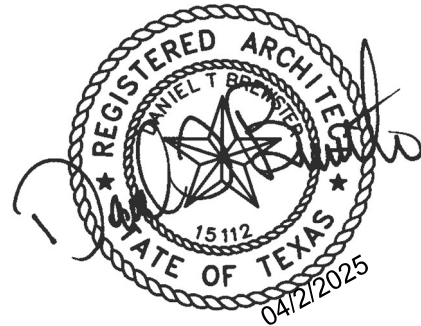




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ADDENDUM NO. 05

Date of Issuance: April 2, 2025

Project: **2022 BOND – New Williams Elementary School Replacement**
Pasadena Independent School District

Issued by: Arcadis Inc.
P. O. Box 891209
Houston, TX 77289
281-286-6605

Arcadis Project No.: 202301
PISD CSP No.: 25P-034LP

Prepared for: Prospective Proposers

PART A: NOTICE TO PROPOSERS:

1. Receipt of this Addendum shall be acknowledged on the Proposal Form. Failure to do so may subject Proposers to disqualification. Each proposer shall make necessary adjustments and submit his proposal with full knowledge of all modifications, clarification, and supplemental data included therein.
2. This Addendum forms part of the Contract Documents and shall be incorporated integrally therewith. Where provisions of the following supplemental data differ from those of previously issued documents, this Addendum shall govern.
3. The following Contract Documents have been issued to date delineating the Work (Project).

Contract Documents	February 18, 2025
Addendum 01 (Arch)	March 10, 2025
Addendum 02 (Arch and MEP)	March 19, 2025
Addendum 03 (Arch)	March 24, 2025
Addendum 04 (Arch)	March 26, 2025

4. This Addendum consists of: Three (3) 8-1/2x11 written pages; Eight (8) 8-1/2x11 Spec Section pages; and Zero (0) full-size New or Re-issued Sheets / Drawings as described in PARTS D, E and F below; as prepared by Texas Arcadis Inc. Total pages: Eleven (11)

PART B: CHANGES TO PRIOR ADDENDUM

1. None

PART C: CHANGES TO THE PROJECT MANUAL

1. Section 07 42 13 Metal Wall Panels – Panel C
 - a. Add this section in its entirety. (8 pages)

PART D: CHANGES TO THE DRAWINGS

1. None

PART E: RE-ISSUED SHEETS

1. None

PART F: NEW ISSUED SHEETS

1. None

END OF ADDENDUM NO. 05

SECTION 07 42 13

METAL WALL PANELS – Panel C

CONDITIONS OF THE CONTRACT, DIVISION 00 AND DIVISION 01 APPLY TO THIS SECTION.

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Refer to Section AB – Instructions to Proposers, Section AF – Subcontractor / Manufacturer Prequalification, and Section 01 25 00 – Request for Substitution Procedures.
- B. Scope of Work:
 - 01 Section Includes: Metal wall panels and accessories used for exterior wall cladding, parapets, fascia and soffits as the siding component of a drained back-ventilated rain screen system.
 - 02 Provide all exterior metal wall panels, soffits and associated flashing, sub-girts, sealants, fasteners and accessories as required to form the complete exterior metal wall panel system as indicated on the Drawings and / or specified herein.
 - 03 Provide metal wall panels in sizes, configurations and shapes as indicated on the Drawings
- C. Related Work:
 - 01 Section 05 12 00 – Structural Steel Framing
 - 02 Section 05 41 00 – Structural Metal Stud Framing
 - 03 Section 07 21 00 – Thermal Insulation
 - 04 Section 07 25 00 – Weather Barrier
 - 05 Section 07 41 13 – Metal Roof Panels
 - 06 Section 07 62 00 – Sheet Metal Flashing
 - 07 Section 07 92 00 – Joint Sealants
 - 08 Section 08 90 00 – Louvers and Vents

1.2 SUBMITTALS

- A. Review and comply with all provisions of Section 01 33 00 – Submittal Procedures.
- B. Product Data: Submit manufacturer's literature, product data, certifications and supporting information for all products proposed to be furnished, as necessary to demonstrate compliance with the specified requirements.
- C. Shop Drawings: Submit complete Shop Drawings consisting of design, fabrication and erection / installation of proposed assemblies.
 - 01 Show profiles, sizes, spacing and locations of assembled components.
 - 02 Show details of shop fabrications, connections and details.
 - 03 Show details of field fabrications, connections and details.
 - 04 Provide calculations demonstrating compliance with wind load and other requirements.
- D. Installation Instructions: Submit manufacturer's complete installation instructions, including fastening, for all products and / or assemblies proposed to be furnished.
 - 01 Installation details submitted for review shall be specific to the Work of this Contract and accurately depict interface within the assembly(s) indicated on the Drawings.

- 02 Generic details that do not depict actual conditions shall not be acceptable.
- E. Maintenance Instructions: Submit manufacturer's complete maintenance instructions and recommendations for all products and / or assemblies proposed to be furnished.
 - 01 Include recommended cleaning products and instructions for use.
 - 02 Where applicable, provide recommended maintenance schedules and procedures.
- F. Color / Finish Samples:
 - 01 Provide two (2) samples of each finish for selection by the Architect.
 - 02 Finish samples shall be provided of / on actual material; paper or digital samples shall not be accepted.
 - 03 Panels: One (1) of each type, full panel width by 12 inches long.
 - 04 Fasteners: Two (2) of each type with statement of intended use.
 - 05 Closures: One (1) of each type metal closure and foam closure as required.
 - 06 Sealants: One (1) sample of each type with statement of intended use.
 - 07 Clips: Two (2) of each type.
- G. For warranties longer than one (1) year, submit a sample of the warranty proposed to be furnished.
- H. Operations and Maintenance Manuals:
 - 01 Provide complete operations and maintenance manuals to the Owner.
 - 02 Refer to Section 01 78 23 – Operations and Maintenance Manuals.
 - 03 O & M manuals must be reviewed, accepted and delivered to the Owner prior to Owner demonstration(s).

1.3 REFERENCES

- A. General: Reference latest edition of applicable codes and standards.
- B. The Aluminum Association:
 - 01 Specification for Aluminum Structures.
- C. American Society for Testing and Materials (ASTM):
 - 01 ASTM A240/A240M-14 Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet and Strip for Pressure Vessels and for General Applications.
 - 02 ASTM A480/A480M-14b Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet and Strip.
 - 03 ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
 - 04 ASTM B209-10 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 - 05 ASTM E283-04 Test Method for Determining Rate of Airflow through Exterior Windows, Curtain Walls and Doors under Specified Pressure Differences Across the Specimen.
 - 06 ASTM E330-02 Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.
 - 07 ASTM E331-00 Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference
- D. American Architectural Manufacturers Association (AAMA)
 - 01 AAMA 611-14 Voluntary Specification for Anodized Architectural Aluminum.

- 02 2604 – Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Architectural Extrusions and Panels.
- 03 AAMA 2605-11 Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.

1.4 QUALITY ASSURANCE

- A. Manufacturers Qualifications: The manufacturer shall have had a minimum of ten (10) years of experience in the successful completion of projects employing similar materials, applications, and performance requirements.
 - 04 Manufacturer shall provide a list of five (5) similar completed projects with addresses of the project location, Architect, and Owner.
- B. Installers Qualifications: The Wall Systems Contractor shall have had a minimum of ten (10) years of experience in the successful completion of projects employing similar materials, applications, and performance requirements.
 - 05 The Wall Systems Contractor shall provide a list of five (5) similar completed projects with addresses of the project location, Architect, and Owner.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Materials shall be unloaded and stored per the manufacturer's instructions to prevent damage due to handling and weather.
- B. Protect panels against damage to protective films that may result from exposure to adverse environmental conditions.

1.6 WARRANTY

- A. Material Warranty: The manufacturer shall warrant that the materials and accessories furnished in accordance with these Specifications shall remain free from defects in material and factory workmanship for a period of two (2) years from date of shipment.
- B. Paint Finish Warranty: The manufacturer shall warrant against fading, chalking, peeling, cracking, checking, chipping, or erosion to base metal of the exterior panel finish for twenty (20) years and in accordance with the paint supplier's standards.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Design of metal wall panel systems is based on products and assemblies as manufactured by Lumabuilt.
 - 01 Lumabuilt panels indicated on the Drawings, including panel type, profile, configuration and color / finish and services shall establish the minimum level of quality, performance, dimension, and appearance required.
- B. Acceptable Manufacturers: The following manufacturers are acceptable to provide products of this Section, provide all proposed products meet or exceed the specified requirements.
 - 01 Northclad
 - 02 Dri-Design
 - 03 Americald

- 04 Sabotec
 - 05 Edward Systems Corp.
- C. Section 01 25 00 – Request for Substitution Procedures - No substitution will be considered unless written request for approval has been received by the Architect a minimum of ten (10) days prior to the Bid / Proposal Date.
- 01 Request shall include complete evidence to demonstrate equivalency to the products, systems and performance levels specified.
 - 02 A complete description of the substitution including details referenced to the wall conditions shown on the Drawings.
 - 03 Independent test reports verifying compliance with specified performance requirements.
 - 04 Calculations certified by a Professional Engineer, registered in the State of Texas, verifying that the proposed substitution meets the specified loading requirements.
 - 05 A detailed listing of each specification item with which the substitution does not fully comply.
- D. Alternate manufacturers shall fully coordinate any / all impact on interfacing work and other trades and any consequential associated cost affected by the proposed substitute shall be included in the Contractor's Proposal.

2.2 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide metal cladding systems capable of withstanding the effects of the following loads, based on testing in accordance with ASTM E330:
- 1. Wind Loads: As indicated on Drawings or as required to meet applicable building codes.
 - 2. Deflection Limits: For wind loads, no greater than $l/180$ of the span.
- B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
- 1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- C. Fire-Resistance Ratings: Comply with ASTM E119; testing by a qualified testing agency. Identify products with appropriate markings from an applicable testing agency.
- 1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.
- A. Air and Water Infiltration Requirements:
- 01 Air infiltration of the wall panel system shall be limited to 0.06 CFM/ft at a positive pressure differential of 1.57 PSF when tested in accordance with ASTM E283.
 - 02 There shall be no uncontrolled water penetration to the building interior when the wall panel system is tested per ASTM E331 at a positive pressure differential of 6.24 PSF or 20% of the design wind pressure whichever is greater.

2.3 METAL PLATE WALL PANELS

- A. Wall panel Basis of Design: Lumabuilt AP400 Extruded Aluminum Wall Panel System.

- B. Metal Plate Wall Panels: Provide factory-formed, metal plate wall panels fabricated from single sheets of metal formed into profile for installation method indicated. Include attachment assembly components, panel stiffeners, and accessories required for drained back-ventilated system.
- D. Aluminum Sheet: Extruded aluminum meeting ASTM B221, Alloy 6063-T6, of 0.063 inch thickness nominal.
 - 1. Aluminum thickness: 0.063 inch
 - 2. Attachment Assembly: Manufacturer's standard concealed clips on sub-girt framing system.
- C. Nominal Wall Panel Profiles and Sizes
 - 1. Metal Panel "C": Standard Panel Length: 24 feet (7.2M) Panel Thickness: ½ inch (12 mm), System Depth: 5/8 inch (16 mm), Size and Joint Configuration: 6 inch (150 mm) wide V groove)

2.4 MISCELLANEOUS MATERIALS

- A. Miscellaneous Metal Sub framing and Furring: ASTM C645, cold-formed, metallic-coated steel sheet, ASTM A653/A653M, G90 (Z275 hot-dip galvanized) coating designation or ASTM A792/A792M, Class AZ50 (Class AZM150) aluminum-zinc-alloy coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.
- B. Panel Accessories: Provide components required for a complete panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items.
 - 1. Match material and finish of metal panels unless otherwise indicated.
- C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, bases, drips, sills, jambs, corners, end walls, framed openings, rakes, fasciae, parapet caps, soffits, reveals, and fillers.
 - 1. Finish flashing and trim with same finish system as adjacent metal panels unless otherwise indicated.
- D. Panel Fasteners: Self-tapping screws designed to withstand design loads, including wind loads. Refer to code summary Drawing(s).
- E. Sealants: ASTM C920; elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to seal flashing, trims or penetrations where a weather tight seal is required.
 - 1. Provide sealant types that are compatible with panel materials, are nonstaining, and do not damage panel finish.

2.5 FABRICATION

- A. General: Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

- B. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.
 - 1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
 - 2. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
 - 3. Sealed Joints: Form no expansion, but movable, joints in metal to accommodate sealant and to comply with SMACNA standards.
 - 4. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
 - 5. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer.
 - a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal wall panel manufacturer for application but not less than thickness of metal being secured.
- C. Panel Configuration: Custom shaped; fabricated with formed welded corners; open vertical joints; closed horizontal joints; and weep holes, drainage channels, & back ventilated.
- D. Custom fabricate panels from solid plate with an integrated drainage channel.
- E. Aluminum frame clips to be pre-attached to panels by manufacturer.
- F. Aluminum stiffeners shall be pre-attached to the panel assembly at 24-inches on center to assure flatness or as required by design calculations to assure conformance with specified wind loads.
- G. Panels shall have a flatness criteria not to exceed 0.1875" within 24" in any direction.
- H. Normal dimensional tolerances on length and width of +/- 0.023" up to 48" (+/- 0.064" over 48") and +/- 0.1875" diagonal

2.6 FINISHES

- A. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable. Noticeable variations in the same piece are acceptable and typical.
- B. Panel colors shall be as selected by the Architect from the full range of available colors and options of the manufacturer.
- C. Aluminum Panels and Accessories:
 - 1. Pretreatment: Chrome Free five stage aluminum pretreatment system. Complies with AAMA 2603 AAMA 2604 and AAMA 2605 Superior Performance Standard and meets EPA, OSHA, State and Local environmental requirements and contains no chromates, cyanides or other heavy metals. Waste treatment is usually a simple pH neutralization and disposal to the sanitary sewer.
 - 2. Solid Colors: Premium finishes using a polyurethane powder coat available in smooth or fine textured finish.

3. Wood Grains: Premium wood finishes using a polyurethane powder coat with ink-based wood grain patterns sublimated into the base powder. The combined effect creates all the aesthetic aspects of real wood. Color: to be selected by Architect from Lumabuilt full range of woodgrain colors.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal panel supports, and other conditions affecting performance of the Work.
 1. Examine framing to verify that girts, angles, channels, studs, and other structural cladding support members and anchorage have been installed within alignment tolerances of 1/4" within 20 feet, as required by metal cladding manufacturer.
 2. Examine wall sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal wall panel manufacturer.
 3. Verify that air- or water-resistive barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
- B. Examine roughing-in for components and systems penetrating metal panels to verify actual locations of penetrations relative to seam locations of metal panels before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.
- D. Miscellaneous Supports: Install sub framing, furring, and other miscellaneous panel support members and anchorages according to ASTM C754 and metal panel manufacturer's written recommendations.
 1. Where sub framing is oriented vertically, coordinate with other trades as required to align wall panels sub framing with spacing of exterior light gauge steel wall framing to facilitate anchoring sub framing directly to exterior studs.
 2. Attachment of wall panel sub framing to sheathing alone shall not be acceptable.

3.2 WALL PANEL INSTALLATION

- A. General: Install metal panels according to manufacturer's written instructions in orientation, sizes, and locations indicated. Install panels perpendicular to supports unless otherwise indicated. Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.
 1. Shim or otherwise plumb substrates receiving metal panels.
 2. Flash and seal metal panels at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until air- or water-resistive barriers and flashings that will be concealed by metal panels are installed.
 3. Install screw fasteners in predrilled holes.
 4. Locate and space fastenings in uniform vertical and horizontal alignment.
 5. Install flashing and trim as metal panel work proceeds.
 6. Align bottoms of metal panels and fasten with self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws.
 7. Provide weathertight escutcheons for pipe- and conduit-penetrating panels.

- B. Fasteners:
 - 1. Aluminum Panels: Use aluminum or stainless-steel fasteners for surfaces exposed to the exterior; use aluminum or galvanized-steel fasteners for surfaces exposed to the interior.
- C. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by metal panel manufacturer.
- D. Attachment Assembly, General: Install attachment assembly required to support metal plate wall panels and to provide a complete weathertight wall system, including subgirts, perimeter extrusions, tracks, drainage channels, panel clips, and anchor channels.
 - 1. Include attachment to supports, panel-to-panel joinery, panel-to-dissimilar-material joinery, and panel system joint seals.
- E. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting and provide for thermal expansion. Coordinate installation with flashings and other components.
 - 1. Install components required for a complete metal panel system including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
 - 2. Provide types indicated by metal panel manufacturer; or, if not indicated, provide types recommended in writing by metal panel manufacturer.
- F. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible and set units true to line and level as indicated. Install work with laps, joints, and seams that are permanently watertight.
 - 1. Install exposed flashing and trim that is without buckling and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof performance.
 - 2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (605 mm) of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with mastic sealant (concealed within joints).
- G. Installation Tolerances: Shim and align metal plate wall panel units within installed tolerance of 1/4 inch in 20 feet, non-accumulative, on level, plumb, and location lines as indicated, and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.3 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service:
 - 01 Engage a service representative authorized by metal wall panel manufacturer to inspect completed installation.
 - 02 Submit written report of all deficiencies requiring correction.
- B. The Wall Panel Systems Contractor shall remove all protective materials and labels from the wall components as they are installed.
- C. The General Contractor shall inspect and approve each completed wall area and be responsible for protecting finished work from damage by other trades.

- D. Damage to wall panels caused by any entity shall be repaired and / or replaced as required to restore to new, undamaged assembly and condition.

END OF SECTION