



## **Invitation for Bid No. 2024-030**

### **Twelve Mile Creek WRF 9.0 mgd Expansion**

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#### **ADDENDUM No. 2** **ISSUE DATE: August 8, 2024**

Responding Offerors on this project are hereby notified that this Addendum shall be made a part of the above named IFB document.

The following items add to, modify, and/or clarify the IFB documents and shall have the full force and effect of the original Documents. This Addendum shall be acknowledged by the Offeror in the IFB document.

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**ADDENDUM NO. 2 TO CONTRACT DOCUMENTS**

Date: August 8, 2024  
Project: Twelve Mile Creek WRF 9.0 mgd Expansion  
Owner: Union County Water  
Engineer: Hazen and Sawyer

To All Bidders:

Contractors submitting Proposals for the above-named Project shall take note of the following changes, additions, deletions, clarifications, etc., in the Contract Documents, which shall become part of and have precedence over anything contrarily shown or described in the Contract Documents, and all such shall be taken into consideration and be included in the Contractor's Bid Proposal.

All other general items, conditions, drawings, and specifications shall remain the same. Please acknowledge the receipt of Addendum No. 2.

Refer to the Attached Sheets.



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Michael D. Parker, P.E.  
HAZEN AND SAWYER

## Twelve Mile Creek WRF 9.0 mgd Expansion

### Addendum No. 2

#### **SCOPE:**

This addendum covers changes to the Contract Documents as described below.

#### **SPECIFICATIONS:**

##### SECTION 00 01 10 – TABLE OF CONTENTS

Under Division 07, add row for “07 54 19 – Single Ply Membrane Roofing (PVC or KEE)”.

##### SECTION C-111 – ADVERTISEMENT FOR BIDS

Remove and Replace C-111 – Advertisement for Bids in its entirety. See **Attachment #1**. (For clarification, bid opening date/time updated and there will be no additional period for questions and no pre-bid meeting).

##### SECTION C-410 – BID FORM

Section 6.01: Replace the text with the following:

“Bidder agrees that the Work will be substantially complete within **900** calendar days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within **990** calendar days after the date when the Contract Times commence to run.”

##### SECTION C-520 – AGREEMENT

Section 4.02: Replace the text with the following:

“The Work will be substantially completed within **900** days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within **990** days after the date when the Contract Times commence to run.”

##### SECTION 40 05 19 – DUCTILE IRON PIPE

Paragraph 2.02. B.1. After “PROTECTO 401”, add the text “or Permox-CTF”.

##### SECTION 07 54 19 – SINGLE PLY MEMBRANE ROOFING (PVC OR KEE)

Add the attached section.

#### **DRAWINGS:**

NOT USED

### **CLARIFICATIONS, ETC:**

The following clarifications are provided in response to questions regarding PLCs.

1. The following PLCs have been confirmed to contain adequate prewired space for the proposed I/O points shown in the Drawings: PLC 3000 (PLC 17), PLC 7000 (PLC 14), PLC 8500 (PLC 15), PLC 9201 (PLC 7A), and PLC 9500 (PLC 3).
2. Clarification for PLC 3000 (PLC 17): The Contract Drawings only show 1 hardwired AI point needed for the Temperature Transmitter (TIT-30404). The new Blower VCP, MPR / RVSS connect to PLC 3000 (PLC 17) via CAT 6 communication. Verified there is 1 AI available for proposed I/O.
3. Clarification for PLC 6700 (PLC 6): Replace existing PLC panel as shown on drawing I2. Provide a new panel per requirements listed in the Division 40 specifications. Provide a new PLC, Digital display for the existing level transmitter, and all internal components. Terminate and test all I/O points. Field verify existing I/O prior to finalizing panel design.

### **ATTACHMENTS:**

- Attachment #1: C-111 – Advertisement for Bids
- Attachment #2: 07 54 19 – Single Ply Membrane Roofing (PVC or KEE)

**ATTACHMENT #1**

UNION COUNTY, NORTH CAROLINA

**ADVERTISEMENT FOR BID**  
**IFB #2024-030 Rebid**  
**Twelve Mile Creek WRF 9.0 mgd Expansion**

Sealed Bids for the construction of the **Twelve Mile Creek WRF 9.0 MGD Expansion** will be received by the **Union County Procurement Department** *until 2:00 PM local time on September 10, 2024*, at the Union County Government Center, 500 N. Main Street, Suite 709, Monroe, NC 28112 at which time the Bids will be publicly opened and read aloud. Late bids will not be accepted.

If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "**BID ENCLOSED – 2024-030**" and shall be addressed to Union County Government Center, Attn: Vicky Watts, 500 N. Main Street, Suite 709, Monroe, NC 28112.

The Work to be performed under this Contract generally includes, but is not limited to, constructing the Work described below and all appurtenances related to the Work. The Work shall be as follows:

Minor modifications to Screening Facility; rehabilitation of IPS 1 and conversion of west wetwell for Diversion pumping; new IPS 2 with self-cleaning style wetwell, submersible pumps, and valve vault; new Odor Control – Influent facility with biotrickling filter system; minor repairs of two generators onsite, relocation of the Blower Building generator to the Influent site area; purchase of one new 1,500 kW genset; addition of manual bar racks and level sensor in Grit Removal Facility; new Blower 4 at the Blower Building; MLSS Distribution Structure improvements; condition repairs of Clarifiers 1-2 and RAS Pump Station A; new Clarifier 4 and RAS Pump Station B; condition repairs of Clarifiers 5-6 and RAS Pump Station C; channel covers provided at UV Facility; new NPW surge tank; new standby fan for Odor Control – Solids; new Chemical Facility with two storage tanks, covered containment area, and pump building; improvements to existing WAS pump station including new WAS pump 3; new Solids Truck Storage Canopy; new WAS Transfer pump and other minor equipment at the Solids Handling Building; miscellaneous yard piping and valves; new motor control centers and other electrical equipment, wire, conduit, etc.; improvements to plant PLCs and fiber network; miscellaneous site civil work including storm drainage, grading, paving, E&SC; miscellaneous demolition of existing facilities and structures. All other discipline work shown on the drawings.

A Pre-Bid Meeting (Non-Mandatory) will be held at the **Twelve Mile Creek WRF Administration Building at 8299 Kensington Drive, 1st Floor Conference Room, Waxhaw, NC 28173** on **Tuesday, June 18, 2024 at 10:00 AM**. Attendance is strongly encouraged.

Bids will be received for a single prime Contract. Bids shall be on a lump sum basis as indicated in the Bid Form.

**All questions about the meaning or intent of the Bidding Documents** are to be submitted in writing via e-mail to the Procurement contact person listed on the cover page ([vicky.watts@unioncountync.gov](mailto:vicky.watts@unioncountync.gov)). Deadline for questions is **July 02, 2024, at 5:00 PM** local time. Questions will be addressed via Addenda no later than 7 calendar days prior to bid date.

The Issuing Office for the Bidding Documents is: **Hazen and Sawyer, 9101 Southern Pine Blvd, Suite 250, Charlotte, NC 28273.**

Prospective Bidders may examine the Bidding Documents at the Issuing Office or at the Union County Procurement Department at 500 North Main Street, Suite 709, Monroe, North Carolina 28112 on Mondays through Fridays between the hours of 8:00 am and 5:00 pm, and may obtain copies of the Bidding Documents from the Issuing Office as described below.

Bidding documents may be ordered from Hazen and Sawyer by contacting **Marsha Ellison** at **mellison@hazenandsawyer.com** or **(704) 357-3150**.

Printed copies of the Bidding Documents may be obtained from the Issuing Office upon payment of **\$500.00** (non-refundable) for each set. Digital copies of the Bidding Documents may be obtained from the Issuing Office upon payment of **\$50.00** (non-refundable). Checks for Bidding Documents shall be payable to **Hazen and Sawyer**. Cost of printed documents includes ground shipping.

If Bidding Documents are required to be shipped overnight, Bidder shall provide a six-digit UPS account number. The date that the Bidding Documents are transmitted by the Issuing Office will be considered the Bidder's date of receipt of the Bidding Documents. Partial sets of Bidding Documents will not be available from the Issuing Office.

Bidders must have a license to do work as a general contractor in the State of North Carolina, as set forth under Article 1 chapter 87 of the North Carolina General statutes. The bidder's North Carolina Contractor license number shall be designated on the outside of the sealed envelope containing the Bid.

Bidders are required to provide a non-collusion affidavit, as set forth in the bidding documents.

Bid security shall be furnished in accordance with the Instructions to Bidders.

As provided by statute, a deposit of cash, cashier's check or certified check on some bank or trust company insured by the Federal Deposit Insurance Company, or a bid bond executed by corporate surety licensed under the laws of North Carolina to execute such bonds in the amount of 5% of the bid must accompany each bid. The payee shall be "**Union County**". Said deposit shall guarantee that the Agreement will be entered into by the successful bidder if award is made. Such deposit may be held by Union County until the successful bidder has executed and delivered all required Contract documents to Union County.

Union County reserves the right to reject any or all bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid and Bidder whom they find, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid and Bidder if the Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities and technicalities not involving price, time, or changes in the Work and to negotiate, as allowed by law, contract terms with the Successful Bidder.

Union County encourages good faith effort outreach as described in the Union County MBE and Small Business Outreach Plan. Compliance with Union County Minority and Small Business Guidelines and Outreach Plan goals apply. Bidders shall submit a completed Identification of HUB Certified/Minority Business Participation form and either an Affidavit A or Affidavit B, as applicable along with their Bid.

**END OF ADVERTISEMENT FOR BID**

**ATTACHMENT #2**



**SECTION 07 54 19**  
**SINGLE PLY MEMBRANE ROOFING (PVC OR KEE)**

**PART 1 – GENERAL**

**1.01 THE REQUIREMENT**

- A. Furnish labor, materials, equipment and appliances required for complete execution of Work shown on Drawings and specified herein.
- B. Principal items of work include:
  - 1. Preparation of roof deck to receive new roofing materials.
  - 2. Application of insulation, and accessories.
  - 3. Fully adhered roofing system with applied battens.
  - 4. Twenty year "Total Roofing System Warranty".
  - 5. Removal and cleanup of excess materials and debris.

**1.02 REFERENCE SPECIFICATIONS, CODES AND STANDARDS**

- A. ASTM Designations; Stipulated under PART 2 – PRODUCTS.
- B. FM Global Data Sheet, 1-28, Wind Design
- C. FM Global Data Sheet 1-29, Roof Deck Securement and Above-Deck Roof Components
- D. FM Global Data Sheet 1-49, Perimeter Flashing

**1.03 SUBMITTALS**

- A. In accordance with the procedures and requirements set forth in Section 01 33 00 – Submittal Procedures, submit the following:
  - 1. Manufacturer's Data.
  - 2. Manufacturer's Installation Instructions.
  - 3. Total System Warranty.
  - 4. Dimensioned shop drawings which shall include:
    - a. Outline of roof with roof size and elevations shown.

- b. Profile details of flashing methods for penetrations.
  - c. Technical acceptance from manufacturer.
5. Certification that all materials submitted are acceptable for warranty coverage indicated.

#### **1.04 QUALITY ASSURANCE**

- A. The installer must be skilled and experienced and approved by roofing membrane manufacturer for type of roofing and associated work required and equipped to perform workmanship in accordance with recognized standards.
- B. Provide periodic inspections by an official manufacturer's technical representative on all roofing and flashing. Inspections to be made at the beginning of the job and a minimum of one more while the roofing and/or flashing work is in progress to ensure workmanship is in accordance with the manufacturer's specifications.

#### **1.05 CODE REQUIREMENTS**

- A. Installed system shall meet all State/Commonwealth and local codes, in which the project is located, approved and listed to meet the following: UL class A and FM Global Data Sheets.
- B. Inform all personnel working on roof of fall protection requirements. Provide all necessary equipment and training for proper use to comply.

#### **1.06 GUARANTEE**

- A. Furnish to the Owner a twenty (20) year written Manufacturer's Warranty covering materials and workmanship for the entire "Roofing System", including repair and replacement of roofing components which are deemed faulty or in disrepair during the guarantee period. Such items in disrepair shall be repaired at no cost to the Owner. Cover both labor and materials necessary to effect watertightness, including that required to repair roof leaks caused by standing water, defective material or workmanship, without limit as to amount required to effect watertightness.

#### **1.07 JOB CONDITIONS**

- A. Roofing products shall be installed in accordance with manufacturer's recommended job conditions including environmental and physical.

#### **1.08 DELIVERY, STORAGE AND HANDLING**

- A. Deliver materials in manufacturer's unopened containers identified with name, type, grade, class and all other qualifying information, including UL and other specified insurance agency's labels.

- B. Store materials in a dry location, in such manner as to prevent damage or intrusion of foreign matter. Conspicuously mark "Rejected" on materials which have once been wet or damaged and remove from the job site.

## **PART 2 – PRODUCTS**

### **2.01 MEMBRANE**

- A. Membrane shall conform to ASTM D4434-12 (or latest revision), "Standard for Polyvinyl Chloride Sheet Roofing". Classification: Type II.
  - 1. Sarnafil 6G410-15 feltback, 59 mil (1.5 mm), thermoplastic membrane with fiberglass reinforcement and a factory applied 9 oz geotextile felt backing.
  - 2. Sure-Flex FRS PVC Fleece BACK Membrane as manufactured by Carlisle SynTec: 115 membrane incorporating 60 mil thick fiberglass reinforced PVC membrane laminated to 55 mil non-woven fleece backing for a total thickness of 115 mils.
  - 3. Or approved equal.
- B. Color of Membrane
  - 1. White with a Solar Reflectance Index of 78 or greater.

### **2.02 FLASHING MATERIALS**

- A. Provide flashing approved for use with manufacturer's system warranty and in accordance with manufacturer's details.

### **2.03 INSULATION/OVERLAYMENT/RECOVER BOARD**

- A. Polyisocyanurate Insulation
  - 1. A rigid isocyanurate foam insulation with black mat facers.

### **2.04 UNDERLAYMENTS**

- A. Provide Dens-Deck, a siliconized gypsum, fire-tested hard board with glass mat facers or equal.

### **2.05 VAPOR BARRIER**

- A. Two layers of bituminous vapor retarder as recommended by manufacturer.

## **2.06 ATTACHMENT COMPONENTS**

- A. Membrane and Underlayment Adhesive
  - 1. Use manufacturer's recommended adhesives for materials and substrates to be fastened.
- B. Insulation Board Adhesive
  - 1. Type III hot asphalt or other adhesive recommended by manufacturer.
- C. Fasteners
  - 1. Use manufacturer's recommended fasteners for materials and substrates to be fastened.

## **2.07 MISCELLANEOUS ACCESSORIES**

- A. Provide all accessories recommended by the manufacturer to provide a watertight system.

## **2.08 RELATED MATERIALS**

- A. Wood Nailer
  - 1. Treated wood nailers shall be installed at the perimeter of the entire roof and around such other roof projections and penetrations as specified on Project Drawings. Thickness of nailers must match the insulation thickness to achieve a smooth transition. Wood nailers shall be treated and be #2 quality or better lumber. Creosote, CCA, or asphalt-treated wood is not acceptable. Wood nailers shall conform to Factory Mutual Loss Prevention Data Sheet 1-49. All wood shall have a maximum moisture content of 19% by weight on a dry-weight basis.

## **PART 3 – EXECUTION**

### **3.01 SURFACE PREPARATION**

- A. Installer shall notify Design/Builder, in writing, of defects in the substrate, and work shall not proceed until defects have been corrected. The starting of work implies the acceptance of such surfaces.
- B. Construction work on the roof shall be complete before the roofing operations commence. The roof surfaces shall be clean, smooth, dry, and free from loose and foreign materials, dirt, oil, grease, and holes.

- C. Surface joints (including walls and substrate) shall be 1/4-inch or less in width. Repair all joints wider than 1/4-inch with approved joint filler before proceeding with installation.
- D. Vents and all other projections through the roof shall be secured in position before roofing is commenced.

### **3.02 INSTALLATION**

- A. Roofing shall be furnished and installed in compliance with U.L. Class "A" requirements. Manufacturer's instructions for the installation of such roofing system shall be strictly adhered to. All accessories necessary to complete the installation shall be provided.
- B. The roofing shall be applied and finished in one area in a continuous operation. Care shall be taken to insure that water does not flow beneath any completed sections of roof. Loose edges of membrane shall be temporarily sealed with an approved night seal when the weather is threatening. When work is resumed, the sheet shall be pulled free before continuing installation.
- C. Roofing and flashing installation at the junction of all parapet walls, curbs, and other roof openings shall be in accordance with the roof membrane manufacturer's standard details unless shown otherwise on the Drawings. Typical details of all actual roof conditions shall be submitted for approval prior to membrane installation.

### **3.03 WOOD NAILER INSTALLATION**

- A. Install continuous wood nailers at the perimeter of the entire roof and around roof projections and penetrations as shown on the Detail Drawings.
- B. Nailers shall be anchored to resist a minimum force of 300 pounds per lineal foot in any direction. Individual nailer lengths shall not be less than 3 feet long. Nailer fastener spacing shall be at 12 inches on center. Fasteners shall be staggered 1/3 the nailer width and installed within 6 inches of each end. Two fasteners shall be installed at ends of nailer lengths. Nailer attachment shall meet this requirement and that of the current Factory Mutual Loss Prevention Data Sheet 1-49.
- C. Thickness shall be as required to match substrate or insulation height to allow a smooth transition.

### **3.04 VAPOR BARRIER INSTALLATION**

- A. Conduct moisture and adhesion tests in accordance with industry guidelines. If test requirements are met, prime the deck with asphalt primer, let dry and then adhere a base sheet with full mopping of Type III hot asphalt at a minimum rate of 25 lbs. per 100 square feet (1.2 kg/m<sup>2</sup>). Install a second ply in the same manner and then seal with an asphalt glaze coat. The base sheet and asphalt shall be installed in accordance with the manufacturer's instructions. The new insulation board shall be attached with additional Type III hot asphalt or by mechanical fasteners to the roof deck.

### **3.05 INSULATION INSTALLATION**

- A. Insulation shall be installed according to insulation manufacturer's instructions.
- B. Insulation shall be neatly cut to fit around penetrations and projections.
- C. Install tapered insulation in accordance with insulation manufacturer's shop drawings.
- D. Do not install more insulation board than can be covered by the roofing membrane by the end of the day or the onset of inclement weather.

### **3.06 INSTALLATION MEMBRANE**

- A. Inspect the surface of insulation prior to install of the roof membrane. The substrate shall be clean, dry, free from debris and smooth with no surface roughness or contamination. Broken, delaminated, wet or damaged insulation boards shall be removed and replaced.
- B. Apply adhesive and membrane in strict accordance to roofing manufacturer's instructions and recommendations. Membrane shall be applied with no air pockets or wrinkles.
- C. Mechanically fasten roof system 4'-0" from all roof edges along the entire perimeter using manufacturer recommended termination bar fastened 12" o.c. and with a welded cover strip.

### **3.07 HOT-AIR WELDING OF SEAM OVERLAPS**

- A. Welding: All seams shall be hot-air welded. Seam overlaps should be 3 inches (75 mm) wide when automatic machine-welding and 4 inches (100 mm) wide when hand-welding, except for certain details. All membrane to be welded shall be clean and dry. Welding shall be accomplished in strict accordance with manufacturer's recommendations.
- B. Quality Control of Welded Seams: Applicator shall check all welded seams for continuity using a rounded screwdriver. Visible evidence that welding is proceeding correctly is smoke during the welding operation, shiny membrane surfaces, and an uninterrupted flow of dark grey material from the underside of the top membrane. On-site evaluation of welded seams shall be made daily by the applicator including taking one inch (25 mm) wide cross-section samples of welded seams. Correct welds display failure from shearing of the membrane prior to separation of the weld. Each test cut shall be patched by the Applicator at no extra cost to the Owner.

### **3.08 MEMBRANE FLASHINGS**

- A. All flashings shall be installed concurrently with the roof membrane as the job progresses. No temporary flashings shall be allowed without the prior written approval of the Owner's Representative and manufacturer's representative. Approval shall only be for specific locations on specific dates. If any water is allowed to enter under the newly

completed roofing, the affected area shall be removed and replaced at no expense to the Owner. Flashing shall be adhered to compatible, dry, smooth, and solvent-resistant surfaces. Use caution to ensure adhesive fumes are not drawn into the building. Apply flashing in strict accordance with manufacturer's instructions.

- B. All flashings shall extend a minimum of 8 inches (0.2 m) above roofing level.
- C. All flashing membranes shall be consistently adhered to substrates. All interior and exterior corners and miters shall be cut and hot-air welded into place. No bitumen shall be in contact with the Sarnafil membrane.

### **3.09 METAL FLASHINGS**

- A. Metal details, fabrication practices and installation methods shall conform to the applicable requirements of the following:
  - 1. Factory Mutual Loss Prevention Data Sheet 1-49 (latest issue).
  - 2. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - latest issue.
- B. Complete all metal work in conjunction with roofing and flashings so that a watertight condition exists daily.
- C. Metal shall be installed to provide adequate resistance to bending to allow for normal thermal expansion and contraction.
- D. Metal joints shall be watertight.
- E. Metal flashings shall be securely fastened into solid wood blocking. Fasteners shall penetrate the wood nailer a minimum of 1 inch (25 mm).
- F. Hook strips shall extend past wood nailers over wall surfaces by 1½ inch (38 mm) minimum and shall be securely sealed from air entry.

### **3.10 COMPLETION**

- A. The Owner and manufacturer's representative shall review the work at completion. All defects noted and non-compliances with the Specifications or the recommendations of manufacturer shall be itemized in a punch list. These items must be corrected immediately by the Installer to the satisfaction of the Owner and manufacturer. All work shall comply with warranty including necessary reviews prior to installation.

**END OF SECTION**