

University of Louisville
DEPARTMENT OF PROCUREMENT SERVICES
LOUISVILLE, KENTUCKY

Invitation No: IB-028-21

Date: February 15, 2021

Title: Belknap Campus New Residence Hall Phase 2 Bid Pack 2

Addendum No. 5

The following shall clarify and/or modify the original bid document(s) as issued by the University of Louisville.

1. The Public Bid Opening for this project will be held on **February 22, 2021 starting at 2:00 PM EST**. The bid opening will be held in the Student Activity Center Room 215 (2100 S. Floyd St., 40208). The bid opening will follow the schedule below.
 - a. Face masks are required at all times by all bid opening attendees.
 - b. A livestream option is available for this bid opening. Please use this link to access the livestream (please note: IT support will not be available if you have trouble with the link):
<http://uofl.me/UL-Video>
 - c. **Bid Opening Schedule:**
 - 2:00pm:** BC-1, BC-2, BC-3, BC-20, BC-6
 - 2:20pm:** BC-7, BC-8, BC-9, BC-12, BC-18
 - 2:40pm:** BC-10, BC-11, BC-13, BC-14, BC-15
 - 3:00pm:** BC-19, BC-21, BC-16, BC-5, BC-17
2. Please see the attached Specification items.
3. Please see the attached Drawing Items.
4. TABLE OF CONTENTS:
 - Bid Date Change
 - Specification Items Drawing Items

[Receipt of acknowledgement to follow]

Bidder must acknowledge receipt of this and any addenda either with bid or by separate letter. Acknowledgement must be received in the Department of Procurement Services, Service Complex Building, University of Louisville no later than **February, 22 2021 at 1:00 PM EST**. If by separate letter, the following information must be placed in the lower left-hand corner of the envelope:

Invitation No: IB-028-21

Title: Belknap Campus New Residence Hall Phase 2 Bid Pack 2

Due Date: February 22, 2021

BY: _____
Authorized Purchasing Officer

Receipt Acknowledged: _____
FIRM

BY: _____

ADDENDUM #5 TO THE PLANS, SPECIFICATIONS, AND CONTRACT DOCUMENTS

FOR

BELKNAP CAMPUS NEW RESIDENCE HALL – PHASE 2, BID PACKAGE 2
UNIVERSITY OF LOUISVILLE
LOUISVILLE, KY

JRA ARCHITECTS
Louisville, KY

CSO
Indianapolis, IN

MKSK (Landscape)
Lexington, KY

CIVIL DESIGN, INC. (Civil)
Louisville, KY

BROWN + KUBICAN (Structural)
Louisville, KY

LOFTUS ENGINEERING (Plumbing, Mechanical, & Electrical)
Louisville, KY

PALADIN (LEED Administrator)
Lexington, KY

**BIDDERS MUST ACKNOWLEDGE THIS
ADDENDUM IN THE “FORM OF PROPOSAL”**

TABLE OF CONTENTS:

Bid Date Change
Specification Items
Drawing Items
CM Scope Items

Bid Date Change:

1. **Due to Inclement Weather Bid date will be extended.**
 - a. **Bids Now Due 2/22/21 @ 1:00pm**

Specification Items:

1. Refer to specification 072726 Fluid Applied Membrane Air Barrier. This specification is added in its entirety. This material is an acceptable alternative to 072713 Modified Bituminous Sheet Air Barriers in all locations indicated on the construction documents. Additionally, this material shall be applied to all insulated concrete formwork indicated to

be exposed on the drawings. Air barrier shall be furnished in as light a color as is available from the manufacturer's full range (white preferred).

Drawing Items:

1. Refer to all exterior wall details. Apply fluid applied air barrier to the exterior face all portions of ICF exterior wall formwork that is indicated to be left exposed. This is being applied to act as a temporary weather barrier during construction.

CM Scope Items:

1. BC-20 – In order to facilitate temporary power to the project/tower crane UofL will be allowing the BC-20 contractor to borrow a used transformer. This transformer will allow the 15kv service to be transformed down to 480/277v. This 15kv tap will be made by stacking a feed off the existing switch onsite. BC-20 contractor will be responsible for picking up transformer from UofL's warehouse and delivering it back at the end of its use. Also, BC-20 will be responsible to keep it in working order and returning it in the same condition as when it was borrowed.

End of Addendum #5

SECTION 07 2726 - FLUID-APPLIED MEMBRANE AIR BARRIERS**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Fluid-applied membrane air barrier, vapor permeable.
- B. Related Sections include the following:
 - 1. Division 06 Section "Sheathing" for insulated wall sheathings.
 - 2. Division 07 Section "Thermal Insulation" for foam-plastic board insulation.
 - 3. Division 07 Section "Sheet Metal Flashing and Trim" for sheet metal flashings.
 - 4. Division 07 Section "Joint Sealants" for joint-sealant materials and installation.

1.3 DEFINITIONS

- A. ABAA: Air Barrier Association of America.
- B. Air Barrier Assembly: The collection of air barrier materials and auxiliary materials applied to an opaque wall, including joints and junctions to abutting construction, to control air movement through the wall.

1.4 PERFORMANCE REQUIREMENTS

- A. General: Air barrier shall be capable of performing as a continuous vapor-permeable air barrier and as a liquid-water drainage plane flashed to discharge to the exterior incidental condensation or water penetration. Air barrier assemblies shall be capable of accommodating substrate movement and of sealing substrate expansion and control joints, construction material changes, and transitions at perimeter conditions without deterioration and air leakage exceeding specified limits.

1.5 SUBMITTALS

- A. Product Data: Include manufacturer's written instructions for evaluating, preparing, and treating substrate; technical data; and tested physical and performance properties of air barrier.
- B. Shop Drawings: Show locations and extent of air barrier. Include details for substrate joints and cracks, counterflashing strip, penetrations, inside and outside corners, terminations, and tie-ins with adjoining construction.
 - 1. Include details of interfaces with other materials that form part of air barrier.
- C. Product Certificates: For air barriers, certifying compatibility of air barrier and accessory materials with Project materials that connect to or that come in contact with the barrier; signed by product manufacturer. Submit manufacturer's documentation illustrating the air barrier's capability to self-seal around all fastener penetrations without application of supplemental sealing material.
- D. Qualification Data: For Applicator.

- E. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for air barriers.
- F. Manufacturer's quality assurance certification reports indicating that the installed system has been properly installed, and that all expected performance criteria are intact for the completed installation.

1.6 QUALITY ASSURANCE

- A. Applicator Qualifications: A firm experienced in applying air barrier materials similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- B. Manufacturer's Quality Assurance Program: Contractor shall engage product manufacturer to conduct on-site review and approval of installed air barrier system. A certified report shall be submitted with the project close-out documents.

1.7 Mockups: Before beginning installation of air barrier, build mockups of exterior wall assembly, incorporating wall construction, window, insulation, and flashing to demonstrate surface preparation, crack and joint treatment, and sealing of gaps, terminations, and penetrations of air barrier membrane.

1.8 Coordinate construction of mockup to permit inspection by Owner's representatives.

1.9 Include junction with roofing membrane, building corner condition, and foundation wall intersection.

1.10 If Architect determines mockups do not comply with requirements, reconstruct mockups and apply air barrier until mockups are approved.

1.11 Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.12 DELIVERY, STORAGE, AND HANDLING

- A. Store liquid materials in their original undamaged packages in a clean, dry, protected location and within temperature range required by air barrier manufacturer.
- B. Remove and replace liquid materials that cannot be applied within their stated shelf life.
- C. Store rolls according to manufacturer's written instructions.
- D. Protect stored materials from direct sunlight.

1.13 PROJECT CONDITIONS

- A. Environmental Limitations: Apply air barrier within the range of ambient and substrate temperatures recommended by air barrier manufacturer. Protect substrates from environmental conditions that affect performance of air barrier. Do not apply air barrier to a damp or wet substrate or during snow, rain, fog, or mist.

PART 2 - PRODUCTS

2.1 FLUID-APPLIED MEMBRANE AIR BARRIER

- A. Fluid-Applied, Vapor-Permeable Membrane Air Barrier: Elastomeric, modified bituminous membrane.
1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Elastomeric, Modified Bituminous Membrane:
 - 1) GE/Momentive Performance Materials: Elemax 2600
 - 2) Henry Company: Air-Bloc 31MR
 - 3) Prosoco: R-Guard.
 - 4) Carlisle Coatings & Waterproofing, Inc.: Fire Resist Barritech VP
 - 5) Sto Corp.: EmeraldCoat
 2. Physical and Performance Properties:
 - a. Membrane Air Permeance: Not to exceed 0.004 cfm/ sq. ft. of surface area at 1.57-lbf/sq. ft. (0.02 L/s x sq. m of surface area at 75-Pa) pressure difference; ASTM E 2178.
 - b. Membrane Vapor Permeance: Not less than 4 perms (243 ng/Pa x s x sq. m); ASTM E 96.

2.2 AUXILIARY MATERIALS

- A. General: Auxiliary materials recommended by air barrier manufacturer for intended use and compatible with air barrier membrane. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
- B. Primer: Liquid solvent-borne primer recommended for substrate by manufacturer of air barrier material.
- C. Transition Strip: Self-Adhering vapor permeable air barrier membrane for transition and joint treatment, Thickness: 23 Mils minimum, Permeance: 29 Perms to ASTM E96
- D. Counterflashing Strip: Modified bituminous, 40-mil- (1.0-mm-) thick, self-adhering sheet consisting of 32 mils (0.8 mm) of rubberized asphalt laminated to an 8-mil- (0.2-mm-) thick, crosslaminated polyethylene film with release liner backing.
- E. Modified Bituminous Strip: Vapor-retarding, 40-mil- (1.0-mm-) thick, smooth-surfaced, self-adhering; consisting of 36 mils (0.9 mm) of rubberized asphalt laminated to a 4-mil- (0.1-mm-) thick polyethylene film with release liner backing.
- F. Joint Reinforcing Strip: Air barrier manufacturer's glass-fiber-mesh tape.
- G. Substrate Patching Membrane: Manufacturer's standard trowel-grade substrate filler.
- H. Adhesive and Tape: Air barrier manufacturer's standard adhesive and pressure-sensitive adhesive tape.
- I. Sprayed Polyurethane Foam Sealant: 1- or 2-component, foamed-in-place, polyurethane foam sealant, 1.5 to 2.0 lb/cu. ft (24 to 32 kg/cu. m) density; flame spread index of 25 or less according to ASTM E 162; with primer and noncorrosive substrate cleaner recommended by foam sealant manufacturer.
- J. Adhesive-Coated Transition Strip: Vapor-permeable, 17-mil- (0.43-mm-) thick, self-adhering strip consisting of an adhesive coating over a permeable laminate with a permeance of 37 perms (2145 ng/Pa x s x sq. m).

- K. Joint Sealant: ASTM C 920, single-component, neutral-curing silicone; Class 100/50 (low-modulus), Grade NS, Use NT related to exposure, and, as applicable to joint substrates indicated, Use O. Comply with Division 07 Section "Joint Sealants."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance.
 - 1. Verify that substrates are sound and free of oil, grease, dirt, excess mortar, or other contaminants.
 - 2. Verify that concrete has cured and aged for minimum time period recommended by air barrier manufacturer.
 - 3. Verify that concrete is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
 - 4. Verify that masonry joints are flush and completely filled with mortar.
 - 5. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 SURFACE PREPARATION

- A. Clean, prepare, treat, and seal substrate according to manufacturer's written instructions. Provide clean, dust-free, and dry substrate for air barrier application.
- B. Mask off adjoining surfaces not covered by air barrier to prevent spillage and overspray affecting other construction.
- C. Remove grease, oil, bitumen, form-release agents, paints, curing compounds, and other penetrating contaminants or film-forming coatings from concrete.
- D. Remove fins, ridges, mortar, and other projections and fill honeycomb, aggregate pockets, holes, and other voids in concrete with substrate patching membrane.
- E. Remove excess mortar from masonry ties, shelf angles, and other obstructions.
- F. At changes in substrate plane, apply sealant or termination mastic beads at sharp corners and edges to form a smooth transition from one plane to another.
- G. Cover gaps in substrate plane and form a smooth transition from one substrate plane to another with stainless-steel sheet mechanically fastened to structural framing to provide continuous support for air barrier.

3.3 JOINT TREATMENT

- A. Concrete and Masonry: Prepare, treat, rout, and fill joints and cracks in substrate according to ASTM C 1193 and air barrier manufacturer's written instructions. Remove dust and dirt from joints and cracks complying with ASTM D 4258 before coating surfaces.
 - 1. Prime substrate and apply a single thickness of preparation coat strip extending a minimum of 3 inches (75 mm) along each side of joints and cracks. Apply a double thickness of air barrier membrane and embed a joint reinforcing strip in preparation coat.
- B. Gypsum Sheathing: Fill joints greater than 1/4 inch (6 mm) with sealant according to ASTM C 1193 and with air barrier manufacturer's written instructions. Apply first layer of fluid air barrier membrane at joints. Tape joints with joint reinforcing strip after first layer is dry. Apply a second layer of fluid air barrier membrane over joint reinforcing strip.

3.4 TRANSITION STRIP INSTALLATION

- A. Install strips, transition strips, and auxiliary materials according to air barrier manufacturer's written instructions to form a seal with adjacent construction and maintain a continuous air barrier.
 - 1. Coordinate the installation of air barrier with installation of roofing membrane and base flashing to ensure continuity of air barrier with roofing membrane.
 - 2. Install modified bituminous strip on roofing membrane or base flashing so that a minimum of 3 inches (75 mm) of coverage is achieved over both substrates.
- B. Apply primer to substrates at required rate and allow to dry. Limit priming to areas that will be covered by air barrier sheet in same day. Reprime areas exposed for more than 24 hours.
 - 1. Prime glass-fiber-surfaced gypsum sheathing with number of prime coats needed to achieve required bond, with adequate drying time between coats.
- C. Connect and seal exterior wall air barrier membrane continuously to roofing membrane air barrier, concrete below-grade structures, floor-to floor construction, exterior glazing and window systems, glazed curtain-wall systems, storefront systems, exterior louvers, exterior door framing, and other construction used in exterior wall openings, using accessory materials.
- D. At end of each working day, seal top edge of strips and transition strips to substrate with termination mastic.
- E. Apply joint sealants forming part of air barrier assembly within manufacturer's recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- F. Wall Openings: Prime concealed perimeter frame surfaces of windows, curtain walls, storefronts, and doors. Apply adhesive-coated transition strip so that a minimum of 3 inches (75 mm) of coverage is achieved over both substrates. Maintain 3 inches (75 mm) of full contact over firm bearing to perimeter frames with not less than 1 inch (25 mm) of full contact.
 - 1. Adhesive-Coated Transition Strip: Roll firmly to enhance adhesion.
- G. Fill gaps in perimeter frame surfaces of windows, curtain walls, storefronts, and doors, and miscellaneous penetrations of air barrier membrane with foam sealant.
- H. Seal strips and transition strips around masonry reinforcing or ties and penetrations with termination mastic.
- I. Seal top of through-wall flashings to air barrier with an additional 6-inch- (150-mm-) wide, modified bituminous strip.
- J. Seal exposed edges of strips at seams, cuts, penetrations, and terminations not concealed by metal counterflashings or ending in reglets with termination mastic.
- K. Repair punctures, voids, and deficient lapped seams in strips and transition strips. Slit and flatten fishmouths and blisters. Patch with transition strips extending 6 inches (150 mm) beyond repaired areas in strip direction.

3.5 AIR BARRIER MEMBRANE INSTALLATION

- A. Apply air barrier membrane to form a seal with strips and transition strips and to achieve a continuous air barrier according to air barrier manufacturer's written instructions.

- B. Apply air barrier membrane within manufacturer's recommended application temperature ranges.
- C. Apply primer to substrates at required rate and allow to dry. Limit priming to areas that will be covered by air barrier sheet in same day. Reprime areas exposed for more than 24 hours.
 - 1. Prime glass-fiber-surfaced gypsum sheathing with number of prime coats needed to achieve required bond, with adequate drying time between coats.
- D. Apply a continuous unbroken air barrier to substrates according to the following minimum thickness. Apply membrane in full contact around protrusions such as masonry ties.
 - 1. Vapor-Permeable Membrane Air Barrier: 0.12" to 0.20" wet film thickness.
- E. Apply strip and transition strip over cured air membrane overlapping 3 inches (75 mm) onto each surface according to air barrier manufacturer's written instructions.
- F. Correct deficiencies in or remove air barrier that does not comply with requirements; repair substrates and reapply air barrier components.

3.6 FIELD QUALITY CONTROL

- A. Inspections: Air barrier materials and installation are subject to inspection for compliance with requirements. Inspections may include the following:
 - 1. Continuity of air barrier system has been achieved throughout the building envelope with no gaps or holes.
 - 2. Continuous structural support of air barrier system has been provided.
 - 3. Masonry and concrete surfaces are smooth, clean and free of cavities, protrusions, and mortar droppings.
 - 4. Site conditions for application temperature and dryness of substrates have been maintained.
 - 5. Maximum exposure time of materials to UV deterioration has not been exceeded.
 - 6. Surfaces have been primed, if applicable.
 - 7. Laps in strips and transition strips have complied with minimum requirements and have been shingled in the correct direction (or mastic has been applied on exposed edges), with no fishmouths.
 - 8. Termination mastic has been applied on cut edges.
 - 9. Strips and transition strips have been firmly adhered to substrate.
 - 10. Compatible materials have been used.
 - 11. Transitions at changes in direction and structural support at gaps have been provided.
 - 12. Connections between assemblies (membrane and sealants) have complied with requirements for cleanliness, preparation and priming of surfaces, structural support, integrity, and continuity of seal.
 - 13. All penetrations have been sealed.

3.7 CLEANING AND PROTECTION

- A. Protect air barrier system from damage during application and remainder of construction period, according to manufacturer's written instructions.
 - 1. Protect air barrier from exposure to UV light and harmful weather exposure as required by manufacturer.
 - 2. Protect air barrier from contact with creosote, uncured coal-tar products, TPO, EPDM, flexible PVC membranes, and sealants not approved by air barrier manufacturer.
- B. Clean spills, stains, and soiling from construction that would be exposed in the completed work using cleaning agents and procedures recommended by manufacturer of affected construction.

- C. Remove masking materials after installation.

END OF SECTION 07 2726