

**UNCW HOUSING VILLAGE PHASE III  
SCO PROJECT #24-29053-02D**

**BID PACKAGE NUMBER: BP-22A**

**BID PACKAGE NAME: PLUMBING**

**Intent:**

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

**General Requirements**

Refer to the Bid Manual for all General Requirements and Special Provisions that are included and part of this scope of work. The Subcontractor has inspected the site and confirmed the scope of work. The Subcontractor has reviewed the Subcontract and Exhibits included with the bid documents and takes **No Exceptions**. The successful bidder will execute the Subcontract in its current form without any modification. No previous Terms or Agreements will apply to the Subcontract.

**Scope of Work Summary:**

Furnish all labor, engineering, material, equipment, scaffolding, systems, machinery, tools, apparatus, shop drawings, samples, submittals, burden, taxes, and supervision as required to complete the **Plumbing** as outlined in **The Contract Bidding Requirements** and in accordance with the **Contract Documents**. The Scope of Work shall include, but not be limited to the General Conditions, all **Division 00 Procurement and Contracting Requirements**, all **Division 01 General Requirements**, and all the work in the following Specification Section(s), as further described herein:

**Primary Specification Sections:**

- 220100 General Provisions – Plumbing
- 220104 Division of Work (Division 22 and 26)
- 220206 Rough-In and Connections to Equipment Furnished by Others
- 220208 Plumbing Identification and Painting
- 220210 Concrete and Masonry Work
- 220500 Basic Materials and Methods
- 220529 Plumbing Supporting Devices
- 220550 Noise and Vibration Control for Plumbing Systems
- 220593 Testing and Balancing Systems
- 220600 Underground Pipe and Pipe Fittings
- 220610 Above Ground Pipe and Pipe Fittings
- 220700 Insulation
- 220702 Potable Cold Water and Storm Water Piping Insulation
- 220704 Potable Hot Water and Recirculating Piping Insulation
- 220800 Piping Specialties and Accessories
- 221123.21 Inline Domestic Water Pumps
- 221516 Natural Gas Piping
- 222000 Trenching and Backfilling

224000 Plumbing Fixtures and Trim  
229000 Project Closeout

**Related Specification Sections:**

All applicable sections of Division 2, Division 3, Division 5, Division 7, Division 8, Division 9, Division 10, Division 11, Division 12, Division 14, Division 22, Division 23, Division 26, Division 27, Division 28, Division 31, Division 32, Division 33, and all applicable sections in other divisions are also included.

This Bid Package is for Work in accordance with all Contract Documents as listed in Exhibit A of this Subcontract and all work to be performed. It is imperative that Subcontractor review ALL drawings and specification sections and the complete Bid Manual to provide a complete bid.

**Trade Specific Scope of Work Items:**

The following is a general outline of items specifically included, but not limited to, under this agreement for **Plumbing** work in accordance with the Contract Documents:

1. Subcontractor shall furnish, install, maintain, and remove the following **Temporary Utilities**:
  - a. This subcontractor shall provide temporary water within the building from the existing fire hydrant tap. Provide water at two locations per floor, as directed by CM, including level 6 attic space. All temporary water lines are to be insulated, maintained, and removed at end of project.
  - b. This subcontractor shall furnish, install, maintain, and remove all temporary water services. Include piping insulation, valves, spigots, sleeving, supports, pipe protection, etc. for a complete and operating system.
  - c. Provide and maintain a backflow and meter assembly on fire hydrant to provide a project temporary water source. Backflow assembly shall be tested and certified by a 3<sup>rd</sup> party prior to putting in service and tested every 12 months while in use to comply with UNCW guidelines.
  - d. Temporary Floor and Roof Drains to keep the building free of standing water until roof is complete.
  - e. Subcontractor shall provide the Project with temporary water piping and auxiliary pumps (if required) including hose bibs with ample pressures at locations inside the building for construction in a manner agreeable to the Construction Manager. These locations shall not require more than 100 feet of hose to be needed from any location in the building. These locations will be required on each floor and shall not require others to have hoses running between floors. There should also be a minimum of 2 service points accessible on both the north and the south side of the building as well as one additional service point at the main loading dock on the east end of the building. The subcontractor shall provide necessary freeze protection for all work installed as part of this requirement. It is a requirement of this agreement to include costs for any additional backflow or metering devices that may be required for proper installation of the temporary water source. Maintenance of system is included. Multiple mobilizations and rework may be required to

accommodate the work of the project. Removal included.

- f. Subcontractor is responsible for providing and maintaining temporary heating (propane heaters) at each area to maintain above freezing conditions for any installations under this agreement which could be damaged due to freezing temperatures on each floor level through activation of permanent HVAC system.
2. The following is a general outline of items included, but not limited to, under this agreement for all **Underground Plumbing work** per all specification sections under Division 22 and applicable specification sections under Division 01, etc. All Plumbing related work identified on plumbing drawings as well as inclusion of those items indicated on civil, site utility, mechanical, and electrical drawings identified to be completed by this Subcontractor:
    - a. All underground plumbing work at the building – water, sanitary, storm, and gas – as shown on the documents. All underground utilities to be brought within 5 feet of building by others for tie in by this Subcontractor. Included, but not limited to, is all piping, cleanouts, fittings, drains, valves, etc.
  3. The following is a general outline of items included, but not limited to, under this agreement for all **Above- Grade Plumbing work** per all specification sections under Division 22 and applicable specification sections under Division 01, etc.
    - a. All above-grade sanitary sewer systems and vent systems including, but not limited to, all piping, insulation, trap primers, fittings, cleanouts, drains, traps, etc.
    - b. All above-grade storm drainage system including piping, fittings, cleanouts, insulation, drain bodies, spillways, etc. ~~This scope of work begins at 12" above finish floor and connecting/extending work installed by Package A BPA-22A.~~
    - c. All Domestic hot and cold-water systems including, but not limited to, all piping, insulation, trap primers, drain piping, fittings, valves, pumps, fixtures, meters, water heaters, backflows, balancing valves, wall hydrants, hose bibs, temperature transmitters, etc.
    - d. All plumbing fixtures, cleanouts and drains, backflow preventors (RPZ), expansion tanks, recirculation pumps, sump pumps, lint interceptors, booster pumps, mixing valves, fixture piping, and gas water heaters. Reference sheet P001 for schedule.
      - i. Subcontractor is responsible to ensure all fixtures are provided as specified and as indicated on floor plans and as shown on riser diagrams.
      - ii. All sump pumps and associated controls, floats switches, piping, valves, fittings, etc. at elevators as required. Coordinate pump installations with elevator subcontractor and All Authorities Having Jurisdiction.
    - e. All automatic trap priming stations and associated piping shall be included in this Scope of Work.
    - f. All plumbing work associated with the roof installation on this project in full. Any required penetrations must be fully coordinated with the roofing system subcontractor, manufacturer's installations instructions and guidelines, Contract Documents, and CM. All boots, clamps, base, etc. and full coordination of penetrations are included. All roof drains, overflow drains, piping and connections to roof drains. Coordinate and work with roofer to verify drain installation is correct.

- g. All above grade rain leaders, overflows, and downspouts, splashguards, as required.
  - h. Subcontractor shall verify all equipment fits within specified wall cavity space.
  - i. Provide any required temporary services that may be required to facilitate the elevator work. This shall require temporary arrangements to allow early usage of Service Elevator for temporary hoist way during construction. Subcontractor shall coordinate and assist with the elevator subcontractor, CM, and NCDOL during all elevator certifications.
  - j. Subcontractor shall provide all rough-in and final hook-up of all items requiring Plumbing service that are specified in any other section of the Specifications, or Owner furnished, and/or shown on the Drawings. All equipment or materials provided under other Specification sections which are to be installed by this Subcontractor will be identified and delivered to this Subcontractor's Project office.
  - k. Subcontractor shall provide all required pressure reducing valves to equipment furnished under this agreement as required for the proper function of the equipment whether indicated on documents or not.
  - l. Subcontractor shall furnish and install all required supports for this work in accordance with the contract documents, all applicable codes, and standard building practices. Any bridging between structural members required to accommodate pipe hangers is the responsibility of the subcontractor.
  - m. Subcontractor to include all piping to exterior at ORD and RD locations. Furnish and install cow's tongue at exterior penetrations.
4. This Subcontractor shall provide manpower, support, coordination, access to equipment, and any appurtenances to assist in the **Test and Balance** on this project as required by the Contract Documents. Test and Balance will be performed by BP-23A; however, this does not limit the Plumbing Contractor requirement to fully support this endeavor. Plumbing Contractor shall respond in writing to the Test and Balance Subcontractors reports in within 48 hours of receipt. Included in this response shall be an appropriate plan of action with timeline for expedient repairs to any outstanding issue.
- a. This subcontractor must be prepared to set PRV's and circuit setters to get the system running without waiting on the TAB contractor.
  - b. Provide all necessary miscellaneous parts, equipment, and labor as necessary to accomplish the balancing requirements.
  - c. Plumbing Contractor shall include a minimum of 3 additional trips after project completion (Owner move in) to review and confirm performance of systems to the satisfaction of the end user of the building. Any adjustments necessary are included.
  - d. All testing, adjusting, and balancing of plumbing systems is included under this agreement. Subcontractor will then provide final building water balancing report upon 100% completion of the project which will need to occur prior to scheduled substantial completion inspection. Provide all sheaves, belts, and other miscellaneous parts as necessary to accomplish the balancing requirements.
5. Subcontractor to include all **Plumbing Systems Insulation** as required by the Contract Documents. Any insulation damaged or removed during Test and Balance and

Commissioning work shall be replaced and is part of this scope of work.

- a. Subcontractor shall cover the top of piping insulation with 6-mil poly to protect insulation from water and dirt damages to insulate piping prior to dry-in condition of building.
  - b. Subcontractor shall provide labor and material to patch insulation for 1% of all installed plumbing insulation (based on surface area) for unidentifiable damage. This amount shall be included in the Subcontractors Schedule of Values to be tracked as utilized throughout the project.
6. Subcontractor shall include all **Plumbing Systems Identification** as outlined in the contract documents including but not limited to stencil paint, valve tags, and laminated nameplates. Exposed piping, not insulated, will be finish painted by BP-09B. All other color-coded cover jackets are by BP-22A.
  7. Taping of all floor drains, clean-out covers, etc. is included for protection of finish. Protection of drains and covers shall be removed upon conclusion of all work by all trades and prior to Architect's punch list. Final cleaning and polishing of drain and clean-out covers is included at conclusion of project.
  8. All flushing, pressure testing, disinfection/bacteriological (chlorination) chemical flushing, certification tests, etc. under direction of Owner, Engineer, Inspectors, and governmental authority(s) having jurisdiction is included. Subcontractor shall dilute and properly dispose of heavily chlorinated water.
  9. During temporary operation include all filters to plumbing equipment requiring such that are equal to the specified filter for the project. If plumbing system becomes contaminated, subcontractor shall clean final plumbing systems to meet Owner's approval at Project Completion.
  10. Subcontractor shall provide all rough-in and final hook-up of all items requiring plumbing service that are specified in any other section of the Specifications, or Owner furnished, and/or shown on the Drawings.
  11. Subcontractor shall provide code approved panel shields at new electrical or fire alarm panels due to new piping running overhead if alternate locations cannot be approved to re-route pipe.
  12. Subcontractor shall coordinate with the Building Energy Management System, Fire Alarm, and Electrical Subcontractors to assure provision of adequate contacts, relays, electrical power required for proper operation/interface between systems.
  13. All vibration and seismic controls, etc. for Plumbing piping and equipment.
  14. Subcontractor shall furnish and mount all variable frequency drives required for equipment furnished under this scope of work.
  15. All disconnects, starters, and switches are provided by BP-22A. VFD is provided by BP-23C unless specified as integral to the equipment, then it is by BP-22A. ~~VFD overcurrent modules for equipment, furnished under this scope of work, shall be furnished, and installed by the BP-26A Electrical Subcontractor~~
    - a. The Electrical Subcontractor shall furnish and install all line and load side installation and connections to the equipment.
  16. All power and control equipment and devices that are the responsibility of this subcontractor shall be provided and installed complete a minimum of 4 weeks prior to needing the power

and/or controls to operate the associated equipment. This requirement is considered a minimum and may be more restrictive if the contract schedule, TAB, Controls Installation, and Commissioning are impacted in any way.

17. All equipment shall include integral disconnect switch options that meet the code requirement to be "Service Disconnects", lockable in the OFF position. All voltage serving the equipment shall be disconnected by this device. If integral service disconnects are not available this subcontractor will be responsible for providing and installing complete all disconnect switches that meet this requirement
18. Subcontractor shall furnish and install all necessary items required for concrete work related to the systems installed under this agreement including the following per *Division 03 Specification Sections* including furnishing and installation of reinforcing steel:
  - a. All concrete housekeeping pads shown on the drawings will be installed by BP-03A. BP-22A will assist with final dimensions and layout of pads. Any pads required that are not shown on the drawings shall be the responsibility of this subcontractor.
  - b. Concrete collars for all clean-outs, etc.
  - c. All grouting for plumbing equipment, wall sleeves to building structure, floor drains, shower drains, and toilet flanges/connections, etc. Grout all water closets, caulking is not permitted per drawing P001.
19. Subcontractors shall layout and install all required sleeves within elements of the structure for the installation of Subcontractor's work. Formed openings in masonry and concrete walls are herein included.
  - a. Core drilling, cutting, and sleeving new plumbing penetrations at existing construction walls, foundations walls, and slabs locations is herein included. Subcontractor is responsible to clean-up all core drill slurry from walls and slabs as well as removing and patching all core drill machine anchors. Hammering of walls causing a blow-out or sprawling is not permitted and will be corrected at expense of Subcontractor. Subcontractor will provide barricade and a watch at floors below to avoid damage due to falling cores.
  - b. Concrete saw cuts, removal, and concrete replacement as required to install Work within this Scope is included in this Scope of Work. No saw cuts or core drills are to be performed without written approval from Construction Manager and Architect/Engineer.
20. Subcontractor shall seal, pack, fire safe, water seal, weather caulk, aesthetic caulk, etc. all its sleeves/penetrations as required by the Contract Documents and as to maintain required ratings. Refer to Specification sections 078413 for Firestopping requirements. Provide all caulking, including fire caulking as required at penetrations thru rated walls or slabs. Caulking scope includes final caulking at all plumbing fixtures.
21. Subcontractor shall provide labor and material for two (2) additional floor drains for damaged or obstructed floor drains not caused by this subcontractor.
22. All keyed access panels and covers specified, shown, or required for this scope of work shall be furnished and installed by this Subcontractor. This Subcontractor is responsible for coordinating the locations and sizes of required framed openings with respective trades during the construction of walls, ceilings, and floors. All access doors shown on architectural drawings will be provided and installed by BP-09A. All other required access doors will be provided and located by BP-22A. These access doors will be turned over to BP-09A for

installation.

23. Subcontractor understands that the ceiling grid system is to be protected by this Subcontractor and this Subcontractor shall be responsible for costs to make any repairs or portion thereof of unidentifiable damage caused jointly with other mechanical, plumbing, and electrical trades.
24. Subcontractor understands all building finishes are to be protected by this Subcontractor to perform work under this agreement. Subcontractor is responsible to protect surrounding substrates and finishes from Work of this Scope especially windows, window blinds, existing MEP installations, flooring, doors, frames, paint, new MEP installations proceeding completion of work under this agreement, etc.
25. Subcontractor shall provide lavatory templates to casework and solid surface countertop Subcontractors to precut openings off-site. Template shall be provided within 90 days of notice of award.
26. Subcontractor shall protect all piping from dirt, dust, and debris at all times from unloading, storage, rough-in, startup, etc. until Owner accepts building.
27. Subcontractor shall allow walls to be primed and finish painted prior to the installation of surface mounted piping and setting of wall mounted equipment or equipment mounted within six (6) inches of a painted wall. This Subcontractor will be responsible for repainting costs if damages occur during installation of work under this agreement.
28. Subcontractor shall coordinate and comply with all requirements of Specification Section 283116 Addressable Fire Alarm Systems.

### **General Scope of Work Items:**

The following is an outline of general scope of work items that are expected of this subcontractor during execution of this work and are specifically included under this agreement:

1. **Special provisions:** Subcontractor has included all material, labor, supervision, and administration for requirements outlined in the Exhibit C – Special Provisions. These are the standard expectations for all Balfour Beatty Construction projects.
2. **Composite Clean Up:** Per Article IV paragraph 5 of the Special Provisions, each subcontractor is required to provide manpower for participation in a composite clean-up crew. CM has determined that the value of this requirement is equal to **1% of your subcontract amount** which shall be included in your lump sum bid amount. At our discretion, the CM has the right to reduce your contract via a deductive change order prior to the subcontractor beginning work and will provide said composite clean-up on behalf of the subcontractor(s). This will and does not eliminate your subcontract requirement to provide daily clean-up of your own trash as outlined in Article V paragraphs 1, 2, 3 and 4 and any other requirements of the Subcontract.
3. **BIM:** Subcontractor will be required to participate in all coordination meetings and the coordination process outlined in the Special Provisions and Subcontract Exhibit Q.
4. **Schedule / Material Expediting / Work Schedule:** Reference all exhibits for these requirements. Subcontractor is reminded of the following requirements – a) All costs for expediting materials to the site to avoid schedule delays are herein included; b) Work areas will become available on a phased basis. Multiple mobilizations are included. c)

This subcontract will staff the project from commencement to completion with a crew and project site lead knowledgeable of the scope of work for which this Subcontractor will be performing. The size of this crew may vary throughout the duration of the project. However, at no time throughout the duration of the project will this Subcontractor understaff this project so as not to be able to meet the Project Schedule. The CM reserves the right at any time throughout the duration of this Subcontractor's installation to direct this Subcontractor to increase the crew size to maintain and meet the Project Schedule. This Subcontractor shall adhere to this direction within 24 hours of the CM's request without fail; d) This Subcontractor agrees to actively participate in scheduled pull planning, coordination, and scheduling meetings as part of the Pre-Construction and Pre-Installation process. A senior, knowledgeable, decision-making representative will be designated by this Subcontractor's organization to be engaged and participate on the behalf of this Subcontractor for these meetings.

5. **Submittals, Closeout, Attic Stock, Owner Training, Warranties, etc.:** Subcontract is responsible for these items as specified as it pertains to your scope of work.
  - a. Submittals: Provide all samples, drawings, details, product data, care and maintenance data, etc. as specified by Contract Documents.
  - b. Attic Stock: Provide all extra materials, attic tock, spare parts, maintenance tools, etc. to CM in unopened and clearly labeled containers/packages. All items shall be turned over no later than 90 days prior to project completion. All items shall be transmitted to CM and delivered and distributed to a location on campus as determined by Owner.
  - c. Owner Training: All owner training requirements shall be completed 90 days prior to project completion. CM will video all training and turn over video to Owner.
  - d. Warranties: Submit sample warranties as specified. All warranties begin on the date of SCO acceptance of the project as required by the contract documents.
6. **Scope of Work Cleaning:** This Subcontractor shall provide an initial cleaning of their product upon completion of their scope of work. At a designated time, Subcontractor will return to remove protection board or other protective products and completely clean their scope prior to punch list, including but not limited to, sweeping, mopping, and wiping for dust removal, etc. All materials will be cleaned in a manner to return them to a like new condition as they were originally installed.
7. **Mock-Ups:** Subcontractor is responsible for all mock-ups as required by the contract documents. Reference sheet A-213 for exterior mock-up.
8. **Commissioning:** Subcontractor is to provide all coordination drawings, testing, documentation, and participation in all commissioning activities as required by the documents through final acceptance. Subcontractor is to provide all necessary materials, management and field labor, lifts, communication devices and safety equipment. Provide accurate and complete test reports for all systems prior to functional testing by the commissioning agent and all final documentation. Provide compliance/third party inspections as required by the specifications. Be advised that some of the commissioning activities may need to be performed after hours or on weekends.

## 02 EXCLUSIONS

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1. None.

### **03 ALLOWANCES**

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1. Any allowances referenced in the above Scope of Work shall be included in the Base Bid amount.

### **04 ALTERNATES**

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1. Refer to Specification Section 012300 and the Bid Form for a listing of all Alternates. Pricing for all alternates applicable to this bid package should be entered on Bid Form. Include all scope of work for Alternate Work as outlined in scope of work for Base Bid Work.

### **05 UNIT PRICES**

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1. None.