ADDENDUM NO. *2*

TO: PLANS AND SPECIFICATIONS FOR STATE OF MISSOURI

Waverly Regional Youth Center
109 West Kelling Avenue,
Waverly, MO 64096
PROJECT NO. H2401-01

Bid Opening Date: 1:30 PM, April 10, 2025 (*Not Changed*)

Bidders are hereby informed of the following:

SPECIFICATION CHANGES*:*

Section 133413.16 – Solariums (Bid Alternate #1)

Added, Wisconsin Solar Design, to Part 2 – Products 2.1 Manufacturers A. list, as selection #4.

DRAWING CHANGES:

(Not Changed)

BIDDER QUESTIONS AND RESPONSES:

(Not Changed)

GENERAL:

1. Please contact Paul Girouard, Contract Specialist, at 573-751-4797 or paul.girouard@oa.mo.gov for questions about bidding procedures, MBE\WBE\SDVE Goals, and other submittal requirements.

2. The deadline for technical questions is April 3, 2025, at Noon.

3. Changes to, or clarification of, the bid documents are only made as issued in the addenda.

4. All correspondence with respect to this project must include the State of Missouri project number as indicated above.

5. Current Plan Holders list available online at: *Bid Listing/ Electronic Plans (Projects Currently Bidding) | Office of Administration (mo.gov)* H2401-01 Waverly Regional Youth Center-Replace Windows.

6. Prospective Bidders contact American Document Solutions, 1400 Forum Blvd Suite 7A, Columbia MO 65203, 573-446-7768 to order official plans and specifications.

7. All bids shall be submitted on the bid form without additional terms and conditions, modifications, or stipulations. Each space on the bid form shall be properly filled including a bid amount for the alternates. Failure to do so will result in rejection of the bid.

8. MBE/WBE/SDVE participation requirements can be found in DIVISION 00. The MBE/WBE/SDVE participation goals are 10%/10%/3%, respectively. Only certified firms as of the bid opening date can be used to satisfy the MBE/WBE/SDVE participation goals for this project. If a bidder is unable to meet a participation goal, a Good Faith Effort Determination Form must be completed. Failure to complete this process will result in rejection of the bid.

ATTACHMENTS:

1. Specification Section 133413.16

By the Order of:

Fred L. Decker Jr., Project Manager
Division of Facilities Management,
Design and Construction
April 7, 2025

END ADDENDUM NO. 2

SECTION 133413.16 – SOLARIUMS (BID ALTERNATE #1) Addendum #2

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Furnish and install a pre-fabricated, pre-engineered ALL ALUMINUM and glass solarium structure.

B. Accessories and equipment

C. Glazing and gaskets

D. Sealants, caulking, joint fillers

E. Flashings

F. Related Sections:

1. Section 088723, Safety and Security Films

1.2 REFERENCES

A. Conform to the following codes, specifications and standards (where applicable):

1. American Architectural Manufacturers Association (AAMA)
2. Flat Glass Marketing Association (FGMA)
3. American National Standards Institute (ANSI)
4. National Greenhouse Manufactures Association (NGMA)
5. Insulating Glass Certification Council (IGCC)
6. International Conference of Building Officials (ICBO)
7. Building Officials & Code Administrators (BOCA)
8. Southern Building Code Congress International (SBCCI)
9. National Fenestration Rating Council (NFRC)
10. Safety Glazing Certification Council (SGCC)
11. National Sunroom Association (NSA

1.3 WORK NOT INCLUDED

A. Coverings to protect structure from the surrounding trades after structure is complete.

B. Site preparation.

1.4 PERFORMANCE AND DESIGN REQUIREMENTS

A. Maximum Allowable Deflection – All load bearing members under any design load combination (including dead load) shall not exceed L/180 of its clear span.

B. Structural Performance Requirements include providing a certified engineering report and calculations on the system performed by a professional engineer that is licensed with the appropriate state. All reports and calculations shall be stamped accordingly.

C. Live/snow loads – Withstands vertical roof loads based on ICBO/BOCA/SBCCI guidelines. Structure must meet the design load requirements in accordance to the prevailing Commercial Building Codes in effect for the local area. In most, if not all areas these codes will supersede the traditional greenhouse building codes, which are not acceptable.

D. Air Infiltration – Supply certified testing reports adhering to the requirements set forth by ASTM-E283-4, 6.24 PSF and 300 Pa.

E. Static water resistance – Supply certified testing reports adhering to the requirements set forth by ASTM-E331, 20 PSF and 950 Pa.

F. Dynamic water resistance – Complies with testing per AAMA-501.1

G. Wind loading – Withstands wind loads based on ANSI-A58.1/ASCE-7 guidelines and 90 mph wind, exposure C per Uniform Building Code or local requirements, whichever is greater.

H. Provide a pre-engineered weepage system that collects condensation and directs it to the exterior of the greenhouse.

I. Aluminum framing system shall be thermally broken which will significantly reduce the transfer of heat and cold through the frame and reduce condensation on and within the framing members.

J. Glazing performance requirements - See Glazing selections within this section.

1.5 ACTION SUBMITTALS

A. Submittal Procedures per Section 01 33 23 - Shop Drawings, Product Data, And Samples.

B. Submit shop drawings per Section 013000 to the Architect for review and approval prior to fabrication. Shop drawings to address the following items;

1. Product anchorage of framing members
2. Framing connection and details
3. Glazing methods and sealing procedures
4. Flashings
5. Special adaptations of systems to specific project requirements

C. Manufacturer’s product data sheets specifying products, features, details, and usage.

D. Submit product samples as follows;

1. Provide 12” x 12” glazing samples
2. Structural framing members
3. Aluminum samples representing manufacturer’s standard aluminum finish colors.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to jobsite freight prepaid.

B. Retain and leave intact all manufacturers’ packaging.

C. Take extra precautions when unloading and storing materials to protect all prefinished surfaces and all glazing materials.

D. Store off ground in a secure location that is a dry covered area and protected from weather conditions.

E. Inspect and report any freight damages immediately to the manufacturer.

1.7 WARRANTY

A. Provide complete manufacturer's limited warranty agreement on the following materials.

1. Structural aluminum frame – 10 year limited warranty against manufactured defects and lifetime warranty on aluminum members against rust.

2. Frames finish:
    a. PPG Acrylic Duracron (meets AAMA 2603)– Limited 5 years against fading, peeling and chalking
    b. Class I Anodized finish (meets AAMA 611) – Limited 10 year against corrosion and finish deterioration
    c. 2 coat Fluoropolymer finish (meets AAMA 2605) – Limited 10 year warranty against peeling, fading and chalking
    d. 3 Coat Fluoropolymer finish (meets AAMA 2605) – Limited 15 year warranty against peeling, fading and chalking

B. Installation – Limited one year warranty against defective workmanship.

C. Glazing – 10 year warranty against seal failure

1.8 SCHEDULING AND COORDINATION

A. No concrete or other related construction (in the area) work shall commence until the shop drawings have been approved by the architect and general contractor.

B. Field dimensions will be obtained by general contractor or architect and forwarded to the structure manufacturer. General contractor will be responsible for ensuring all job site dimensions will be built to the approved glazed structure shop drawings.

C. Coordinate all work through the general contractor.

1.9 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company shall have at least 10 years of experience in the manufacturing and erection of glazed at similar size and scope as this project. Manufacturer will be responsible for the installation of the structure.

B. Installer Qualifications: Installer shall have at least 5 years experience in the erecting of glazed structures at similar size and scope as this project. The installer will work directly for the manufacturer, providing the owner a single source provider.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Acceptable 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:

1. Crystal Structures/Sunshine rooms (basis-of-design)
2. Solar Innovations Architectural Glazing Systems.
3. Global Solariums
4. Wisconsin Solar Design

2.2 MATERIALS

A. Structural Framing System

1. Structural Aluminum Members: Shall be extruded aluminum from 6061-T6 or 6005-T5 alloy, non-structural members shall be 6063-T5.
2. All interior horizontal aluminum members shall utilize poured and de-bridged thermal barrier technology using polyurethane as the thermal barrier.
3. Exterior horizontal mullion assemblies shall not extend higher than 1/8" above the glazing.
4. Exterior "snap-on" bar cap covers shall cover the entire surface of the bar cap without seams, fasteners or joints. Exposed exterior fasteners are unacceptable.
5. Frame system shall incorporate a pre-engineered weepage system that is capable of collecting moisture and forcing it to the exterior of the greenhouse.
6. Primary vertical aluminum members shall have a built-in "accessory track" capable of accepting machine screws without drilling holes into the aluminum for the hanging and relocating of accessories.
7. Primary vertical aluminum members shall incorporate built-in shade tracks that will allow the installation of a shade system without drilling holes into the aluminum and adding mounting hardware.
8. Internal structural stiffeners: In an effort to meet higher design loads, internal stiffeners will be allowed, provided they have been pre-engineered and installed within the interior of the main rafters. Internal stiffeners shall be aluminum and the alloy shall be 6061-T6. "BOLT-ON" BEAMS OR OTHER MECHANICAL ENHANCEMENTS WILL NOT BE ALLOWED.
9. Pan flashings to be a minimum of 0.04" thick and shall be in the same finish as the frame. Exterior flashings in excess of 6" wide will be increased to a minimum thickness of 0.063" and in the same finish as the frame.

B. Gaskets, Glazing Tape and Setting Blocks

1. Gaskets shall be EPDM or Santoprene with a 60-70 durometer and compatible with all materials it comes in contact with.
2. Gaskets shall comply with the ASTM-C-864 standards.
3. Gaskets to be multi-finned style designed to significantly reduce water penetration.
4. Glazing tape shall be closed cell, PVC foam with double-sided acrylic adhesive.
5. Glass setting blocks shall be made of flexible PVC and be compatible with insulated glass.

C. Fasteners

1. All connections shall be made with 18-8 stainless steel fasteners.

2. Anchor bolts shall be 18-8 stainless steel and shall be identified in detail in the job specific shop drawings and engineering reports. Anchor bolts shall not penetrate the sub-sill flashing provided by the manufacturer.

3. Exposed fasteners should be avoided wherever possible; if necessary they shall be painted to match the system's frame.

D. Silicone Sealant

1. Areas within the glazing area.
    a. Silicone sealant shall meet or exceed federal specifications TTS-001543A.
    b. Color shall be black to match the other glazing rubber at all metal to glazing joints.
    c. Color shall match the frame color (within reason) on joints that are metal to metal.

2. Joints that connect to adjacent building(s).
    a. Use an adhesive silicone, GE SilPruf or equal.
    b. Color to be black.

E. Glazing

1. Insulated glass with the following configuration.
    a. Outboard light - 1/4" fully tempered clear glass
    b. Air space – Stainless steel spacer with dual seals of polyisobutylene/silicone and argon gas
    c. Inboard light – Vertical – 1/4" fully tempered clear glass
    d. Roof Area – ¼" HS clear laminated with .030 PVC film
    e. Exterior glass ply/coating: Vitro Solarban 60, Guardian SN68, AGC Energy Select 40 or similar; Low-E on Surface #22
    f. Security Film – refer to Section 088723 - Safety and Security Films
    g. Performance criteria shall be:
        1) U-factor = .24
        2) Daylight transmission = 66%
        3) Relative heat gain = 66
        4) Solar heat gain coefficient = .27
        5) Light to solar gain (LSG) = 2.4

2.3 FRAME FINISH

A. Finish and Color: To be selected by Architect from action submittals.

2.4 FABRICATION

A. All fabrication shall be done according to the final set of approved shop drawings. Approved shop drawings shall supersede all previous blueprints or documents.

B. All major fabrication shall be performed at the manufacturing location.

C. Manufacturer must be notified prior to any field fabrication or modifications.

D. All welding will comply with the recommendations set forth by the American Welding Society.

E. Perform all work in such a manner that it will meet or exceed industry standards.

F. Dissimilar metals will be separated with suitable materials as required to prevent galvanic action between the metals.

2.5 PRIMARY ACCESSORIES

A. Awning windows- Quantity, size and location as depicted on the architectural drawings. Awning windows shall have thermally broken frames with glazing and frame finish to match surrounding structure. Includes insect screens and push bar manual operation.

PART 3 – EXECUTION

3.1 SITE PREPARATION, UNLOADING, LIFTING AND INSPECTION

A. Glazed Structure contractor shall direct, supervise, and inspect all site work related to the structure. Site preparation must be in accordance with the final shop drawings provided by manufacturer and approved by the architect. Related site work must be level, square, and plumb. All dimensions must be according to the final shop drawings.

B. Structure contractor shall examine surrounding structure and the conditions under which the work is to be performed, and notify the general contractor and architect in writing of any conditions detrimental to the proper and timely completion of the job. Installation shall not proceed until any and all unsatisfactory conditions have been corrected in an acceptable manner to the structure contractor.

C. Structure contractor to supply all labor necessary to unload all of its materials from delivery trucks.

D. General contractor, under supervision of the glazed structure contractor will lift the structure components to desired working / installation heights on projects in which the structure is located above ground level. General contractor to accept all associated lifting costs.

E. Structure contractor shall deliver all related operating instructions, maintenance manuals and warranty registration cards to the general contractor prior to the completion of the project.

3.2 INSTALLATION

A. Shall be in accordance with manufacturer’s installation instructions and performed by an installer with at least 5 years of related experience.

B. All work performed will be at or above industry standards.

C. All workmen will follow all safety rules or conditions as set forth by the general contractor

3.3 CLEANING

A. Structure contractor shall keep area neat, clean, and safe at all times.

B. Remove excess sealant compounds from aluminum and glass surfaces promptly after completion.

C. Structure contractor to place all trash and debris into trash receptacle provided by the general contractor.

D. Structure contractor shall clean the entire greenhouse one time, at the time of installation. All subsequent cleaning will be the responsibility of the general contractor.

END OF SECTION 133413.16