

## EXHIBIT "A"

Attachment to **Subcontract/Purchase Order No.** by and between **[insert full legal name of subcontractor/seller]** and **J.M. Thompson Company**. For **BP-15.4 HVAC & Controls, The Healing Place of New Hanover County**

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### SCOPE OF WORK/SUPPLY AND CLARIFICATIONS/QUALIFICATIONS

#### 1. Scope of Work/Supply

The Scope of Work/Supply is identified in the following Specification Section(s) and further described below:

**Specification**  
**Section**

**Description**

230513	Common motor requirements for HVAC equipment
230517	Sleeves & Sleeve seals for HVAC piping
230518	Escutcheons for HVAC piping
230529	Hangers & Supports for HVAC piping & equipment
230553	Identification for HVAC piping & equipment
230593	Testing, Adjusting & Balancing for HVAC
230713	Duct insulation
231123	Facility Natural gas piping
232300	Refrigerant piping
233113	Metal ducts
233300	Air duct accessories
233346	Flexible ducts
233423	HVAC power ventilators
233433.13	Commercial air curtains
233600	Air terminal units
233713.13	Air Diffusors
233713.23	Registers & Grilles
233723	HVAC gravity ventilators
233813	Commercial Kitchen hoods
235123	Gas Vents
235533.16	Gas fired unit heaters
237313.13	Indoor basic air handling units
237416.11	Packaged, small capacity roof top air conditioning units
237433	Dedicated outdoor air units
238113.11	Packages terminal Air conditioners, through wall units
238126	Split system air conditioners
238239.19	Wall & Ceiling unit heaters

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<u>Related Section</u>	<u>Description</u>
Division 0	Project Information
Division 1	General Requirements
All other divisions	

**The Contract Documents indicate the general Scope of the Project in terms of the design concept, the dimensions/types/locations of structures, utility and other systems and the outline of major elements of construction. The Contract Documents may not be complete and may not necessarily indicate or describe in complete detail all work required for the full performance and completion of Trade Contractor’s Work. Trade Contractor understands and agrees that they are to furnish all items required for a complete and functioning system; all work shall comply with applicable code requirements and the intent of the Architect/Engineer.**

### **1.1 GENERAL PROVISIONS – All Trade Contractors**

1. Subcontractor shall include licenses, inspections, training, tests, certifications, and warranties as required by the Contract Documents, applicable codes, state and local authorities. The work on this project may involve working in or adjacent to a roadway right of way. Specific requirements relating to eVerifi, flagman, employee training and documentation apply, subcontractors shall note these requirements in the contract documents when preparing their bids.
2. Subcontractors shall provide a directly-employed, dedicated full time Superintendent to the project at all times that work or deliveries are being performed by the subcontractor or its sub-subcontractors, or as required for the proper coordination between trades. This individual must be fully trained in all aspects of Environmental Health & Safety and possess the required certifications as required by the Safety and Health Management Program. The Superintendent shall not be replaced or removed by the Subcontractor without the written consent of the CM. However, the CM at their discretion may direct Subcontractor to replace the Superintendent with a mutually acceptable replacement. The superintendent must be English-speaking, and must have access to a mobile phone a direct company email.
3. Subcontractor shall inspect and verify, at least two (2) weeks prior to the start of their Work that all requirements for installation are complete and acceptable as required for installation to begin. This verification shall be submitted to the Construction Manager in writing. The site review shall include, but not be limited to a detailed review of all work in place furnished & installed by others. Items that do not meet the installation requirements must be identified accordingly.
4. Within (14) days of Notice of Award of the Subcontract, Subcontractor shall submit a detailed schedule for the entire scope of the subcontract, including a detailed schedule of values broken down into labor and material costs for each portion of the work, shop drawings, submittals, production schedule, delivery, and installation that will meet the milestone dates identified in the Construction Schedule (Exhibit D). This schedule is to be updated and submitted to the Construction Manager bi-weekly throughout the performance of this Scope. Submission of Schedule Updates and Recovery Plans (if required) shall be a prerequisite to the acceptance and processing of Subcontractor’s Monthly Application for Payment.

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5. Install sleeves and/or blockouts pertaining to your scope of work. Maintain sleeve and blockout opening protection. If Core drilling or saw cutting is necessary, submit a request to the engineer of record for approval prior to proceeding. Provide tradesman on standby for duration of all concrete pours to insure integrity of blockout, sleeve or embedded item is maintained. CM will provide only those openings indicated on the structural drawings. Seal and firesafe all penetrations in accordance with the contract documents and local code requirements. Firesafing shall be installed by a trade contractor regularly engaged in that business and not self-performed by the subcontractor's own forces.
6. Warranties start at the date of final acceptance of the work or beneficial occupancy, regardless of when the equipment was installed or placed in service during construction. Subcontractors shall take note of extended warranty requirements outlined in the specifications. For warranties that extend beyond the normal period, a separate warranty may be required to be written directly between the Owner and subcontractor.
7. Subcontractor shall be totally responsible for the delivery, receiving, unloading, storing, handling, protecting, hoisting, distributing, delegated engineering, layout and installation of all materials installed under this scope. Material deliveries to the jobsite shall be coordinated and approved by the CM's project superintendent. Materials shall be delivered to the jobsite, tagged/labeled in an orderly manner, protected from exposure, and free of damage. In general, materials shall be ordered and shipped for "just-in-time" delivery to avoid congestion and damage from excessive storage of materials onsite. Subcontractor shall provide trained, competent flagmen for hoisting, moving and unloading of material.
8. Subcontractor shall be responsible for taking all field measurements that are necessary to insure the proper installation of Subcontractor's work in coordination with the work of other trades. Field measurements shall be taken and coordinated in a timely manner in order to avoid delaying the project.
9. Subcontractor shall include all dewatering necessary for the performance of their work, such that should standing water be encountered in an area of work, Subcontractor shall employ the means necessary for removal.
10. Subcontractor shall include all submittals, shop drawings, as-built drawings, O&M manuals, extra materials, and Owner training as specified. Subcontractor shall complete all submittals within thirty (30) days of the date of award of the subcontract. Subcontractor will be required to utilize the Project Team Procore platform. All submittals will be processed in an electronic format, as well as document control, field activity tracking, reports, punch listing and commissioning. Subcontractor shall provide the necessary equipment, personnel and training to support these functions on site. Any deviations, changes, and/or discrepancies differentiating the shop drawings from the Contract Documents shall be clouded and clearly marked requesting the Architect's/Engineer's review and approval. It is understood that the Subcontractor shall furnish all product submittals per the Contract Documents. Substitution requests must be submitted prior to receipt of bids as outlined in the Instruction to Bidders. Substitution requests received after the deadline will not be entertained. Provide 2 sets of physical samples to be submitted to the Construction Manager.
11. Subcontractor shall cooperate fully with building inspection officials, third-party inspectors, and designer's designated representatives for review and inspection of the work of this Subcontract. Subcontractor shall provide access to any and all areas for required testing, including providing scaffolding, safety equipment, lifts, etc as required. Subcontractor shall promptly remedy all rejected or disapproved work.
12. Safety Provisions

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- a. Subcontractor shall comply with all provisions outlined in the Safety and Health Management Program (SHMP), which includes but is not limited to, the following:
    - Submission of Corporate Safety Program
    - Submission of Site-Specific Safety & Health Plan
    - Submission of Daily Pre-Task Plans for each crew
    - Submission of Monthly Man-hour Report
      - Attendance by each employee at CM's Site-Specific Safety Orientation
    - Attendance by each employee at Weekly Site Safety Meeting
      - Performance of all Work in accordance with OSHA and the guidelines identified in the SHMP
      - Compliance with 100% continuous fall protection where exposed to fall hazards over 6'
      - All field personnel shall attend, a four-hour Injury Free Environment (IFE) training session.
      - All tradesmen must have the proper license and/or certification to operate equipment/tools required for that trade. All licenses and certifications must be included in the Subcontractors Project Specific Safety Manual.
13. Include all surveying, engineering and layout from existing benchmark's and coordinates for this scope of work. The CM will provide one north/south & east/west control point on the site along with a benchmark elevation. This subcontractor shall be fully responsible for all field engineering required to transfer to work location. Subcontractor shall take note of the requirements for As-Built Documentation; drawings shall be updated on a daily basis and turned over to the CM electronically on a monthly basis. The Subcontractor shall provide a complete for-record set of electronic as-built documents at the completion of the project, as well as one complete paper copy.
  14. Subcontractor should employ the use of subcontractor provided off-site storage facilities and just-in-time. Limited access may require 2nd & 3rd shift material/equipment deliveries, to be coordinated with the CM. Subcontractor shall be fully responsible for all equipment required for unloading. Stored materials may only be submitted for payment when stored on site, received in a timely fashion and with prior approval of the Owner and CM. Subcontractors shall not anticipate stored material payment prior to installation. Protection of said materials utilizing shrink wrapping, visqueen, tarps, etc. is the responsibility of the subcontractor.
  15. The subcontractor will staff the project with adequate manpower; supervision and equipment required to complete all activities on or before scheduled dates without the planned use of overtime. The Project Schedule is based on 5 days per week, Monday through Friday, starting at 7:00 AM; Project start time may be adjusted with Daylight Savings Time to maintain safe work conditions at the discretion of the CM. A four ten-hour day work schedule will not be allowed. Weekend and after-hours work shall be requested by the Subcontractor and approved by the CM forty-eight (48) hours in advance. The Subcontractor shall anticipate normal weather conditions (defined as weather patterns and conditions within the 5-year climatic range for the same time period as defined by NOAA for this region) and shall be responsible to maintain the project schedule at no additional cost. The First Tier Subcontractor's Superintendent shall be present onsite during any overtime or weekend work being performed by the Subcontractor or their sub-subcontractors. Multiple mobilizations may be required.
  16. Subcontractors shall anticipate that limited onsite parking will be available.

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17. Pre-Installation Meetings: The subcontractor shall provide their project manager and superintendent to participate in pre-installation meeting including CM, Architect, and Manufacturer Representative, to verify project requirements, substrate conditions, manufacturer's installation instructions, manufacturer's warranty requirements, architectural details and safety program, quality control and schedule, prior to starting any work onsite.
18. Subcontractor understands that weekly project meetings will be held on the job site. Subcontractor agrees to have the Project Manager and Superintendent attend all required meetings. Subcontractor will attend meeting beginning 3 weeks prior to that subcontractor's start of work on site. Subcontractor will attend additional meetings as directed by the CM. Unexcused absences will be charged to the subcontractor at the rate of \$500.00 per meeting.
19. All Subcontractors are responsible for their own continuous daily work area clean up, in addition to maintaining all stored materials in an organized well-kept manner. This cleanup must be done on a continuing basis, with debris sorted as outlined in the specifications. Each Subcontractor crew shall be equipped with broom, dust pan and trash bags to broom-sweep all areas in which they are working and shall fully remove all debris resulting from this Scope of Work from the building/site and dispose of in dumpsters on a daily basis. Hazardous materials are to be disposed of off-site by the subcontractor in accordance with all Federal, State and Local requirements. In addition, for each week that the subcontractor has any field labor active on the site, they will provide sixteen hours of an experienced laborer to participate in a composite clean-up crew, specific days and times to be determined.
20. Tobacco products will not be allowed onsite at any time.
21. This Subcontractor shall provide all wash down, cleaning and touch-up painting of his Work as required for the proper completion and acceptance of the Work. Clean installed products in accordance with manufacturer's instructions at such time as agreed to or directed by CM. This Subcontractor will provide protection from damage to, and be responsible for his Work until acceptance by the Owner.
22. Subcontractor will be responsible for all testing as required by the specifications and shall give CM sufficient advance notice (not less than 24 hours & more if required by specifications) of when and where inspection and/or testing will be performed by Subcontractor. Subcontractor must supply verification to the CM Superintendent of all testing and/or inspections required by code or specifications from the appropriate agency acceptance. Subcontractor shall be responsible for all fees incurring from failed inspections.
23. This subcontractor will be responsible for complying with all requirements as outlined in those specifications. Provide manpower and troubleshooting/engineering as necessary to support the Commissioning Agent.
24. Subcontractor shall include in the Scope of Work multiple "Mock-ups" or "Prototypes" as required to expedite the approval of any system or product or as required by Specification. Modification or reworking of the "Mock-ups" or "Prototypes" to achieve Owner/Architect/Contractor approval is included in the Scope of Work in accordance with technical specification. Expediting of materials to complete mock-ups early in the construction sequence is included at no additional cost to Construction Manager.
25. Subcontractor will comply with all quality related requirements listed in the Contract Documents. Subcontractor shall follow the protocols and procedures listed in the Quality Control Plan for this project.

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26. Upon installation of the building temporary lighting by Electrical Subcontractor, any additional task lighting beyond OSHA/SHMP required foot-candles shall be the responsibility of each Subcontractor. Immediately notify the Electrical Subcontractor and CM of any area where sufficient area/access lighting is not present; do not proceed with entering the area until the condition is corrected. Lighting required for work areas outside the building structure shall be the responsibility of each subcontractor requiring same. Electrical Subcontractor shall provide 110 V temporary power within the building structure using the 100 ft. rule of thumb. Power required outside the building structure shall be the responsibility of subcontractor requiring same.
27. Temporary water will be available at one location on the site; distribution shall be the responsibility of the subcontractor. Hoses shall be routed and maintained to avoid leakage.
28. Builder's Risk Insurance is provided by the CM, any subcontractor incurring a loss with an approved claim shall be responsible for any deductible amounts not covered. Deductible amounts range from ten to twenty-five thousand dollars per claim depending on the nature of the event.
29. Provide all access doors required to access items through hard ceilings and walls, including duct mounted smoke detectors. Provide fire rated access doors where applicable. Access doors to be indicated on coordination drawings. All drywall and ceiling access doors required for complete access as required under this scope are furnished by this Trade Contractor. Installation by others. Access doors shown on Architectural drawings are furnished and installed by others. Refer to architectural specifications for access door types and manufacturers.
30. All cutting, burning, welding and grinding operations shall employ a fire watch, equipped with a fire extinguisher, as outlined in the SHMP. This individual shall be properly equipped and trained. This individual(s) shall be other than the designated site safety supervisor.
31. This subcontractor shall include all required design, professional liability insurance, and engineered drawings, by a professional engineer licensed in the state of North Carolina, per the performance requirements, for systems requiring design.

### **1.2 TRADE SPECIFIC SCOPE OF WORK ITEMS (Included but not limited to the following):**

1. The HVAC, Controls and Test and Balance systems are to include all work as described in the contract documents and as shown on the entire set of Contract Drawings.
2. Subcontractor to furnish and install all HVAC, BAS equipment and Test and Balance all HVAC systems including but not limited to the following: RTU units, AHU units, Air Cooled Chiller, Chilled Water/Hot Water pumps, High Efficiency Boilers, Expansion Tanks, Air and Dirt Separators, Exhaust fans, Radiant Flooring systems and manifolds, Chilled Beams, FCU's, Electric Unit heaters, Split systems cooling and heat pump, VFD's, Ductwork, Insulation, VAV's, diffuses, return grills, BAS system, etc as defined in the contract documents

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3. Subcontractor to fully coordinate all equipment requirements to provide communication requirements within the BAS system for AHU's, VAV interface, for all equipment on the project. Subcontractor is to provide service requirements as indicated under warranty maintenance requirements for the BAS system per specifications.
  4. Controls contractor is to install all rigid conduit for the control system and the remote shut off and cover for the boilers in the mechanical room.
  5. Subcontractor will develop a detailed rigging plan to be used for sequencing equipment into the building(s). This sequence plan shall be submitted to the Construction Manager within 30 days of contract award. Subcontractor is to coordinate delivery of all equipment, Size and clearances to be coordinated.
  6. Subcontractor is to coordinate with the steel subcontractor the framing and vibration and isolation requirements for the equipment.
  7. All RTU units are to be provided with VFD's for supply fans, full economizer cycles, gas regulators, roof curbs, etc, RTU's roof opening and curb sizes are to be coordinated with Steel framing requirements and any deviations to the CM.
  8. All RTU's are to be coordinated with the BAS system for the controls provided with panels as specified. All RTU's are to be provided with MERV 5 Filters, unit mounted 115V convenience outlets, start-up services, and cleaning, replacement filters 3 changes each during construction and adjustments 12 months after Substantial Completion.
  9. All AHU's are to be coordinated with the BAS system for the DDC controls. . All AHU's are to be insulated double wall construction, internal spring isolation for the fans, hot and chilled water coils, dampers, MERV 8 Filters, field tech inspections, start-up services, and cleaning, replacement filters and adjustments 12 months after Substantial Completion.
- 1.2.1 All RTU's and AHU's are to be provided attic stock materials for belts and spare filters as indicated in the specifications after Substantial completion.
  - 1.2.2 Subcontractor will provide the extra materials and spare parts as specified. Provide a complete inventory list of all extra materials and spare parts. They shall be delivered and neatly stored in an area designated by the Owner
  - 1.2.3 Subcontractor will protect all air handlers (top and sides) with a minimum of 1/2" plywood on top of 1" rigid foam board and maintain protection for the duration of the project. When protection is no longer needed, remove protection and haul away protection as directed by the CM. Subcontractor will not fasten to the air handlers causing penetrations of the outer panel.

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- 1.2.4 All exhaust fans are to be provided with local disconnect.
- 1.2.16 Coordinate with the Fire Alarm Subcontractor the location for duct mounted smoke detectors to meet the manufacturer’s installation and NFPA requirements. Indicate the locations of all fire alarm devices on the coordination drawings. Provide access doors if required and access to fire alarm devices for testing and inspection of the fire alarm system and devices, multiple days of testing may be required. Multiple inspections may be required. Protect fire alarm devices from dust, paint and other damage during construction, replace as required prior to turnover.
- 1.2.17 Subcontractor to include all technical and service requirements for quick response times to service calls and warranty requirements from the owner after substantial completion as indicated in the specifications.
- 1.2.18 Subcontractor to cover and protect materials stored on site from dust, debris and moisture. This includes but is not limited to shrink wrapping, visqueen, tarps, etc. Stored material and equipment must be palletized and tagged identifying contents. Obtain approval from the Construction Manager prior to delivery of materials to identify storage area. Stored materials to be moved or relocated as directed by the Construction Manager. All prefabricated piping and ductwork will be sealed at the fabrication shop to avoid contamination during shipment or on-site storage. Remove protective covering just prior to installation. During installation, the exposed ends of the ductwork runs are to remain sealed to prevent construction dust and debris to accumulate in the system. Seal all open end of ductwork and piping at the completion on each shift.
- 1.2.19 all ductwork shall be installed per plans and specifications for the pressure rating specified. All ductwork is to be pressure tested, documented and witnessed by the CM/Cx prior to duct insulation. T&B contractor to witness all duct and pipe testing performed by mechanical subcontractor (including all equipment and materials). Subcontractor is to have the engineer inspect all duct seals prior to starting duct insulation as specified. All ductwork is to be painted flat black per specifications 24” upstream of all registers and grills by this Subcontractor. Subcontractor is to review acoustical ceilings for special support requirements for expanded metal and acoustical deck as indicated on the architectural drawings for all diffusers and grills.
- 1.2.20 Subcontractor will furnish and install all dampers including but not limited to control dampers, fire smoke dampers, fire dampers, isolation dampers, barometric dampers and volume dampers. Subcontractor is to provide all access doors in ductwork and ceilings requiring access for any adjustments and inspections for the COR and Cx inspections. .
- 1.2.21 Subcontractor will be expected to perform field mock-ups and first work inspections for several

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typical work activities which are not necessarily required by specifications, in order to verify standards of quality for each work item. Refer to the Quality Control Plan.

- 1.2.22 Comply with all requirements for Vibration Isolation including concrete in bases. Bases shall be cleaned and field painted by this subcontractor.
- 1.2.23 Provide all piping systems and miscellaneous supports and hangers for the Mechanical work including miscellaneous support steel and trapeze hangers as required by the structural specifications. Mechanical work will be coordinated with wall layout to minimize conflicts with wall studs and track. Subcontractor shall take note of the required wall support steel/bracing to be installed as part of the steel/miscellaneous metals/masonry packages and shall anticipate that piping and ductwork runs may need to be routed and offset to avoid these installations.
- 1.2.24 Subcontractor is to provide final cleaning of all ductwork prior to the start of air balancing per specifications. Subcontractor is to provide all access doors required to perform this work.
- 1.2.25 Subcontractor will participate during the Above Ceiling Punch list, Wall MEP Rough-in Inspection and Pre and Final Inspections. Subcontractor will provide all required equipment to allow access to all areas of inspection.
- 1.2.26 Subcontractor shall provide concrete housekeeping pads for all mechanical equipment as required. Subcontractor shall install concrete equipment pads as specified (or minimum 4" high concrete curbs) including layout, formwork, reinforcing, bonding agents, place and finish, form strip, cure, and paint after curing (safety yellow unless specified otherwise). Concrete equipment pads shall be provided for all floor mounted equipment whether or not pads are indicated on Contract Documents
- 1.2.27 All VFD's shall have operator interface control panels and be Lon Talk Compatible and integrated with the BAS system. Subcontractor is to install temporary filters during construction and final filters just prior to Substantial completion. All startup will be done by factory service representative including training.
- 1.2.28 All materials, equipment and assemblies (including control panel assemblies) must have a UL certification and be labeled as such.
- 1.2.29 Subcontractor includes expansion devices for all systems at building expansion joints.
- 1.2.30 This Subcontractor shall coordinate with the Roofing Subcontractor to ensure all penetrations through the roof are installed prior to the start of the roofing installation. Any penetrations installed through roof after roof installation will be repaired at this Subcontractor's expense.

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- 1.2.31 Coordinate layout and elevation of all mechanical, teledata, security and fire alarm devices between the mechanical and architectural drawings. Request clarification for any discrepancies prior to rough-in.
- 1.2.32 Coordinate the controls to ensure that controllers for air terminal units shall be shipped directly to the air terminal manufacturer for factory installation.
- 1.2.33 Prior to rough-in, provide control panel dimensions and layouts. Note any conflicts to the Construction Manager. This subcontractor is to internally coordinate locations of control devices for all equipment with their controls subcontractor.
- 1.2.34 Change CM trailer a/c filters monthly for the duration of the project
- 1.2.35 Subcontractor to furnish and install all gas fired equipment flues, including those required for equipment provided by others (e.g. gas fired hot water heater provided under Plumbing scope), including supports, heat shields, roof/wall termination hardware, etc.
- 1.2.36 Subcontractor shall provide and install curbs for all roof-mounted equipment. These shall accommodate for the sloped roof condition, as required by roofing contractor, via manufactured or field installed blocking by this subcontractor, and be high enough to not interfere with the equipment's condensate trap.
- 1.2.37 Provide backflow preventers and certification for all mechanical make-up water requirements.
- 1.2.38 Subcontractor shall be responsible for covering all open holes required as a result of this Work, including using pre-manufactured hole covers if at all possible, and using rough carpentry when required. Subcontractor shall furnish and install hole covers over all curbs for roof-mounted equipment. These hole covers shall be per OSHA standards, and shall also protect the building from weather (rain / snow / etc). Maintain weather tightness of temporary hole/curb coverings until final construction is complete.
- 1.2.39 Furnish and install supports for roof mounted ductwork, piping, and equipment. Coordinate sequence and installation with roofing contractor.
- 1.2.40 Subcontractor shall provide a detail plan indicated exact locations and sizes of all openings and supports for coordination with structural steel within 2 weeks of Notice of contract award. Furnish angle frames, for installation by steel contractor, of sufficient size and spacing to support metal deck at all openings and metal deck penetrations required by this subcontract. Furnish structural supports necessary to carry equipment loads to building structure whether or not specifically shown on Contract Documents.

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- 1.2.46 Subcontractor will furnish all electrical devices such as starters, switches, motor controls, relays, pilot lights, accessories, remote control devices, etc. for equipment as detailed in HVAC specifications and drawings or as may be required and/or as recommended by manufacturer for proper operation of equipment.
- 1.2.47 Subcontractor will be responsible for all temporary roof protection as required to complete their Work and shall be responsible to pay for any roof repairs resulting from the performance of Work.
- 1.2.48 Subcontractor shall incorporate in the piping system capability to accommodate anticipated building movement and will satisfy all seismic code requirements.
- 1.2.49 For work of this subcontract, this subcontractor is responsible for providing heat trace as indicated or required to prevent freezing of water or condensate lines, and include insulation jacketing as indicated or required. Include heat trace control panels and tie-in to building automation system/controls for status, setpoints, and trouble/alarm signals.
- 1.2.50 Any penetrations made by this Subcontractor after the installation of masonry and sheetrock walls will be patched and/or grouted by the masonry subcontractor. All costs for repairs will be borne by this subcontractor..
- 1.2.51 Subcontractor shall provide factory authorized alignment of all pumps, and shall provide all temporary start-up strainers at the pumps for each system prior to pump start-up and shall remove the strainers after flushing is completed.
- 1.2.52 Subcontractor to furnish and install all indirect drain piping for all equipment, as required complete with piping, fittings, hangers, and insulation as required to the nearest floor drain.
- 1.2.53 Subcontractor shall provide sleeves in floors and roofs for piping and duct. The Subcontractor shall be responsible for cutting out the metal decking material after the concrete is placed.
- 1.2.54 Subcontractor shall provide wells, ports and penetrations in piping and ductwork to accommodate sensors and probes provided by the Building Automation and Fire Alarm subcontractors.
- 1.2.55 In BAS/DDC system, provide status and alarm monitoring for heat trace systems installed on hydronic piping, fire suppression systems, and/or plumbing systems.
- 1.2.56 In BAS/DDC system, provide status and/or alarm monitoring for elevator sump pumps and sump pump system oil separators.

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- 1.2.57 In BAS/DDC system, provide status and/or alarm monitoring for transfer switches.
- 1.2.58 In BAS/DDC system, provide integration of the lighting control system. **NEED POINTS LISTING FOR THE PROJECT??????**
- 1.2.59 Subcontractor is to review all specifications regarding quality assurance and personnel response times for any maintenance/repair calls.
- 1.2.60 Subcontractor is to provide all attic/extra stock materials specified.
- 1.2.61 Subcontractor shall install all HVAC duct mounted components/devices that report to the Fire Alarm system (i.e. smoke detectors and detector sampling tubes). Fire Alarm subcontractor will furnish these items and locations to this Subcontractor for installation.
- 1.2.62 Subcontractor shall provide offsets and transitions in ductwork and piping as required to avoid interference at no additional cost.
- 1.2.63 This subcontractor is to furnish and install all underfloor radiant heating systems and controls as indicated on contract documents. This subcontractor is to provide pressure test the lines prior to, during and after the concrete pours for verification of any damage and report to the CM immediately. Subcontractor is to be present at all concrete pours for any line repairs required.
- 1.2.64 This subcontractor is to furnish and install all insulation on piping including PVC jacketing at Mechanical room and glass cloth jacketing with painting per painting schedule and stencil requirements per specification sections 15075 and 15083.
- 1.2.65 All insulated piping and ductwork thru floor openings/roof openings will be insulated continuously. Subcontractor to coordinate final opening requirements with the CM/Steel subcontractor.
- 1.2.66 All ductwork at the roof will be aluminum jacketed per specifications.
- 1.2.67 Subcontractor to provide circuit setters at equipment as specified to balance the piping systems.
- 1.2.68 Subcontractor to review and verify all dimensions needed for coil pulling clearances for AHU's at mechanical room prior to placing reinforcing steel and concrete pads for AHU's. .
- 1.2.69 All equipment is to be provided with vibration isolation and sound attenuation as required by the Contract documents.
- 1.2.70 Any penetrations or embedded items through or in waterproofed surfaces shall include all clamping, flanges, caulking or sealing as required for a watertight installation.

## EXHIBIT "A"

Attachment to **Subcontract/Purchase Order No.** by and between **[insert full legal name of subcontractor/seller]** and **J.M. Thompson Company**. For **BP-15.4 HVAC & Controls, The Healing Place of New Hanover County**

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- 1.2.71 Subcontractor is to provide the final cleaning of all equipment provided under this scope of Work. Include touch-up painting of any equipment as required.
- 1.2.72 It is the intention of the Construction Manager to operate the HVAC equipment up to 6 months prior to the completion of the Work for start-up and testing. This requirement does no limit any requirements of the Construction Documents regarding use of equipment prior to turnover, closeout requirements, or warranties. Subcontractor shall provide filters for all equipment in accordance with Contract Documents upon final completion. Subcontractor to install temporary filter media on all fresh air intakes and change a minimum of once a month.
- 1.2.73 Subcontractor shall allow Construction Manager the beneficial use of any system prior to acceptance, at no additional cost or effect on warranty.
- 1.2.74 Provide factory instruction and training to the Owner's representative as required in the Contract Document. All training shall be videotaped and electronic copy of training video included in closeout documentation **in accordance with specification section 017900 Item 1.3A.**
- 1.2.75 This subcontractor shall furnish all O&M manuals no later than December 1.2016. In addition to the specifications all O&M' are to be provided electronically on 4 copies in CD format.
- 1.2.76 Electrical Contractor shall include final power wiring hook-ups and final connection to all mechanical/plumbing & fire protection equipment installed by others. Proper rotation shall be the responsibility of the Electrical Subcontractor and the trade contractor providing the equipment.
- 1.2.77 Subcontractor is responsible to furnish and install fire rated plywood required for mounting of equipment or devices.
- 1.2.78 This subcontractor is to verify AHU weights of all equipment to the table listed on S103 and advise if any discrepancies prior to submission of shop drawings.
- 1.2.79 Prior to Final Commissioning by the Owner's agent, the Subcontractor will execute and document the pre-functional checklists and system functional performance tests as outlined in the Commissioning Specification. The Subcontractor will provide documentation that systems are complete and functional before the Final Project Commissioning is scheduled. Provide manpower and troubleshooting/engineering as necessary to support the commissioning and test & balance activities.
- 1.2.80 Electrical Contractor shall wire from all starters, disconnect switches and/or VFD's to equipment and make final connections.

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- a. Except as otherwise specifically noted in the contract documents, the Electrical Trade Contractor furnishes, installs, and wires all disconnects, except for those specified integral with the equipment.
  - b. Installation, connection and power wiring is by the Electrical Trade Contractor. VFD's are furnished by the trade contractor furnishing the associated equipment. If the contract documents indicate unit factory mounted starters, and the Trade Contractor chooses to furnish field mounted starters, the Trade Contractor shall bear any additional cost to the Electrical Trade Contractor. Starters will be installed by the electrical contractor and must be delivered in a timely manner so as not to impact the electrical contractor.
  - c. The Electrical Trade Contractor wires from disconnect, starter or VFD to the equipment motor or other final power connection point.
  - d. The Electrical Trade Contractor is to provide one set of spare fuses and overload heaters for starters and circuits serving equipment that is vital to the construction process (such as elevator, AHU used for temporary HVAC, etc.)
- 1.2.81 Auxiliary contacts will be furnished by the Electrical Trade Contractor. The HVAC, Fire Protection and Plumbing Trade Contractors are responsible to coordinate with the Electrical Trade Contractor for quantities required.

1.2.82 M/E/P/FP Coordination: Coordinate layout with MEP systems & Fire Suppression subcontractor.

### **2. Alternates/Allowances**

The following are included in the Subcontract Amount/Purchase Order Amount and are included in Exhibit "X"

- 2.1. Alternates
- 2.2. Allowances