'
R30.0'
R24.0'
R30.0'
R43.5'
R24.0'
R30.0'
R43.5'
R24.0'
R30.0'
R43.5



AREA PLAN NOTES:

1. ON THIS PLAN, PARTITION TYPE **"SD3N"** IS TYPICAL AT INTERIOR WALL, U.O.N.
2. ON THIS PLAN, PARTITION TYPE **"SB3N"** IS TYPICAL AT ALL INTERIOR STEEL STUD COLUMN WRAPS, TYP., U.O.N.
3. ON THIS PLAN, PARTITION TYPE **"M09"** IS TYPICAL AT ALL INTERIOR CMU COLUMN WRAPS, TYP., U.O.N.
4. REFER TO A501 FOR DOOR SCHEDULES.
5. REFER TO A802 FOR ROOM FINISH SCHEDULES.

CONSTRUCTION LEGEND:

- METAL FRAMING WALLS (REFER TO PARTITION TYPES)
- METAL FRAMING WALLS (REFER TO PARTITION TYPES) - PROVIDE CONCRETE CURB.
- CMU WALLS (REFER TO PARTITION TYPES)

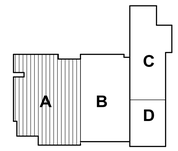
A1 / A111 LEVEL 1 FLOOR PLAN - AREA A
1/8" = 1'-0"

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Houston, TX 77002-4916
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1	ADD#01		09/08/2025
Revision		By	Appd	YYYY.MM.DD
BIDDING DOCUMENTS			09.01.2025
FINAL CONSTRUCTION DOCUMENTS			08.18.2025
Issued		By	Appd	YYYY.MM.DD

Permit/Seal



Client/Project Logo

ALVIN Independent School District

Client/Project
ALVIN ISD

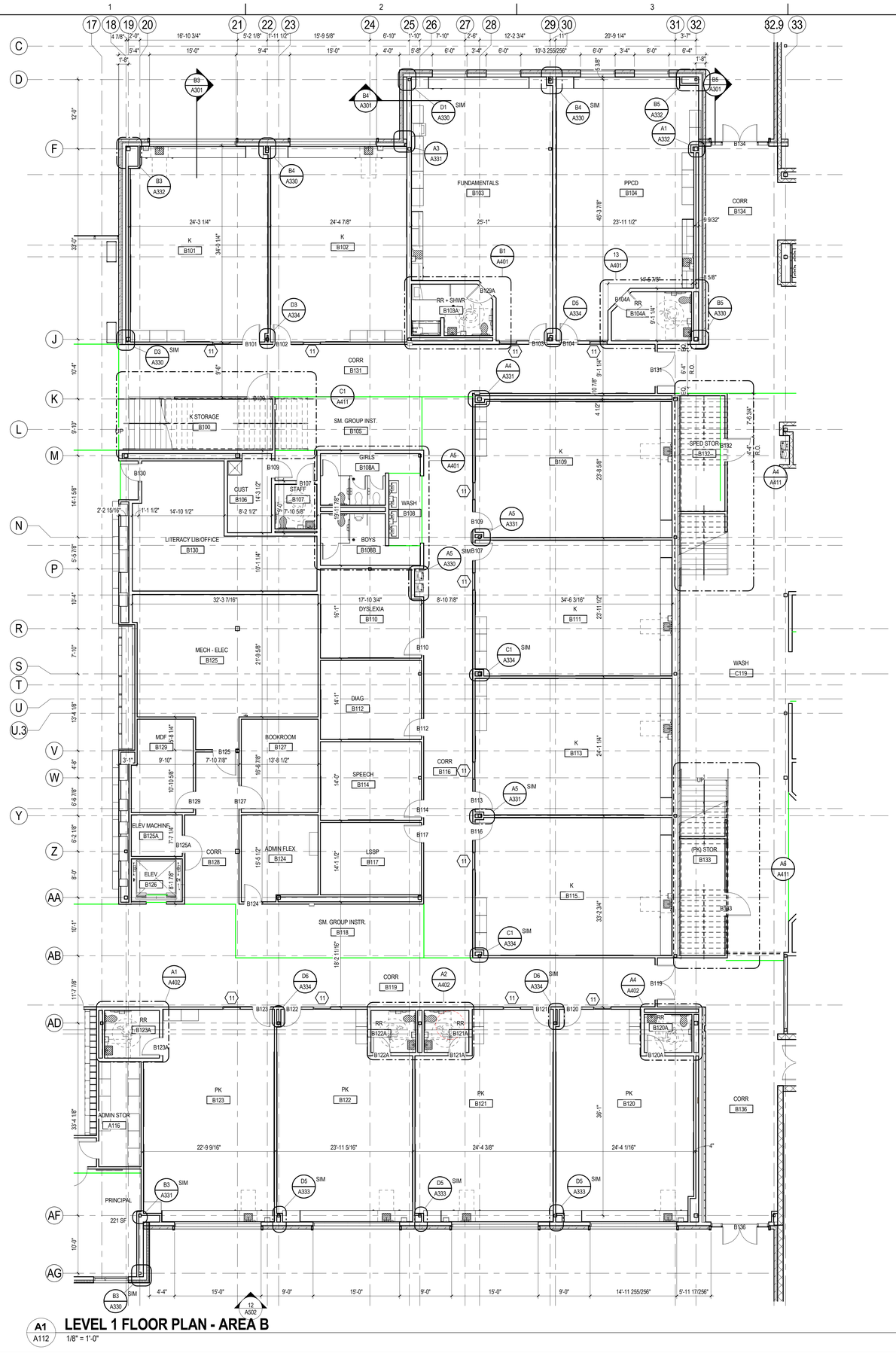
ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

Title
LEVEL 1 FLOOR PLAN - AREA A

Project No.	Scale
214001269	As indicated
Revision	Drawing No.
1	**A111**

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ORIGINAL SHEET - ARCH E1



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1. ON THIS PLAN, PARTITION TYPE **"SD3N"** IS TYPICAL AT INTERIOR WALL, U.O.N.
2. ON THIS PLAN, PARTITION TYPE **"SB3N"** IS TYPICAL AT ALL INTERIOR STEEL STUD COLUMN WRAPS, TYP., U.O.N.
3. ON THIS PLAN, PARTITION TYPE **"M09"** IS TYPICAL AT ALL INTERIOR CMU COLUMN WRAPS, TYP., U.O.N.
4. REFER TO A501 FOR DOOR SCHEDULES.
5. REFER TO A802 FOR ROOM FINISH SCHEDULES.

CONSTRUCTION LEGEND:

- METAL FRAMING WALLS (REFER TO PARTITION TYPES)
- METAL FRAMING WALLS (REFER TO PARTITION TYPES) - PROVIDE CONCRETE CURB.
- CMU WALLS (REFER TO PARTITION TYPES)

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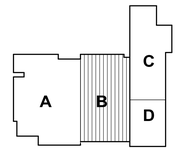
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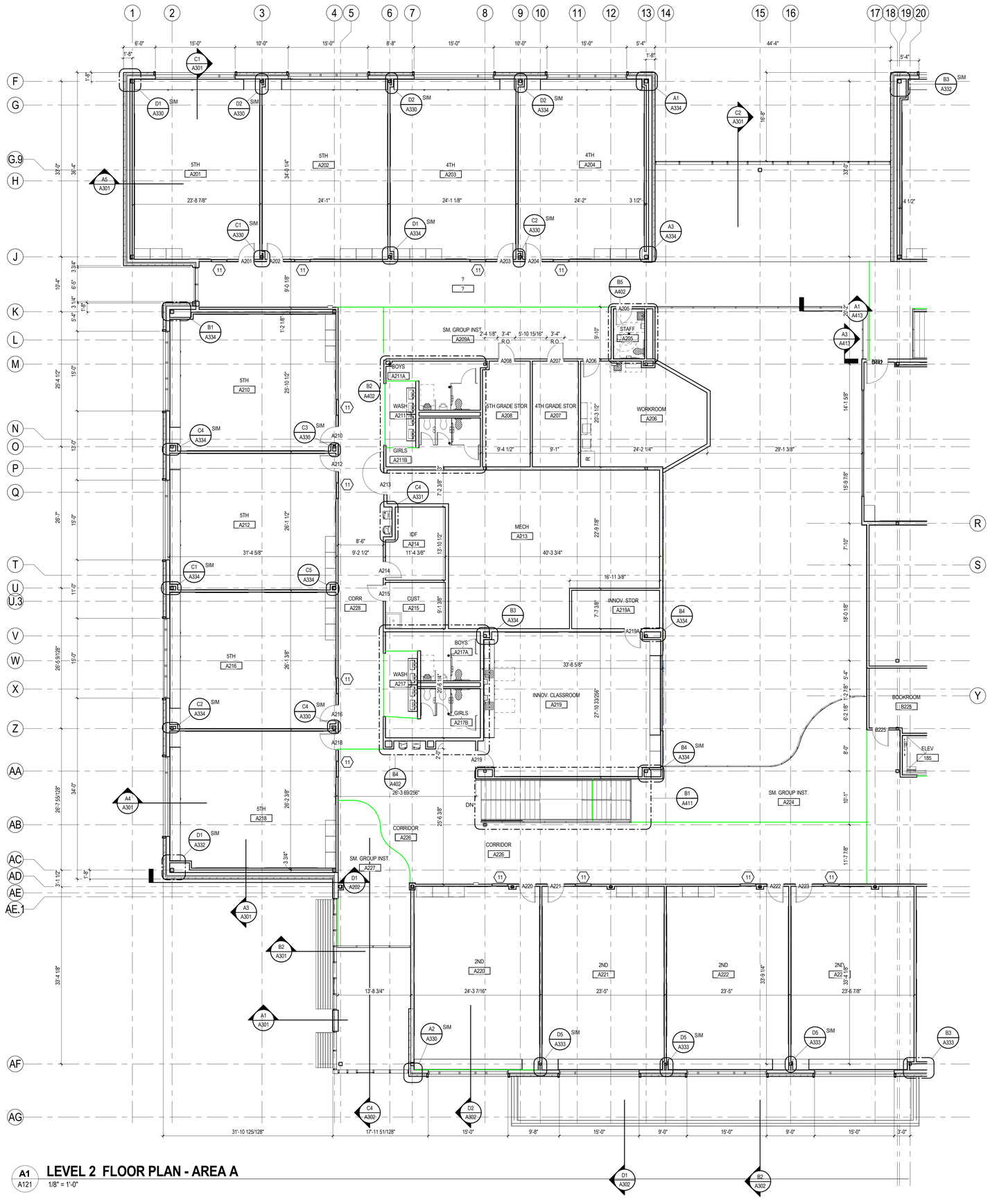
ELEMENTARY SCHOOL #23

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Iowa Colony, Texas 77583

Title
LEVEL 1 FLOOR PLAN - AREA B

Project No.	Scale
214001269	As indicated
Revision	Drawing No.
1	A112

ORIGINAL SHEET - ARCH E1
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AREA PLAN NOTES:

1. ON THIS PLAN, PARTITION TYPE "SD3N" IS TYPICAL AT INTERIOR WALL, U.O.N.
2. ON THIS PLAN, PARTITION TYPE "SB3N" IS TYPICAL AT ALL INTERIOR STEEL STUD COLUMN WRAPS, TYP., U.O.N.
3. ON THIS PLAN, PARTITION TYPE "M09" IS TYPICAL AT ALL INTERIOR CMU COLUMN WRAPS, TYP., U.O.N.
4. REFER TO A501 FOR DOOR SCHEDULES.
5. REFER TO A802 FOR ROOM FINISH SCHEDULES.

CONSTRUCTION LEGEND:

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- METAL FRAMING WALLS (REFER TO PARTITION TYPES) - PROVIDE CONCRETE CURB.
- CMU WALLS (REFER TO PARTITION TYPES)

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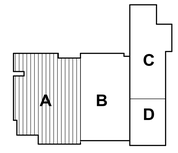
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Revision		By	Appd	YYYY.MM.DD
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FINAL CONSTRUCTION DOCUMENTS			08.18.2025
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ELEMENTARY SCHOOL #23

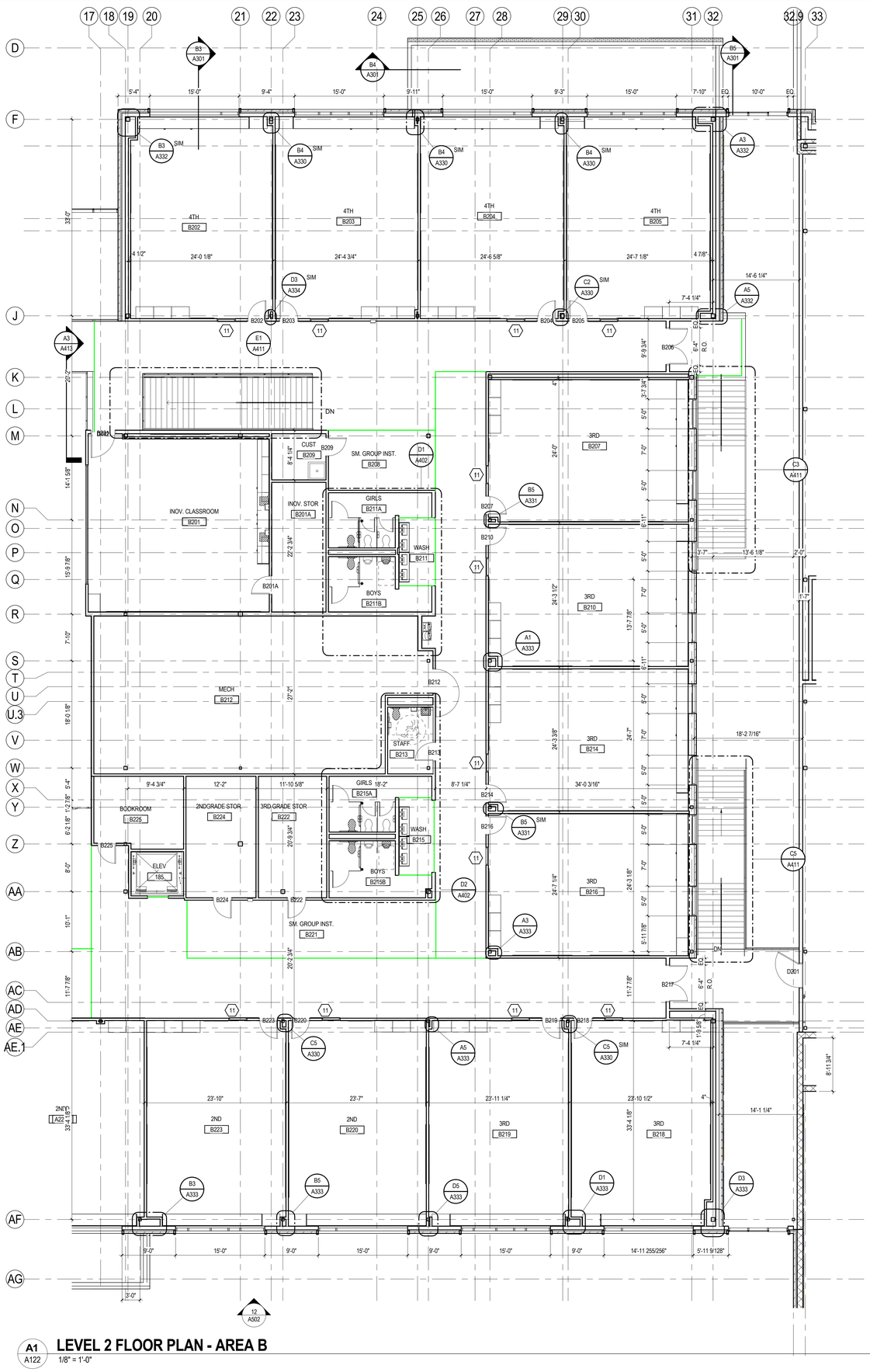
2727 White Gold Drive
Iowa Colony, Texas 77583

Title
LEVEL 2 FLOOR PLAN - AREA A

Project No.	Scale
214001269	As indicated
Revision	Drawing No.
1	A121

eProjectLocation:\\Project Information\
9/8/2025 11:37:42 PM

ORIGINAL SHEET - ARCH E1



A1 A122 **LEVEL 2 FLOOR PLAN - AREA B**

1/8" = 1'-0"

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2. ON THIS PLAN, PARTITION TYPE **"SB3N"** IS TYPICAL AT ALL INTERIOR STEEL STUD COLUMN WRAPS, TYP., U.O.N.
3. ON THIS PLAN, PARTITION TYPE **"M09"** IS TYPICAL AT ALL INTERIOR CMU COLUMN WRAPS, TYP., U.O.N.
4. REFER TO A501 FOR DOOR SCHEDULES.
5. REFER TO A802 FOR ROOM FINISH SCHEDULES.

CONSTRUCTION LEGEND:

- METAL FRAMING WALLS (REFER TO PARTITION TYPES)
- METAL FRAMING WALLS (REFER TO PARTITION TYPES) - PROVIDE CONCRETE CURB.
- CMU WALLS (REFER TO PARTITION TYPES)

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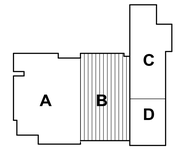
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	Revision	By	Appd	
1	ADD#01			09/08/2025
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	FINAL CONSTRUCTION DOCUMENTS			08.18.2025
	Issued	By	Appd	YYYY.MM.DD

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ALVIN ISD

ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

Title
LEVEL 2 FLOOR PLAN - AREA B

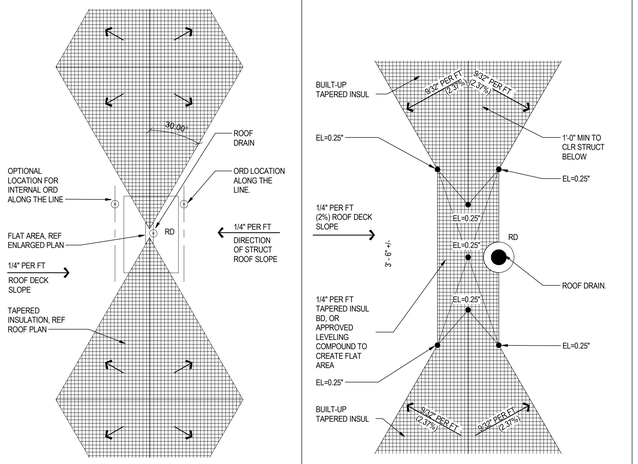
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Revision 1
Drawing No. **A122**

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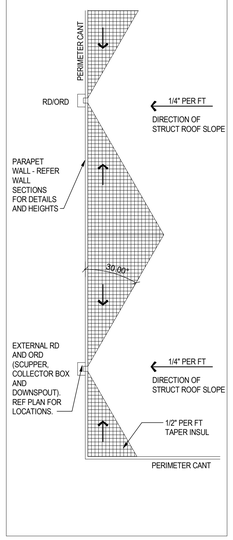
ORIGINAL SHEET - ARCH E1

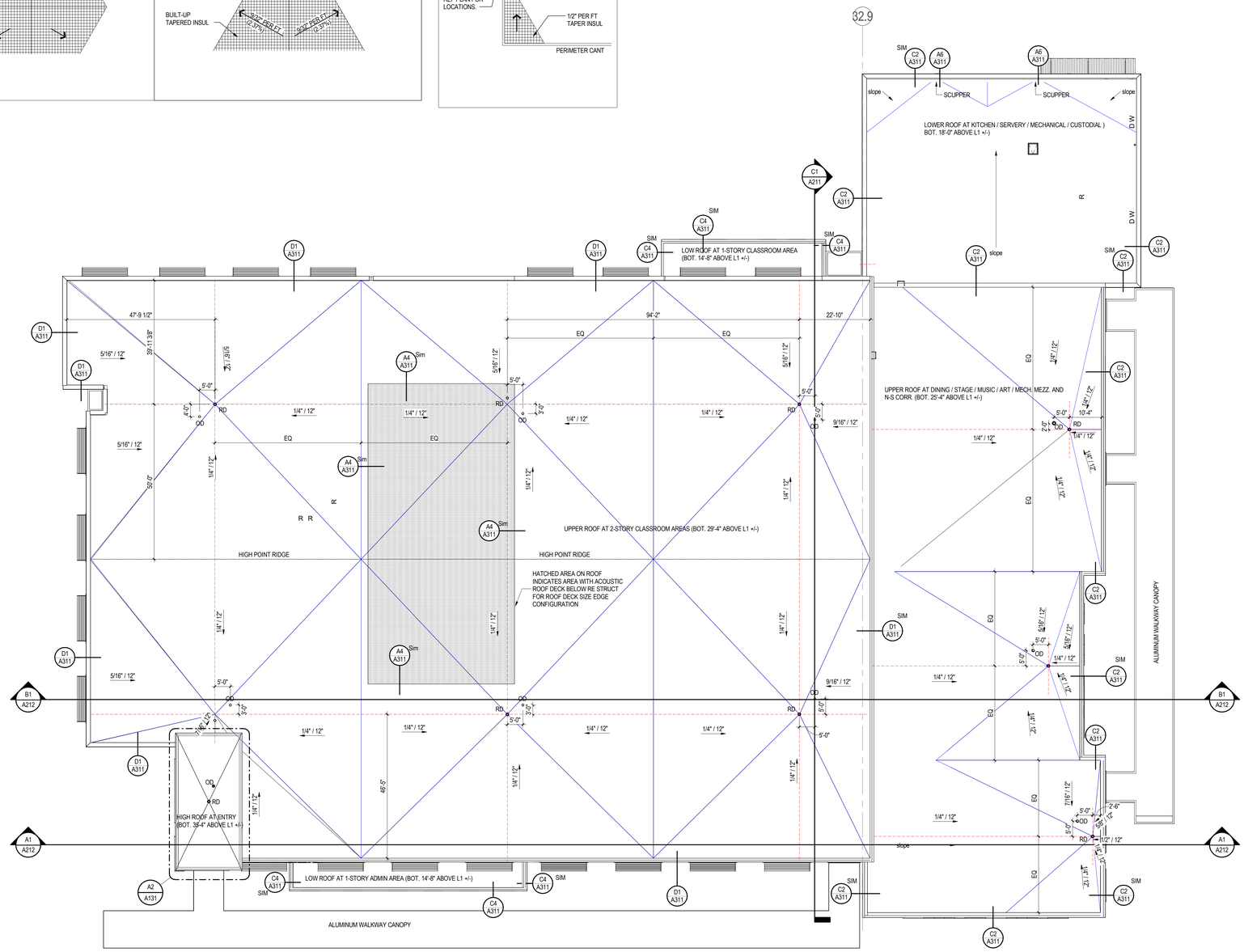
TYP NOTES AT INTERIOR ROOF DRAIN LOCATIONS

ENLARGED PLAN INTERIOR ROOF DRAIN



TYP NOTES AT ROOF EDGE/ SCUPPER LOCATIONS





GENERAL NOTES - ROOF:

1. FOR TYPICAL ROOF PENETRATION DETIALS REFER TO SHEET A312.

2. FOR ADDITIONAL ROOF PENETRATION DETAILS: REFER TO MEP DOCS.

3. REFER MEP DOCUMENTS FOR ROOFTOP EQUIPMENT NOT SHOWN. MECHANICAL, ELECTRICAL AND PLUMBING ROOF EQUIPMENT DEPICTED ON THIS SHEET IS FOR GENERAL ARCHITECTURAL INFORMATION ONLY.

4. PROVIDE WALKWAY PAD AT PIPE SUPPORT LOCATIONS. REFER MEP DOCS FOR PIPE SUPPORT LOCATIONS AND TYPES. PAD SHALL BE MIN 2'-0" WIDER THAN SUPPORT IN ALL DIRECTIONS.

5. PROVIDE CONT 36" WIDE WALKWAY PADS AT SERVICE SIDE OF ALL MECH EQUIP. REFER TO MEP DOCS FOR NUMBER AND LOCATION OF ROOFTOP MECH EQUIP. PROVIDE CONT 36" WIDE WALKWAY BOARDS AT STEPPING AREAS AT THE TOPS AND BOTTOMS OF ACCESS LADDERS.

6. EXPOSED METAL FLASHING/TRIM PIECES ARE TO BE PREFIN GALV STL, UON. REFER TO COLOR SCHEDULE AND NOTES, SHEET A801.

7. LIGHTWEIGHT INSULATING CONCRETE SHALL BE SLOPED AT 1/4"/FT MIN SLOPE TO DRAIN. SLOPE SHOWN ON ROOF PLAN IS GRAPHIC ONLY - ONLY TO SHOW DRAINAGE DIRECTION AND APPROX LOCATION. (VERIFY INSULATED CONCRETE FORMS REQUIRED TO MAINTAIN DRAINAGE SLOPE, PRIOR TO CONSTRUCTION).

8. PROVIDE TAPERED RIGID INSULATION CRICKETS (1/4"/FT MIN SLOPE) AT HIGH SIDE OF ALL MECH UNITS, ROOF HATCHES AND MISC ROOF PENETRATIONS, TO SHED WATER AROUND, AND TO INSURE POSITIVE ROOF DRAINAGE.

9. WOOD BLOCKING AT ROOF EDGES, RIDGES, ETC SHALL BE FABRICATED FROM CONT MIN 2X6s FIRE TREATED WOOD BLOCKING. PROVIDE LARGER 2X FIRE TREATED WOOD WHERE REQUIRED PER DETAIL DIMENSIONS.

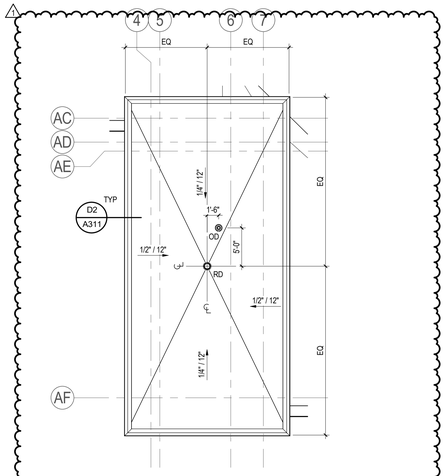
10. WHERE FRT WOOD BLOCKING EXCEEDS 6" THICKNESS AT LIGHTWEIGHT INSULATING CONCRETE, PROVIDE STEM WALL CONSTRUCTED OF 6" GALV CFMF AT 16" O.C. W/ CONT TRACK TOP AND BOTTOM AD W/ 3/4" PT FRT PLYWOOD AT EA SIDE AND TOP, TO SLOPE W/ LIGHTWEIGHT INSULATING CONCRETE.

11. PERFORMANCE REQUIREMENTS

A. WIND UPLIFT: IN ACCORDANCE WITH ASCE-7 REQUIREMENTS.
B. ROOF SURFACE: PROVIDE COOL ROOF WITH MINIMUM TOTAL SOLAR REFLECTANCE OF 70 AND THERMAL EMITTANCE OF 75 WHEN TESTED IN ACCORDANCE WITH THE FOLLOWING:
   1. REFLECTANCE: MEASURED IN ACCORDANCE WITH ASTM C1549, ASTM E903, ASTM E1175, OR ASTM E1918.
   2. EMITTANCE: MEASURED IN ACCORDANCE WITH ASTM C835, ASTM C1371, OR ASTM E408.

ROOF LEGEND:

- THERMOPLASTIC MEMBRANE ROOFING OVER LIGHTWEIGHT INSULATING CONCRETE ON METAL DECK, TYP. MIN. R-25. (MIN 1/4" FT SLOPE IN DIRECTION OF ARROW) REFER TO TYPICAL NOTES @ INTERIOR DRAIN LOCATIONS & EXTERIOR DRAIN LOCATIONS.
- THERMOPLASTIC MEMBRANE ROOFING OVER ADDITIONAL LIGHTWEIGHT INSULATING CONCRETE THICKNESS AS REQUIRED TO CREATE 1/4" /FT SLOPE.
- 1:12 — ROOF SLOPE DIRECTION (1/4"/FT MIN AT LIGHT WEIGHT CONCRETE ROOF, UON.)
- RD ORD — INTERNAL ROOF DRAIN AND OVERFLOW ROOF DRAIN (A1/A312)
- ORD RD — INTERNAL ROOF DRAIN (A1/A312) AND ROOF OVERFLOW SCUPPER (A4 & A6/A311)
- LINE OF ROOF EJ.
- 16" CLR WIDE ROOF ACCESS LADDER, INSTALL IN ACCORDANCE WITH MANUFACTURER'S STANDARDS.
- 2'-6"x3'-0" ROOF HATCH ON INTEGRAL CURB (A4/A312)
- 30" WIDE ROOF WALK PADS TO EACH ROOF ACCESS POINT AND SERVICE SIDE OF EACH MECH UNIT



A2 A131 **ENLARGED ROOF PLAN**
1/8" = 1'-0"

A1 A131 **ROOF PLAN**
1/16" = 1'-0"

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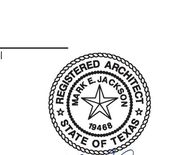
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Notes



SHOWN AREA OF ACOUSTIC ROOF DECK.

UPDATED AND ADDED DETAIL REFERENCES

ADDED ENLARGED ROOF PLAN OF ROOF OVER LOBBY

1	ADD#01		09/08/2025
Revision		By	Appd	YYYY.MM.DD
BIDDING DOCUMENTS			09.01.2025
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Issued		By	Appd	YYYY.MM.DD

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REGISTERED ARCHITECT MARK E. JACKSON 19468 STATE OF TEXAS

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ALVIN Independent School District

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ALVIN ISD

ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

Title
ROOF PLAN

Project No.
214001269

Scale
As indicated

Revision
1

Drawing No.
A131

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ORIGINAL SHEET - ARCH E1

MATERIAL SCHEDULE - EXTERIOR

NAME	MARK	MANUFACTURER	COLOR	STYLE	REMARKS	E P D	H P D	REQ'D CLASS / TEST
ALUMINUM FRAMES	-	-	-	-	-			
BRICK	BK-1	CLOUD CERAMICS (UPCHURH KIMBROUGH)	COFFEE - VELOUR	MODULAR	BID BOTH PRODUCTS			
BRICK	BK-1a	ACME			BID BOTH PRODUCTS			
BRICK	BK-2	CLOUD CERAMICS (UPCHURH KIMBROUGH)	MIDNIGHT IS -VELOUR	MODULAR	BID BOTH PRODUCTS			
BRICK	BK-2a	ACME			BID BOTH PRODUCTS			
CAST STONE	CS-1	ARRISCRAFT	MONTECITO - SMOOTH		-			
CONCRETE MASONRY UNIT	MU	-	-	-	-			
GLAZING		-	-	-				
METAL SOFFIT	MP-1	-	-	-	-			
MORTAR	-	-	-	-	-			

EXTERIOR MATERIAL LEGEND

BK-1 - BRICK - (MODULAR)
CLOUD CERAMIC (UPCHURCH KIMBROUGH) - COFFEE - VELOUR

BK-2 - BRICK - (MODULAR)
CLOUD CERAMIC (UPCHURCH KIMBROUGH) - MIDNIGHT IS - VELOUR

CS-1 - ARRISCRAFT- (SIZE: 4" FACE)
UPCHURCH KIMBROUGH - MONTECITO - SMOOTH

LS-1 - LIMESTONE TILES (SIZES VARY) - U.S. STONE INDUSTRIES
PLAZA GRAY - HONED

COLORS SHOWN ARE NOT REPRESENTATIONAL OF ACTUAL COLOR.

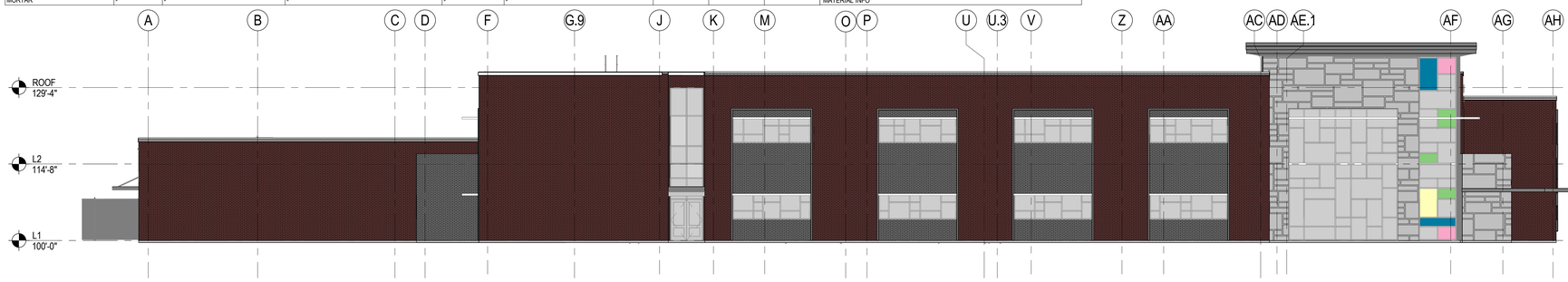
REFER TO COLOR SCHEDULE (A801) FOR COMPLETE LIST AND ADDITIONAL MATERIAL INFO

GENERAL NOTES

1. M.J. LOCATIONS: (FACE BRICK - CMU) - 4'-0" FROM OUTSIDE CORNERS.
2. C.J. LOCATIONS: (CEMENT PLASTER) - EQUALLY SPACE - (MAX. 18'-0")
3. REFER TO SHEET A801 FOR ADDITIONAL EXTERIOR FINISHES AND FINISH NOTES, TYP.
4. PAINT STEEL ACCESS LADDERS TO MATCH COLOR OF ADJACENT WALL SURFACE TYP.
5. CONTINUE MASONRY AND CMU ACCENT SCHEME AT ALL EXTERIOR WALLS INCLUDING AT ENTRIES, COLUMNS, AND WALLS OR PORTIONS OF WALLS NOT SHOWN ON ELEVATIONS, TYP.
6. COLOR OF SEALANT TO MATCH COLOR OF BRICK - CMU AT MASONRY JOINTS. ARCHITECT TO VERIFY IN FIELD.
7. COORDINATE WITH ARCHITECT FOR LOCATION OF ALL EXTERIOR WALL PACKS, SECURITY CAMERAS, SPEAKERS, HORNS, ECT. PRIOR TO INSTALLATION.

TYPICAL CONSTRUCTION JOINT NOTES

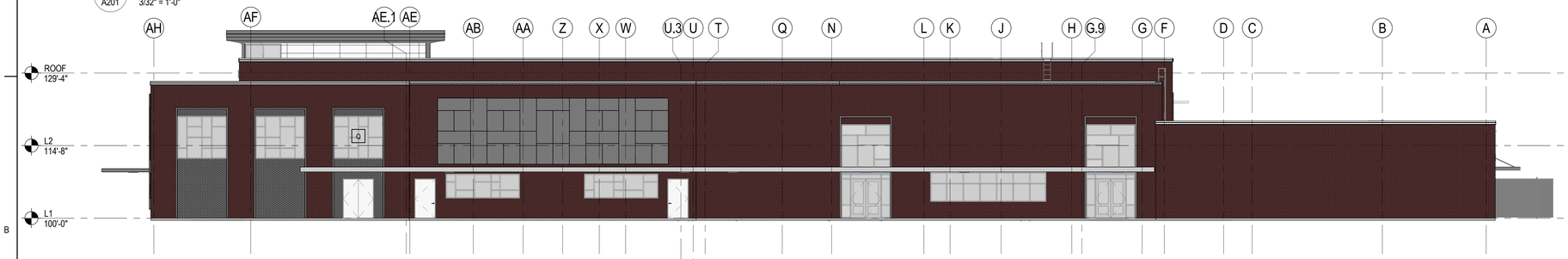
1. ALIGN ALL C.J. LOCATIONS WITH WINDOW OPENINGS.
2. CENTER C.J.s TO CENTER OF WINDOW MULLIONS BOTH VERTICAL AND HORIZONTAL.
3. U.O.N. LOCATE ALL OTHER ADJACENT C.J.s AT THE SAME DISTANCE AS THAT OF THOSE ALIGNED WITH CENTER OF MULLIONS ON THAT FACE OF THE WALL.



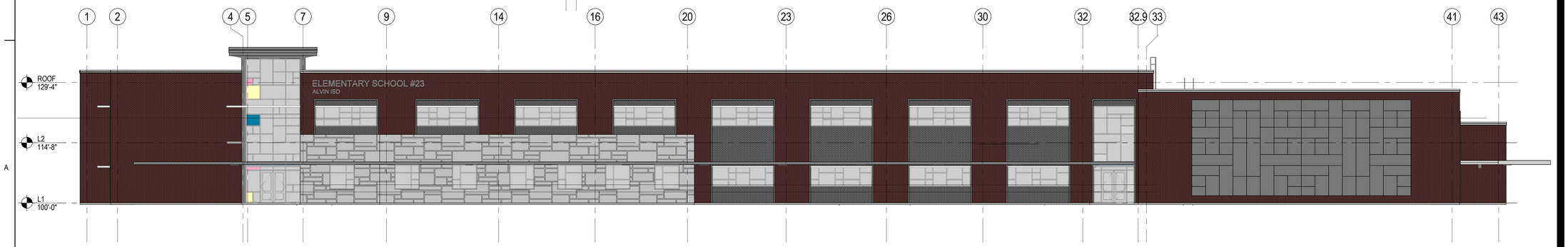
D1 A201 **OVERALL WEST ELEVATION**
3/32" = 1'-0"



C1 A201 **OVERALL NORTH ELEVATION**
3/32" = 1'-0"



B1 A201 **OVERALL EAST ELEVATION**
3/32" = 1'-0"



A1 A201 **OVERALL SOUTH ELEVATION**
3/32" = 1'-0"

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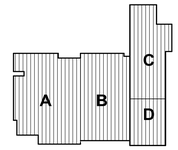
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Notes



N

INDICATED COLOR GLAZING FOR REFERENCE. AS NOTED ON FRAME ELEVATIONS. COLORS TBD.
NORTH ELEVATION - LEVEL BUMP-OUT INDICATED AS BRICK BK-2.

1	ADD#01		09/08/2025
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BIDDING DOCUMENTS			09.01.2025
FINAL CONSTRUCTION DOCUMENTS			08.18.2025
Issued		By	Appd	YYYY.MM.DD

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ALVIN Independent School District

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ALVIN ISD

ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

Title
OVERALL EXTERIOR ELEVATIONS

Project No.
214001269

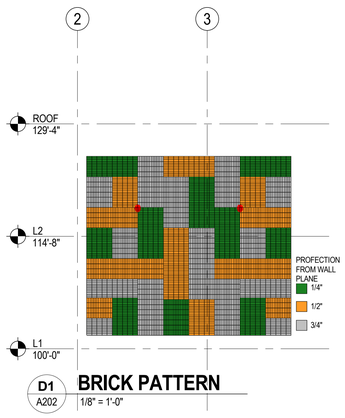
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Revision
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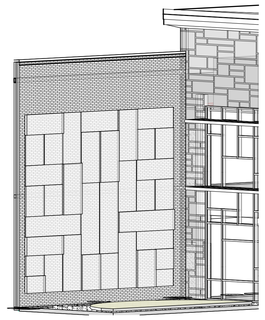
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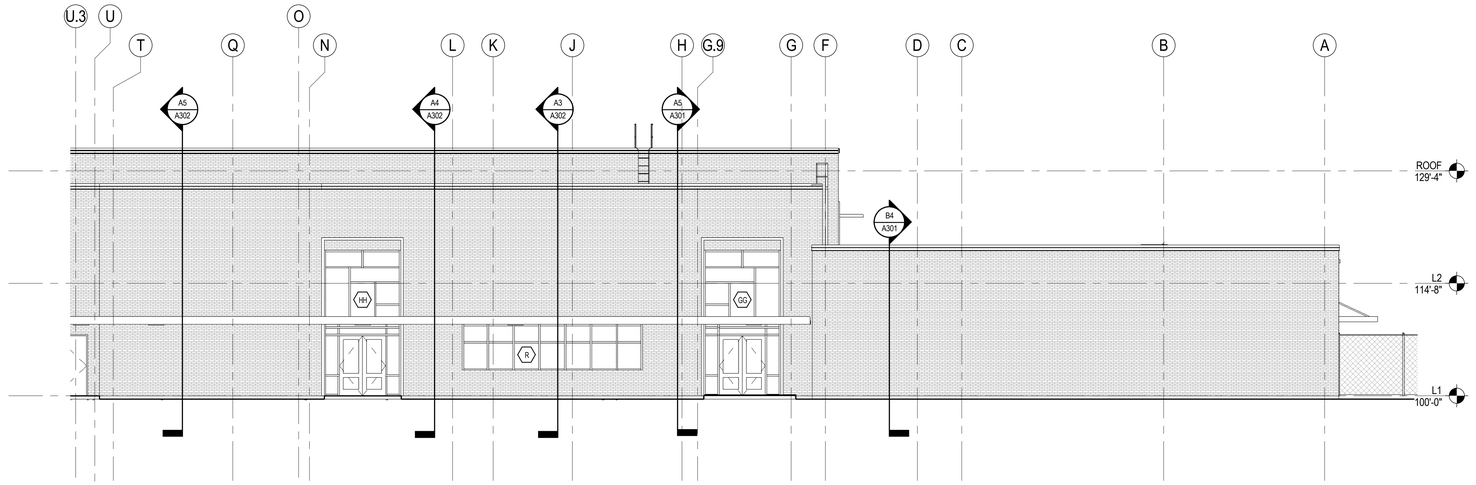
ORIGINAL SHEET - ARCH E1



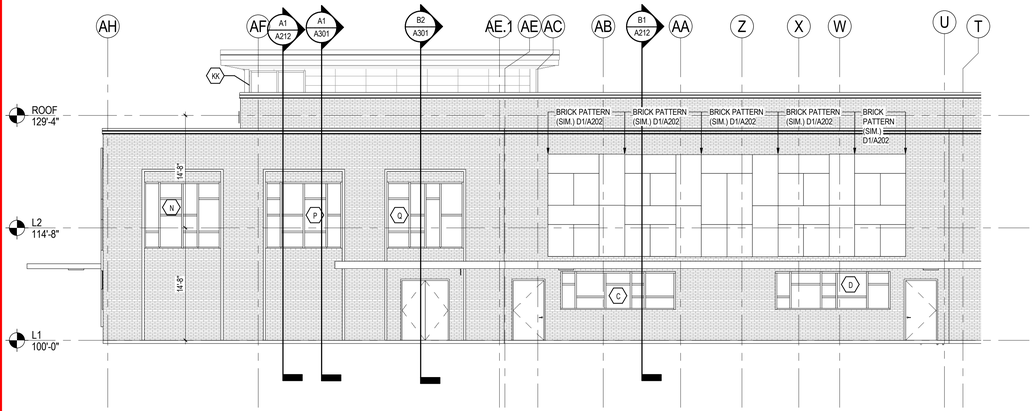
D1 A202 **BRICK PATTERN**
1/8" = 1'-0"



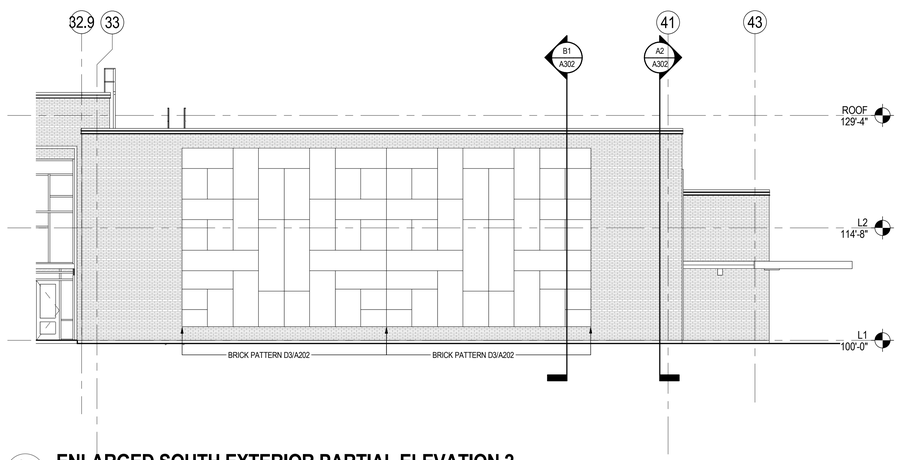
D2 A202 **BRICK PATTERN - 3D**



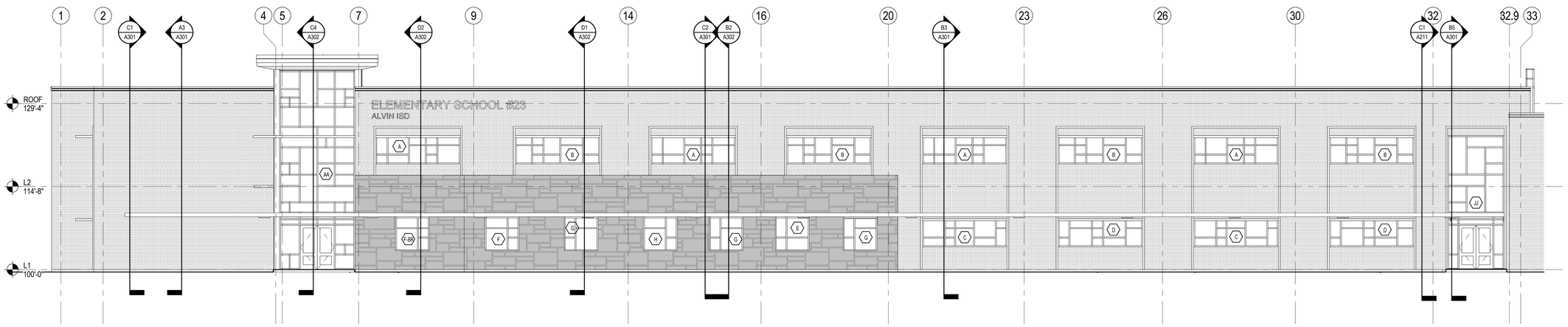
D3 A202 **ENLARGED EAST EXTERIOR PARTIAL ELEVATION 2**
1/8" = 1'-0"



C1 A202 **ENLARGED EAST EXTERIOR PARTIAL ELEVATION 1**
1/8" = 1'-0"



C4 A202 **ENLARGED SOUTH EXTERIOR PARTIAL ELEVATION 2**
1/8" = 1'-0"



A1 A202 **ENLARGED SOUTH EXTERIOR PARTIAL ELEVATION 1**
1/8" = 1'-0"

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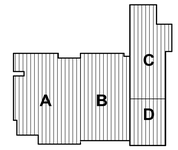
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Notes





1 ADDENDUM #1 BRICK PATTERN REFERENCE NOTES.
REMOVED EXTRA SECTION BUBBLES.
ADDED STORE FRAME TYPE F-BR WITH BULLET RESISTANT GLAZING AT EXTERIOR OF RECEPTION

	Revision	By	Appd	YYYY.MM.DD
1	ADD#01			09/08/2025
	BIDDING DOCUMENTS			09.01.2025
	FINAL CONSTRUCTION DOCUMENTS			08.18.2025

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ELEMENTARY SCHOOL #23

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Title
ENLARGED EXTERIOR ELEVATIONS

Project No.
214001269

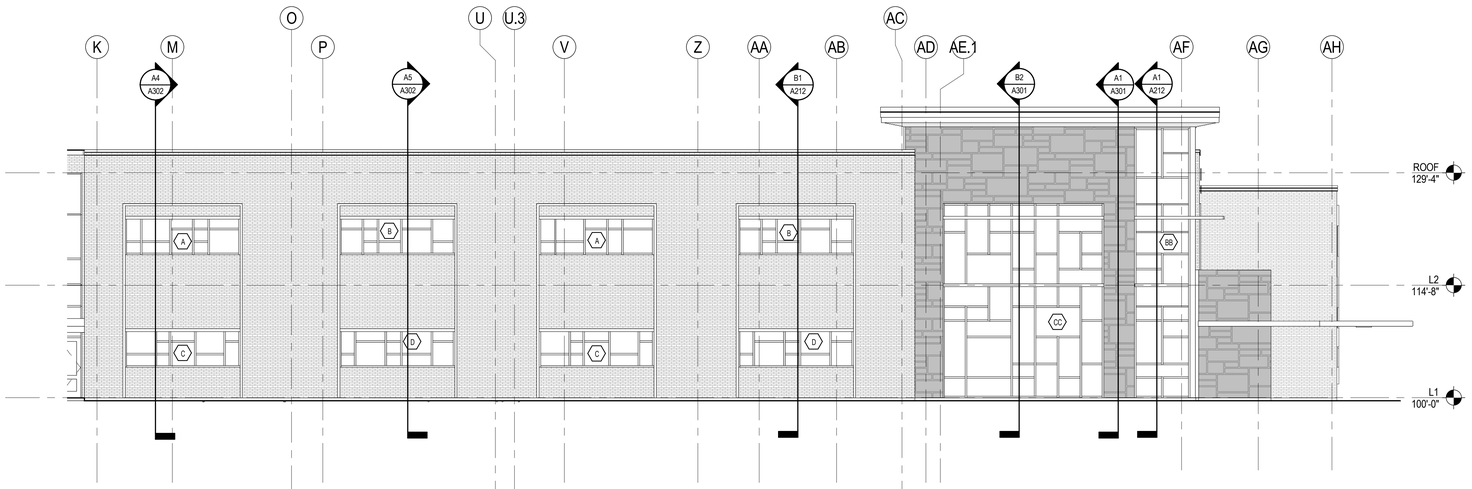
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Revision
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Drawing No.
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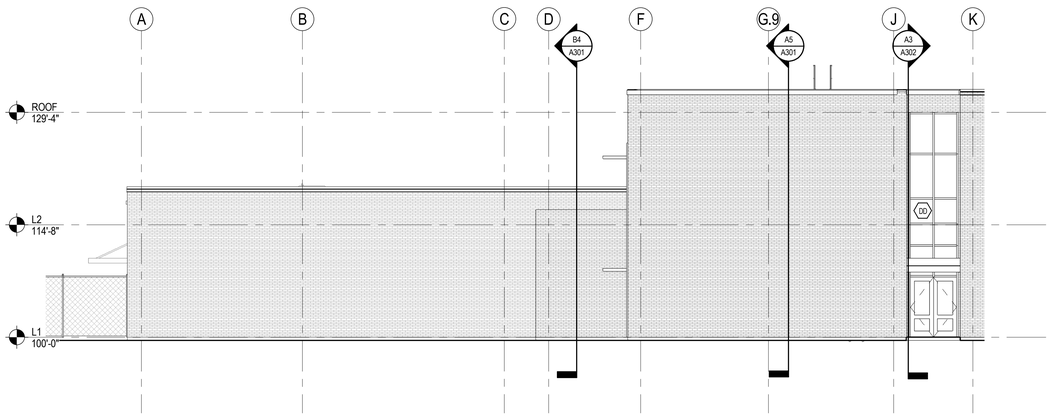
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ORIGINAL SHEET - ARCH D1



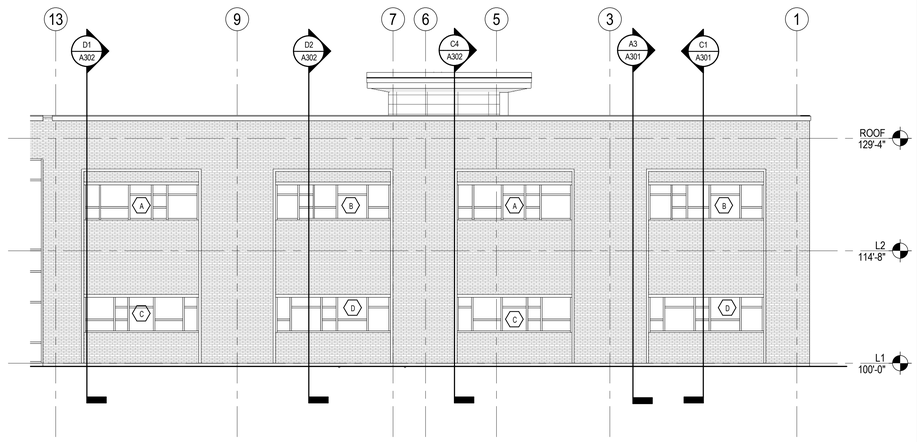
D1 / A203 ENLARGED WEST EXTERIOR PARTIAL ELEVATION 2

1/8" = 1'-0"



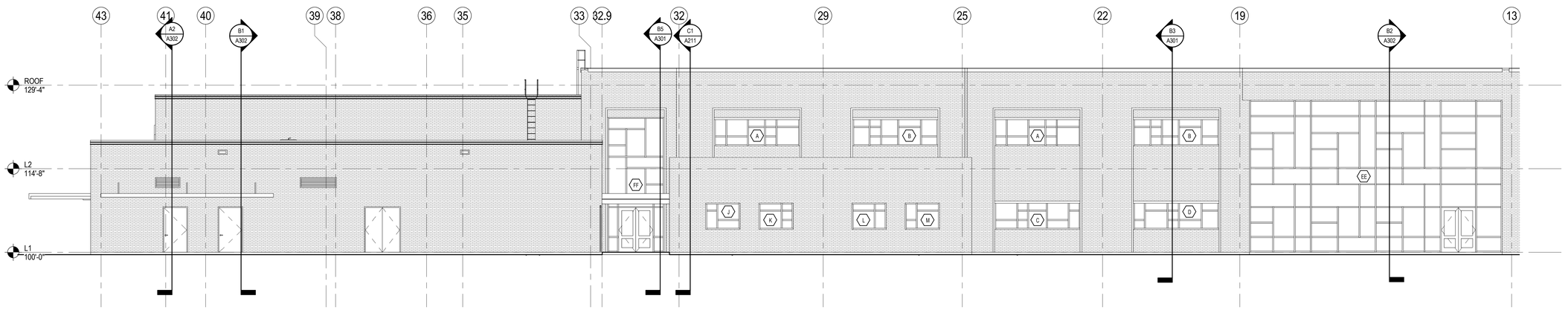
B1 / A203 ENLARGED WEST EXTERIOR PARTIAL ELEVATION 1

1/8" = 1'-0"



B4 / A203 ENLARGED NORTH EXTERIOR PARTIAL ELEVATION 2

1/8" = 1'-0"



A1 / A203 ENLARGED NORTH EXTERIOR PARTIAL ELEVATION 1

1/8" = 1'-0"

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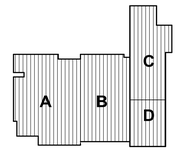
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Notes



N

1. ADDED BRICK PATTERN REFERENCE NOTES.
2. REMOVED EXTRA SECTION BUBBLES.
3. NORTH ELEVATION LEVEL 1, BUMP-OUT EXTERIOR WALL FINISH NOTED AS BRICK VENEER

1 ADD#01			09/08/2025
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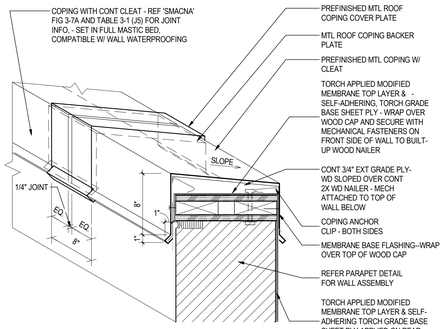
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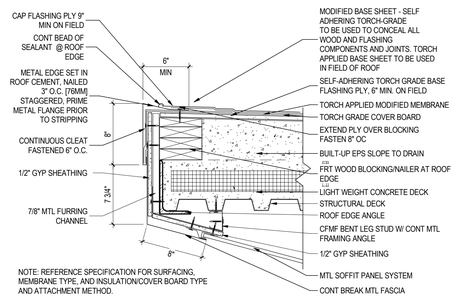
Revision
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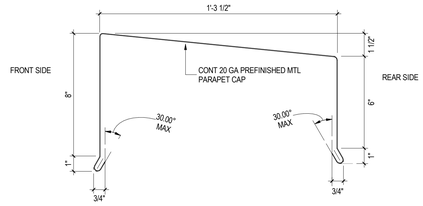
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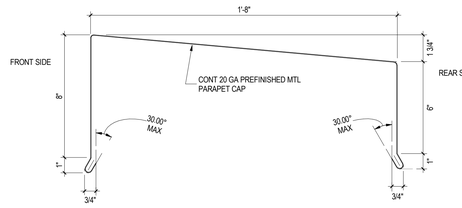
ORIGINAL SHEET - ARCH E1



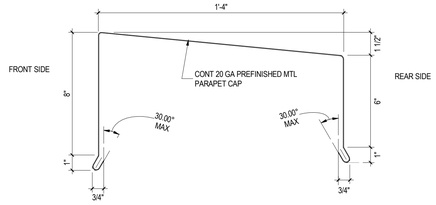




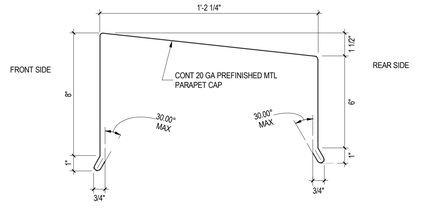
WALL CAP TYPE A



WALL CAP TYPE B

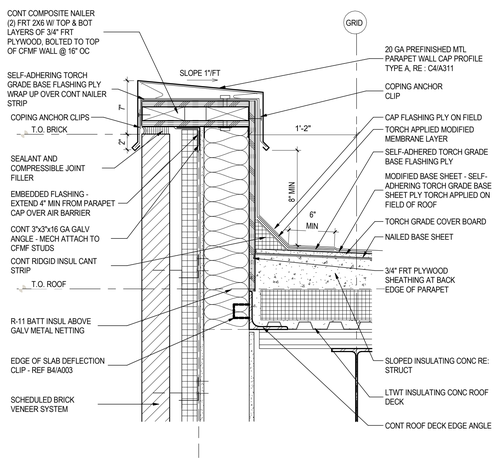


WALL CAP TYPE C

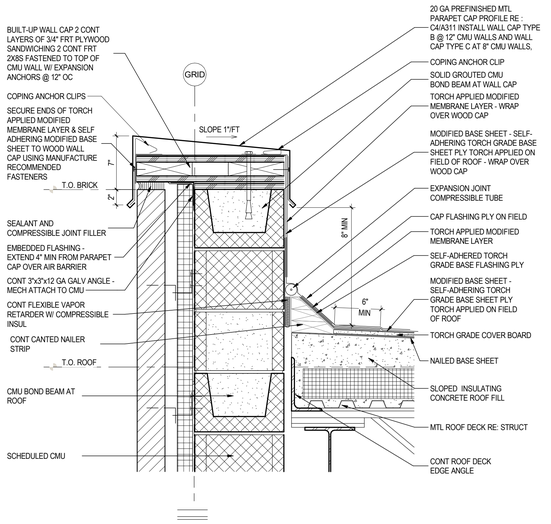


WALL CAP TYPE D

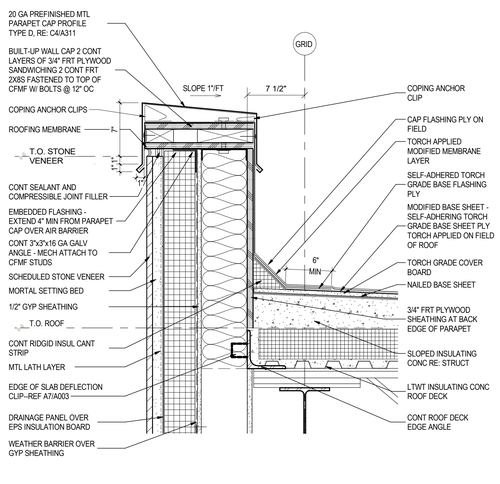
D1 PARAPET COPING DETAIL
A311 — 1 1/2" = 1'-0"

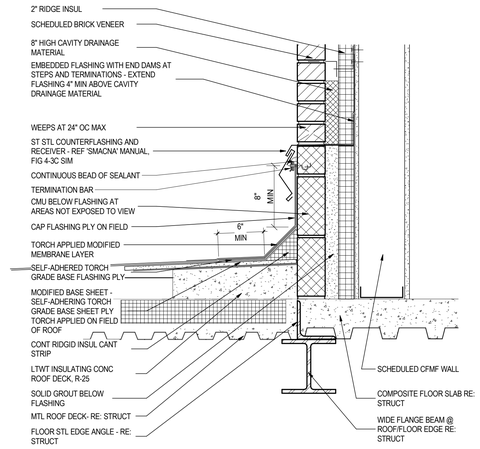


D2 HIGH ROOF EDGE DETAIL
A311 — 1 1/2" = 1'-0"

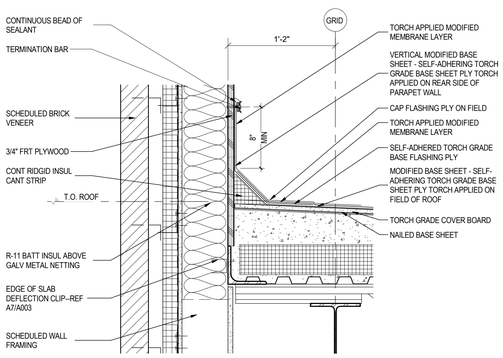


D4 PARAPET CAP PROFILE TYPES
A311 — 3" = 1'-0"

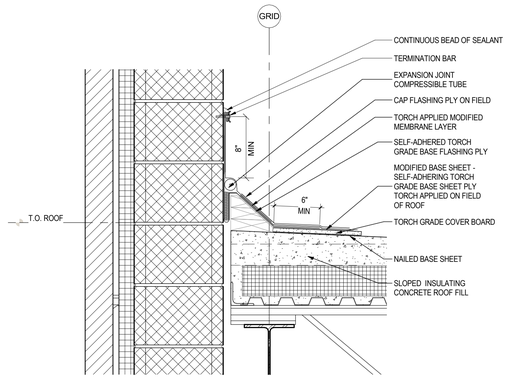




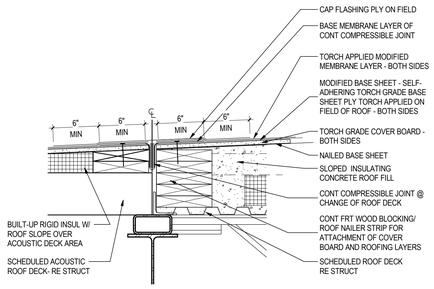
C1 SECTION DETAIL @ PARAPET (CFMF)
A311 — 1 1/2" = 1'-0"



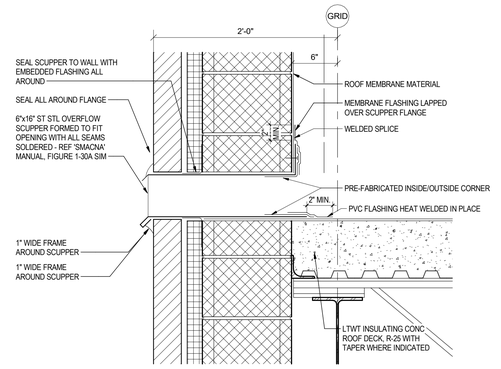
C2 SECTION DETAIL @ PARAPET (CMU)
A311 — 1 1/2" = 1'-0"



C4 PARAPET DETAIL @ STONE VENEER FINISH
A311 — 1 1/2" = 1'-0"



C6 SECTION DETAIL
A311 — 1 1/2" = 1'-0"



A1 SECTION DETAIL @ PARAPET (CFMF)
A311 — 1 1/2" = 1'-0"

A2 SECTION DETAIL @ PARAPET (CMU)
A311 — 1 1/2" = 1'-0"

A4 TYP ROOF JOINT DETAIL
A311 — 1 1/2" = 1'-0"

A6 SCUPPER DETAIL (CMU)
A311 — 1 1/2" = 1'-0"

Stantec

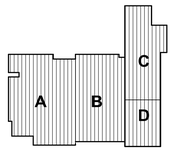
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Consultant

Notes



UPDATED ROOF DETAILS FOR MODIFIED BUILT-UP ROOFING SYSTEM.

ADDED CAP PROFILE DETAILS FOR PREFINISHED METAL WALL CAPS

Revision	By	Appd	YYYY.MM.DD
1 ADD#01			09/08/2025

Issued	By	Appd	YYYY.MM.DD
BIDDING DOCUMENTS			09.01.2025
FINAL CONSTRUCTION DOCUMENTS			08.18.2025

Permit/Seal

REGISTERED ARCHITECT · MARK E. JACKSON · 19468 · STATE OF TEXAS

Client/Project Logo

ALVIN Independent School District

Client/Project

ALVIN ISD

ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

Title

ROOF DETAILS

Project No. 21400126?

Scale: As indicated

Revision: 1

Drawing No.: **A311**

<Pics location in Project Information>
8/8/2025 11:38:43 PM

ORIGINAL SHEET - ARCH E1

DOOR SCHEDULE - LEVEL 1 - AREA 'A'

DOOR #	DOOR DIMENSION WIDTH	DOOR DIMENSION HEIGHT	DOOR TYPE	DOOR MATERIAL	FINISH	HARDWARE SET	FRAME TYPE	FRAME MATERIAL	FRAME DETAILS HEAD DETAIL	FRAME DETAILS JAMB DETAIL	FRAME DETAILS SILL DETAIL	SIGN TYPES	COMMENTS / FIRE LABEL
A100	6'-0"	7'-10"	FLD	ALUM	ALUM	WC714MA		ALUM					CARD READER
A100A	6'-0"	7'-10"	FLD	ALUM	ALUM	CV710MA B		ALUM					CARD READER - BALLISTIC
A101	3'-0"	7'-10"	FLD	ALUM	PRINTED	CVR711A B		ALUM					CARD READER - BALLISTIC,PANIC BAR
A101A	3'-0"	7'-10"	FLD	WD	P.LAM	ER201A		ALUM					REMOTE PUSH BUTTON RELEASE
A101B	3'-0"	7'-2"	F	WD	P.LAM	CR711		HM					CARD READER / REMOTE PUSH BUTTON @ DESK
A102	3'-0"	7'-2"	F	WD	P.LAM	203		HM					STOREROOM SET - NO CLOSER
A103	3'-0"	7'-2"	F	WD	P.LAM	341		HM					PRIVACY SET
A104	3'-0"	7'-2"	NL	WD	P.LAM	103		HM					
A105	3'-0"	7'-2"	NL	WD	P.LAM	103		HM					
A106	3'-0"	7'-2"	F	WD	P.LAM	201		HM					STOREROOM SET - W/ CLOSER
A106A	3'-0"	7'-2"	F	WD	P.LAM	103		HM					
A107	3'-0"	7'-2"	F	WD	P.LAM	103		HM					
A108	3'-0"	7'-2"	F	WD	P.LAM	341-STF		HM					PRIVACY SET
A109	3'-0"	7'-2"	F	WD	P.LAM	103		HM					
A110	3'-0"	7'-2"	F	WD	P.LAM	103		HM					OFFICE SET - NO CLOSER
A111	3'-0"	7'-2"	F	WD	P.LAM	103		HM					OFFICE SET - NO CLOSER
A112	3'-0"	7'-2"	F	WD	P.LAM	341		HM					
A113	3'-0"	7'-2"	F	WD	P.LAM	201		HM					STOREROOM SET - W/ CLOSER
A113A	3'-0"	7'-2"	F	WD	P.LAM	201		HM					STOREROOM SET - W/ CLOSER
A114	3'-0"	7'-2"	NL	WD	P.LAM	103		HM					OFFICE SET - NO CLOSER
A115	3'-0"	7'-2"	NL	WD	P.LAM	103		HM					OFFICE SET - NO CLOSER
A116	3'-0"	7'-2"	F	WD	P.LAM	203		HM					STOREROOM SET - NO CLOSER
A117	4'-0"	7'-2"	F	WD	P.LAM	203W		HM					STOREROOM SET - NO CLOSER
A118	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
A119	3'-0"	7'-2"	F	WD	P.LAM	553		HM					CARD READER
A120	3'-0"	7'-2"	F	WD	P.LAM	CE201		HM					STORERROM SET - W/ CLOSER, PANIC BAR,
A121	3'-0"	7'-2"	F	WD	P.LAM	C711		HM					CARD READER
A122	3'-0"	7'-2"	F	WD	P.LAM	341-STF		HM					
A123	3'-0"	7'-2"	F	WD	P.LAM	203-CUST		HM					
A124	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
A125	3'-0"	7'-2"	F	WD	P.LAM	203		HM					
A126	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
A127	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
A130	6'-0"	7'-10"	FLD	ALUM	ALUM	W714MA		ALUM					
A131	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
A132	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
A133	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
A134	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
A135	3'-0"	7'-0"	FLD	WD	P.LAM	553		ALUM					
A136	4'-0"	7'-0"	NL	WD	P.LAM	203WK		HM					STOREROOM SET - NO CLOSER, 12" KICK PLATE
A137	6'-0"	7'-10"	FLD	ALUM	ALUM	W714MA		ALUM					CARD READER
A139	3'-0"	7'-1 1/2"	F	WD	P.LAM	203		ALUM					STOREROOM SET - NO CLOSER
A139A	3'-0"	7'-2"	F	WD	P.LAM	203		HM					STOREROOM SET - NO CLOSER
A141	3'-0"	6'-11 1/2"	F	WD	P.LAM	203		HM					
A142	3'-0"	7'-0"	F	WD	P.LAM	201K		HM					

DOOR SCHEDULE - LEVEL 1 - AREA 'B'

DOOR #	DOOR DIMENSION WIDTH	DOOR DIMENSION HEIGHT	DOOR TYPE	DOOR MATERIAL	FINISH	HARDWARE SET	FRAME TYPE	FRAME MATERIAL	FRAME DETAILS HEAD DETAIL	FRAME DETAILS JAMB DETAIL	FRAME DETAILS SILL DETAIL	SIGN TYPES	COMMENTS / FIRE LABEL
B100	4'-0"	7'-0"	F	WD	P.LAM	201K		HM					
B101	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
B102	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
B103	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
B104	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
B104A	3'-0"	7'-2"	F	WD	P.LAM	343-PRE		HM					INDICATOR,, NO CLOSURE
B107	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
B107	3'-0"	7'-2"	F	WD	P.LAM	341-STF		HM					
B109	3'-0"	7'-2"	F	WD	P.LAM	203-CUST		HM					
B109	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
B110	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
B112	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
B113	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
B114	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
B116	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
B117	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
B119	6'-0"	7'-0"	F	WD	P.LAM	710M		HM					
B120	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
B120A	3'-0"	7'-2"	F	WD	P.LAM	343-PRE		HM					INDICATOR,, NO CLOSURE
B121	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
B121A	3'-0"	7'-2"	F	WD	P.LAM	343-PRE		HM					INDICATOR,, NO CLOSURE
B122	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
B122A	3'-0"	7'-2"	F	WD	P.LAM	343-PRE		HM					INDICATOR,, NO CLOSURE
B123	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
B123A	3'-0"	7'-2"	F	WD	P.LAM	343-PRE		HM					INDICATOR,, NO CLOSURE
B124	3'-0"	7'-2"	F	WD	P.LAM	553		HM					
B125	4'-0"	7'-2"	F	HM	P.LAM	C711		HM					CARD READER
B125A	3'-0"	7'-2"	F	WD	P.LAM	201K		HM					
B127	4'-0"	7'-2"	F	WD	P.LAM	203W		HM					
B129	3'-0"	7'-2"	F	WD	P.LAM	CE201		HM					CARD READER
B129A	3'-0"	7'-2"	F	WD	P.LAM	343-PRE		HM					INDICATOR,, NO CLOSURE
B130	3'-0"	7'-0"	FL	WD	P.LAM	203		HM					STOREROOM SET
B131	6'-0"	7'-0"	F	HM	P.LAM	710M		HM					
B132	4'-0"	7'-0"	F	WD	P.LAM	201K		HM					STOREROOM SET - W/ CLOSER
B133	4'-0"	7'-0"	F	WD	P.LAM	201K		HM					STOREROOM SET - W/ CLOSER
B134	6'-0"	7'-10"	FLD	ALUM	ALUM	WC714MA -NM		ALUM					CARD READER
B136	6'-0"	7'-10"	FLD	ALUM	ALUM	WC714MA		ALUM					CARD READER

DOOR SCHEDULE - LEVEL 1 - AREA 'C'

DOOR #	DOOR DIMENSION WIDTH	DOOR DIMENSION HEIGHT	DOOR TYPE	DOOR MATERIAL	FINISH	HARDWARE SET	FRAME TYPE	FRAME MATERIAL	FRAME DETAILS HEAD DETAIL	FRAME DETAILS JAMB DETAIL	FRAME DETAILS SILL DETAIL	SIGN TYPES	COMMENTS / FIRE LABEL
C101A	6'-0"	7'-10"	FLD	ALUM	ALUM	WC714MA MTK		ALUM					CARD READER
C101B	6'-0"	7'-10"	FLD	ALUM	ALUM	W714MA-NM		ALUM					
C102A	3'-6"	7'-0"	FLD	ALUM	ALUM	203AW		ALUM					
C102B	3'-6"	7'-0"	FLD			203AW							
C102C	14'-0"	8'-0"	FL	GLASS	ALUM	001SL		ALUM					(2) 58" WIDE SLIDERS, (1) FIXED GLASS PANEL. INSIDE LOCKABLE
C103	3'-5"	2'-8"	OCD	FDP		001		FDP					COUNTER SHUTTER
C104	3'-0"	7'-2"	F	HM	P.LAM	203		HM					
C105A	4'-0"	7'-0"	HL	HM	P.LAM	C711WAP		HM					CARD READER, BELL, 12" KICKPLATE, BELL
C109	4'-0"	7'-10"	F	HM	PNT	WC715-BOH		HM					PANIC BAR, NO DOGGING, CARD READER
C109A	3'-0"	7'-2"	F	HM	P.LAM	711EL		HM					STOREROOM SET - W/ CLOSER, PANIC BAR
C110	6'-0"	7'-10"	F	HM	PNT	WC714MH-MEC		HM					PANIC BAR BOTH PANELS, NO TRIM REMOVABLE KEYED MULLION, PEEP PROTECTION PLATE, CLOSURE W/ HOLD OPEN, CARD READER
C111	4'-0"	7'-10"	F	HM	PNT	WC715V		HM					CARD READER, 12' KICKPLATE, BELL, PEEP
C111A	3'-0"	7'-2"	F	HM	P.LAM	341		HM					
C112	3'-0"	7'-2"	F	HM	P.LAM	203-CUST		HM					
C113	4'-0"	7'-0"	F	HM	P.LAM	CE201W		HM					CARD READER, STORERROOM, NO CLOSURE,180 DEGREES SWING
C114	3'-0"	7'-2"	HL	WD	P.LAM	103		HM					
C115	6'-0"	7'-2"	F	WD	BLACK P.LAM	212		HM					
C115B	4'-0"	7'-2"	F	WD	P.LAM	203W		HM					
C118	4'-0"	7'-2"	F	HM	P.LAM	203W		HM					-STOREROOM -NO CLOSURE180 DEGREES SWING

DOOR SCHEDULE - LEVEL 1 - AREA 'D'

DOOR #	DOOR DIMENSION WIDTH	DOOR DIMENSION HEIGHT	DOOR TYPE	DOOR MATERIAL	FINISH	HARDWARE SET	FRAME TYPE	FRAME MATERIAL	FRAME DETAILS HEAD DETAIL	FRAME DETAILS JAMB DETAIL	FRAME DETAILS SILL DETAIL	SIGN TYPES	COMMENTS / FIRE LABEL
D103	4'-0"	7'-2"	F	HM	P.LAM	553W		HM					NO CLOSER
D103A	4'-0"	7'-2"	F	HM	P.LAM	203W		HM					NO CLOSER
D103B	3'-6"	7'-2"	F	HM	P.LAM	203W		HM					STOREROOM SET - NO CLOSER
D103C	4'-0"	7'-10"	F	HM	HM	WC715-EN T		HM					
D104	4'-0"	7'-2"	F	HM	P.LAM	553W		HM					NO CLOSER
D104A	3'-0"	7'-2"	F	HM	P.LAM	203		HM					
D104B	4'-0"	7'-10"	F	HM	HM	WC715-EN T		HM					
D106	6'-0"	7'-2"	F	WD	P.LAM	710M-NM		HM					(1) NARROW LIGHT ON LEFT
D106A	6'-0"	7'-10"	F	HM	P.LAM	W714M-EN T		HM					(1) NARROW LIGHT ON RIGHT, REMOVABLE MULLION W/ KEY
D107	4'-0"	7'-2"	HL	WD	P.LAM	103W		HM					OFFICE SET - NO CLOSER
D108	6'-0"	7'-2"	F	HM	P.LAM	212LG		HM					NO CLOSER,, STOREROOM ON RIGHT, THROW BOLT ON LEFT, LATCH GUARD
D116	3'-0"	7'-2"	NL	HM	P.LAM	341-STF		HM					

DOOR SCHEDULE - LEVEL 2 - AREA 'A'

DOOR #	DOOR DIMENSION WIDTH	DOOR DIMENSION HEIGHT	DOOR TYPE	DOOR MATERIAL	FINISH	HARDWARE SET	FRAME TYPE	FRAME MATERIAL	FRAME DETAILS HEAD DETAIL	FRAME DETAILS JAMB DETAIL	FRAME DETAILS SILL DETAIL	SIGN TYPES	COMMENTS / FIRE LABEL
A201	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
A202	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
A203	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
A204	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
A205	3'-0"	7'-2"	F	HM	P.LAM	341-STF		HM					
A206	3'-0"	7'-2"	F	HM	P.LAM	201		HM					
A207	3'-0"	7'-0"	NL	HM	P.LAM	203		HM					
A208	3'-0"	7'-0"	NL	HM	P.LAM	203		HM					
A210	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
A212	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
A213	4'-0"	7'-0"	F	HM	P.LAM	CE201W		HM					CARD READER
A214	3'-0"	7'-2"	F	HM	P.LAM	CE201		HM					CARD READER
A215	3'-0"	7'-2"	F	HM	P.LAM	203-CUST		HM					
A216	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
A218	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
A219	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
A219A	3'-0"	7'-2"	F	HM	P.LAM	203		HM					
A220	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
A221	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
A222	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
A223	3'-0"	7'-2"	F	HM	P.LAM	553		HM					

DOOR SCHEDULE - LEVEL 2 - AREA 'B'

DOOR #	DOOR DIMENSION WIDTH	DOOR DIMENSION HEIGHT	DOOR TYPE	DOOR MATERIAL	FINISH	HARDWARE SET	FRAME TYPE	FRAME MATERIAL	FRAME DETAILS HEAD DETAIL	FRAME DETAILS JAMB DETAIL	FRAME DETAILS SILL DETAIL	SIGN TYPES	COMMENTS / FIRE LABEL
B201	4'-0"	7'-0"	F	HM	P.LAM	553W		HM					
B201A	3'-0"	7'-2"	F	HM	P.LAM	203		HM					
B202	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
B203	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
B204	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
B205	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
B206	6'-0"	7'-0"	F	HM	P.LAM	710M		HM					
B207	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
B209	3'-0"	7'-2"	F	HM	P.LAM	203-CUST		HM					
B210	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
B212	4'-0"	7'-0"	F	HM	P.LAM	CE201W		HM					CARD READER
B213	3'-0"	7'-2"	F	HM	P.LAM	341-STF		HM					
B214	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
B216	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
B217	6'-0"	7'-0"	F	HM	P.LAM	710M		HM					
B218	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
B219	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
B220	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
B222	3'-0"	7'-2"	F	HM	P.LAM	203		HM					
B223	3'-0"	7'-2"	F	HM	P.LAM	553		HM					
B224	3'-0"	7'-2"	F	HM	P.LAM	203		HM					
B225	3'-0"	7'-2"	F	HM	P.LAM	203		HM					

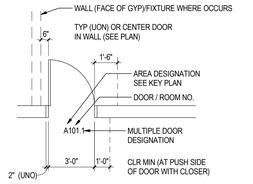
DOOR SCHEDULE - LEVEL 2 - AREA 'D'

DOOR #	DOOR DIMENSION WIDTH	DOOR DIMENSION HEIGHT	DOOR TYPE	DOOR MATERIAL	HARDWARE SET	FRAME TYPE	FRAME MATERIAL	FRAME DETAILS HEAD DETAIL	FRAME DETAILS JAMB DETAIL	FRAME DETAILS SILL DETAIL	SIGN TYPES	COMMENTS / FIRE LABEL
D201	4'-0"	7'-2"	F									CARD READER
D201A	3'-0"	7'-2"	F									CARD READER

1 THE FOLLOWING DOORS WERE MODIFIED DURING THIS ISSUE (ADD#01):
- A124
- A141
- B136
- C109A
- D103C
- D104A
- D104B
- D201
- D201A

ADDED HARDWARE SET NUMBER TO ALL OPENINGS FROM ALLEGION

DOOR MARK KEY



GENERAL DOOR AND WINDOW NOTES:

1. REFER TO SHEETS A501 FOR DOOR SCHEDULES.
2. REFER TO SHEET A004 AND A005 FOR LINTEL SCHEDULES AND DOOR AND WINDOW JAMB STUD FRAMING SCHEDULE.
3. PROVIDE REMOVABLE MULLION AT ALL FGIR DOUBLE DOORS.
4. ALL DOORS TO BE 1 3/4" THICK (UON) - REFER TO SPECIFICATION.
5. ALL STL FRAMES TO HAVE A 2" FACE DIMENSION UON, W/ 5/8" STOP. 3/4" STOP REQUIRED FOR FIRE RATED FRAMES.
6. STEEL FRAME DEPTHS INDICATED IN THE DETAILS ARE NOMINAL. PROVIDE STANDARD WIDTH FRAME WITH THROAT OPENING APPROPRIATE TO PARTITION TYPE.
7. COORDINATE WITH MECH DOCUMENTS FOR DOOR UNDERCUTS AND DOOR LOUVERS, IF ANY.
8. ALL LIGHTS IN DOORS TO HAVE SAFETY GLAZING (UON).
9. EXTERIOR DOORS TO HAVE TINTED GLAZING (UON) AND INTERIOR DOORS TO HAVE CLEAR GLAZING.
10. FIELD VERIFY DIMENSIONS PRIOR TO FABRICATING FRAMES.
11. PROVIDE WD BLKG IN GYP BD WALLS BEHIND DOORS SCHEDULED TO HAVE WALL MOUNTED DOOR STOPS. (REFER HARDWARE SCHEDULE SUBMITTAL).
12. REFER DETAILS A3/A004 FOR TYP WINDOW AND DOOR CONTROL JOINTS IN MASONRY WALLS. REFER DETAILS A1/A005 FOR TYP WINDOW AND DOOR CONTROL JOINTS IN STEEL STUD FRAMED WALLS.
13. FLOOR MATERIAL CHANGES BETWEEN ROOMS TO OCCUR UNDER DOOR.
14. PROVIDE DRIP AT HEAD OF ALL EXTERIOR HM DOORS
15. PROVIDE 2" WIDE ADA COMPLIANT MARBLE THRESHOLD WITH CHAMFERED EDGES AT ENTRY DOOR OF ALL SINGLE HOLE TOILET ROOMS, TYP.
16. TYPICAL EXTERIOR GLAZING UNITS ARE TYPE GL-1 (TINTED - GRAY, LOW-E, INSULATED 1" THICK GLAZING). EXTERIOR GLAZING IS TYPE GL-1 U.O.N.

FRAME TYPE LEGEND

M#	STEEL (STL) FRAME TYPE
#	INTERIOR ALUMINUM (STOREFRONT) TYPE (1) BASIS OF DESIGN: KAWNEER TRIFAB 450 (2" X 4 1/2" MULLIONS)
A	EXTERIOR ALUMINUM (STOREFRONT) TYPE (2) BASIS OF DESIGN: KAWNEER TRIFAB 451T (2" X 4 1/2" MULLIONS)
AA	EXTERIOR ALUMINUM (CURTAIN WALL) TYPE (3) BASIS OF DESIGN: KAWNEER 1600 (2 1/2" X 7 1/2" MULLIONS)

GLAZING KEY

NAME	DESCRIPTION
GL1	EXTERIOR - TINTED, (GRAY), LOW-E, LAMINATED INSULATED 1 5/16" THICK GLAZING UNIT.
GL2	EXTERIOR - CLEAR, LOW-E, LAMINATED, INSULATED 1 5/16" THICK GLAZING UNIT W/ COLOR FILM (VANCEVA). - COLOR TBD
GL3	EXTERIOR - SPANDREL PANEL, LOW-E, LAMINATED INSULATED 1 5/16" THICK. GLAZING UNIT.
GL4	INTERIOR - TEMPERED GLAZING. 1/4" THICK.
GL5	EXTERIOR - BALLISTIC RATED GLAZING, TINTED GRAY, LOW-E, INSULATED UNIT.
GL6	INTERIOR BALLISTIC RESISTANT GLAZING 9/16" THICK. UL 752 LEVEL 3 REF: SPECS
GL7	INTERIOR FORCED ENTRY RESISTANT GLAZING. 9/16" THICK REF: SPECS

NOTE: GLASS THICKNESS DESIGNATION INDICATED ARE MINIMUMS & ARE FOR DETAILING ONLY. GLAZING TRADE CONTRACTOR TO DETERMINE SAFETY GLAZING REQUIREMENTS & TO CONFIRM GLASS THICKNESS BY ANALYZING PROJECT LOADS, IN-SERVICE CONDITIONS & GLASS LOCATIONS. PROVIDE GLASS LITES / UNITS IN THE THICKNESS DESIGNATIONS INDICATED ABOVE FOR VARIOUS SIZE OPENINGS, BUT NOT LESS THAN THICKNESS & IN STRENGTH (ANNEALED, TEMPERED OR HEAT TREATED) REQUIRED TO MEET OR EXCEED CODE & PERFORMANCE CRITERIA, RE: SPECIFICATION SECTION 08 8000.

DOOR SCHEDULE REMARKS

NOTE: DOOR SCHEDULED AS WOOD (WD) SHALL HAVE PLASTIC LAMINATE VENEER (PL1) U.O.N. - REFER TO A501 FOR DOOR MARK KEY.

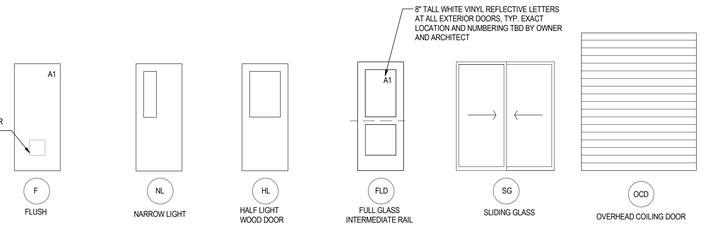
1. PROVIDE EXTERIOR GRADE DOOR SIGN.
2. PROVIDE ACCESS CONTROL (CARD READER). REFER TO ELECTRICAL DOCUMENTS FOR POWER. AT DOUBLE DOORS PROVIDE ELECTRIC STRIKE AT REMOVABLE MULLION.
3. PROVIDE 4" WHITE VINYL DECAL LETTERS - AT INTERIOR AND EXTERIOR OF DOOR - VERIFY WITH OWNER/ARCHITECT FOR NUMBER SEQUENCE
4. PROVIDE 1" WHITE VINYL DECAL LETTERS - AT INTERIOR OF ALL DOORS ON OCCUPIED SIDE OF DOOR LOCATED AT STRIKE SIDE BOTTOM OF DOOR LEAF
5. REFER TO FRAME TYPES ON A501 - A505 FOR DOOR GLAZING TO MATCH ADJACENT GLAZING TYPES
6. MANUAL OPERATED.

DOOR TYPE ABBREVIATIONS

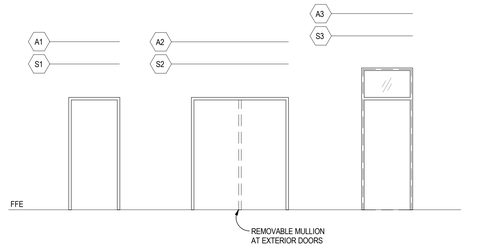
NL - NARROW LITE
HL - HALF LITE
F - FLUSH
FLD - FULL GLASS INTERMEDIATE RAIL
OCD - OVERHEAD COILING DOOR
SG - SLIDING GLASS

DOOR SIGNAGE NOTES

1. **REFER TO A803 FOR ROOM SIGNAGE TYPES.**
2. PROVIDE FULL CONCEALED BACK PIECE FOR SIGNS MOUNTED ON GLASS.
3. PROVIDE EXTERIOR GRADE SIGN AT DOORS INDICATED WITH REMARK '2'. PROVIDE EXTERIOR GRADE ACRYLIC SIGN.
4. PROVIDE SIGN TYPE 'J' AT ALL ACCESSIBLE EXITS TO THE EXTERIOR. SIGN TO BE PLACED AT INTERIOR OF SPACE.
5. PROVIDE SIGN TYPE 'H' AT GYM, DINING, AND COMMUNITY ROOM



A3 / A501 DOOR TYPES 1/4" = 1'-0"



A5 / A501 DOOR FRAME TYPES 1/4" = 1'-0"

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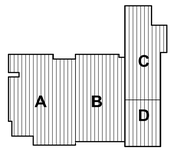
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Notes



No.	Revision	By	Appd	YYYY.MM.DD
1	ADD#01			09/08/2025
	BIDDING DOCUMENTS			09.01.2025
	FINAL CONSTRUCTION DOCUMENTS			08.18.2025

Issued

Permit/Seal

REGISTERED ARCHITECT MARK E. JACKSON 19468 STATE OF TEXAS

Client/Project Logo

ALVIN Independent School District

Client/Project
ALVIN ISD

ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

Title
DOOR SCHEDULES, NOTES, AND DETAILS

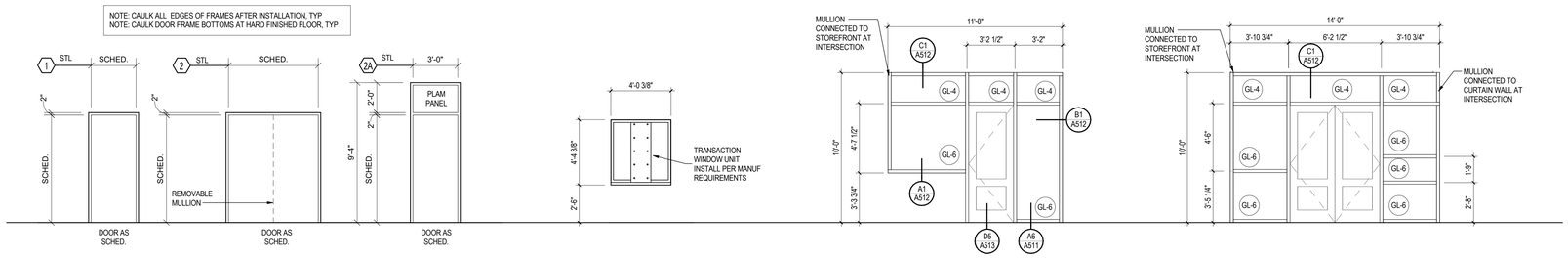
Project No.
214001269

Scale
As indicated

Revision
1

Drawing No.
A501

ORIGINAL SHEET - ARCH E1



FRAME TYPES 1 TO 3

1/4" = 1'-0"

FRAME TYPE 4

1/4" = 1'-0"

FRAME TYPE 5

1/4" = 1'-0"

FRAME TYPE 6

1/4" = 1'-0"

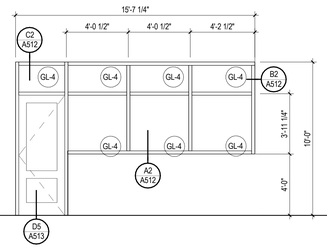
FRAME TYPE LEGEND

M#	STEEL (STL) FRAME TYPE
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AA	EXTERIOR ALUMINUM (CURTAIN WALL) TYPE (3) BASIS OF DESIGN: KAWNEER 1600 (2 1/2" X 7 1/2" MULLIONS)

GLAZING KEY

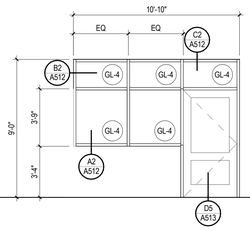
NAME	DESCRIPTION
GL1	EXTERIOR - TINTED, (GRAY), LOW-E, LAMINATED INSULATED 1 5/16" THICK GLAZING UNIT.
GL2	EXTERIOR - CLEAR, LOW-E, LAMINATED, INSULATED 1 5/16" THICK GLAZING UNIT W/ COLOR FILM (VANCEVA). - COLOR TBD
GL3	EXTERIOR - SPANDREL PANEL, LOW-E, LAMINATED INSULATED 1 5/16" THICK. GLAZING UNIT.
GL4	INTERIOR - TEMPERED GLAZING. 1/4" THICK.
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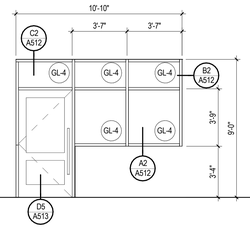
FRAME TYPE 7

1/4" = 1'-0"



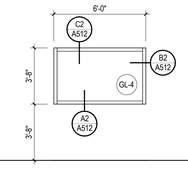
FRAME TYPE 8

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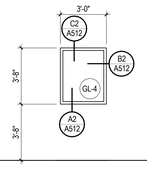
FRAME TYPE 9

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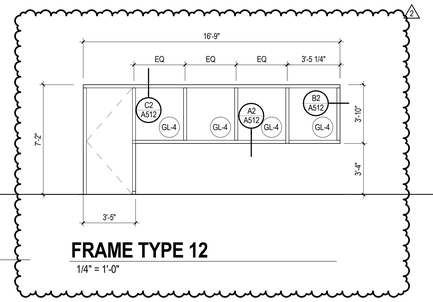
FRAME TYPE 10

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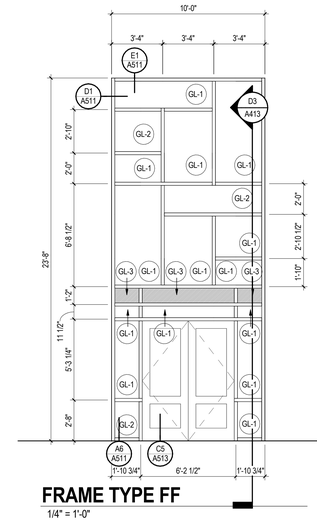
FRAME TYPE 11

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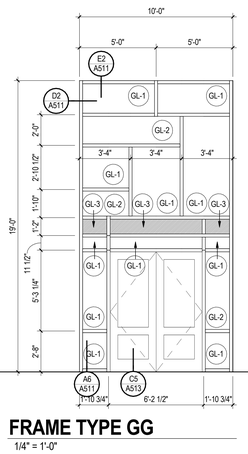
FRAME TYPE 12

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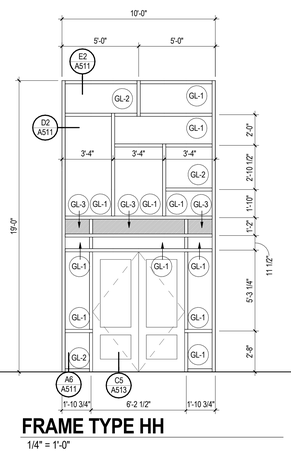
FRAME TYPE FF

1/4" = 1'-0"



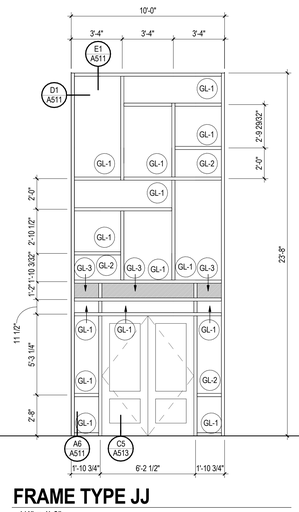
FRAME TYPE GG

1/4" = 1'-0"



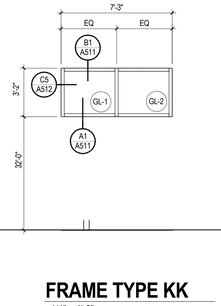
FRAME TYPE HH

1/4" = 1'-0"



FRAME TYPE JJ

1/4" = 1'-0"



FRAME TYPE KK

1/4" = 1'-0"

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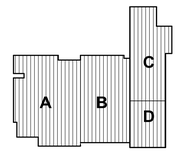
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Notes



N

UPDATED FRAME HEAD DETAIL REFERENCE TO C2/A512 & JAMB DETAIL REFERENCE TO B2/A512 FOR HOLLOW METAL FRAMES.

ADDED ELEVATION FOR FRAME TYPE 12

2	ADD#01			09/08/2025
1	BIDDING DOCUMENTS - UPDATED INFO			09.01.2025
Revision		By	Appd	YYYY.MM.DD
BIDDING DOCUMENTS				09.01.2025
FINAL CONSTRUCTION DOCUMENTS				08.18.2025
Issued		By	Appd	YYYY.MM.DD

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REGISTERED ARCHITECT · MARK E. JACKSON · 79468 · STATE OF TEXAS

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ALVIN Independent School District

Client/Project
ALVIN ISD

ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

Title
FRAME TYPES

MODIFIED ENTIRE SHEET

Project No.
214001269

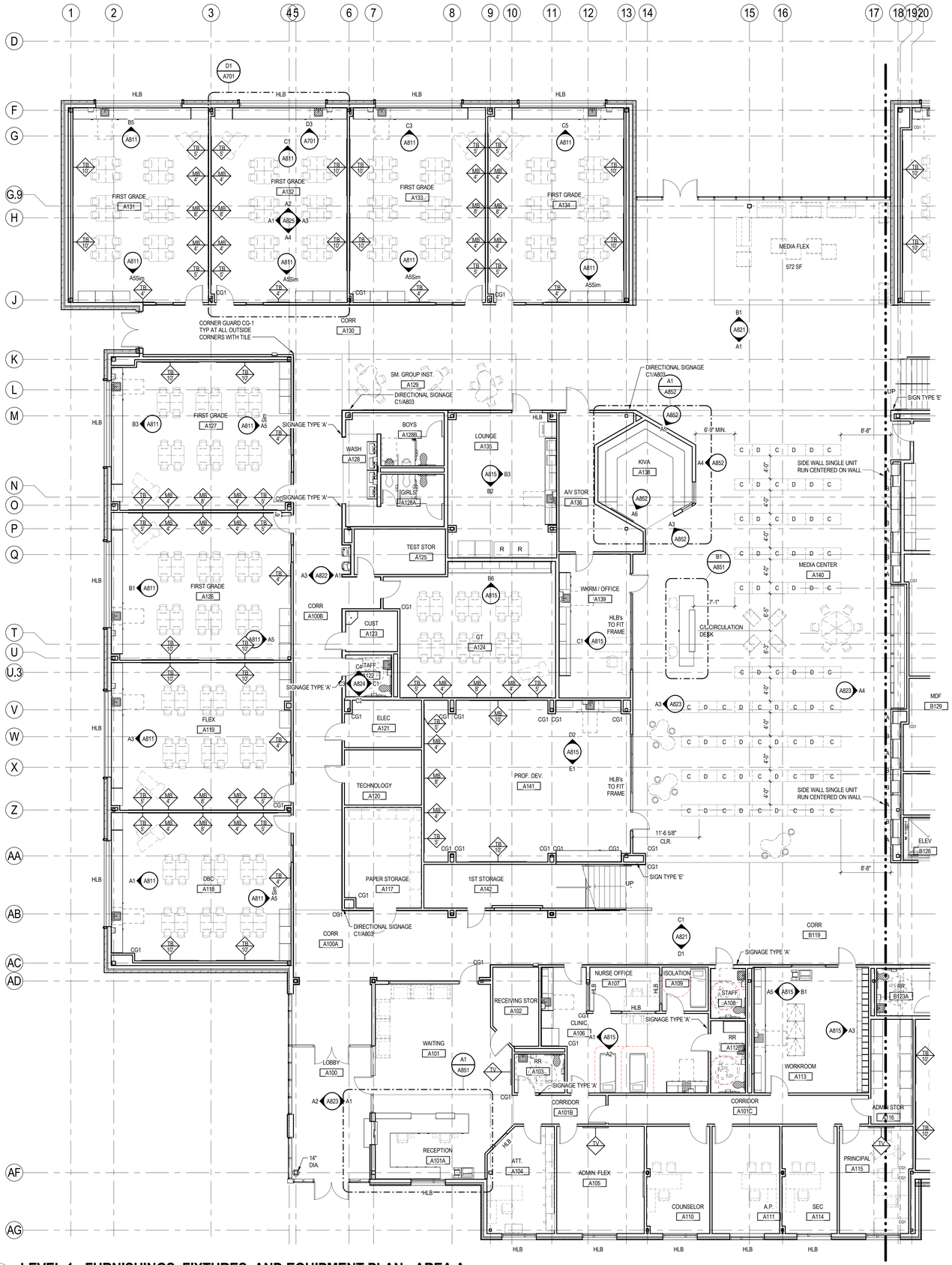
Scale
As indicated

Revision
2

Drawing No.
A502

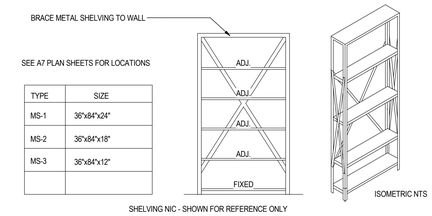
ORIGINAL SHEET - ARCH E1

<Pw location in Project Information>
9/8/2025 11:38:53 PM



A1 LEVEL 1 - FURNISHINGS, FIXTURES, AND EQUIPMENT PLAN - AREA A

A711 1/8" = 1'-0"



SEE A7 PLAN SHEETS FOR LOCATIONS

TYPE	SIZE
MS-1	36"x84"x24"
MS-2	36"x84"x18"
MS-3	36"x84"x12"

SHELVING NIC - SHOWN FOR REFERENCE ONLY

E4 METAL SHELVING TYPES

A711 3/8" = 1'-0"

1 ADDED REFERENCE MARKINGS TO PLAN.

LIBRARY SHELVING SCHEDULE

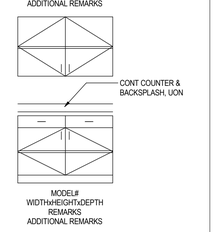
DESIGN BASIS: TESCO LIBRARY FURNITURE - PATRIOT SERIES (SOLID OAK). FINAL COLOR TBD.

TYPE A: SINGLE FACE STARTER, 36X42X18, BULLNOSE EDGE TOP
TYPE B: SINGLE FACE ADDER, 36X42X18, BULLNOSE EDGE TOP
TYPE C: DOUBLE FACE STARTER, 36X42X18, BULLNOSE EDGE TOP
TYPE D: DOUBLE FACE ADDER, 36X42X18, BULLNOSE EDGE TOP

FFE PLAN LEGEND

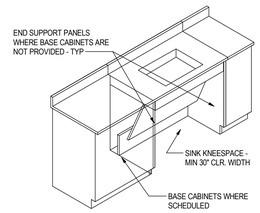
- EXTERIOR WALL OR INTERIOR PARTITION
- FURNITURE NIC
- FURNITURE, FIXTURES, OR EQUIPMENT IN CONTRACT

CASEWORK KEY



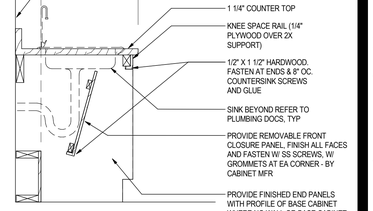
NOTE:

1. GENERAL CASEWORK MODEL NUMBERS REFERENCE THE ARCHITECTURAL WOODWORK INSTITUTE (AWI) AS BASIS OF DESIGN. REFER TO SPECIFICATIONS FOR ACCEPTABLE CASEWORK MANUFACTURERS.
2. BASE CABINET HEIGHT IS GIVEN TO THE TOP OF COUNTER TOP, UON.
3. REFER TO SHEET A801 FOR MATERIAL SCHEDULE, NOTES, AND FINISHES, TYP.

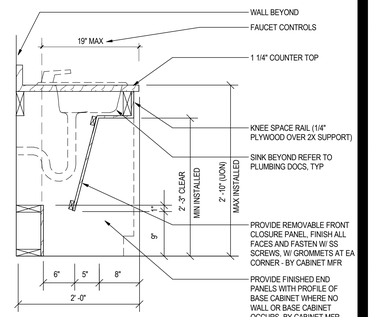


ISOMETRIC

NTS



ACCESSIBLE KNEESPACE DETAIL (ELEMENTARY)



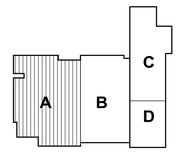
ACCESSIBLE KNEESPACE DETAIL (STAFF)

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Notes





1	ADD#01		09/08/2025
Revision		By	Appd	YYYY.MM.DD
BIDDING DOCUMENTS			09.01.2025
FINAL CONSTRUCTION DOCUMENTS			08.18.2025
Issued		By	Appd	YYYY.MM.DD

Permit/Seal



Client/Project Logo

Client/Project
ALVIN ISD

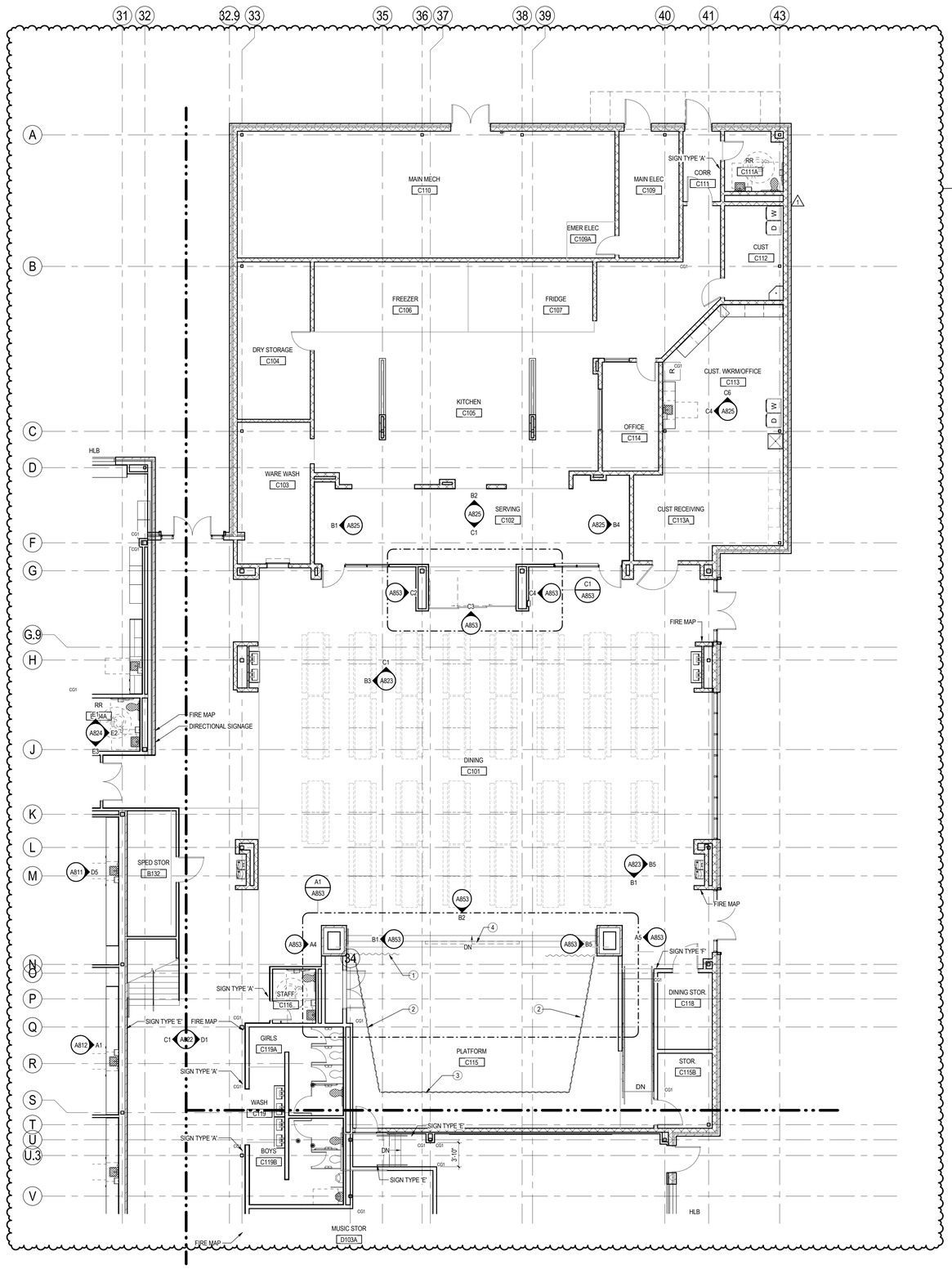
ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

Title
LEVEL 1 - FURNISHINGS, FIXTURES, AND EQUIPMENT PLAN - AREA A

Project No.	Scale
214001269	As indicated
Revision	Drawing No.
1	A711

ORIGINAL SHEET - ARCH E1



A1 LEVEL 1 - FURNISHINGS, FIXTURES, AND EQUIPMENT PLAN - AREA C

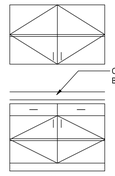
A713 — 1/8" = 1'-0"

FFE PLAN LEGEND

- EXTERIOR WALL OR INTERIOR PARTITION
- FURNITURE NIC
- FURNITURE, FIXTURES, OR EQUIPMENT IN CONTRACT

CASEWORK KEY

MODEL#
WIDTHxHEIGHTxDEPTH
REMARKS
ADDITIONAL REMARKS



MODEL#
WIDTHxHEIGHTxDEPTH
REMARKS
ADDITIONAL REMARKS

NOTE:

1. GENERAL CASEWORK MODEL NUMBERS REFERENCE THE ARCHITECTURAL WOODWORK INSTITUTE (AWI) AS BASIS OF DESIGN. REFER TO SPECIFICATIONS FOR ACCEPTABLE CASEWORK MANUFACTURERS.
2. BASE CABINET HEIGHT IS GIVEN TO THE TOP OF COUNTER TOP, UON.
3. REFER TO SHEET A801 FOR MATERIAL SCHEDULE, NOTES, AND FINISHES, TYP.

STAGE CURTAIN LEGEND

1. FRONT CURTAIN
2. SIDE CURTAIN
3. BACK CURTAIN
4. 100"H X 160"W (16:10 RATIO) MOTORIZED PROJECTION SCREEN WITH 4'-0" EXTRA BLACK DROP (TBD BY OWNER)

Stantec

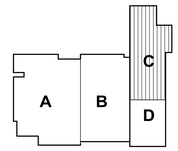
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2	ADD#01		09/08/2025
1	BIDDING DOCUMENTS - UPDATED INFO		09/01/2025

Revision | By | Appd | YYYY.MM.DD

BIDDING DOCUMENTS			09.01.2025
FINAL CONSTRUCTION DOCUMENTS			08.18.2025

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Permit/Seal

REGISTERED ARCHITECT MARK E. JACKSON 19468 STATE OF TEXAS

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ALVIN Independent School District

Client/Project
ALVIN ISD

ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

Title
LEVEL 1 - FURNISHINGS, FIXTURES, AND EQUIPMENT PLAN - AREA C

Project No.
214001269

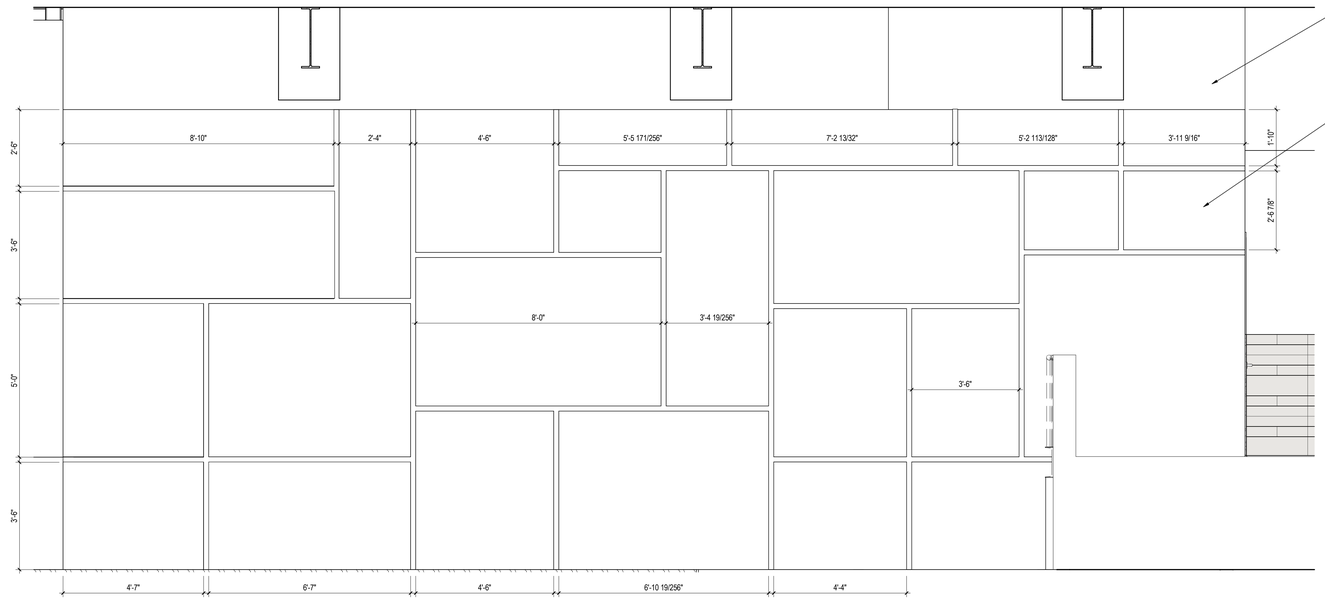
Scale
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Revision
2

Drawing No.
A713

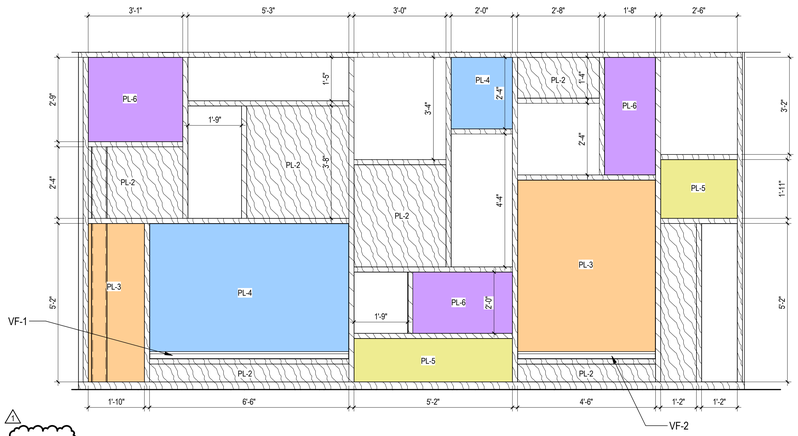
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ORIGINAL SHEET - ARCH E1



B1 A816 **A140 MEDIA CENTER - PLWS**

1/2" = 1'-0"



A1 A816 **A140 MEDIA CENTER BUILT-INS - CUBBIES**

1/2" = 1'-0"

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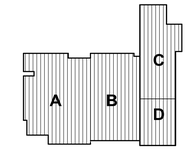
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Issued	By	Appd	YYYY.MM.DD

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ALVIN Independent School District

Client/Project

ALVIN ISD

ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

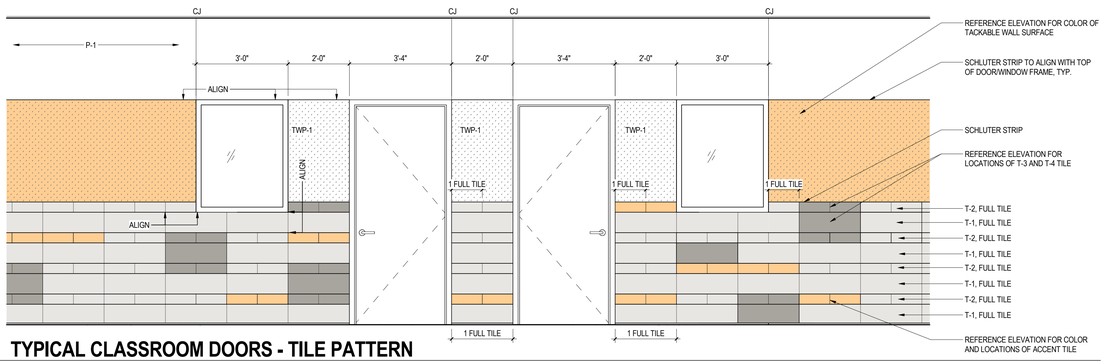
Title

CASEWORK ELEVATIONS

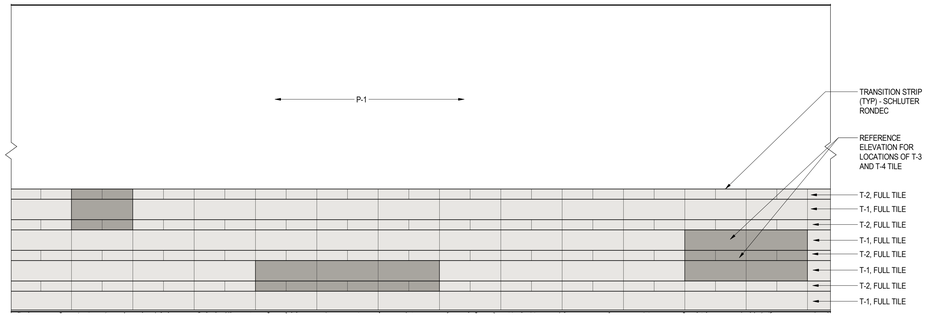
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214001269	1/2" = 1'-0"
Revision	Drawing No.
1	A816

*Pick location in Project Information
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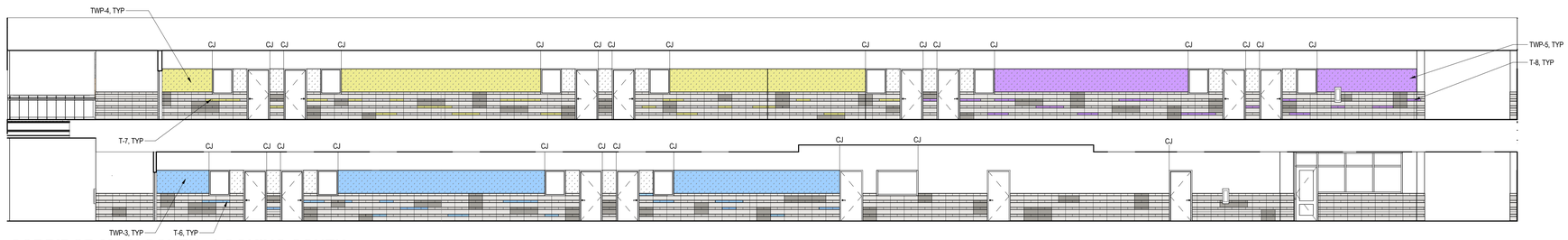
ORIGINAL SHEET - ARCH E1



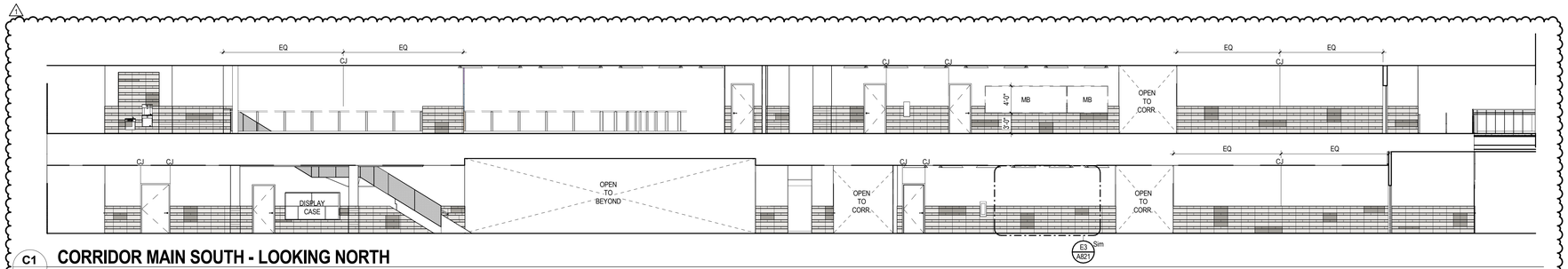
E1 A821 **TYPICAL CLASSROOM DOORS - TILE PATTERN**
1/2" = 1'-0"



E3 A821 **TYPICAL WAINSCOT TILE PATTERN**
1/2" = 1'-0"



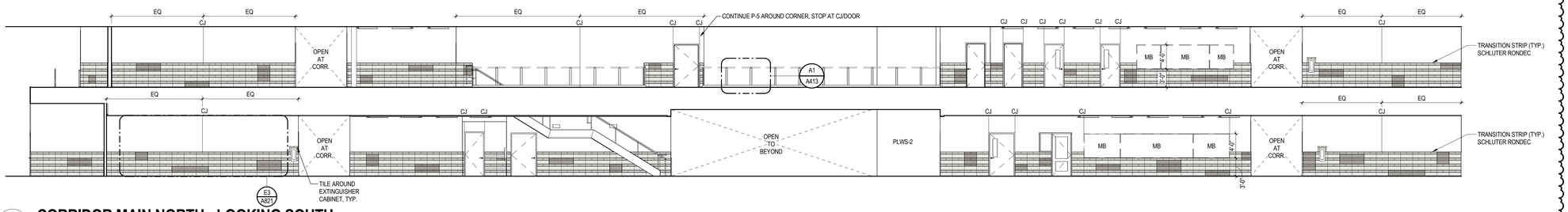
D1 A821 **CORRIDOR MAIN SOUTH - LOOKING SOUTH**
1/8" = 1'-0"



C1 A821 **CORRIDOR MAIN SOUTH - LOOKING NORTH**
1/8" = 1'-0"



B1 A821 **CORRIDOR MAIN NORTH - LOOKING NORTH**
1/8" = 1'-0"



A1 A821 **CORRIDOR MAIN NORTH - LOOKING SOUTH**
1/8" = 1'-0"

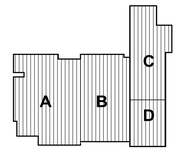
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Issued		By Appd	YYYY.MM.DD

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Client/Project
ALVIN ISD

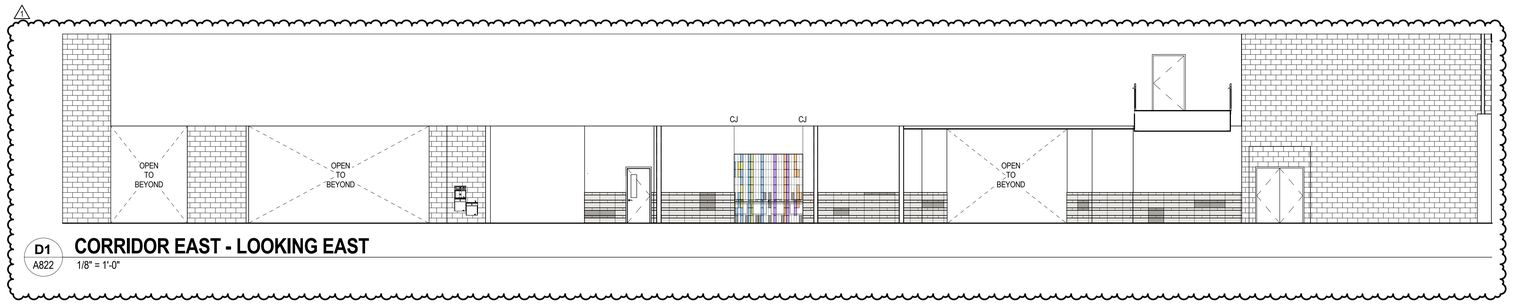
ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

Title
INTERIOR ELEVATIONS

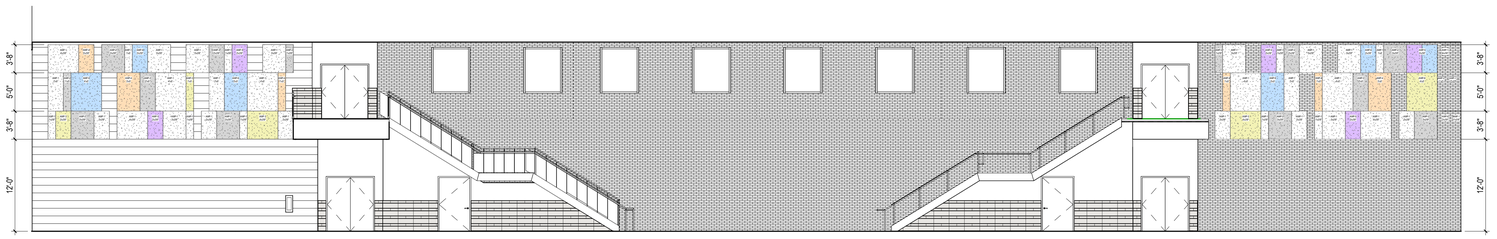
Project No.	Scale
214001269	As indicated
Revision	Drawing No.
1	**A821**

ORIGINAL SHEET - ARCH E1



D1 A822 **CORRIDOR EAST - LOOKING EAST**

1/8" = 1'-0"



C1 A822 **CORRIDOR EAST - LOOKING WEST**

1/8" = 1'-0"



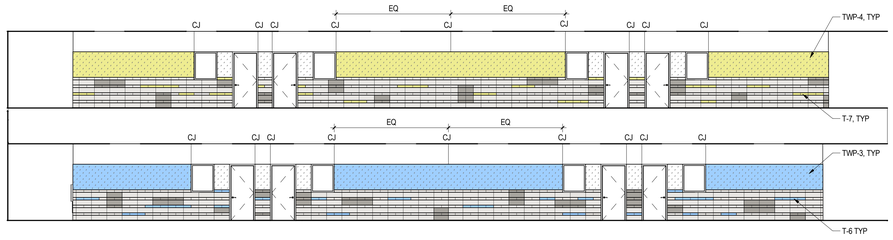
B1 A822 **CORRIDOR MAIN EAST - LOOKING WEST**

1/8" = 1'-0"



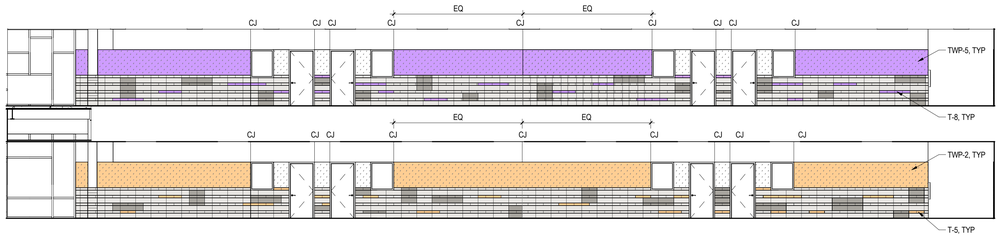
A1 A822 **CORRIDOR MAIN WEST - LOOKING EAST**

1/8" = 1'-0"



B4 A822 **CORRIDOR MAIN EAST - LOOKING EAST**

1/8" = 1'-0"



A3 A822 **CORRIDOR MAIN WEST - LOOKING WEST**

1/8" = 1'-0"

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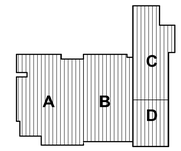
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Permit/Seal



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ALVIN Independent School District

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ALVIN ISD

ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

Title
INTERIOR ELEVATIONS

Project No.
214001269

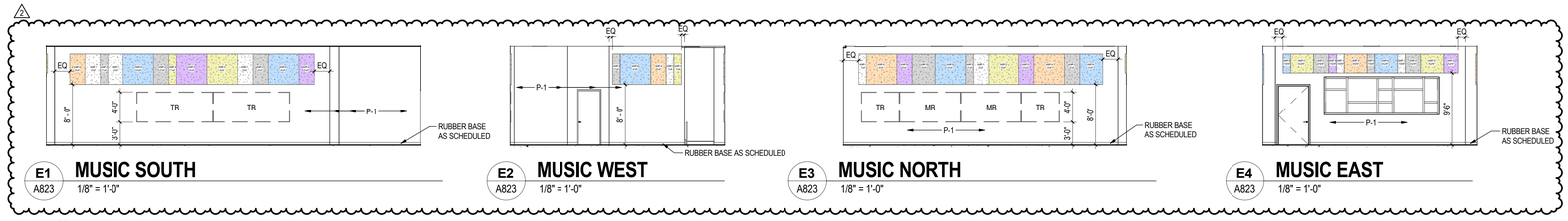
Scale
1/8" = 1'-0"

Revision
1

Drawing No.
A822

*Plot location in Project Information
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ORIGINAL SHEET - ARCH E1

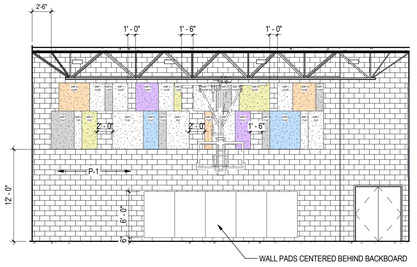


E1 A823 **MUSIC SOUTH** 1/8" = 1'-0"

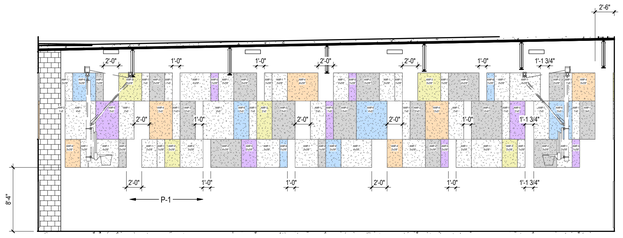
E2 A823 **MUSIC WEST** 1/8" = 1'-0"

E3 A823 **MUSIC NORTH** 1/8" = 1'-0"

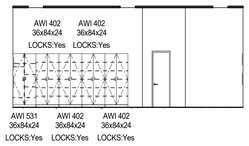
E4 A823 **MUSIC EAST** 1/8" = 1'-0"



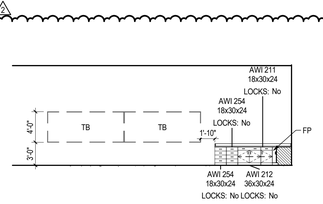
D1 A823 **GYM - WEST** 1/8" = 1'-0"



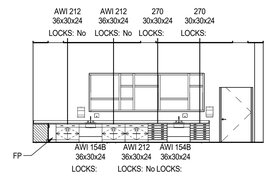
D2 A823 **GYM - SOUTH** 1/8" = 1'-0"



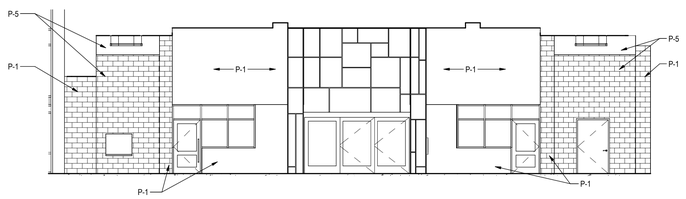
D4 A823 **D104 - WEST** 1/8" = 1'-0"



D5 A823 **D104 - NORTH** 1/8" = 1'-0"



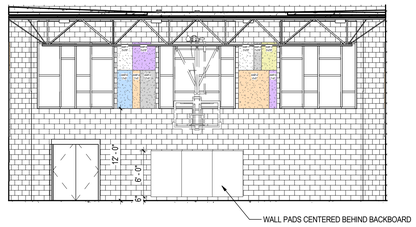
D6 A823 **D104 - EAST** 1/8" = 1'-0"



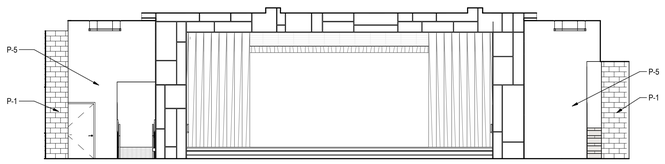
C1 A823 **DINING NORTH** 1/8" = 1'-0"



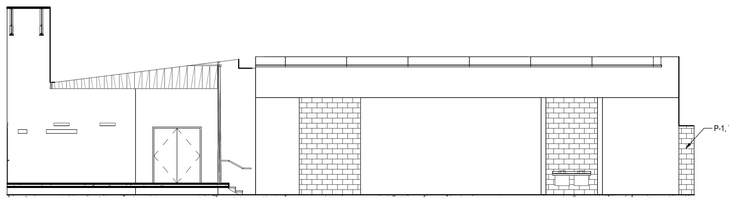
C3 A823 **GYM - NORTH** 1/8" = 1'-0"



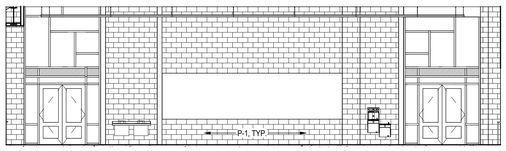
C5 A823 **GYM - EAST** 1/8" = 1'-0"



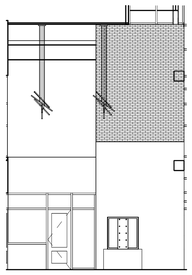
B1 A823 **DINING SOUTH** 1/8" = 1'-0"



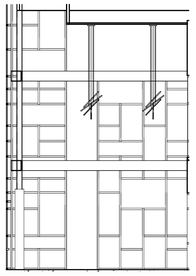
B3 A823 **DINING WEST** 1/8" = 1'-0"



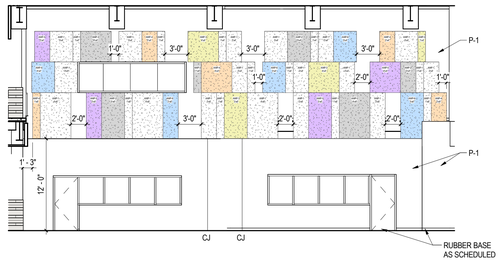
B5 A823 **DINING EAST** 1/8" = 1'-0"



A1 A823 **VESTIBULE EAST** 1/8" = 1'-0"



A2 A823 **VESTIBULE WEST** 1/8" = 1'-0"



A3 A823 **A140 MEDIA CENTER - WEST** 1/8" = 1'-0"



A4 A823 **A140 MEDIA CENTER BUILT-INS** 1/8" = 1'-0"

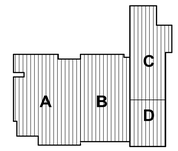
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Client/Project
ALVIN ISD

ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

Title
INTERIOR ELEVATIONS

Project No.
214001269

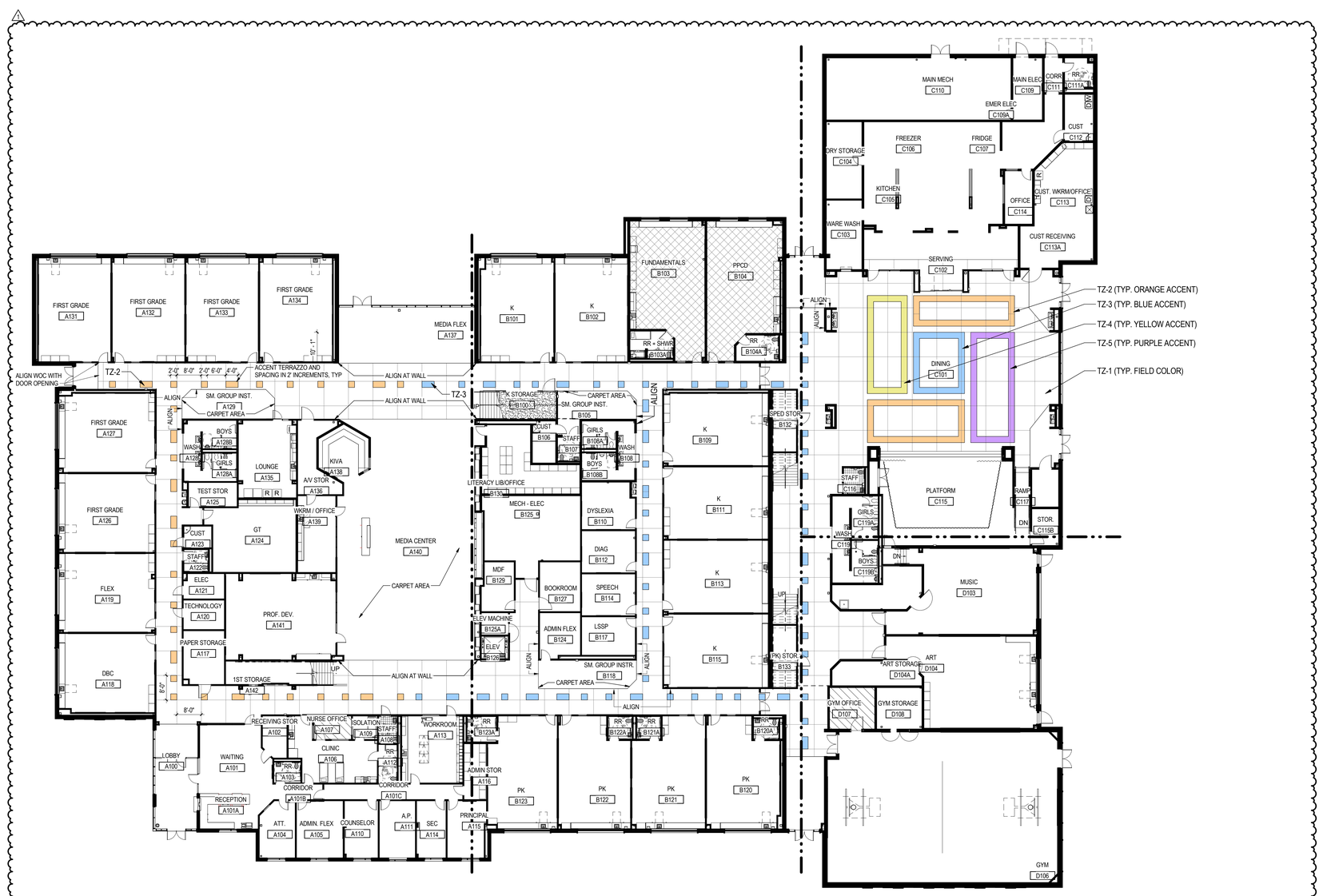
Scale
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Revision
2

Drawing No.
A823

eplot location in Project Information
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ORIGINAL SHEET - ARCH E1



NOTE: TERRAZZO TO BE PRICED AS ALTERNATE.

A1 A901 **LEVEL 1 - OVERALL FLOOR FINISH PLAN - TERRAZZO ALTERNATE**

1/16" = 1'-0"

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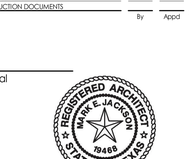
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ALVIN ISD

ELEMENTARY SCHOOL #23

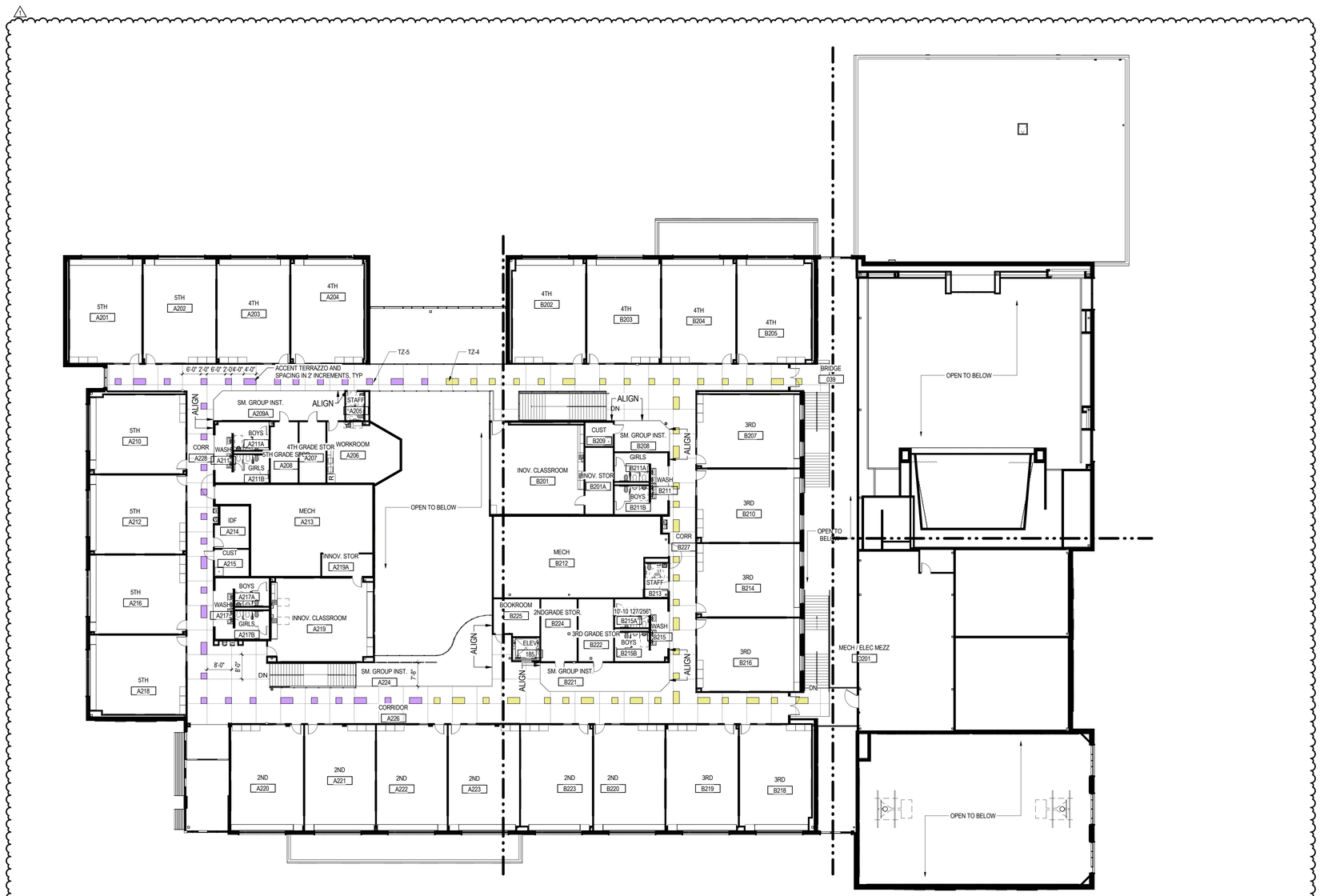
2727 White Gold Drive
Iowa Colony, Texas 77583

Title
LEVEL 1 - TERRAZZO JOINT LAYOUT

Project No.	Scale
214001269	1/16" = 1'-0"
Revision	Drawing No.
1	**A901**

<Plot location>\Project Information\
9/8/2025 11:39:23 PM

ORIGINAL SHEET - ARCH E1



NOTE: TERRAZZO TO BE PRICED AS ALTERNATE.

A2 A902 **LEVEL 2 - OVERALL FINISH PLAN - TERRAZZO ALTERNATE**

1/16" = 1'-0"

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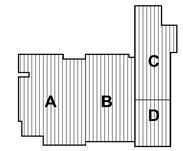
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Notes





1	ADD#01		09/08/2025
Revision		By	Appd	YYYY.MM.DD
BIDDING DOCUMENTS			09.01.2025
FINAL CONSTRUCTION DOCUMENTS			08.18.2025
Issued		By	Appd	YYYY.MM.DD

Permit/Seal



Client/Project Logo



Client/Project
ALVIN ISD

ELEMENTARY SCHOOL #23

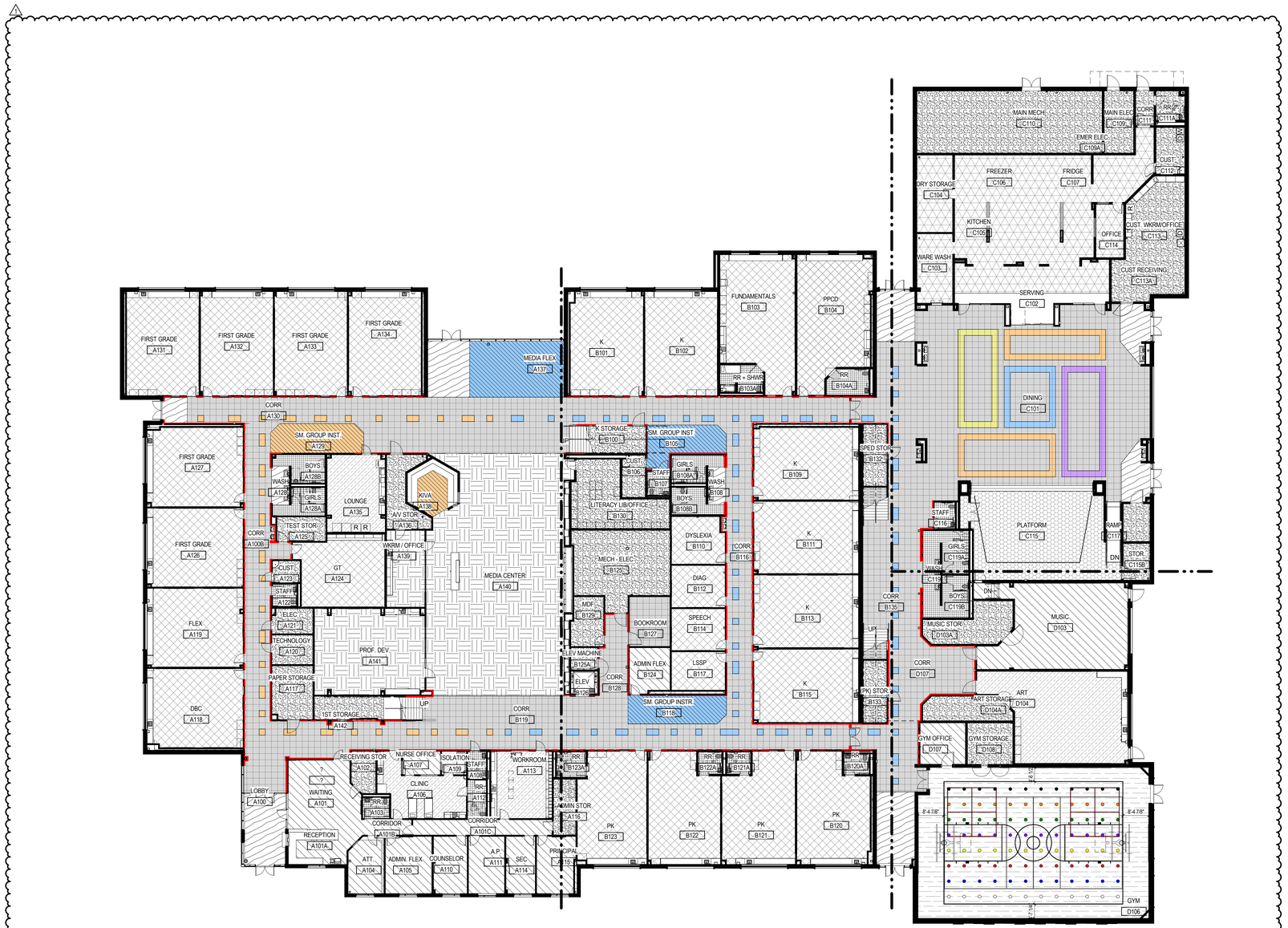
2727 White Gold Drive
Iowa Colony, Texas 77583

Title
LEVEL 2 - TERRAZZO JOINT LAYOUT

Project No.	Scale
214001269	1/16" = 1'-0"
Revision	Drawing No.
1	**A902**

<Pick location in Project Information>
8/8/2025 1:39:27 PM

ORIGINAL SHEET - ARCH E1



A2 / A911 **LEVEL 1 - OVERALL FLOOR FINISH PLAN**

1/16" = 1'-0"

FINISH FLOOR PLAN LEGEND

AF-1	SC-1
CPT-1	SVT-1
CPT-2	SVT-2
CPT-3	SVT-3
CPT-4	SVT-4
CPT-5	SVT-5
CPT-6	SVT-6
CPT-7	SVT-7
PC-1	T-11
QT-1	

NOTE: REFER TO A801 FOR MORE INFORMATION.

CPT / VCT — FLOOR FINISH TRANSITION

INSTALL DIRECTION

NOTE: HATCH PATTERNS SHOWN ON A900 FINISH PLANS ARE NOT SHOWN AS ACTUAL MATERIAL ORIENTATION. REFER TO INSTAL DIRECTION ARROWS ON FINISH PLANS.

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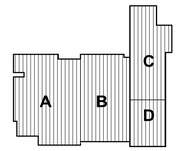
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Notes





1 ADD#01			09/08/2025
Revision	By	Appd	YYYY.MM.DD
BIDDING DOCUMENTS			09.01.2025
FINAL CONSTRUCTION DOCUMENTS			08.18.2025
Issued	By	Appd	YYYY.MM.DD

Permit/Seal



Client/Project Logo

ALVIN Independent School District

Client/Project
ALVIN ISD

ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

Title
LEVEL 1 - OVERALL FLOOR FINISH PLAN

Project No.	Scale
214001269	As indicated
Revision	Drawing No.
1	A911

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9/8/2025 1:39:32 PM

ORIGINAL SHEET - ARCH E1

REFER TO FOODSERVICE DESIGN PROFESSIONALS SPECIFICATIONS AND SUBSEQUENT SHEETS FOR ADDITIONAL COORDINATION INFORMATION

EXISTING EQUIPMENT NOTES (IF EXISTING EQUIPMENT IS PROVIDED IN THIS PROJECT):

1. EXISTING EQUIPMENT NOT SCHEDULED FOR RE-USE TO BE RELOCATED BY THE K.E.C. COORDINATE WITH OWNER FOR NEW LOCATION.
2. ALL UTILITIES NOT SCHEDULED FOR RE-USE TO BE CAPPED & COVERED BY REQUIRED DISCIPLINE.
3. K.E.C. TO VERIFY ALL EXISTING UTILITY LOCATIONS & COORDINATE WITH ALL EQUIPMENT AS REQUIRED.

8 EXISTING EQUIPMENT NOTES
NOT TO SCALE

ARCHITECT TO VERIFY/COORDINATE THE AESTHETIC OPTIONS BELOW (FOOD SERVICE COLOR, MATERIAL, OR SIGNAGE SELECTIONS) IF THESE ITEMS ARE PROVIDED IN THIS PROJECT:

1. COUNTERTOPS: STONE (STAINLESS STEEL IS PROVIDED UNLESS OTHERWISE SPECIFIED).
2. TRAY SLIDES: CORIAN OR STONE (STAINLESS STEEL IS PROVIDED UNLESS OTHERWISE SPECIFIED).
3. COUNTER FRONTS: CERAMIC TILE, 3 FORM, OR PLASTIC LAMINATE.
4. SNEEZE GUARDS: STONE INSETS.
5. GENERAL COLOR, MATERIAL AND GRAPHIC SELECTIONS:
   - A. DISPLAY AIR SCREEN MERCHANDISERS - COLOR SELECTION: POWDER COAT OR PLASTIC LAMINATE (S/S IS PROVIDED UNLESS OTHERWISE SPECIFIED).
   - B. BAKERY DISPLAY CASES - COLOR SELECTION: POWDER COAT OR PLASTIC LAMINATE (S/S IS PROVIDED UNLESS OTHERWISE SPECIFIED).
   - C. PASS THRU OR REACH IN HOLDING CABINETS - COLOR SELECTION: POWDER COAT (MFG.: TRUE) OR PLASTIC LAMINATE (MFG.: TRAULSEN) (S/S IS PROVIDED UNLESS OTHERWISE SPECIFIED).
   - D. HANGING HEAT LAMPS - TRACK AND FIXTURE COLOR SELECTION.
   - E. HEATED MERCHANDISERS.
   - F. PORTABLE GUIDE RAILS - STANCHION AND BELT COLOR SELECTION.
   - G. POPCORN MACHINE - SIGNAGE SELECTION.
   - H. BOTTLE COOLER - SIGNAGE SELECTION.
   - I. GRAPHICS PACKAGE INFORMATION.
   - J. HOT FOOD WELL COVERS.
6. ARCHITECT TO VERIFY/COORDINATE THE FINISHES BELOW:
   - A. WALLS: CERAMIC TILE, FLAT FRP, OR MOLDED FRP (SMOOTH, IMPERVIOUS, AND EASILY CLEANABLE AS APPROVED BY LOCAL JURISDICTION).
   - B. CEILINGS: REMOVABLE VINYL FACE TILE (SMOOTH, IMPERVIOUS, AND EASILY CLEANABLE AS APPROVED BY LOCAL JURISDICTION).
   - C. FLOORS: TILE, EPOXY, OR RUBBERIZED FLOORING SYSTEM (SMOOTH, IMPERVIOUS, EASILY CLEANABLE AND SLIP RESISTANT AS APPROVED BY LOCAL JURISDICTION) (COORDINATE FLOOR TILE TRANSITION AT SERVING LINES).
   - D. FLOORS: WALK-IN ASSEMBLY - EXTEND KITCHEN FLOOR FLUSH INTO WALK-IN ASSEMBLY WITH COVED BASE.
   - E. FURR DOWNS ABOVE SERVING COUNTERS.

5 ARCHITECTURAL COORDINATION NOTES
NOT TO SCALE

CRITICAL NOTES:

1. CONTRACTOR MUST COORDINATE AND VERIFY ALL DIMENSIONS WITH FOOD SERVICE EQUIPMENT SHOP DRAWINGS AND MANUFACTURER'S DATA. DIMENSIONS SHOWN ARE FOR DESIGN AND BIDDING PURPOSES ONLY.
2. WALK-IN ASSEMBLY DOORS MUST BE LEFT OPEN WHILE INTERIOR CONCRETE FLOOR CURES.
3. INSTALL PROTECTIVE COVER ON WALK-IN ASSEMBLY WALL PANELS BEFORE INSTALLING CONCRETE FLOORS AND CURBS.
4. REFER TO GENERAL SPECS - DIVISION 27 TO PROVIDE CONDUIT, DATA, AND INTERCONNECT THE PANIC ALARM INSIDE FREEZER TO THE BUILDING AUTOMATION SYSTEM FOR NOTIFICATION TO DISTRICT PERSONNEL IN THE EVENT OF STAFF ENTRAPMENT.
5. PIPING AND DRAINAGE SYSTEMS (SANITARY AND GREASE-LADEN). SYSTEMS MUST BE CLEANED AND FLUSHED BEFORE THE FINAL CONNECTION WITH FOOD SERVICE EQUIPMENT - CRITICAL (DIV. 22).

7 CRITICAL NOTES
NOT TO SCALE

DIVISION 26 (ELECTRICAL) IS RESPONSIBLE FOR BUT NOT LIMITED TO:

1. **DO NOT ROUGH IN FROM FDP DRAWINGS. REFER TO THE KITCHEN EQUIPMENT CONTRACTOR'S DIMENSIONED SHOP DRAWINGS. DIMENSIONS INDICATED ARE TO BE VERIFIED BY KITCHEN EQUIPMENT CONTRACTOR AND ADJUSTED AS REQUIRED BY EQUIPMENT AND FIELD CONDITIONS.**
2. SECTION 11 40 00 TO VERIFY UTILITY REQUIREMENTS OF ANY EXISTING EQUIPMENT.
3. ALL CONNECTIONS SHALL BE MADE FOLLOWING LOCAL CODES AND NATIONAL STANDARDS, EXCEPT WHERE PLANS AND SPECIFICATIONS EXCEED THOSE CODES AND STANDARDS.
4. VERIFY ALL ELECTRICAL REQUIREMENTS WITH ENGINEERING DRAWINGS.
5. ROUGH-IN AND FINAL CONNECTION OF ELECTRICAL SYSTEMS TO FOOD SERVICE EQUIPMENT, WALK-IN ASSEMBLIES, AND BETWEEN COMPONENTS (INCLUDING MATERIALS AND LABOR). ACCESSORIES PROVIDED LOOSE WITH FOOD SERVICE EQUIPMENT BY SECTION 11 40 00 TO BE FIELD INSTALLED BY DIVISION 26.
6. EMPTY EMT CONDUIT WITH PULL-WIRE AND WIDE-SWEEP BENDS REFRIGERANT FOR PIPING TO REMOTE FOOD SERVICE EQUIPMENT REFRIGERATION SYSTEMS.
7. EMPTY EMT CONDUIT WITH PULL-WIRE AND WIDE-SWEEP BENDS FOR INTERCONNECT INTERCONNECT CABLES BETWEEN LAN AND POS TERMINALS, CHANGE-MAKERS, PRE-CHECK UNITS, PRINTERS, CPUS, ETC. DIVISION 26 TO VERIFY WHERE THE CONDUIT IS TO RUN FOR POS SYSTEM (I.E., MANAGER'S OFFICE OR IDF ROOM).
8. EMPTY EMT CONDUIT WITH PULL-WIRE AND WIDE-SWEEP BENDS FOR FIRE SUPPRESSION SYSTEMS. INTERCONNECT FIRE PROTECTION SYSTEM TO PANEL BOX SHUNT TRIPS AND BUILDING ALARM.
9. WALK-IN LIGHT FIXTURE INSTALLATION (PROVIDED LOOSE BY SECTION 11 40 00) (IF WALK-IN IS PROVIDED IN THIS PROJECT).
10. TABLE LIMIT SWITCH (PROVIDED LOOSE BY SECTION 11 40 00) (IF DISHMACHINE IS PROVIDED IN THIS PROJECT) - INSTALL AND INTERCONNECT TO DISHMACHINE .
11. ELECTRICAL MATERIALS AND DEVICES (SHUNT-TRIP BREAKERS, SURGE PROTECTORS, LIGHTING CONTROL DEVICES, CONDUIT, WIRE, ETC.).
12. SWITCHES AND STAINLESS STEEL DISCONNECTS AS REQUIRED (PROVIDE, LOCATE, AND INSTALL – TO BE IN AN ACCESSIBLE LOCATION).
13. CHARGING STATIONS FOR FORKLIFTS, PALLET STACKERS, AND PALLET JACKS (SIZE, PROVIDE, LOCATE, AND INSTALL) (IF EQUIPMENT IS PROVIDED IN THIS PROJECT).
14. INTERCONNECTION BETWEEN CONDENSATE FAN AND DISHMACHINE CONTROL PANEL (IF EQUIPMENT IS PROVIDED IN THIS PROJECT).
15. INTERCONNECTION BETWEEN EXHAUST HOOD FANS AND SWITCH (IF EQUIPMENT IS PROVIDED IN THIS PROJECT).
16. INTERCONNECTION BETWEEN EXHAUST HOOD LIGHTS AND SWITCH (IF EQUIPMENT IS PROVIDED IN THIS PROJECT).
17. DOOR HEATERS, LIGHTS, COILS, AND PRESSURE RELIEF PORTS PRE-WIRED TO JUNCTION BOX AT TOP OF WALK-IN ASSEMBLIES (IF EQUIPMENT IS PROVIDED IN THIS PROJECT) PROVIDED BY SECTION 11 40 00. FINAL CONNECTION BY DIV. 26.
18. IF ANY ELECTRICAL ACCESSORIES, FITTINGS, AND CORD/PLUGS ARE PROVIDED LOOSE WITH EQUIPMENT BY 11 40 00, DIV.26 IS TO ATTACH TO EQUIPMENT AND PROVIDE FINAL CONNECTION.
19. PROVIDE WATERPROOF RECEPTACLES IN WET AREAS.
20. ALL ELECTRICAL LIGHTING, POWER, AND DISTRIBUTION SYSTEMS.
21. ALL ELECTRICAL CONNECTIONS BENEATH EXHAUST HOODS (IF EQUIPMENT IS PROVIDED IN THIS PROJECT) TO EXTEND TO SHUNT TRIP BREAKERS WITH ELECTRICAL PANEL BOX FOR SHUTDOWN DURING FIRE MODE.
22. RECEPTACLES ARE TO BE PRE-WIRED TO THE JUNCTION BOX OR LOAD CENTER FOR FINAL CONNECTION BY DIVISION 26.
23. DO NOT INTERCONNECT MORE THAN THREE (3) CONVENIENCE OUTLETS ON ONE (1) BREAKER.
24. OTHER THAN CONVENIENCE OUTLETS, ALL ELECTRICAL CONNECTIONS SHOWN ON FOOD SERVICE PLANS ARE DEDICATED BREAKERS.
25. DOORBELL AT RECEIVING DOOR (PROVIDE AND INSTALL – TO BE AUDIBLE THROUGHOUT KITCHEN, OFFICE, AND DRY STORAGE ROOM).
26. ADEQUATE LIGHTING AT RECEIVING DOOR.
27. (IF WALK-IN IS PROVIDED IN THIS PROJECT) WALK-IN MANUFACTURER IS TO PROVIDE TWO (2) EDWARDS 860 SERIES (OR EQUAL) RED LENS, SURFACE-MOUNTED XENON EMERGENCY STROBE BEACONS. WALK-IN MANUFACTURER WILL INSTALL ONE(1) LOCATED IN THE KITCHEN ABOVE WALK-IN FREEZER DOOR (OR COOLER DOOR WHEN FREEZER IS WITHIN COOLER IN AN 'INLINE' ASSEMBLY), AND PROVIDE THE SECOND UNIT LOOSE FOR INSTALLATION BY DIVISION 26 LOCATED IN THE CAFETORIUM (DIVISION 26 TO COORDINATE LOCATION WITH OWNERS AND ARCHITECT). DIVISION 26 IS TO PROVIDE ALL CONDUIT AND WIRING REQUIRED AND INTERCONNECT THE ILLUMINATED PUSH BUTTON PANIC ALARM IN THE WALK-IN FREEZER TO BOTH STROBE BEACONS (CRITICAL). COORDINATE WITH DIVISION 27. REFER TO GENERAL SPECIFICATIONS FOR ADDITIONAL DETAILS.
28. DEDICATED CIRCUIT FOR HEATED DRAIN LINE CONNECTION IN WALK-IN FREEZER AT EACH COIL (IF WALK-IN IS PROVIDED IN THIS PROJECT).
29. GFCI BREAKER FOR ALL RECEPTACLES UNDER EXHAUST HOODS (IF HOODS ARE PROVIDED IN THE PROJECT), AND HOLDING CABINETS (IF HOLDING CABINETS ARE PROVIDED IN THIS PROJECT), TO BE LOCATED WITHIN KITCHEN'S ELECTRICAL BREAKER PANEL AND NOT AT THE RECEPTACLES.
30. REMOTE GFCI RESET SWITCHES TO BE ACCESSIBLE TO USER.
31. ALL ELECTRICAL BELOW EXHAUST HOOD (IF HOODS ARE PROVIDED IN THE PROJECT) ARE TO HAVE SHUNT TRIP BREAKERS.
32. INTERCONNECT TEMP SENSOR TO EXHAUST / SUPPLY FANS (IF HOODS ARE PROVIDED IN THE PROJECT).

NOTE: ELECTRICAL CONNECTIONS INDICATED ARE THOSE REQUIRED FOR THE FOOD SERVICE EQUIPMENT AND THOSE REQUIRED FOR SUPPORT EQUIPMENT FURNISHED BY DIVISION 26. FOR ADDITIONAL REQUIREMENTS, REFER TO THE ELECTRICAL ENGINEER'S DRAWINGS AND FOOD SERVICE GENERAL SPECS.

6 ELECTRICAL COORDINATION NOTES
NOT TO SCALE

DIVISION 22 (PLUMBING) RESPONSIBLE FOR BUT NOT LIMITED TO:

1. **DO NOT ROUGH-IN FROM FDP DRAWINGS. REFER TO THE KITCHEN EQUIPMENT CONTRACTOR'S DIMENSIONED SHOP DRAWINGS. DIMENSIONS INDICATED ARE TO BE VERIFIED BY KITCHEN EQUIPMENT CONTRACTOR AND ADJUSTED AS REQUIRED BY EQUIPMENT AND/OR FIELD CONDITIONS.**
2. SECTION 11 40 00 TO VERIFY UTILITY REQUIREMENTS OF ANY EXISTING EQUIPMENT.
3. ALL CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH LOCAL CODES AND NATIONAL STANDARDS, EXCEPT WHERE PLANS AND SPECIFICATIONS EXCEED THOSE CODES AND STANDARDS.
4. VERIFY ALL PLUMBING REQUIREMENTS WITH ENGINEERING DRAWINGS.
5. EMPTY PVC CONDUIT WITH WIDE-SWEEP BENDS FOR REFRIGERANT PIPING TO BEVERAGE LINES, CO2 LINES, AND REMOTE FOOD SERVICE EQUIPMENT REFRIGERATION SYSTEMS.
6. ROUGH-IN AND FINAL PLUMBING CONNECTIONS TO FOOD SERVICE EQUIPMENT AND BETWEEN COMPONENTS (INCLUDING MATERIALS AND LABOR). ACCESSORIES PROVIDED LOOSE WITH FOOD SERVICE EQUIPMENT BY SECTION 11 40 00 TO BE FIELD INSTALLED BY DIVISION 22. THIS INCLUDES BUT IS NOT LIMITED TO INSTALLATION OF ALL FAUCETS (WATER FILL FAUCETS, PRE-RINSE FAUCETS, ETC.), HOSES, GAS DISCONNECTS, AND DRAINS FROM EQUIPMENT POINT OF CONNECTION TO BUILDING PLUMBING SYSTEMS. ALL DRAIN LINES ARE PROVIDED AND INSTALLED BY DIV. 22.
7. KITCHEN EQUIPMENT CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL FAUCETS (WATER FILL FAUCETS, PRE-RINSE FAUCETS, ETC.), DRAIN FITTINGS, MIXING VALVES, CONTROL VALVES, WATER PRESSURE REGULATORS, VACUUM BREAKERS, AND ALL ACCESSORIES FOR EQUIPMENT SPECIFIED UNDER 11 40 00. DIVISION 22 IS RESPONSIBLE FOR INSTALLATION.
8. INDIRECT DRAIN LINE RUNS FROM EQUIPMENT TO NEAREST DRAIN OR FLOOR SINK. LINES TO BE TYPE 'K' COPPER.
9. IF ANY PLUMBING ACCESSORIES OR FITTINGS ARE PROVIDED LOOSE WITH EQUIPMENT BY 11 40 00, DIV. 22 IS TO ATTACH TO EQUIPMENT AND PROVIDE FINAL CONNECTION.
10. GAS SUPPLY SYSTEMS WITH ALL COMPONENTS AND FITTINGS AS REQUIRED FOR A COMPLETE SYSTEM.
11. WATER SUPPLY SYSTEMS WITH ALL COMPONENTS AND FITTINGS AS REQUIRED FOR A COMPLETE SYSTEM.
12. COMPRESSED AIR SYSTEMS WITH ALL COMPONENTS AND FITTINGS AS REQUIRED FOR A COMPLETE SYSTEM (IF REQUIRED FOR THIS PROJECT).
13. PIPING AND DRAINAGE SYSTEMS (SANITARY AND GREASE-LADEN). SYSTEMS MUST BE CLEANED AND FLUSHED BEFORE THE FINAL CONNECTION WITH FOOD SERVICE EQUIPMENT - CRITICAL.
14. FLOOR SINKS (PROVIDE AND INSTALL). FLANGE AND GRATES TO BE FLUSH WITH FINISHED FLOOR.
15. FLOOR DRAINS (PROVIDE AND INSTALL). FLANGE AND GRATES TO BE FLUSH WITH FINISHED FLOOR.
16. TRENCH DRAINS (PROVIDE AND INSTALL). TRENCH LINERS PROVIDED BY 11 40 00. FLANGE AND LINERS TO BE FLUSH WITH FINISHED FLOOR.
17. GREASE TRAPS AS REQUIRED. VERIFY WITH LOCAL CODES TO BYPASS OR PIPE THRU GREASE TRAP AND/OR INTERCEPTOR.
18. P-TRAPS AS REQUIRED (INCLUDING ALL DISPOSERS).
19. INTERCONNECT WATER THRU WATER FILTER (FILTER PROVIDED BY 11 40 00 UNLESS OTHERWISE SPECIFIED) TO EQUIPMENT.
20. GAS QUICK DISCONNECT INSTALLATION (QUICK DISCONNECT PROVIDED BY 11 40 00).
21. SAFETY RESTRAINT CABLE INSTALLATION (SAFETY RESTRAINT CABLE PROVIDED BY 11 40 00).
22. SPECIFIED COUPLINGS AND PIPING TO ALL EQUIPMENT FURNISHED BY 11 40 00.
23. AIR COMPRESSORS (IF REQUIRED FOR THIS PROJECT) (SIZE, PROVIDE, AND INSTALL, UNLESS OTHERWISE SPECIFIED).
24. WATER SOFTENERS (IF REQUIRED FOR THIS PROJECT) (SIZE, PROVIDE, AND INSTALL, UNLESS OTHERWISE SPECIFIED).
25. PRESSURE BOILERS (IF REQUIRED FOR THIS PROJECT) (SIZE, PROVIDE, AND INSTALL, UNLESS OTHERWISE SPECIFIED).
26. HAND SINKS (PROVIDE (UNLESS OTHERWISE SPECIFIED) AND INSTALL). PROVIDE HOT WATER TEMPERING VALVE IF REQUIRED. WATER TEMPERATURE TO BE AT LEAST 100 DEGREES AND FLOW FOR AT LEAST 20 SECONDS.
27. ICE BIN DRAIN INSULATION (IF ICE MACHINE IS PROVIDED IN THIS PROJECT) (PROVIDE AND INSTALL).
28. UNIONS AT DISPOSER SOLENOID VALVES (IF DISPOSER IS PROVIDED IN THIS PROJECT) (PROVIDE AND INSTALL).
29. BACK FLOW PREVENTION AS REQUIRED (PROVIDE AND INSTALL - INCLUDING ALL DISPOSERS). BACK- SIPHONAGE SHALL BE INSTALLED AT ALL FIXTURES AND EQUIPMENT WHERE BACKFLOW AND/OR BACK-SIPHONAGE MAY OCCUR AND WHERE A MINIMUM AIR GAP CANNOT BE PROVIDED BETWEEN THE WATER TO THE FIXTURE OR EQUIPMENT AT ITS FLOOD/LEVEL RIM. VACUUM BREAKERS, WHEN FURNISHED WITH EQUIPMENT, SHALL OVERRIDE THE ABOVE, IF ACCEPTABLE WITH APPLICABLE CODES. DIVISION 22 RESPONSIBLE FOR VERIFYING REQUIREMENT WITH LOCAL CODES.
30. JANITOR SINK WITH FAUCET (PROVIDE AND INSTALL).
31. FREEZE PROOF HYDRANT AT EXTERIOR OF BUILDING BY RECEIVING DOOR (PROVIDE AND INSTALL).
32. REVERSE OSMOSIS SYSTEMS (SIZE, PROVIDE (UNLESS OTHERWISE SPECIFIED), LOCATE AND INSTALL).
33. ALL PIPING WITHIN COUNTER BODY OR UNDER FABRICATED COUNTERS TO BE RUN TO A CONNECTION POINT BELOW COUNTER BODY BY SECTION 11 40 00. FINAL CONNECTION BY DIVISION 22.
34. EXHAUST HOOD CONDENSATE DRAIN CONNECTIONS (IF EXHAUST HOOD IS PROVIDED IN THIS PROJECT) (PROVIDE AND INSTALL).
35. INTERCONNECTION OF 1/2" CW TO PRE-RINSE AND DISPOSERS CONE/BODY INLETS PIPED THROUGH SOLENOID AND VACUUM BREAKER (IF DISPOSER IS PROVIDED IN THIS PROJECT).
36. FIRE SYSTEM PIPING. EXPOSED PIPING TO BE CHROME PLATED.
37. PIPE 1/2" COLD WATER TO SWIRL INLETS AT DISPOSERS (IF DISPOSER IS PROVIDED IN THIS PROJECT).
38. WATER TREATMENT FOR ICE BUILDERS (NON-CHLORINATED WATER WITH A PH LEVEL OF 10 OR HIGHER) AND ANY DRAINS AND OVERFLOWS. PIPING FROM ICE BUILDERS TO TUMBLE CHILLERS BY DIV. 23 (IF ICE BUILDERS AND TUMBLE CHILLERS ARE PROVIDED IN THIS PROJECT).

NOTE: WATER AND DRAIN CONNECTIONS INDICATED ARE THOSE REQUIRED FOR THE FOOD SERVICE EQUIPMENT AND THOSE REQUIRED FOR SUPPORT EQUIPMENT FURNISHED BY DIVISION 22. FOR ADDITIONAL REQUIREMENTS, REFER TO THE PLUMBING ENGINEER'S DRAWINGS AND FOOD SERVICE GENERAL SPECS.

4 PLUMBING COORDINATION NOTES
NOT TO SCALE

DIVISION 23 (MECHANICAL) RESPONSIBLE FOR BUT NOT LIMITED TO:

1. **DO NOT ROUGH-IN FROM FDP DRAWINGS. REFER TO THE KITCHEN EQUIPMENT CONTRACTOR'S DIMENSIONED SHOP DRAWINGS. DIMENSIONS INDICATED ARE TO BE VERIFIED BY KITCHEN EQUIPMENT CONTRACTOR AND ADJUSTED AS REQUIRED BY EQUIPMENT AND/OR FIELD CONDITIONS.**
2. SECTION 11 40 00 TO VERIFY UTILITY REQUIREMENTS OF ANY EXISTING EQUIPMENT.
3. ALL CONNECTIONS SHALL BE MADE FOLLOWING LOCAL CODES AND NATIONAL STANDARDS, EXCEPT WHERE PLANS AND SPECIFICATIONS EXCEED THOSE CODES AND STANDARDS.
4. VERIFY ALL MECHANICAL REQUIREMENTS WITH ENGINEERING DRAWINGS.
5. EMPTY EMT CONDUIT WITH PULL-WIRE AND WIDE-SWEEP BENDS FOR REFRIGERANT PIPING TO REMOTE FOOD SERVICE EQUIPMENT REFRIGERATION SYSTEMS.
6. ROUGH-IN AND FINAL CONNECTION OF MECHANICAL SYSTEMS TO FOOD SERVICE EQUIPMENT, WALK-IN ASSEMBLIES, AND BETWEEN COMPONENTS (INCLUDING MATERIALS AND LABOR).
7. TESTING AND BALANCING FOR ROOMS AND EXHAUST HOODS TO BE PERFORMED BY MECHANICAL CONTRACTOR. BALANCE REPORT FOR FOOD SERVICE EXHAUST HOODS TO BE PROVIDED TO FOODSERVICE DESIGN PROFESSIONALS (FDP) IMMEDIATELY UPON COMPLETION (SEND TO HOUSTON.SUBMITTAL@FDP.ORG FOR HOUSTON OFFICE AND DALLAS.SUBMITTAL@FDP.ORG FOR DALLAS OFFICE) AND MUST BE SUBMITTED WITH O&M MANUALS.
8. EXHAUST HOODS, CONDENSATE HOODS, FIRE SUPPRESSION SYSTEMS, CONNECTIONS AND CONTROLS (PROVIDE AND INSTALL – *UNLESS OTHERWISE SPECIFIED*). PROVIDE TEMPERED AIR AT ALL SUPPLY DUCTS.
   - A. IF EXHAUST/CONDENSATE HOODS AND FIRE SUPPRESSION SYSTEMS ARE SPECIFIED UNDER SECTION 11 40 00, DIVISION 23 IS RESPONSIBLE FOR ALL EXHAUST AND CONDENSATE HOOD CONNECTIONS (PROVIDE AND INSTALL).
9. VFD SYSTEM AND CONTROLLERS, WHEN REQUIRED BY CODE (PROVIDE AND INSTALL).
10. PROVIDE AND INSTALL ALL VENTILATION (DIRECT OR INDIRECT), AIR CONDITIONING AND HEATING SYSTEMS (UNLESS OTHERWISE SPECIFIED).
11. COORDINATE SUPPLY AND RETURN DUCTS ABOVE SERVING COUNTERS OR OPEN-AIR REFRIGERATED MERCHANDISERS. NO COLD AIR TO BLOW DIRECTLY ON HOT FOOD COUNTERS.
12. COORDINATE SUPPLY AND RETURN DUCTS AWAY FROM EQUIPMENT WITH TOP MOUNTED REFRIGERATION. NO COLD AIR TO BLOW DIRECTLY ON COMPRESSORS.
13. MECHANICAL CONTRACTOR TO LOCATE TEMPERATURE MONITORS WITHIN RETURN DUCTS.
14. CIRCULATING AIR ABOVE WALK-IN ASSEMBLIES (PROVIDE AND INSTALL).
15. CIRCULATING AIR ABOVE AND IN AIR GAPS AT WAREHOUSE COLD STORAGE ASSEMBLIES (PROVIDE AND INSTALL).
16. WATER CHILLERS AS REQUIRED (IF EQUIPMENT IS PROVIDED IN THIS PROJECT) (PROVIDE, SIZE AND LOCATE).
17. PIPING FROM ICE BUILDERS TO TUMBLE CHILLERS (IF EQUIPMENT IS PROVIDED IN THIS PROJECT) (PROVIDE, SIZE AND LOCATE).

NOTE: MECHANICAL CONNECTIONS INDICATED ARE THOSE REQUIRED FORTHE FOOD SERVICE EQUIPMENT AND THOSE REQUIRED FOR SUPPORT EQUIPMENT FURNISHED BY DIVISION 23. FOR ADDITIONAL REQUIREMENTS, REFER TO THE MECHANICAL ENGINEER'S DRAWINGS AND FOOD SERVICE GENERAL SPECS.

3 MECHANICAL COORDINATION NOTES
NOT TO SCALE

GENERAL CONTRACTOR RESPONSIBLE FOR BUT NOT LIMITED TO:

1. ANY WALL PENETRATION REQUIRED FOR FOOD SERVICE EQUIPMENT UTILITIES. ESCUTCHEON PLATES OR S/S SLEEVES TO BE PROVIDED AND INSTALLED AS NEEDED.
2. BULK FREEZER VENTILATION PIPE (IF BULK FREEZER IS PROVIDED IN THIS PROJECT) (PROVIDE AND INSTALL, UNLESS OTHERWISE SPECIFIED).
3. CORE DRILLING FOR GUIDE RAILS (IF GUIDE RAILS ARE PROVIDED IN THIS PROJECT).
4. REFRIGERATION ROOF CURBS / ROOF JACK (IF REFRIGERATION SYSTEM IS PROVIDED IN THIS PROJECT AND LOCATED ON ROOF).
5. INTERIOR BOLLARDS (IF REQUIRED FOR THIS PROJECT) – TO BE EPOXY PAINTED PER LOCAL CODES (PROVIDE AND INSTALL).
6. FURNISH AND INSTALL 3/4" PLYWOOD BLOCKING IN THE WALL FOR MOUNTING EQUIPMENT FURNISHED BY SECTION 11 40 00 AS REQUIRED.
7. WALK-IN DEPRESSIONS (TO BE DEAD LEVEL) AND SAND LEVELING BED (IF WALK-IN IS PROVIDED IN THIS PROJECT AND RECESS IS SHOWN).
8. STRUCTURAL BRACING FOR BULK WALK-IN CEILING PANELS IF REQUIRED.
9. MENU SYSTEM VIDEO MONITORS IN SERVERY (UNLESS OTHERWISE SPECIFIED).
10. STRUCTURAL BRACING FOR MENU SYSTEM VIDEO MONITORS IF REQUIRED.
11. INTERIOR/EXTERIOR REFRIGERATION PENETRATIONS AND SLEEVES AT BUILDING PENETRATIONS.
12. DOORSCOPE VIEWER (PEEPHOLE) WITH WIDE VIEWING ANGLE AT RECEIVING DOOR.
13. CANOPY AT RECEIVING DOOR. COORDINATE HEIGHT WITH THE HEIGHT OF RECEIVING DOOR (8') AND THE MOUNTING HEIGHT OF AIR SCREEN ABOVE THE DOOR.
14. SOAP AND TOWEL DISPENSER PROVIDED BY OWNER. G.C. RESPONSIBLE FOR INSTALLATION.
15. WASHER AND DRYER (PROVIDE AND INSTALL, UNLESS OTHERWISE SPECIFIED).
16. DWARF WALL AT EXPOSED FRONT/ENDS OF CAFETERIA SERVING COUNTERS WITH FINISH AS SELECTED BY ARCHITECT (IF REQUIRED IN THIS PROJECT).

2 GENERAL CONTRACTOR COORDINATION NOTES
NOT TO SCALE

HEALTH DEPARTMENT REQUIREMENTS (VERIFY WITH LOCAL JURISDICTIONS):

1. FLOORS: VERIFY WITH DIVISION 9. FLOORS TO BE SMOOTH, IMPERVIOUS, EASILY CLEANABLE AND SLIP RESISTANT.
2. WALLS: VERIFY WITH ARCHITECTURAL DOCUMENTS. WALLS TO BE SMOOTH, IMPERVIOUS, AND EASILY CLEANABLE.
3. CEILING: LAY-IN TILES. CEILING TILES TO BE SMOOTH, IMPERVIOUS, AND EASILY CLEANABLE.
4. EMPLOYEE TOILET: TO BE LOCATED OFF MAIN CORRIDOR AND ADJACENT TO MAIN KITCHEN. RESTROOM MUST HAVE A VESTIBULE AND NOT OPEN TO KITCHEN / PREP AREAS. TOILETS TO BE WELL VENTILATED.
5. LAVATORIES: WALL HUNG LAVATORIES LOCATED WITHIN ALL FUNCTIONAL WORKING AREAS.
6. UTENSIL CLEANING/SANITIZING: ACCOMPLISHED IN UTENSIL WASH AREA WITH (3) 2'-0" x 2'-2" x 15" MINIMUM DEEP SINKS AND WAREWASH MACHINE.
7. MECHANICAL CLEANING/SANITIZING OF TABLEWARE: ACCOMPLISHED BY WAREWASH MACHINE.
8. STOREROOMS: AMPLE DAILY STORAGE PROVIDED IN ENCLOSED STORE ROOMS. STORE ROOMS TO BE VENTILATED AND MAINTAIN PROPER TEMPERATURE.
9. WATER HEATER: LOCATED IN THE MECHANICAL ROOM ADJACENT TO KITCHEN. TO BE SIZED TO PROVIDE AMPLE WATER TO MAINTAIN PROPER WATER TEMPERATURE THROUGHOUT HOURS OF OPERATION.
10. GREASE TRAP: LOCATED AT EXTERIOR OF BUILDING. REFER TO ENGINEER'S DRAWINGS.
11. FOOD SERVICE EQUIPMENT: ALL FLOOR-MOUNTED EQUIPMENT IS TO BE SEALED TO THE FLOOR TO PROVIDE AN EASILY CLEANABLE SURFACE AND PREVENT SEEPAGE. EQUIPMENT NOT MOUNTED TO THE FLOOR IS TO BE WALL MOUNTED ON WALL CARRIERS, OR ELEVATED ON LEGS TO PROVIDE AT LEAST A SIX-INCH CLEARANCE BETWEEN FLOOR AND EQUIPMENT.
12. MOP SINK: LOCATED IN JANITOR CLOSET OFF MAIN KITCHEN CORRIDOR, AND LOCATED IN CLOSE PROXIMITY TO THE WAREWASH AREA.
13. EXHAUST HOODS: EXHAUST HOODS PROVIDED OVER COOKING EQUIPMENT WITH LIQUID CHEMICAL ANSUL FIRE EXTINGUISHING SYSTEM.
14. LIGHTING AND PROTECTIVE SHIELDING: RECESSED CEILING-MOUNTED FLUORESCENT LIGHT FIXTURES FITTED WITH CLEAR LEXAN DIFFUSERS.
15. GARBAGE AND REFUSE: CENTRAL TRASH COLLECTION PROVIDED FOR BUILDING LOCATED NEAR RECEIVING AREA ON SMOOTH CONCRETE SURFACE.
16. POISONOUS AND TOXIC MATERIAL STORAGE: LOCATED IN RESPECTIVE JANITOR CLOSETS WITH LOCKING HARDWARE.

1 HEALTH DEPARTMENT COORDINATION NOTES
NOT TO SCALE

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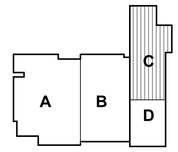
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Notes



N

2 ADDENDUM 01			9.08.2025
Revision	By	Appd	YYYY.MM.DD
BIDDING DOCUMENTS	KK	JC	9.01.2025
FINAL CONSTRUCTION DOCUMENTS	KK	JC	8.18.2025
Issued	By	Appd	YYYY.MM.DD

Permit/Seal

CONFERENCE CONSULTANTS MELISSA WOOD 488854195 SOCIETY INTERNATIONAL PROFESSIONAL MEMBER
Melissa Wood
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MELISSA WOOD, FCSI, CCS, #488854195 ON: 5/15/2025

Client/Project Logo

ALVIN Independent School District

Client/Project
ALVIN ISD

Elementary School No 23

2727 White Gold Drive
ROSHARON, TEXAS 77583

2

Title
FS GENERAL COORDINATION NOTES

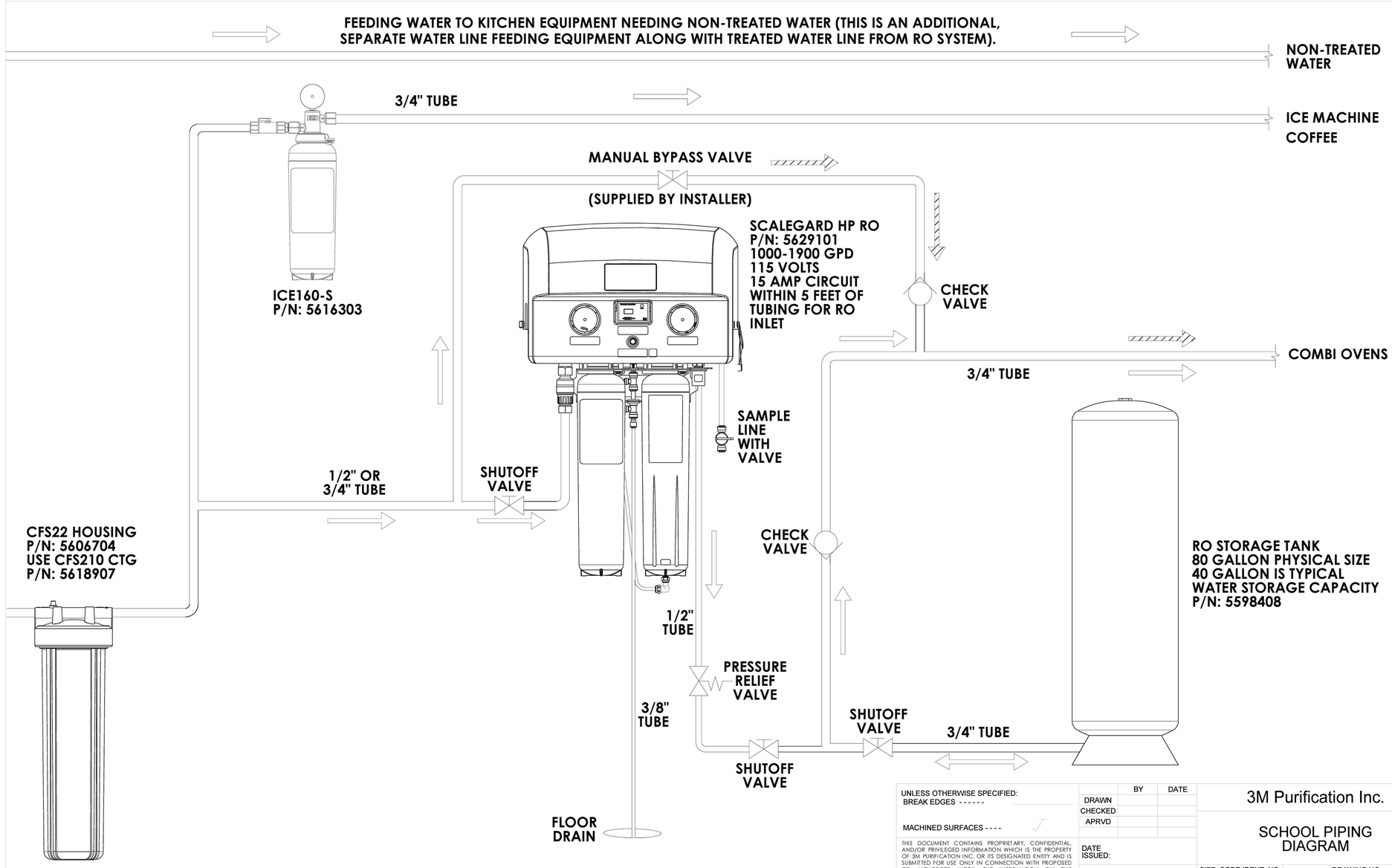
Project No.	Scale
214001269	As indicated
Revision	Drawing No.
2	QF1

FDP FOODSERVICE DESIGN PROFESSIONALS

<Plot location in Project Information>
8/8/2025 8:13:09 AM

ORIGINAL SHEET - ARCH E1

KEC AND PLUMBING CONTRACTOR TO PROVIDE CONNECTION DRAWING SUBMITTAL FOR OWNER REVIEW, PRIOR TO ROUGHING IN OF UTILITIES, TO ENSURE TIGHTEST FOOTPRINT POSSIBLE FOR INSTALLATION OF RO EQUIPMENT



UNLESS OTHERWISE SPECIFIED:		BY	DATE
BREAK EDGES - - - - - -	DRAWN		
	CHECKED		
MACHINED SURFACES - - - -	APRVD		
	DATE ISSUED:		

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FORM NO. ENG 132 0110

3M Purification Inc.

SCHOOL PIPING DIAGRAM

SIZE	CODE IDENT. NO.	DRAWING NO.

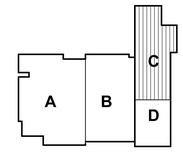
SCALE: DO NOT SCALE MODEL:

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Revision	By	Appd	YYYY.MM.DD
2 ADDENDUM 01			9.08.2025

Issued	By	Appd	YYYY.MM.DD
BIDDING DOCUMENTS	KK	JC	9.01.2025
FINAL CONSTRUCTION DOCUMENTS	KK	JC	8.18.2025

Permit/Seal



Client/Project Logo

ALVIN Independent School District

Client/Project
ALVIN ISD

Elementary School No 23

2727 White Gold Drive
ROSHARON, TEXAS 77583

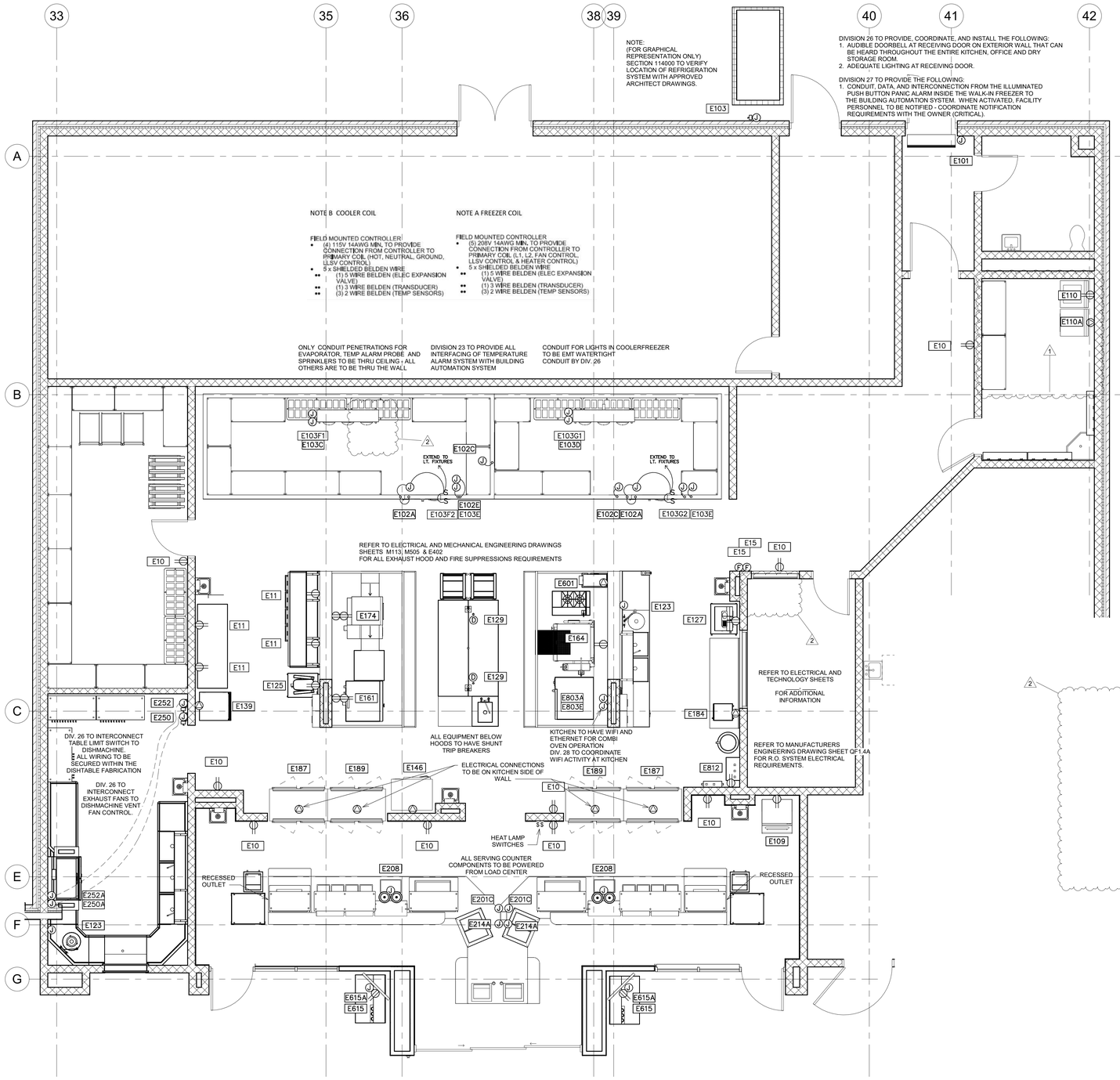
Title
FS RO SYSTEM

Project No.	Scale
214001269	

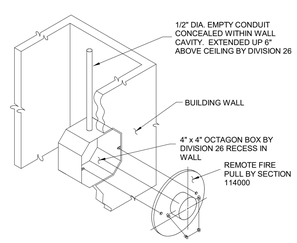
Revision	Drawing No.
2	QF1.4A

FDP

ORIGINAL SHEET - ARCH E1
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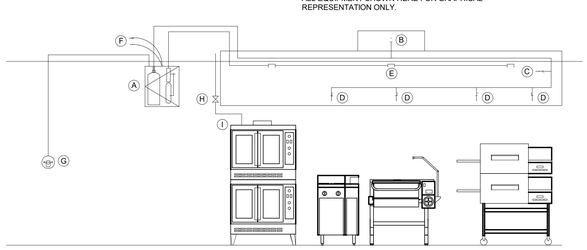


1 FOOD SERVICE ELECTRICAL PLAN
1/4" = 1'-0"



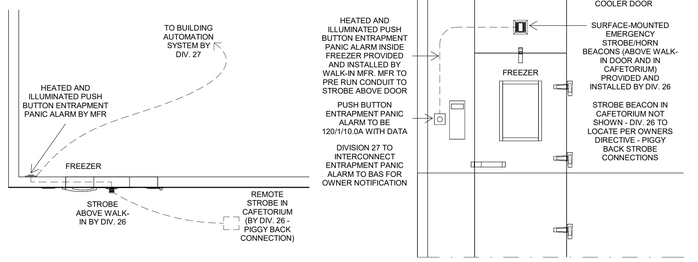
5 FIRE PROTECTION SYSTEM RECESSED FIRE PULL DETAIL
NOT TO SCALE

NOTE:
REFER TO FDP EQUIPMENT PLAN FOR SPECIFIC COMPONENTS UNDER HOOD. ALL EQUIPMENT SHOWN HERE FOR GRAPHICAL REPRESENTATION ONLY.



- (A) S/S ENCLOSURE W/AGENT TANK AND NITROGEN CARTRIDGE
- (B) DUCT NOZZLE(S)
- (C) PLENUM NOZZLE(S)
- (D) SURFACE PROTECTION NOZZLE(S)
- (E) FUSIBLE LINK(S)
- (F) (2) WIRES FROM FIRE SYSTEM TO SHUNT TRIP BREAKERS FOR SHUT DOWN OF ELECTRICAL CONNECTIONS LOCATED BENEATH EXHAUST HOOD DURING FIRE MODE
- (G) REMOTE FIRE PULL
- (H) GAS VALVE
- (I) GAS SUPPLY (AS REQUIRED)

4 FIRE PROTECTION SYSTEM TYPICAL DETAIL
NOT TO SCALE



6 COLD STORAGE ASSEMBLY ENTRAPMENT PANIC ALARM DETAIL
NOT TO SCALE

	SCR	CONDUIT STUB BTC ON RECEPT FURNISH WITH EQUIPMENT		CC	CONDUIT FOR COMPUTER CABLES
•	CS	CONDUIT STUB UP/OUT FOR DIRECT CONNECTION		BTC	BRANCH TO CONNECTION ON EQUIPMENT
	DR	DUPLEX RECEPTACLE		WPR	WATERPROOF RECEPTACLE (SPRING COVER)
	SR	SINGLE PURPOSE RECEPTACLE-1PH		FPB	FIRE PROTECTION BUZZER
	SR	SINGLE PURPOSE RECPTACLE-3PH		BSC	BEVERAGE SYSTEM CONDUIT
	FR	FLUSH FLOOR RECEPTACLE		DFA	DROP FROM ABOVE
	PMR	PEDESTAL MOUNTED RECEPTACLE		AFF	ABOVE FINISH FLOOR
	DCR	DROP CORD RECEPTACLE		CSJB	JUNCTION BOX ON PEDESTAL
	JB	JUNCTION BOX ON CEILING		SW	SWITCH
	JB	JUNCTION BOX IN WALL		D	DATA
	JB/DS	JUNCTION BOX WITH DISCONNECT BY DIV.26			

2 ELECTRICAL SYMBOLS
NOT TO SCALE

FOOD SERVICE ELECTRICAL SCHEDULE

REFER TO SHEET QF1 FOR ELECTRICAL COORDINATION NOTES

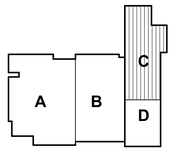
FDP ENO	FDP ECON N	FDP ELOAD	FDP EVOLT	FDP EP H	FDP ESERVICE TO	FDP ELOC	FDP EAFF	FDP EREMARKS
E10	DR	16.0A	120	1	CONVENIENCE	WALL	24"	---
E11	DR	16.0A	120	1	CONVENIENCE	WALL	47"	MOUNT HORIZONTAL
E15	JB	---	---	--	REMOTE FIRE PULL	WALL	48"	RECESSED JB - EXTEND TO FIRE SYSTEM FOR HOOD
E101	JB	5.1A	120	1	AIR SCREEN	WALL	82"	BTC; MAGNETIC REED SWITCH ON DOOR JAMB & DOOR
E102A	JB	16.0A	120	1	DOOR HEATER/LIGHTS	CLG	DFA	BTC
E102C	JB	5.0A	120	1	PRESSURE RELIEF PORT	CLG	DFA	BTC
E102E	JB	10.0A	120	1	PANIC ALARM BUTTON	CLG	DFA	BTC; INTERCONNECT TO STROBE LIGHT/HORN ABOVE FREEZER DOOR AND IN CAFETORIUM
E103	JB/DS	34.0A	208	3	REFRIGERATION SYSTEM	VERIFY	VERIFY	BTC - WEATHERPROOF DISCONNECT SWITCH
E103C	JB	11.9A	208	1	FREEZER COIL	CLG	DFA	BTC
E103D	JB	3.0A	208	1	COOLER COIL	CLG	DFA	BTC
E103E	JB	---	---	---	REFRIGERATION CONTROLLER	CLG	VERIFY	ETHERNET CONNECTION BY DIV. 28
E103F1	JB	---	---	---	KE2 FREEZER EVAPORATOR CONTROL BOARD	CLG	DFA	BTC - REFER TO NOTE A BELOW: FREEZER FIELD MOUNTED CONTROLLER; ROUTE TO CONTROLLER ABOVE DOOR E103F2
E103F2	JB	---	---	---	KE2 FREEZER EVAPORATOR CONTROL BOARD	CLG	DFA	BTC - REFER TO NOTE A BELOW: FREEZER FIELD MOUNTED CONTROLLER; ROUTE FROM EVAPORATOR COIL E103F1
E103G1	JB	---	---	---	KE2 COOLER EVAPORATOR CONTROL BOARD	CLG	DFA	BTC - REFER TO NOTE B BELOW: COOLER FIELD MOUNTED CONTROLLER; ROUTE TO CONTROLLER ABOVE DOOR E103G2
E103G2	JB	---	---	---	KE2 COOLER EVAPORATOR CONTROL BOARD	CLG	DFA	BTC - REFER TO NOTE B BELOW: COOLER FIELD MOUNTED CONTROLLER; ROUTE FROM EVAPORATOR COIL E103G1
E109	DR	11.9A	120	1	ICE MACHINE	WALL	60"	---
E110	DR	16.0A	120	1	CLOTHES WASHER	WALL	48"	---
E110A	SR	30.0A	208	1	CLOTHES DRYER	WALL	48"	VERIFY NEMA PLUG RECEPTACLE
E123	JB	3.0HP	208	3	DISPOSER	WALL	24"	BTC - CONNECT THRU C.P. TO DISPOSER
E125	DR	8.0A	120	1	20QT. MIXER	WALL	24"	---
E127	DR	5.6A	120	1	SLICER	WALL	24"	---
E129	DCR	16.0A	120	1	TABLE RECEPTACLE	CLG	84"	TWISTLOCK PLUG & RECEPTACLE
E139	SR	15.0A	120	1	INSUL. MOBILE PROOFER	WALL	47"	--
E146	SR	13.4A	208	3	BLAST CHILLER	WALL	24"	VERIFY NEMA RECEPTACLE REQUIREMENTS
E161	(2)DR	6.0A EA.	120	1	CONVECTION OVEN	WALL	24"/48"	SHUNT TRIP BREAKER
E164	DR	1.4A	120	1	TILT BRAISING PAN	WALL	24"	SHUNT TRIP BREAKER
E174	(2) DR	16.0A EA.	120	1	CONVEYOR OVEN	WALL	24"/48"	SHUNT TRIP BREAKER
E184	SR	13.6A	208	1	MICROWAVE OVEN	WALL	47"	MOUNT HORIZONTAL
E187	SR	15.5A	120/208	1	HEATED CABINET	WALL	96"	TWIST LOCK RECEPTACLE - VERIFY NEMA REQUIREMENT
E189	SR	8.6A	120	1	REFRIGERATOR	WALL	96"	TWIST LOCK RECEPTACLE - VERIFY NEMA REQUIREMENT
E201C	JB	60.0A	120/208	3	LOAD CENTER	CLG	DFA	BTC; EXTEND THROUGH UTILITY CHASE
E208	JB	250 W EA.	120	1	HANGING HEAT LAMPS	CLG	VERIFY	BTC; INTERCONNECT TO ON/OFF SWITCH LOCATED IN WALL
E214A	CS	DFA	---	---	POS	CEILING	6"	BTC; CONDUIT W/DATA LINE TO RUN TO MANAGER'S OFFICE OR IDF ROOM-EXTEND THROUGH UTILITY CHASE
E250	JB/DS	24.5A	480	3	DISHMACHINE MOTORS & TANK HEAT	WALL	54"	BTC; INTERCONNECT TO E250A
E250A	JB	---	---	---	DISHMACHINE	WALL	68"	BTC; INTERCONNECT FROM E250
E252	JB/DS	27.2A	480	3	DISHMACHINE CONTROLS & BOOSTER HEATER	WALL	54"	BTC; INTERCONNECT TO E252A
E252A	JB	---	---	---	BOOSTER HEATER	WALL	24"	BTC; INTERCONNECT FROM E252
E601	SR	24.0A	208	1	HOT WATER DISPENSER	WALL	47"	MOUNT HORIZONTAL
E615	DR	5.0A	120	1	VIDEO / DATA SYSTEM	CLG	VERIFY	PROVIDE DCO AT VIDEO LOCATION
E615A	JB	---	---	---	VIDEO / DATA SYSTEM	CLG	VERIFY	PROVIDE JB AT DATA LOCATION
E803A	JB	15.0A	208	1	COMBI-OVEN	WALL	48"	SHUNT TRIP BREAKER PROVIDED AND INSTALLED BY DIVISION 26
E803E	JB	---	---	---	COMBI-OVEN	WALL	60"	ETHERNET CONNECTION BY DIV. 28
E812	WPR	6.0A	120	1	REVERSE OSMOSIS CONTROL PANEL	WALL	60"	COORDINATE ABOVE WATER CONNECTION

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2	ADDENDUM 01		9.08.2025
1	BIDDING DOCUMENTS		9.01.2025
Revision		By	Appd	YYYY.MM.DD
BIDDING DOCUMENTS		KK	JC	9.01.2025
FINAL CONSTRUCTION DOCUMENTS		KK	JC	8.18.2025
Issued		By	Appd	YYYY.MM.DD

Permit/Seal



Client/Project Logo

Client/Project
ALVIN ISD

Elementary School No 23

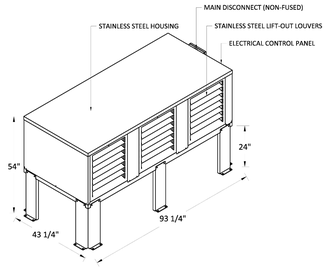
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Title
FS ELECTRICAL PLAN

Project No.	Scale
214001269	As indicated
Revision	Drawing No.
2	QF1.5

*Pick location in Project Information>
1/6/2025 8:10:48 AM
ORIGINAL SHEET - ARCH E1

MODEL NO. ZS1-02Z-CT3-EST OUTDOOR AIR COOLED REFRIGERATION SYSTEM
ITEM NO. 103



NOTE:
- CRANKCASE HEATERS
- FAN CYCLING SWITCH
- COATED CONDENSERS & EVAPORATOR COILS
- (2) DOOR SENSORS (SHIPPED LOOSE)
- 24" LEGS W/ SKIRT (SHIPPED LOOSE)

RACK WEIGHT: 775 LBS.

ENGINEERING SUMMARY

POWER SUPPLY: 208-230/60/3
CONNECTED LOAD: 34 AMPS

MOPD: 50 AMP
MINIMUM CIRCUIT AMPACITY: 38.9

SYSTEM	FIXTURES ITEM #	FIXTURES DESCRIPTION	FIXTURES TEMP °F FIXT.	FIXTURES TEMP °F SUCT.	REQ'D FIXTURE BTU/H	REFRIG. R-	CONDENSING UNIT COMPRESSOR RATING @ 60 HZ MODEL NO.	RLA	V	PH	BTU CAP @ AMB °F 110	TYPE	REC. CAP. (lbs)	CONDENSER	EVAPORATOR COILS ITEM #	MODEL NO.	QTY	FAN MOTORS @ 60 HZ RLA	V	PH	HEATERS @ 60 HZ RLA	V	PH	DEFR. TYPE	DEFROST CONTROLLER TYPE	CONTROLLER QTY	ACCESSORIES TSTAT	SOL VALVE	EXP. VLV.	CHECK VLV.	SHUT-OFF VALVE	REFRIGERANT LINE SIZES (IN) SUCT.	SUCT. RISER	LIQUID	LINE RUN (FT)	TYPE	TOTAL SYSTEM LOAD
A	102	W/I COOLER	35	25	16592	454A	YS17KSE	10.6	208	3	20000	Z	14.0	L1R	103	KLP318MA	1	3.0	115	1				O.C.	ECOSMART	1	F	F	EF	L	L	7/8	5/8	3/8	100	M	10.6
B	102	W/I FREEZER	-10	-20	14236	454A	YF15KAE	23.4	208	3	16200	Z	44.0	L5R	103	KLP316LE	1	1.8	208	1	11.9	208	1	ELEC	ECOSMART	1	F	F	EF	L	L	7/8	7/8	3/8	100	M	23.4

ALL EVAPORATOR COILS WILL REQUIRE A HOUSE POWER SUPPLY

NOTE:
IT IS THE INSTALLING CONTRACTORS RESPONSIBILITY TO FOLLOW ALL APPLICABLE CODES AND CURRENT REFRIGERATION INDUSTRY STANDARDS AND PRACTICES WHEN DETERMINING LINE SIZES, AND INSTALLING AND STARTING UP RDT EQUIPMENT.

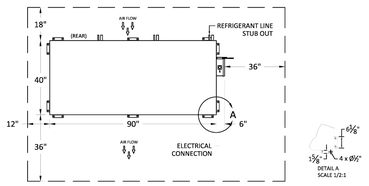
COMPRESSOR TYPE
Z SCROLL
H HERMETIC
S SEMI-HERMETIC
D DISCUS

DEFROST TYPE
O.C. OFF CYCLE
ELEC ELECTRIC

LINE TYPE
M MAIN - UP TO 100'
B BRANCH - UP TO 50'
T TRUNK - UP TO 200'

EVAPORATOR ACCESSORIES
EF EEV FACTORY EQUIPPED ON EVAP
TF TXV FACTORY EQUIPPED ON EVAP
F FACTORY EQUIPPED ON EVAP
O PROVIDED BY OTHERS
L LOOSE (FIELD INSTALLATION)

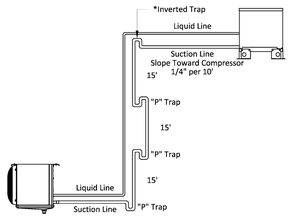
PLANVIEW/ CLEARANCE REQUIREMENTS



NOTE: MINIMUM CLEARANCE REQUIRED FOR PROPER OPERATION

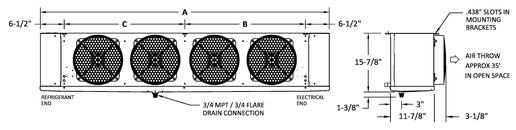
NOTE: ROOF CURB OR GROUND PAD CAN BE SAME SIZE AS OUTDOOR UNIT

SUCTION LINE VERTICAL RISE DETAIL



- Install trap every transition from horizontal to vertical.
- Insulate suction lines with 3/4" wall Armaflex insulation.
- All joints brazed with minimum 15% silver content brazing rod.
- Install "P" trap on suction line every 15' vertical rise.
- Not to exceed 45' vertically over all.
- *If compressor is above the evaporator, Install inverted trap on top of the rise to prevent oil from seeping down when fixture(s) is turned off.

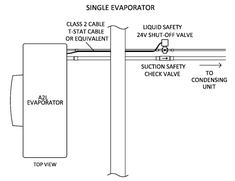
EVAPORATOR DETAILS - MODEL KLP



AIR DEFROST Size	DIMENSIONS A (Inches)	B (Inches)	C (Inches)	CONNECTIONS (Inches) Coil Inlet	Suction	Drain	Approx. Net Wt. Lbs.	ELECTRICAL DATA Qty. Motors	EC Motor Fan Amps 115V	208V
318	62-1/4	49-1/4	-	1/2 OD	7/8 ID	7/8 MPT	101	3	3.0	1.8

ELECTRIC DEFROST Size	DIMENSIONS A (Inches)	B (Inches)	C (Inches)	CONNECTIONS (Inches) Coil Inlet	Suction	Drain	Approx. Net Wt. Lbs.	ELECTRICAL DATA Qty. Motors	EC Motor Fan Amps	Heater Amps as wired for 208-230/60/1	208-230/60/3	460/60/1
316	62-1/4	49-1/4	-	1/2 OD	1-1/8 ID	7/8 MPT	115	3	1.8	11.9	7.7	N/A

EVAPORATOR RDS PIPING DIAGRAM



EACH EVAPORATOR COIL:
- EQUIPPED WITH TWO LEAK SENSORS, PRE-MOUNTED AND PRE-WIRED
- SUPPLIED WITH A LIQUID LINE SHUT-OFF VALVE AND SUCTION LINE CHECK VALVE, SHIPPED LOOSE FOR FIELD INSTALL, LOCATED OUTSIDE OF COMPARTMENTS AND NO MORE THAN 10' FROM EVAPORATOR COIL.

ZS SERIES ENGINEERING SPECIFICATIONS

Multi compressor, outdoor, air cooled. The refrigeration package shall be a pre-engineered and factory-assembled unit, trade name "ZS", as manufactured by Refrigeration Design Technologies, 1808 FM Road 66, P.O. Box 622, Waxahachie, Texas 75168. Phone: (972) 937-3215; Fax: (972) 937-0970.

1. Air-Cooled Refrigeration System
The RDT UL Listed "Air-Cooled" Refrigeration system shall be housed in a weather-protected compact powder coated steel frame. The entire housing shall be brushed stainless steel. The unit shall include an air-cooled aluminum fin copper tube condenser designed to operate at 15 degrees TD. The exterior housing shall feature stainless steel one piece louvers. Lifting points shall be integrated in the framing component. Condenser fan motors shall be mounted within the enclosure. The condenser intake surface shall be protected with stainless steel expanded metal guard to protect against vandalism and hail damage.

Each unit shall be equipped with a ball-bearing fan motor, suction filter, sight glass, liquid filter/drier, liquid line inlet and outlet valve, defrost cycle and high pressure super-hose connections. Each unit shall be equipped with fan cycling controls and/or head pressure regulator where required for low ambient conditions.

Condensing unit shall contain scroll, hermetic, semi-hermetic, and/or discus type compressor(s) assembled to operate with the refrigerant specified for both medium and low temperature applications.

2. Evaporator Coils
A. Evaporator coils shall be direct expansion type fabricated of copper tubes with aluminum fins.
B. All evaporator coils shall be provided with solenoid valve, thermostatic or electronic expansion valve and thermostat.

3. Pre-Piping
All refrigerant lines shall be extended to outside of the housing in a neat and orderly manner. All tubing shall be securely supported and anchored with non-corrosive coated clamps.

All joints must be brazed, not soldered.

All piping and controls shall be factory pressure-tested with dry nitrogen.

4. Control Panel
The package shall have a factory-mounted and pre-wired control panel, with main disconnect (non fused) where required, circuit breakers, contactors wired for single point power connection.

General Information
Contractors shall verify all dimensions onsite and coordinate with other trades.

General contractor shall prepare the platform, curbed openings and weatherproofing the unit after installation.

Refrigeration Contractor
All copper tubing to be refrigerant grade. A.C.R. or type "L".

Brazing should be used for all refrigerant piping. Silver solder or soft solder is not acceptable.

All piping to be pressure tested with nitrogen at 300 psi. After the condensing unit and coil have been connected the balance of the system shall be leak tested with the valves open at 200 psi.

The complete system shall be evacuated with a vacuum pump. Each unit should be charged tested and adjusted to assure operation.

Contractor should provide and install the drain-line heater in freezer. Heater shall be connected by electrical contractor. Seal all penetrations through the walk-in units with foam.

Electrical Contractor
Electrical contractor to provide power for refrigeration package and connect control and defrost system as called for in the wiring diagram.

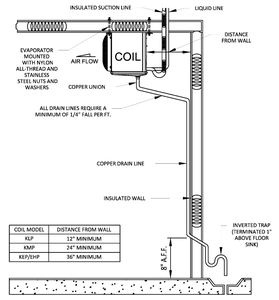
Electrical contractor to connect drain-line heater in the freezer.

All electrical wiring and installation shall be in accordance with the wiring diagram and local codes. Seal all penetrations through the walk-in units with foam.

Plumbing Contractor
Plumbing contractor to provide copper drain lines for walk-in refrigerator and freezer, pitched 1/4" per foot of run. Trap drain-line outside of refrigerated space to avoid entrance of warm, moist air.

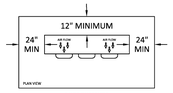
All plumbing installation shall be in accordance with local codes.

EVAPORATOR MOUNTING DETAIL (TYPICAL)



COIL MODEL	DISTANCE FROM WALL
KLP	12" MINIMUM
KMP	24" MINIMUM
KEP/EHP	36" MINIMUM

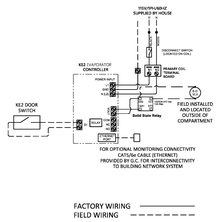
EVAPORATOR PLACEMENT & CLEARANCE REQUIREMENTS LOW PROFILE EVAPORATOR COILS (I.E. - KLP)



WIRING DIAGRAM - ECOSMART - AKEA1AE DEMAND DEFROST W/KE2 DOOR SWITCH FOR WALK-IN COOLER WITH ONE COIL 115/60/1

*REFERENCE ENGINEERING SUMMARY FOR COIL AMP DRAW:

ITEM	DESCRIPTION	VOLTAGE
103	W/I COOLER	115/1

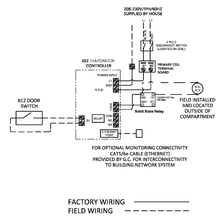


FACTORY WIRING ———
FIELD WIRING - - - - -

WIRING DIAGRAM - ECOSMART - AKEB1EE DEMAND DEFROST W/KE2 DOOR SWITCH FOR WALK-IN FREEZER WITH ONE COIL 208-230/60/1

*REFERENCE ENGINEERING SUMMARY FOR COIL AMP DRAW:

ITEM	DESCRIPTION	VOLTAGE
103	W/I FREEZER	208/1



FACTORY WIRING ———
FIELD WIRING - - - - -

APPROVAL STATUS

THIS DRAWING REPRESENTS OUR UNDERSTANDING OF THE SPECIFICATIONS. PLEASE REVIEW IT CAREFULLY FOR ACCURACY. CLEARLY AND IN DETAIL NOTE CHANGES REQUIRED.

MARK APPROPRIATE BOX, SIGN, AND DATE BELOW.

☐ APPROVED FOR FABRICATION NO CHANGES
☐ APPROVED FOR FABRICATION WITH CHANGES NOTED
☐ REVISE AND RE-SUBMIT DRAWING

BY: _____ DATE: _____

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No.	Revision/Issue	Date
0	ORIGINAL ISSUE	08-14-2025

REFRIGERATION DESIGN TECHNOLOGIES
1808 FM Road 66 / P.O. Box 622
Waxahachie, Texas
(800) 736-9518
www.rdtonline.com

Consultant:
Foodservice Design Professionals
The Woodlands, TX

Dealer
-
-

Alvin Elementary School #23
Alvin, TX

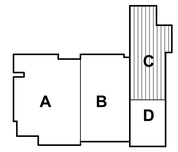
Project No: 32253
Designed By: L. Aguirre
Drawn By: L. Aguirre
Sheet 1.1 of sheets

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Houston, TX 77002-4916
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Consultant

Notes



N

2 ADDENDUM 01			9.08.2025
Revision	By	Appd	YYYY.MM.DD
BIDDING DOCUMENTS	KK	JC	9.01.2025
FINAL CONSTRUCTION DOCUMENTS	KK	JC	8.18.2025
Issued	By	Appd	YYYY.MM.DD

Permit/Seal



Client/Project Logo

ALVIN Independent School District

Client/Project
ALVIN ISD

Elementary School No 23

2727 White Gold Drive
ROSHARON, TEXAS 77583

Title
FS CONDENSING UNITS

Project No. 214001269
Scale
Revision 2
Drawing No. QF1.6

FDP Authorized Access Representative

Q46198-55

IMPORTANT!

THERMO-KOOL WALK-IN FLOOR PANELS ARE DESIGNED TO WITHSTAND UNIFORMLY DISTRIBUTED STATIONARY LOADS OF 600 LBS. PER SQUARE FOOT. THERMO-KOOL'S WARRANTY DOES NOT COVER DAMAGE DUE TO PALLET JACKS, MOBILE CARTS, MOBILE SHELVING, FORK LIFTS, OR ANY OTHER FORM OF ROLLING TRAFFIC. A CONCRETE WEARING FLOOR MUST BE INSTALLED ON TOP OF THE WALK-IN FLOOR PANELS FOR THIS APPLICATION.

These drawings represent our understanding of the requirements of your order. We submit them to you for the purpose of securing complete approval of sizes, finishes, framing, insulation, dimensions, specifications, and interpretations. The return of these drawings to us with instructions to proceed, or subsequent instructions to that effect, shall constitute complete approval.

Approved by _____ Date _____

WARNING

DO NOT EXPOSE CARTONED OR STACKED PANELS TO MOISTURE OR HIGH HUMIDITY CONDITIONS DURING STORAGE. STAINING OR OXIDIZING OF METAL SKINS MAY OCCUR.

NOTICE

THIS ORDER CANNOT BE PLACE IN PRODUCTION UNTIL WE RECEIVE FINAL APPROVED DRAWINGS AND SPECIFICATIONS. THE DATE OF RECEIPT CAN AFFECT YOUR PROMISED DELIVERY DATE.

THIS THERMO-KOOL WALK-IN WILL BE MANUFACTURED TO UL & NSF REQUIREMENTS. THERMO-KOOL ACCEPTS NO LIABILITY FOR LOCAL CODE REQUIREMENTS OF WHICH THERMO-KOOL HAS NOT BEEN MADE AWARE IN WRITING PRIOR TO FABRICATION.

Thermo-Kool®
WALK-IN PANEL
Thermo-Kool/Mid-South Industries, Inc.
R-14781

BUILDING UNITS
1F68
USA
SURFACE BURNING CHARACTERISTICS

MATERIAL DETAILS	FLAME SPREAD	SMOKE DEVELOPED
ALUMINUM PANELS, PAINTED OR UNPAINTED, 5" OR LESS	15	300-400
GALVANIZED OR STAINLESS STEEL PANELS, PAINTED OR UNPAINTED, 5" OR LESS	20	450-OVER 500
CORE MATERIAL, 6" THICK	20	250

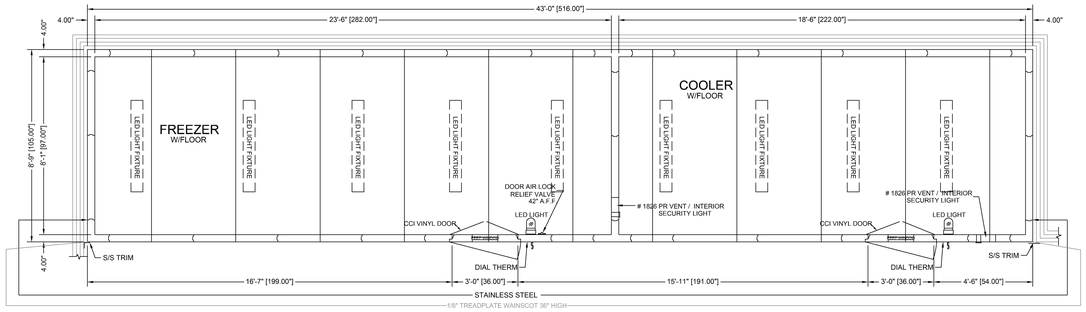
CANADA
SURFACE BURNING CHARACTERISTICS / CARACTERISTIQUES DE COMBUSTION SUPERFICIELLE IN ACCORDANCE WITH THE STANDARD / SELON LA NORME CAN/ULC-S102

MATERIAL DETAILS / DETAILS DU MATERIAL	FLAME SPREAD / INDICE DE PROPAGATION DE LA FLAMME	SMOKE DEVELOPED / INDICE DE DÉGAGEMENT DES FUMÉES
ALUMINUM PANELS, PAINTED OR UNPAINTED, 127 MM (5 IN.) THICK OR LESS, PANNEAUX EN ALUMINIUM, PEINTS OU NON PEINTS, 127 MM (5 PO) D'EPAISSEUR, OU MOINS	10	105
GALVANIZED OR STAINLESS STEEL PANELS, PAINTED OR UNPAINTED, 127 MM (5 IN.) THICK OR LESS, PANNEAUX EN ACIER GALVANISE OU EN ACIER INOXYDABLE, PEINTS OU NON (5 PO) D'EPAISSEUR OU MOINS	5	175
CORE MATERIAL, 150 MM (6 IN.) MATERIAU DE BASE, 150 MM (6 PO)	295	100

PULL DOWN RATE TO 45°F IS UNRESTRICTED. AFTER 45° F, PULL DOWN RATE SHOULD BE RESTRICTED TO 10° F PER 24 HOUR PERIOD. NOT APPLICABLE TO BLAST CHILLER CABINETS.

"THERMO-KOOL WALK-IN COOLERS AND FREEZER COMPLY WITH 2021 INTERNATION ENERGY CONSERVATION CODE (IECC), SECTION C403.11"

NOT APPROVED QUOTATION SUBMITTAL



VERIFY !!!

* VERIFY ALL DIMENSIONS
* VERIFY HEIGHT AFF FOR TRIM & ENCLOSURES

OVERALL DIMENSIONS WIDTH 43'-0" DEPTH 8'-9" HEIGHT 10'-6"

60

FINISH-Exterior
UNEXPOSED (●) 26 Ga. Stucco Embossed Galv. Steel; ( ) .040 Stucco Aluminum
EXPOSED (●) 20 Ga. Type 304 #3 Finish Stainless Steel; ( ) White Stucco Aluminum; ( ) White Smooth Aluminum; ( ) White Stucco Galv.; ( ) White Smooth Galv.

Interior (walls and ceiling)
( ) 26 Ga. Stucco Embossed Galv. Steel; ( ) .040 Stucco Aluminum; ( ) 20 Ga. Type 304 #3 Finish Stainless Steel; (●) White Stucco Aluminum; ( ) White Smooth Aluminum; ( ) White Stucco Galv.; ( ) White Smooth Galv.

FINISH-Interior Floor
( ) Built-in by others. (Breaker strip must be under all wall panels including partitions)
( ) 4" x 2" Vinyl U-Channel Screeds ( ) Wall Anchors ( ) 4 1/4" Foam Screeds
( ) 14 Ga. Bright Galvanized Steel
( ) 16 Ga. Stainless Steel — SEE DETAIL BELOW
(●) Smooth Aluminum
( ) 1/8" Treadplate Aluminum Foamed-In-Place

THERMO-KOOL WALK-IN FLOOR PANELS ARE DESIGNED TO WITHSTAND UNIFORMLY DISTRIBUTED STATIONARY LOADS OF 600 LBS. PER SQUARE FOOT. THERMO-KOOL'S WARRANTY DOES NOT COVER DAMAGE DUE TO PALLET JACKS, MOBILE CARTS, MOBILE SHELVING, FORK LIFTS, OR ANY OTHER FORM OF ROLLING TRAFFIC. A CONCRETE WEARING FLOOR MUST BE INSTALLED ON TOP OF THE WALK-IN FLOOR PANELS FOR THIS APPLICATION.

SECTION FASTENERS-Thermo-Kool cam type Insta-Lok
INSULATION-4" thickness "Foamed-in-place" urethane-DURATHANE CONSTRUCTION CLASS I
( ) OUTDOOR INSTALLATION
( ) Vinyl weather roof W/ Fascia Bar & Cover
( ) Sloped Foam ( ) _____SQ. FT. OF 4-MIL POLYETHYLENE (BETWEEN SLOPED FOAM & VINYL WEATHERCAP)
(●) INDOOR INSTALLATION
ELECTRICAL- All wiring contained within the door section(s) is 115/60/1Ø. Connections to this and all other light and refrigeration supplied by others
(●) UNEXPOSED CONDUIT - Wiring stubs out top of panels 8"
( ) EXPOSED CONDUIT - Wiring terminates in a field service box at top of panels
ENTRANCE DOOR- Flush infilling type with poly vinyl magnetic gasket and vinyl sweep gasket on bottom edge. Heater cables are built in around door opening to prevent frost accumulation and sweating. Ext. has a thermometer, indication light, and toggle switch. Interior has vapor proof light. Hinges are cam action type.
* Door finishes will be the same as adjacent panels unless specified otherwise under Door Accessories.

DOOR SIZE & QTY
( ) 30" x 76"
( ) 34" x 76"
(2) 36" x 78"

HARDWARE
(●) K-1238CQ LATCH W/ 0485 ¿ TURN RELEASE, (2) 1346 PERFORMER ADJUSTABLE HINGES, DOOR CLOSER

SWING
( ) RH
(●) LH

(●) DOOR ACCESSORIES
( ) 14" x 14" Peep Window(s)W/ HEATED FRAME & GLASS
(●) (2) 14" x 24" Peep Window(s)W/ HEATED FRAME & GLASS

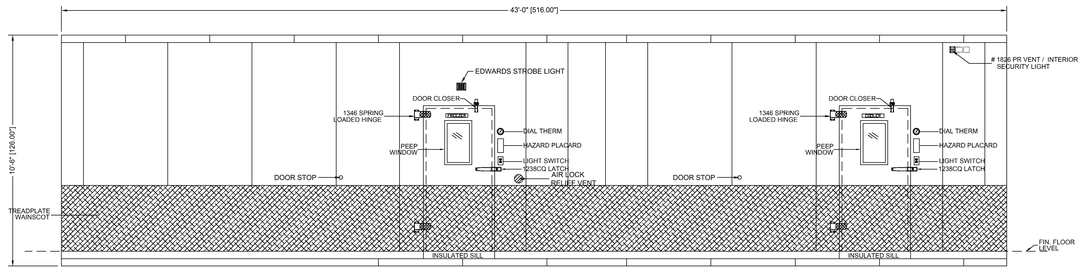
STAINLESS STEEL TO INTERIOR & EXTERIOR OF DOOR(S)
(2) 2 & 1/2" DIAL THERM(S) W/ 25'-0" LONG LEAD(S)
KASON # 1806 LED LIGHT FIXTURE(S) W/ BULBS ON DOOR FRAME(S)
1/8" ALUMINUM TREADPLATE INT/EXT KICKPLATES & EXT JAMB GUARDS 36" HIGH
(2) DOOR STOP(S) (SHIPPED LOOSE)
(2) BACKUP FRAME HEATER WIRE(S) (INSTALLED BUT NOT OPERATIONAL)
(2) DOOR HEATER(S)
(1) COOLER I. D. PLATE, BLACK COLOR W/ WHITE LETTERS
(1) FREEZER I. D. PLATE, BLACK COLOR W/ WHITE LETTERS
MOUNTED @ THERMO-KOOL
(2) CCI CLEAR VU VINYL SWING DOOR(S) TO FIT THE SPECIFIED DOOR SIZE(S) SHOWN
(1) DOOR AIR LOCK RELIEF VALVE @ FREEZER DOOR
(2) EDWARDS BEACON STROBE LIGHT/BUZZER(S) (1 ABOVE FREEZER DOOR, 1 SHIPPED LOOSE)
NOTE: CONDUIT TO TURN AND RUN UP OUTER EDGE OF DOOR FRAME TO AVOID THE SCREWS COMING IN CONTACT W/ CONDUIT DURING INSTALLATION OF CCI DOOR(S).
NOTE: SJ CABLES TO BE MOUNTED ON EXTERIOR SIDE OF DOORS & FRAMES.

(●) MISCELLANEOUS EQUIPMENT
( ) ( ) Lights (NOT MOUNTED) 1 AMP EACH
( ) Interior Floor Ramp
( ) Exterior Floor Ramp
(2) (●) # 1826 PR VENT W / INTERIOR SECURITY LIGHT (1 AMP)
( ) # 1830 Heated Pressure Relief Vent .5 AMPS EACH
( ) # 1832-4 Heated Pressure Relief Vent .5 AMPS EACH
S/S (●) Trim & Angle Bracket Enclosures (see detail)
(9) 48" LED LIGHT FIXTURE(S) W/ BULBS
450 SQ. FT. OF 6-MIL POLYETHYLENE (FOR VAPOR BARRIER)
6" WHITE STUCCO ALUMINUM ALUMINUM COVED BASE ON INTERIOR
1/8" TREADPLATE WAINSCOT 36" HIGH ON EXPOSED EXTERIOR (SHIPPED LOOSE)

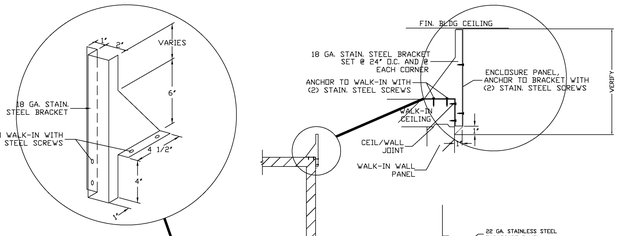
REFRIGERATION- ( ) Aircooled ( ) Watercooled (●) By Others

NOTE: IF REFRIGERATION IS NOT SUPPLIED WITH WALK-IN, BASED ON AN AMBIENT OF 100 DEGREES F, FOR NSF APPLICATIONS AT STANDARD HOLDING TEMPERATURES FOR A COOLER THE BTU RATING SHALL BE 11,030 AND FOR A FREEZER THE BTU RATING SHALL BE 16,070 .

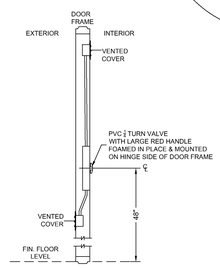
(CONSULTANT: FOODSERVICE DESIGN PROFESSIONALS)



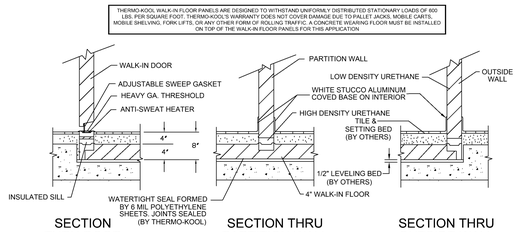
FRONT ELEVATION
DOOR SECTION 5.5 AMPS



ENCLOSURE PANEL DETAIL



AIR LOCK RELIEF VALVE DETAIL



SECTION THRU DOOR | SECTION THRU PARTITION WALL | SECTION THRU OUTSIDE WALL

Condensing unit indoor
Condensing unit outdoor
Top Mounted Self Contained
Quick Connect, Remote
Prewired, Preassembled Remote

CONTROL KIT-The following controls indicated with a mark are included.
Expansion valve
Dryer
Sight glass
Temperature control
Pump down solenoid valve
Freezer Time Clock
Pressure control
Suction line vibration eliminator
Winter control
Crankcase heater
Condensing unit cover
Coil Mounting Kit

NSF

NOTES: Aircooled condensing units should be placed in a well ventilated area with a minimum of 1000 CFM's per/H.P.
Evaporator drain connections by others.
NOTE: THERMO-KOOL recommends a 1" min. clearance between walk-in & building walls.

ITEM # 102

BCAD

DATE	REV. BY	REVISIONS DESCRIPTION

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Walk-in panel manufactured under Patent #5,424,118.

Thermo-Kool®
Mid-South Industries, Inc. ● P.O. Box 989
Laurel Mississippi 39441 ● Phone 601-649-4600
FAX 601-649-0558

SUBJECT: WALK-IN REFRIGERATION
FOR: ALVIN ISD NEW ELEMENTARY # 23
ROSHARON, TX

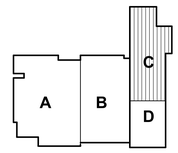
DR. BY	CH. BY	DWG. NO.
SDH		Q46198
DATE	SCALE	SHEET NO.
06-17-2025	3/8"=1'-0"	1 OF 1

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Notes





2 ADDENDUM 01			9.08.2025
Revision	By	Appd	YYYY.MM.DD
BIDDING DOCUMENTS	KK	JC	9.01.2025
FINAL CONSTRUCTION DOCUMENTS	KK	JC	8.18.2025
Issued	By	Appd	YYYY.MM.DD

Permit/Seal



Client/Project Logo

Client/Project
ALVIN ISD

Elementary School No 23

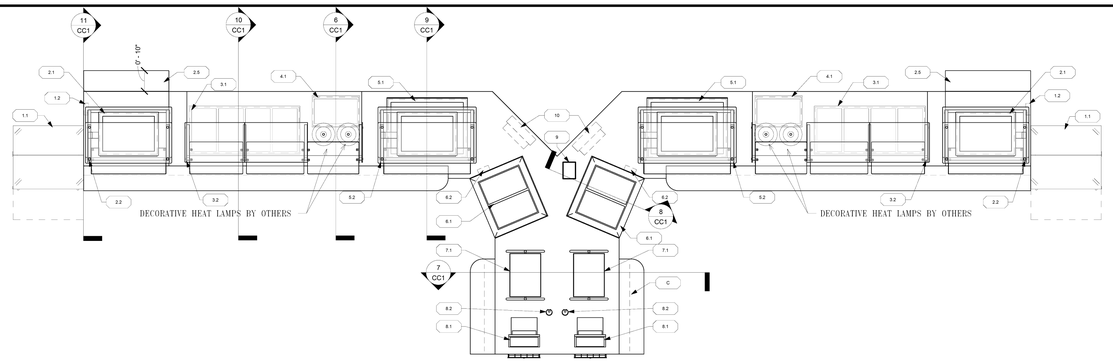
2727 White Gold Drive
ROSHARON, TEXAS 77583

Title
FS WALK-INS

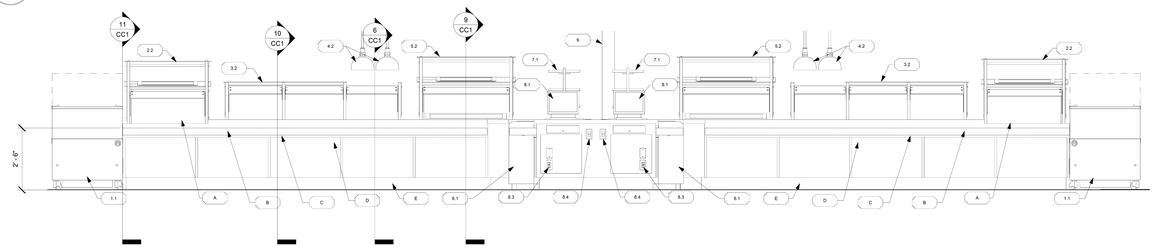
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214001269	
Revision	Drawing No.
2	QF1.7

FDP FOODSERVICE DESIGN PROFESSIONALS

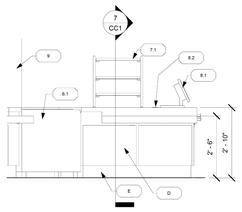
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ORIGINAL SHEET - ARCH E1



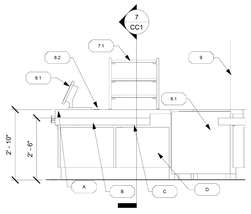
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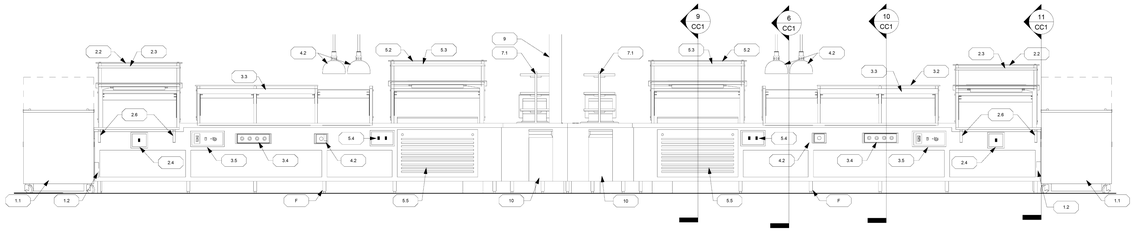
2 CC1 FRONT ELEVATION
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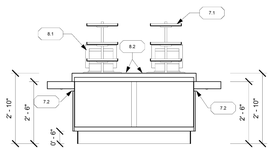
4 CC1 LEFT END
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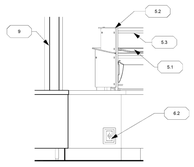
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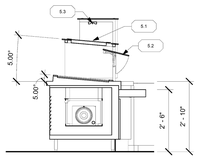
3 CC1 REAR ELEVATION
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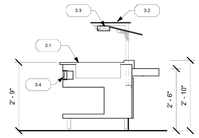
7 CC1 CHIP RACK SECTION VIEW
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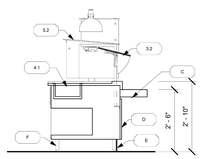
8 CC1 FREEZER SECTION VIEW
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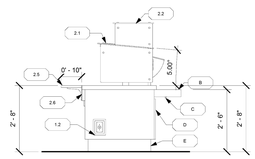
9 CC1 FROST SECTION VIEW
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10 CC1 HOT FOOD WELLS SECTION 6
SCALE: 1/2" = 1'-0"



1 HOT FOOD WELL SECTION 2
SCALE: 1/2" = 1'-0"



11 CC1 TRAY PASS SECTION VIEW
SCALE: 1/2" = 1'-0"

TWO REQUIRED

EQUIPMENT BY OTHERS
COUNTERCRAFT LAYOUTS, MEPS, AND LOAD CENTERS ARE BASED ON SPECIFIED MANUFACTURERS AND MODELS AS OUTLINED IN THE SPECIFICATIONS IN THE CONTRACT DOCUMENTS. COUNTERCRAFT MUST BE NOTIFIED OF ANY CHANGES TO THE CONTRACT DOCUMENTS IN A TIMELY MANNER.

ITEM No 1 EQUIPMENT SCHEDULE

ITEM No	QTY	DESCRIPTION	MODEL No	REMARKS
A	1	COUNTERTOP	SSCT	14 GA. S/S COUNTERTOP W/ 2" TURNDOWN AT FREE SIDES AT 34" A.F.F AND 32" A.F.F AT START OF LINE
B	1	TRAYSLIDE	CTS	CORIAN TRAYSLIDE W/ 3-1/2" TURNDOWNAD 30" AF.F. (COLOR: BY OWNER/ARCHITECT)
C	4	FRONT DECOR LIGHTS	LED	LED FRONT DECOR LIGHTING UNDERNEATH TRAYSLIDE
D	1	FRONT DECOR	PLAM	¾" REMOVABLE PLASTIC LAMINATE CLAD MILLWORK DECOR PANELS, STAINLESS-STEEL BODY REVEAL BETWEEN PANELS. COLOR SELECTION BY OWNER/ARCHITECT.
E	1	KICKPLATE	SSKP	STAINLESS STEEL REMOVABLE KICKPLATES
F	30	LEG	LEG	6" ADJUSTABLE S/S LEG
1.1	2	MILK COOLER	MCT-DMT1	MOBILE MILK COOLER BY KEC
1.2	2	RECESSED RECEPTACLE	5-15R	SERVICE TO MILK COOLER
2.1	2	HOT TOP OVERSHELF	HTO1-SL	ONE (1) PAN HOT OVERSHELF MOUNTED IN BREATHGUARD W/ 5° SLANT
2.2	2	SLANTED OVERSHELF BREATHGUARD	HOVS	ONE (1) PAN HOT OVERSHELF MOUNTED IN BREATHGUARD W/ 5° SLANT AND HIGH POLISH EDGES
2.3	2	DISPLAY LIGHTS	LED	LED LIGHTS IN A CUSTOM S/S HOUSING BY C.C.
2.4	2	TRADITIONAL CONTROL PANEL	CUSTOM	SERVICE TO HOT TOP OVERSHELF
2.5	2	WORK SHELF	SSUS	FOLD DOWN WORK SHELF WITH HIGH POLISH BRACKETS
2.6	4	FOLD DOWN BRACKET	CUSTOM	FOLD DOWN BRACKET W/ HIGH POLISH FINISH.
3.1	2	HOT FOOD WELL	400-HW06	DROP-IN WATERLESS HOT FOOD WELLS IN A 1" RECESS
3.2	2	BREATH GUARD	BGA-1	SINGLE TIER ADJUSTABLE BREATH GUARD W/ HEAT LAMP AND LED LIGHTING
3.3	2	HEAT LAMP	GRN-48	48" HEAT LAMP W/ LED LIGHTS IN A CUSTOM S/S HOUSING BY CC.
3.4	2	TRADITIONAL CONTROL	-	SERVICE TO HOT FOOD WELLS
3.5	2	TRADITIONAL CONTROL	TCP	CONVENIENCE OUTLET/DISPLAY LIGHTS/HEAT LAMP
4.1	2	HOT FOOD WELL	100-HW06	DROP-IN WATERLESS HOT FOOD WELLS IN A 1" RECESS
4.2	2	TRADITIONAL CONTROL	-	SERVICE TO HOT FOOD WELLS
5.1	2	RECESSED FROST TOP	DE-RFT2-SB-FTO1-SL	TWO (2) PAN RECESSED FROST TOP IN COUNTER BODY W/ ONE (1) PAN FROST TOP OVERHSELF ON A SINGLE COMPRESSOR AND 5° SLANT
5.2	2	SLANTED OVERSHELF BREATHGUARD	FOVS	ONE (1) PAN FROST OVERSHELF MOUNTED IN BREATHGUARD W/ 5° SLANT
5.3	2	DISPLAY LIGHTS	LED	LED LIGHTS IN A CUSTOM S/S HOUSING BY C.C.
5.4	2	TRADITIONAL CONTROL PANEL	CUSTOM	SERVICE TO DUIPLEX FROST TOPS
5.5	2	LOUVERED PANEL	CUSTOM	REMOVABLE S/S LOUVERED PANEL FOR COMPRESSOR VENTILATION AND ACCESS
6.1	2	DISPLAY FREEZER	MSC-31AN	CURBED LID DISPLAY FREEZER BY KEC
6.2	2	RECESSED RECEPTACLE	5-15R	SERVICE TO DISPLAY FREEZER
7.1	2	CHIP RACK	CUSTOM	BY KEC
7.2	2	LAMINATE PANEL DOOR HANDLE	CUSTOM	FOR ACCESS TO EQUIPMENT STORAGE COMPARTMENT
8.1	2	CASHIER STATION	POS	CASHIER STATION BY OTHERS
8.2	2	GROMMET	EDPS	PLATED PLASTIC GROMMET CAP AND LINER FOR INTERIOR COUNTER ACCESS
8.3	2	POWER / DATA CONNECTIONS	5-20R	GFCI RECEPTACLE AND DATA CONNECTION BOX
8.4	2	TRADITIONAL CONTROL	CUSTOM	TRADITIONAL ROCKER SWITHC W/ SERVICE TO FRONT DECOR LIGHTS
9	1	UTILITY CHASE	CHASE	4" SQ. S/S CHASE FOR DATA CONNECTIONS, VERIFY SIZE AND LOCATION
10	2	LOAD CENTER	LC	ALL ELECTRICAL IS TS TO BE PRE-WIRED TO THE LOAD CENTER

REVISIONS

NUMBER	DESCRIPTION	DATE	BY	PM
1	PRELIMINARY DWG	06/23/2025	MAX	RP
2	CUSTOMER REQUEST ADDITIONAL VIEWS	06/25/2025	MAX	RP
3				
4				
5				
6				
7				
8				

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PROJECT: Foodservice Design Professionals (FDP) - Houston
FOOD SERVICE CONSULTANT
Alvin ES 23

PROJECT NO. AES23
DATE 06/23/2025
SCALE: 1/2" = 1'-0"
DRAWN BY: MAX
CHECKED BY: E.S
SHEET NO. CC1
OF SHEET

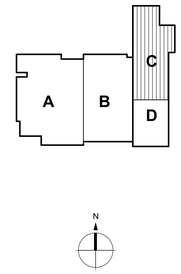
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Notes



2	ADDENDUM 01		9.08.2025
Revision		By	Appd YYYY.MM.DD
BIDDING DOCUMENTS	KK	JC	9.01.2025
FINAL CONSTRUCTION DOCUMENTS	KK	JC	8.18.2025
Issued		By	Appd YYYY.MM.DD

Permit/Seal



Client/Project Logo

Client/Project
ALVIN ISD

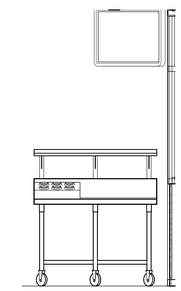
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2727 White Gold Drive
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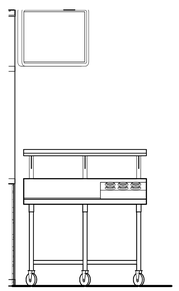
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Scale
Revision 2
Drawing No. QF1.8

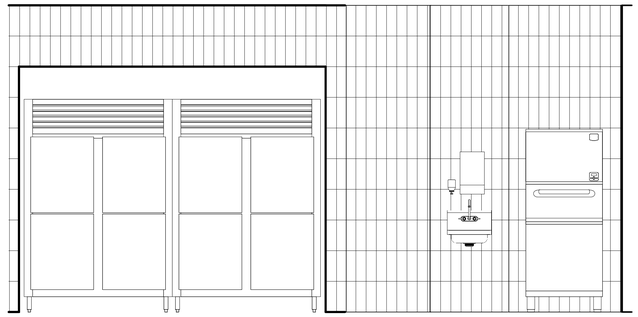
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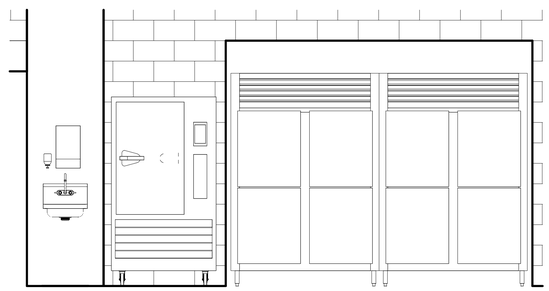
17 SILVERWARE COUNTER 'B'
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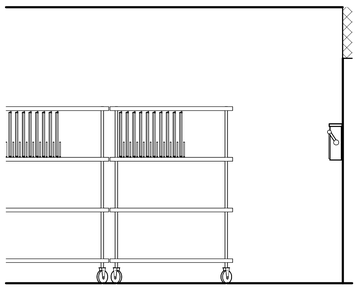
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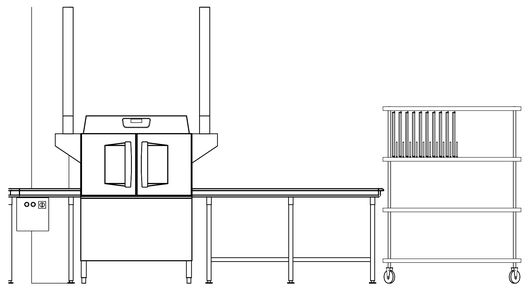
15 HOLDING 'B' / ICE
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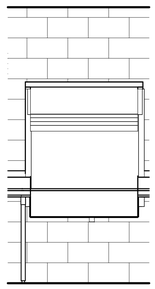
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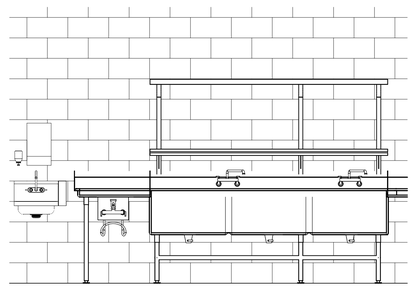
13 UTENSIL SHELVING
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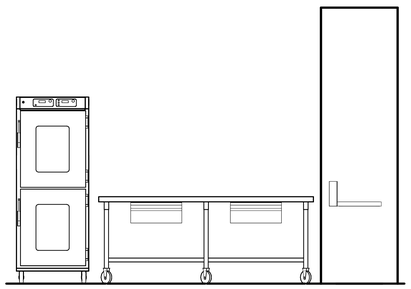
12 WAREWASH
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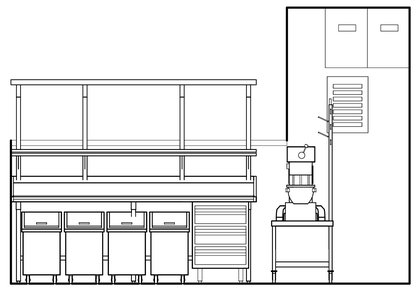
11 TRAY DROP WINDOW
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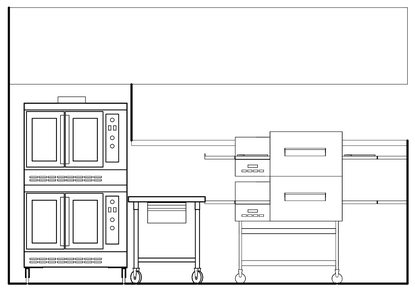
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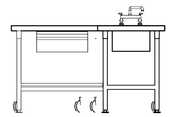
9 BAKE AREA 'A'
1/2" = 1'-0"



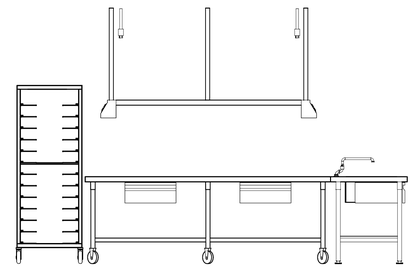
8 BAKE AREA 'B'
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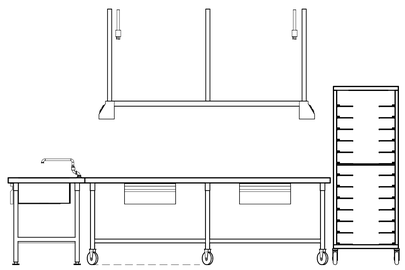
7 PRODUCTION AREA 'A'
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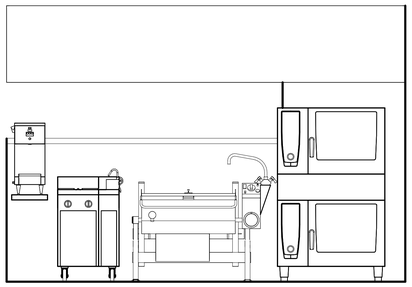
6 WORKTABLE W/ SINK
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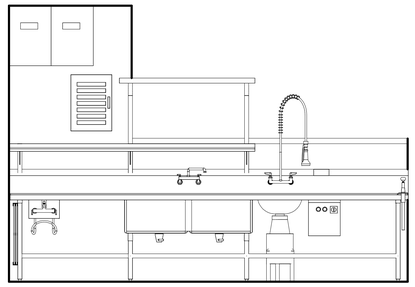
5 SETUP 'A'
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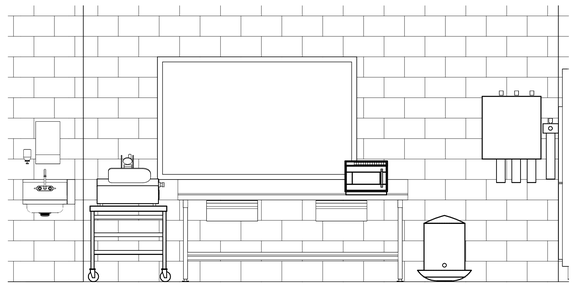
4 SETUP 'B'
1/2" = 1'-0"



3 PRODUCTION AREA 'B'
1/2" = 1'-0"



2 PREP AREA 'A'
1/2" = 1'-0"



1 PREP AREA 'B'
1/2" = 1'-0"

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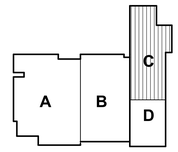
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Notes





2 ADDENDUM 01			9.08.2025
Revision	By	Appd	YYYY.MM.DD
BIDDING DOCUMENTS	KK	JC	9.01.2025
FINAL CONSTRUCTION DOCUMENTS	KK	JC	8.18.2025
Issued	By	Appd	YYYY.MM.DD

Permit/Seal

MELISSA MOON
#BECXXX
488545119
PROFESSIONAL MEMBER
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MELISSA MOON, FCSI NO. 488545119 ON: 5/31/2025

Client/Project Logo

ALVIN Independent School District

Client/Project
ALVIN ISD

Elementary School No 23

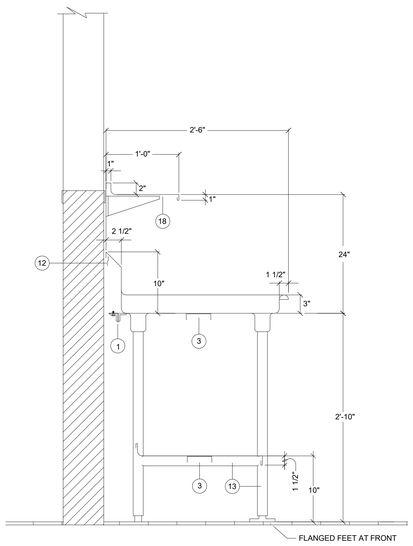
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ROSHARON, TEXAS 77583

Title
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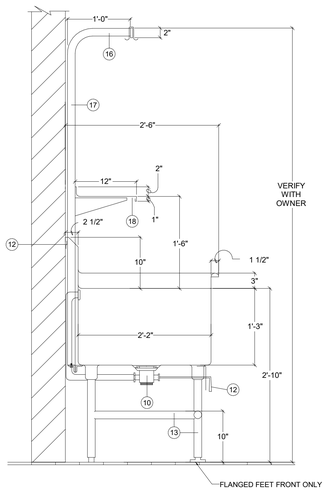
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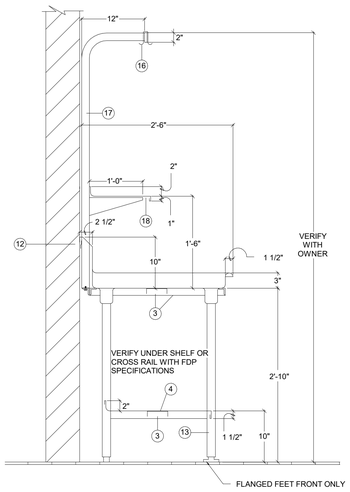
ORIGINAL SHEET - ARCH E1



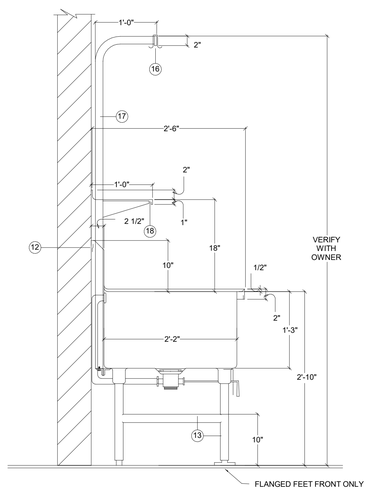
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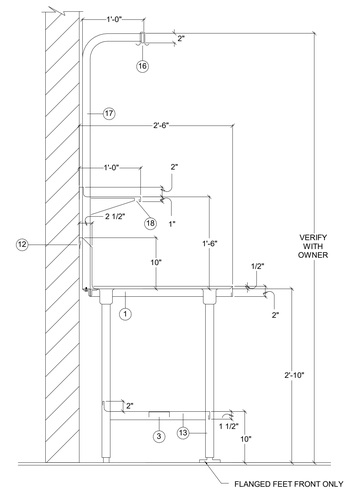
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3 DRAINBOARD - UTENSIL WASH SECTION
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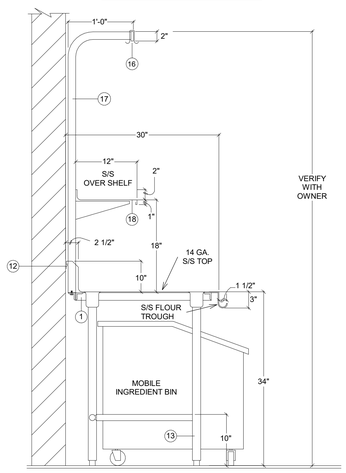


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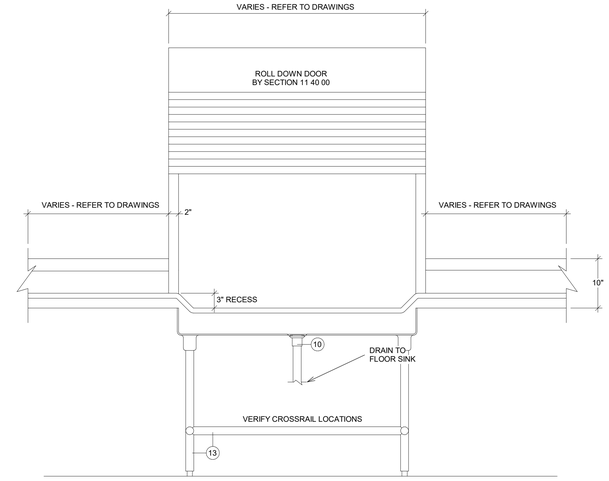


5 DRAINBOARD - PREP SINK SECTION
NOT TO SCALE

NOTE:
SECTION 114000 TO PROVIDE PROTECTIVE COVERING ON S/S COUNTER TOPS DURING CONSTRUCTION.
ALL SURFACES TO HAVE NO SCRATCHES.

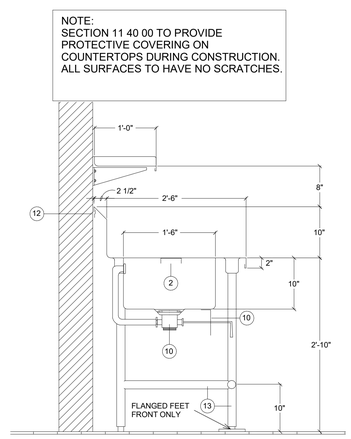


7 BAKER'S TABLE W/ S.S. TOP & UT. RACK SECTION
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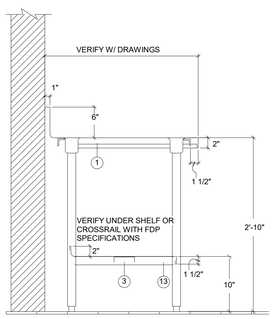


10 WAREWASH - TRAY DROP W/ LOWERED ROLLED RIM DETAIL
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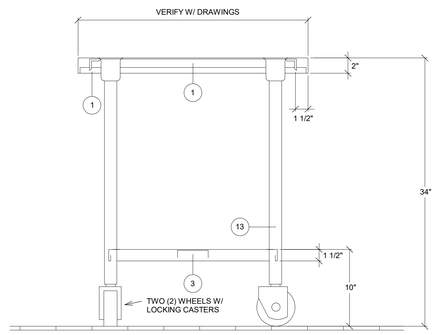
NOTE:
SECTION 11 40 00 TO PROVIDE PROTECTIVE COVERING ON COUNTERTOPS DURING CONSTRUCTION.
ALL SURFACES TO HAVE NO SCRATCHES.



9 WORKTABLE W/ SINK SECTION
NOT TO SCALE



6 WORKTABLE W/O OVER SHELF SECTION
NOT TO SCALE



8 WORKTABLE - MOBILE SECTION
NOT TO SCALE

SECTION DETAIL NOTES:

1. 1 1/2" X 1 1/2" X 1/8" GALVANIZED ANGLE IRON.
2. 1" X 4" 14 GAUGE STAINLESS STEEL HAT CHANNEL.
3. 16 GAUGE STAINLESS STEEL C-CHANNEL.
4. 16 GAUGE STAINLESS STEEL UNDER SHELF, COVE UP REAR 2", TURN DOWN FRONT 1 1/2".
5. 1/2" CEMENT BACKERBOARD WITH TILE FRONT BY TRADE CONTRACTOR OR COUNTER MANUFACTURER. VERIFY FINISH WITH ARCHITECTURAL DRAWINGS.
6. COLD PAN - 2" RIGID INSULATION WITH 1" C.P. DRAIN - 16 GAUGE STAINLESS STEEL SECTION FALSE BOTTOM. PERFORATE FALSE BOTTOM WITH 1/4" DIA. HOLES AT 3" O.C.
7. 18 GAUGE STAINLESS STEEL INSULATED DOUBLE PAN DOOR WITH RECESSED PULL.
8. MANIFOLD DRAINS AT HOT FOOD UNITS WITH 1" TYPE 'K' COPPER AND EXTEND TO VALVE IN PLUMBING COMPARTMENT.
9. FINISHED TRUE AND LEVEL MASONRY BASE BY DIVISION 09. CLOSE COUNTER BODY AT BASE AND SEAL BY SECTION 11 40 00.
10. FISHER #22314 DRAIN WITH TAILPIECE AND OVERFLOW.
11. 14 GAUGE STAINLESS STEEL BRACKET WITH DRAIN HANDLE BUSHING.
12. 16 GAUGE STAINLESS STEEL 'Z' CLIP TO WALL AND SEAL.
13. 1 5/8" DIA. 16 GAUGE STAINLESS STEEL LEGS AND CROSS RAILS.
14. 1/2" S/S TUBING DRAIN LINE - STRAP TO SHELF AND WALL - EXTEND DOWN TO TOP OF SPLASH.
15. 1 5/8" DIA. 16 GAUGE STAINLESS STEEL TUBING - SUPPORT FRONT OF SHELF WITH 1/2" ALL-THREAD INSIDE TUBING EXTENDING TO STRUCTURE ABOVE.
16. 1/4" S/S BAR STOCK WELDED TO TOP OF EACH POST - POT HOOKS TO BE COMPONENT HARDWARE #J77-4401 SPACED 8" O.C.
17. 1 5/8" 16 GAUGE STAINLESS STEEL TUBING - BOLT TO ANGLE IRON AND EXTEND UP THRU SPLASH TO 7'-0" A.F.F.
18. OVER SHELF - 16 GAUGE STAINLESS STEEL, COVE UP REAR 2", TURN FRONT AND ENDS DOWN 1", ENDS TO BE CAPPED WITH EASED CORNERS WHERE ADJACENT TO WALL / FIXTURE.
19. 18 GAUGE STAINLESS STEEL LOUVERED PANEL.
20. 18 GAUGE STAINLESS STEEL LOUVERED DOUBLE PAN DOOR WITH RECESSED PULL.
21. NUMBER NOT USED.
22. 18 GAUGE STAINLESS STEEL INSULATED DOUBLE PAN SLIDING DOOR WITH COMPONENT HARDWARE COMPONENTS

    A. #B57 - (VERIFY LENGTH) EXTRUDED ALUMINUM TRACK.
    B. #B58-5511 & #B58-5521 FRONT & REAR DOOR SHEAVES.
    C. #B62-1093 DOOR GUIDE.
    D. #B60-1086 DOOR STOPS WHERE NEEDED.
    E. #P62-1010 RECESS PULLS.

11 SECTION DETAIL NOTES
NOT TO SCALE

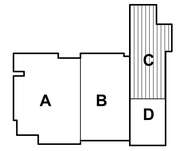
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Revision	By	Appd	YYYY.MM.DD
2 ADDENDUM 01			9.08.2025
BIDDING DOCUMENTS	KK	JC	9.01.2025
FINAL CONSTRUCTION DOCUMENTS	KK	JC	8.18.2025

Issued

Permit/Seal



Client/Project Logo

Client/Project
ALVIN ISD

Elementary School No 23

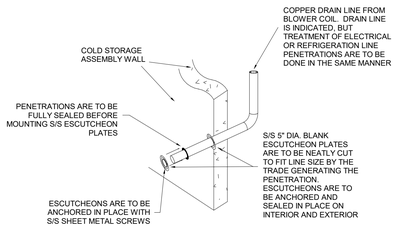
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ROSHARON, TEXAS 77583

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FS SECTIONS & DETAILS

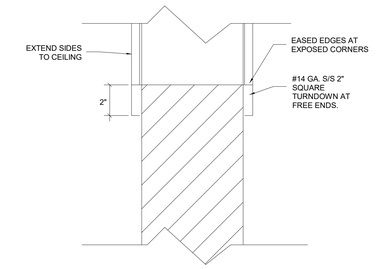
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Revision	Drawing No.
2	QF2.0

FDP
FACILITY DESIGN PROFESSIONAL

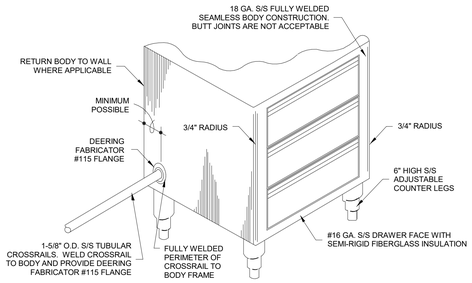
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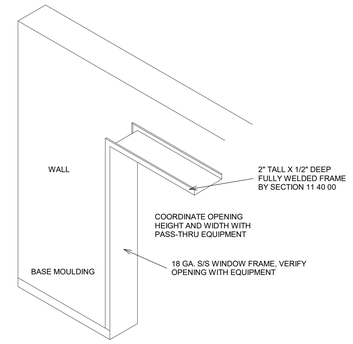
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NOT TO SCALE



2 S/S WALL CAP DETAIL
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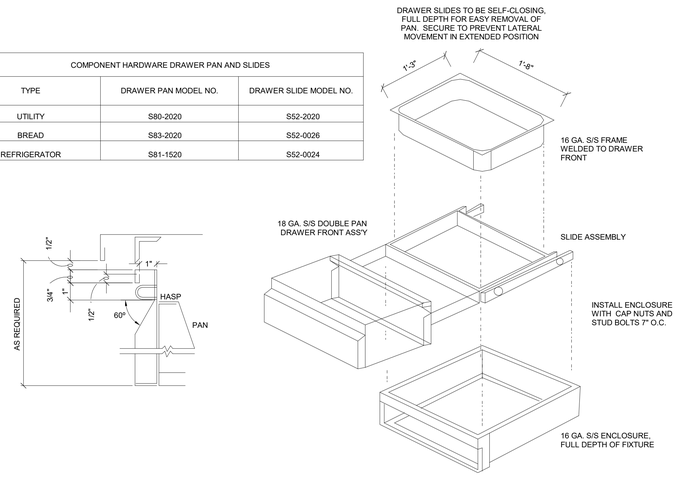


3 BAKER'S TABLE DRAWER BASE DETAIL
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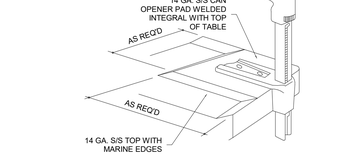


4 S/S TRIM WRAP @ PASS-THRU EQUIP. DETAIL
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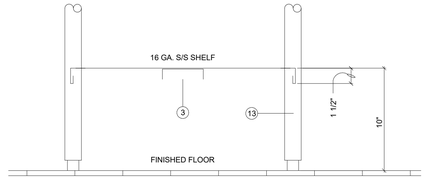
COMPONENT HARDWARE DRAWER PAN AND SLIDES		
TYPE	DRAWER PAN MODEL NO.	DRAWER SLIDE MODEL NO.
UTILITY	S80-2020	S52-2020
BREAD	S83-2020	S52-0026
REFRIGERATOR	S81-1520	S52-0024



5 DRAWER ASSEMBLY DETAIL
NOT TO SCALE



6 SINK - PREP MARINE EDGE CAN OPENER DETAIL
NOT TO SCALE



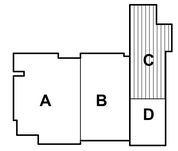
9 UNDER SHELF DETAIL
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FINAL CONSTRUCTION DOCUMENTS	KK	JC	8.18.2025
Issued	By	Appd	YYYY.MM.DD

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ACCORDANCE CONSULTANTS MELISSA MOORE FCS 48854119 SOCIETY INTERNATIONAL PROFESSIONAL MEMBER
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MELISSA MOORE, FCSI NO. 48854119 ON 12/11/2025

Client/Project Logo

ALVIN Independent School District

Client/Project
ALVIN ISD

Elementary School No 23

2727 White Gold Drive
ROSHARON, TEXAS 77583

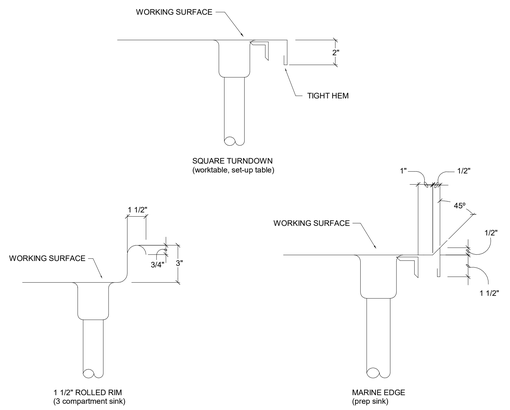
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Project No.	Scale
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Revision	Drawing No.
2	QF2.1

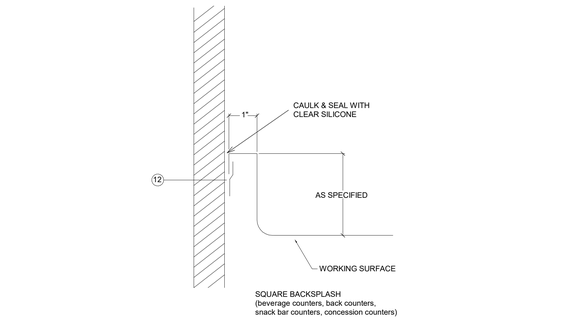
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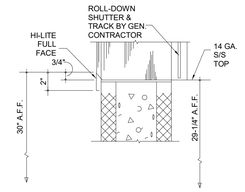
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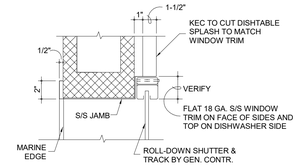
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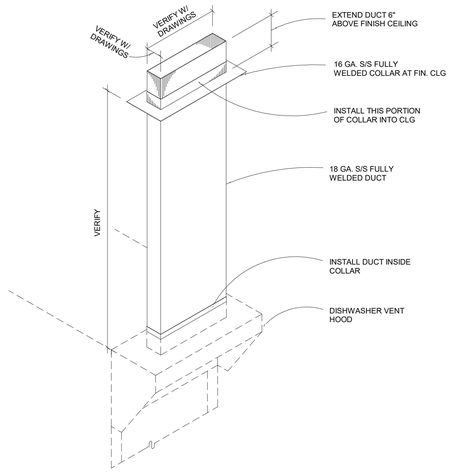
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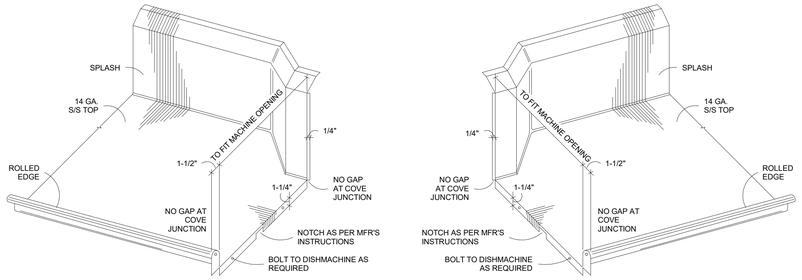
3 WAREWASH - TRAY DROP SECTION
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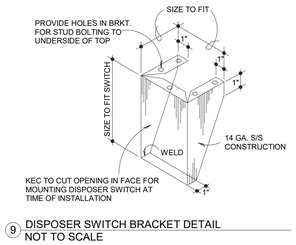
4 WAREWASH - TRAY DROP WINDOW SECTION
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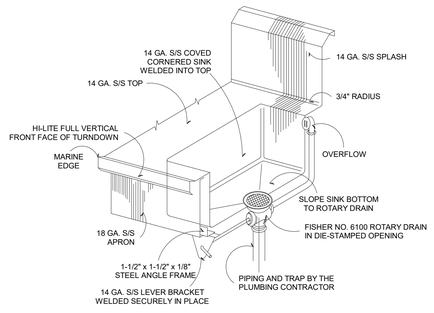
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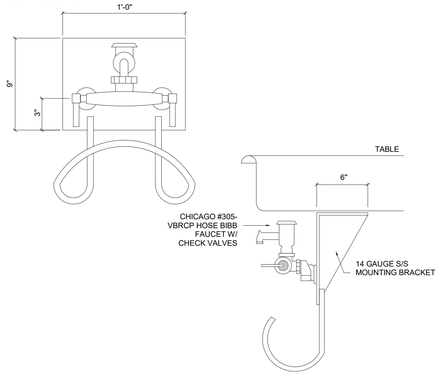
6 DISHTABLE - SOILED & CLEAN CONNECTION DETAIL
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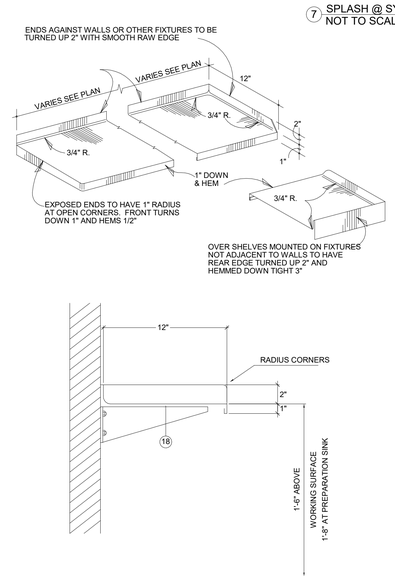
9 DISPOSER SWITCH BRACKET DETAIL
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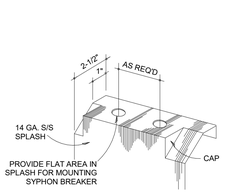
10 SINK ASSEMBLY DETAIL
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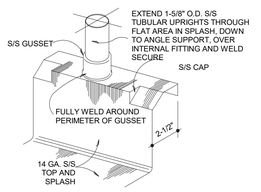
11 HOSE BIBB DETAIL
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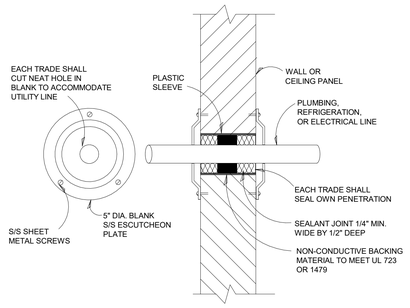
12 SHELF - WALL MTD SECTION
NOT TO SCALE



7 SPLASH @ SYPHON BREAKER
NOT TO SCALE



8 SPLASH @ UPRIGHT (DISH TABLE) DETAIL
NOT TO SCALE



13 COLD STORAGE ASSEMBLY WALL PENETRATION DETAIL
NOT TO SCALE

CUSTOM FABRICATION NOTES:

A. WORK SHALL BE DONE IN AN APPROVED WORKMANLIKE MANNER, TO COMPLETE SATISFACTION OF FOODSERVICE DESIGN PROFESSIONALS (FDP).

B. STAINLESS STEEL SHALL BE U.S. STANDARD GAUGES AS CALLED FOR. 18-8, TYPE 304, NOT OVER .012% MAXIMUM CARBON, NO. 4 FINISH.

C. GALVANIZED IRON SHALL BE ARMCO OR EQUAL. FRAMEWORK OF GALVANIZED IRON SHALL BE WELDED CONSTRUCTION, HAVING WELDS SMOOTH, AND WHERE GALVANIZING HAS BURNED OFF, TOUCHED UP WITH HIGH-GRADE ALUMINUM BRONZE.

D. LEGS AND CROSSRAIL SHALL BE CONTINUOUSLY WELDED, UNLESS OTHERWISE NOTED, AND GROUND SMOOTH.

E. BOTTOM OF LEGS AT FLOOR SHALL BE FITTED WITH SANITARY STAINLESS STEEL BULLET-TYPE FOOT, WITH NO LESS THAN 1/2" ADJUSTMENT.

F. LEGS SHALL BE FASTENED TO EQUIPMENT AS FOLLOWS:

01. TO SINKS BY MEANS OF CLOSED GUSSETS. GUSSETS SHALL BE S/S, REINFORCED WITH BUSHING, HAVING SET SCREWS FOR SECURING LEGS.

02. TO TABLES AND DRAINBOARDS WITH CLOSED GUSSETS WHICH SHALL BE WELDED TO GALVANIZED HAT SECTIONS OR CHANNELS, 14 GAUGE OR HEAVIER, EXPOSED HAT SECTIONS HAVING CLOSED ENDS. BRACING SHALL BE UNDERSIDE OF TOPS.

G. CLOSED GUSSETS SHALL BE 3" MINIMUM DIAMETER AT TOP, WELDED TO FRAME MEMBERS OR TO SINK BOTTOM.

H. ROLLS SHALL BE 1 1/2" DIAMETER, EXCEPT AS DETAILED TO THE CONTRARY, WITH CORNERS BULLNOSED, GROUND, AND POLISHED.

I. SEAMS AND JOINTS SHALL BE SHOP-WELDED WHERE POSSIBLE. WELDS TO BE GROUND AND POLISHED TO MATCH ORIGINAL FINISH. MATERIALS 18 GAUGE OR HEAVIER SHALL BE WELDED.

J. METAL TOPS SHALL BE ONE-PIECE WELDED CONSTRUCTION UNLESS SPECIFIED OTHERWISE, REINFORCED ON UNDERSIDE WITH GALVANIZED HAT SECTIONS OR CHANNELS WELDED IN PLACE. CROSSBRACE TO BE NOT MORE THAN 30" ON CENTERS.

K. HARDWARE SHALL BE SOLID MATERIALS AND EXCEPT WHERE EXPOSED OR SPECIFIED TO THE CONTRARY, OF CAST BRASS, CHROME-PLATED. IDENTIFY ALL HARDWARE WITH MANUFACTURER'S NAME AND NUMBER SO THAT BROKEN OR WORN PARTS MAY BE ORDERED AND REPLACED.

L. FABRICATE SINK COMPARTMENTS WITH 3/4" COVED VERTICAL AND HORIZONTAL CORNERS. MULTIPLE- COMPARTMENT PARTITIONS TO BE DOUBLE THICKNESS, CONTINUOUSLY WELDED WHERE SHEETS JOIN AT TOP. FRONT OF MULTIPLE-COMPARTMENT PARTITIONS TO BE CONTINUOUS ON EXTERIOR. BOTTOMS SHALL BE CREASED TO DRAIN.

M. ENDS OF FIXTURES, SPLASHBACKS, SHELVES, ETC., SHALL BE FINISHED FLUSH TO WALLS OR ADJOINING FIXTURES.

N. DISHTABLES, DRAINBOARDS, SPLASHBACKS, AND TURN-UP EDGES SHALL HAVE RADIUS BENDS IN ALL HORIZONTAL AND VERTICAL CORNERS, COVED AT INTERSECTIONS.

O. ROUNDED AND COVED CORNERS OR RADIUS BENDS SHALL BE 1/2" RADIUS OR LONGER.

P. UNDERSIDES OF TOPS TO BE COATED WITH HEAVY-BODIED RESINOUS MATERIAL COMPOUND FOR PERMANENT, NON-FLAKING ADHESION TO METAL, 1/8" THICK, APPLIED AFTER REINFORCING MEMBERS HAVE BEEN INSTALLED, DRYING WITHOUT DIRT-CATCHING CREVICES.

Q. SHELVES ARE TO BE TURNED UP 2" ON THE BACK EDGE. TURN OTHER EDGES DOWN 1 1/2" TO FORM OPEN CHANNELS. REINFORCE SHELF UNITS TO SUPPORT 40 LBS. PER SQUARE FOOT LOADING, PLUS 100% IMPACT LOADING.

R. TRIMWORK AND FRAMING AT MASONRY OPENINGS SHALL BE 18 GAUGE STAINLESS STEEL AND FORMED SO AS TO FIT SNUG TO WALLS AND ADJACENT SURFACES. FRAMING SHALL EXTEND A MINIMUM OF 2" ON EACH SURFACE. SEAL TRIMWORK TO WALLS. REFER TO DRAWINGS.

S. METAL COMPONENTS, UNLESS SPECIFIED OR NOTED OTHERWISE, TO BE THE FOLLOWING GAUGES:

TABLETOPS	14 GAUGE STAINLESS STEEL
WALL SHELVES	16 GAUGE STAINLESS STEEL
UNDER SHELVES	16 GAUGE STAINLESS STEEL
SINKS & DRAINBOARDS	14 GAUGE STAINLESS STEEL
EXHAUST DUCTS	18 GAUGE STAINLESS STEEL
LEGS - 1 5/8" DIA.	16 GAUGE STAINLESS STEEL

14 CUSTOM FAB NOTES
NOT TO SCALE

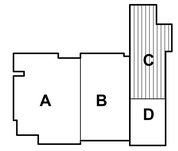
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2 ADDENDUM 01			9.08.2025
Revision	By	Appd	YYYY.MM.DD
BIDDING DOCUMENTS	KK	JC	9.01.2025
FINAL CONSTRUCTION DOCUMENTS	KK	JC	8.18.2025
Issued	By	Appd	YYYY.MM.DD

Permit/Seal

FOODSERVICE CONSULTANTS SOCIETY INTERNATIONAL
MELISSA MOORE
488954119
PROFESSIONAL MEMBER
Melissa Moore
THIS SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MELISSA MOORE, FCSI NO. 488954119 ON 3/31/2025

Client/Project Logo

ALVIN Independent School District

Client/Project
ALVIN ISD

Elementary School No 23

2727 White Gold Drive
ROSHARON, TEXAS 77583

2

Title
FS DETAILS

Project No.
214001269

Scale
NOT TO SCALE

Revision
2

Drawing No.
QF2.2

FDP FOODSERVICE DESIGN PROFESSIONALS

•Plot location in Project Information
4/8/2025 8:11:22 AM

ORIGINAL SHEET - ARCH E1

EXPANSION TANK SCHEDULE

MARK	MFG	MODEL	TYPE	SERVICE	ACCEPT VOLUME (GAL)	TOTAL VOLUME (GAL)	UNIT SIZE (LxWxH INCH)	UNIT WEIGHT (LBS)
ET-1	GRUNDFOS	GNLA-300	DIAPHRAGM	CHILLED WATER	79	79	24X55	225
ET-2	GRUNDFOS	GNLA-400	DIAPHRAGM	HEATING HOT WATER	106	106	30X49	300

REMARKS:
1. INSTALL EXPANSION TANKS ON 4" CONCRETE PAD.

VARIABLE FREQUENCY DRIVE SCHEDULE

MARK	MFG	MODEL	SERVICE	MOTOR HP	VOLT/PH/HZ	FUSED DISCONNNECT & NEMA 1 ENCLOSURE	BYPASS STARTER
VFD-AHU1	ABB	550	AHU-1	3	460/3/60	Yes	Yes
VFD-AHU2	ABB	550	AHU-2	20	460/3/60	Yes	Yes
VFD-AHU3	ABB	550	AHU-3	10	460/3/60	Yes	Yes
VFD-AHU4	ABB	550	AHU-4	15	460/3/60	Yes	Yes
VFD-AHU10	ABB	550	AHU-10	5	460/3/60	Yes	Yes
VFD-AHU11	ABB	550	AHU-11	5	460/3/60	Yes	Yes
VFD-CHWP1A	ABB	550	P-1A	10	460/3/60	Yes	Yes
VFD-CHWP1B	ABB	550	P-1B	10	460/3/60	Yes	Yes
VFD-CHWP1S	ABB	550	P-1C	10	460/3/60	Yes	Yes
VFD-HWP2	ABB	550	P-2	5	460/3/60	Yes	Yes
VFD-MUA-1	ABB	550	MUA-1	7.5	460/3/60	Yes	Yes
VFD-OAU1-EA	ABB	550	OAU-1-EA	5	460/3/60	Yes	Yes
VFD-OAU1-EW	ABB	550	OAU-1-EW	0.3	460/3/60	Yes	Yes
VFD-OAU1-OA	ABB	550	OAU-1-OA	10	460/3/60	Yes	Yes
VFD-OAU2-EA	ABB	550	OAU-2-EA	10	460/3/60	Yes	Yes
VFD-OAU2-EW	ABB	550	OAU-2-EW	0.3	460/3/60	Yes	Yes
VFD-OAU2-OA	ABB	550	OAU-2-OA	15	460/3/60	Yes	Yes
VFD-OAU3-EA	ABB	550	OAU-3-EA	5	460/3/60	Yes	Yes
VFD-OAU3-EW	ABB	550	OAU-3-EW	0.3	460/3/60	Yes	Yes
VFD-OAU3-OA	ABB	550	OAU-3-OA	15	460/3/60	Yes	Yes

REMARKS:
1. COORDINATE AND VERIFY ACTUAL VFD SUBMISSIONS WITH AHU, OAU, AND PUMPS HORSE POWER / FAN QUANTITIES ON THE APPROVED AHU / PUMP SHOP DRAWINGS. WHERE MULTIPLE FANS ARE TO BE SERVED BY A SINGLE VFD, THE MANUFACTURER SHALL PROVIDE A VFD SIZED APPROPRIATELY FOR THE QUANTITY AND SIZE OF FANS. REFER TO AHU, OAU, AND PUMP SCHEDULES FOR MOTOR QUANTITIES AND SIZES.
2. ALL AHU, OAU, AND PUMPS SHALL BE PROVIDED WITH VFD'S.

CIRCULATING FAN SCHEDULE

MARK	MFG	MODEL	FAN TYPE	AREA SERVED	ELECTRICAL		UNIT WEIGHT (LBS)	REMARKS
					FLA	VOLT/PH/HZ		
CF-1	BIGASS FAN	E12	DIRECT DRIVE CIRCULATING FAN	DINING	4.1	120/1/60	83	ALL

REMARKS:
1. PROVIDE WITH ONBOARD NEMA 1 VFD WITH WALL MOUNTED CONTROLLER.
2. COORDINATE MOUNTING HARDWARE WITH THE MANUFACTURER PRIOR TO PURCHASE.
3. CONFIRM INSTALLATION HEIGHT WITH ARCHITECT; BOTTOM OF FANS SHALL BE NO LESS THAN A MINIMUM 10' AFF.
4. FANS SHALL BE A MINIMUM 2' FROM ANY OBSTRUCTIONS.
5. FANS SHALL NOT BE MOUNTED LESS THAN TWO TIMES THE FAN DIAMETER FROM EACH OTHER, EXHAUST/RETURN INTAKES, ETC.
6. EXTENSION TUBES 48" AND LONGER SHALL BE INSTALLED WITH GUY WIRES PER THE MANUFACTURERS INSTALLATION REQUIREMENTS.
7. PROVIDE SWITCH ON WALL TO TURN FAN ON AND OFF.
8. PROVIDE UNIT WITH FIRE ALARM INTERFACE CONNECTION TO SHUT OFF UNIT IN EVENT OF FIRE ALARM.

LOUVER SCHEDULES

MARK	MFG	MODEL	CFM	AREA SERVED	CONSTRUCTION	DEPTH (INCH)	PHYSICAL SIZE (WxH INCH)	ACCESSORIES		
								COLOR	FINISH	DRAINABLE BLADE
L-1	GREENHECK	EVH-501	6890	MUA-1 INTAKE	EXTRUDED ALUMINUM WIND-DRIVEN RAIN LOUVER	5	56X56	ARCH	ARCH	Yes

REMARKS:
1. PROVIDE WITH BIRD SCREEN.
2. COLOR AND FINISH TO BE SELECTED BY ARCHITECT. REFER TO ARCH PLANS.
3. COORDINATE LOCATIONS WITH ARCHITECTURE ELEVATIONS.
4. LOUVERS MUST BE AMCA 540 AND AMCA 550 RATED.

GRAVITY VENTILATOR SCHEDULE

MARK	MFG	MODEL	SERVICE	CFM/APD	DIMENSION		UNIT WEIGHT (LBS)	REMARKS
					THROAT SIZE (LxW INCH)	OVERALL SIZE (LxW INCH)		
GI-OAU1-OA	GREENHECK	FGI-42X42	OAU-1 INTAKE AIR	7500/0.088	42X42	75X78	235	ALL
GI-OAU2-OA	GREENHECK	FGI-48X48	OAU-2 INTAKE AIR	10000/0.092	48X48	87X86	321	ALL
GI-OAU3-OA	GREENHECK	FGI-30X34	OAU-3 INTAKE AIR	4600/0.099	46X32	60X46	157	ALL
GR-OAU1-EA	GREENHECK	FGR-36X42	OAU-1 EXHAUST AIR	6300/0.095	40X36	63X52	163	ALL
GR-OAU2-EA	GREENHECK	FGR-42X46	OAU-2 EXHAUST AIR	8500/0.096	42X46	63X68	214	ALL
GR-OAU3-EA	GREENHECK	FGR-30X30	OAU-3 EXHAUST AIR	4300/0.072	32X32	46X46	126	ALL

REMARKS:
1. PROVIDE FACTORY ROOF CURB, FIELD VERIFY ROOF PITCH AND INSULATION DEPTH PRIOR TO ORDERING.
2. ALL HOODS MUST BE ANCHORED TO ROOF TO WITHSTAND WIND SPEED IN ACCORDANCE WITH ASCE 7.
3. PROVIDE WITH BIRD SCREEN.
4. HOOD TO BE FACTORY PAINTED WITH BAKED ENAMLE FINISH. COORDIANTE COLOR WITH ARCHITECT PRIOR TO ORDERING.

AIR SEPARATOR SCHEDULE

MARK	MFG	MODEL	SERVICE	INLET/OUTLET SIZE (INCH)	GPM	MAX WPD	ACCESSORIES		
							INTEGRAL STRAINER	AIR PRESSURE CHARGE	ASME RATED
AS-1	BELL & GOSSETT	ROLAIRTROL RL-6	CHILLED WATER	6	510	1	No	Yes	Yes
AS-2	BELL & GOSSETT	ROLAIRTROL RL-3	HEATING HOT WATER	3	71	1	No	Yes	Yes

REMARKS:
1. PROVIDE STRUCTURAL FLOOR STAND FOR MOUNTING OF AIR SEPERATOR FOR AS-1.
2. INSULATE AIR SEPARATORS.

OUTDOOR SPLIT SYSTEM CONDENSER SCHEDULE

MARK	MFG	MODEL	COOL/HEAT MBH	SEER	ELECTRICAL			UNIT WEIGHT (LBS)
					MCA	MOCP	VOLT/PH/HZ	
CU-1	HITACHI	PAS-24	22/-	21.5	14.3	25	208/1/60	104.5

INDOOR SPLIT SYSTEM SCHEDULE

MARK	MFG	MODEL	TYPE	AREA SERVED	AIRFLOW CFM	UNIT WEIGHT (LBS)
AC-1	HITACHI	PPK-B24	WALL MOUNTED DUCTLESS MINISPLIT	MDF B129	735	54

REMARKS:
1. PROVIDE WITH SINGLE POINT ELECTRICAL CONNECTION. POWER TO INDOOR UNIT SHALL COME FROM OUTDOOR UNIT. IF MECHANICAL CONTRACTOR SELECTS OTHER MANUFACTURER, MECHANICAL CONTRACTOR SHALL PROVIDE DISCONNECT AND NECESSARY WIRING FOR INDOOR UNIT.
2. NO CONDENSATE PUMP SHALL BE USED. DRAINS MUST ALL BE GRAVITY DRAINED.
3. PROVIDE INDOOR UNIT WITH FACTORY WALL MOUNTING HARDWARE, INSTALL PER MANUFACTURERS CLEARANCE RECOMMENDATIONS.
4. TEMPERATURE SENSOR FOR SPLIT SYSTEM SHALL BE REMOTE WALL MOUNTED WITH NO LOCAL CONTROLS. ALL SETPOINTS / OCCUPANCY CONTROLS SHALL BE THROUGH THE BAS.
5. ALL ROOF MOUNTED EQUIPMENT SHALL BE ANCHORED TO ROOF TO WITHSTAND WIND SPEED IN ACCORDANCE WITH ASCE 7.
6. CONDENSER COIL TO HAVE COIL COATING.

DUCT HEATER SCHEDULE

MARK	MFG	MODEL	TYPE	SERVIING	SUPPLY AIR (CFM)	DUCT SIZE	HEATING COIL					ELECTRICAL			UNIT WEIGHT (LBS)
							COIL TYPE	TOTAL CAPACITY	EAT/LAT (°F)	EWT/LWT (°F)	GPM/MAX PD (FT)	VOLT/PH/HZ	MCA	MOCP	
DH-1	PRECISION COILS	HW58S03Q12	2 PIPE HYDRONIC, VERTICAL INLINE DUCT HEATER	MUA-1 PREHEAT	6090	24X48	HYDRONIC	283	25/68	130/63.7	8/4.8	-			108
DH-2	GREENHECK	IDHE	ELECTRIC HORIZONTAL DUCT HEATER	MUA-1 REHEAT	6090	24X36	ELECTRIC	20 kW	55/65	-	-	480/3/60	54		

REMARKS:
1. PROVIDE WITH INTEGRAL DISCONNECT.
2. PROVIDE WITH STAGED CONTROL.

FAN SCHEDULE

MARK	MFG	MODEL	FAN TYPE	AREA SERVED	LOCATION	EA DESIGN CFM	EA TSP/ESP (IN WG)	FAN SONES	ELECTRICAL		UNIT WEIGHT (LBS)	REMARKS
									MOTOR HP	VOLT/PH/HZ		
EF-1	GREENHECK	CSP-A410	DIRECT DRIVE INLINE EXHAUST FAN	KITCHEN	CEILING	345	-/0.3	2.6	122 WATTS	115/1/60	39	3,7,11,12
KEF-1	GREENHECK	CUE-160-VG	DIRECT DRIVE UPBLAST CENTRIFUGAL EXHAUST FAN	KITCHEN HOODS	ROOF	3380	-/1	21	2	460/3/60	175	1,2,5,8,9,11
KEF-2	GREENHECK	CUE-180-VG	DIRECT DRIVE UPBLAST CENTRIFUGAL EXHAUST FAN	KITCHEN HOODS	ROOF	3900	-/1	18.5	2	460/3/60	183	1,2,5,8,9,11
KEF-3	GREENHECK	CUE-120-VG	DIRECT DRIVE UPBLAST CENTRIFUGAL EXHAUST FAN	DISHWASHER	ROOF	1200	-/0.3	8.8	1/4	115/1/60	86	1,2,5,9,10,11
VF-1	GREENHECK	SP-A390	CEILING MOUNTED - DIRECT DRIVE	ELEC A121	CEILING	300	-/0.125	2.5	135W	115/1/60	35	3,6,7,11
VF-2	GREENHECK	SP-A390	CEILING MOUNTED - DIRECT DRIVE	IDF A214	CEILING	300	-/0.125	2.5	135W	115/1/60	35	3,6,7,11
VF-3	GREENHECK	SP-A390	CEILING MOUNTED - DIRECT DRIVE	IDF D102	CEILING	300	-/0.125	2.5	135W	115/1/60	35	3,6,7,11

REMARKS:
1. PROVIDE FACTORY ROOF CURB, FIELD VERIFY ROOF PITCH AND INSULATION DEPTH PRIOR TO ORDERING.
2. ALL ROOF MOUNTED EQUIPMENT SHALL BE ANCHORED TO ROOF TO WITHSTAND WIND SPEED IN ACCORDANCE WITH ASCE 7.
3. PROVIDE FAN WITH INTEGRAL DISCONNECT.
4. PROVIDE FAN WITH AUTOMATIC BACKDRAFT DAMPER.
5. PROVIDE WITH VARIABLE MOTOR SPEED CONTROLLER. FAN VFD PROVIDED IN KITCHEN HOOD CONTROL ENCLOSURE.
6. FAN TO BE CONTROLLED ON/OFF BY ROOM MOUNTED TEMPERATURE SENSOR (PROVIDED BY BAS). PROVIDE CONTACTS AND RELAYS AS NECESSARY TO WIRE FAN TO SENSOR.
7. PROVIDE FACTORY CEILING HUNG VIBRATION ISOLATORS, INSTALL PER MANUFACTURERS RECOMMENDATIONS.
8. FAN TO BE INTERCONNECTED TO TURN ON WITH ASSOCIATED KITCHEN HOOD. COORDINATE STARTER LOCATION AND CONNECTION WITH ELECTRICAL CONTRACTOR (BY ELEC CONTRACTOR).
9. FAN TO BE UL 762 LISTED FOR "POWER VENTILATORS FOR RESTAURANT EXHAUST APPLIANCES".
10. FAN TO BE INTERCONNECTED TO TURN ON WITH ASSOCIATED DISHWASHER.
11. REFER TO THE CORRESPONDING CONTROL SHEET.
12. FAN SHALL BE CONTROLLED OFF/ON BY BAS. FAN SHOULD RUN DURING OCCUPIED HOURS.
13. EXHAUST FAN CONTROL SHALL BE PROVIDED WITH OCCUPANCY SENSOR.

GRILLES, REGISTERS, & DIFFUSERS SCHEDULE

MARK	MFG	MODEL	TYPE	PANEL SIZE (INCH)	GRILLE SIZE (INCH)	INLET DUCT SIZE (INCH)	CFM RANGE	REMARKS
E-1	PRICE	80	ALUMINUM 1/2" EGG CRATE	24"X24"	24"X24"	6"Ø	0-100	1,4
E-2	PRICE	80	ALUMINUM 1/2" EGG CRATE	24"X24"	24"X24"	8"Ø	101-225	1,4
E-3	PRICE	80	ALUMINUM 1/2" EGG CRATE	24"X24"	24"X24"	10"Ø	226-360	1,4
E-4	PRICE	610Z	ALUMINUM DOUBLE DEFLECTION EXHAUST GRILLE	8"X8"	6"X6"	6"X6"	30-125	2,4
R-1	PRICE	80	ALUMINUM 1/2" EGG CRATE	24"X24"	24"X24"	6"Ø	-	1,4
R-4	PRICE	80	ALUMINUM 1/2" EGG CRATE	24"X24"	24"X24"	12"Ø	-	1,4
R-5	PRICE	610Z	ALUMINUM LOUVERED FACE RETURN GRILLE	14"X8"	12"X6"	12"X8"	150-300	2,4
R-6	PRICE	635	EXTRUDED ALUMINUM, 1/2" BLADE SPACING, 45 DEGREE DEFLECTION RETURN GRILLE	38"X26"	36"X24"	36"X24"	1500-2000	2,4
R-7	PRICE	97	EXTRUDED ALUMINUM, 1/2" BLADE SPACING, 0 DEGREE DEFLECTION HEAVY DUTY RETURN GRILLE	38"X26"	36"X24"	36"X24"	2000-2400	2,4
S-1	PRICE	AMD	ALUMINUM ADJUSTABLE SQUARE DIFFUSER	24"X24"	6"X6"	6"Ø	0-100	1,3,4
S-2	PRICE	AMD	ALUMINUM ADJUSTABLE SQUARE DIFFUSER	24"X24"	9"X9"	8"Ø	101-225	1,3,4
S-3	PRICE	AMD	ALUMINUM ADJUSTABLE SQUARE DIFFUSER	24"X24"	12"X12"	10"Ø	226-375	1,3,4
S-4	PRICE	AMD	ALUMINUM ADJUSTABLE SQUARE DIFFUSER	24"X24"	12"X12"	12"Ø	376-600	1,3,4
S-5	PRICE	610	ALUMINUM DOUBLE DEFLECTION SUPPLY GRILLE	8"X8"	6"X6"	6"X6"	30-125	2,4
S-6	PRICE	610	ALUMINUM DOUBLE DEFLECTION SUPPLY GRILLE	14"X8"	12"X6"	12"X6"	126-300	2,4
S-7	PRICE	610	ALUMINUM DOUBLE DEFLECTION SUPPLY GRILLE	14"X12"	12"X10"	12"X10"	300-450	2,4
S-10	PRICE	HCD	ALUMINUM DRUM LOUVER	26"X14"	24"X12"	24"X12"	700-1000	2,4
S-11	PRICE	ANR	ALUM CONSTRUCTION, ADJ CORE NOZZLE DIFFUSER	14 1/4"Ø	12"Ø	12"Ø	400-700	2,4

REMARKS:
1. CEILING T-BAR MOUNTED IN 24"x24" ALUMINUM PANEL, UNLESS MARKED OTHERWISE. REFER TO GENERAL NOTES FOR SPECIAL MARK CALLOUTS.
2. SIDEWALL OR DUCT MOUNTED.
3. INLET TRANSITION BOX, ROUND TO RECTANGULAR AS INDICATED ON PLANS.
4. WHITE IN COLOR.
5. BLACK IN COLOR.
6. COORDINATE COLOR WITH ARCHITECT PRIOR TO ORDERING. IF COLOR CHOICE IS NOT AVAILABLE, DIFFUSER / GRILLE TO BE FIELD PAINTED.

GENERAL NOTES:
1. GRD'S MARKED WITH 'A' ARE TO BE INSTALLED IN A HARD CEILING AND PROVIDED WITH A 12"X12" FRAME SIZE.

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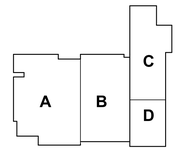
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Notes





2 ADDENDUM 1			2025.09.08
Revision	By	Appd	YYYY.MM.DD
BIDDING DOCUMENTS			2025.09.01
FINAL CONSTRUCTION DOCUMENTS			2025.08.18
Issued	By	Appd	YYYY.MM.DD

Permit/Seal

STATE OF TEXAS
RICHARD LOPEZ
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CMTA F-8627
2025.09.01

Client/Project Logo

ALVIN Independent School District

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ALVIN ISD

ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

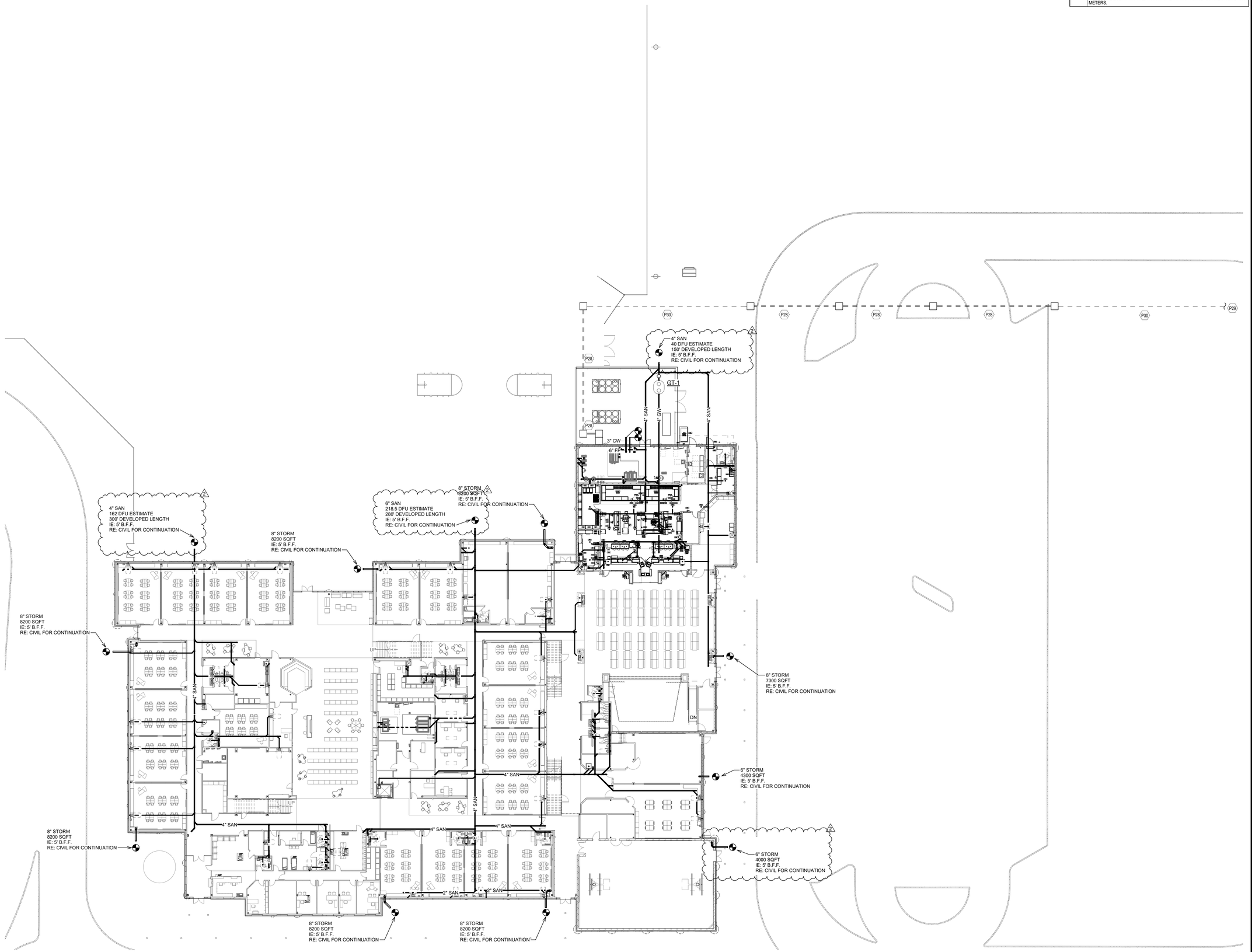
Title
MECHANICAL SCHEDULES

Project No.	Scale
214001269	
Revision	Drawing No.
2	M602

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ORIGINAL SHEET - ARCH E1

TAGGED NOTES	##
P28	PROVIDE 6" SLEEVE FOR FUTURE GAS LINE ROUTING BELOW CONCRETE. PROVIDE 4'X4' LEAVE OUTS EVERY 100' AND AT ANY GAS PIPING TURNS, CONNECTIONS, OR METERS.
P29	ROUT GAS UP TO POINT OF CONNECTION TO GAS MAIN. COORDINATE EXACT ROUTING AND POINT OF CONNECTION WITH CENTERPOINT AND OWNERSHIP.
P30	INTENDED ROUTING FOR FUTURE GAS LINE. PROVIDE 4'X4' LEAVE OUTS IN CONCRETE EVERY 100' AND AT ANY GAS PIPING TURNS, CONNECTIONS, OR METERS.



1 PLUMBING SITE PLAN
1" = 20'-0"

SHEET REVISED 1

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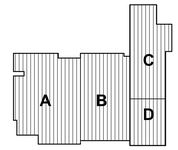
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2 ADDENDUM 1			2025.09.08
1 BIDDING DOCUMENTS - UPDATED INFO			2025.09.01

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FINAL CONSTRUCTION DOCUMENTS			2025.09.18

Permit/Seal

STATE OF TEXAS
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ALVIN Independent School District

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ELEMENTARY SCHOOL #23

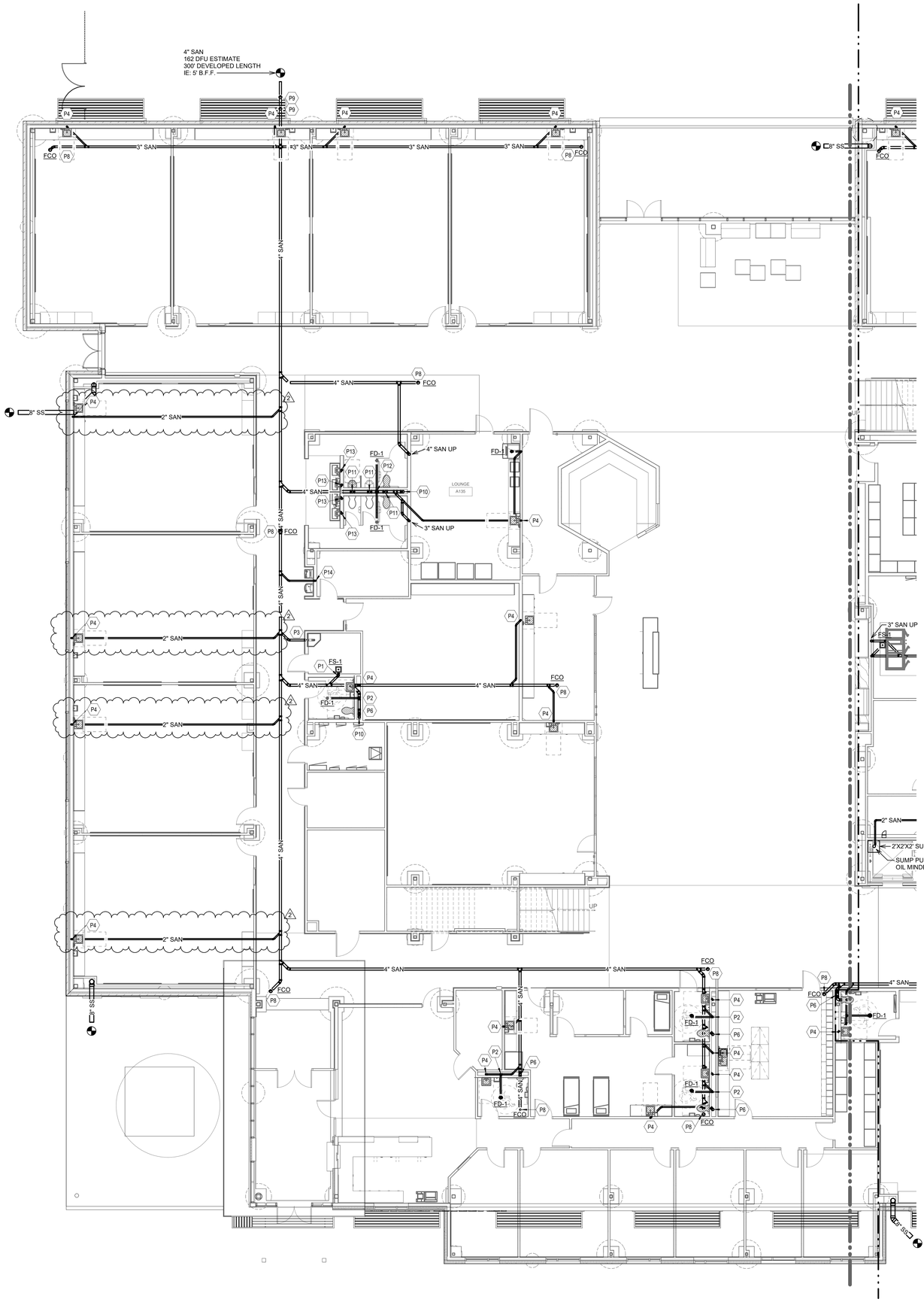
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Title
PLUMBING SITE PLAN

Project No.	Scale
214001269	1" = 20'-0"
Revision	Drawing No.
2	P002

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ORIGINAL SHEET - ARCH E1



1 LEVEL 1 - UNDERSLAB PLUMBING PLAN - AREA A
1/8" = 1'-0"

TAGGED NOTES

P1	ROUTE 3" SANITARY UP THROUGH GRADE TO SERVE FLOOR DRAIN/SINK. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P2	ROUTE 2" SANITARY UP THROUGH GRADE TO SERVE FLOOR DRAIN/SINK. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P3	ROUTE 3" SANITARY UP THROUGH GRADE TO SERVE BACK TO BACK FLOOR DRAINS. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P4	ROUTE 2" SANITARY UP THROUGH GRADE/FLOOR TO SERVE PLUMBING FIXTURE. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P6	ROUTE 4" SANITARY UP THROUGH GRADE TO SERVE WATER CLOSET. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P8	ROUTE 4" SANITARY UP THROUGH SLAB TO FLOOR CLEANOUT MOUNTED AT GRADE.
P9	ROUTE 4" SANITARY UP THROUGH GRADE TO EXTERIOR CLEANOUT.
P10	ROUTE 4" SANITARY UP THROUGH SLAB TO WALL CLEANOUT. REFER TO ARCH ELEVATIONS FOR MOUNTING HEIGHT.
P11	ROUTE 4" SANITARY UP THROUGH GRADE AND IN WALL/CHASE AS REQUIRED TO SERVE FIRST AND SECOND FLOOR BACK TO BACK WATER CLOSETS/ URINALS. ROUTE 3" VENT UP WITHIN WALL/CHASE AS REQUIRED TO SINGLE STACK VENT ALL WATER CLOSETS/URINALS SERVED BY THE SANITARY/VENT LINE. CONNECT VENT TO VENT MAIN IN 2ND FLOOR CEILING.
P12	ROUTE 4" SANITARY UP THROUGH GRADE AND IN WALL/CHASE AS REQUIRED TO SERVE FIRST AND SECOND FLOOR BACK TO BACK FLOOR DRAINS. ROUTE 2" VENT UP WITHIN WALL/CHASE AS REQUIRED TO SINGLE STACK VENT ALL FLOOR DRAINS SERVED BY THE SANITARY/VENT LINE. CONNECT VENT TO VENT MAIN IN 2ND FLOOR CEILING.
P13	ROUTE 3" SANITARY UP THROUGH GRADE AND IN WALL/CHASE AS REQUIRED TO SERVE FIRST AND SECOND FLOOR LAVATORIES. ROUTE 2" VENT UP WITHIN WALL/CHASE AS REQUIRED TO SINGLE STACK VENT ALL LAVATORIES SERVED BY THE SANITARY/VENT LINE. CONNECT VENT TO VENT MAIN IN 2ND FLOOR CEILING.
P14	ROUTE 3" SANITARY UP THROUGH GRADE AND IN WALL/CHASE AS REQUIRED TO SERVE FIRST AND SECOND DRINKING FOUNTAINS. ROUTE 2" VENT UP WITHIN WALL/CHASE AS REQUIRED TO SINGLE STACK VENT ALL DRINKING FOUNTAINS SERVED BY THE SANITARY/VENT LINE. CONNECT VENT TO VENT MAIN IN 2ND FLOOR CEILING.

SHEET REVISED 1

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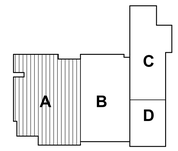
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BIDDING DOCUMENTS			2025.09.01
FINAL CONSTRUCTION DOCUMENTS			2025.09.18

Permit/Seal

STATE OF TEXAS
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ALVIN Independent School District

Client/Project
ALVIN ISD

ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

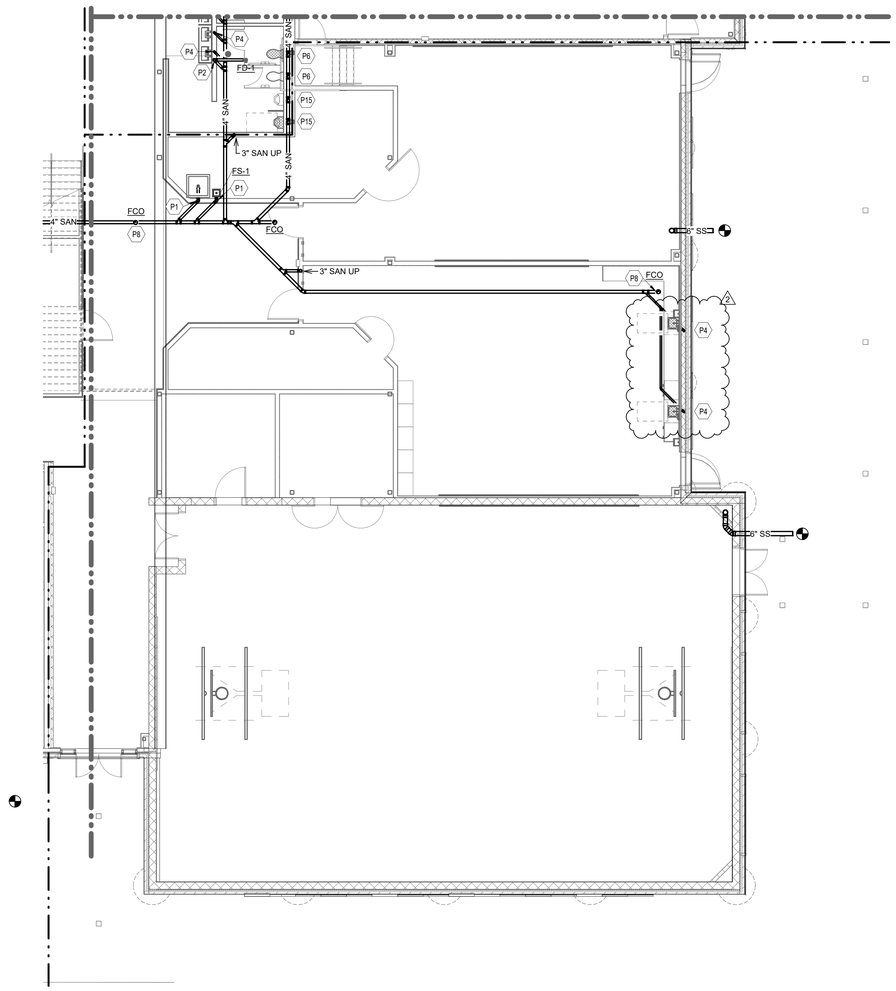
Title
LEVEL 1 - UNDERSLAB PLUMBING PLAN - AREA A

Project No.	Scale
214001269	1/8" = 1'-0"
Revision	Drawing No.
2	P101

<Pick location in Project Information>
9/8/2025 1:54:03 PM

ORIGINAL SHEET - ARCH E1

TAGGED NOTES	##
P1	ROUTE 3" SANITARY UP THROUGH GRADE TO SERVE FLOOR DRAIN/SINK. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P2	ROUTE 2" SANITARY UP THROUGH GRADE TO SERVE FLOOR DRAIN/SINK. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P4	ROUTE 2" SANITARY UP THROUGH GRADE/FLOOR TO SERVE PLUMBING FIXTURE. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P6	ROUTE 4" SANITARY UP THROUGH GRADE TO SERVE WATER CLOSET. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P8	ROUTE 4" SANITARY UP THROUGH SLAB TO FLOOR CLEANOUT MOUNTED AT GRADE.
P15	ROUTE 4" SANITARY UP THROUGH GRADE TO SERVE URINAL. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.



1 LEVEL 1 - UNDERSLAB PLUMBING PLAN - AREA D
1/8" = 1'-0"

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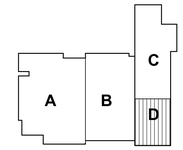
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Notes





Revision	By	Appd	YYYY.MM.DD
2 ADDENDUM 1			2025.09.08

Issued	By	Appd	YYYY.MM.DD
BIDDING DOCUMENTS			2025.09.01
FINAL CONSTRUCTION DOCUMENTS			2025.08.18

Permit/Seal



CMTA F-8627
2025.09.01

Client/Project Logo

Client/Project
ALVIN ISD

ELEMENTARY SCHOOL #23

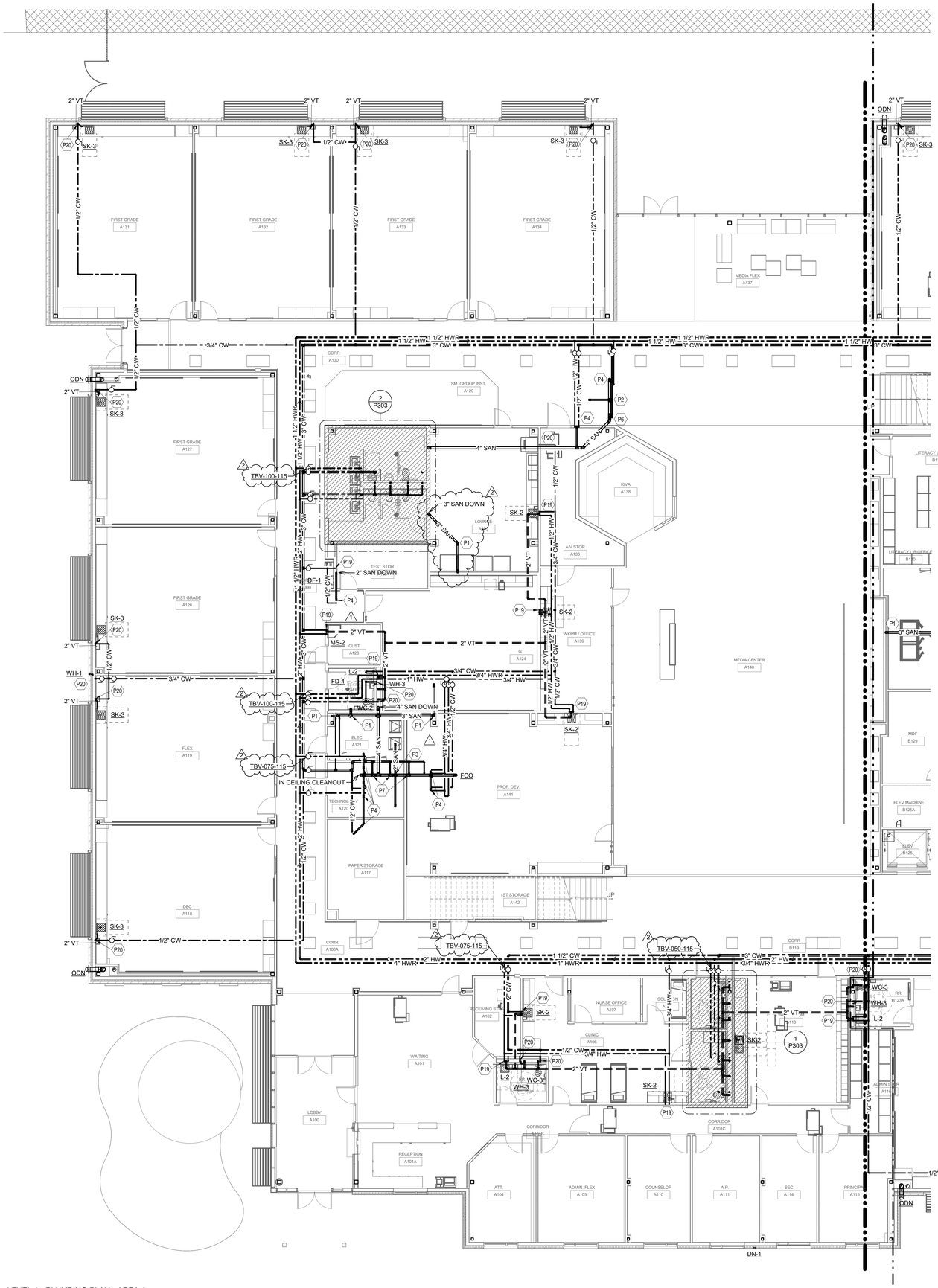
2727 White Gold Drive
Iowa Colony, Texas 77583

Title
LEVEL 1 - UNDERSLAB PLUMBING PLAN - AREA D

Project No.	Scale
214001269	1/8" = 1'-0"
Revision	Drawing No.
2	P104

<Pick location in Project Information>
9/8/2025 1:54:4 PM

ORIGINAL SHEET - ARCH E1



1 LEVEL 1 - PLUMBING PLAN - AREA A
1/8" = 1'-0"

SHEET REVISED 1

TAGGED NOTES ##

P1	ROUTE 3" SANITARY UP THROUGH GRADE TO SERVE FLOOR DRAIN/SINK. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P2	ROUTE 2" SANITARY UP THROUGH GRADE TO SERVE FLOOR DRAIN/SINK. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P3	ROUTE 3" SANITARY UP THROUGH GRADE TO SERVE BACK TO BACK FLOOR DRAINS. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P4	ROUTE 2" SANITARY UP THROUGH GRADE/FLOOR TO SERVE PLUMBING FIXTURE. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P6	ROUTE 4" SANITARY UP THROUGH GRADE TO SERVE WATER CLOSET. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P7	ROUTE 4" SANITARY UP THROUGH GRADE TO SERVE BACK TO BACK WATER CLOSETS/ URINALS. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P19	ROUTE COLD AND HOT WATER LINE IN WALL/CHASE AS REQUIRED TO SERVE ALL LOCAL FIXTURES.
P20	ROUTE COLD WATER LINE IN WALL/CHASE AS REQUIRED TO SERVE ALL LOCAL FIXTURES.

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Revision	By	Appd	
2 ADDENDUM 1			2025.09.08
1 BIDDING DOCUMENTS - UPDATED INFO			2025.09.01
Revision	**By**	**Appd**	**YYYY.MM.DD**

Issued	By	Appd	
BIDDING DOCUMENTS			2025.09.01
FINAL CONSTRUCTION DOCUMENTS			2025.08.18
Issued	**By**	**Appd**	**YYYY.MM.DD**

Permit/Seal

STATE OF TEXAS
RICHARD LOPEZ
126938
LICENSED
PROFESSIONAL ENGINEER
CMTA F-8627
2025.09.01

Client/Project Logo

ALVIN Independent School District

Client/Project
ALVIN ISD

ELEMENTARY SCHOOL #23

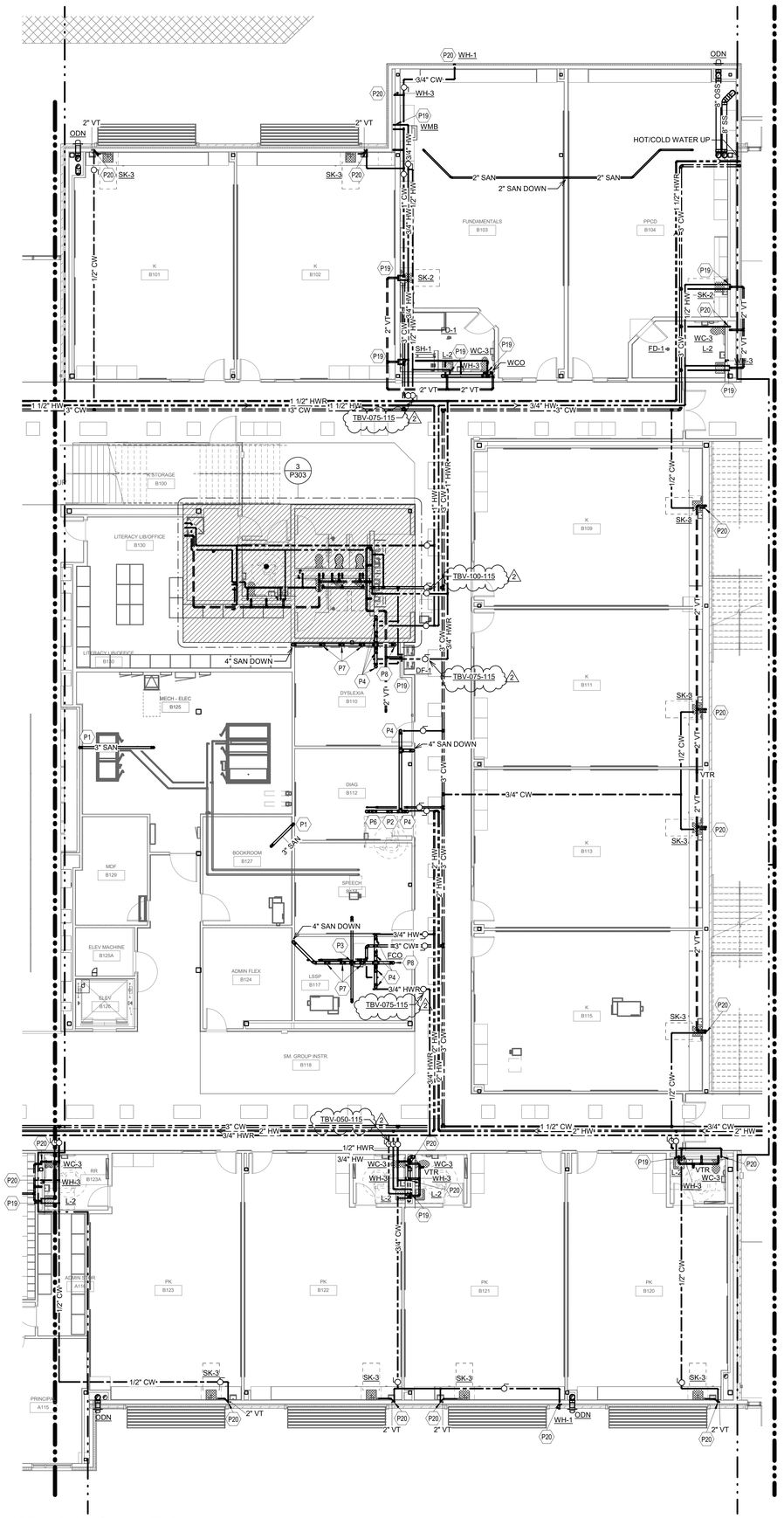
2727 White Gold Drive
Iowa Colony, Texas 77583

Title
LEVEL 1 - PLUMBING PLAN - AREA A

Project No.	Scale
21400126	1/8" = 1'-0"
Revision	**Drawing No.**
2	**P211**

*Pick location in Project Information
8/8/2025 1:54:57 PM

ORIGINAL SHEET - ARCH E1



1 LEVEL 1 - PLUMBING PLAN - AREA B
1/8" = 1'-0"

SHEET REVISED

TAGGED NOTES	
P1	ROUTE 3" SANITARY UP THROUGH GRADE TO SERVE FLOOR DRAIN/SINK. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P2	ROUTE 2" SANITARY UP THROUGH GRADE TO SERVE FLOOR DRAIN/SINK. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P3	ROUTE 3" SANITARY UP THROUGH GRADE TO SERVE BACK TO BACK FLOOR DRAINS. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P4	ROUTE 2" SANITARY UP THROUGH GRADE/FLOOR TO SERVE PLUMBING FIXTURE. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P6	ROUTE 4" SANITARY UP THROUGH GRADE TO SERVE WATER CLOSET. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P7	ROUTE 4" SANITARY UP THROUGH GRADE TO SERVE BACK TO BACK WATER CLOSETS/ URINALS. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P8	ROUTE 4" SANITARY UP THROUGH SLAB TO FLOOR CLEANOUT MOUNTED AT GRADE.
P19	ROUTE COLD AND HOT WATER LINE IN WALL/CHASE AS REQUIRED TO SERVE ALL LOCAL FIXTURES.
P20	ROUTE COLD WATER LINE IN WALL/CHASE AS REQUIRED TO SERVE ALL LOCAL FIXTURES.

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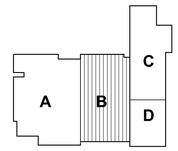
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Revision	By	Appd	YYYY.MM.DD
2 ADDENDUM 1			2025.09.08
1 BIDDING DOCUMENTS - UPDATED INFO			2025.09.01

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BIDDING DOCUMENTS			2025.09.01
FINAL CONSTRUCTION DOCUMENTS			2025.08.18

Permit/Seal

STATE OF TEXAS
RICHARD LOPEZ
126938
LICENSED
PROFESSIONAL ENGINEER
CMTA F-8627
2025.09.01

Client/Project Logo

ALVIN Independent School District

Client/Project
ALVIN ISD

ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

Title
LEVEL 1 - PLUMBING PLAN - AREA B

Project No.
214001269

Scale
1/8" = 1'-0"

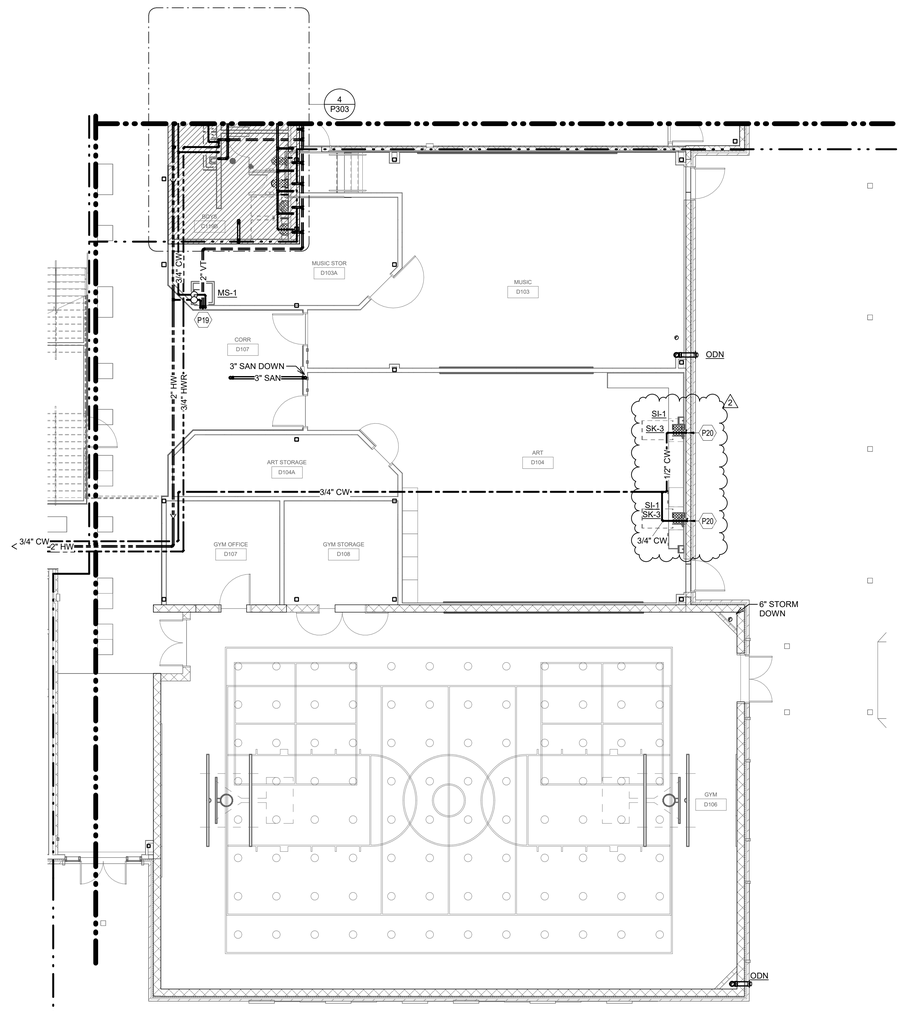
Revision
2

Drawing No.
P212

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ORIGINAL SHEET - ARCH E1

TAGGED NOTES	##
P19	ROUTE COLD AND HOT WATER LINE IN WALL/CHASE AS REQUIRED TO SERVE ALL LOCAL FIXTURES.
P20	ROUTE COLD WATER LINE IN WALL/CHASE AS REQUIRED TO SERVE ALL LOCAL FIXTURES.



1 LEVEL 1 - PLUMBING PLAN - AREA D
1/8" = 1'-0"

SHEET REVISED 1

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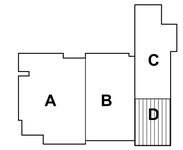
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2	ADDENDUM 1		2025.09.08
1	BIDDING DOCUMENTS - UPDATED INFO		2025.09.01
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BIDDING DOCUMENTS			2025.09.01
FINAL CONSTRUCTION DOCUMENTS			2025.08.18
Issued		By	Appd YYYY.MM.DD

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2025.09.01

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ALVIN ISD

ELEMENTARY SCHOOL #23

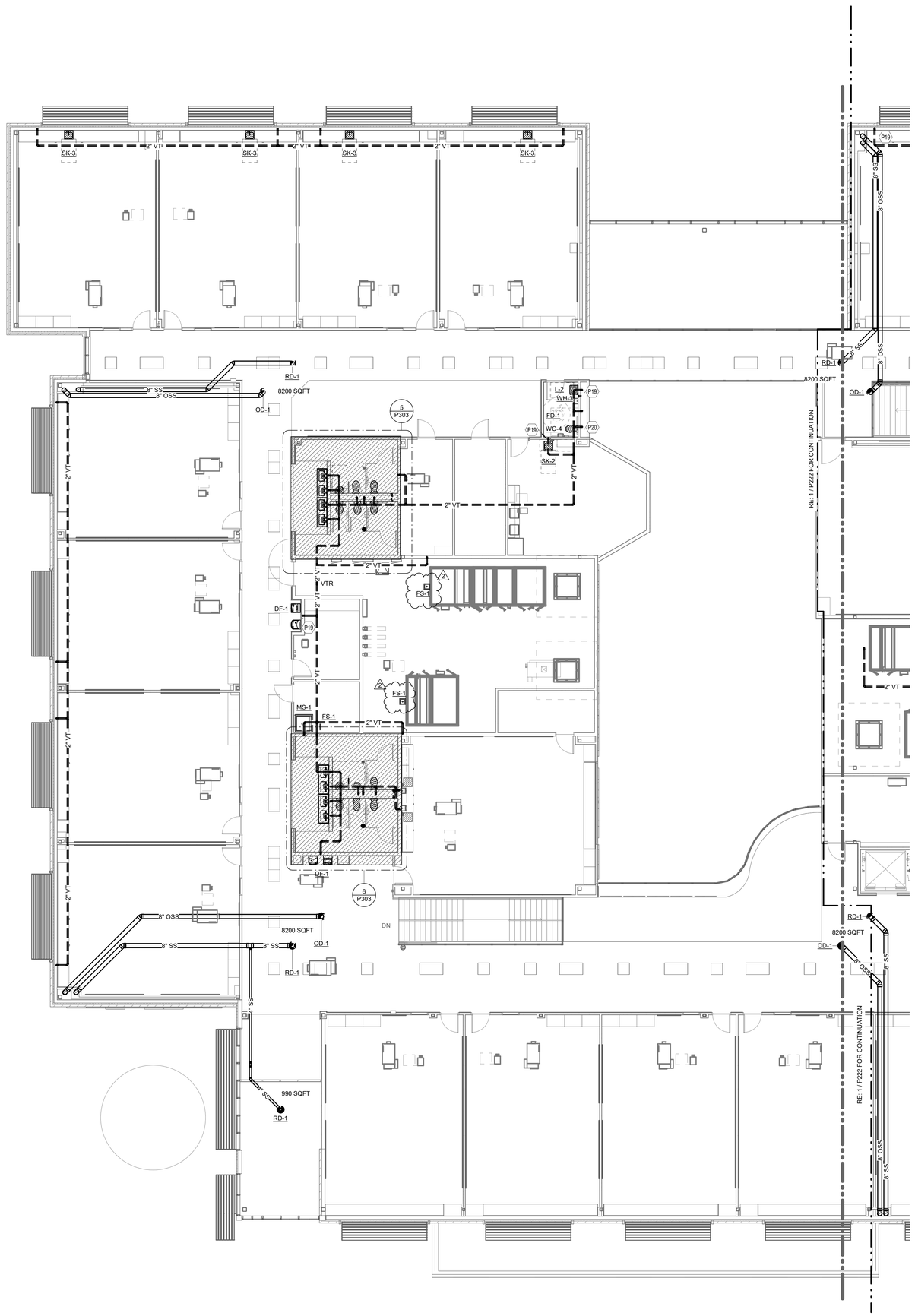
2727 White Gold Drive
Iowa Colony, Texas 77583

Title
LEVEL 1 - PLUMBING PLAN - AREA D

Project No.	Scale
214001269	1/8" = 1'-0"
Revision	Drawing No.
2	P214

<Pick location in Project Information>
7/1/2025 1:54:37 PM

ORIGINAL SHEET - ARCH E1



1 LEVEL 2 - PLUMBING PLAN - AREA A
1/8" = 1'-0"

TAGGED NOTES ##

P19	ROUTE COLD AND HOT WATER LINE IN WALL/CHASE AS REQUIRED TO SERVE ALL LOCAL FIXTURES.
P20	ROUTE COLD WATER LINE IN WALL/CHASE AS REQUIRED TO SERVE ALL LOCAL FIXTURES.

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2	ADDENDUM 1		2025.09.08
1	BIDDING DOCUMENTS - UPDATED INFO		2025.09.01
Revision		By	Appd YYYY.MM.DD
	BIDDING DOCUMENTS		2025.09.01
	FINAL CONSTRUCTION DOCUMENTS		2025.08.18
Issued		By	Appd YYYY.MM.DD

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STATE OF TEXAS
RICHARD LOPEZ
126938
LICENSED
PROFESSIONAL ENGINEER

CMTA F-8627
2025.09.01

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ALVIN Independent School District

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ALVIN ISD

ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

Title
LEVEL 2 - PLUMBING PLAN - AREA A

Project No.
214001269

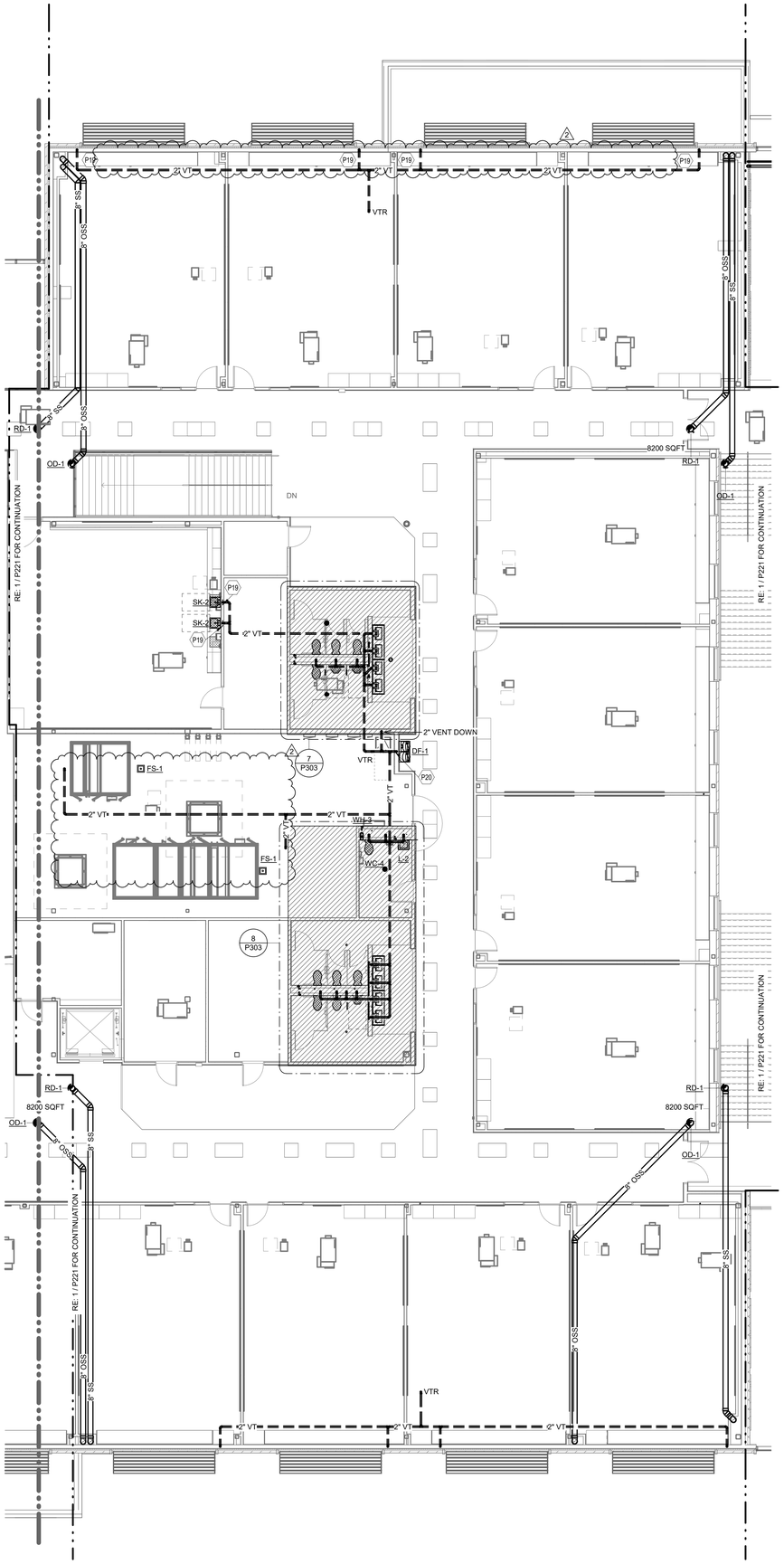
Scale
1/8" = 1'-0"

Revision
2

Drawing No.
P221

ORIGINAL SHEET - ARCH E1

<Pick location in Project Information>
9/8/2025 1:54:42 PM



1 LEVEL 2 - PLUMBING PLAN - AREA B
1/8" = 1'-0"

TAGGED NOTES ##

P19	ROUTE COLD AND HOT WATER LINE IN WALL/CHASE AS REQUIRED TO SERVE ALL LOCAL FIXTURES.
P20	ROUTE COLD WATER LINE IN WALL/CHASE AS REQUIRED TO SERVE ALL LOCAL FIXTURES.

SHEET REVISED 1

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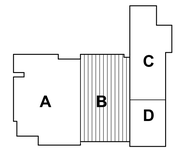
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2	ADDENDUM 1		2025.09.08
1	BIDDING DOCUMENTS - UPDATED INFO		2025.09.01
Revision		By	Appd YYYY.MM.DD
BIDDING DOCUMENTS			2025.09.01
FINAL CONSTRUCTION DOCUMENTS			2025.08.18
Issued		By	Appd YYYY.MM.DD

Permit/Seal



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2025.09.01

Client/Project Logo

ALVIN Independent School District

Client/Project
ALVIN ISD

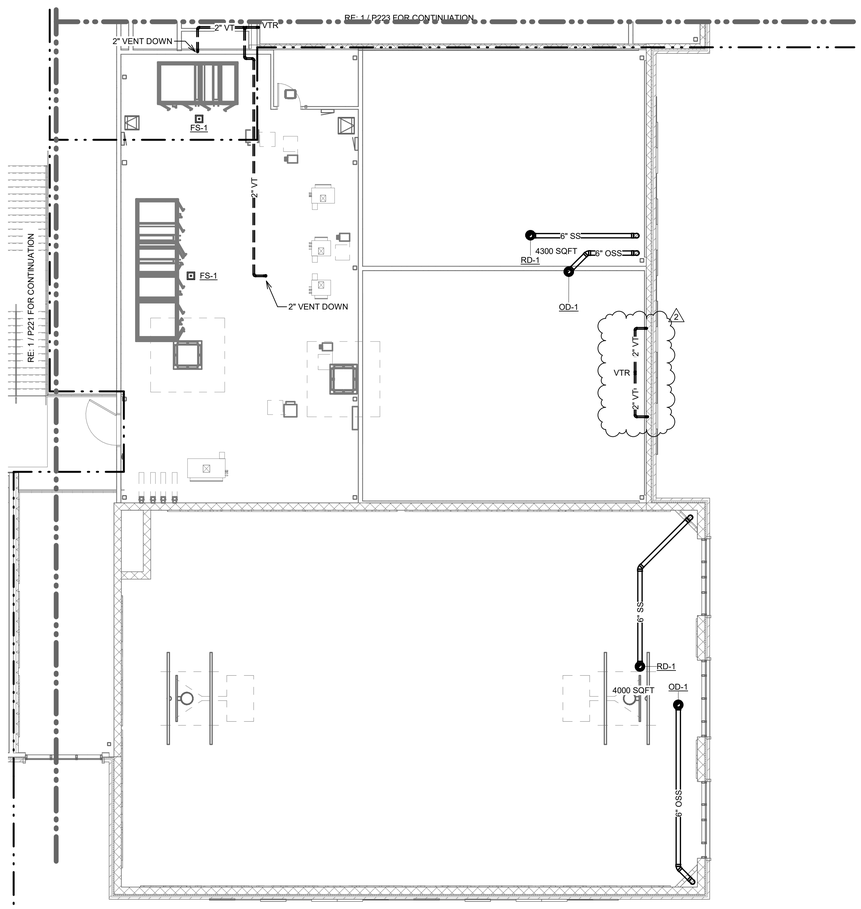
ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

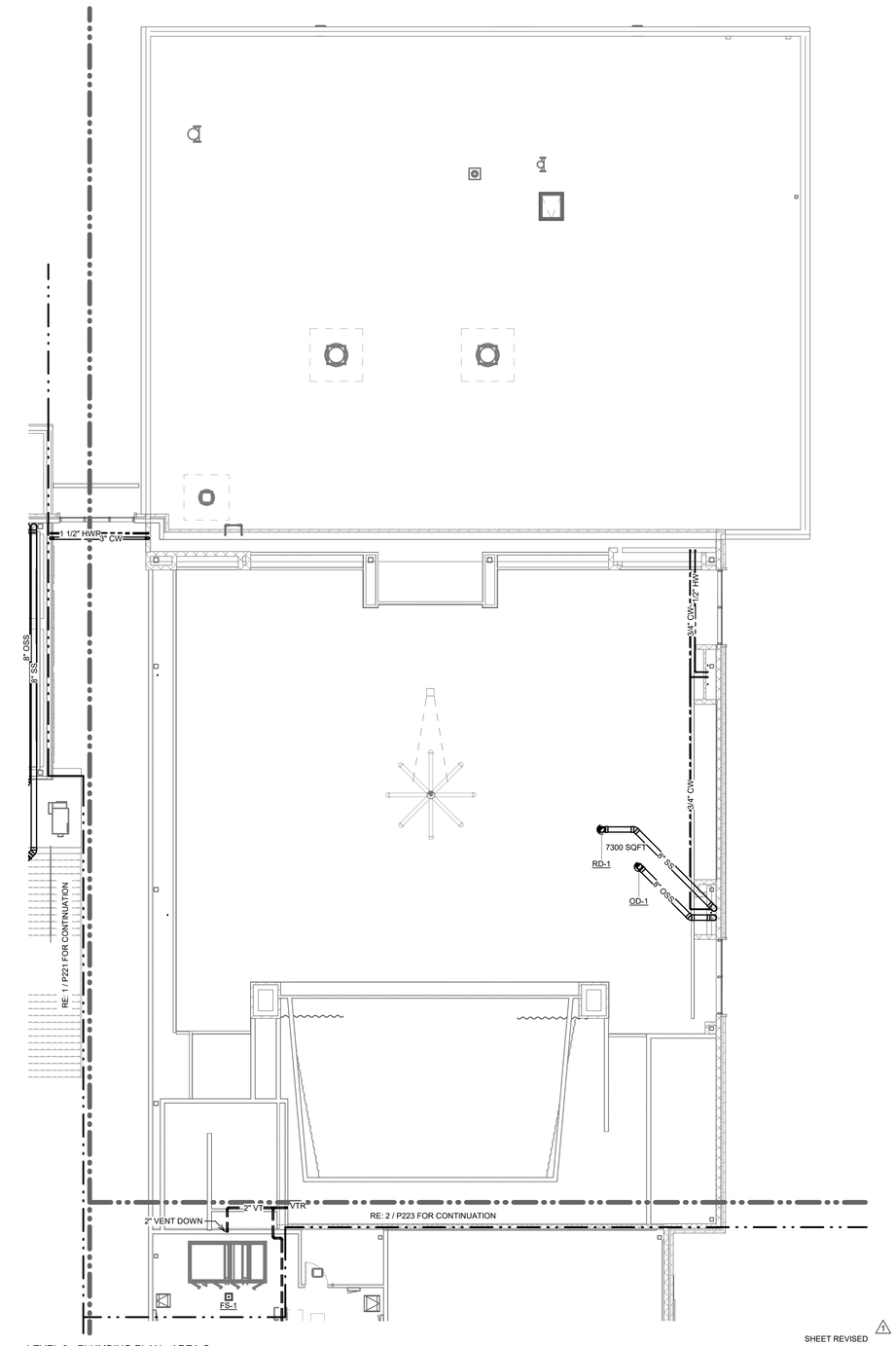
Title
LEVEL 2 - PLUMBING PLAN - AREA B

Project No. 214001269	Scale 1/8" = 1'-0"
Revision 2	Drawing No. **P222**

<Pro location in Project Information>
9/8/2025 1:54:47 PM
ORIGINAL SHEET - ARCH E1



② LEVEL 2 - PLUMBING PLAN - AREA D
1/8" = 1'-0"



① LEVEL 2 - PLUMBING PLAN - AREA C
1/8" = 1'-0"

SHEET REVISED 1

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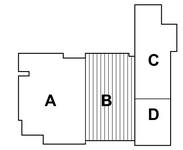
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2	ADDENDUM 1		2025.09.08
1	BIDDING DOCUMENTS - UPDATED INFO		2025.09.01
Revision		By	Appd YYYY.MM.DD
	BIDDING DOCUMENTS		2025.09.01
	FINAL CONSTRUCTION DOCUMENTS		2025.08.18
Issued		By	Appd YYYY.MM.DD

Permit/Seal



CMTA F-8627
2025.09.01

Client/Project Logo

Client/Project
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ELEMENTARY SCHOOL #23

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Iowa Colony, Texas 77583

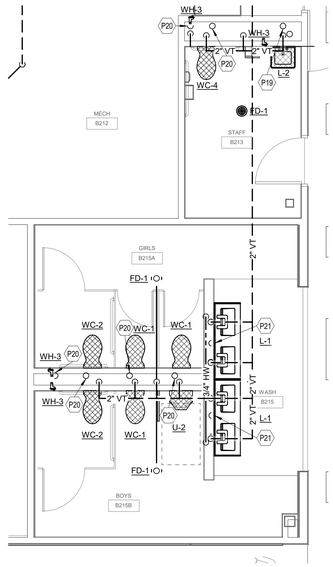
Title
LEVEL 2 - PLUMBING PLAN - AREA C/D

Project No.	Scale
214001269	1/8" = 1'-0"
Revision	Drawing No.
2	P223

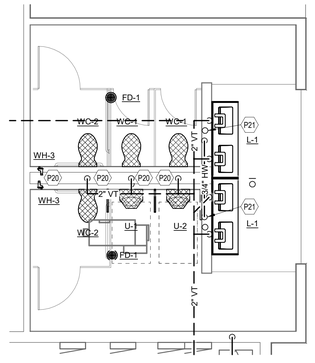
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ORIGINAL SHEET - ARCH E1

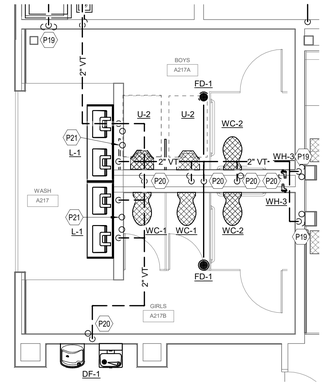
TAGGED NOTES	##
P2	ROUTE 2" SANITARY UP THROUGH GRADE TO SERVE FLOOR DRAIN/SINK. ROUTE 2" VENT UP WITHIN WALL/CHASE TO VENT MAIN IN CEILING.
P19	ROUTE COLD AND HOT WATER LINE IN WALL/CHASE AS REQUIRED TO SERVE ALL LOCAL FIXTURES.
P20	ROUTE COLD WATER LINE IN WALL/CHASE AS REQUIRED TO SERVE ALL LOCAL FIXTURES.
P21	ROUTE COLD AND HOT WATER LINE IN WALL/CHASE AS REQUIRED TO SERVE ALL LOCAL FIXTURES. HOT WATER LOOP SHALL BE ROUTED TO WITHIN 6" OF THE HOT WATER CONNECTION.



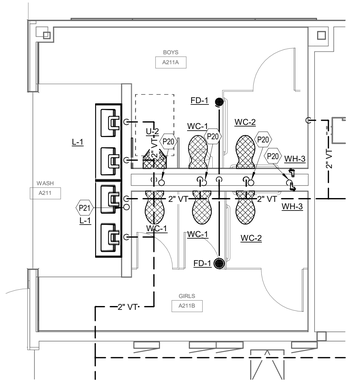
8 ENLARGED PLUMBING PLAN - LEVEL 2, AREA B, GROUP RR 2
1/4" = 1'-0"



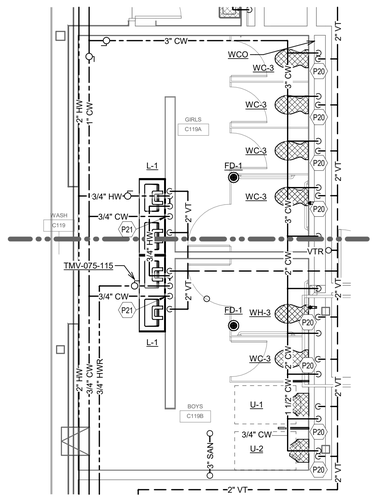
7 ENLARGED PLUMBING PLAN - LEVEL 2, AREA B, GROUP RR 1
1/4" = 1'-0"



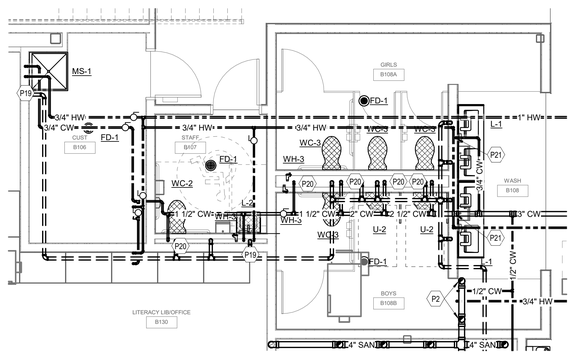
6 ENLARGED PLUMBING PLAN - LEVEL 2, AREA A, GROUP RR 2
1/4" = 1'-0"



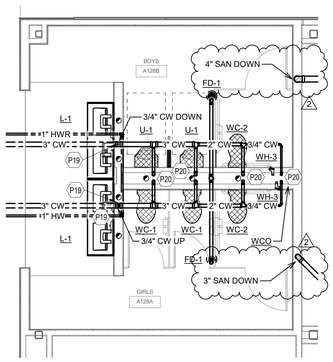
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1/4" = 1'-0"



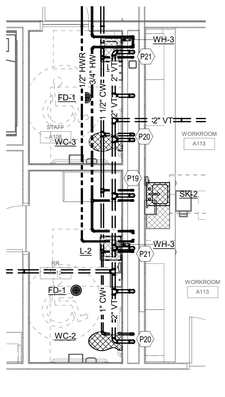
4 ENLARGED PLUMBING PLAN - LEVEL 1, AREA C/D GROUP RR
1/4" = 1'-0"



3 ENLARGED PLUMBING PLAN - LEVEL 1, AREA B, GROUP RR 1
1/4" = 1'-0"



2 ENLARGED PLUMBING PLAN - LEVEL 1, AREA A, GROUP RR 1
1/4" = 1'-0"



1 ENLARGED PLUMBING PLAN - ADMIN RR'S
1/4" = 1'-0"

SHEET REVISED 1

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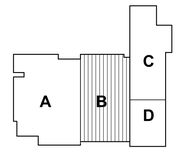
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Revision	By	Appd	YYYY.MM.DD
2 ADDENDUM 1			2025.09.08
1 BIDDING DOCUMENTS - UPDATED INFO			2025.09.01

Issued	By	Appd	YYYY.MM.DD
BIDDING DOCUMENTS			2025.09.01
FINAL CONSTRUCTION DOCUMENTS			2025.08.18

Permit/Seal



CMTA F-8627
2025.09.01

Client/Project Logo

Client/Project
ALVIN ISD

ELEMENTARY SCHOOL #23

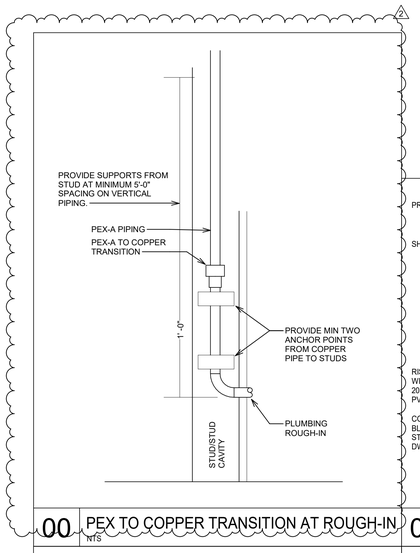
2727 White Gold Drive
Iowa Colony, Texas 77583

Title
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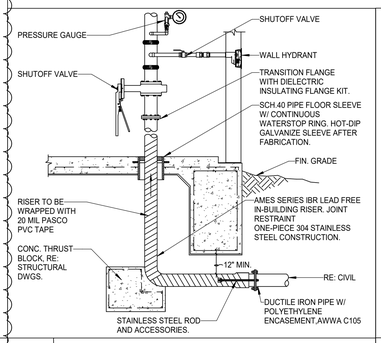
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214001269	1/4" = 1'-0"
Revision	Drawing No.
2	P303

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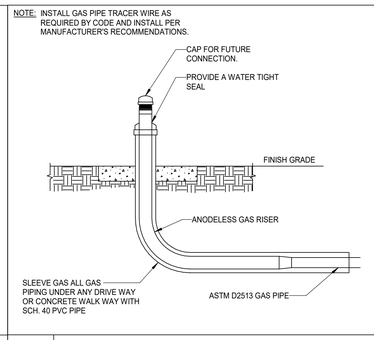
ORIGINAL SHEET - ARCH E1



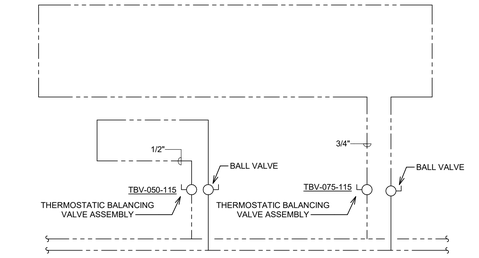
00 PEX TO COPPER TRANSITION AT ROUGH-IN
NTS



00 WATER ENTRY DETAIL
NTS

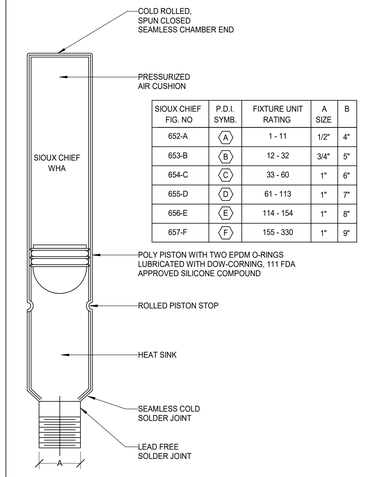


00 NATURAL GAS SERVICE RISER
NTS



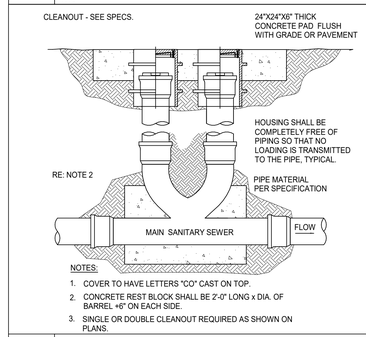
05 THERMOSTATIC BALANCING VALVE DETAIL (TBV)
NTS

NOTE:
WATER HAMMER ARRESTOR BY SIOUX CHIEF 650 - 660 SERIES HYDRA-RESTER. REQUIRED IN PIPING SYSTEMS. WATER HAMMER ARRESTERS SHALL HAVE SUFFICIENT VOLUME OF AIR TO DISSIPATE THE CALCULATED KINETIC ENERGY GENERATED IN THE PIPING SYSTEM. ARRESTERS SHALL BE EFFECTIVE WHEN INSTALLED AT ANY ANGLE. ARRESTERS SHALL BE APPROVED FOR INSTALLATION WITH NO ACCESS PANEL REQUIRED. WATER HAMMER ARRESTERS SHALL BE PER MANUFACTURER'S INSTRUCTIONS.



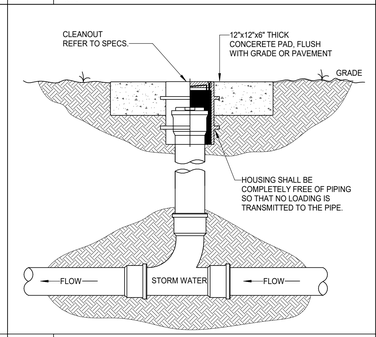
SIOUX CHIEF FIG. NO	P.D.I. SYMB.	FIXTURE UNIT RATING	A SIZE	B
652-A	A	1 - 11	1/2"	4"
653-B	B	12 - 32	3/4"	5"
654-C	C	33 - 60	1"	6"
655-D	D	61 - 113	1"	7"
656-E	E	114 - 154	1"	8"
657-F	F	155 - 330	1"	9"

00 WATER HAMMER ARRESTOR DETAIL
NTS

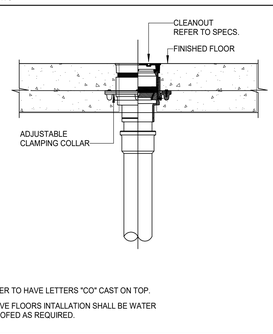


NOTES:
1. COVER TO HAVE LETTERS "CO" CAST ON TOP.
2. CONCRETE REST BLOCK SHALL BE 2'-0" LONG x DIA. OF BARREL +6" ON EACH SIDE.
3. SINGLE OR DOUBLE CLEANOUT REQUIRED AS SHOWN ON PLANS.

00 CLEAN OUT TO GRADE DETAIL
NTS

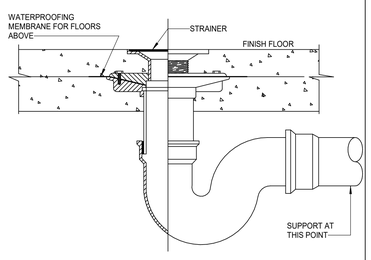


00 CLEAN OUT TO GRADE DETAIL
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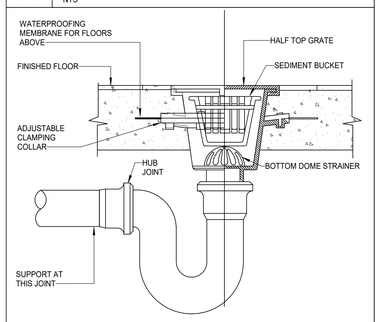


NOTES:
1. COVER TO HAVE LETTERS "CO" CAST ON TOP.
2. ABOVE FLOORS INTALLATION SHALL BE WATER PROOFED AS REQUIRED.

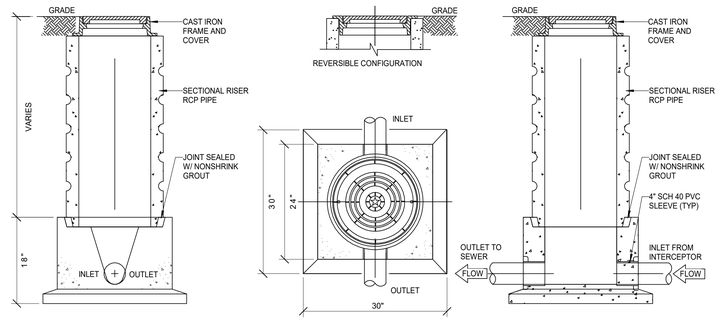
00 FLOOR CLEANOUT DETAIL
NTS



00 FLOOR DRAIN DETAIL (FD-1)
NTS



00 FLOOR SINK DETAIL
NTS



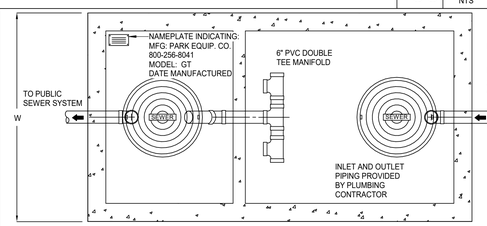
SPECIFICATIONS

CONCRETE : CLASS 1 CONCRETE WITH OF DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION AT FLOOR AND FIRST STAGE OF WALL WITH SECTIONAL RISER TO REQUIRED DEPTH.

C.I. CASTINGS: CAST IRON FRAMES AND GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48-76 CLASS 30, HEAVY-DUTY AASHTO H-20

NOTES
1. SAMPLING WELL MUST BE INSTALLED UNDER A SEPARATE PLUMBING PERMIT.
2. USE 15" T&G R.C.P. FOR INSTALLATION FOR INSTALLATION 6'-0" DEEP AND LESS.
3. USE 24" T&G R.C.P. FOR INSTALLATION GREATER THAN 6'-0" DEEP. (STD RING AND M.H. COVER REQUIRED)
4. SAMPLING WELL MUST BE SET IN A CIRCULAR OR SQUARE CONCRETE PAD (1'-0" GREATER THAN OUTSIDE DIAMETER OF PIPE.)
5. INSIDE INSTALLATION NOT PERMITTED, WHERE OUTSIDE INSTALLATION IS POSSIBLE.
6. INSTALLATION INSIDE BLDG. MUST BE POURED IN PLACE (15"MIN) NO CONCRETE PIPE IS PERMITTED, (AIR-TIGHT COVER REQUIRED.)
7. LAWN INSTALLATION MUST BE 4" ABOVE FINISHED GRADE.
8. DRIVE & SIDEWALK INSTALLATION MUST BE BROUGHT TO FINISHED GRADE
9. TO BE INSTALLED ON PRIVATE PROPERTY, IN AN ACCESSIBLE LOCATION TO CITY PERSONNEL.

00 SAMPLE WELL DETAIL
NTS



NOTE:
1. ALL PIPING INTO AND OUT OF GREASE TRAP BY PLUMBING CONTRACTOR.
2. PROVIDE CONCRETE EXTENSIONS FOR MANHOLE COVERS AS REQUIRED.

SPECIFICATIONS

CONCRETE :
CLASS 1 CONCRETE WITH DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION AT FLOOR, FIRST STAGE OF WALL AND BAFFLE WITH SECTIONAL RISER TO REQUIRED DEPTH. (MONOLITHIC BAFFLE REQUIRED, SLIDE-IN TYPE IS NOT ACCEPTABLE)

REINFORCEMENT:
GRADE 60 REINFORCED WITH STEEL REBAR CONFORMING TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.

C.I. CASTINGS:
MANHOLE FRAMES, COVERS OR GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48-76 CLASS 30. MANHOLE SHALL BE NOMINAL 24 INCH DIAMETER AND BE TRAFFIC DUTY.

GREASE INTERCEPTOR SCHEDULE								
MODEL NO.	CAPACITY U.S.GAL	GREASE CAP (LBS)	EMPTY WT (LBS)	LENGTH L	WIDTH W	HEIGHT H	INLET FL1	OUTLET FL2
GT-XXX	XXX	1,700	11,000	7'-10"	4'-4"	6'-0"	4'-5"	4'-2"

FIXT. TYPE.	NO OF FIXT.	NO. OF DFU.	DFU (TOTAL)	GALLON SIZE
POT SINK	1	X 4	3	
PREP SINK	1	X 3	3	
FLOOR DRAINS	2	X 2	2	
JAN. SINK	1	X 3	3	
FLOOR DRAIN	2	X 2	4	
DISHWASHER	1	X 4	4	
			15	= 750

INFORMATION BASED ON TABLE 10-3

ENGINEERING DATA

THE GREASE INTERCEPTOR IS STRUCTURALLY & HYDRAULICALLY ENGINEERED TO CONFORM TO REGIONAL PLUMBING CODES RECOMMENDED IN MOST CITIES. CONSULT WITH LOCAL AUTHORITIES FOR SPECIFIC APPLICATION REQUIREMENTS.

SHOP DRAWINGS SHALL INCLUDE COMPLETE STRUCTURAL & BOUYANCY CALCULATIONS CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER.

CONSULT WITH PARK EQUIPMENT COMPANY FOR EXACT EXCAVATION DIMENSIONS & SHIPPING INFORMATION.

00 GREASE TRAP DETAIL (GT-X)
NTS

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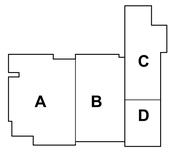
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2 ADDENDUM 1			2025.09.08
BIDDING DOCUMENTS			2025.09.01
FINAL CONSTRUCTION DOCUMENTS			2025.08.18

Issued

Permit/Seal

STATE OF TEXAS
RICHARD A. LOPEZ
126938
LICENSED
PROFESSIONAL ENGINEER
CMTA F-8627
2025.09.01

Client/Project Logo

ALVIN Independent School District

Client/Project
ALVIN ISD

ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

Title
PLUMBING DETAILS

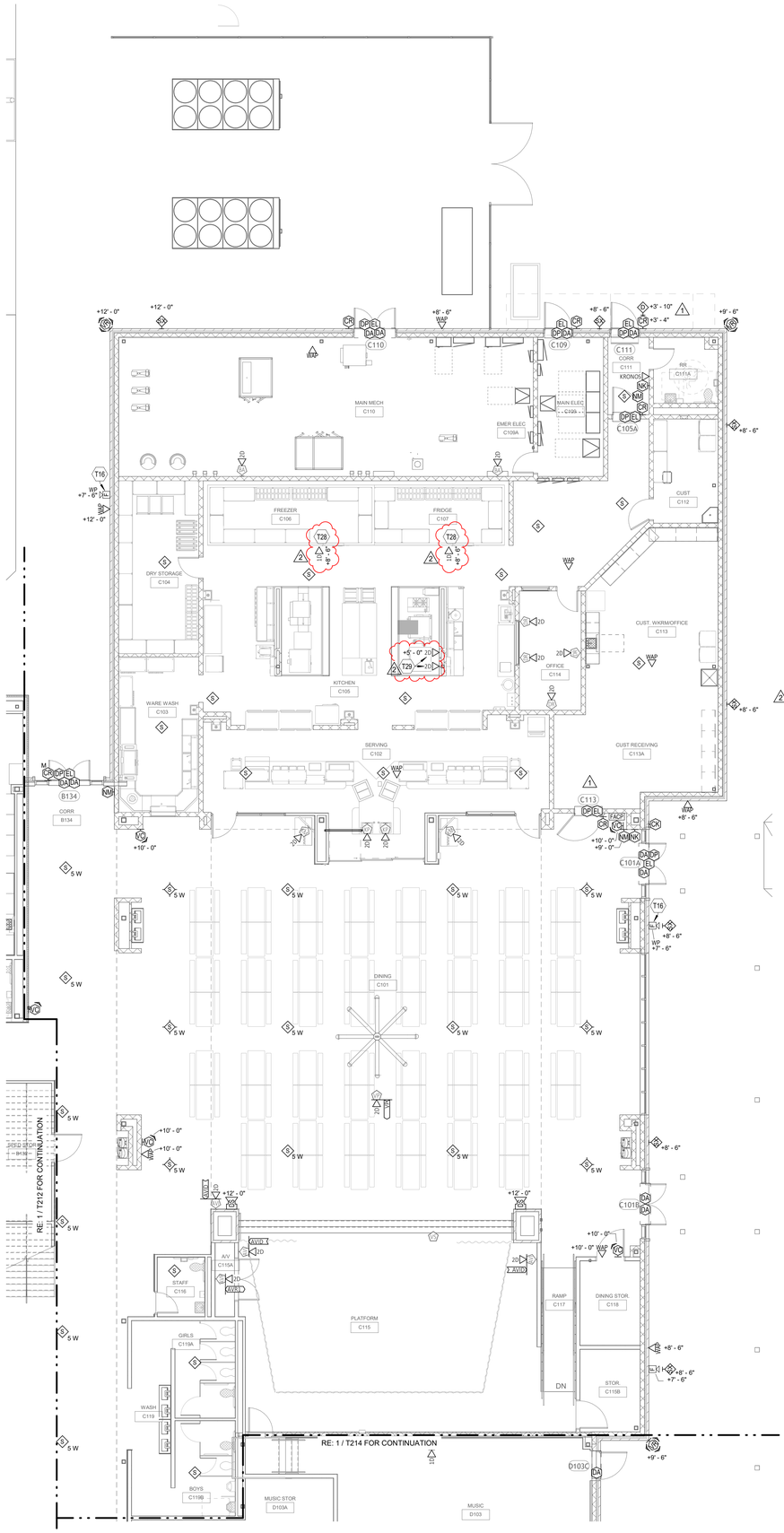
Project No.
214001269

Scale
1/8" = 1'-0"

Revision
2

Drawing No.
P401

ORIGINAL SHEET - ARCH E1



1 LEVEL 1 - TECHNOLOGY PLAN - AREA C
1/8" = 1'-0"

GENERAL NOTES (TECHNOLOGY):

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED SYSTEM DEVICES.

B. IDENTIFY AND LABEL ALL STRUCTURED CABLING SYSTEM DROPS AT BOTH ENDS OF CABLE PER SPECS. PROVIDE PRINTED ADHESIVE LABELS COLORED AND AFFIXED AS DESCRIBED IN SPECIFICATIONS.

C. REFER TO SCOPE-OF-WORK SPECIFICATIONS AND "SYSTEM INSTALLATION MATRIX" (ON TECHNOLOGY LEGEND SHEET) FOR CONTRACTOR REQUIREMENTS OF EACH SYSTEM.

D. THE CONTRACTOR SHALL ROUTE ALL "SYSTEM CONDUIT STUB-UPS" TO THE NEAREST CORRIDOR CABLING PATH (SEE "STUB-UP" DETAILS). REFER TO CABLING PATH INSTALLATION DETAIL FOR ADDITIONAL REQUIREMENTS.

E. PROVIDE PULL STRINGS IN ALL NEW CONDUIT RUNS FOR SYSTEM CABLING INSTALLATION.

F. PROVIDE, AND INSTALL PER MANUFACTURER'S INSTRUCTIONS, LISTED FIRESTOPPING SYSTEMS AT ALL SYSTEMS CONDUIT AND/OR CABLING PENETRATIONS THROUGH FIRE/SMOKE RATED PARTITIONS SO THAT THE RATING OF THE PARTITION IS NOT DIMINISHED IN ANY WAY BY THE PENETRATION.

PROJECT PERFORMANCE-BASED FIRE ALARM REQUIREMENTS:

A. **DELEGATED DESIGN:** CONTRACTOR SHALL PROVIDE A COMPLETE BUILDING FIRE ALARM SYSTEM ON A TURNKEY BASIS, INCLUDING DESIGN SERVICES BY A LICENSED FIRE ALARM PLANNING PROFESSIONAL *(FPP)*.
1. *FPP* SHALL BE LICENSED AS A FIRE ALARM PLANNING SUPERINTENDENT (APS) BY THE TEXAS STATE FIRE MARSHALL'S OFFICE, AND BE NICET-CERTIFIED LEVEL III IN FIRE ALARM SYSTEMS.
2. *FPP* SHALL DEVELOP COMPLETE PLANS FOR FIRE ALARM SYSTEM COVERAGE IN ACCORDANCE WITH APPLICABLE CODES AND/OR STANDARDS.
3. CONTRACTOR SHALL SUBMIT *FPP* PLANS TO AUTHORITY HAVING JURISDICTION *(AHJ)* FOR PERMITTING AND APPROVAL AS REQUIRED.
4. CONTRACTOR SHALL PROVIDE A COMPLETE BUILDING FIRE ALARM SYSTEM IN ACCORDANCE WITH *FPP* PLANS APPROVED BY *AHJ*.

B. **DISCLAIMERS:** IN ACCORDANCE WITH POLICY ADVISORY OPINION '04-04-F.A. PLANNING OF FIRE ALARM SYSTEMS' ISSUED BY TEXAS BOARD OF PROFESSIONAL ENGINEERS *(TBPE)*:
1. IT IS THE INTENT OF THE THE ELECTRICAL LICENSED PROFESSIONAL ENGINEER OF RECORD *(EEOR)* TO SPECIFY (BY WRITING IN LIEU OF PLANS) THE INSTALLATION OF A FIRE ALARM SYSTEM.
2. THESE DRAWINGS SHALL NOT BE DEEMED ENGINEERED FIRE ALARM PLANS, AND THE *EEOR* WILL NOT PREPARE SUCH PLANS. **DO NOT INSTALL FROM THESE DRAWINGS.**
3. TO THE EXTENT THAT LOCATIONS OF FIRE ALARM SYSTEM PANELS OR COMPONENTS ARE SHOWN ON THESE PLANS, SUCH LOCATIONS ARE INTENDED ONLY TO INDICATE EXISTING CONDITIONS, OWNER AND ARCHITECT PREFERENCES, ETC. FOR REFERENCE BY THE *FPP*. IT IS THE *FPP*'s RESPONSIBILITY TO DEVELOP PLANS WHICH COMPLY WITH APPLICABLE CODES AND *AHJ* REQUIREMENTS.

REFER TO SHEET T001 FOR LISTING OF PRESCRIPTIVE CODES, BUILDING OCCUPANCY CLASSIFICATION, AND SYSTEM/DEVICE SPECIFICATIONS.

TAGGED NOTES (##)

T16	FIRE ALARM CONTRACTOR TO PROVIDE SPEAKER COVERAGE AT THE FOLLOWING LOCATIONS AROUND BUILDING EXTERIOR: PLAYGROUND, FIRE ALARM MUSTER AREA AT PARENT DROPOFF (NEAR ADMIN), FIRE ALARM MUSTER AREA AT BUS LOOP (NEAR DINING). LOCATIONS SHOWN ARE SCHEMATIC; COORDINATE ACTUAL QUANTITY AND LOCATION OF DEVICES WITH ARCHITECT AND ELECTRICAL CONTRACTOR.
T28	PROVIDE DATA CONNECTION FOR COOLER/FREEZER REFRIGERATION CONTROLLER / TEMPERATURE MONITORING. COORDINATE EXACT LOCATION WITH EQUIPMENT SUPPLIER.
T29	PROVIDE DATA OUTLETS FOR COMBI OVENS.

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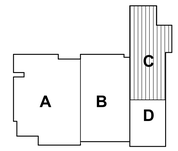
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2025.09.01

Client/Project Logo

ALVIN Independent School District

Client/Project
ALVIN ISD

ELEMENTARY SCHOOL #23

2727 White Gold Drive
Iowa Colony, Texas 77583

Title
LEVEL 1 - TECHNOLOGY PLAN - AREA C

Project No.
214001269

Scale
As indicated

Revision
2

Drawing No.
T213

•Plot location in Project Information
8/6/2025 10:44:8 AM

ORIGINAL SHEET - ARCH E1