**ADDENDUM NO. 2**

**TO: PLANS AND SPECIFICATIONS FOR STATE OF MISSOURI**

**Scruggs Stations Warehouse**
**Complex Porite Roof Electrical & HVAC Repairs**
**Fairgrounds Warehouse**
**Jefferson City, MO**
**PROJECT No.: O2534-01**

**Bid Opening Date is: 1:30 PM, TUESDAY, NOVEMBER 10, 2026 (Changed)**

**Bidders are hereby informed that the Construction Plans and/or Specifications are modified as follows:**

**SPECIFICATION CHANGES:**

1. Section 237416.11 - Packaged, Small-Capacity, Rooftop Air-Conditioning Units

    a. ADD: manufacturers section under Part 2 – Products
    b. REVISE: 2.5(A)1 to remove variable speed requirement and indicate multi-speed.
    c. REVISE: 2.5(B): to remove variable speed requirement.

2. 015000 Construction Facilities and Temporary Controls
    a. ADD: Paragraph 1.2(D)1 and 1.2(D)2
    b. ADD: Paragraph 2.2(G)
    c. ADD: Paragraph 3.2 Temporary Utility Installation

3. Section 071400 – Fluid Applied Membrane Waterproofing
    a. ADD to Part 2 – 2.1 as follows:
        i. "4. GACO, an Amrise Company (gaco.com)"
    b. REPLACE section in its entirety.

4. Section 000110 – Table of Contents

    a. REVISE section 075600 Fluid Applied Roofing as follows:
        A. Page count "11"

**DRAWING CHANGES:**

1. Drawing MED200 – DEMO MECHANICAL & ELECTRICAL PLAN - SECOND FLOOR

    a. ADD: Existing location of mezzanine electrical panel.

2. Drawing ME100 – MECHANICAL & ELECTRICAL PLAN - FIRST FLOOR
    a. REVISE: General note #5.
    b. ADD: General note #6

3. Drawing ME200 – MECHANICAL & ELECTRICAL PLAN - SECOND FLOOR
    a. REVISE: General note #5.

b. ADD: General note #6
c. ADD: Existing location of mezzanine electrical panel.

4. Drawing ME300 – MECHANICAL & ELECTRICAL PLAN - ROOF
   a. REVISE: General note #5.
   b. ADD: General note #6
   c. REVISE: Key notes 5, 10, 11, 12

5. Drawing ME600 – MECHANICAL & ELECTRICAL SCHEDULES
   a. REVISE: RTU-105
   b. REVISE: RTU-106
   c. REVISE: RTU-111

**GENERAL COMMENTS:**

1. **The Pre-Bid Meeting was held OCTOBER 22, 2026, at 1:30 PM, followed by a walk-through of the site. The Pre-Bid Meeting sign-in sheet is attached.**
2. **Bidders needing additional site inspection should contact Keith Arnel at 573.508.9867 to schedule a time if access to the facility is required.**
3. **Please contact April Howser, Contract Specialist, at 573.690.9874 or April.Howser@oa.mo.gov, for questions about bidding procedures, MBE/WBE/SDVE/HDVE goals, and submittal requirements.**
4. **The deadline for technical questions was Thursday, October 29, 2026, at noon.**
5. **Changes to, or clarification of, the bid documents are only made as issued in the addenda.**
6. **All correspondence with respect to this project must include the State of Missouri project number as indicated above.**
7. **Current Planholders list available online at: https://www.oafmdcplanroom.com/projects/3442/details/o2534-01-scruggs-station-warehouse-complex-porite-roof-elect-hvac-rep-fairgrounds-warehouse**
8. **Prospective Bidders contact American Document Solutions, 1400 Forum Blvd Suite 1C, Columbia MO 65201, 573-446-7768 to order official plans and specifications.**
9. **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 alternate. Failure to do so will result in rejection of the bid.**
10. **MBE/WBE/SDVE/HDVE participation requirements can be found in DIVISION 00. The MBE/WBE/SDVE/HDVE participation goals are 0%/0%/3%/3%, respectively. Only certified firms as of the bid opening date can be used to satisfy the MBE/WBE/SDVE/HDVE 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.**
11. **The Contractor shall pay not less than the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed, as determined by the Missouri Department of Labor and Industrial Relations. Bidders are to adhere to Prevailing Wage Hourly Rate of Wages, and the Department of Labor and Industrial Relations can be contacted to determine the applicable wage rate for the work on this project.**

**ATTACHMENTS:**

1. Section 237416.11 - Packaged, Small-Capacity, Rooftop Air-Conditioning Units - 6 pages
2. Section 015000 - Construction Facilities and Temporary Controls – 5 pages
3. MED-200 - Demo Mechanical & Electrical Plan - Second Floor
4. ME – 100 - Mechanical & Electrical Plan - First Floor
5. ME – 200 - Mechanical & Electrical Plan - Second Floor
6. ME – 300 - Mechanical & Electrical Plan – Roof

7. ME – 600 - Mechanical & Electrical Schedules
8. Section 071400 Fluid Applied Membrane Waterproofing – 11 Pages
9. Scruggs Station Warehouse Project No. O02534-01 Substitution AAN 10-30-26
10. Scruggs Station Warehouse Project No. O02534-01 Substitution 2 AAN 10-30-26

**October 30, 2026 *issued date**

**END ADDENDUM NO. 2**

Addendum 2

# SECTION 015000 – CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract including General and Supplementary Conditions, Bid Form, and other Division 1 Specification Sections apply to this Section.

### 1.2 SUMMARY

A. This Section includes requirements for construction facilities and temporary controls including temporary utilities, support facilities, security, and protection.

B. Support facilities include, but are not limited to, the following:

1. Temporary enclosures
2. Temporary project identification signs and bulletin boards
3. Waste disposal services
4. Construction aids and miscellaneous services and facilities

C. Security and protection facilities include, but are not limited to, to following:

1. Temporary fire protection
2. Barricades, warning signs, and lights
3. Sidewalk bridge or enclosure fence for the site
4. Environmental protection

D. Temporary utilities include, but are not limited to, the following:

1. Temporary heat
2. Ventilation

### 1.3 QUALITY ASSURANCE

A. Regulations: Comply with industry standards and applicable laws and regulations including, but not limited to, the following:

1. Building code requirements
2. Health and safety regulations
3. Utility company regulations
4. Police, fire department, and rescue squad rules
5. Environmental protection regulations

B. Standards: Comply with NFPA 241 “Standard for Safeguarding Construction, Alterations, and Demolition Operations”. ANSI A10 Series standards for “Safety Requirements for Construction and Demolition”, and NECA Electrical Design Library “Temporary Electrical Facilities”.

1. Electrical Service: Comply with NEMA, NECA, and UL standards and regulations for temporary electric service. Install service in compliance with NFPA 70 “National Electric Code”.

C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

A. General: Provide new materials. If acceptable to the Designer, the Contractor may use undamaged, previously used materials in serviceable condition. Provide materials suitable for use intended.

B. Lumber and Plywood: Comply with requirements in Division 6 Section "Rough Carpentry".

1. For job-built temporary office, shops, and sheds within the construction area, provide UL-labeled, fire-treated lumber and plywood for framing, sheathing, and siding.

2. For signs and directory boards, provide exterior-type, Grade B-B high-density concrete form overlay plywood of sized and thicknesses indicated.

3. For fences and vision barriers, provide minimum 3/9" (9.5mm) thick exterior plywood.

4. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8" (16mm) thick exterior plywood.

C. Open-Mesh Fencing: Provide 0.120" (3mm) thick, galvanized 2" (50mm) chainlink fabric fencing 6' (2m) high with galvanized steel pipe posts, 1½" (38mm) ID for line posts and 2½" (64mm) ID for corner posts.

### 2.2 EQUIPMENT

A. General: Provide new equipment. If acceptable to the Designer, the Contractor may use undamaged, previously used equipment in serviceable condition. Provide equipment suitable for use intended.

B. Water Hoses: Provide ¾" (19mm), heavy-duty, abrasion-resistant, flexible rubber hoses 100' (30m) long, with pressure rating greater than the maximum pressure of the water distribution system. Provide adjustable shutoff nozzles at hose discharge.

C. Electrical Outlets: Provide properly configured, NEMA-polarized outlets to prevent insertion of 110 to 120V plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button, and pilot light for connection of power tools and equipment.

D. Electrical Power Cords: Provide grounded extension cords. Use hard-service cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage rating.

E. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered-glass enclosures where exposed to breakage. Provide exterior fixture where exposed to moisture.

F. Fire Extinguishers: Provide hand-carried, portable, UL-rated, Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide hand-carried, portable, UL-rated, Class ABC, dry-chemical extinguishers, or a combination of extinguishers of NFPA-recommended classes for the exposures.

1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

G. Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM, or another recognized trade association related to the type of fuel being consumed.

## PART 3 - EXECUTION

### 3.1 SUPPORT FACILITIES INSTALLATION

A. General: Locate field offices, storage sheds, and other temporary construction and support facilities for easy access.

1. Maintain support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.

B. Field Offices: Provide insulated, weathertight temporary offices of sufficient size to accommodate required office personnel at the Project site. Keep the office clean and orderly for use for small progress meetings. Furnish and equip office as follows:

1. Furnish with a desk and chairs, a 4-drawer file cabinet, plan table, plan rack, and a 6-shelf bookcase.

2. Equip with a water cooler and private toilet complete with water closet, lavatory, and medicine cabinet unit with a mirror.

C. Storage Facilities: Limited areas for storage of building materials are available onsite. Available storage areas are shown on the drawings. The Contractor shall provide his own security. Specific locations for storage and craning operations will be discussed at the Pre-Bid Meeting and the Pre-Construction Meeting.

D. Construction Parking: Parking at the site will be provided in the areas designated at the Pre-Construction Meeting.

E. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities.

1. Where heat is needed and the permanent building enclosure is not complete, provide temporary enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and materials drying or curing requirements to avoid dangerous conditions and effects.

2. Install tarpaulins securely with incombustible wood framing and other materials. Close openings of 25SqFt (2.3SqM) or less with plywood or similar materials.

3. Close openings through floor or roof decks and horizontal surfaces with load-bearing, wood-framed construction.

4. Where temporary wood or plywood enclosure exceeds 100SqFt (9.2SqM) in area, use UL-labeled, fire-retardant-treated material for framing and main sheathing.

F. Temporary Lifts and Hoists: Provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

G. Project Identification and Temporary Signs: Prepare project identification and other signs of size indicated. Install signs where indicated to inform the public and persons seeking entrance to the Project. Support on posts or framing of preservative-treated wood or steel. Do not permit installation of unauthorized signs.

1. Project Identification Signs: Engage an experienced sign painter to apply graphics. Comply with details indicated.

2. Temporary Signs: Prepare signs to provide directional information to construction personnel and visitors.

H. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than seven (7) days during normal weather or three (3) days when the temperature is expected to rise above 80°F (27°C). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material lawfully.

## 3.2 TEMPORARY UTILITY INSTALLATION

A. General: Engage the appropriate local utility company to install temporary service or connect to existing service. Where company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with company recommendations.
1. Arrange with company and existing users for a time when service can be interrupted, if necessary, to make connections for temporary services.
2. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
3. Obtain easements to bring temporary utilities to the site where the Owner's easements cannot be used for that purpose.
4. Use Charges: Cost or use charges for temporary facilities are not chargeable to the Owner or Designer. Neither the Owner nor Designer will accept cost or use charges as a basis of claims for Change Order.

B. Temporary Heating and Cooling: The normal heating and/or cooling system of the building shall be maintained in operation during the construction. Should the Contractor find it necessary to interrupt the normal HVAC service to spaces, which have not been vacated for construction, such interruptions shall be pre-scheduled with the Construction Representative.

## 3.3 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Except for use of permanent fire protection as soon as available, do not change over from use of temporary security and protection facilities to permanent facilities until Substantial Completion, or longer, as requested by the Designer.

B. Temporary Fire Protection: Until fire-protection needs are supplied by permanent facilities, install and maintain temporary fire-protection facilities of the types needed to protect against reasonable predictable and controllable fire losses. Comply with NFPA

10 “Standard for Portable Fire Extinguishers” and NFPA 241 “Standard for Safeguarding Construction, Alterations, and Demolition Operations”.

1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one (1) extinguisher on each floor at or near each usable stairwell.
2. Store combustible materials in containers in fire-safe locations.
3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for fighting fires. Prohibit smoking in hazardous fire-exposure areas.
4. Provide supervision of welding operations, combustion-type temporary heating units, and similar sources of fire ignition.

C. Permanent Fire Protection: At the earliest feasible date in each area of the Project complete installation of the permanent fire-protection facility including connected services and place into operation and use. Instruct key personnel on use of facilities.

D. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed, provide lighting including flashing red or amber lights.

E. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.

1. Storage: Where materials and equipment must be stored and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.

F. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and minimize the possibility that air, waterways, and subsoil might be contaminated or polluted or that other undesirable effects might result. Avoid use of tools and equipment that produce harmful noise. Restrict use of noisemaking tools and equipment to hours that will minimize complaints from persons or firms near the site.

**END OF SECTION 015000**

**SECTION 071400**
**FLUID-APPLIED MEMBRANE WATERPROOFING (ADDENDUM 2)**

## 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. Provide a cold fluid-applied polyurethane waterproofing system on existing metal roof or other substrates.

1. The contractor will provide all labor, materials, and tools as required to prepare and complete the installation with new materials as specified. All workmanship shall conform to the material manufacturer's recommendations and accepted industry standards.
2. Work includes substrate preparation.
3. Work includes bridging and sealing air leakage and water intrusion pathways and gaps including connections of the walls to the roof air barrier, and penetrations of the building envelope including piping, conduit, ducts, and similar items.
4. The installation to include the repair/sealing of metal panel joints, laps and transitions to include but not limited to curbs, penetrations and terminations including walls. All preparatory work will then be encapsulated with the specified type of "fluid applied rubberized type of roof materials and surface wear coating" to include Type 1 Vapor Retarder criteria to complete the work.

B. Related Work: The following items are not included in this Section and are specified under the designated Sections:

1. Section 024119 – SELECTIVE DEMOLITION
2. Section 076200 – SHEET METAL FLASHING AND TRIM
3. Section 077100 – ROOF SPECIALTIES
4. Section 079200 –JOINT SEALANTS.

### 1.3 PERFORMANCE REQUIREMENTS

A. Cold fluid applied polyurethane waterproofing system is intended to perform as a continuous barrier against liquid water and to flash or discharge to the exterior incidental water. Membrane system shall accommodate movements of building materials as required with accessory sealant materials at locations such as: changes in substrate, perimeter conditions and penetrations. Installed waterproofing membrane system shall not permit the passage of water and will withstand the design pressures calculated in accordance with the most current revision of ASCE 7.

B. Manufacturer shall provide all primary waterproofing materials that are physically and chemically compatible when installed in accordance with manufacturers current application requirements.

## 1.4 SUBMITTALS

A. Submittals: Comply with project requirements for submittals as specified in Division 01.

B. Product Data: For each product.

C. Shop Drawings: Manufacturer's standard details and shop drawings for the specified system.

D. Installer's Authorization: Installer shall provide written documentation from the manufacturer of their authorization to install the system, and eligibility to obtain the warranty specified in this section.

E. Manufacturer' Certification: Certification showing full time quality control of production facilities and that each batch of material is tested to ensure conformance with the manufacturer's published physical properties.

F. Warranty: Certification of manufacturer approved warranty

## 1.5 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Manufacturer shall demonstrate qualifications to supply materials of this section by certifying the following:

1. Membrane Manufacturer shall have been producing fluid-applied waterproofing membranes for over 10 years.
2. Certified Contractors with less than 10 years' experience must have a minimum of one manufacturer training personnel on hand during course of project to monitor Contractor installation.
    a. Manufacturer to provide written statement signed by technical services that the repair configuration at the proposed rates of application meets a Type 1 Vapor Retarder <0.15 Classification.

3. Membrane Manufacturer shall have available an in-house technical staff to assist the contractor, when necessary, in the application of the products and site review of the assembly.

B. Installer's Qualifications: The Contractor shall demonstrate qualifications to perform the Work of this Section by submitting certification or license by the waterproofing membrane manufacturer as a trained and authorized applicator of the product the installer intends to use.

C. Source Limitations: All components listed in this section shall be provided by a single manufacturer or approved by the primary waterproofing manufacturer.

D. Materials Compatibility: All materials included in the waterproofing assembly, as well as associated materials adhered to/applied beneath the waterproofing membrane shall have been tested and verified to be compatible.

E. Final Inspection: Manufacturer's representative shall provide to the Architect a comprehensive site visit report after the completion of the waterproofing system.

F. Waterproofing Terminology: Refer to ASTM D1079 and the glossary of the National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual for definitions of waterproofing terms related to this section.

## 1.6 PRE-INSTALLATION CONFERENCE

A. Prior to scheduled commencement of the waterproofing installation and associated work, conduct a meeting at the project site with the installer, architect/consultant, owner, manufacturer's representative, and any other persons directly involved with the performance of the Work. The main purpose of this meeting is to review foreseeable methods and procedures related to the Work.

## 1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver all waterproofing materials to the site in original containers, with factory seals intact.

B. Store all pail goods in their original undamaged containers in a clean, dry location within their specified temperature storage range.

C. Do not expose materials to moisture in any form before, during, or after delivery to the site. Reject delivery of materials that show evidence of contact with moisture.

D. Remove manufacturer supplied plastic covers from materials provided with such. Use "breathable" type covers such as canvas tarpaulins to allow venting and protection from weather and moisture. Cover and protect materials at the end of each workday. Do not remove any protective tarpaulins until immediately before the material will be installed.

E. Materials shall be stored above 55°F (12.6°C) a minimum of 24 hours prior to application.

## 1.8 PROJECT CONDITIONS

A. Weather: Proceed with waterproofing only when existing and forecasted weather conditions permit. Membrane application can proceed when precipitation is imminent. Visual marks in the form of pock marks may occur if uncured membrane is exposed to heavy rainfall but is not considered a limiting factor in the performance of the waterproofing membrane. Ambient/substrate temperatures shall be above 41°F (5°C) when applying the waterproofing system.

B. All surfaces to receive the waterproofing membrane shall be free from visible water, dew, frost, snow, and ice and be 5º F above the dew point. Application of waterproofing membrane shall be conducted in well-ventilated areas.

C. Waterproofing Membrane:

1. Waterproofing membrane is not intended to be exposed or in contact with a constant temperature below -22°F (-30°C) or in excess of 176°F (80°C). See technical data sheets for limitations, i.e., hot pipes and vents or direct steam venting.
2. Specified waterproofing membrane is non-flammable and VOC compliant. Consult container, packaging labels and Material Safety Data Sheets (MSDS) for specific safety information.

3. Specified waterproofing membrane is resistant to gasoline, paraffin, fuel oil, mineral spirits, and moderate solutions of acids and alkalis, acid rain and detergents. Some low molecular weight alcohols can soften. Any exposure to foreign materials or chemical discharges shall be presented to membrane manufacturer for evaluation to determine any impact on the waterproof membrane assembly performance prior to warranty issuance.

D. Contractor shall ensure adequate protection during installation of the waterproofing system.

E. Specified waterproofing membrane may be used as a temporary waterproofing barrier when applied at a wet film thickness of 15-20 mils to a properly prepared deck. When the specified waterproofing membrane is used as a temporary waterproofing barrier the waterproofing membrane does not need to be removed prior to installation of the finished waterproofing system. An approved Primer will need to be applied to the approved deck prior to applying the temporary roofing/waterproofing barrier. Primer will be applied in between the existing temporary roofing/waterproofing barrier and finished roofing/waterproofing system after existing temporary barrier is clean, dry, and sound.

## 1.9 WARRANTY

A. Warranty: Provide manufacturer's standard warranty. Materials warranty shall be for a minimum of one year starting at the date of Substantial Completion. System warranty shall be for the following duration in accordance with specified system.

1. Warranty Length: 20 years.

# PART 2 - PRODUCTS

## 2.1 MANUFACTURER

A. Basis-of-Design Manufacturer: Sika Corporation – Sikalastic -646 LoVOC Roof Coat,(usa.sika.com)

B. Approved Manufacturers:

1. American Weatherstar –(americanweatherstar.com)
2. Tremco – (tremcoroofing.com)
3. Johns Manville – (jm.com/en/commercial-roofing)
4. GACO, an Amrise Company (gaco.com)

## 2.2 WATERPROOFING SYSTEM

A. Metal Roof Application: locally reinforced Fluid-Applied Membrane System, 20 Year Warranty: Basis of Design: Sikalastic -646 LoVOC Roof Coat over existing metal roofing panels:

1. Base Layer: Sikalastic -646 LoVOC, 20 mils wet film thickness; 1.25 gal/100 SF coverage rate approx.
2. Top Layer: Sikalastic -646 LoVOC, 20 mils wet film thickness; 1.25 gal/100 SF coverage rate approx.

B. Reinforced System application: Reinforced Fluid-Applied Membrane System, 20 Year Warranty: Basis of Design: Sikalastic -646 LoVOC Roof Coat with Reemat fiberglass reinforcement at penetrations, gutters, parapet walls, and terminations per manufacturer requirements.:

1. Base Layer: Sikalastic -646 LoVOC, 45 mils wet film thickness; 35 sf/gal coverage rate approx.
2. Top Layer: Sikalastic -646 LoVOC, 30 mils wet film thickness; 40 sf/gal coverage rate approx.

## 2.3 MEMBRANES AND COATINGS

A. Basis of Design is Base embedment coat shall be Sikalastic -646 LoVOC by Sika Corp, a single component, cold, fluid applied moisture triggered, aliphatic, polyurethane embedment membrane in accordance with ASTM C836.

B. Basis of Design topcoat shall be Sikalastic -646 LoVOC by Sika Corp, a single component, cold, fluid applied, moisture triggered, aliphatic, polyurethane topcoat membrane in accordance with ASTM C836.

C. Basis of Design is embedment coat and topcoat with Reemat reinforcement that shall be Sikalastic -646 LoVOC by Sika Corp, a single component, cold, fluid applied, moisture triggered, aliphatic, polyurethane topcoat membrane at penetrations, gutters, parapet walls, and terminations per manufacturer requirements in accordance with ASTM C836.

D. Liquid Property Requirements at 75 degrees f and 50% R.H.:

1. VOC, ASTM D2369-81: 38 g/l
2. Volume Solids, ASTM D2697: 89% minimum.
3. Weight Solids: ASTM D1644: 92% minimum
4. Sag Resistance, ASTM D4400: No sag at 700 micrometers (0.028 in. / 28 mil)

E. Film Physical Property Requirements:

1. Tensile Strength (Tension): ASTM D412: Minimum 1.86 MPa (270lb/in2)
2. Elongation: ASTM D412 : MIN 200%.
3. Accelerated Weathering FL/UV – 5000 Hours, ASTM G 154, No cracking or checking.
4. Water Vapor Transmission, Permeability / Permeance: ASTM E96: Maximum 8.5 gms/m2/ day (0.033 perm-inches).
5. Flexibility – Mandrel Bend, ASTM D522: Pass, no cracking or flaking.
6. Tear Resistance, ASTM D625: Minimum 5.8 kN/m (33 lbf/in)
7. Indentation Hardness, ASTM D2240: 82 Durometer Units (+/- 5 units)
8. Dynamic Puncture Resistance, ASTM D5635: Minimum 15 joules (357 ft.poundals)
9. Static Puncture Resistance, ASTM D5602: Minimum 20.7 kg. (45.5 lbs.)
10. Solar Reflectance Index: ASTM C1549: 108 (white)

## 2.4 MEMBRANE REINFORCEMENT - FIBERGLASS

A. Basis of Design of Reinforcement for the waterproofing membrane system at penetrations, gutters, parapet walls, and terminations per manufacturer requirements shall be Sika Reemat Premium by Sika Corp, a conformable, random strand fiberglass mat specifically designed to

provide greater impact resistance and greater resistance to excessive thermal and structural movement while maintaining elasticity and membrane film integrity.

B. Basis of Design for Supplemental local reinforcement of the waterproofing membrane system shall be Sika Joint Tape SA by Sika Corp, a nylon mesh specifically designed for local reinforcement of the waterproofing membrane at structural cracks, expansion joints and transitions between dissimilar materials, a self-adhering polymeric rubberized tape with woven polyester facer.

## 2.5 FILLET BEAD AND PENETRATION SEALANT

A. Basis of Design of Sealant for fillet bead applications and membrane penetrations shall be Sikaflex 11FC by Sika Corp., a one-part polyurethane sealant suitable for fillet bead transition compound to be applied prior to the installation of the membrane system at changes in substrate direction, sealing reglet terminations, cracks in the substrate and penetrations of the waterproofing system.

B. Basis of Design for Exposed finish sealant shall be Sikaflex Hyflex 150 LM by Sika Corp., a one-part low modules hybrid sealant OR Sikasil WS-295. A one-part, low-modulus, weather sealing, silicone sealant suitable for finishing terminations at saw cuts and all UV exposed sealant terminations. SikaHyflex-150 LM is also suitable for fillet bead transition, changes in substrate direction, cracks in the substrate and penetrations of the roof before installation of the RoofPro membrane system.

## 2.6 PRIMERS / RUST INHIBITOR

A. General: Basis of Design for Receiving surfaces of primer shall be Sikalastic EP Primer/Sealer or Sikalastic Primer EP Rapid, a two-component, cyclo-aliphatic, amine cured material with a high level of corrosion resistance for metal, modified bitumen surfaces, and chemically treated wood.

B. Rusted Metal: Clean, wire brush all loose rust and apply either aluminum surface wear coating or a rust inhibitor.
   1. Aluminum Surface Wear Coating: Has an inherent rust inhibitor and may be used as a rust inhibitor/primer over metal surfaces.
      a. Apply at a minimum rate of 8 dry mil. (3/4) gal. / 100 sq. ft.

# PART 3 - EXECUTION

## 3.1 EXAMINATION

A. Verify that surfaces and conditions are ready to accept the Work of this section. Notify Architect in writing of any discrepancies. Commencement of the Work in an area shall indicate Installer's acceptance of the substrate.

B. Surfaces shall be sound, dry, clean, and free of oil, grease, dirt, excess mortar or other contaminants. Fill voids, gaps, and spalled areas in substrate to provide an even plane. Strike masonry joints full flush.

## 3.2 SURFACE PREPARATION

A. Verify that the deck is clean and smooth, free of depressions, waves, or projections, and properly sloped to drains, valleys, eaves, scuppers, or gutters. Verify that all openings or penetrations through the intended substrate are secured back to solid blocking. Ensure all preparatory Work is complete prior to applying membrane.

B. Mechanical fasteners used roof decking or penetration flashing and shall be set flush with sheathing and fastened into solid backing.

C. All surfaces shall be blown clean using best methods to remove any remaining loose debris.

D. All cracks and voids greater than 0.040 inches shall be routed and caulked with a polyurethane sealant. Allow to cure per waterproofing membrane manufacturer's technical data sheets prior to over-coating with the specified waterproofing membrane system.

E. At all inside corners, gaps, or voids at the juncture of the deck and penetrations apply a minimum 3/4-inch fillet bead of polyurethane sealant and allow to cure per waterproofing membrane manufacturer's technical data sheets prior to installing the waterproofing membrane system.

F. At all moving cracks, moving joints between dissimilar materials, and similar conditions, create a minimum 1-inch-wide bond break utilizing bond breaker tape, centered over the crack or joint.

G. Membrane terminations shall be established prior to project start-up and documented in shop drawings. Terminations shall occur in raked-out mortar joints, saw cut terminations or under installed counter-flashing materials.

H. Use tape lines to achieve a straight edge detail. Remove tape while application is still wet for clean lines.

## 3.3 SUBSTRATE PREPARATION

A. Existing substrate is Metal Roof Panels over structural steel.

B. Metal Decking:

1. Metal profile decks shall be sound and secured to purlins, bar joists, etc.
2. Tighten and/or replace all existing fasteners.
3. Metal profile repairs shall be completed with like in kind material.

C. Metal Surfaces:

1. Aluminum, galvanized, cast iron, copper, lead, brass, stainless steel, zinc.
2. Surface evaluation and field adhesion is recommended.
3. Exposed drain bowls, pipes, and other metal surfaces shall be cleaned by power tool cleaning (SSPC SP-11) to remove corrosion deposits back to a clean, bright metal followed by a solvent wipe prior to application of the specified primer.

## 3.4 PRIMING

A. Metal:

1. Prior to coating any surface, be sure the coating will adhere by performing an adhesion test (ASTM D-903). Coating may be applied by brush, roller, or airless spray equipment. Do not apply when temperatures are below 41 °F (5 °C) or when precipitation is in the forecast within 24 hours.
2. Mix and apply specified primer for specified surfaces by brush or roller at the application rate shown on the technical data sheet. Porous, rough or absorbent surfaces will decrease coverage rates.
   Allow to cure and dry in accordance with manufacturer's technical data sheets

## 3.5 MEMBRANE REINFORCEMENT

A. Reinforcement of Cracks, Base/Curb Flashing Transitions and Dissimilar Materials:

1. For all locations where the specified coating system is to be applied directly to the substrate surface, provide reinforcement of cracks, joints, seams, and transitions of dissimilar material prior to applying the specified coating system
2. For all moving cracks and joints, create a minimum 1 inch wide bond break centered over the crack or joint by applying bond break tape centered over each crack or joint.
3. For all non-moving cracks and joints, rout and seal with Sikaflex® sealant.
4. For all horizontal-to-vertical 90° transitions, provide a ¾" x ¾" Sikaflex® polyurethane sealant cant.
5. For all roofing lap seams, locally reinforced with 3" wide Sika Flexitape Heavy set in a base coat of Sikalastic®-646 Lo-VOC.
6. Apply Sikalastic®-646 Lo-VOC reinforced with Sika Flexitape Heavy. Back roll reinforcement to fully embed Sika Flexitape Heavy into the wet liquid polyurethane membrane. Add more liquid membrane as needed to fully embed the reinforcement.
7. Always start with details Sikalastic®-646 Lo-VOC reinforced with Sika Reemat Premium. Round projections, machine legs, signposts, guide wire straps, inside and outside, corners, gutters, parapet walls, penetrations and similar areas should be flashed. Repair any damaged metal and caulk and seal watertight all screws, seams, transitions, terminations, penetrations, skylights, joints, pipes, voids, protrusions and any area where water could enter through the roof.
8. On metal roofs with standing seams, apply Sikalastic®-646 Lo-VOC with Sika Flexitape Heavy or Sika Joint Tape SA sealing them completely.
9. Fully reinforce all prepped and primed surfaces with Sika Reemat Premium.
10. Ensure reinforcement is not in tension during embedment.

## 3.6 COLD FLUID APPLIED MEMBRANE APPLICATION

A. Install waterproofing membrane system in accordance with current technical data sheets and in accordance with warranty guideline requirements.

1. Apply Sikalastic®-646 Lo-VOC with reinforcement according to the rates listed in Section 2.2 for the agreed upon system length. Coating may be applied by brush, roller, or airless spray equipment. Do not apply when temperatures are below 41 °F (5 °C) or when precipitation is in the forecast within 24 hours.
2. Allow base coat to cure before applying top coat.
3. If any coat is left exposed for more than 7 days, use Sikalastic Concrete Primer Lo-VOC or Sikalastic® Recoat Primer, and allow to cure before applying the subsequent coat.
4. Protection: After completion of application, do not allow traffic on coated surfaces for a period of at least 48 hours at 75° F and 50% R.H., or until completely cured. In areas where

the roof is subject to foot traffic, it is recommended to apply walkway pads for added protection and slip resistance. Make certain that all walking pads are appropriately and adequately secured.

## 3.7 PARAPET AND WALL FLASHINGS

A. Clean, prepare and prime flashing substrate surfaces ready to receive membrane flashing applications.

B. All parapet, wall, and curb 90° flashings shall be provided with a sealant cant bead of Sikaflex-11 FC and shall be installed with reinforcement for the waterproofing membrane system with Sika Reemat Premium by Sika Corp, a conformable, random strand fiberglass mat specifically designed to provide greater impact resistance and greater resistance to excessive thermal and structural movement while maintaining elasticity and membrane film integrity.

C. Terminate roofing/waterproofing membrane system at raked-out mortar joints, termination saw cut joint, or under installed counter-flashing materials. Then, seal all termination joints with Sikaflex®- 1A or Sikasil® WS-295 Silicone Sealant.

D. Install metal counter flashings in accordance with project details.

## 3.8 DRIP EDGES AND OTHER METAL FLANGED FLASHING

A. Clean, prepare and prime metal flange surfaces ready to receive membrane flashing applications.

B. Metal flanges are typically encapsulated between two or three coating layers. The full specified system is applied beneath the metal flange and a top coat applied over the metal flange embedded in Sika Flexitape Heavy.

## 3.9 GUTTERS

A. Clean, prepare and prime surfaces ready to receive membrane applications. Block gutter opening to avoid waterproofing material from entering the drainage system.

B. Extend the liquid waterproofing material and membrane reinforcement directly into the surfaces of the prepared gutters.

C. Remove drain blocks and allow the waterproofing system to fully cure dry prior to re-connecting the gutter assembly.

## 3.10 PENETRATIONS

A. Clean, prepare and prime surfaces ready to receive membrane flashing applications. Ensure that penetrations are secured to prevent movement.

B. Apply Sikalastic®-646 Lo-VOC reinforced with Sika Flexitape Heavy or Sika Reemat Premium, around all roof penetrations.

## 3.11 EXPANSION JOINTS

A. Clean, prepare and prime surfaces ready to receive membrane flashing applications.

B. Expansion joints shall be sealed with a compressible filler such as batt insulation to prevent condensation and to provide support for the flashing bellows.

## 3.12 APPLICATION OF PENETRATION SEALANT

A. Seal reglet-based membrane terminations, heads of exposed mechanical fasteners, around penetrations, duct work, electrical and other apparatus extending through the roofing/waterproofing membrane with specified penetration sealant, typically Sikaflex-1A.

## 3.13 PROTECTION

A. Protect waterproofing Work from other trades until completion.

B. Stage materials in such a manner that avoids foot traffic over completed waterproofed areas.

C. Provide temporary walkways and platforms to protect completed Work from traffic and point loading during the application process.

D. Provide temporary membrane tie-ins and water-stops at the end of each workday and remove prior to commencement of Work the following day.

## 3.14 AGGREGATE SURFACING

A. Apply aggregate surfacing as specified for adhesion key or for protective layer. DO NOT BROADCAST SAND INTO TOPCOAT.

B. Apply an additional 15 wet mil layer of resin to cured waterproofing membrane as soon as membrane can be walked on without damage.

C. Non-Skid Finish - Broadcast kiln-dried sand to refusal into the wet resin layer and allow to cure. Remove all loose sand/aggregate. Apply an additional 15 wet mil layer of resin to seal kiln-dried sand.

## 3.15 CLEAN-UP

A. Work areas are to be kept clean, clear, and free of debris at all times.

B. Do not allow trash, waste, and/or debris to collect on the work area. Trash, waste, and/or debris shall be removed from the work area on a daily basis.

C. All tools and unused materials shall be collected at the end of each workday and stored properly off of the finished waterproofed surface and protected from exposure to the elements.

D. Dispose of or recycle all trash and excess material in a manner conforming to current EPA regulations and local laws.

E. Properly clean the finished deck surface after completion, and make sure the drains and gutters are not clogged.

F. Clean and restore all damaged surfaces to their original condition.

**END OF SECTION 071400**

Addendum 2

# SECTION 237416.11 - PACKAGED, SMALL-CAPACITY, ROOFTOP AIR-CONDITIONING UNITS

## PART 1 - GENERAL

### 1.1 SUMMARY

A. Section includes packaged, small-capacity, rooftop air-conditioning units (RTUs) with the following components and accessories:

1. Casings.
2. Fans.
3. Motors.
4. Coils.
5. Refrigerant circuit components.
6. Air filtration.
7. Gas Furnace
8. Dampers.
9. Electrical power connections.
10. Controls.
11. Accessories.
12. Roof curbs.

### 1.2 ACTION SUBMITTALS

A. Product Data: For each RTU.

### 1.3 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

### 1.4 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of RTUs that fail in materials or workmanship within specified warranty period.

## PART 2 - PRODUCTS

### 2.1 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. York

B. Trane

C. Daikin

D. Captiveaire

## 2.2 DESCRIPTION

A. AHRI Compliance:

1. Comply with AHRI 210/240 for testing and rating energy efficiencies for RTUs.

B. AMCA Compliance:

1. Comply with AMCA 11 and bear the AMCA-Certified Ratings Seal for air and sound performance according to AMCA 211 and AMCA 311.
2. Damper leakage tested according to AMCA 500-D.
3. Operating Limits: Classify according to AMCA 99.

C. ASHRAE Compliance:

1. Comply with ASHRAE 15 for refrigeration system safety.
2. Comply with ASHRAE 33 for methods of testing cooling and heating coils.

D. NFPA Compliance: Comply with NFPA 90A or NFPA 90B.

E. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

## 2.3 PERFORMANCE REQUIREMENTS

A. Wind-Restraint Performance:

1. Basic Wind Speed: 120 miles per hour.
2. Building Classification Category: III.
3. Minimum 10 lb/sq. ft. multiplied by the maximum area of the mechanical component projected on a vertical plane that is normal to the wind direction, and 45 degrees either side of normal.

## 2.4 CASINGS

A. General Fabrication Requirements for Casings: Formed and reinforced double-wall insulated panels, fabricated to allow removal for access to internal parts and components, with joints between sections sealed.

B. Double-Wall Construction: Fill space between walls with 1-inch foam insulation and seal moisture tight for R-7 performance.

C. Exterior Casing Material: Galvanized steel with factory-painted finish, with pitched roof panels and knockouts with grommet seals for electrical and piping connections and lifting lugs.

D. Casing Insulation and Adhesive: Comply with NFPA 90A or NFPA 90B.

1. Materials: ASTM C 1071, Type I.
2. Thickness: 1 inch.
3. Liner materials shall have airstream surface coated with erosion- and temperature-resistant coating or faced with a plain or coated fibrous mat or fabric.
4. Liner Adhesive: Comply with ASTM C 916, Type I.

E. Condensate Drain Pans: Fabricated using stainless-steel sheet 0.025 inch thick, a minimum of 2 inches deep, and complying with ASHRAE 62.1 for design and construction of drain pans.

1. Drain Connections: Threaded nipple.

F. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1.

## 2.5 FANS

A. Supply-Air Fans: Aluminum or painted-steel wheels, and galvanized- or painted-steel fan scrolls.

1. Multi-speed Supply-Air Fans: Motor shall be resiliently mounted in the fan inlet.

B. Condenser-Coil Fan: Propeller, mounted on shaft of permanently lubricated ECM motors.

C. Exhaust-Air Fan: Direct Drive.

## 2.6 MOTORS

A. Motor Sizes: Minimum size as indicated. If not indicated, large enough so driven load will not require motor to operate in service factor range above 1.0.

B. Efficiency: Premium efficient.

## 2.7 COILS

A. Supply-Air Refrigerant Coil:

1. Aluminum-plate fin and seamless copper tube in steel casing with equalizing-type vertical distributor.
2. Coil Split: Interlaced.
3. Coated.

## REFRIGERANT CIRCUIT COMPONENTS

B. Compressor: Variable-speed scroll, mounted on vibration isolators; with internal overcurrent and high-temperature protection, internal pressure relief, and crankcase heater.

C. Refrigeration Specialties:

1. Refrigerant: R-454B.
2. Expansion valve with replaceable thermostatic element.

3. Refrigerant filter/dryer.
4. Manual-reset high-pressure safety switch.
5. Automatic-reset low-pressure safety switch.
6. Minimum off-time relay.
7. Automatic-reset compressor motor thermal overload.
8. Brass service valves installed in compressor suction and liquid lines.

## 2.8 AIR FILTRATION

A. Minimum arrestance and MERV according to ASHRAE 52.2.

## 2.9 GAS FURNACE

A. Description: Factory assembled, piped, and wired; complying with ANSI Z21.47/CSA 2.3 and NFPA 54.

1. CSA Approval: Designed and certified by and bearing label of CSA.

B. Burners: Stainless steel.

1. Fuel: Natural gas.
2. Ignition: Electronically controlled electric spark or hot-surface igniter with flame sensor.

C. Heat-Exchanger and Drain Pan: Stainless steel.

D. Power Vent: Integral, motorized centrifugal fan interlocked with gas valve.

E. Gas Valve Train: Single-body, regulated, redundant, 24-V ac gas valve assembly containing pilot solenoid valve, pilot filter, pressure regulator, pilot shutoff, and manual shutoff.

## 2.10 DAMPERS

A. Leakage Rate: Comply with ASHRAE/IES 90.1.

B. Damper Motor: Modulating with adjustable minimum position.

## 2.11 ELECTRICAL POWER CONNECTIONS

A. RTU shall have a single connection of power to unit with unit-mounted disconnect switch accessible from outside unit and control-circuit transformer with built-in overcurrent protection.

## 2.12 ACCESSORIES

A. Duplex, 115-V, ground-fault-interrupter outlet with 15-A overcurrent protection. Include transformer. Outlet shall be energized even if the unit main disconnect is open.

B. Filter differential pressure switch with sensor tubing on either side of filter. Set for final filter pressure loss.

C. Safeties:

1. Smoke detector.
2. Condensate overflow switch.
3. Phase-loss protection.
4. High and low pressure control.
5. Gas furnace airflow-proving switch.

D. Coil guards of painted, galvanized-steel wire.

E. Hail guards of galvanized steel, painted to match casing.

F. Door switches to disable heating or reset set point when open.

G. Outdoor-air intake weather hood with moisture eliminator.

H. Oil separator.

## 2.13 ROOF CURBS

A. 14 inch tall insulated structural roof curbs to provide support for the rooftop air-conditioning unit and provide a weather protected area for terminating and securing the roof membrane, of a design certified by a licensed structural engineer as compliant with ASCE 7.

## 2.14 PAD MOUNTED RTU ON PLENUM CURB:

A. Min. 20” tall structural plenum curb with field cut option or knockout for return air to be ducted through side of curb and return air into bottom of unit. Curb to provide support for the rooftop air-conditioning unit and provide a weather protected area for terminating and securing to the concrete equipment pad. Entirety of plenum curb shall be open for return air path.

# PART 3 - EXECUTION

## 3.1 INSTALLATION

A. Roof Curb: Install on roof structure, level and secure, according to AHRI Guideline B. Install RTUs on curbs and coordinate roof penetrations and flashing with roof construction specified in Section 077200 "Roof Accessories." Secure RTUs to upper curb rail, and secure curb base to roof framing with anchor bolts.

## 3.2 CONNECTIONS

A. Comply with duct installation requirements specified in other HVAC Sections. Drawings indicate general arrangement of ducts. The following are specific connection requirements:

1. Install ducts to termination at top of roof curb.
2. Remove roof decking only as required for passage of ducts. Do not cut out decking under entire roof curb.

3. Connect supply ducts to RTUs with flexible duct connectors specified in Section 233300 "Air Duct Accessories."
4. Install return-air duct continuously through roof structure.

B. Install condensate drain, minimum connection size, with trap and indirect connection to nearest roof drain or area drain.

C. Where installing piping adjacent to RTUs, allow space for service and maintenance.

1. Gas Piping: Comply with applicable requirements in Section 231123 "Facility Natural-Gas Piping." Connect gas piping to burner, full size of gas train inlet, and connect with union and shutoff valve with sufficient clearance for burner removal and service.

D. Connect electrical wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

E. Install nameplate for each electrical connection indicating electrical equipment designation and circuit number feeding connection.

## 3.3 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Tests and Inspections:

1. After installing RTUs and after electrical circuitry has been energized, test units for compliance with requirements.
2. Inspect for and remove shipping bolts, blocks, and tie-down straps.
3. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

C. Prepare test and inspection reports.

## 3.4 CLEANING AND ADJUSTING

A. Occupancy Adjustments: When requested within 12 months from date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.

B. After completing system installation and testing, adjusting, and balancing RTU and air-distribution systems, clean filter housings and install new filters.

## 3.5 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain RTUs.

## END OF SECTION 237416.11

STATE OF MISSOURI
OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION

# PRODUCT SUBSTITUTION REQUEST

PROJECT NUMBER: O2534-01

PROJECT TITLE AND LOCATION

Scruggs Stations Warehouse Complex, Porite Roof Electrical & HVAC Repairs, Fairgrounds Warehouse, 1535 Fairgrounds Rd., Jefferson City, MO 65109

CHECK APPROPRIATE BOX

[X] SUBSTITUTION PRIOR TO BID OPENING
(Minimum of (5) working days prior to receipt of Bids as per Article 4 – Instructions to Bidders)

[ ] SUBSTITUTION FOLLOWING AWARD
(Maximum of (20) working days from Notice to Proceed as per Article 3 – General Conditions)

FROM: BIDDER/CONTRACTOR (PRINT COMPANY NAME)

Washington Roofing & Insulation

TO: ARCHITECT/ENGINEER (PRINT COMPANY NAME)

State of Missouri OA/FMDC / Brad M. Schaefer, Architect (MO #A-2009027294)

Bidder/Contractor hereby requests acceptance of the following product or systems as a substitution in accordance with provisions of Division One of the Bidding Documents:

Sika Sikalastic-646 Lo-VOC aliphatic polyurethane with Reemat Premium reinforcement, 20-year (per Addendum #1)

071400 Fluid-Applied Membrane Waterproofing (per Addendum #1)

SUPPORTING DATA

[X] Product data for proposed substitution is attached (include description of product, standards, performance, and test data)

[ ] Sample [ ] Sample will be sent, if requested

## QUALITY COMPARISON

| | SPECIFIED PRODUCT | SUBSTITUTION REQUEST |
|---|---|---|
| NAME, BRAND | Sikalastic-646 Lo-VOC with Reemat Premium | GacoFlex U91 / U9200 Polyurethane System |
| CATALOG NO. | Sikalastic-646 Lo-VOC / Reemat Premium | Gaco Spec MR-U91U92-36-20 (20-year) |
| MANUFACTURER | Sika Corporation | Gaco, an Amrize Company |
| VENDOR | Sika authorized distributor | Gaco authorized distributor |

## PREVIOUS INSTALLATIONS

| PROJECT | ARCHITECT/ENGINEER | |
|---|---|---|
| LOCATION | | DATE INSTALLED |

**SIGNIFICANT VARIATIONS FROM SPECIFIED PRODUCT**

1. System: GacoFlex U91 aromatic polyurethane base coat plus two coats of GacoFlex U9200 white aliphatic polyurethane, 36 mil DFT in the field, per Gaco MR-U91U92-36-20 (20-year), in lieu of the Sikalastic-646 Lo-VOC base and top layers (2.2).
2. Seams and details: GacoFlex U8782 (U87) polyurea, 100% solids, sprayed into the laps at a minimum of 64 wet mils (64 dry) per the Gaco deviation letter, or Gaco H.E.R. per Gaco's published details, at all seams, laps, fasteners, curbs and penetrations, in lieu of Flexitape Heavy / Joint Tape SA (3.5).
3. Reinforcement: no full-field Reemat and no mesh. Any fabric over trapezoid standing seam panel ribs bridges the flutes and tents.
4. Section 2.3 properties: Tensile 700 psi min: U91 2,600 psi, U8782 2,200 psi, U9200 910 psi (D2370). Elongation 250% min: U91 350%, U9200 627% (D2370); U8782 225%, H.E.R. 400%, details only under the field coats. Volume solids 89% min: U8782 100% at the seams; field coats U91 80%, U9200 77%. SRI: U9200 107. Static puncture: lab data from Gaco Technical Services.
5. Type 1 vapor retarder language (1.2.A.4, 1.5.A.2.a): the existing steel roof panel is the vapor retarder; the basis-of-design 646 Lo-VOC is published by Sika as vapor permeable. To be addressed by RFI.
6. Existing black roof sealant (ACM per hazardous materials survey): encapsulated in place under the system, not removed or abraded, after adhesion testing per 3.4 (ASTM D903).
7. Warranty: Gaco 20-year labor and material warranty, installed by a Gaco-approved applicator with a current Letter of Good Standing.

**REASON FOR SUBSTITUTION**

Addendum #1 replaces Section 071400 with a Sikalastic-646 Lo-VOC polyurethane system with Reemat over the existing metal roof. GacoFlex U91 / U9200 under Gaco MR-U91U92-36-20 is Gaco's purpose-built polyurethane restoration system for aged metal roofs, the same scope, with a 20-year labor and material warranty. The Owner requires a urethane system, and this is one. Instead of full-field mat, which bridges the ribs of trapezoid standing seam panels and tents off the flutes, the heaviest build goes on the seams, laps and fasteners where roofs move and leak: 64 wet mils min. U8782 polyurea or Gaco H.E.R., then the U91 / U9200 field coats. The existing ACM sealant is encapsulated in place without disturbance, after adhesion pull tests.

**DOES PROPOSED SUBSTITUTION AFFECT OTHER PARTS OF WORK?**

☐ YES ☒ NO

IF YES, EXPLAIN

**SUBSTITUTION REQUIRES DIMENSIONAL REVISION OR REDESIGN OF STRUCTURE OR A/E WORK**

☐ YES ☒ NO

**BIDDER'S/CONTRACTOR'S STATEMENT OF CONFORMANCE OF PROPOSED SUBSTITUTION TO CONTRACT REQUIREMENT:**

We have investigated the proposed substitution. We believe that it is equal or superior in all respects to specified product, except as stated above; that it will provide the same Warranty as specified product; that we have included complete implications of the substitution; that we will pay redesign and other costs caused by the substitution which subsequently become apparent; and that we will pay costs to modify other parts of the Work as may be needed, to make all parts of the Work complete and functioning as a result of the substitution.

| BIDDER/CONTRACTOR | DATE |
|---|---|
| Washington Roofing & Insulation | 10/28/2026 |

**REVIEW AND ACTION**

☐ Resubmit Substitution Request with the following additional information:

☐ Substitution is accepted.

☒ Substitution is accepted with the following comments:
Manufacturer to comply with contract specifciations 071400 requirements for system installation

☐ Substitution is not accepted.

| ARCHITECT/ENGINEER | DATE |
|---|---|
| Brad Schaefer | 10/30-2026 |

STATE OF MISSOURI
OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION

# PRODUCT SUBSTITUTION REQUEST

*PROJECT NUMBER*
**O2534-01**

PROJECT TITLE AND LOCATION

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FROM: BIDDER/CONTRACTOR (PRINT COMPANY NAME)

Crow Commercial Contracting

TO: ARCHITECT/ENGINEER (PRINT COMPANY NAME)

State of Missouri OA/FMDC / Brad M. Schaefer, Architect (MO #A-2009027294)

Bidder/Contractor hereby requests acceptance of the following product or systems as a substitution in accordance with provisions of Division One of the Bidding Documents:

Sika Sikalastic-646 Lo-VOC aliphatic polyurethane with Reemat Premium reinforcement, 20-year (per Addendum #1)

071400 Fluid-Applied Membrane Waterproofing (per Addendum #1)

SUPPORTING DATA

☒ Product data for proposed substitution is attached (include description of product, standards, performance, and test data)

☐ Sample ☐ Sample will be sent, if requested

## QUALITY COMPARISON

| | SPECIFIED PRODUCT | SUBSTITUTION REQUEST |
|---|---|---|
| NAME, BRAND | Sikalastic-646 Lo-VOC with Reemat Premium | GacoFlex U91 / U9200 Polyurethane System |
| CATALOG NO. | Sikalastic-646 Lo-VOC / Reemat Premium | Gaco Spec MR-U91U92-36-20 (20-year) |
| MANUFACTURER | Sika Corporation | Gaco, an Amrize Company |
| VENDOR | Sika authorized distributor | Gaco authorized distributor |

## PREVIOUS INSTALLATIONS

| PROJECT | ARCHITECT/ENGINEER | |
|---|---|---|
| LOCATION | | DATE INSTALLED |

**SIGNIFICANT VARIATIONS FROM SPECIFIED PRODUCT**

1. System: GacoFlex U91 aromatic polyurethane base coat plus two coats of GacoFlex U9200 white aliphatic polyurethane, 36 mil DFT in the field, per Gaco MR-U91U92-36-20 (20-year), in lieu of the Sikalastic-646 Lo-VOC base and top layers (2.2).
2. Seams and details: GacoFlex U8782 (U87) polyurea, 100% solids, sprayed into the laps at a minimum of 64 wet mils (64 dry) per the Gaco deviation letter, or Gaco H.E.R. per Gaco's published details, at all seams, laps, fasteners, curbs and penetrations, in lieu of Flexitape Heavy / Joint Tape SA (3.5).
3. Reinforcement: no full-field Reemat and no mesh. Any fabric over trapezoid standing seam panel ribs bridges the flutes and tents.
4. Section 2.3 properties: Tensile 700 psi min: U91 2,600 psi, U8782 2,200 psi, U9200 910 psi (D2370). Elongation 250% min: U91 350%, U9200 627% (D2370); U8782 225%, H.E.R. 400%, details only under the field coats. Volume solids 89% min: U8782 100% at the seams; field coats U91 80%, U9200 77%. SRI: U9200 107. Static puncture: lab data from Gaco Technical Services.
5. Type 1 vapor retarder language (1.2.A.4, 1.5.A.2.a): the existing steel roof panel is the vapor retarder; the basis-of-design 646 Lo-VOC is published by Sika as vapor permeable. To be addressed by RFI.
6. Existing black roof sealant (ACM per hazardous materials survey): encapsulated in place under the system, not removed or abraded, after adhesion testing per 3.4 (ASTM D903).
7. Warranty: Gaco 20-year labor and material warranty, installed by a Gaco-approved applicator with a current Letter of Good Standing.

**REASON FOR SUBSTITUTION**

Addendum #1 replaces Section 071400 with a Sikalastic-646 Lo-VOC polyurethane system with Reemat over the existing metal roof. GacoFlex U91 / U9200 under Gaco MR-U91U92-36-20 is Gaco's purpose-built polyurethane restoration system for aged metal roofs, the same scope, with a 20-year labor and material warranty. The Owner requires a urethane system, and this is one. Instead of full-field mat, which bridges the ribs of trapezoid standing seam panels and tents off the flutes, the heaviest build goes on the seams, laps and fasteners where roofs move and leak: 64 wet mils min. U8782 polyurea or Gaco H.E.R., then the U91 / U9200 field coats. The existing ACM sealant is encapsulated in place without disturbance, after adhesion pull tests.

**DOES PROPOSED SUBSTITUTION AFFECT OTHER PARTS OF WORK?**

☐ YES ☒ NO

IF YES, EXPLAIN

**SUBSTITUTION REQUIRES DIMENSIONAL REVISION OR REDESIGN OF STRUCTURE OR A/E WORK**

☐ YES ☒ NO

**BIDDER'S/CONTRACTOR'S STATEMENT OF CONFORMANCE OF PROPOSED SUBSTITUTION TO CONTRACT REQUIREMENT:**

We have investigated the proposed substitution. We believe that it is equal or superior in all respects to specified product, except as stated above; that it will provide the same Warranty as specified product; that we have included complete implications of the substitution; that we will pay redesign and other costs caused by the substitution which subsequently become apparent; and that we will pay costs to modify other parts of the Work as may be needed, to make all parts of the Work complete and functioning as a result of the substitution.

| BIDDER/CONTRACTOR | DATE |
|---|---|
| Crow Commercial Contracting Jon Hudson | 10/28/2026 |

**REVIEW AND ACTION**

☐ Resubmit Substitution Request with the following additional information:

☐ Substitution is accepted.

☑ Substitution is accepted with the following comments:
Manufacturer to comply with contract specifciations 071400 requirements for system install

☐ Substitution is not accepted.

| ARCHITECT/ENGINEER | DATE |
|---|---|
| Brad Schaefer | 10/30/2026 |

1/16"=1'-0" 0" 8'-0" 16'-0" 32'-0" 48'-0"

## GENERAL PLAN NOTES

1. ALL DUCTWORK, AIR DEVICES, EQUIPMENT AND CONTROL DEVICE ROUTINGS AND LOCATIONS SHOWN ARE AN APPROXIMATION BASED ON FIELD OBSERVATION AND EXISTING RECORD DOCUMENTS. CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS AND ROUTINGS PRIOR TO ORDERING MATERIALS.
2. ALL DUCTWORK, AIR DEVICES, CONTROLS AND EQUIPMENT SHOWN DASHED SHALL BE DEMOLISHED UNLESS NOTED OTHERWISE.
3. ALL MECHANICALS TAGGED EX. OR ETR SHALL BE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
4. ALL ELECTRICAL GEAR, DEVICES AND FIXTURE LOCATIONS SHOWN ARE AN APPROXIMATION BASED ON FIELD OBSERVATION AND EXISTING RECORD DOCUMENTS. CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS AND ROUTINGS PRIOR TO ORDERING MATERIALS.
5. ALL ELECTRICAL TAGGED EX. OR ETR SHALL BE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
6. ALL ELECTRICAL GEAR, DEVICES, CONTROLS AND FIXTURES SHOWN DASHED SHALL BE DEMOLISHED UNLESS NOTED OTHERWISE.

## KEYED NOTES

1. EXISTING ROOF GRAVITY VENTILATOR ASSOCIATED DUCTWORK/AIR DEVICES TO REMAIN.
2. ABANDON EXISTING DUCT IN PLACE ABOVE CEILING. ASSOCIATED EXISTING AIR DEVICES IN CEILING OF THESE ROOMS TO BE ABANDONED IN PLACE.
3. EXISTING SUPPLY / RETURN AIR DUCTWORK AND ASSOCIATED AIR DEVICES TO REMAIN UNALTERED.
4. DEMOLISH RTU TEMPERATURE SENSOR THIS APPROXIMATE LOCATION. DEMOLISH CONTROL WIRE, PATCH AND PAINT WALL.
5. DEMOLISH THERMOSTAT THIS APPROXIMATE LOCATION. REMOVE CONTROL WIRE. PATCH AND PAINT WALL.
6. ROOF GRAVITY VENTILATOR ASSOCIATED DUCTWORK/AIR DEVICES SHALL BE DEMOLISHED. DUCT DIMENSIONS ARE APPROXIMATELY 43"x43"
7. DEMOLISH RA DUCT TO UNDERSIDE OF ROOF DECK AND PREPARE FOR NEW CONNECTION
8. DEMOLISH TO WALL AND CAP EXISTING DUCT.
9. DEMOLISH EXISTING TRANSFER GRILLES AND PATCH WALL
10. DEMOLISH THERMOSTAT. CONTROL WIRE TO REMAIN FOR NEW CONNECTION.
11. MINI-SPLIT CEILING CASSETTE (ETR).
12. EXISTING AIR DEVICES TO BE ABANDONED IN PLACE.




DEMO MECHANICAL & ELECTRICAL PLAN - SECOND FLOOR
1/16" = 1'-0"


STATE OF MISSOURI
MIKE KEHOE, GOVERNOR

STATE OF MISSOURI
SHANE L. FLOYD
NUMBER PE-2019017814
PROFESSIONAL ENGINEER

10/30/2026

Shane Floyd, P.E.
PE-2019017814
MO Certificate of Authority #000239

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OFFICE OF ADMINISTRATION
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SCRUGGS STATIONS WAREHOUSE COMPLEX, PORITE ROOF ELECTRICAL & HVAC REPAIRS, FAIRGROUNDS WAREHOUSE

1535 FAIRGROUNDS RD.
JEFFERSON CITY, MO. 65109

PROJECT # O2534-01
SITE # 1046
ASSET # 3101046002

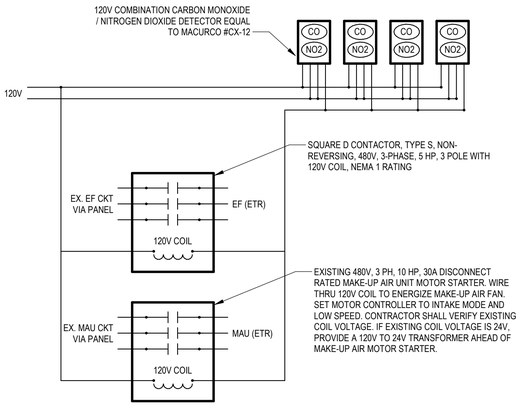
| REVISION | DATE |
|---|---|
| Addendum #2 | 10-30-26 |
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ISSUE DATE: 09/14/2026

CAD DWG FILE: O2534-01_DME200
DRAWN BY: CKT
CHECKED BY: SLF
DESIGNED BY: TE / CEI

SHEET TITLE:
DEMO MECHANICAL & ELECTRICAL PLAN - SECOND FLOOR

SHEET NUMBER:
MED-200
SHEET 9 OF 15
ISSUE DATE: 09/14/2026




## EXHAUST FAN - CO / NO2 DETAIL

NOT TO SCALE

## GENERAL PLAN NOTES

1. ALL DUCTWORK, AIR DEVICES, EQUIPMENT AND CONTROL DEVICE ROUTINGS AND LOCATIONS SHOWN ARE AN APPROXIMATION BASED ON FIELD OBSERVATION AND EXISTING RECORD DOCUMENTS. CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS AND ROUTINGS PRIOR TO ORDERING MATERIALS.
2. ALL MECHANICALS LABELED EX. OR ETR SHALL BE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
3. ALL ELECTRICAL GEAR, DEVICES AND FIXTURE LOCATIONS SHOWN ARE AN APPROXIMATION BASED ON FIELD OBSERVATION AND EXISTING RECORD DOCUMENTS. CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS AND ROUTINGS PRIOR TO ORDERING MATERIALS.
4. ALL ELECTRICAL LABELED EX. OR ETR SHALL BE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
5. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING SIZE OF EXISTING UNITS AND CURBS PRIOR TO ORDERING MATERIALS OF ROUGH-INS. CURB SIZES NOTED ON PLANS ARE APPROXIMATE AND NEED CONTRACTOR FIELD VERIFICATION. CONTRACTOR IS RESPONSIBLE FOR ANY STRUCTURAL MODIFICATIONS OR REINFORCEMENT REQUIRED.
6. EXISTING FIRE ALARM PANEL IS EXISTING TO REMAIN, SERVICED BY MIDWEST ELECTRONICS. CONTRACTOR SHALL INCLUDE IN THEIR BID WORK FOR PROGRAMMING OF THE SMOKE DETECTOR SHUTDOWN SIGNALS.

## ALTERNATE KEYED NOTES #

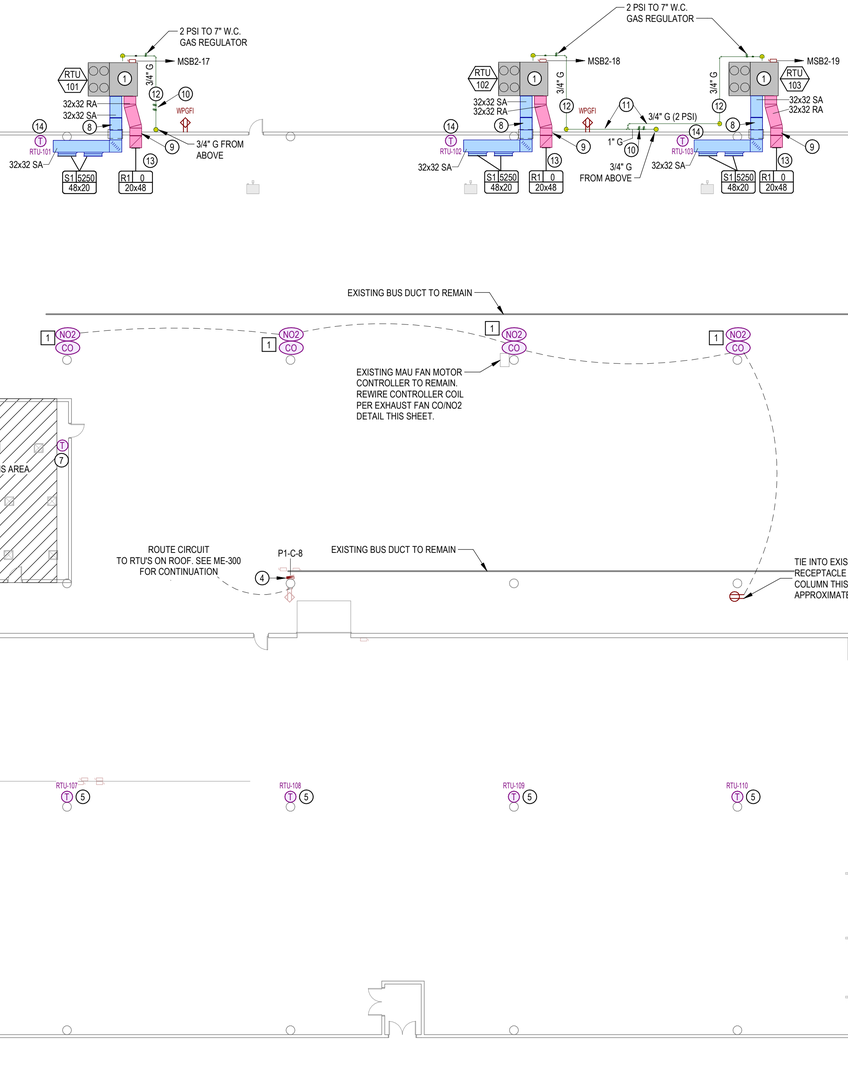
1. MOUNT COMBINATION CO/NO2 DETECTOR ON STEEL COLUMN PER MANUFACTURERS RECOMMENDATIONS. SET SENSOR TO ENERGIZE FANS WHEN CO LEVELS REACH 25 PARTS PER MILLION OR NO2 LEVELS REACH 3 PARTS PER MILLION. SEE EXHAUST FAN CO/NO2 DETAIL THIS SHEET FOR ADDITIONAL DETAILS REGARDING DETECTORS.

## KEYED NOTES #

1. INSTALL MIN. 14" TALL CURB AND CONCRETE PAD. EXTEND CONDUIT/CONDUCTORS FROM EXISTING 480/3 ELECTRIC PANEL TO RTU. EXTEND GAS PIPING FROM EXISTING GAS PIPING SUSPENDED BY WAREHOUSE ROOF STRUCTURE.
2. EXISTING BUILDING MAIN SWITCHBOARDS TO REMAIN.
3. EXISTING BRIDGE CRANE DISCONNECT TO REMAIN.
4. INSTALL NEW PANELBOARD AT SAME LOCATION AS DEMO'D PANELBOARD. RECONNECT EXISTING COILED UP FEEDERS AND CIRCUITS TO NEW PANELBOARD AND PROVIDE NEW TYPEWRITTEN PANEL SCHEDULE.
5. INSTALL NEW RTU THERMOSTAT AT LOCATION OF DEMOLISHED THERMOSTAT ON THIS COLUMN.
6. EXISTING RTU THERMOSTAT THIS LOCATION SHALL REMAIN UNALTERED.
7. PROVIDE NEW THERMOSTAT TO REPLACE EXISTING THIS ROOM.
8. ROUTE NEW SUPPLY AIR DUCT UP TIGHT TO EXTERIOR WALL OF BUILDING AND THEN THROUGH EXISTING WALL PENETRATION (~36"X36" OPENING @ ~9'-0" AFF) THAT PREVIOUSLY SERVED THE DEMOLISHED EXHAUST FAN. REFER TO STRUCTURAL PLANS FOR DETAILS.

## KEYED NOTES #

9. ROUTE RETURN AIR THROUGH EXTERIOR WALL OF BUILDING AT 1'-2" AFF AND THEN ROUTE UP ALONG INSIDE FACE OF WALL TO 1'-0 BELOW UNDERSIDE OF ROOF STRUCTURE. REFER TO STRUCTURAL PLANS FOR WALL PENETRATION DETAILS.
10. 10 PSI TO 2 PSI GAS REGULATOR WITH SEPARATE OVER PRESSURE PROTECTION DEVICE. 3/4" INLET, 1" OUTLET.
11. ALL GAS PIPE SHALL BE SURFACE MOUNTED TO EXTERIOR WALL AND PAINTED TO MATCH BUILDING.
12. WHERE NOT AT EXTERIOR WALLS, GAS PIPE ROUTED TO RTU SHALL BE ROUTED ~6" AFG, SUPPORTED BY ROOFTOP BLOX. SEE PIPE SUPPORT DETAIL SHEET ME500.
13. INSTALL RA GRILLE AS CLOSE TO FLOOR AS POSSIBLE IN DUCT.
14. SEE ME500 FOR THERMOSTAT STANDOFF DETAIL




## MECHANICAL & ELECTRICAL PLAN - FIRST FLOOR

1/16" = 1'-0"

1/16"=1'-0" 0" 8'-0" 16'-0" 32'-0" 48'-0"


STATE OF MISSOURI
MIKE KEHOE, GOVERNOR

STATE OF MISSOURI
SHANE L. FLOYD
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10/30/2026

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JEFFERSON CITY, MO. 65109

PROJECT # O2534-01
SITE # 1046
ASSET # 3101046002

| REVISION | DATE |
|---|---|
| Addendum #2 | 10-30-26 |
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ISSUE DATE: 09/14/2026

CAD DWG FILE: O2534-01_ME100
DRAWN BY: CKT
CHECKED BY: SLF
DESIGNED BY: TE / CEI

SHEET TITLE:
MECHANICAL & ELECTRICAL PLAN - FIRST FLOOR

SHEET NUMBER:
ME-100
SHEET 11 OF 15
ISSUE DATE: 09/14/2026

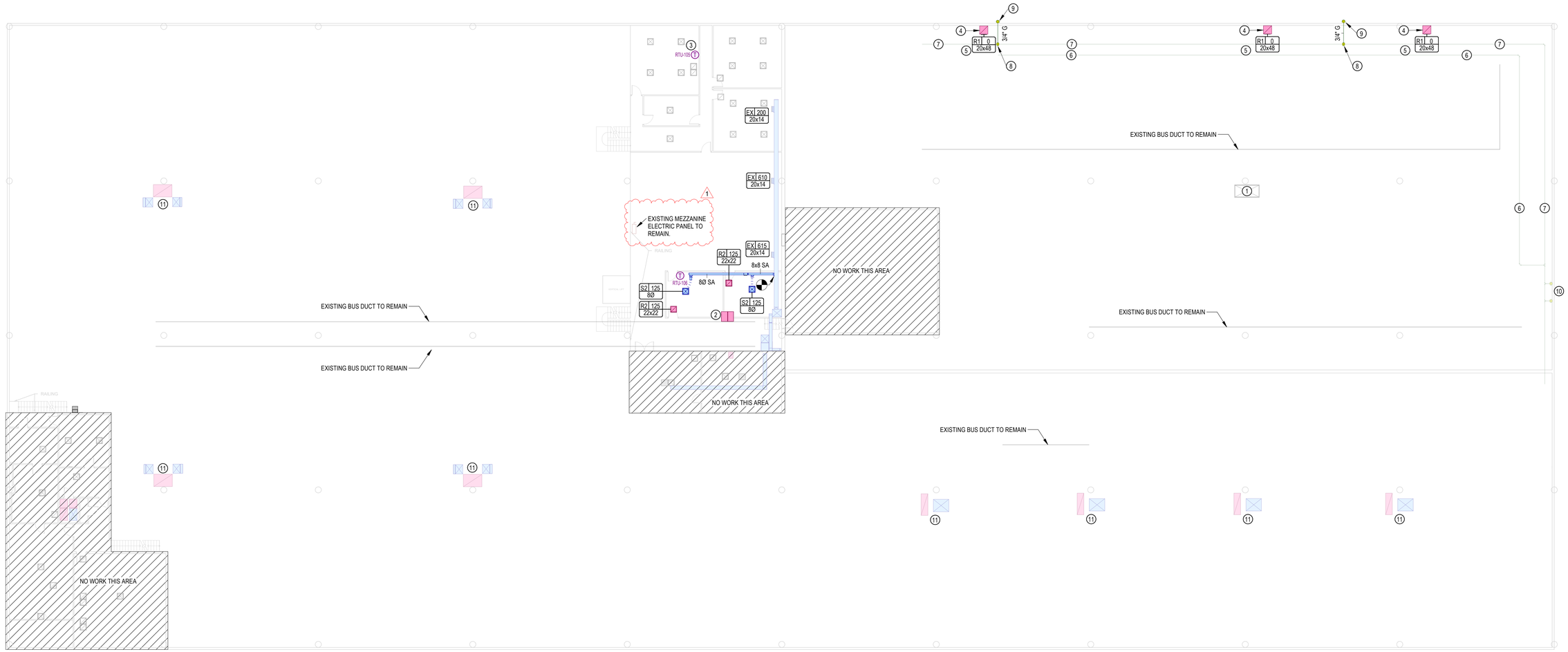
1/16"=1'-0" 0" 8'-0" 16'-0" 32'-0" 48'-0"

## GENERAL PLAN NOTES

1. ALL DUCTWORK, AIR DEVICES, EQUIPMENT AND CONTROL DEVICE ROUTINGS AND LOCATIONS SHOWN ARE AN APPROXIMATION BASED ON FIELD OBSERVATION AND EXISTING RECORD DOCUMENTS. CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS AND ROUTINGS PRIOR TO ORDERING MATERIALS.
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6. EXISTING FIRE ALARM PANEL IS EXISTING TO REMAIN, SERVICED BY MIDWEST ELECTRONICS. CONTRACTOR SHALL INCLUDE IN THEIR BID WORK FOR PROGRAMMING OF THE SMOKE DETECTOR SHUTDOWN SIGNALS.

## KEYED NOTES

1. EXISTING GRAVITY VENTILATOR DUCT DROP AND ASSOCIATED AIR DEVICES TO REMAIN. SHOWN FOR REFERENCE ONLY.
2. TIE INTO EXISTING RTU CURB DUCT RETURN AIR CONNECTION THIS APPROXIMATE LOCATION, AND INSTALL 90 DEGREE ELBOW. INSTALL 3/8" BIRDSCREEN MECH OVER OPEN END OF RETURN DUCT.
3. INSTALL NEW RTU THERMOSTAT ON WALL AT LOCATION OF DEMOLISHED THERMOSTAT.
4. ROUTE RETURN AIR UP ALONG INSIDE FACE OF WALL TO 1'-0 BELOW UNDERSIDE OF ROOF STRUCTURE.
5. TOP OF GRILLE SHALL BE INSTALLED AT ~1'-0 BELOW BOTTOM OF ROOF STRUCTURE.
6. EXISTING LOW PRESSURE GAS PIPING SERVING UNIT HEATERS TO REMAIN UNALTERED.
7. EXISTING 10 PSI 1" GAS LINE ROUTED AT UNDERSIDE OF STRUCTURE SHALL REMAIN.
8. TIE INTO EXISTING 1" (10 PSI) GAS PIPING AT UNDERSIDE OF STRUCTURE WITH NEW 3/4" G AND ROUTE NEW 3/4" GAS TIGHT TO STRUCTURE AND THRU EXTERIOR WALL. CONTRACTOR SHALL CORE DRILL THRU EXTERIOR WALL FOR PIPE ROUTING.
9. ROUTE 3/4" G (10 PSI) DOWN, SURFACE MOUNTED TO EXTERIOR WALL TO 3'-0 AFG AND PAINTED TO MATCH BUILDING.
10. APPROXIMATE LOCATION OF EXISTING TO REMAIN GAS METER WITH 10 PSI DELIVERY PRESSURE.
11. EXISTING SUPPLY / RETURN AIR DUCTWORK AND ASSOCIATED AIR DEVICES TO REMAIN UNALTERED.




## MECHANICAL & ELECTRICAL PLAN - SECOND FLOOR

1/16" = 1'-0"


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MIKE KEHOE, GOVERNOR

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10/30/2026

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JEFFERSON CITY, MO. 65109

PROJECT # O2534-01
SITE # 1046
ASSET # 3101046002

| REVISION | DATE |
|---|---|
| Addendum #2 | 10-30-26 |

ISSUE DATE: 09/14/2026

CAD DWG FILE: O2534-01_ME200
DRAWN BY: CKT
CHECKED BY: SLF
DESIGNED BY: TE / CEI

SHEET TITLE:
MECHANICAL & ELECTRICAL PLAN - SECOND FLOOR

SHEET NUMBER:
ME-200

SHEET 12 OF 15
ISSUE DATE: 09/14/2026

1/16"=1'-0" 0" 8'-0" 16'-0" 32'-0" 48'-0"

## GENERAL PLAN NOTES

1. ALL DUCTWORK, AIR DEVICES, EQUIPMENT AND CONTROL DEVICE ROUTINGS AND LOCATIONS SHOWN ARE AN APPROXIMATION BASED ON FIELD OBSERVATION AND EXISTING RECORD DOCUMENTS. CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS AND ROUTINGS PRIOR TO ORDERING MATERIALS.
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6. EXISTING FIRE ALARM PANEL IS EXISTING TO REMAIN, SERVICED BY MIDWEST ELECTRONICS. CONTRACTOR SHALL INCLUDE IN THEIR BID WORK FOR PROGRAMMING OF THE SMOKE DETECTOR SHUTDOWN SIGNALS.

1

## KEYED NOTES (#)

1. EXISTING 1 TON FUJITSU DX HEAT PUMP TO REMAIN.
2. EXISTING 3 TON FUJITSU DX HEAT PUMP TO REMAIN.
3. EXISTING DOWNBLAST EXHAUST FAN TO REMAIN. CONTRACTOR SHALL PERFORM MANUFACTURER RECOMMENDED ANNUAL MAINTENANCE AND ENSURE FAN IS IN GOOD WORKING ORDER. PROVIDE LIST OF ANY DEFICIENCIES TO OWNERS REPRESENTATIVE PRIOR TO MAKING REPAIRS.
4. EXISTING 50 TON (TRANE) PACKAGED ROOFTOP UNIT TO REMAIN.
5. PROVIDE CURB ADAPTER TO BE INSTALLED ON EXISTING CURB. EXISTING CURB DIMENSIONS LxWxH = 300x86x18". TIE INTO EXISTING GAS PIPING BELOW ROOF AND EXTEND THRU SIDE OF EXISTING ROOF CURB TO NEW RTU GAS CONNECTION. PROVIDE NEW VENTED REGULATOR AND SHUTOFF VALVE. EXTEND CONDUIT/CONDUCTORS THRU SIDE OF EXISTING CURB TO NEW FACTORY MOUNTED DISCONNECT. REPLACE EXISTING BREAKER IN MEZZANINE PANEL (SHOWN ON ME200) WITH NEW BREAKER SIZED PER RTU SCHEDULE MOP.

1

6. EXISTING 50 TON PACKAGED ROOFTOP UNIT TO REMAIN. EXISTING ORIGINAL CURB (LxWxH) = 300x86.5x18". PROVIDE ALL NEW CONDENSATE PIPING, SIZED PER MANUFACTURER INSTALLATION REQUIREMENTS AND INSTALL PER DETAIL ON SHEET ME500. CONTRACTOR SHALL PERFORM MANUFACTURER RECOMMENDED ANNUAL MAINTENANCE AND ENSURE UNIT IS IN GOOD WORKING ORDER. PROVIDE LIST OF ANY DEFICIENCIES TO OWNERS REPRESENTATIVE PRIOR TO MAKING REPAIRS.
7. EXISTING 15 TON PACKAGED ROOFTOP UNIT TO REMAIN UNALTERED. EXISTING CURB IS (LxWxH) = 82x77x8" WITH ELECTRICAL UTILITIES THRU THE CURB. PROVIDE ALL NEW CONDENSATE PIPING, SIZED PER MANUFACTURER INSTALLATION REQUIREMENTS AND INSTALL PER DETAIL ON SHEET ME500.. CONTRACTOR SHALL PERFORM MANUFACTURER RECOMMENDED ANNUAL MAINTENANCE AND ENSURE UNIT IS IN GOOD WORKING ORDER. PROVIDE LIST OF ANY DEFICIENCIES TO OWNERS REPRESENTATIVE PRIOR TO MAKING REPAIRS.

## KEYED NOTES (#)

8. PROVIDE CURB ADAPTER TO BE INSTALLED ON EXISTING CURB. EXISTING CURB DIMENSIONS LxWxH = 109x93x8". TIE INTO EXISTING GAS PIPING BELOW ROOF AND EXTEND THRU SIDE OF EXISTING ROOF CURB TO NEW RTU GAS CONNECTION. PROVIDE NEW VENTED REGULATOR AND SHUTOFF VALVE. EXTEND CONDUIT/CONDUCTORS THRU SIDE OF EXISTING CURB TO NEW FACTORY MOUNTED DISCONNECT.
8. PROVIDE CURB ADAPTER TO BE INSTALLED ON EXISTING CURB. EXISTING CURB DIMENSIONS LxWxH = 109x93x8". TIE INTO EXISTING GAS PIPING BELOW ROOF AND EXTEND THRU SIDE OF EXISTING ROOF CURB TO NEW RTU GAS CONNECTION. PROVIDE NEW VENTED REGULATOR AND SHUTOFF VALVE. EXTEND CONDUIT/CONDUCTORS THRU SIDE OF EXISTING CURB TO NEW FACTORY MOUNTED DISCONNECT. REPLACE EXISTING BREAKER IN PANEL MSB2 (SHOWN ON ME100) WITH NEW BREAKER SIZED PER RTU SCHEDULE MOP.
9. REBALANCE OUTSIDE AIR OF EXISTING RTU TO BE 1,550 CFM
10. PROVIDE CURB ADAPTER TO BE INSTALLED ON EXISTING CURB. EXISTING CURB DIMENSIONS 82x62x8". EXTEND CONDUIT/CONDUCTORS THRU SIDE OF EXISTING CURB TO NEW DISCONNECT.EXTEND CONDUIT / CONDUCTORS TO NEW RTU ELECTRICAL CONNECTION LOCATION. REPLACE EXISTING BREAKER IN MEZZANINE PANEL (SHOWN ON ME200) WITH NEW BREAKER SIZED PER RTU SCHEDULE MOP.
11. PROVIDE CURB ADAPTER TO BE INSTALLED ON EXISTING CURB. EXISTING CURB DIMENSIONS 92x63x8". EXTEND CONDUIT/CONDUCTORS THRU SIDE OF EXISTING CURB TO NEW DISCONNECT.EXTEND CONDUIT / CONDUCTORS TO NEW RTU ELECTRICAL CONNECTION LOCATION. REPLACE EXISTING BREAKER IN MEZZANINE PANEL (SHOWN ON ME200) WITH NEW BREAKER SIZED PER RTU SCHEDULE MOP.
12. PROVIDE CURB ADAPTER TO BE INSTALLED ON EXISTING CURB. EXISTING CURB DIMENSIONS 265x96x16". EXTEND CONDUIT/CONDUCTORS THRU SIDE OF EXISTING CURB TO NEW DISCONNECT.EXTEND CONDUIT / CONDUCTORS TO NEW RTU ELECTRICAL CONNECTION LOCATION. REPLACE EXISTING BREAKER IN MEZZANINE PANEL (SHOWN ON ME200) WITH NEW BREAKER SIZED PER RTU SCHEDULE MOP.

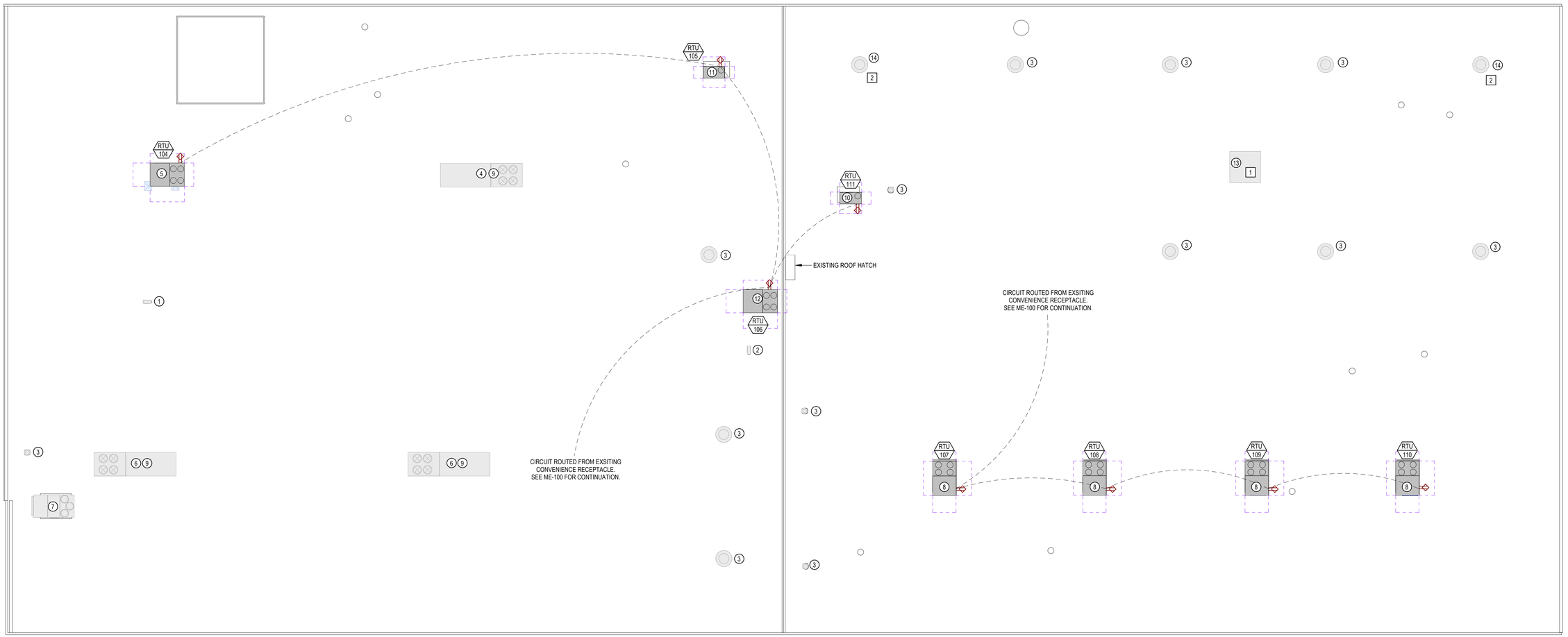
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## KEYED NOTES (#)

13. EXISTING MAKE-UP AIR FAN WITH FILTERED INTAKE HOOD TO REMAIN. EXISTING CURB DIMENSIONS ARE (LxWxH) = 43x43x10". REPLACE EXISTING FILTERS AND PERFORM MANUFACTURER RECOMMENDED ANNUAL MAINTENANCE TO ENSURE UNIT IS IN GOOD WORKING ORDER. PROVIDE LIST OF DEFICIENCIES TO OWNER PRIOR TO MAKING REPAIRS. SET TO LOW SPEED, 20,000 CFM AT 0.25" ESP.
14. EXISTING ROOF MOUNTED DOWNBLAST EXHAUST FAN TO REMAIN. EXISTING CURB DIMENSIONS ARE (LxWxH) = 56.5x56.5x10". CONTRACTOR SHALL PERFORM MANUFACTURER RECOMMENDED ANNUAL MAINTENANCE AND ENSURE # FAN IS IN GOOD WORKING ORDER. REPLACE BELTS AND SHEAVES AS REQUIRED TO BALANCE TO 20,000 CFM.

## ALTERNATE KEYED NOTES

1. REWIRE EXISTING MAKE-UP AIR FAN PER EXHAUST FAN DETAIL THIS SHEET.
2. WIRE EXISTING FAN CIRCUIT THROUGH CONTRACTOR PER EXHAUST FAN - CO / NO2 DETAIL ON SHEET ME100.




**MECHANICAL & ELECTRICAL PLAN - ROOF**
1/16" = 1'-0"


STATE OF MISSOURI
MIKE KEHOE, GOVERNOR

SHANE L. FLOYD
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STATE OF MISSOURI

10/30/2026

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|---|---|
| Addendum #2 | 10-30-26 |
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ISSUE DATE: 09/14/2026

CAD DWG FILE: O2534-01_ME300
DRAWN BY: CKT
CHECKED BY: SLF
DESIGNED BY: TE / CEI

SHEET TITLE:
MECHANICAL & ELECTRICAL PLAN - ROOF

SHEET NUMBER:
ME-300
SHEET 13 OF 15
ISSUE DATE: 09/14/2026

## PACKAGED EQUIPMENT SCHEDULE

| MARK | MANUFACTURER | MODEL | AREA SERVED | SUPPLY | | | | DX COOLING | | | | | | | | NATURAL GAS HEATING | | | | | ELECTRIC HEAT | | | OUTDOOR AIR | | ELECTRICAL | | | | DIMENSIONS (HxWxL) | OPERATING WEIGHT (LBS.) | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AIRFLOW (CFM) | EXT. S.P. (IN-WG) | MOTOR (HP) | MOTOR QUANTITY | NOMINAL TONS | TOTAL (MBH) | SENSIBLE (MBH) | AIR TEMP. (°F DB/WB) | | EFFICIENCY EER | COMPRESSOR | | | AMBIENT (°F) | INPUT (MBH) | OUTPUT (MBH) | STAGES | AIR TEMP. (°F) | | KW (MBH) | AIR TEMP. (°F) | | DESIGN AIRFLOW (CFM) | AMBIENT TEMP. (°F) | VOLTS | Ø | MCA (AMPS) | MOCP (AMPS) | | | |
| | | | | | | | | | | | ENT. | LVG. | | STAGES | QTY | REFRIGERANT | | | | | ENT. | LVG. | | ENT. | LVG. | | | | | | | |
| RTU-101 | TRANE | YCH360D4H*1A1AC800 | SE WAREHOUSE | 10500 | 0.5 | 7.5 | 3 | 30 | 372.03 | 273.48 | 80 / 67 | 57.18 / 56.07 | 10.7 | 4 | 3 | R-454B | 95 | 600 | 486 | 2 | 70 | 113.05 | - | - | - | 1250 | 95 | 480 | 3 | 77 | 90 | 5.3x6.25x16.5 | 5130 | 1,2,3,4,5,6,7 |
| RTU-102 | TRANE | YCH360D4H*1A1AC800 | SE WAREHOUSE | 10500 | 0.5 | 7.5 | 3 | 30 | 372.03 | 273.48 | 80 / 67 | 57.18 / 56.07 | 10.7 | 4 | 3 | R-454B | 95 | 600 | 486 | 2 | 70 | 113.05 | - | - | - | 1250 | 95 | 480 | 3 | 77 | 90 | 5.3x6.25x16.5 | 5130 | 1,2,3,4,5,6,7 |
| RTU-103 | TRANE | YCH360D4H*1A1AC800 | SE WAREHOUSE | 10500 | 0.5 | 7.5 | 3 | 30 | 372.03 | 273.48 | 80 / 67 | 57.18 / 56.07 | 10.7 | 4 | 3 | R-454B | 95 | 600 | 486 | 2 | 70 | 113.05 | - | - | - | 1250 | 95 | 480 | 3 | 77 | 90 | 5.3x6.25x16.5 | 5130 | 1,2,3,4,5,6,7 |
| RTU-104 | TRANE | YSK300A4S0M**D0 | NE WAREHOUSE | 8750 | 0.5 | 3 | 3 | 25 | 280.31 | 206.22 | 80 / 67 | 59.69 / 57.21 | 9.8 | 4 | 2 | R-454B | 95 | 320 | 259.2 | 2 | 65 | 92.16 | - | - | - | 1550 | 95 | 480 | 3 | 59 | 80 | 5x7.25x10.25 | 2419 | 1,2,3,4,5,6,8,9 |
| RTU-105 | TRANE | EDK036A4ECA**C0 | E - MEZZANINE ROOMS | 1200 | 0.5 | 1 | 1 | 3 | 39.11 | 29.52 | 80 / 67 | 58.53 / 56.83 | 12 | 1 | 1 | R-454B | 95 | - | - | - | - | - | 10 (34.15) | 70 | 96.21 | 125 | 95 | 480 | 3 | 19 | 20 | 3.5x4x6.4 | 718 | 1,2,3,4,6,8,9 |
| RTU-106 | TRANE | EDK180A4SPA**C7 | MEZZANINE ABOVE & BELOW | 5250 | 0.5 | 3 | 3 | 15 | 183.58 | 135.2 | 80 / 67 | 57.55 / 56.12 | 10.8 | 3 | 2 | R-454B | 95 | - | - | - | - | - | 54 ( 184.41) | 65 | 97.35 | 690 | 95 | 480 | 3 | 72 | 90 | 5x7.25x10.25 | 2269 | 1,2,3,4,5,6,8,9 |
| 1 RTU-107 | TRANE | YSK210A4S0M**D0 | SW WAREHOUSE | 6125 | 0.5 | 3 | 2 | 17.5 | 212.54 | 155.66 | 80 / 67 | 57.84 / 56.2 | 10.8 | 3 | 2 | R-454B | 95 | 320 | 259.2 | 2 | 65 | 103.68 | - | - | - | 975 | 95 | 480 | 3 | 47 | 60 | 5x7.25x10.25 | 2299 | 1,2,3,4,5,6,8,9 |
| RTU-108 | TRANE | YSK210A4S0M**D0 | SW WAREHOUSE | 6125 | 0.5 | 3 | 2 | 17.5 | 212.54 | 155.66 | 80 / 67 | 57.84 / 56.2 | 10.8 | 3 | 2 | R-454B | 95 | 320 | 259.2 | 2 | 65 | 103.68 | - | - | - | 975 | 95 | 480 | 3 | 47 | 60 | 5x7.25x10.25 | 2299 | 1,2,3,4,5,6,8,9 |
| RTU-109 | TRANE | YSK210A4S0M**D0 | SW WAREHOUSE | 6125 | 0.5 | 3 | 2 | 17.5 | 212.54 | 155.66 | 80 / 67 | 57.84 / 56.2 | 10.8 | 3 | 2 | R-454B | 95 | 320 | 259.2 | 2 | 65 | 103.68 | - | - | - | 975 | 95 | 480 | 3 | 47 | 60 | 5x7.25x10.25 | 2299 | 1,2,3,4,5,6,8,9 |
| RTU-110 | TRANE | YSK240A4S0M**D0 | SW WAREHOUSE | 7000 | 0.5 | 3 | 2 | 20 | 244.26 | 175.25 | 80 / 67 | 58.34 / 56.21 | 9.8 | 4 | 2 | R-454B | 95 | 320 | 259.2 | 2 | 65 | 98.67 | - | - | - | 970 | 95 | 480 | 3 | 55 | 70 | 5x7.25x10.25 | 5130 | 1,2,3,4,5,6,8,9 |
| 1 RTU-111 | TRANE | EDK060A4EDA**C0 | CENTRAL RR & BREAK ROOM | 2000 | 0.5 | 3 | 1 | 5 | 61.90 | 47.24 | 80 / 67 | 59.94 / 57.67 | 12 | 1 | 1 | R-454B | 95 | - | - | - | - | - | 14.4 (51.23) | 70 | 93.6 | 135 | 95 | 480 | 3 | 25 | 30 | 3.5x4x6.4 | 780 | 1,2,3,4,5,6,8,9 |

- THE HVAC CONTRACTOR IS REQUIRED TO SEND THE ELECTRICIAN COPY OF SUBMITTAL DATA, CLEARLY INDICATING THE ELECTRICAL REQUIRMENTS FOR ALL HVAC EQUIPMENT. THIS MUST BE SENT WITHIN 1 WEEK OF RECIEPT OF SUBMITTAL APPROVAL.

* OPERATING WEIGHT INCLUDES ALL ACCESSORIES, EQUIPMENT AND CURB, IF PROVIDED.

NOTES:
1. FACTORY MOUNTED DISCONNECT, SS OR RESIN-BASED DRAIN PAN, AND HAIL GUARDS
2. PROVIDE FACTORY 7-DAY PROGRAMMABLE HEAT/COOL THERMOSTAT FOR HVAC SYSTEM.
3. EXTERNAL STATIC PRESSURE LISTED REPRESENTS STATIC PRESSURE REQUIRED FOR DUCTWORK AND DIFFUSERS OUTSIDE THE HVAC UNIT COMPLETELY INDEPENDANT OF ANY PRESSURE DROP THROUGH THE HVAC EQUIPMENT INCLUDING, BUT NOT LIMITED TO FILTERS AND COILS. THE FAN AND MOTOR SHALL BE SIZED APPROPRIATELY TO MEET THIS DEFINITION OF EXTERNAL STATIC PRESSURE.
4. ECONOMIZER WITH SINGLE DRY BULB CONTROL, SET TO ENABLE ECONOMIZER AT 65° OAT, AND BAROMETRIC RELIEF SIZED AT 100% OF SUPPLY FLOW.
5. RETURN DUCT SMOKE DETECTOR WIRE TO FAN STARTER TO SHUT UNIT DOWN AND SEND ALARM SIGNAL TO FIRE ALARM SYSTEM.
6. IECC 2018 COMPLIANT, WITH ECONOMIZER FAULT DETECTION AND NOTIFICATION.
7. WITH FACTORY 14" CURB
8. PROVIDE WITH GFCI PROTECTED CONVENIENCE RECEPTACLE, WIRED THRU WEATHERPROOF ROOF RECEPTACLE CIRCUIT AS SHOWN ON PLAN.
9. PROVIDE WITH FACTORY CURB ADAPTER.

## DIFFUSERS, REGISTERS & GRILLES SCHEDULE

| MARK | DESCRIPTION | SERVICE | MANUFACTURER | MODEL | FACE SIZE | NECK SIZE | THROW | DAMPER | MOUNTING | MATERIAL | FINISH | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EX | EXISTING | SUPPLY | - | - | - | 16x10 | - | YES | DUCT | - | - | 5 |
| S1 | HEAVY DUTY AIRFOIL DOUBLE DEFLECTION SUPPLY GRILLE | SUPPLY | PRICE | 302D | 50X22 | 48x20 | 99' @ 15 DEG. | YES | DUCT | STEEL | WHITE | 1,4 |
| S2 | SQUARE PLAQUE DIFFUSER | SUPPLY | PRICE | SPD | 24X24 | 8Ø | 7' | YES | CEILING | STEEL | WHITE | 1,2 |
| R1 | HEAVY DUTY AIRFOIL RETURN GRILLE | RETURN | PRICE | 301 | 22X50 | 20x48 | - | NO | DUCT | STEEL | WHITE | 1,3 |
| R2 | EGG CRATE GRILLE | RETURN | PRICE | 80 | 24X24 | 22x22 | - | NO | CEILING | ALUMINUM | WHITE | |

NOTES:
1. PROVIDE DUCT CONNECTION SIZE AS INDICATED ON DRAWINGS.
2. PROVIDE MOLDED R-6 INSULATION BLANKET COVERING BACK OF CEILING DIFFUSER.
3. MOUNT GRILLE WITH BLADE OPENINGS DIRECTED TOWARD ROOF.
4. WITH OPPOSED BLADE DAMPER.
5. REBALANCE TO INDICATED CFM

## SWITCHBOARD: MSB2

**LOCATION:**
**SUPPLY FROM:**
**MOUNTING:** FLOOR
**ENCLOSURE:** TYPE I

**VOLTS:** 480/277 WYE
**PHASES:** 3
**WIRES:** 4

**A.I.C. Rating:** 22kA
**TYPE:** MLO
**RATING:** 2000 A

| CKT | CIRCUIT DESCRIPTION | POLES | FRAME | TRIP | LOAD (AMPS) | REMARKS |
|---|---|---|---|---|---|---|
| 1 | 'A' (TURNED OFF) | 3 | 250 A | 250 A | 0 | |
| 2 | UNLABELED (TURNED OFF) | 3 | 250 A | 250 A | 0 | |
| 3 | 'B' (TURNED OFF) | 3 | 150 A | 150 A | 0 | |
| 4 | UNLABELED (TURNED OFF) | 3 | 600 A | 600 A | 0 | |
| 5 | SPACE | 3 | -- | -- | -- | |
| 6 | UNLABELED | 3 | 800 A | 800 A | 0 | |
| 7 | UNLABELED (TURNED OFF) | 3 | 800 A | 800 A | 0 | |
| 8 | UNLABELED (TURNED OFF) | 3 | 200 A | 200 A | 0 | |
| 9 | SPACE | 3 | -- | -- | -- | |
| 10 | UNLABLED (TURNED OFF) | 3 | 60 A | 40 A | 0 | |
| 11 | UNLABLED (TURNED OFF) | 3 | 60 A | 40 A | 0 | |
| 12 | ROBOT PANEL (TURNED OFF) | 3 | 60 A | 60 A | 0 | |
| 13 | 220V TRANSFORMER (TURNED OFF) | 3 | 60 A | 60 A | 0 | |
| 14 | 'RZNC #1' (TURNED OFF) | 3 | 150 A | 125 A | 0 | |
| 15 | 'RZNC #2' (TURNED OFF) | 3 | 150 A | 125 A | 0 | |
| 16 | 360V TRANSFORMER (TURNED OFF) | 3 | 150 A | 150 A | 0 | |
| 17 | **RTU-101** | 3 | 100 A | 90 A | 77 | NEW BREAKER IN EX. SPACE |
| 18 | **RTU-102** | 3 | 100 A | 90 A | 77 | NEW BREAKER IN EX. SPACE |
| 19 | **RTU-103** | 3 | 100 A | 90 A | 77 | NEW BREAKER IN EX. SPACE |
| 20 | | | | | | |
| | | | | **TOTAL CONNECTED LOAD (AMPS):** | 230.9 | |
| | | | | **TOTAL CONNECTED LOAD (VA):** | 191961 | |

**NOTES:**
EXISTING SQUARE D QED-2 SWITCHBOARD. PROVIDE NEW BREAKERS FOR CIRCUITS INDICATED.

## PANELBOARD: P1-C-3

**LOCATION:** COLUMN C-3
**MOUNTING:** STEEL COLUMN
**ENCLOSURE:** NEMA 1

**VOLTS:** 480/277 WYE
**PHASES:** 3
**WIRES:** 4

**A.I.C. RATING:** 22kA
**TYPE:** MLO
**RATING:** 225 A

| CKT | CIRCUIT DESCRIPTION | TRIP | POLES | A | | POLES | TRIP | CIRCUIT DESCRIPTION | CKT |
|---|---|---|---|---|---|---|---|---|---|
| 1 | POWDER | 20 | 1 | 0 | 0 | 1 | 20 | POWDER | 2 |
| 3 | POWDER | 20 | 1 | | | 1 | 20 | TAMAGAWA | 4 |
| 5 | TAMAGAWA | 20 | 1 | 0 | 0 | 1 | 20 | TAMAGAWA | 6 |
| 7 | STORAGE RACKS | 20 | 1 | | | 1 | 20 | STORAGE RACKS | 8 |
| 9 | STORAGE RACKS | 20 | 1 | 0 | 0 | 1 | 20 | DORST | 10 |
| 11 | DORST | 20 | 1 | | | 1 | 20 | DORST | 12 |
| 13 | MAINTENANCE | 20 | 1 | 0 | 0 | 1 | 20 | MAINTENANCE | 14 |
| 15 | SOUTHWEST FLUORESCENTS | 20 | 1 | | | 1 | 20 | NORTHWEST FLUORESCENTS | 16 |
| 17 | SPARE | 20 | 1 | 0 | 0 | 1 | 20 | SPARE | 18 |
| 19 | SPARE | 20 | 1 | | | 1 | 20 | SPARE | 20 |
| 21 | QC OFFICE | 20 | 1 | 0 | 0 | 1 | 20 | SPARE | 22 |
| 23 | CRIB | 20 | 1 | | | 1 | 20 | SPARE | 24 |
| 25 | SPARE | 20 | 1 | 0 | 0 | 1 | 20 | PRODUCTION OFFICE | 26 |
| 27 | SPARE | 20 | 1 | | | 1 | 20 | OFFICE | 28 |
| 29 | NIGHT LIGHTS/ OUTSIDE LIGHTS | 20 | 1 | 0 | 0 | 1 | 20 | TAWAGAWA | 30 |
| 31 | N/C AREA | 20 | 1 | | | 1 | 20 | MAIN AISLE | 32 |
| 33 | SPARE | 20 | 1 | 0 | 0 | 1 | 20 | SPARE | 34 |
| 35 | SPARE | 20 | 1 | | | 1 | 20 | SPARE | 36 |
| 37 | SPARE | 20 | 1 | 0 | 0 | 1 | 20 | SPARE | 38 |
| 39 | SPARE | 20 | 1 | | | 1 | 20 | SPARE | 40 |
| 41 | SPARE | 20 | 1 | 0 | 0 | 1 | 20 | SPARE | 42 |
| | | | **TOTAL CONNECTED LOAD (AMPS):** | 0 | | | | | |
| | | | **TOTAL CONNECTED LOAD (VA):** | 0 | | | | | |
| | | | **CALCULATED DEMAND:** | 0 A | | | | | |

**NOTES:**
NARROW COLUMN WIDTH TYPE EQUAL TO SQUARE D NF8442L2C

## PANELBOARD: P1-C-8

**LOCATION:** COLUMN C-8
**MOUNTING:** STEEL COLUMN
**ENCLOSURE:** NEMA 1

**VOLTS:** 480/277 WYE
**PHASES:** 3
**WIRES:** 4

**A.I.C. RATING:** 22kA
**TYPE:** MLO
**RATING:** 225 A

| CKT | CIRCUIT DESCRIPTION | TRIP | POLES | A | | POLES | TRIP | CIRCUIT DESCRIPTION | CKT |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 200 TON | 20 | 1 | 0 | 0 | 1 | 20 | 200 TON | 2 |
| 3 | 200 TON | 20 | 1 | | | 1 | 20 | 100 TON | 4 |
| 5 | 100 TON | 20 | 1 | 0 | 0 | 1 | 20 | 100 TON | 6 |
| 7 | DOOR ENTRY | 20 | 1 | | | 1 | 20 | LATHE 2 ENTRY | 8 |
| 9 | LATHE 1 ENTRY | 20 | 1 | 0 | 0 | 1 | 20 | DOCK | 10 |
| 11 | EXTRUDER AND DOCK | 20 | 1 | | | 1 | 20 | EXTRUDER | 12 |
| 13 | 500 TON, LIGHTS 15 | 20 | 1 | 0 | 0 | 1 | 20 | SPARE | 14 |
| 15 | SHAPES, AISLE 15 | 20 | 1 | | | 1 | 20 | BATHROOM 16 | 16 |
| 17 | CAFE LIGHTS | 20 | 1 | 0 | 0 | 1 | 20 | CAFE LIGHTS | 18 |
| 19 | FLUORESCENTS | 20 | 1 | | | 1 | 20 | SOUTHWEST PM 20 | 20 |
| 21 | SPARE | 20 | 1 | 0 | 0 | 1 | 20 | SPARE | 22 |
| 23 | SPARE | 20 | 1 | | | 1 | 20 | SPARE | 24 |
| 25 | SPARE | 20 | 1 | 0 | 0 | 1 | 20 | SPARE | 26 |
| 27 | SPARE | 20 | 1 | | | 1 | 20 | SPARE | 28 |
| 29 | SPARE | 20 | 1 | 0 | 0 | 1 | 20 | SPARE | 30 |
| 31 | SPARE | 20 | 1 | | | 1 | 20 | SPARE | 32 |
| 33 | SPARE | 20 | 1 | 0 | 0 | 1 | 20 | SPARE | 34 |
| 35 | SPARE | 20 | 1 | | | 1 | 20 | SPARE | 36 |
| 37 | SPARE | 20 | 1 | 0 | 0 | 1 | 20 | SPARE | 38 |
| 39 | SPARE | 20 | 1 | | | 1 | 20 | SPARE | 40 |
| 41 | SPARE | 20 | 1 | 0 | 0 | 1 | 20 | SPARE | 42 |
| | | | **TOTAL CONNECTED LOAD (AMPS):** | 0 | | | | | |
| | | | **TOTAL CONNECTED LOAD (VA):** | 0 | | | | | |
| | | | **CALCULATED DEMAND:** | 0 A | | | | | |

**NOTES:**
NARROW COLUMN WIDTH TYPE EQUAL TO SQUARE D NF8442L2C

**STATE OF MISSOURI**
**MIKE KEHOE,**
**GOVERNOR**

STATE OF MISSOURI
SHANE L. FLOYD
NUMBER PE-2019017814
PROFESSIONAL ENGINEER

Shane Floyd, P.E. 10/30/2026
PE-2019017814
MO Certificate of Authority #000239


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**OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION**

SCRUGGS STATIONS WAREHOUSE COMPLEX, PORITE ROOF ELECTRICAL & HVAC REPAIRS, FAIRGROUNDS WAREHOUSE

1535 FAIRGROUNDS RD.
JEFFERSON CITY, MO. 65109

PROJECT # O2534-01
SITE # 1046
ASSET # 3101046002

| REVISION | DATE |
|---|---|
| Addendum #2 | 10-30-26 |
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| | |

ISSUE DATE: 09/14/2026

CAD DWG FILE: O2534-01_ME600
DRAWN BY: CKT
CHECKED BY: SLF
DESIGNED BY: TE / CEI

SHEET TITLE:
MECHANICAL & ELECTRICAL SCHEDULES

SHEET NUMBER:
ME-600
SHEET 15 OF 15
ISSUE DATE: 09/14/2026