CSP Number:  
**CSP9-0002**

University Center Wall Replacement

**Addendum # 2**

The University has received the following questions from vendors. The corresponding department has provided answers for the questions provided within the allocated time to respond. The questions and answers should be considered incorporated as part of this Competitive Sealed Proposal. Please see below:

1. **Question:** Can you provide me an estimated cost or cost range for the University Center Wall Replacement along with a copy of the pre-bid sign in sheet?
   
   **Answer:** TAMUCC anticipates the project cost to be in the $1M-$2M range.

2. **Question:** *REDACTED* and a few of our sub-contractors would like to opportunity to bid on the upcoming project, University Center Wall Replacement. We realize that there is the potential with the bid date quickly approaching, so we would like to take this opportunity to introduce you and your team to *REDACTED*. However, if there is an opportunity to submit prior to bidding, please review the completed Substitution Request form, product data sheets, testing results, side-by-side comparison, project references and installation guideline.
   
   **Answer:** Substitutions may be submitted as part of the contractor’s response and will be reviewed as part of the evaluation process. TAMUCC reserves the sole right to determine the acceptability of any substitutions.

The University has made changes and modifications to the Specifications and Drawings as detailed in Attachment A to this Addendum.

This document and attachments shall be attached to and become a part of the contract documents for this project. This addendum shall be signed for acknowledgement that you have received Addendum #1 and shall be returned with your proposal.

**COMPANY NAME:**

**STREET ADDRESS:**

**CITY/STATE:**

**TELEPHONE AND FAX:**

**SIGNATURE:** ___________________________ **DATE:** ___________________________
The following additions, deletions, modifications, or clarifications shall be made to the appropriate sections of the Contract Documents. Contractor shall acknowledge receipt of this Addendum in their proposal.

TECHNICAL SPECIFICATIONS:

A2-1 Section “Table of Contents”
A. Add Section 07 41 13 “Metal Roof Panels”.

A2-2 Section 06 16 00 “Sheathing”
A. Reference page 3, Paragraph 2.01 A., Delete text and provide the following text “A. Sealant for Glass-Mat Gypsum Sheathing: As indicated in Section 07 27 26 Fluid Applied Air Membranes.”
B. Reference page 4, Paragraph 3.01 L., Delete text “Siliconized” and add the following text at the end of the paragraph: “Refer to Section 07 27 26 Fluid Applied Air Membranes.”
C. Reference page 4, Paragraph 3.01 O., Delete paragraph in its entirety.
D. Reference page 5, Paragraph 3.02 E, Change first sentence to the following: “Seal sheathing joints per Section 07 27 26 Fluid Applied Air Membranes.”

A2-3 Section 07 27 26 “Fluid Applied Air Membranes”
A. Reference page 3, Paragraph 1.09 A 3, Replace text “30” with “19”. Replace text “207” to “131”.
B. Reference page 3, Paragraph 1.09 A 4, Add the following to the end of the paragraph: 5. Water Infiltration Testing: Mockups will be tested for evidence of wall infiltration according to ASTM E1105.”

A2-4 Section 07 41 13 “Metal Roof Panels”
A. Provide new specification section 07 41 13 “Metal Roof Panels”.

A2-5 Section 08 45 23 “Fiberglass-Sandwich-Panel-Assemblies”
A. Reference page 3, Paragraph 2.01 C 1, change text “1/90” to “1/120”
B. Reference page 3, Paragraph 2.01 E, delete text and replace with the following: “Windborne-Debris-Impact-resistance Performance: Provide panel assemblies that pass missile impact and cyclic-pressure tests when tested according to ASTM E1886 and the testing information in ASTM E1996 for Winds zones indicated on Sheet A-0.”
A2-6 Section 09 24 00 “Portland Cement Plastering”

A. Remove Specification 09 24 00 and replace with the attached.

DRAWINGS:

A2-7 ARCHITECTURE

A. Remove the following drawings and replace with the attached:
   1. SHEET G-1 COVER
   2. SHEET A-8A PROJECT PHOTOS B
   3. SHEET A-13 EXTERIOR ELEVATIONS
   4. SHEET A-15 WALL SECTIONS
   5. SHEET A-16 CURTAINWALL PLANS AND DETAILS
   6. SHEET A-17 PARTIAL SECOND FLOOR PLANS AND DETAILS
   7. SHEET A-19 DETAILS

B. Reference Sheet A-5, SECOND AND THIRD FLOOR DEMOLITION PLANS, General Note 4, add the following to the end of note: “5. IN AREAS WHERE CEILING IS SCHEDULED TO REMAIN AND EQUIPMENT IS BEING MODIFIED OR ACCESS IS REQUIRED TO PERFORM WORK CONTRACTOR SHALL REMOVE AND RETAIN CEILING TILE AND GRID. GRID AND TILE WILL BE REINSTALLED ONCE WORK IS COMPLETE. CONTRACTOR WILL REPLACE DAMAGED GRID AND TILE WITH NEW.”

C. Add the following drawing:
   1. A-20 DETAILS

END OF ADDENDUM NO. 2
07 41 13 METAL ROOF PANELS

1.00 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section Includes:
   1. Standing-seam metal roof panels.

B. Related Sections:
   1. Section 07 62 00 “Sheet Metal Flashing and Trim” for field-formed fascia, flashings, and other sheet metal work not part of metal roof panel assemblies.
   2. Section 07 92 00 “Joint Sealants” for field-applied sealants not otherwise specified in this Section.

1.03 DEFINITIONS

A. Metal Roof Panel Assembly: Metal roof panels, attachment system components, miscellaneous metal framing, and accessories necessary for a complete weathertight roofing system.

1.04 PERFORMANCE REQUIREMENTS

A. General Performance: Metal roof panels shall comply with performance requirements without failure due to defective manufacture, fabrication, installation, or other defects in construction.

B. Delegated Design: Design metal roof panel assembly, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

C. Air Infiltration: Air leakage through assembly of not more than 0.06 cfm/sq. ft. (0.3 L/s per sq. m) of roof area when tested according to ASTM E1680 at the following test-pressure difference:
   1. Test-Pressure Difference: Negative 1.57 lbf/sq. ft. (75 Pa).
   2. Positive Preload Test-Pressure Difference: Greater than or equal to 15.0 lbf/sq. ft. (720 Pa) and the greater of 75 percent of building live load or 50 percent of building design positive wind-pressure difference.
   3. Negative Preload Test-Pressure Difference: 50 percent of design wind-uplift-pressure difference.

D. Water Penetration: No water penetration when tested according to ASTM E1646 at the following test-pressure difference:
   1. Test-Pressure Difference: 2.86 lbf/sq. ft. (137 Pa).
2. Positive Preload Test-Pressure Difference: Greater than or equal to 15.0 lbf/sq. ft. (720 Pa) and the greater of 75 percent of building live load or 50 percent of building design positive wind-pressure difference.

3. Negative Preload Test-Pressure Difference: 50 percent of design wind-uplift-pressure difference.

E. Hydrostatic-Head Resistance: No water penetration when tested according to ASTM E2140.

F. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift-resistance class indicated.
   1. Uplift Rating: UL 90.

G. FMG Listing: Provide metal roof panels and component materials that comply with requirements in FMG 4471 as part of a panel roofing system and that are listed in FMG’s “Approval Guide” for Class 1 or noncombustible construction, as applicable. Identify materials with FMG markings.
   1. Fire/Windstorm Classification: Class 1A-90.
   2. Hail Resistance: MH.

H. Structural Performance: Provide metal roof panel assemblies capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated, based on testing according to ASTM E1592:
   1. Wind Loads: Determine loads based on the following minimum design wind pressures:
      1. Uniform pressure as indicated on Sheet A-0.
   2. Deflection Limits: Metal roof panel assemblies shall withstand wind loads with vertical deflections no greater than 1/240 of the span.

I. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
   1. Temperature Change (Range): 120 F (67 C), ambient; 180 F (100 C), material surfaces.

1.05 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of roof panel and accessory.

B. Shop Drawings: Show fabrication and installation layouts of metal roof panels; details of edge conditions, side-seam and end lap joints, panel profiles, corners, anchorages, trim, flashings, closures, and accessories; and special details. Distinguish between factory and field-assembled work.
   1. Accessories: Include details of the following items, at a scale of not less than 1-1/2 inches per 12 inches (1:10):
      1. Flashing and trim.

C. Samples for Initial Selection: For each type of metal roof panel indicated with factory-applied color finishes.
1. Include similar samples of trim and accessories involving color selection.

D. Samples for Verification: For each type of exposed finish required, prepared on samples of size indicated below:
   1. Metal Roof Panels: 12 inches (300 mm) long by actual panel width. Include fasteners, clips, closures, and other metal roof panel accessories.
   2. Trim and Closures: 12 inches (300 mm) long. Include fasteners and other exposed accessories.

E. Delegated-Design Submittal: For metal roof panel assembly indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.06 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Roof plans, drawn to scale, on which the following are shown and coordinated with each other, based on input from installers of the items involved:
   1. Roof panels and attachments.
   2. Purlins and rafters.

B. Manufacturer Certificates: Signed by manufacturer certifying that roof panels comply with energy performance requirements specified in “Performance Requirements” Article.
   1. Submit evidence of meeting performance requirements.

C. Qualification Data: For qualified Installer.

D. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each product.

E. Field quality-control reports.

F. Warranties: Samples of special warranties.

1.07 CLOSEOUT SUBMITTALS

A. Maintenance Data: For metal roof panels to include in maintenance manuals.

1.08 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer.

B. Testing Agency Qualifications: Qualified according to ASTM E329 for testing indicated.

C. Source Limitations: Obtain each type of metal roof panels from single source from single manufacturer.

D. Fire-Resistance Ratings: Where indicated, provide metal roof panels identical to those of assemblies tested for fire resistance per ASTM E119 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
   1. Indicate design designations from UL’s “Fire Resistance Directory” or from the listings of another qualified testing agency.
E.  Pre-installation Conference:  Conduct conference at agreed location.
   1.  Meet with Owner, Architect, Owner’s insurer if applicable, testing and inspecting agency
       representative, metal roof panel Installer, metal roof panel manufacturer’s
       representative, and installers whose work interfaces with or affects metal roof panels.
   2.  Review and finalize construction schedule and verify availability of materials, Installer’s
       personnel, equipment, and facilities needed to make progress and avoid delays.
   3.  Review methods and procedures related to metal roof panel installation, including
       manufacturer’s written instructions.
   4.  Examine substrate conditions for compliance with requirements, including flatness and
       attachment to structural members.
   5.  Review structural loading limitations during and after roofing.
   6.  Review flashings, special roof details, and condition of other construction that will affect
       metal roof panels.
   7.  Review governing regulations and requirements for insurance, certificates, and testing
       and inspecting if applicable.
   8.  Review temporary protection requirements for metal roof panel assembly during and
       after installation.
   9.  Review roof observation and repair procedures after metal roof panel installation.
 10. Document proceedings, including corrective measures and actions required, and furnish
    copy of record to each participant.

1.09  DELIVERY, STORAGE, AND HANDLING

A.  Deliver components, sheets, metal roof panels, and other manufactured items so as not to
    be damaged or deformed.  Package metal roof panels for protection during transportation
    and handling.
B.  Unload, store, and erect metal roof panels in a manner to prevent bending, warping,
    twisting, and surface damage.
C.  Stack metal roof panels on platforms or pallets, covered with suitable weathertight and
    ventilated covering.  Store metal roof panels to ensure dryness.  Do not store metal roof
    panels in contact with other materials that might cause staining, denting, or other surface
    damage.
D.  Protect strippable protective covering on metal roof panels from exposure to sunlight and
    high humidity, except to extent necessary for period of metal roof panel installation.

1.10  PROJECT CONDITIONS

A.  Weather Limitations:  Proceed with installation only when existing and forecasted weather
    conditions permit metal roof panel work to be performed according to manufacturer’s
    written instructions and warranty requirements.
B.  Field Measurements:  Verify actual dimensions of construction contiguous with metal roof
    panels by field measurements before fabrication.
1.11 COORDINATION

A. Coordinate metal roof panels with flashing, trim, and construction of decks, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.12 WARRANTY

A. Special Warranty: Manufacturer’s standard form in which manufacturer agrees to repair or replace metal roof panel assemblies that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      1. Structural failures including rupturing, cracking, or puncturing.
      2. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
   2. Warranty Period: 2 years from date of Substantial Completion.

B. Special Warranty on Panel Finishes: Manufacturer’s standard form in which manufacturer agrees to repair finish or replace metal roof panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
   1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
      1. Color fading more than 5 Hunter units when tested according to ASTM D2244.
      2. Chalking in excess of a No. 8 rating when tested according to ASTM D4214.
      3. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
   Finish Warranty Period: 20 years from date of Substantial Completion.

C. Special Weathertightness Warranty for Standing-Seam Metal Roof Panels: Manufacturer’s standard form in which manufacturer agrees to repair or replace standing-seam metal roof panel assemblies that fail to remain weathertight, including leaks, within specified warranty period.
   1. Warranty Period: 20 years from date of Substantial Completion.

2.00 PRODUCTS

2.01 PANEL MATERIALS

A. Metallic-Coated Steel Sheet: Restricted flatness steel sheet metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A755/A755M.
   1. Zinc-Coated (Galvanized) Steel Sheet: ASTM A653/A653M, G90 (Z275) coating designation; structural quality or aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A792/A792M, Class AZ50 coating designation, Grade 40 (Class AZM150 coating designation, Grade 275); structural quality.
   2. Surface: Embossed finish.
   3. Exposed Coil-Coated Finish:
1. Three-coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

4. Concealed Finish: Apply pretreatment and manufacturer’s matching-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil (0.013 mm).

B. Panel Sealants:

1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.

2. Joint Sealant: ASTM C920; elastomeric polyurethane, polysulfide, or silicone sealant; of type, grade, class, and use classifications required to seal joints in metal roof panels and remain weathertight; and as recommended in writing by metal roof panel manufacturer.


2.02 MISCELLANEOUS METAL FRAMING

A. Miscellaneous Metal Framing, General: ASTM C645, cold-formed metallic-coated steel sheet, ASTM A653/A653M, G60 (Z180) hot-dip galvanized or coating with equivalent corrosion resistance unless otherwise indicated.

2.03 MISCELLANEOUS MATERIALS

A. Panel Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs, and other suitable fasteners designed to withstand design loads. All panel fasteners are concealed.

B. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil (0.4-mm) dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.04 STANDING-SEAM METAL ROOF PANELS

A. General: Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates, and accessories required for weathertight installation.

B. Aluminum Panel Systems: Unless more stringent requirements are indicated, comply with ASTM E1637.

C. Vertical-Rib, Snap-Joint, Standing-Seam Metal Roof Panels: Formed with vertical ribs at panel edges and between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels and engaging opposite edge of adjacent panels, and snapping panels together.
D. **Basis-of-Design Product:** Subject to compliance with requirements, provide **MBCI SuperLok 16”** or comparable product by one of the following:

1. AEP-Span.
2. Butler Manufacturing; a BlueScope Steel company.

E. **Material:** Galvanized or Aluminum-zinc alloy-coated steel sheet, 0.028-inch (0.71-mm) nominal thickness.

   2. Color: As selected by owner’s representative from manufacturer’s full range.

F. **Panel Coverage:** 16 inches.

   1. Panel Height: 1.75 inches (44 mm).

### 2.05 ACCESSORIES

A. **Roof Panel Accessories:** Provide components approved by roof panel manufacturer and as required for a complete metal roof panel assembly including trim, copings, fascia, corner units, ridge closures, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal roof panels unless otherwise indicated.

   1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal roof panels.
   2. Closure Strips: Closed-cell, expanded, cellular, rubber or cross-linked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch (25-mm) thick, flexible closure strips; cut or premolded to match metal roof panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
   3. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.

B. **Flashing and Trim:** Formed from same material as roof panels, prepainted with coil coating, minimum 0.018 inch (0.45 mm) thick. Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fascia, and fillers. Finish flashing and trim with same finish system as adjacent metal roof panels.

### 2.06 FABRICATION

A. Fabricate and finish metal roof panels and accessories at the factory to greatest extent possible, by manufacturer’s standard procedures and processes and as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.

B. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.
C. Fabricate metal roof panel side laps with factory-installed captive gaskets or separator strips that provide a tight seal and prevent metal-to-metal contact, in a manner that will seal weathertight and minimize noise from movements within panel assembly.

D. Sheet Metal Accessories: Fabricate flashing and trim to comply with recommendations in SMACNA’s “Architectural Sheet Metal Manual” that apply to the 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. End Seams for Other Than Aluminum: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.

3. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant 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 of size and metal thickness recommended by SMACNA’s “Architectural Sheet Metal Manual” or by metal roof panel manufacturer for application, but not less than thickness of metal being secured.

2.07 FINISHES

A. Comply with NAAMM’s “Metal Finishes Manual for Architectural and Metal Products” for recommendations for applying and designating finishes.

B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved samples and are assembled or installed to minimize contrast.

3.00 EXECUTION

3.01 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal roof panel supports, and other conditions affecting performance of the Work.

B. Examine primary and secondary roof framing to verify that rafters, purlins, angles, channels, and other structural panel support members and anchorages have been installed within alignment tolerances required by metal roof panel manufacturer.

C. Examine solid roof sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal roof panel manufacturer.
D. Examine roughing-in for components and systems penetrating metal roof panels to verify actual locations of penetrations relative to seam locations of metal roof panels before metal roof panel installation.

E. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

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

3.02 PREPARATION

A. Clean substrates of substances harmful to insulation, including removing projections capable of interfering with insulation attachment. Substrate Board: Install substrate boards over roof deck on entire roof surface. Attach with substrate-board fasteners.

B. Install substrate board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt substrate boards together.

C. Miscellaneous Framing: Install sub-purlins, eave angles, furring, and other miscellaneous roof panel support members and anchorage according to metal roof panel manufacturer’s written instructions.

3.03 METAL ROOF PANEL INSTALLATION

A. Standing-Seam Metal Roof Panels: Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners recommended by manufacturer.
   1. Install clips to supports with self-tapping fasteners.
   2. Install pressure plates at locations indicated in manufacturer’s written installation instructions.
   3. Snap Joint: Nest standing seams and fasten together by interlocking and completely engaging factory-applied sealant.
   4. Seamed Joint: Crimp standing seams with manufacturer-approved, motorized seamer tool so clip, metal roof panel, and factory-applied sealant are completely engaged.

3.04 ACCESSORY INSTALLATION

A. General: 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 roof panel assembly including trim, copings, ridge closures, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.

B. 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 will be permanently watertight and weather resistant.
1. Install exposed flashing and trim that is without excessive oil canning, 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 and weather-resistant 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 (600 mm) of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with mastic sealant (concealed within joints).

3.05 ERECTION TOLERANCES

A. Installation Tolerances: Shim and align metal roof panel units within installed tolerance of 1/4 inch in 20 feet (6 mm in 6 m) on slope and location lines as indicated and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.

3.06 FIELD QUALITY CONTROL

A. Manufacturer’s Field Service: Engage a factory-authorized service representative to inspect metal roof panel installation, including accessories. Report results in writing.

B. Remove and replace applications of metal roof panels where inspections indicate that they do not comply with specified requirements.

C. Additional inspections, at Contractor’s expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.07 CLEANING

A. Remove temporary protective coverings and strippable films, if any, as metal roof panels are installed unless otherwise indicated in manufacturer’s written installation instructions. On completion of metal roof panel installation, clean finished surfaces as recommended by metal roof panel manufacturer. Maintain in a clean condition during construction.

B. Replace metal roof panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION
PORTLAND CEMENT PLASTERING

1.00 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section Includes:
   1. Exterior portland cement plasterwork (stucco) on metal lath
   2. Water moisture/vapor drainage mat.
   B. Related Sections:
      1. Division 05 Section "Cold-Formed Metal Framing" for structural, load-bearing (transverse and axial) steel studs and joists that support lath and portland cement plaster.
      2. Division 06 Section "Miscellaneous Rough Carpentry" for wood framing and furring included in portland cement plaster assemblies.
      3. Division 06 Section "Sheathing" for sheathing and water-resistant barriers included in portland cement plaster assemblies.
      4. Division 07 Section "Thermal Insulation" for thermal insulations and vapor retarders included in portland cement plaster assemblies.
      5. Division 07 Section "Sheet Metal Flashing and Trim" for flashing at openings and penetrations.

1.03 SUBMITTALS

A. Product Data: For each type of product indicated.
B. Samples for Initial Selection: For each type of factory-prepared finish coat indicated.
C. Samples for Verification: For each type of factory-prepared, colored and textured finish coat indicated; 12 by 12 inches (305 by 305 mm), and prepared on rigid backing.

1.04 QUALITY ASSURANCE

A. Fire-Resistance Ratings: Where indicated, provide portland cement plaster assemblies identical to those of assemblies tested for fire resistance per ASTM E 119 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
   1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.
B. Mockups: Before plastering, install mockups of at least 100 sq. ft. (9.3 sq. m) in surface area to demonstrate aesthetic effects and set quality standards for materials and execution.
   1. Install mockups for each type of finish indicated.
2. For interior plasterwork, simulate finished lighting conditions for review of mockups.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes.

1.06 PROJECT CONDITIONS

A. Comply with ASTM C 926 requirements.

B. Exterior Plasterwork:

1. Apply and cure plaster to prevent plaster drying out during curing period. Use procedures required by climatic conditions, including moist curing, providing coverings, and providing barriers to deflect sunlight and wind.

2. Apply plaster when ambient temperature is greater than 40 deg F (4.4 deg C).

3. Protect plaster coats from freezing for not less than 48 hours after set of plaster coat has occurred.

C. Factory-Prepared Finishes: Comply with manufacturer's written recommendations for environmental conditions for applying finishes.

2.00 PRODUCTS

2.01 METAL LATH


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

a. Alabama Metal Industries Corporation; a Gibraltar Industries company.

b. CEMCO.

c. Clark Western Building Systems.

d. Dietrich Metal Framing; a Worthington Industries company.

e. MarinoWARE.

f. Phillips Manufacturing Co.

B. Drainage Mat

1. Randomly oriented geometric patterned drainage and ventilation mat designed to eliminate moisture and moisture vapor in wall applications

2. Product: Driwall Rainscreen 020-1 as manufactured by Keene Building Products.

3. Physical Characteristics: Three-dimensional mat heat laminated to a non-woven lightweight, vapor permeable fabric. The monofilament mat is heat welded at the junctions to form a resilient structure that isolates veneer from the back-up.
a. 0.25 inches (6 mm) thick  
b. 12.7 oz/sq. yd. (431 g/sq m) total weight.  
c. 48 inches (122 cm) wide.  
d. 65 feet (19.8 m) roll length.

C. Material: UV stabilized polypropylene.  
   1. Class A flame spread per ASTM E84.  
   3. Application: Provide at stucco veneer

2.02 ACCESSORIES  

A. General: Comply with ASTM C 1063 and coordinate depth of trim and accessories with thicknesses and number of plaster coats required.

B. Metal Accessories:  
   1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:  
      a. Alabama Metal Industries Corporation; a Gibraltar Industries company.  
      b. CEMCO.  
      c. Clark Western Building Systems.  
      d. Dietrich Metal Framing; a Worthington Industries company.  
      e. MarinoWARE.  
      f. Phillips Manufacturing Co.  
   5. Casing Beads: Fabricated from pure zinc; square-edged style; with expanded flanges.  
   6. Control Joints: Fabricated from pure zinc; one-piece-type, folded pair of unperforated screeds in M-shaped configuration; with perforated flanges and removable protective tape on plaster face of control joint.  
   7. Two-Piece Expansion Joints: Fabricated from pure zinc; formed to produce slip-joint and square-edged reveal that is adjustable from 1/4 to 5/8 inch (6.34 to 16 mm) wide; with perforated flanges.

2.03 MISCELLANEOUS MATERIALS
2.04 PLASTER MATERIALS

A. Portland Cement: ASTM C 150, Type I.

B. Colorants for Job-Mixed Finish Coats: Colorfast mineral pigments that produce finish plaster color to match Architect's sample.

C. Lime: ASTM C 206, Type S; or ASTM C 207, Type S.

D. Sand Aggregate: ASTM C 897.

   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. Bonsal American, an Oldcastle Company; Marblesil Stucco Mix.
      d. Florida Stucco; Florida Stucco.
      e. LaHabra, a brand of ParexLaHabra, Inc.; Exterior Stucco Color Coat.
      g. QUIKCRETE; QUIKCRETE Finish Coat Stucco, No. 1201.
      h. Shamrock Stucco LLC; Exterior Stucco.
      i. SonoWall, BASF Wall Systems, Inc.; Thoro Stucco.
      j. USG Corporation; Oriental Exterior Finish Stucco.
   2. Color: As indicated on drawings.
A. General: Comply with ASTM C 926 for applications indicated.

1. Fiber Content: Add fiber to base-coat mixes after ingredients have mixed at least two minutes. Comply with fiber manufacturer's written instructions for fiber quantities in mixes, but do not exceed 1 lb of fiber/cu. yd. (0.6 kg of fiber/cu. m) of cementitious materials.

B. Base-Coat Mixes for Use over Metal Lath: Scratch and brown coats for three-coat plasterwork as follows:
   1. Portland Cement Mixes:
      a. Scratch Coat: For cementitious material, mix 1 part portland cement and 3/4 to 1-1/2 parts lime. Use 2-1/2 to 4 parts aggregate per part of cementitious material.
      b. Brown Coat: For cementitious material, mix 1 part portland cement and 3/4 to 1-1/2 parts lime. Use 3 to 5 parts aggregate per part of cementitious material, but not less than volume of aggregate used in scratch coat.

C. Factory-Prepared Finish-Coat Mixes: For ready-mixed finish-coat plasters comply with manufacturer's written instructions.

3.00 EXECUTION

3.01 EXAMINATION

A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance of the Work.

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

3.02 PREPARATION

A. Protect adjacent work from soiling, spattering, moisture deterioration, and other harmful effects caused by plastering.

B. Prepare solid substrates for plaster that are smooth or that do not have the suction capability required to bond with plaster according to ASTM C 926.

3.03 INSTALLING METAL LATH

A. Expanded-Metal Lath: Install according to ASTM C 1063.
   1. Flat-Ceiling and Horizontal Framing: Install flat diamond-mesh lath.

3.04 INSTALLING ACCESSORIES

A. Install according to ASTM C 1063 and at locations indicated on Drawings.

B. Reinforcement for External Corners:
   1. Install lath-type, external-corner reinforcement at exterior locations.
C. Install flashing at all sides of windows and openings directing any moisture out from behind the plaster.

D. Control Joints: Install control joints at locations indicated on Drawings or in specific locations approved by Architect for visual effect, if not shown on plans, as follows:
   1. As required to delineate plasterwork into areas (panels) of the following maximum sizes:
      a. Vertical Surfaces: 144 sq. ft. (13.4 sq. m).
      b. Horizontal and other Nonvertical Surfaces: 100 sq. ft. (9.3 sq. m).
   2. At distances between control joints of not greater than 18 feet (5.5 m) o.c.
   3. As required to delineate plasterwork into areas (panels) with length-to-width ratios of not greater than 2-1/2:1.
   4. Where control joints occur in surface of construction directly behind plaster.
   5. Where plasterwork areas change dimensions, to delineate rectangular-shaped areas (panels) and to relieve the stress that occurs at the corner formed by the dimension change.

3.05 PLASTER APPLICATION

A. General: Comply with ASTM C 926.
   1. Do not deviate more than plus or minus 1/4 inch in 10 feet (6.4 mm in 3 m) from a true plane in finished plaster surfaces, as measured by a 10-foot (3-m) straightedge placed on surface.
   2. Finish plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground unless otherwise indicated. Where casing bead does not terminate plaster at metal frame, cut base coat free from metal frame before plaster sets and groove finish coat at junctures with metal.
   3. Provide plaster surfaces that are ready to receive field-applied finishes indicated.

B. Walls; Base-Coat Mixes for Use over Metal Lath: Scratch and brown coats for three-coat plasterwork; 3/4-inch (19-mm) thickness.
   1. Portland cement mixes.

C. Ceilings; Base-Coat Mixes for Use over Metal Lath: Scratch and brown coats for three-coat plasterwork; 3/4 inch (19 mm) thick on concrete.
   1. Portland cement mixes.

D. Plaster Finish Coats: Apply to provide float finish to match Architect's sample.

E. Concealed Exterior Plasterwork: Where plaster application will be used as a base for adhered finishes, omit finish coat.

3.06 DRAINAGE MAT INSTALLATION

A. Install in accordance with manufacturer's instructions
B. Inspection of Wall Conditions and Weather Barrier/Building Wrap: Ensure that the wall is free from structural defects, that any membranes or flashing are properly installed and that the final system will have a path for moisture to escape from the wall.

1. Install building paper or house wrap and flashing to manufactures’ recommendations.

2. Place drainage mat horizontally against exterior wall fabric side out, entangled core to the building interior. Starting at the bottom of the wall, position the first piece of drainage mat where the bottom edge of the stone will meet the ledger board.

3. Mechanically fasten with a staple hammer, large head nail or washer and screw one fastener for each square foot (0.1 sq. m). When installing over concrete or block back-up walls that do not accept mechanical fasteners hold in place with small dabs of glue every 2.0 feet (0.61 m). Do not fasten through flashing.

4. Seam adjacent piece with the selvage edge overlapping the top of the lower drainage mat piece.

5. Install expanded metal lathe over the drainage mat according to the manufacturer’s recommendations.

6. Apply stucco according to manufacturer’s recommendations. Provide a weep method for ventilation and drainage.

7. Trim drainage mat around all penetrations, windows and doors so that the material is flush to the flashing.

3.07 PLASTER REPAIRS

A. Repair or replace work to eliminate cracks, dents, blisters, buckles, crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.

3.08 PROTECTION

A. Remove temporary protection and enclosure of other work. Promptly remove plaster from door frames, windows, and other surfaces not indicated to be plastered. Repair floors, walls, and other surfaces stained, marred, or otherwise damaged during plastering.

END OF SECTION
TEXAS A&M UNIVERSITY - CORPUS CHRISTI
UNIVERSITY CENTER - WALL REPLACEMENT
CORPUS CHRISTI, TEXAS

ISSUED FOR BID

JULY 02, 2019

ATTACHMENT A