PROJECT MANUAL FOR

Tri-County Technical College
Mechanical Construction IDC
Project #H59-D892-FW

Boiler Replacement – Pickens Hall
Project #H59-N950-FW (Seed Project)

Pendleton, South Carolina

May 26, 2017
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**PROJECT NUMBER:** H59-D892-FW

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TECHNICAL SPECIFICATIONS

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INVITATION FOR CONSTRUCTION SERVICES
INDEFINITE DELIVERY CONTRACT

IDC PROJECT NAME: TCTC Mechanical Construction IDC

REPRESENTATIVE PROJECT NAME (if applicable): TCTC Pickens Hall Boiler System

IDC PROJECT NUMBER: H59-D892-FW

REPRESENTATIVE PROJECT NUMBER (if applicable): H59-N950-FW

PROJECT LOCATION: 7900 Hwy 76 Pendleton SC 29670 Pickens Hall

BID SECURITY REQUIRED? Yes ☒ No ☐

DESCRIPTION OF CONSTRUCTION SERVICES (Include Contractor License category/subcategory): IDC construction services including HVAC, piping, and mechanical services. The required licenses are Mech-AC & HT Group 5. The representative project is the replacement and uplift of the boiler system and components for Pickens Hall.

CONTRACT INFORMATION
1. The contract period of the awarded Indefinite Delivery Contract (IDC): 2 years
2. Maximum expenditures over the period of the awarded IDC: $1,000,000
3. Maximum single project expenditure that will be allowed under the awarded IDC: $250,000
4. Maximum number of IDC’s Agency may award under this solicitation: up to 5
5. Method Agency will use to award Delivery Orders under the awarded IDC: Low Bid
6. Minimum dollar value of services Agency will procure under each awarded IDC (Check box if Applicable): N/A

BIDDING DOCUMENTS/PLANS MAY BE OBTAINED FROM:
h t t p : / / t c t c . e d u / A b o u t _ T C T C / P u r c h a s i n g / S o l i c i t a t i o n / S o l i c i t a t i o n . x m l

PLAN DEPOSIT AMOUNT: $50.00 IS DEPOSIT REFUNDABLE Yes ☐ No ☐ N/A ☒

Bidders must obtain Bidding Documents/Plans from the above listed source(s) to be listed as an official plan holder. Only those Bidding Documents/Plans obtained from the above listed source(s) are official. Bidders that rely on copies of Bidding Documents/Plans obtained from any other source do so at their own risk. All written communications with official plan holders & bidders WILL ☒ WILL NOT ☐ be via email or website posting.

IN ADDITION TO THE ABOVE OFFICIAL SOURCE(S), BIDDING DOCUMENTS/PLANS ARE ALSO AVAILABLE AT:
N/A

AGENCY: Tri County Technical College

AGENCY PROJECT COORDINATOR: Lee Perkins

ADDRESS: Street/PO Box:PO Box 587
City: Pendleton

EMAIL: hperkins@tcctc.edu

TELEPHONE: 864-646-1842 FAX: 864-646-1891

PRE-BID CONFERENCE: Yes ☒ No ☐ TIME: 14:00

PRE-BID DATE: 15-June-2017

MANDATORY ATTENDANCE: Yes ☒ No ☐

PLACE: Tri-County Technical College Physical Plant Building Room PP101

BID CLOSING DATE: 29-June-2017 TIME: 14:00

BID DELIVERY ADDRESSES:

HAND-DELIVERY:
Attn: Kristal Doherty
7900 Hwy 76
Pendleton SC 29670

MAIL SERVICE:
Attn: Kristal Doherty
PO Box 587
Pendleton SC 29670

APPROVED BY: [Signature] (OSE Project Manager) DATE: 5/30/2011

INSTRUCTIONS TO THE AGENCY:
1. Submit a copy of the completed SE-655 to the OSE Project Manager in Word format.
SE-656
INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION SERVICES
INDEFINITE DELIVERY CONTRACT

AGENCY: Tri County Technical College
PROJECT NUMBER: H59-D892-FW
PROJECT NAME: TCTC Mechanical Construction IDC
PROJECT LOCATION: 7900 Hwy 76 Pendleton SC, 29670  Pickens Hall

DESCRIPTION OF CONSTRUCTION SERVICES (Include Contractor License category/subcategory): IDC construction services including HVAC, pipefitting and mechanical services, Mech-AC &HT Group 5  The representative project is the replacement and upfit of the boiler system and components for Pickens Hall.

The above named Agency hereby solicits bids for the Construction Services Indefinite Delivery Contract shown above. The Invitation for Bids includes the advertisement (SE-655), bid form, Notice of Intent to Award Indefinite Delivery Contract (SE-670), Construction Services Indefinite Delivery Contract (SE-680), General Conditions to Construction Services Indefinite Delivery Contract (SE-685), drawings and specifications (if applicable), and all addenda issued prior to bid opening, all of which are collectively referred to herein as the Solicitation Documents.

The Invitation for Bids is issued pursuant to South Carolina Code § 11-35-3310 and the Manual for Planning and Execution of State Permanent Improvements, Part II (Manual).

1. GENERAL INFORMATION

1.1 Agency may award up to 5 Indefinite Delivery Contract(s) (IDC) under this solicitation provided the Agency receives and adequate number of responsive and responsible bids. In no event, will the Agency award more contracts than the number set forth in the previous sentence.

1.2 Work is to be performed at the following location(s): (Insert location of work, e.g. a particular campus or campuses)
All TCTC campuses and buildings

1.3 The awarded IDC will be for a period not to exceed 2 years (may not exceed 2 years).

1.4 The awarded IDC allows the Agency to award a total amount of work not to exceed $1,000,000

1.5 Work awarded under the IDC will be awarded using form SE-690, Construction Services IDC Delivery Order. Agency will provide IDC awardees the opportunity to bid on all Delivery Orders for the services set forth in this Invitation.

1.6 The Agency may only award one Delivery Order per project to the contractor. However, a Delivery Order may be amended. A Delivery Order may only be amended in writing signed by both parties using form SE-695, Construction Services Delivery Order Modification.

1.7 Work awarded under the IDC for a single project may not exceed $250,000

1.8 Projects and Delivery Orders may not be divided to avoid the limits set forth in 1.6 and 1.7 above.

1.9 (Check the block for the provision applicable to this solicitation)
☐ The minimum amount of work to be awarded under the IDC is $________________________.
☒ Agency does not guarantee a minimum amount of work, nor does it guarantee the size or quantity of any work that is awarded under the IDC.

1.10 Bidders will agree to perform work for the advertised discipline in the following manner: (Check one)
☐ The cost of the work to the Agency will be determined using unit prices listed by the Bidder on its Bid Form. No other additions to the cost of the work will be permitted except the cost of Performance and Payment Bonds if required for specific Delivery Orders; or
☒ The cost of the work to the Agency will be determined by competitive bidding of each Delivery Order among all contractors having an active contract that the Agency awarded pursuant to this Invitation for Bids.
INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION SERVICES
INDEFINITE DELIVERY CONTRACT

1.11 Bidder must be properly licensed in the discipline and the Group Classification to permit an award up to the maximum individual project award set forth in 1.7. Successful bidder(s) must maintain this license for the term of the contract.

2. SOLICITATION DOCUMENTS

2.1 All persons obtaining Bidding Documents from the issuing office designated in the advertisement shall provide that office with Bidder’s contact information to include the Bidder’s name, telephone number, mailing address, and email address. Agency will send all addenda modifying the Solicitation Documents to all plan holders of record.

2.2 By submitting a bid, Bidder represents that it has read and understands the Solicitation Documents. Bidders are expected to examine the Solicitation Documents thoroughly and should request an explanation of any ambiguities, discrepancies, errors, omissions, or conflicting statements. Failure to do so will be at the Bidder’s risk. Bidder assumes responsibility for any patent ambiguity that Bidder does not bring to the Agency’s attention prior to bid opening. Bidder shall make any requests for substitution, questions, clarifications, or interpretations of the bid documents in writing to the Agency at least 10 days before the Bid Date. The Agency will not give oral instruction prior to bidding nor will any oral instructions to bidders be binding on the Agency.

2.3 The Agency will make corrections, interpretations, or changes that modify the Solicitation Documents by written addendum. As provided in Regulation 19-445.2042(B), if this solicitation provides for a pre-bid conference, nothing stated at the pre-bid conference shall change the Solicitation Documents unless a change is made by written addendum.

2.4 The Agency will not issue addenda later than 120 hours before the date and time specified in the advertisement for receipt of Bids except to withdraw the Invitation for Bids or to extend the date for receipt of bids.

2.5 When the date for receipt of Bids is postponed and there is insufficient time to issue a written Addendum prior to the original Bid Date, Agency will notify prospective Bidders by telephone or other appropriate means with immediate follow up with a written Addendum. This Addendum will verify the postponement of the original Bid Date and establish a new Bid Date. The new Bid Date will be no earlier than the fifth (5th) calendar day after the date of issuance of the Addendum postponing the original Bid Date.

3. BID PREPARATION

3.1 Bidder shall submit its bid using the bid form included in the Solicitation Documents. Bidder shall fill in any blanks on the bid form legibly using an indelible medium. Bidder shall sign its bid in ink or other indelible media. Sums shall be expressed in figures.

3.2 Bidder shall not make stipulations or qualify its bid in any manner not permitted on the bid form. An incomplete Bid or information not requested that is written on or attached to the bid form that could be considered a qualification of the Bid, may be cause for rejection of the Bid.

3.3 Pursuant to Title 11, Chapter 35, Section 3020(b)(i) of the South Carolina Code of Laws, as amended, the bid form may set forth a list of subcontractor specialties for which Bidder is required to list only the subcontractors Bidder will use to perform the work of each listed specialty. Bidder must follow the Instructions in the Bid Form for filling out this section of the Bid Form. Failure to properly fill out this Section may result in rejection of Bidder’s bid as non-responsive.

3.4 Bid Security: (Agency, check the block for the provision applicable to this solicitation)

☐ Bidder is not required to submit Bid Security with its bid.

☒ Bid shall be accompanied by a Bid Security in an amount of not less than 5%. The Bid Security shall be a bid bond or a certified cashier’s check made payable to the Agency.

3.4.1 The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and will, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Failure of the Bidder to enter into a contract with the Agency, furnish such bonds if required, or to correct any Bid deficiencies allowed by law, shall cause bid security to be forfeited to the Agency as liquidated damages, not as a penalty.
3.4.2 If Bidder submits a bid bond as its bid security, the bond shall be written on AIA Document A310, Bid Bond. The bond must be accompanied by a certified and current Power of Attorney for the attorney-in-fact who executes the bond on behalf of the surety company. The Bond shall:

a. Be issued by a Surety Company licensed to do business in South Carolina;

b. Be issued by a Surety Company having, at a minimum, a “Best Rating” of “A” as stated in the most current publication of “Best’s Key Rating Guide, Property-Casualty,” which company shows a financial strength rating of at least five (5) times the contract price.

c. Be enclosed in the bid envelope at the time of Bid Opening, either in paper copy or as an electronic bid bond authorization number provided on the Bid Form and issued by a firm or organization authorized by the Surety to receive, authenticate and issue binding electronic bid bonds on behalf the Surety.

3.4.3 By submitting a Bid Bond via an electronic bid bond authorization number on the Bid Form and signing the Bid Form, the Bidder certifies that an electronic bid bond has been executed by a Surety meeting the standards required by the Bidding Documents and the Bidder and Surety are firmly bound onto the State of South Carolina under the conditions provided in this Section 3.4.

3.4.4 The Agency will retain the Bid Security of those Bidders being considered for award until an IDC has been executed, all bids are rejected, or the time specified in the Solicitation Documents for holding bids open has elapsed, whichever is earlier.

3.5 Submission of Bids: The Bidders shall submit their Bid, Bid Security, if any, and any other documents required by the Solicitation Documents to be submitted with the Bid, in a sealed opaque envelope. Unless hand delivered by the Bidder, the sealed envelope must be addressed to the Agency’s designated purchasing office as shown in the advertisement. The envelope shall be identified on the outside with the Project Name and Number, and the Bidder’s name and address. If the Bidder sends its bid to the Agency by mail or special delivery service (UPS, Federal Express, etc.), the envelope should be labeled “BID ENCLOSED” on the face thereof. Bidders hand delivering their bids shall deliver bids to the place of the bid opening as shown in the advertisement. Whether or not Bidders attend the bid opening, they shall give their bids to the Agency’s procurement officer or his/her designee as shown in the Advertisement prior to the time of the bid opening.

3.5.1 Each copy of the Bid submitted to the Agency shall be signed by the person(s) legally authorized to bind the Bidder to a contract. If the Bid is submitted by an agent of the Bidder, a current Power of Attorney certifying the agent’s authority to bind the Bidder shall be attached to the bid.

3.5.2 The Agency must receive Bids at the designated location before the time and date specified in the Solicitation Documents for receipt of Bids. The Agency will return bids received after the time and date for receipt of Bids unopened.

3.5.3 The official time for receipt of Bids will be determined by reference to the clock designated by the Agency’s Procurement Officer or his/her designee. The Procurement Officer conducting the Bid Opening will determine and announce that the deadline has arrived and no further Bids or bid modifications will be accepted. All Bids and bid modifications in the possession of the Procurement Officer at the time the announcement is completed will be timely, whether or not the bid envelope has been date/time stamped or otherwise marked by the Procurement Officer.

3.5.4 If an emergency or unanticipated event interrupts normal government processes so that Bids cannot be received at the government office designated for receipt of Bids by the exact time specified in the solicitation, the time specified for receipt of Bids will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal government processes resume. In lieu of an automatic extension, an Addendum may be issued to reschedule bid opening. If state offices are closed at the time a pre-bid or pre-proposal conference is scheduled, an Addendum will be issued to reschedule the conference.

4. CONDUCT OF BID OPENING AND CONSIDERATION OF BIDS

4.1 Bid Opening:

4.1.1 Agency will publicly open and read aloud Bids received on time.
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INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION SERVICES INDEFINITE DELIVERY CONTRACT

4.1.2 At Bid Opening, Agency will announce the date and location of the posting of the Notice of Intent to Award IDC.

4.1.3 Agency will send a copy of the final Bid Tabulation to all Bidders within ten (10) working days of the bid opening.

4.1.4 If Agency determines to make an award, Agency will, after posting a Notice of Intent to Award IDC, send a copy of the Notice to all Bidders.

4.1.5 If only one Bid is received, Agency will open and consider the Bid.

4.2 Agency intends to award contracts in the number set forth in the Solicitation Documents to the lowest responsive and responsible bidders.

4.3 Bid Rejection: The Agency reserves the right to reject any and all bids.

4.3.1 Responsiveness:

4.3.1.1 The reasons for which the Agency will reject Bids include, but are not limited to:

   a. Failure by a Bidder to be represented at a Mandatory Pre-Bid Conference or site visit;
   b. Failure to deliver the Bid on time;
   c. Failure to comply with Bid Security requirements, except as expressly allowed by law;
   d. Listing an invalid electronic Bid Bond authorization number on the bid form;
   e. Failure to bid an alternate, except as expressly allowed by law;
   f. Failure to list qualified Subcontractors as required by law;
   g. Showing any material modification(s) or exception(s) qualifying the Bid;
   h. Faxing a Bid directly to the Agency or their representative; or
   i. Failure to include a properly executed Power-of-Attorney with the Bid Bond.

4.3.1.2 The Agency may reject a Bid as nonresponsive if the prices bid are materially unbalanced between line items or sub line items. A Bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and if there is a reasonable doubt that the bid will result in the lowest overall cost to the Agency, even though it may be the low evaluated bid, or if it is so unbalanced as to be tantamount to allowing an advance payment.

4.3.2 Bidder Responsibility: Agency will make a determination of Bidder’s responsibility before awarding a contract. Bidder shall provide all information and documentation requested by the Agency to support the Agency’s evaluation of responsibility. Failure of Bidder to provide requested information is cause for the Agency, at its option, to determine the Bidder to be non-responsible.

4.4 Clarification: Pursuant to Section 11-35-1520(8), the Procurement Officer may elect to communicate with a Bidder after opening for the purpose of clarifying either the Bid or the requirements of the Invitation for Bids. Such communications may be conducted only with Bidders who have submitted a Bid which obviously conforms in all material aspects to the Invitation for Bids and only in accordance with Appendix D (Paragraph A(6)) to the Manual for Planning and Execution of State Permanent Improvement, Part II. Clarification of a Bid must be documented in writing and included with the Bid. Clarifications may not be used to revise a Bid or the Invitation for Bids. [Section 11-35-1520(8); R.19-445.2080]

5. TENDERING CONTRACT, CERTIFICATES OF INSURANCE, AND PERFORMANCE AND PAYMENT BONDS

5.1 After expiration of the protest period, the Agency will tender a signed IDC to the successful Bidder(s). The Bidder(s) shall return the fully executed IDC to the Agency within seven (7) days thereafter. The Bidder(s) shall deliver the required proof of insurance and bonding capacity to the Agency not later than three (3) days following the date of execution of the IDC. Failure to deliver these documents as required shall entitle the Agency to consider the Bidder’s failure as a refusal to enter into a contract in accordance with the terms and conditions of the Bidder’s bid and to make claim on the bid security.

5.2 The IDC will be written on OSE form SE-680, Construction Services Indefinite Delivery Contract.

5.3 After the IDC is fully executed, the Agency may award work to the successful Bidder(s) by issuing a Delivery Order in the manner described in the SE-680 and SE-685, General Conditions to the SE-680.
6. **BIDDER CERTIFICATIONS**

6.1 **Certification of Independent Price Determination**

GIVING FALSE, MISLEADING, OR INCOMPLETE INFORMATION ON THIS CERTIFICATION MAY RENDER YOU SUBJECT TO PROSECUTION UNDER SECTION 16-9-10 OF THE SOUTH CAROLINA CODE OF LAWS AND OTHER APPLICABLE LAWS.

(a) By submitting a bid, the Bidder certifies that—

(1) The prices in this Bid have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other Bidder or competitor relating to—

(i) Those prices;
(ii) The intention to submit a bid; or
(iii) The methods or factors used to calculate the prices offered.

(2) The prices in this Bid have not been and will not be knowingly disclosed by the Bidder, directly or indirectly, to any other Bidder or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the Bidder to induce any other concern to submit or not to submit a Bid for the purpose of restricting competition.

(b) Each signature on the Bid is considered to be a certification by the Signatory that the Signatory—

(1) Is the person in the Bidder’s organization responsible for determining the prices being offered in this Bid, and that the Signatory has not participated and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this certification; or

(2) (i) Has been authorized, in writing, to act as agent for the Bidder’s principals in certifying that those principals have not participated, and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this certification [As used in this subdivision (b)(2)(i), the term “principals” means the person(s) in the Bidder’s organization responsible for determining the prices offered in this Bid];

(ii) As an authorized agent, does certify that the principals referenced in subdivision (b)(2)(i) of this certification have not participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this certification; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this certification.

(c) If the Bidder deletes or modifies paragraph (a)(2) of this certification, the Bidder must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

6.2 **Drug Free Workplace:** By submitting a bid, the Bidder certifies that Bidder will maintain a drug free workplace in accordance with the requirements of Title 44, Chapter 107 of South Carolina Code of Laws, as amended.

6.3 **Certification Regarding Debarment and Other Responsibility Matters:**

(a) (1) By submitting an Bid, Bidder certifies, to the best of its knowledge and belief, that—

(i) Bidder and/or any of its Principals-

(A) Are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any state or federal agency;

(B) Have not, within a three-year period preceding this Bid, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of bids; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and
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(C) Are not presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a)(1)(ii)(B) of this provision.

(ii) Bidder has not, within a three-year period preceding this bid, had one or more contracts terminated for default by any public (Federal, state, or local) entity.

(2) “Principals,” for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

(b) Bidder shall provide immediate written notice to the Procurement Officer if, at any time prior to contract award, Bidder learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

c) If Bidder is unable to certify the representations stated in paragraphs (a)(1). Bid must submit a written explanation regarding its inability to make the certification. The certification will be considered in connection with a review of the Bidder’s responsibility. Failure of the Bidder to furnish additional information as requested by the Procurement Officer may render the Bidder nonresponsible.

d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of a Bidder is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Bidder knowingly or in bad faith rendered an erroneous certification, in addition to other remedies available to the State, the Procurement Officer may terminate the contract resulting from this solicitation for default.

6.4 Ethics Certification: By submitting a bid, the Bidder certifies that the Bidder has and will comply with, and has not, and will not, induce a person to violate Title 8, Chapter 13 of the South Carolina Code of Laws, as amended (ethics act). The following statutes require special attention: Section 8-13-700, regarding use of official position for financial gain; Section 8-13-705, regarding gifts to influence action of public official; Section 8-13-720, regarding offering money for advice or assistance of public official; Sections 8-13-755 and 8-13-760, regarding restrictions on employment by former public official; Section 8-13-775, prohibiting public official with economic interests from acting on contracts; Section 8-13-790, regarding recovery of kickbacks; Section 8-13-1150, regarding statements to be filed by consultants; and Section 8-13-1342, regarding restrictions on contributions by contractor to candidate who participated in awarding of contract. The state may rescind any contract and recover all amounts expended as a result of any action taken in violation of this provision. If contractor participates, directly or indirectly, in the evaluation or award of public contracts, including without limitation, change orders or task orders regarding a public contract, contractor shall, if required by law to file such a statement, provide the statement required by Section 8-13-1150 to the procurement officer at the same time the law requires the statement to be filed.

6.5 Restrictions Applicable to Bidders and Gifts: Violation of these restrictions may result in disqualification of your bid, suspension or debarment, and may constitute a violation of the state Ethics Act. (a) After issuance of the solicitation, 

**bidder agrees not to discuss this procurement activity in any way with the Owner or its employees, agents or officials.** All communications must be solely with the Procurement Officer. This restriction may be lifted by express written permission from the Procurement Officer. This restriction expires once a contract has been formed. (b) Unless otherwise approved in writing by the Procurement Officer, **bidder agrees not to give anything to the Owner, any affiliated organizations, or the employees, agents or officials of either, prior to award.** (c) Bidder acknowledges that the policy of the State is that a governmental body should not accept or solicit a gift, directly or indirectly, from a donor if the governmental body has reason to believe the donor has or is seeking to obtain contractual or other business or financial relationships with the governmental body. Regulation 19-445.2165(C) broadly defines the term donor.
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INDEFINITE DELIVERY CONTRACT

6.6 Iran Divestment Act Certification: (a) The Iran Divestment Act List is a list published by the State Fiscal Accountability Authority pursuant to Section 11-57-310 that identifies persons engaged in investment activities in Iran. The list is available at the following URL: [http://procurement.sc.gov/PS/PS-iran-divestment.plhtm](http://procurement.sc.gov/PS/PS-iran-divestment.plhtm). Section 11-57-310 requires the government to provide a person ninety days written notice before he is included on the list. The following representation, which is required by Section 11-57-330(A), is a material inducement for the State to award a contract to you. (b) By signing your Offer, you certify that, as of the date you sign, you are not on the then-current version of the Iran Divestment Act List. (c) You must notify the Procurement Officer immediately if, at any time before posting of a final statement of award, you are added to the Iran Divestment Act List.

6.7 Open Trade Representation (Jun 2015): By submitting an Offer, Offeror represents that Offeror is not currently engaged in the boycott of a person or an entity based in or doing business with a jurisdiction with whom South Carolina can enjoy open trade, as defined in SC Code Section 11-35-5300. [02-2A083-1]

7. MISCELLANEOUS PROVISIONS

7.1 Non-Resident Taxpayer Registration Affidavit - Income Tax Withholding:

IMPORTANT TAX NOTICE - NONRESIDENTS ONLY

Withholding Requirements for Payments to Nonresidents: Section 12-8-550 of the South Carolina Code of Laws requires persons hiring or contracting with a nonresident conducting a business or performing personal services of a temporary nature within South Carolina to withhold 2% of each payment made to the nonresident. The withholding requirement does not apply to (1) payments on purchase orders for tangible personal property when the payments are not accompanied by services to be performed in South Carolina, (2) nonresidents who are not conducting business in South Carolina, (3) nonresidents for contracts that do not exceed $10,000 in a calendar year, or (4) payments to a nonresident who (a) registers with either the S.C. Department of Revenue or the S.C. Secretary of State and (b) submits a Nonresident Taxpayer Registration Affidavit - Income Tax Withholding, Form I-312 to the person letting the contract.

For information about other withholding requirements (e.g., employee withholding), contact the Withholding Section at the South Carolina Department of Revenue at 803-898-5383 or visit the Department’s website at: [www.sctax.org](http://www.sctax.org)

This notice is for informational purposes only. This Owner does not administer and has no authority over tax issues. All registration questions should be directed to the License and Registration Section at 803-898-5872 or to the South Carolina Department of Revenue, Registration Unit, Columbia, SC 29214-0140. All withholding questions should be directed to the Withholding Section at 803-898-5383.

PLEASE SEE THE “NONRESIDENT TAXPAYER REGISTRATION AFFIDAVIT INCOME TAX WITHHOLDING” FORM (FORM NUMBER I-312) LOCATED AT: [http://www.sctax.org/Forms+and+Instructions/withholding/default.htm](http://www.sctax.org/Forms+and+Instructions/withholding/default.htm)

7.2 Contractor Licensing: Contractors and Subcontractors listed on the Bid Form who are required by the South Carolina Code of Laws to be licensed, must be licensed at the time of bidding.

7.3 Submitting Confidential Information: For every document Bidder submits in response to or with regard to this solicitation or request, Bidder must separately mark with the word “CONFIDENTIAL” every page, or portion thereof, that Bidder contends contains information that is exempt from public disclosure because it is either (a) a trade secret as defined in Section 30-4-40(a)(1), or (b) privileged and confidential, as that phrase is used in Section 11-35-410. For every document Bidder submits in response to or with regard to this solicitation or request, Bidder must separately mark with the words “TRADE SECRET” every page, or portion thereof, that Bidder contends contains a trade secret as that term is defined by Section 39-8-20 of the Trade Secrets Act. For every document Bidder submits in response to or with regard to this solicitation or request, Bidder must separately mark with the word “PROTECTED” every page, or portion thereof, that Bidder contends is protected by Section 11-35-1810. All markings must be conspicuous; use color, bold, underlining, or some other method in order to conspicuously distinguish the mark from the other text. Do not mark your entire bid as confidential, trade secret, or protected! If your bid, or any part thereof, is improperly marked as confidential or trade secret or protected, the State may, in its sole discretion, determine it nonresponsive. If only portions of a page are subject to some protection, do not mark the entire page. By submitting a response to this solicitation, Bidder (1) agrees to the public disclosure of every page of every document regarding this solicitation or request that was submitted at any time prior to entering into a contract (including, but not limited to, documents contained in a response, documents submitted to clarify a response, & documents submitted during negotiations), unless the page is conspicuously marked “TRADE SECRET” or “CONFIDENTIAL” or “PROTECTED,” (2) agrees
that any information not marked, as required by these bidding instructions, as a “TRADE SECRET” is not a trade secret as defined by the Trade Secrets Act, and (3) agrees that, notwithstanding any claims or markings otherwise, any prices, commissions, discounts, or other financial figures used to determine the award, as well as the final contract amount, are subject to public disclosure. In determining whether to release documents, the State will detrimentally rely on Bidder’s marking of documents, as required by these bidding instructions, as being either “CONFIDENTIAL” or “TRADE SECRET” or “PROTECTED”. By submitting a response, Bidder agrees to defend, indemnify & hold harmless the State of South Carolina, its officers & employees, from every claim, demand, loss, expense, cost, damage or injury, including attorney’s fees, arising out of or resulting from the State withholding information that Bidder marked as “CONFIDENTIAL” or “TRADE SECRET” or “PROTECTED”.

7.4 Posting of Notice of Intent to Award IDC:
Notice of Intent to Award, SE-670, will be posted at the following location:

Room or Area of Posting: RH 114

Building Where Posted: Ruby Hick Administration Bldg.

Address of Building: 7900 Hwy 76 Pendleton SC, 29670

WEB site address (if applicable):
http://www.tctc.edu/About_TCTC/PurchasingSolicitation/Award_Postings.xml

Posting date will be announced at bid opening. In addition to posting the notice, the Owner will promptly send all responsive bidders a copy of the notice of intent to award and the final bid tabulation.

7.5 Protest of Solicitation or Award: Any prospective bidder, offeror, contractor or subcontractor who is aggrieved in connection with the solicitation of a contract shall protest within fifteen days of the date of issuance of the applicable solicitation document at issue. Any actual bidder, offeror, contractor or subcontractor who is aggrieved in connection with the intended award or award of a contract shall protest within ten (10) days of the date notification of intent to award is posted in accordance with Title 11, Chapter 35, Section 4210 of the South Carolina Code of Laws, as amended. A protest shall be in writing, shall set forth the grounds of the protest and the relief requested with enough particularity to give notice of the issues to be decided, and must be received by the State Engineer within the time provided. Any protest must be addressed to the CPO, Office of State Engineer, and submitted in writing (a) by email to protest-ose@mmo.sc.gov. (b) by facsimile at 803-737-0639, or (c) by post or delivery to 1201 Main Street, Suite 600, Columbia, SC 29201. By submitting a protest to the foregoing email address, you (and any person acting on your behalf) consent to receive communications regarding your protest (and any related protests) at the e-mail address from which you sent your protest.

7.6 Solicitation Information From Sources Other Than Official Source: South Carolina Business Opportunities (SCBO) is the official state government publication for State of South Carolina solicitations. Any information on State agency solicitations obtained from any other source is unofficial and any reliance placed on such information is at the bidder’s sole risk and is without recourse under the South Carolina Consolidated Procurement Code.

7.7 Installation Floater/Builder’s Risk Insurance: Agency insures its property through the South Carolina Insurance Reserve Fund. The Insurance Reserve Fund will not name a third party as an additional insured nor will it allow the Agency to waive subrogation. Pursuant to Section H of the SE-680, Agency may require Bidder to provide an installation floater or builder’s risk insurance when issuing a Delivery Order under the IDC.

7.8 Tax Credit for Subcontracting with Disadvantaged Small Businesses: Pursuant to Section 12-6-3350, a taxpayer having a contract with this State who subcontracts with a socially and economically disadvantaged small business is eligible for an income tax credit equal to four percent of the payments to that subcontractor for work pursuant to the contract. The subcontractor must be certified as a socially and economically disadvantaged small business as defined in Section 11-35-5010 and regulations pursuant to it. The credit is limited to a maximum of fifty thousand dollars annually. A taxpayer is eligible to claim the credit for ten consecutive taxable years beginning with the taxable year in which the first payment is made to the subcontractor that qualifies for the credit. After the above ten consecutive taxable years, the taxpayer is no longer eligible for the credit. A taxpayer claiming the credit shall maintain evidence of work performed for the contract by the subcontractor. The credit may be claimed on Form TC-2, “Minority Business Credit.” A copy of the subcontractor’s certificate from the Governor’s Office of Small and Minority Business (OSMBA) is to be attached to the contractor’s income tax return. Questions regarding the tax credit and how to file are to be referred to: SC Department of Revenue, Research and Review, Phone: (803) 898-5786, Fax:
INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION SERVICES
INDEFINITE DELIVERY CONTRACT

(803) 898-5888. Questions regarding subcontractor certification are to be referred to: Governor’s Office of Small and Minority Business Assistance, Phone: (803) 734-0657, Fax: (803) 734-2498.

7.9 Performance & Payment Bonds; Pursuant to SC Code Ann § 11-35-3030, when the Agency awards a Delivery Order to the Indefinite Delivery Contractor in excess of $50,000, the Contractor shall provide Performance and Payment Bonds each in the amount of 100% of the delivery order price. See Section H of the SE-680 for more details.

7.10 Other Special Conditions:

The College desires to provide a healthy working and learning environment for its employees and students. Therefore, the use of tobacco products will be prohibited effective August 1, 2014. For the purpose of this policy, “tobacco” refers to any and all tobacco products, whether inhaled or ingested, as well as electronic cigarettes and vaporizers. The use of tobacco products shall be prohibited everywhere on all campuses, inside buildings and throughout the grounds. This policy applies to everyone and anyone on campus, including students, staff, faculty, contractors, and visitors.

7.11 Special documents required to be submitted with the bid for this project include:

___
___
___
___
AIA Documents A 310

Bid Bond

Bidder Notification:

This AIA Document is included by reference only.

Originals are available at the following location should the Bidder wish to examine the contents of the Document.

Engineer's Office:

Peritus Engineers & Associates, Inc.
10 E. Dorchester Blvd.
Greenville, SC

To View a Copy Call

(864) 277-8287
SE-659
CONSTRUCTION SERVICES INDEFINITE DELIVERY CONTRACT
REPRESENTATIVE PROJECT BID FORM

Bidders shall submit bids on only Bid Form SE-659.

BID SUBMITTED BY: ________________________________
(Bidder's Name)

BID SUBMITTED TO: Tri County Technical College
(Owner's Name)

FOR: PROJECT NAME: TCTC Pickens Hall Boiler System

PROJECT NUMBER: H59-N950-FW

OFFER

§ 1. In response to the Invitation for Indefinite Delivery of Construction Services and in compliance with the Instructions to Bidders for the above-named Project, the undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into a Contract with the Owner on the terms included in the Bidding Documents, and to perform all Work as specified or indicated in the Bidding Documents, for the prices and within the time frames indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

§ 2. Pursuant to Section 11-32-3030(1) of the SC Code of Laws, as amended, Bidder has submitted Bid Security as follows in the amount and form required by the Bidding Documents:

☐ Bid Bond with Power of Attorney ☐ Electronic Bid Bond ☐ Cashier’s Check

(Bidder check one)

§ 3. Bidder acknowledges the receipt of the following Addenda to the Bidding Documents and has incorporated the effects of said Addenda into this Bid:

(Bidder, check all that apply. Note, there may be more boxes than actual addenda. Do not check boxes that do not apply)

ADDENDA: ☐ #1 ☐ #2 ☐ #3 ☐ #4 ☐ #5

§ 4. Bidder accepts all terms and conditions of the Invitation for Bids, including, without limitation, those dealing with the disposition of Bid Security. Bidder agrees that this Bid may not be revoked or withdrawn after the opening of bids, and shall remain open for acceptance for a period of 60 Days following the Bid Date, or for such longer period of time that Bidder may agree to in writing upon request of the Owner.

§ 5. Bidder herewith offers to provide all labor, materials, equipment, tools of trades and labor, accessories, appliances, warranties and guarantees, and to pay all royalties, fees, permits, licenses and applicable taxes necessary to complete the following items of construction work:

§ 6.1 REPRESENTATIVE PROJECT WORK DESCRIPTION (as indicated in the Bidding Documents and generally described as follows): Replacement and modifications of boiler system as specified in project manual.

$______________________________, which sum is hereafter called the Base Bid.

(Bidder - insert Bid Amount for Representative Project on line above)

This bid price will be used to determine which bidders will receive award of an Indefinite Delivery Contract. The lowest responsive and responsible bidder will also receive a Delivery Order to perform the above described work at the price bid. Award and pricing of subsequent Delivery Orders shall be determined by competitive bidding between Indefinite Delivery Contractors receiving an award of an Indefinite Delivery Contract pursuant to this solicitation.
§ 6.2 BID ALTERNATES as indicated in the Bidding Documents and generally described as follows:

ALTERNATE # 1 (Brief Description): N/A

☐ ADD TO or ☐ DEDUCT FROM BASE BID: $

(Bidder to Mark appropriate box to clearly indicate the price adjustment offered for each alternate)

ALTERNATE # 2 (Brief Description): N/A

☐ ADD TO or ☐ DEDUCT FROM BASE BID: $

(Bidder to Mark appropriate box to clearly indicate the price adjustment offered for each alternate)

ALTERNATE # 3 (Brief Description): N/A

☐ ADD TO or ☐ DEDUCT FROM BASE BID: $

(Bidder to Mark appropriate box to clearly indicate the price adjustment offered for each alternate)

§ 7. LISTING OF PROPOSED SUBCONTRACTORS PURSUANT TO SECTION 3020(b)(i), CHAPTER 35, TITLE 11 OF THE SOUTH CAROLINA CODE OF LAWS, AS AMENDED: (Owner check box that applies.)

☑ Bidder shall list on Appendix A to this bid form those subcontractors which bidder intends to use to perform the work requiring the license classification and/or subclassification listed therein. Bidder shall only use the listed subcontractors in performance of such licensed work.

☐ Bidder is not required to list subcontractors.

§ 8. TIME OF CONTRACT PERFORMANCE AND LIQUIDATED DAMAGES – INDEFINITE DELIVERY CONTRACT

Bidder agrees that the Date of Commencement of any contract awarded pursuant to the Invitation for Bids shall be established in the Agreement for Indefinite Delivery of Construction Services to be executed by the Owner and the successful Bidder. Bidder also agrees that individual Delivery Orders, if any, shall establish the Date of Commencement, the time to complete the Work included in the Delivery Order (or the completion date), and the amount, if any, the Owner shall retain from the compensation to be paid as Liquidated Damages for each calendar day the actual construction time required to complete the Work exceeds the specified or adjusted time for completion as provided in the Contract Documents.

§ 8.1 TIME OF CONTRACT PERFORMANCE AND LIQUIDATED DAMAGES - REPRESENTATIVE PROJECT

a) CONTRACT TIME: Bidder agrees that the Date of Commencement of the Work shall be established in a Notice to Proceed to be issued by the Owner. Bidder agrees to substantially complete the Work within 90 Calendar Days from the Date of Commencement, subject to adjustments as provided in the Contract Documents.

b) LIQUIDATED DAMAGES: Bidder further agrees that from the compensation to be paid, the Owner shall retain as Liquidated Damages the amount of $ 250.00 for each Calendar Day the actual construction time required to achieve Substantial Completion exceeds the specified or adjusted time for Substantial Completion as provided in the Contract Documents. This amount is intended by the parties as the predetermined measure of compensation for actual damages, not as a penalty for nonperformance.
§ 9. AGREEMENTS

a) Bidder agrees that this bid is subject to the requirements of the laws of the State of South Carolina.

b) Bidder agrees that at any time prior to execution of the Construction Services Indefinite Delivery Contract for this Project, this Project may be canceled for the convenience of, and without cost to, the State.

c) Bidder agrees that neither the State of South Carolina nor any of its agencies, employees or agents shall be responsible for any bid preparation costs, or any costs or charges of any type, should all bids be rejected or the Project canceled for any reason prior to execution of the Construction Services Indefinite Delivery Contract.

§ 10. ELECTRONIC BID BOND

By signing below, the Principal is affirming that the identified electronic bid bond has been executed and that the Principal and Surety are firmly bound unto the State of South Carolina under the terms and conditions of the AIA Document A310, Bid Bond, included in the Bidding Documents.

ELECTRONIC BID BOND NUMBER:

SIGNATURE AND TITLE:

CONTRACTOR'S CLASSIFICATIONS AND SUBCLASSIFICATIONS WITH LIMITATION

SC CONTRACTOR'S LICENSE NUMBER(S):

CLASSIFICATION(S) & LIMITS:

SUBCLASSIFICATION(S) & LIMITS:

By signing this Bid, the person signing reaffirms all representation and certification made by both the person signing and the Bidder, including without limitation, those appearing in Article 2 of the Instructions to Bidders, is expressly incorporated by reference.

BIDDER'S LEGAL NAME:

ADDRESS:

TELEPHONE:

EMAIL:

SIGNATURE: ___________________________ DATE: __________

PRINT NAME:

TITLE: ________________________________
SE-659 – APPENDIX A
CONSTRUCTION SERVICES INDEFINITE DELIVERY CONTRACT
REPRESENTATIVE PROJECT BID FORM

LISTING OF PROPOSED SUBCONTRACTORS PURSUANT TO SECTION 3020(b)(i), CHAPTER 35, TITLE 11
OF THE SOUTH CAROLINA CODE OF LAWS, AS AMENDED.

<table>
<thead>
<tr>
<th>Bidder shall use the below-listed Subcontractors in the performance of the Subcontractor Classification work listed:</th>
<th>SUBCONTRACTOR’S NAME</th>
<th>SUBCONTRACTOR’S SC LICENSE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SUBCONTRACTOR CLASSIFICATION</strong></td>
<td><strong>PRIME CONTRACTOR’S NAME</strong></td>
<td><strong>PRIME CONTRACTOR’S SC LICENSE NUMBER</strong></td>
</tr>
<tr>
<td>By License Classification and/or Subclassification (Completed by Owner)</td>
<td>(Must be completed by Bidder)</td>
<td>(Requested, but not Required)</td>
</tr>
</tbody>
</table>

**BASE BID**

<table>
<thead>
<tr>
<th>Mech-EL</th>
</tr>
</thead>
</table>

**INSTRUCTIONS FOR SUBCONTRACTOR LISTING**

1. Completing the form above:
   a. **First Column:** The Owner fills out this column which identifies the contractor/subcontractor specialties for which the bidder must list either a subcontractor or himself as the entity that will perform this work. Subcontractor specialties are identified by contractor license classifications or subclassifications listed in Title 40 of the South Carolina Code of laws. If the owner has not identified a specialty, the bidder does not list a subcontractor.
   b. **Second and Third Columns:** In these columns the Bidder identifies the subcontractors it will use for the work of each specialty listed by the Agency in the First Column. Bidder must identify only the subcontractor(s) who will perform the work and no others. Bidders should make sure that their identification of each subcontractor is clear and unambiguous. A listing that could be any number of different entities may be cause for rejection of the bid as non-responsive. For example, a listing of M&M without more may be problematic if there are multiple different licensed subcontractors in South Carolina whose names start with M&M.

2. **Subcontractor Defined:** For purposes of subcontractor listing, a Subcontractor is an entity who will perform work or render service to the prime contractor to or about the construction site. Material suppliers, manufacturers, and fabricators that will not perform physical work at the site of the project but will only supply materials or equipment to the bidder or proposed subcontractor(s) are not subcontractors and Bidder should not insert their names in the spaces provided on the Bid Form. Likewise, Bidder should not insert the names of sub-subcontractors in the spaces provided on the Bid Form but only the names of those entities with which Bidder will contract directly.

3. **Subcontractor Qualifications:** Bidder must only list subcontractors who are qualified to perform the work of the listed specialties as specified in the Bidding Documents and who possess a South Carolina Contractor’s license with the license classification and/or subclassification identified by the Owner in the first column on the left. If Bidder lists a subcontractor who is not qualified to perform the work, the Bidder will be rejected as non-responsive.

4. **Use of Own forces:** If under the terms of the Bidding Documents, Bidder is qualified to perform the work of a classification listed and Bidder does not intend to subcontract such work, but to use Bidder’s own employees to perform such work, the Bidder must insert its own name in the space provided for that classification

5. **Use of Multiple Subcontractors:**
   a. If Bidder intends to use multiple subcontractors to perform the work of a single classification listing, Bidder must insert the name of each subcontractor Bidder will use, preferably separating the names of each by the word “and”. If Bidder intends to use both his own employees to perform a part of the work of a single classification listing and to use one or more subcontractors to perform the remaining work for that classification listing, Bidder must insert his own name and the name of each subcontractor, preferably separating the name of each with the word “and”.
   b. **Optional Listing Prohibited:** Bidder may not list multiple subcontractors for a classification listing, in a form that provides the Bidder the option, after bid opening or award, to choose to use one or more but not all the listed subcontractors to perform the work for which they are listed. A listing, which on its face requires subsequent explanation to determine whether it is an optional listing, is non-responsive. If Bidder intends to use multiple entities to perform the work for a single classification listing, Bidder must clearly set forth on the bid form such intent. Bidder may accomplish this by simply inserting the word “and” between the names of each entity listed for that specialty. Owner will reject as non-responsive a listing that contains the names of multiple subcontractors separated by a blank space, the word “or”, a virgule (that is a ’), or any separator that the Owner may reasonably interpret as an optional listing.

6. If Bidder is awarded the contract, Bidder must use the listed entities to perform the work for which they are listed. Bidder will not be allowed to substitute another entity as subcontractor in place of a subcontractor listed in Appendix A of the Bid Form except for one or more of the reasons allowed by the SC Code of Laws.

7. Bidder’s failure to identify an entity (subcontractor or himself) to perform the work of a subcontractor specialty listed in the first column on the left will render the Bid non-responsive.
CONSTRUCTION SERVICES INDEFINITE DELIVERY CONTRACT

AGENCY: Tri County Technical College

PROJECT NAME: TCTC Pickens Hall Boiler System

PROJECT NUMBER: H59-D892-FW

AGENCY PROCUREMENT OFFICER: Kristal Doherty

THIS AGREEMENT is made this the day of in the year Two Thousand by and between

NAME: Tri County Technical College
ADDRESS: 7900 Hwy 76
        Pendleton SC, 29670

hereinafter called the “Agency”, and

NAME: 
ADDRESS:

hereinafter called the “Contractor.”

WHEREAS, the Agency solicited bids for construction services, for the work description below, for projects to be determined, on an as-needed basis:

WORK DESCRIPTION: Mechanical and HVAC services and installation

WHEREAS, Contractor submitted a successful bid to provide the services described above on an as-needed basis.

NOWTHEREFORE, in consideration of the mutual covenants and obligations set forth herein, the Agency and Contractor (hereinafter jointly referred to as the “parties”) agree as follows:

A. Contract Term:
1. The effective date of this agreement shall commence as of the date at the top of this page and the term shall extend until , 20 (not to exceed two (2) years). The parties may not renew this agreement for an additional term nor may they extend the duration of this agreement by amendment or waiver.

2. Contractor proposals accepted by the Agency within the time limits of the contract may be completed by the Contractor even though the completion date may extend beyond the term of the contract.

B. Contract Documents:
1. Documents forming a part of the contract are:
   a. This Agreement for Indefinite Delivery of Construction Services;
   b. Invitation for Construction Services Indefinite Delivery Contract dated 30-May-2017;
   c. General Conditions to Construction Services Indefinite Delivery Contract, SE-685 (General Conditions);
   d. Contractors completed IDC Bid Form SE-699;
   e. Agency requests for proposals for construction services made pursuant to this contract;
   f. Proposals issued by the contractor in response to the Agency’s request for proposals;
   g. Delivery Orders (SE-690) and Modifications (SE-695) issued by the Agency pursuant to this contract;
   h. Project Manual issued with the Invitation for Construction Services Indefinite Delivery Contract, if any;
   i. Addenda to the Invitation for Construction Services Indefinite Delivery Contract issued prior to the date of bid opening;
   j. The following other documents:
      Specification on Drawings
      Project Manual

2. The contract is the entire and integrated agreement between the parties and supersedes prior negotiations, representations, or agreements, whether written or oral.
C. **The Work:**
   1. The Agency will request proposals for construction services on an as-needed basis. The scope of services will be within the general description of work set forth above and within the expenditure limits set forth in the Invitation for Construction Services Indefinite Delivery Contract. The Agency will award work by issuing the contractor a Delivery Order using form SE-690, Construction Services IDC Delivery Order. The method for requesting proposals and awarding Delivery Orders shall be in accordance with the procedures set forth in Part 4 of the General Conditions.
   2. The Contractor shall not incur any expense chargeable to the Agency on or about the work of any Delivery Order assigned to this contract until the Delivery Order has been awarded and fully executed by both the Agency and the Contractor.

D. **Payment:**
   Contractor shall make application for payment for work performed under Delivery Orders and the Agency shall make payment in the form and manner set forth in Part 4.3 of the General Conditions.

E. **Termination:**
   The parties may terminate the contract only in the manner provided in Part 9 of the General Conditions.

F. **Dispute Resolution:**
   The parties shall resolve all disputes in the manner provided in Part 5 of the General Conditions.

G. **Representatives:**
   1. **Agency’s Representative:**
      Agency designates the individual listed below as its Representative, which individual has the authority and responsibility set forth in Part 2.2 of the General Conditions:
      
      NAME: ________________________________
      TITLE: ________________________________
      ADDRESS: ________________________________
      TELEPHONE: ____________________________ FAX: ____________________________
      EMAIL: ________________________________

   2. **Contractor’s representative:**
      Contractor designates the individual listed below as its Contractor’s Representative, which individual has the authority and responsibility set forth in Part 3.2 of the General Conditions:
      
      NAME: ________________________________
      TITLE: ________________________________
      ADDRESS: ________________________________
      TELEPHONE: ____________________________ FAX: ____________________________
      EMAIL: ________________________________

   3. Neither the Agency nor the Contractor shall change their representatives without ten days written notice to the other party.

H. **Insurance and Performance & Payment Bonds:**
   The Contractor shall purchase and maintain insurance and provide Performance and Payment Bonds as set forth in Parts 3.18 and 3.19 of the General Conditions.

---

**AGENCY:**

BY: ________________________________

(Signature of Representative)

PRINT NAME: ________________________________

PRINT TITLE: ________________________________

DATE: ________________________________

**CONTRACTOR:**

BY: ________________________________

(Signature of Representative)

PRINT NAME: ________________________________

PRINT TITLE: ________________________________

DATE: ________________________________
1. GENERAL INFORMATION
1.1 Contract Documents: The Contract Documents are identified in the Construction Services Indefinite Delivery Contract (the “Contract”). The Contract can only be modified by written agreement signed by both the Agency and the Contractor. The Contract Documents do not create a contractual relationship between the Contractor and any separate Contractor having a contract with the Agency; between the Agency and any subcontractor to the Contractor of any tier; or between any persons or entities other than the Agency and the Contractor.

1.2 Delivery Order: A Delivery Order is a written order issued by the Agency to the Contractor under the terms and conditions of the Contract, directing the Contractor to perform the work described therein. The Agency shall issue the Delivery Order on the SE-690, Construction Services IDC Delivery Order.

1.3 Contractor shall not incur any expense chargeable to the Agency on or about the work of any Delivery Order assigned to this contract until the Delivery Order has been awarded and fully executed by both the Agency and the Contractor.

1.4 The Contract is subject to strict expenditure and term limits set forth in State Law at S.C. Code Ann. § 11-35-3310 and further explained in the Manual for Planning and Execution of State Permanent Improvements, Part II (the “Manual”). Any modification to the Contract purporting to exceed these strict limits are null and void. The limits applicable to this Contract are set forth in Part I of the Invitation for Indefinite Delivery of Construction Services.

1.5 The Work: As used herein, the “Work” means any work required of or performed by the Contractor pursuant to each and every Delivery Order issued by the Agency under this Contract.

2. AGENCY
2.1 The term “Agency” means the Agency or the Agency’s Representative.

2.2 Representative: The Agency’s representative designated in Part G(1) of the agreement shall have the authority to bind the Agency with respect to all matters regarding the Contract and requiring the Agency’s approval or authorization.

2.3 Information to the Contractor: The Agency shall furnish, with reasonable promptness, information requested by the Contractor that is necessary for the performance of the Contract Services and under the Agency’s control. Any information or documentation provided by the Agency to the Contractor relating to the Project or Site is provided only for the convenience of the Contractor. The Agency makes no representation or warranty to as to the sufficiency, completeness, or accuracy of such information.

2.4 Utility Access and Use:
- ☒ If this box is checked, the Agency shall allow the Contractor to use reasonable quantities of water and electricity for construction purposes without charge, as long as these utilities are available and in close proximity to the Work area. Contractor shall be conscientious in controlling excessive or frivolous use of the utilities or the Agency may charge the Contractor for wasteful usage.

2.5 Sanitary Facilities: (Agency, check box that applies to this contract)
- ☐ The Contractor may use those sanitary facilities designated by the Agency in each Delivery Order as available for use.
- ☒ The Contractor may not use the Agency’s sanitary facilities. The Contractor shall provide sanitary facilities at the job site and maintain same in a clean and sanitary condition for the use of its employees and employees of its subcontractors for the duration of construction. The sanitary facilities shall conform to the requirements of the South Carolina Department of Health and Environmental Control.
2.6 Permits, Assessments, and Easements: The Agency shall secure and pay for all building permits, zoning permits, assessments, and easements except as required by any Delivery Order issued under the terms of the contract.

2.7 Agency’s Architect-Engineer (A/E): The Agency may retain an independent A/E to prepare design documents for the work of a specific Delivery Order. In such event, the A/E will be a representative of the Agency during the performance of such work through final completion of such work. In the absence of an independent A/E, the Agency will assign one of its employees to act as A/E for the work of a particular Delivery Order. The Contractor shall cooperate with the A/E in the performance of its duties. The A/E will perform the following duties:
   a. The A/E will make periodic visits to the site during contract administration to become familiar with the progress of the work and to determine if the work is generally progressing in accordance with the contract documents.
   b. The A/E will make recommendations to the Agency as to acceptance or rejection of the work and, upon the Agency’s concurrence, communicate the acceptance or rejection of the work to the Contractor.
   c. The A/E will review and approve or reject shop drawings and samples submitted by the Contractor showing details/finishes of the work proposed to be installed.
   d. The decision of the A/E in all matters relating to design and interpretation of contract documents shall, subject to the provisions of Part 5 (Dispute Resolution) be final.
   e. The A/E will not be responsible for construction means, methods, techniques, procedures and safety measures in the performance of the work nor acts or omissions of the Contractor, subcontractors or any other entity performing work on the site.
   f. The A/E will review requests for payment, and make recommendations to the Agency for approval or rejection of all or part of the request.
   g. The A/E will prepare change orders or change directives for review and approval by the Agency.

2.8 Construction by Agency: The Agency may do work with its own forces or award separate contracts for work on the same project as may be awarded by Delivery Order under this contract. The Contractor shall allow access to the site by the Agency’s work force or separate Contractor(s), and shall cooperate in coordinating the progress of the work with the Agency. The Agency shall have the responsibility to coordinate the activities of the various Contractors working at the project location.

3. CONTRACTOR

3.1 The term “Contractor” means the Contractor or the Contractor’s Representative.

3.2 Representative: The Contractor’s representative designated in Part G(2) of the Agreement shall have the authority to bind the Contractor with respect to all matters regarding the Contract and requiring the Contractor’s approval or authorization.

3.3 Supervision and Performance of the Work: The Contractor shall supervise, perform, and direct the Work, using the professional skill, care, and attention reasonably required for similar projects. The Contractor shall be solely responsible for and have control over means, methods, techniques, sequences, and procedures and for coordinating the Work, unless the Contract Documents give other specific instructions concerning these matters. The Contractor agrees to faithfully and fully perform the terms of this Contract, and any Delivery Order issued under this Contract and shall complete the Work in accordance with the Contract Documents and deliver the Work to the Agency free and clear of all liens and claims. The Contractor shall, at all times during the progress of the Work, employ enough skilled workers and have on hand and maintain an adequate supply of materials and equipment to complete the Work in accordance with the construction schedules agreed to in applicable Delivery Orders.

3.4 Employee Discipline: The Contractor shall enforce discipline and good order among the Contractor’s and subcontractors’ employees, and other persons carrying out the Work. Contractor shall be responsible to the Agency for acts and omissions of the Contractor’s employees, subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

3.5 Safety: The Contractor shall comply with all federal and state work site safety requirements and shall be responsible for initiating, maintaining, and supervising reasonable safety precautions and programs in connection with the performance of the Contract Services. The Contractor shall take reasonable precautions for safety of, and shall provide reasonable and appropriate protection to prevent damage, injury or loss to (1) employees on the Work and other persons who may be affected thereby; (2) the Work and materials and equipment to be incorporated therein; and (3) other property at the site of the Work or adjacent thereto.
3.6 Waste Materials and Rubbish: The Contractor shall keep the premises and surrounding areas free from accumulation of waste materials or rubbish caused by the Work. Upon Final Acceptance of the Work, the Contractor shall, to the Agency’s satisfaction, remove from and about the site, all waste materials, rubbish, surplus material, and Contractor’s tools, equipment, machinery.

3.7 Recycling: The Contractor shall give preference to the use of products containing recycled content in the performance of the Work. The Contractor shall cooperate with any recycling program established for the site of the work of any Delivery Order or available through the state or a political subdivision of the state.

3.8 Access to the Work: The Contractor shall provide the Agency with unrestricted access to the Work in preparation and progress wherever located.

3.9 Use of Site: The Contractor shall confine its operations to the portions of the site identified in each Delivery Order or otherwise approved by the Agency, and shall not unreasonably encumber the portions of the site used for the Work with materials, equipment, or similar items. The Contractor and all subcontractors shall use only such entrances to the Site as are designated by the Agency. During occupied hours, Contractor shall limit construction operations to methods and procedures that do not adversely affect the environment of occupied spaces within the Site, including but not limited to creating noise, odors, air pollution, ambient discomfort, or poor lighting.

3.10 Correction of the Work:

3.10.1 The Agency shall have the right and authority to reject Work that does not conform to the Contract Documents. The Contractor shall promptly correct Work rejected by the Agency for failing to conform to the requirements of the Contract Documents, whether or not fabricated, installed or completed. The provisions of this Section 3.10 apply to Work done by subcontractors as well as to Work done by direct employees of the Contractor.

3.10.2 If the Contractor fails to correct the Work, or any portion thereof, that is not in accordance with the requirements of the Contract Documents or fails to carry out Work or provide information in accordance with the Contract Documents, the Agency may make written demand upon the Contractor to cure its defaults within seven days. Within seven days after receipt of the Agency’s demand, the Contractor shall cure its defaults unless the default is such that it is not capable of cure within seven days. If the default is such that it is not capable of cure within seven days, the Contractor shall reach an agreement with the Agency on a plan to cure its defaults within five days after receipt of the Agency’s demand. The Contractor shall commence and diligently and continuously pursue the cure of such defaults in accordance with the agreed plan. If the Contractor fails to cure its defaults as heretofore provided, the Agency may order the Contractor, in writing, to stop the Work, or any portion thereof, until the Contractor has eliminated the cause for such order or has provided the Agency with a plan for corrective action acceptable to the Agency. The right of the Agency to stop the Work shall not give rise to a duty on the part of the Agency to exercise this right for the benefit of the Contractor or any other person or entity.

3.10.3 Correction after Substantial Completion: If, within one year after the date of Substantial Completion of the Work, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Agency to do so. The Contractor’s obligation set forth in this Part 3.10.3 is in addition to the Contractor’s obligations under Part 3.12.

3.10.4 Nothing contained in this Part 3.10 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of such time period as described in this Section 3.10 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor’s liability with respect to the Contractor’s obligations other than specifically to correct the Work.

3.11 Manufacturers’ Warranties: At Final Acceptance of the Work, the Contractor shall furnish the Agency two original complete sets of all manufacturers’ warranties, guarantees, parts lists, and literature applicable to equipment, systems, fittings, and furnishings included in the Work (collectively referred to as “Manufacturers’ Warranties”), completed in favor of the Agency. These Manufacturers’ Warranties are in addition to and not in lieu of the Contractor’s warranty set forth in Part 3.12, and the Agency is entitled to look to the Contractor for remedy in all cases where the Contractor’s warranty applies regardless of whether a Manufacturer’s Warranty also applies. The Agency shall acknowledge receipt of the sets of Manufacturers’ Warranties on the set itself, and the Contractor shall cause six (6) copies of an acknowledged set to be made and furnished to the Agency. All Manufacturers’ Warranties will be for applicable periods and contain terms not less favorable to the Agency than those terms that are standard for the applicable industries, and will either be issued in the first instance in the name of and for benefit of the Agency, or be in a freely assignable form and be assigned to the Agency without limitations.
3.12 Contractor Warranty: The Contractor warrants to the Agency that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from faults and defects not inherent in the quality required or permitted, that the materials, equipment and Work will conform with the requirements of the Contract Documents, and that the Work will be free from any encumbrances, liens, security interests, or other defects in title upon conveyance of title to the Agency. The Contractor’s warranty excludes remedy for damage or defect to the extent caused by (i) abuse by anyone other than the Contractor or those for whose acts the Contractor is responsible, (ii) modifications not approved or executed by the Contractor or subcontractors, (iii) improper or insufficient maintenance or operation not the fault of the Contractor or those for whose acts the Contractor is responsible, or (iv) normal wear and tear under normal usage. If required by the Agency, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment and the recommended maintenance thereto to meet the requirements of this Part.

3.13 After completion of the Work but no later than the date of Substantial Completion, the Contractor shall submit operation and maintenance manuals, recommended spare parts lists, and copies of all warranties to the Agency. As-Built drawings shall be submitted no later than the Final Completion Date.

3.14 Compliance with Law:
3.14.1 The Contractor shall comply with and give all notices required by federal, state, county, and municipal laws, ordinances, regulations, and orders bearing on the performance by the Contractor of the duties or responsibilities under this Contract.

3.14.2 The Contractor shall promptly remedy any violation of any such law, ordinance, rule, regulation, or order that comes to its attention to the extent that the same results from its performance of the Work. The Contractor shall promptly, and in no event later than the close of the next business day following receipt, give notice to the Agency by telephone, with confirmation in writing, of receipt by the Contractor of any information relating to violations of laws, ordinances, rules, regulations, and orders.

3.15 Subcontractors:
3.15.1 The Contractor shall furnish in writing to the Agency for its approval the names of the subcontractors to whom the Contractor plans to award any portion of the Contract Services.

3.15.2 Contracts between the Contractor and subcontractors shall require each subcontractor, to the extent of the Contract Services to be performed by the subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by the Contract Documents, assumes toward the Agency.

3.15.3 The Contractor shall be responsible to the Agency for acts and omissions of the subcontractors, their agents and employees, and any other persons performing portions of the Contract Services, to the same extent as the acts or omissions of the Contractor hereunder.

3.15.4 The Iran Divestment Act List is a list published by the State Fiscal Accountability Authority pursuant to Section 11-57-310 that identifies persons engaged in investment activities in Iran. The list is available at the following URL: http://procurement.sc.gov/PS/PS-iran-divestment.phtm. Consistent with Section 11-57-330(B), the Contractor shall not contract with any person to perform a part of the Work, if, at the time you enter into the subcontract, that person is on the then-current version of the Iran Divestment Act List.

3.16 Publicity: Contractor shall not publish any comments or quotes by State employees, or include the State in either news releases or a published list of agencies, without the prior written approval of the Agency.

3.17 Indemnification
3.17.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Agency and the Agency’s agents and employees from and against claims, damages, losses and expenses, including, but not limited to, reasonable attorney’s fees, arising out of or resulting from performance of the work of a Delivery Order, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including loss of use resulting therefrom, but only to the extent caused by negligent acts or omissions of the Contractor, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder.

3.17.2 In claims against any person or entity indemnified under Part 3.17.1 by an employee of the Contractor, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Part 3.17 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for Contractor or a subcontractor under workers’ or workmen’s compensation acts, disability benefit acts, or other employee benefit acts.
3.18 Insurance

3.18.1 Commercial General Liability, Business Automobile Liability, and Worker’s Compensation: The Contractor shall purchase from and maintain, in a company or companies lawfully authorized to do business in South Carolina, such insurance as will protect Contractor from claims set forth below, which may arise out of or result from Contractor’s operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

(a) claims under workers’ compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed;

(b) claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor’s employees;

(c) claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor’s employees;

(d) claims for damages insured by usual personal injury liability coverage;

(e) claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;

(f) claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;

(g) claims for bodily injury or property damage arising out of completed operations; and

(h) claims involving contractual liability insurance applicable to the Contractor’s obligations under Part 3.17, Indemnification.

3.18.1.1 The insurance required by Part 3.18.1 shall be written for not less than the limits of liability specified below or required by law, whichever is greater. Coverage shall be written on an occurrence basis and shall be maintained without interruption from the date of commencement of the Work until date of final payment and termination of any coverage required to be maintained after final payment and, with respect to the Contractor’s completed operations coverage, until the expiration of the period for correction of Work set forth in Part 3.10 or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

(a) COMMERCIAL GENERAL LIABILITY:
   (1) General Aggregate (per project) ................................................................. $1,000,000
   (2) Products/Completed Operations ............................................................... $1,000,000
   (3) Personal and Advertising Injury ............................................................... $1,000,000
   (4) Each Occurrence ..................................................................................... $1,000,000
   (5) Fire Damage (Any one fire) ................................................................. $50,000
   (6) Medical Expense (Any one person) ....................................................... $5,000

(b) BUSINESS AUTO LIABILITY (including All Owned, Non-owned, and Hired Vehicles):
   (1) Combined Single Limit ................................................................. $1,000,000 OR
   (2) Bodily Injury & Property Damage (each) ........................................... $750,000

(c) WORKER’S COMPENSATION:
   (1) State Statutory
   (2) Employers Liability ........................................................................... $100,000 Per Acc.
       $500,000 Disease, Policy Limit
       $100,000 Disease, Each Employee

In lieu of separate insurance policies for Commercial General Liability, Business Auto Liability, and Employers Liability, the Contractor may provide an umbrella policy meeting or exceeding all coverage requirements set forth in this Part 3.18.1. The umbrella policy limits shall not be less than $5,000,000.
3.18.1.2 Prior to commencement of the Work, and thereafter upon replacement of each required policy of insurance, Contractor shall provide to the Agency a written endorsement to the Contractor’s general liability insurance policy that:

(i) names the Agency as an additional insured for claims caused in whole or in part by the Contractor’s negligent acts or omissions during the Contractor’s operations;

(ii) provides that no material alteration, cancellation, non-renewal, or expiration of the coverage contained in such policy shall have effect unless all additional insured have been given at least ten (10) days prior written notice of cancellation for non-payment of premiums and thirty (30) days prior written notice of cancellation for any other reason; and

(iii) provides that the Contractor’s liability insurance policy shall be primary, with any liability insurance of the Agency as secondary and noncontributory.

3.18.1.3 Before commencement of the Work, and thereafter upon renewal or replacement of each required policy of insurance, Contractor shall provide to the Agency a signed, original certificate of liability insurance (ACORD 25). Consistent with this Part 3.18.1, the certificate shall identify the types of insurance, state the limits of liability for each type of coverage, name the Agency as Certificate Holder, provide that the general aggregate limit applies per project, and provide that coverage is written on an occurrence basis. Both the certificates and the endorsements must be received directly from either the Contractor’s insurance agent or the insurance company. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, naming the Agency as an additional insured for claims made under the Contractor’s completed operations, and otherwise meeting the above requirements, shall be submitted with the Contractor’s final request for payment for the Work and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Part 3.18.1. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

3.18.1.4 A failure by the Agency either (i) to demand a certificate of insurance or written endorsement required by Part 3.18.1, or (ii) to reject a certificate or endorsement on the grounds that it fails to comply with Part 3.18.1, shall not be considered a waiver of Contractor’s obligations to obtain the required insurance.

3.18.2 Property Insurance:

3.18.2.1 Builder’s Risk Insurance: Unless otherwise specified in the Delivery Order, at the time of execution of a Delivery Order and before commencing work under that Delivery Order, Contractor shall purchase property insurance written on a builder's risk "all risk" or equivalent policy form on a replacement cost basis. Contractor shall maintain such property insurance until the Agency has made final payment for the work of the Delivery Order or until no person or entity other than the Agency has an insurable interest in the property required by this Paragraph 3.18.2 to be covered, whichever is later. This insurance shall include and be in an amount sufficient to cover at all times during the performance of the work of the Delivery Order, the interests of the Contractor, Subcontractors and Sub-subcontractors in the Delivery Order Project. The property insurance shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, false work, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

3.18.2.2 Equipment Breakdown Insurance: In the event the Contractor installs and runs and/or operates (whether for testing or other purposes) heating, air conditioning, and electrical machinery and equipment, the Contractor shall purchase and maintain equipment breakdown (boiler and machinery) insurance, which shall specifically cover such objects during installation and until final acceptance by the Agency. This insurance shall include interests of the Agency, Contractor, and subcontractors at any tier in the Work, and the Agency and Contractor shall both be named insured.

3.18.2.3 Before an exposure to loss may occur, the Contractor shall file with the Agency a copy of each policy that includes insurance coverage required by this Part 3.18.2. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project.
3.18.4 Waiver of Subrogation: The Agency and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, for damages caused by fire or other causes of loss to the extent the property insurance provided by the Contractor pursuant to this Section 3.18.2 covers and pays for the damage, except such rights as they have to proceed of such insurance held by the Contractor. The Agency or Contractor, as appropriate, shall require of the subcontractors, sub-subcontractors, agents and employees, each of the other, by appropriate written agreements, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

3.19 Performance and Payment Bonds: Prior to beginning work on a Delivery Order, the Contractor shall deliver to the Agency a Performance Bond and a Labor & Material Payment Bond if the Contractor’s agreed upon compensation for the Work of the Delivery Order exceeds $50,000 or the Agency requests such bonds. Each bond shall be in the amount of 100% of the amount of the Delivery Order. The Contractor’s Performance Bond shall be in the form of the SE-355, Performance Bond, and the Labor & Material Payment Bond shall be in the form of the SE-357, Labor & Material Payment Bond. The surety company providing the Bonds shall have, at a minimum, a “Best Rating” of “A” as stated in the most current publication of “Best’s Key Rating Guide, Property - Casualty.” Contractor’s failure to provide bonds as herein required shall be an event of default justifying the Agency, in its sole discretion, in terminating this Contract for cause.

3.20 Shop Drawings and Samples:
   3.20.1 Contractor shall prepare or cause to be prepared shop drawings for fabricated items. Shop drawings shall consist of drawings, diagrams, illustrations, schedules, brochures, and other data which are prepared by the Contractor, sub-Contractor, manufacturer, supplier, or distributor and depict that portion of the work. Shop drawings shall be submitted, reviewed, and approved by the Contractor prior to submitting to the Agency and A/E. Shop drawings approved by the Contractor shall bear a stamp denoting that they have been reviewed and are “approved” or “approved as noted” or similar designation. Contractor shall submit the number of sets as specified in the Delivery Order plans or specifications or in the absence of a specification submit enough copies for the Agency to retain two copies plus the number desired to be returned to the Contractor. The Agency and A/E will review the shop drawings with reasonable promptness but only for conformity with the design.
   3.20.2 Contractor shall submit samples as required by the Delivery Order. Samples are physical examples furnished by the Contractor of sufficient size and quantity to provide a good representation of the material proposed to be installed. Samples submitted will not be returned unless requested by Contractor and agreed to by the A/E. The Contractor shall pay shipping costs. The final installed product shall match the approved sample.

3.21 Inspection and Testing of Materials:
   3.21.1 The Contractor shall leave uncovered all areas of work that will be covered that are called out in the construction documents to be left uncovered, or the Agency or A/E requests to be left uncovered prior to being inspected. The Contractor shall give adequate notice to the Agency and A/E of the time requested for an inspection of areas to be covered. If the Contractor covers areas that were to be left uncovered, the Contractor shall cause the area to be uncovered for inspection. After being inspected, the Contractor shall repair the area with craftsmen skilled in the appropriate trades needed for the repair at no additional cost to the Agency.

3.22 Substitutions:
   3.22.1 The Contractor shall submit proposed substitutions to the Agency for the Agency’s approval prior to execution of each Delivery Order.
   3.22.2 Reference in the Contract Documents to a designated material, product, thing, or service by specific brand or trade name followed by the words “or equal” and “or approved equal” shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may use the products of other another manufacturer’s provided it is an ‘approved equal’ that meets or exceeds the specification for the specified product. The Contractor must submit adequate information about the product to show that the submitted product meets the level of quality as the product specified.
   3.22.3 The Contractor shall not substitute any product, article, appliance, equipment, or material that is specified without prior written approval of the Agency.
3.23 Receiving and Storing Materials and Equipment: The Contractor shall have an authorized person or persons to receive all items delivered to the site of the Work and shall properly unload, check for completeness of shipment, and in-transit damage. The Contractor shall properly handle and store materials, supplies, equipment etc. in accordance with the contract documents or manufacturer’s printed instructions for each product.

3.24 Schedule and Reports: Promptly after the Agency issues a Delivery Order, the Contractor shall present a construction schedule in a form satisfactory to the Agency. At intervals agreed upon in the Delivery Order, the Contractor shall update the schedule showing the actual progress of the work and adjustment in completion dates. If the work falls behind schedule, the Contractor shall present a plan for completion of the work by the scheduled date for completion.

3.25 Time for Completion:
3.25.1 Each Delivery Order signed by the Agency and Contractor shall set forth the time for completion of the Work specified therein. Contractor shall make a request for extension of time within seven days of the event giving rise to the request. The Contractor shall adequately document delays of the work that are due to circumstances beyond the control of the Contractor and shall submit the documentation to the Agency with any request for an extension. In the event of ongoing delay, the Contractor shall notify the Agency in its request for an extension of time that the cause of delay is ongoing. In such case, the Contractor shall supplement its request the cause of delay ends or the project is completed, whichever is sooner.

3.25.2 The Agency will review each request for time extension and equitably adjust the time for completion where (1) the event of delay actually impacted the critical path of the project and was beyond the control of the Contractor, and (2) completion of the Work was actually delayed.

4. CONTRACT ADMINISTRATION

4.1 Delivery Order - Cost Proposal: From time to time, the Agency will request a cost proposal for specific work and provide the Contractor adequate project information necessary to prepare a cost proposal. The Contractor shall prepare a cost proposal to complete the Work as requested. Unless specified by the Agency in its request, the cost proposal shall include the time frame for completion of the work. The Contractor shall submit the cost proposal to the Agency within one week of the request or as otherwise agreed upon by the Agency. The cost proposal shall be prepared according to the following method: (Agency, check box that applies to this contract)

☐ Multiplier – Unless the Contractor proposes to provide work at a lower price, the Contractor shall use the multiplier, as bid, times the unit prices contained in the cost data guide specified in the contract documents, times the number of units of Work. The unit prices in the cost data guide include all labor, supervision, material, equipment, taxes, overhead (including but not limited to insurance, performance bond, and payment bond premiums), delivery, setup, installation, and profit. The Contractor may not add any additional mark-up to its price. If the Contractor chooses to subcontract some or all of the Work, the Contractor must still use its multiplier with the cost data guide for pricing the subcontracted work. However, if the work of the proposed Delivery Order is such that the Contractor may legally act as the sole prime Contractor under the licensing laws of this State and the subcontracted work (1) is outside the Contractor’s license; (2) is outside the license of any subcontractor listed in Section 7 of the bid; (3) is outside the scope of services covered by the Contract; and (4) does not exceed 20% of the total value of the work of the proposed Delivery Order, the Contractor may include a markup not to exceed 13% on the price of such subcontracted work. If the Contractor proposes not to use its multiplier and the cost data guide as the basis for the price of its work or subcontracted work, it must document that the proposed price is lower than the price would be if the Contractor used the multiplier and cost data guide.

☐ Unit Prices – Unless the Contractor proposes to provide work at a lower price, the Contractor shall use the unit prices, as bid, times the number of units required for the Work to arrive at an extended price for that item of Work. The total of all extended prices becomes the Contractors price for the cost proposal. The unit prices include all labor, supervision, material, equipment, taxes, overhead (including but not limited to insurance), delivery, setup, installation, and profit. The Contractor may not add any additional mark-up to its price. If the Contractor chooses to subcontract some or all of the Work, the Contractor must still use the unit prices bid for pricing the subcontracted work. If the Contractor proposes not to use the unit prices bid as the basis for the price of its work or subcontracted work, it must document that the proposed price is lower than the price would be if the Contractor used the multiplier and cost data guide.

☒ Low Bid – The Agency shall competitively bid the Work against all eligible Indefinite Delivery Contractors. The Delivery Order bid price shall include all labor, supervision, material, equipment, taxes, overhead (including but not limited to insurance), delivery, setup, installation, and profit. Under this pricing method, the Agency will award the Delivery Order to the lowest bidder.
4.2 Changes in the Work of a Delivery Order:

4.2.1 Any changes in the work must be approved by the Agency and executed by using the SE-695, Construction Services IDC Delivery Order Modification. The SE-695 must be signed by the Contractor and Agency. Exempt when the Delivery Order was awarded on the basis of competitive bids, the cost of any change order shall be calculated using the same method as pricing the Delivery Order.

4.2.2 In the absence of a total agreement concerning the item(s) for a change order, a Construction Change Directive shall be used.

4.2.3 Agreed Overhead and Profit Rates:
For any adjustment to the Delivery Order for which overhead and profit may be recovered, other than those made pursuant to Unit Prices stated in the Contract Documents, the Contractor agrees to charge and accept, as full payment for overhead and profit, the following percentages of costs attributable to the change in the Work. The percentages cited below shall be considered to include all indirect costs including, but not limited to: field and office managers, supervisors and assistants, incidental job burdens, small tools, and general overhead allocations. The allowable percentages for overhead and profit are as follows:
   .1 To the Contractor for work performed by the Contractor’s own forces, 17% of the Contractor’s actual costs.
   .2 To each Subcontractor for work performed by the Subcontractor’s own forces, 17% of the subcontractor’s actual costs.
   .3 To the Contractor for work performed by a subcontractor, 10% of the subcontractor’s actual costs (not including the subcontractor’s overhead and profit).

4.3 Payments:

4.3.1 Contractor may submit monthly applications for payment for the Work of Delivery Orders scheduled to last two months or more in duration. Contractor shall submit only one application for payment for the Work of Delivery Orders scheduled to last less than two months in duration.

☐ 4.3.2 Delivery Orders Awarded by low bid: If the Contractor intends to submit more than one application for payment, the Contractor shall submit to the A/E, within ten days of Delivery Order award, a schedule of values allocating the entire Delivery Order Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the A/E may require. This schedule, unless objected to by the A/E, shall be used as a basis for reviewing the Contractor’s Applications for Payment. Contractor shall base its monthly applications for payment on work completed up to the date of the application using the approved schedule of values. The sum of all payments to the Contractor shall not exceed the agreed upon cost of the work set forth in the Delivery Order as adjusted by subsequent modifications to the Delivery Order, if any.

☐ 4.3.2 Contractor shall base its applications for payment on work completed up to the date of the application using the units of measure and prices contained in the (Agency, check box that applies to this Contract)
☐ Unit price schedules in the cost data guide incorporated by the Contract Documents
☐ Unit price schedule in Contractors bid.

4.3.3 Contractor’s applications for payment may include materials suitably stored on site for use in the Work provided the Contractor submits:
   a. Proof of purchase & delivery;
   b. Documentation showing the location of the material;
   c. Certificate of insurance for the material with adequate coverage showing the Agency as the certificate holder.

4.3.4 The Agency will make payments to the Contractor for completed work based on the actual units or quantity of work completed. The Agency will make payments on the undisputed amounts of an application for payment within 21 days of receipt of the application.

4.3.5 Subcontractor Payments (Chapter 6 of Title 29 of the South Carolina Code of Laws, as amended): The Contractor shall pay each subcontractor no later than seven (7) days after receipt of payment from the Agency the amount to which the subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the subcontractor’s portion of the Work. By appropriate agreement with its subcontractors, the Contractor shall require each subcontractor to make payments to Sub-subcontractors in a similar manner.

4.3.6 If the Agency does not pay the Contractor within seven (7) days after the time established in Part 4.3.2 the undisputed amount of a payment request, then upon seven (7) additional days written notice to the Agency, the Contractor may stop the Work until the Contractor has received payment of the undisputed amount owing. The Contract Time and the Contract Sum shall be equitably adjusted by the amount of the Contractor’s reasonable costs of shut down, delay and start-up, plus interest as provided for in the Contract Documents.

4.3.8 Final Payment: Upon final payment by the Agency to the Contractor for the Work of a Delivery Order, all rights, title, and interest in and to all improvements and equipment constructed or installed on the premises shall vest in the Agency at no additional cost, free and clear of all any liens and encumbrances created or caused by the Contractor.

4.3.9 Withholding of Payments: Payments may be withheld to the extent of, and on account of (1) defective Work not remedied, or Work not performed in accordance with the Contract Documents; (2) claims filed by third parties; (3) failure of the Contractor to make payments promptly to the subcontractors for labor, materials, or equipment; (4) persistent failure to carry perform the Work in accordance with the Contract Documents; (5) failure by the Contractor to perform its obligations under the Contract Documents; or (6) a default by the Contractor under the Contract Documents. The Agency shall promptly notify the Contractor of any reason for withholding payment.

4.4 Delivery Order Completion and Closeout: Upon completion of all Work, the Contractor shall notify the Agency of its completion. The Agency shall schedule a Final Inspection and allow the Contractor to demonstrate that all equipment and systems operate as designed. The Agency may elect to have other persons, firms or agencies participate in the inspections. Projects exceeding the Agency’s construction procurement certification level shall require an inspection by the Office of State Engineer (OSE) and the State Engineer’s issuance of a Certificate of Occupancy. (The Contractor may find Agency construction certification limits on Procurement Services website at http://procurement.sc.gov/PS/agency/PS-agency-audits.phtm.) Final payment will not be due nor retained funds released until (1) the Agency agrees that the project is complete, (2) OSE or the Agency, which ever has authority, issues a Certificate of Occupancy, and (3) the Agency receives from the Contractor the following:
   a. Affidavit of payment of debts and claims;
   b. Consent of Surety, if any, to final payment.

5. DISPUTES

5.1 Both parties shall attempt to resolve disputes through good faith negotiations.

5.2 All disputes, claims, or controversies relating to the Contract, that cannot be resolved through good faith negotiations between the parties shall be resolved exclusively by the appropriate Chief Procurement Officer in accordance with Title 11, Chapter 35, Article 17 of the South Carolina Code of Laws, or in the absence of jurisdiction, only in the Court of Common Pleas for, or a federal court located in, Richland County, State of South Carolina. Contractor agrees that any act by the State regarding the Contract is not a waiver of either the State’s sovereign immunity or the State’s immunity under the Eleventh Amendment of the United States Constitution. As used herein, “the State” includes the Agency and the State Fiscal Accountability Authority.

5.3 Interest: Payments due to the Contractor and unpaid under the Contract Documents shall bear interest only if and to the extent allowed by Title 29, Chapter 6, Article 1 of the South Carolina Code of Laws. Amounts due to the Agency shall bear interest at the rate of one percent a month or a pro rata fraction thereof on the unpaid balance as may be due.

5.4 Contractor consents that any papers, notices, or process necessary or proper for the initiation or continuation of any claims or controversies relating to the Contract; for any court action in connection therewith; or for the entry of judgment on any award made, may be served on Contractor by certified mail (return receipt requested) addressed to Contractor at the address provided for the Contractor’s Representative or by personal service or by any other manner that is permitted by law, in or outside South Carolina. Notice by certified mail is deemed duly given upon deposit in the United States mail.

5.5 Continuation of Work: Pending final resolution of any dispute under this Contract, the Contractor will proceed diligently with the performance of its duties and obligations under the Contract Documents, and the Agency will continue to make payments of undisputed amounts in accordance with the Contract Documents.

6. LIMITATION OF LIABILITY

6.1 Notwithstanding any other provision of the Contract Documents, but subject to a duty of good faith and fair dealing, the Contractor and Agency waive Claims against each other for listed damages arising out of or relating to this Contract. This mutual waiver includes
6.1.1 For the Agency, listed damages are (i) lost revenue and profit, (ii) losses resulting from injury to business or reputation, (iii) additional or escalated overhead and administration expenses, (iv) additional financing costs, (v) costs suffered by a third party unable to commence work, (vi) reasonable attorney’s fees, (vii) any interest, except to the extent allowed by Part 5.3 (Interest), (viii) lost revenue and profit for lost use of the property, (ix) costs resulting from lost productivity or efficiency, and (x) damages incurred by the Agency for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

6.1.2 For the Contractor, listed damages are (i) lost revenue and profit, (ii) losses resulting from injury to business or reputation, (iii) additional or escalated overhead and administration expenses, (iv) additional financing costs, (v) reasonable attorney’s fees, (vi) any interest, except to the extent allowed by Part 5.3 (Interest); (vii) unamortized equipment costs; and (viii) losses incurred by subcontractors for the types of damages the Contractor has waived as against the Agency.

6.2 This mutual waiver is applicable, without limitation, to all listed damages due to either party’s termination in accordance with Part 9. Nothing contained in this Part 6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents. This mutual waiver is not applicable to amounts due or obligations under Part 3.17 (Indemnification).

7. Hazardous Materials

7.1 Contractor’s Responsibilities With Respect to Hazardous Materials: The scope of Work the Contractor is to perform pursuant to this Contract excludes any work or service of any nature associated or connected with the discovery, identification, abatement, cleanup, control, or removal of any currently existing Hazardous Materials or Mold on, in, or nearby the site of the Work. When requesting cost proposals, the Agency will identify known Hazardous Materials or Mold on, in, or nearby the site of the Work. The Agency agrees that all duties and obligations in connection with any Hazardous Materials or Mold currently located in, on or nearby the Site or brought into the Site by a party other than the Contractor or its subcontractors, other than those defined in the Delivery Order for the Work affected by the Hazardous Material or Mold, are not the Contractor’s responsibility. Should the Contractor become aware, discover or based on reasonable evidence suspect the presence of Hazardous Materials or Mold beyond those addressed in the Delivery Order for the Work affected by the Hazardous Material or Mold, the Contractor will immediately cease work in the affected area, and will promptly notify the Agency of the conditions discovered. Should the Contractor stop work because of such discovery or suspicion of Hazardous Materials or Mold, then the Contract Time will, should the Agency elect to choose to continue the Work after remedy thereof, be reasonably extended by Change Order to cover the period required for abatement, cleanup, or removal of the Hazardous Materials or Mold. The Contractor will not be held responsible for any claims, damages, costs, or expenses of any kind associated with such period during which work has been stopped as a result of Hazardous Materials or Mold.

7.2 Hazardous Materials Introduced to the Site by Contractor: If the Contractor, its subcontractors, and any party for whom they may be liable, introduces any Hazardous Materials to the Site then the Contractor, at its sole cost and expense, shall be responsible for any response, removal, cleanup, and/or other remedial action required by applicable law. If any Mold occurs within the Site as the result of the negligent implementation of the Project or the improper functioning of the Conservation Measures, then the Contractor, at its sole cost and expense, shall be responsible for any response, removal, cleanup, or other remedial action required by applicable law. Except as to the Contractor’s initial response to an emergency, any such remedial action(s) shall require the prior review and approval of the Agency.

8. MISCELLANEOUS PROVISIONS

8.1 Governing Law: This Contract shall be governed by the laws of South Carolina, except its choice of law rules.

8.2 Severability: If any provision of this Contract shall be held to be invalid, illegal, or unenforceable, the validity, legality and enforceability of the remaining provisions shall not be affected or impaired thereby.

8.3 No Waiver: No course of dealing or failure of the Agency and/or the Contractor to enforce strictly any term, right or condition of this Contract shall be construed as a waiver of such term, right or condition. No express waiver of any term, right, or condition of this Contract shall operate as a waiver of any other term, right, or condition.

8.4 Rights Cumulative: Except as otherwise provided in this Contract, (i) rights and remedies available to the Agency and/or the Contractor as set forth in this Contract shall be cumulative with and in addition to, and not in limitation of, any other rights or remedies available to the Parties at law and/or in equity, and (ii) any specific right or remedy conferred upon or reserved to the Agency and/or the Contractor in any provision of this Contract shall not preclude the concurrent or consecutive exercise of a right or remedy provided for in any other provision hereof.
8.5 Notices: Any notices required to be given under this Contract shall be in writing and shall be delivered either by (i) certified mail, return receipt requested, in which case notice shall be deemed delivered three (3) business days after deposit, postage prepaid, in the U.S. mail; (ii) a reputable messenger service or a nationally recognized overnight courier, in which case notice shall be deemed delivered one (1) business day after deposit with such messenger or courier; or (iii) personal delivery with receipt acknowledged in writing, in which case notice shall be deemed delivered when received. All notices shall be sent to the representatives identified in the Part G of the Agreement at the addresses provided therein. The foregoing addresses may be changed from time to time by notice to the other Party in the manner herein provided for.

8.6 Economic Conflict of Interest: A Contractor shall not have or exercise any official responsibility regarding a public contract in which the Contractor, or a business with which he is associated, has an economic interest. A person working for Contractor shall not have or exercise any official responsibility regarding a public contract in which the person, an individual with whom he is associated, or his family members have an economic interest. If Contractor is asked by any person to violate, or does violate, either of these restrictions, Contractor shall immediately communicate such information to the Agency Representative. The State may rescind, and recover any amount expended as a result of, any action taken or contract entered in violation of this provision. The terms “business with which he is associated,” “economic interest,” “family member,” “immediate family,” “individual with whom he is associated,” “official responsibility” and “person” have the meanings provided in S.C. Code Ann. § 8-13-100.

8.7 Illegal Immigration: Contractor certifies and agrees that it will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws and agrees to provide to the State upon request any documentation required to establish either: (a) that Title 8, Chapter 14 is inapplicable both to Contractor and its subcontractors or sub-subcontractors; or (b) that Contractor and its subcontractors or sub-subcontractors are in compliance with Title 8, Chapter 14. Pursuant to Section 8-14-60, “A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony and, upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both.” Contractor agrees to include in any contracts with its subcontractors language requiring its subcontractors to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in their contracts with the sub-subcontractors language requiring the sub-subcontractors to comply with the applicable requirements of Title 8, Chapter 14. (An overview is available at [www.procurement.sc.gov](http://www.procurement.sc.gov))

8.8 Drug-Free Workplace: The Contractor certifies to the Agency that Contractor will provide a Drug-Free Workplace, as required by Title 44, Chapter 107 of the South Carolina Code of Laws, as amended.

8.9 False Claims: According to the S.C. Code Ann. § 16-13-240, “a person who by false pretense or representation obtains the signature of a person to a written instrument or obtains from another person any chattel, money, valuable security, or other property, real or personal, with intent to cheat and defraud a person of that property is guilty” of a crime.

8.10 Non-Indemnification: Any term or condition is void to the extent it requires the State to indemnify anyone. It is unlawful for a person charged with disbursements of state funds appropriated by the General Assembly to exceed the amounts and purposes stated in the appropriations (§ 11-9-20). It is unlawful for an authorized public officer to enter into a contract for a purpose in which the sum is in excess of the amount appropriated for that purpose. It is unlawful for an authorized public officer to divert or appropriate the funds arising from any tax levied and collected for any one fiscal year to the payment of an indebtedness contracted or incurred for a previous year. (§ 11-1-40)

8.11 Enforcement and Interpretation of Building Codes: As required by Title 10, Chapter 1, Section 180 of the South Carolina Code of Laws, as amended, OSE shall determine the enforcement and interpretation of all building codes and referenced standards on state buildings. The Contractor shall refer any questions, comments, or directives from local officials to the Agency and OSE for resolution. When the amount of a Delivery Order exceeds the construction procurement certification of the Agency, the Contractor shall not commence the Work of the Delivery Order before receiving a copy of the Building permit issued by OSE. (The Contractor may find Agency construction certification limits on Procurement Services website at [http://procurement.sc.gov/PS/agency/PS-agency-audits.phtm](http://procurement.sc.gov/PS/agency/PS-agency-audits.phtm).)

8.12 Assignment: The Agency and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements and obligations contained in this Contract. Neither party to the Contract shall assign the Contract as a whole, or in part, without written consent of the other and then only in accordance with and as permitted by Regulation 19-445.2180 of the South Carolina Code of Regulations, as amended. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

8.13 Open Trade (Jun 2015): During the contract term, including any renewals or extensions, Contractor will not engage in the boycott of a person or an entity based in or doing business with a jurisdiction with whom South Carolina can enjoy open trade, as defined in SC Code Section 11-35-5300. [07-7A053-1]
9. SUSPENSION OR TERMINATION

9.1 Agency Right of Suspension: The Agency may, at any time, suspend the work, in whole or in part, with or without cause for such period of time as determined by the Agency. Except in the event of suspension due to a default of the Contractor, the contract sum will be equitably adjusted to reflect reasonable costs actually incurred by the Contractor due to delay or interruption resulting from such suspension.

9.2 Agency Right of Termination:

9.2.1 Termination for Cause: If the Contractor defaults, persistently fails or neglects to perform the Work in accordance with the Contract Documents, or fails to perform a provision of the Contract, the Agency shall provide written notice of such default, failure, or neglect to the Contractor. If the Contractor fails to cure such default, failure, or neglect within fifteen days from receipt of the Agency’s notice, the Agency may, without prejudice to any other right or remedy the Agency may have, terminate the Contract and take possession of the area at the Site affected by the Work.

9.2.2 Termination for Convenience: The Agency may, for its convenience, terminate all or any portion of the Work under an individual Delivery Order, or terminate this entire Contract, by ten (10) days written notice stating the effective date of the termination. Thereafter, the Agency shall pay the Contractor for Work actually performed before the date of termination. No payments shall be made for Work not actually performed, and no payment shall be made or due for lost profits on account of Work not performed.

9.3 Contractor Right of Termination:

9.3.1 The Contractor may terminate the contract, or Delivery Order, if work is stopped through no fault of the Contractor, or other persons performing work either directly or indirectly for the Contractor, for a period of time exceeding 60 consecutive calendar days due to a court order or other public authority having jurisdiction; or a Declared National emergency which requires the work to be stopped.

9.3.2 Agency Failure to Make Payment: Subject to the Agency’s right to withhold payments pursuant to Part 3.4.7, if the Agency fails to make payments to the Contractor as set forth in Part 10 and any other applicable provisions of the Contract Documents, the Contractor may, upon thirty (30) days’ prior written notice to the Agency, terminate the Contract and recover from the Agency payment for all Work performed and for proven loss with respect to materials, equipment, tools, and machinery, including reasonable overhead, profit and damages applicable to the Work for the Contract Services performed through the date thereof.
CONSTRUCTION SERVICES IDC DELIVERY ORDER

AGENCY: Tri-County Technical College

DELIVERY ORDER PROJECT NAME: TCTC Pickens Hall Boiler System

DELIVERY ORDER PROJECT NUMBER: 

STATE IDC PROJECT NUMBER: H59-D892-FW

CONTRACTOR: 

COST INFORMATION:
1. Maximum Total Amount of this IDC: $ 
2. Maximum Total Amount Allowed for Delivery Order: $ 
3. Amount of this Delivery Order: $ 
4. Total Amount of Previous Delivery Orders (including Modifications): $ 
5. IDC Total, Including this Delivery Order: $ 0.00 
6. Balance Remaining for this IDC: $ 0.00

SCHEDULE:
1. Date of Commencement: 
2. Days Allowed: 
3. Date of Substantial Completion: 

DESCRIPTION OF DELIVERY ORDER SCOPE OF WORK: (attach Contractor’s Proposal)

LIST OF DELIVERY ORDER DOCUMENTS: (refer to attachments as necessary)

The Agency and the Contractor hereby agree, as indicated by the signatures below, to the scope of work identified in the Contract Documents listed above, the Contractor’s Cost Proposal dated the ____ day of ____, 20____, and this Delivery Order which shall be assigned to the Indefinite Delivery Contract identified above.

NOTICE TO PROCEED is hereby given on this the ____ day of ____, 20____. The Dates of Commencement and Substantial Completion are as noted above and shall be used for determining completion and the applicability of Liquidated Damages. Liquidated Damages in the amount of $ ____ per day will be assessed for failure to complete the Work by the agreed upon date of completion. Failure to commence actual work on this Delivery Order within seven (7) days from the Date of Commencement will entitle the Agency to consider the Contractor non-responsible, and may withdraw this Delivery Order and terminate the Contract in accordance with the Contract Documents.

AGENCY: 
BY: ________________________________ (Signature of Representative) 
Print Name: ________________________________
Print Title: ________________________________
Date: ________________________________

CONTRACTOR: 
BY: ________________________________ (Signature of Representative) 
Print Name: ________________________________
Print Title: ________________________________
Date: ________________________________

COMPLETION CONFIRMATION BY AGENCY:
ACTUAL COMPLETION DATE: ________________________________ LIQUIDATED DAMAGES ASSESSED: ________________________________
CONFIRMED BY: ________________________________ DATE: ________________________________ (Signature of Agency Representative)
TITLE: ________________________________
CONSTRUCTION SERVICES IDC DELIVERY ORDER MODIFICATION

AGENCY: Tri-County Technical College
DELIVERY ORDER PROJECT NAME: TCTC Pickens Hall Boiler System
DELIVERY ORDER PROJECT NUMBER: H59-N950-FW
STATE IDC PROJECT NUMBER: H59-D892-FW

CONTRACTOR:

COST INFORMATION:
1. Maximum Total Amount of this IDC: $  
2. Maximum Total Amount Allowed for Delivery Order: $  
3. Current Amount of this Delivery Order: $  
4. Amount of this Modification: $  
5. Adjusted Amount of this Delivery Order: $  
6. IDC Total (Sum of all Delivery Orders, including this DO) Prior to this Modification: $  
7. IDC Total (Sum of all Delivery Orders) Including this Modification: $  
8. Balance Remaining for this IDC: $  

SCHEDULE:
1. Date of Commencement:  
2. Previous Days Allowed  
3. Additional Days Allowed with this Modification  
4. Revised Date of Completion:  

DESCRIPTION OF DELIVERY ORDER SCOPE MODIFICATION: (attach Contractor’s Proposal)  

LIST OF MODIFICATION DOCUMENTS: (refer to attachments as necessary)  

The Agency and the Contractor hereby agree, as indicated by the signatures below, to the revised scope of work identified in the Modification Documents listed above, the Contractor’s Cost Proposal dated the ___ day of _____, 20___, and this Delivery Order Modification, which shall be assigned to the Indefinite Delivery Contract identified above.

AGENCY:
BY:  
(Signature of Representative)  
PRINT NAME:  
PRINT TITLE:  
DATE:  

CONTRACTOR:
BY:  
(Signature of Representative)  
PRINT NAME:  
PRINT TITLE:  
DATE:  

SE-695
The College desires to provide a healthy working and learning environment for its employees and students. Therefore, the use of tobacco products will be prohibited effective August 1, 2014. For the purpose of this policy, “tobacco” refers to any and all tobacco products, whether inhaled or ingested, as well as electronic cigarettes and vaporizers. The use of tobacco products shall be prohibited everywhere on all campuses, inside buildings and throughout the grounds. This policy applies to everyone and anyone on campus, including students, staff, faculty, contractors, and visitors.
TCTC Mechanical Construction IDC – Project #H59-D892-FW
Boiler Replacement – Pickens Hall – Project #H59-N950-FW (Seed Project)
Pendleton, South Carolina

SECTION 01300 – ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES:
   A. Preconstruction conference.
   B. Progress meetings.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.1 PRECONSTRUCTION CONFERENCE:
   A. Engineer will schedule a meeting after Notice of Award.
      1. Meeting to take place no later than 15 days following the execution of the Agreement.
   B. Attendance Required:
      1. Owner
      2. Engineer
      3. Contractor
   C. Agenda: Agenda to be prepared by Contractor and distributed to all invited attendees, to include:
      1. Project organizational structure and chain of command.
      2. Duties and expectations of the Owner, Engineer, and Contractor.
      3. Submission of executed bonds and insurance certificates.
      4. Project scope of work.
      5. Construction schedule.
      7. Contract disputes, mediation, partnering, and resolution.
   D. Submission of list of Subcontractors, list of Projects, schedule of values, and progress schedule.
E. Designation of personnel representing the parties, including Owner, Contractor and Engineer.

F. Work schedule, normal working hours, and normal work week. Also to include required notice for scheduling overtime, outages, and interruptions.

G. Safety procedures.

H. Temporary and permanent utilities.

I. Security, keys, fencing, site access, and limited access to certain areas.

J. Designated parking and delivery areas.

K. Designated storage areas, bonded storage, and security.

L. Designated toilets, break areas, vending areas, and smoking areas.

M. Daily cleanup, trash removal, dumpsters, and trash areas.

N. Procedures and processing of field decisions, submittals, RFIs, substitutions, applications for payments, proposal requests, Change Orders, and Contract closeout procedures.

O. Procedures and responsibilities for testing and inspecting, required permits, and licenses.

P. Demolition items to be salvaged for Owner, notification, and storage area.

Q. Scheduling.

R. Preparation of Record Documents, and Operating and Maintenance Manuals.

S. Instruction and training of Owner’s maintenance personnel.

T. Warranties, manufacturer startup, prior to substantial completion.

U. Final completion inspection and punch list.

V. One year warranty inspection (Engineer to inspect 10 months after substantial completion).

W. Contractor corrections for items found during the warranty inspection.

X. Contractor shall record minutes and distribute copies within three days after meeting to participants, with copies to Engineer, Owner, participants, and those affected by decisions made.
3.2 PROGRESS MEETINGS:

A. Contractor shall schedule and administer meetings throughout progress of the Work at maximum bi-monthly intervals.

B. Contractor shall make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.

C. Attendance Required: Contractor’s project manager, job superintendent, major Subcontractors and suppliers, Owner, Engineer as appropriate to agenda topics for each meeting.

D. Agenda:
   1. Review of Work progress.
   2. Field observations, problems, and decisions.
   3. Identification of problems that impede, or will impede, planned progress.
   5. Maintenance of progress schedule.
   6. Corrective measures to regain projected schedule.
   7. Planned progress during succeeding work period.
   8. Maintenance of quality and work standards.
   9. Effect of proposed changes on progress schedule and coordination.
   10. Other business relating to Work.

E. Contractor shall record minutes and distribute copies within three days after meeting with participants, with copies to Engineer, Owner, Participants, and those affected by decisions made. Engineer shall review a draft copy of the minutes prior to distribution.

3.3 PROJECT RECORD DOCUMENTS:

A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings. Mark prints to show actual installation where installation varies from that shown originally.

   1. Cross reference changes on Contract Drawings and Shop Drawings, noting construction change directive numbers, change order numbers and similar identification where applicable.

   2. Identify and date each Record Drawing; include the designation, "PROJECT RECORD DRAWING" in a prominent location.
3. Organize into unbound sets. Place record prints in durable tube-type drawing containers with end caps. Mark end cap of each container with identification. If container does not include a complete set, identify Drawings included.

B. Record Specifications: Mark Specifications to indicate actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

C. Record Product Data: Mark Product Data to indicate the actual project installation where installation varies substantially from that indicated in Product Data submittal. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

3.4 JOB SITE BEHAVIORAL POLICIES:

A. Contractor(s) shall refrain from “smoking” while performing work on site. In addition, contractor(s) shall refrain from fraternizing with college personnel and students.

END OF SECTION 01300
SECTION 01330 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUBMITTAL SCHEDULE:

A. Include a submittal register listing all anticipated submittals, shop drawings, product data, and samples as defined in the Contract Documents and also include certificates, test data, schedules, and other submitted data required to demonstrate compliance with the Contract Documents.

1.2 SUBMITTAL DESCRIPTIONS:

A. Submit four copies of each of the following unless otherwise specified:

1. SD-01 Manufacturer’s Catalog Data
   a. Data composed of catalog cuts, brochures, circulars, specifications and product data, and printed information in sufficient details and scope to verify compliance with requirements of the Contract Documents. Reviews and submittals shall be as specified for shop drawings. Clearly mark product data to identify the applicable products or models proposed for use. Clearly identify items where options or modifications are required by the Contract Documents.

2. SD-02 Drawings/Procedures/Schedules
   a. Shop Drawings: Submit shop drawings in the form of one reproducible print and three blue line or black line prints. Drawings size shall not exceed 24 inches by 30 inches. After review, the Engineer will return the reproducible print with any applicable notations and an appropriate stamp. If corrections are to be made, the original drawings shall be revised and a new reproducible and three prints submitted, and repeated until so approved. Upon approval, a reproducible marked as such will be returned to the Contractor. A minimum clear space, 4 inches high x 6 inches long, shall be left on the reproducible print above or to the left of the title block or application of the approval stamp. The contractor shall be responsible for the prints required for the work, and these prints shall be from the final reproducible bearing the final stamp of the Engineer.

3. SD-03 Certificates
   a. Certificates signed by responsible officials of a manufacturer of a project, system, or material attesting that the product, system, or material meet specified requirements. Submit certificates certifying the method of installation or quality of installation at the completion of the work. The submittal must be dated after the award of this contract, name the project and list the specific requirements, which it is intended to address.
4. SD-04 Samples
   a. Samples, including both fabricated and un-fabricated physical examples of materials, products, and units of work as complete units or as portions of units of work.
   
b. Submit samples of sufficient size and quantity to illustrate clearly the functional characteristics of the product with integrally related parts and attachment devices. Approved samples are the standard by which the finished work will be evaluated. Furnish one sample for each required submittal unless otherwise specified in the technical specifications. In general, deliver samples to the office of the Engineer unless the Engineer requests delivery to the Owner or the building site. Full-size usable samples will be returned to the Contractor and approved samples may be used as part of the work unless they are specified otherwise in the technical specifications.

5. SD-05 Warranty Forms
   a. Prior to installation, submit warranty forms complete in every respect, except for authorized signature(s) and date of commencement.

1.3 CONTRACTOR PREPARATION:

   A. Certification:
      1. Contractor submittals shall be reviewed by the Contractor prior to submittal to the Engineer and shall include the following certification:
         a. “I hereby certify that the material(s), equipment, and/or article(s) shown and marked in this submittal and proposed to be incorporated into the Work is (are) in strict conformance with the Contract Documents, can be installed in the allocated spaces, and comprises(s) no variation thereto, unless specifically noted otherwise.”
      
      2. Contractor Review and Coordination: Before submitting a show drawing or related material to the Engineer, the Contractor shall:
         a. Review each such submission for conformance with the Contractor's means, method techniques, sequences and operations of construction, and safety precautions and programs incidental thereto, all of which are the sole responsibility of the Contractor.
         
         b. Review and coordinate each such submission with other related or affected work.
c. Approve each such submission before submitting same; and

d. Provide the required Contractor's certification as specified in Paragraph A1a Certification, above.

3. By approving a submittal, the Contractor thereby warrants and represents that he has determined and verified applicable field measurements, field construction criteria, materials, catalog numbers and similar data, and has checked and coordinated the submittal with the requirements of the Work and for conformance with the Contract Documents. Submittals submitted without the required certification and coordination will be returned to the Contractor without review. Delays in construction because of late submission or re-submission of required submittals shall be the sole responsibility of the Contractor.

4. Deviations: If a submittal deviates from the drawings and project manual because of standard shop practice, substitutions (approved in accordance with the General Conditions as amended), or any other reason advise Engineer via a separate written instrument. Otherwise, the Contractor will not be relieved of the responsibility for executing the Work in accordance with the Contract Documents even though such submittals may have been approved.

5. Extent of Submittals: Submit only submittals required by the Contract Documents. The Engineer reserves the right to refrain from reviewing other submittals.

a. Do not include items from more than one specification section per submittal.

b. Contractor may require additional documentation from subcontractors or suppliers for his own use at no additional cost to the Owner. Such documentation shall not be submitted for review without prior written consent from the Engineer.

c. Submit only complete specifications sections for review; no partial submittals will be accepted. Incomplete specifications sections will be returned without review by the Engineer.

1.4 FORM OF SUBMITTAL:

A. Submit letter of transmittal in duplicate with each submission listing the contents of the submission and identifying each items by reference to specifications section or drawing. Clearly label shop drawings with the name of the project and other necessary information. Bound product data and other similar material that cannot be so labeled conveniently in suitable covers bearing the identifying data. Distribution of submittals by Engineer will be as specified in Paragraph “Owner’s Representative Procedures.” Additional copies, as required, shall be marked by the Contractor for his use after submittals have been approved.
1.5 TIME FOR REVIEW:

A. The Contractor shall allow a minimum of ten (10) consecutive working days (i.e. Monday through Friday, excluding holidays, and measured from the date of receipt of the Contractor’s submittal) for the Engineer’s review of each submittal. The same minimum timeframe shall be allowed for at least one (1) re-submittal of each such submittal.

1.6 RESUBMISSION:

A. Change or correct submittals as required by the Engineer and resubmit until approved. Indicate any changes which have been made other than those requested by the Engineer.

B. Use the same transmittal procedure as outlined above.

1.7 OWNER’S REPRESENTATIVE’S PROCEDURES:

A. Owner’s Representative’s Review: Submittals will be reviewed with reasonable promptness.

B. Submittals shall be returned with the Engineer’s submittal stamp with designations for approval, rejection, correction, or resubmittal.

1.8 DISTRIBUTION OF SUBMITTALS:

A. Approved Shop Drawings, product data, manufacturer’s literature, and certificates, will be distributed by the Engineer as follows:

1. Reproducible shop drawing and one copy of product data and manufacturer’s literature to the Contractor.

2. One copy of all submittals to the Owner’s Representative.

B. Changes After Approval:

1. Make no change in a submittal marked “Reviewed” or “Furnish as Corrected” without obtaining the prior written consent of the Engineer. If such written consent is obtained, revise the submittal to show fully the altered parts of the work and resubmit according to the procedures specified herein. State on resubmittal that the work shown supersedes and voids identified parts of the same work previously shown. Give full identification on the drawings previously approved by the Engineer and the date of such action.

1.9 PROCEEDING WITHOUT APPROVAL:
A. No submittal may be used in the shop or on the work, except in accordance with the foregoing paragraphs. Proceeding with any construction and ordering or fabricating materials before all relevant drawings have been “Reviewed” or marked “Furnish as Corrected” shall be done at the Contractor’s sole risk.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01330
SECTION 01355 – SECURITY PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES:

A. Security measures including formal security program, entry control, personnel identification, and miscellaneous restrictions.

1.2 SECURITY PROGRAM:

A. Protect Work, existing premises and Owner’s operations from theft, vandalism and unauthorized entry.

B. Initiate program in coordination with Owner’s existing security system at project mobilization.

C. Maintain program throughout construction period until Owner acceptance precludes the need for Contractor security.

1.3 ENTRY CONTROL:

A. Restrict entrance of persons and vehicles into Project site and existing facilities.

B. Allow entrance only to authorized persons with proper identification.

C. Maintain log of workers and visitors, make available to Owner on request.

D. Owner will control entrance of persons and vehicles related to Owner’s operations.

E. Coordinate access of Owner’s personnel to site in coordination with Owner’s security forces.

F. Secure all construction equipment, machinery and vehicles, park and store only within fenced area, and render inoperable during non-work hours. Contractor is responsible to insure that no construction materials, tools, equipment, machinery, or vehicles can be used for unauthorized entry or other damage or interference to activities and security of existing facilities adjacent to and in the vicinity of construction site.

1.4 PERSONNEL IDENTIFICATION:

A. Provide identification badge to each person authorized to enter premises.

B. Badge to include: Personal photograph, name assigned number, expiration date and employer.

C. Maintain a list of accredited persons; submit copy to Owner on request.

D. Require return of badges at expiration of their employment on the work.

PART 2 - PRODUCTS & PART 3 EXECUTION (NOT USED)

END OF SECTION 01355
QUALITY REQUIREMENTS 01400 - 1
F. Specialists: Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements for specialists shall not supersede building codes and regulations governing the Work.

G. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer’s products that are similar in material, design, and extent to those indicated for this Project.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 CONTROL OF INSTALLATION:

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply with manufacturers’ instructions, including each step in sequence.

C. Should manufacturer’s instructions conflict with Contract Documents, request clarification from Engineer before proceeding?

D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes or specified requirements indicate higher standards or more precise workmanship. If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Engineer for a decision before proceeding.

E. Have Work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.2 MANUFACTURERS’ FIELD SERVICES:

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.
B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers’ written instructions.

3.3 DEFECT ASSESSMENT:

A. Replace Work or portions of the Work not conforming to specified requirements.

B. If, in the opinion of Engineer, it is not practical to remove and replace the Work, Engineer will direct an appropriate remedy or adjust payment.

END OF SECTION 01400
SECTION 01500 – TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SECTION INCLUDES:

A. Equipment.
B. Temporary sanitary facilities.
C. Temporary Controls. Barriers, enclosures, and fencing.
D. Environmental Procedures and Controls.
E. Temporary facilities installation, operation, and maintenance.

1.2 QUALITY ASSURANCE:

A. Installation of new boiler shall be carefully scheduled with owner to minimize impacts to normal building operations that use heating hot water. Shutdown, demolition, and modifications to existing boiler system shall be coordinated and scheduled with owner so that shutdown duration may be minimized.

1.3 SUBMITTALS:

A. See Section 01330 for submittal procedures.
B. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

1.4 EQUIPMENT:

A. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation or combustion type; vented; fully enclosed with glass-fiber-reinforced polyester shell or similar non-absorbent material.

B. Drinking-Water Fixtures: Drinking–water fountains, containerized, tap-dispensed, bottled-water drinking-water units, including paper cup supply.

1.5 TEMPORARY SANITARY FACILITIES:

A. Provide and maintain required temporary toilets, wash facilities, and drinking water for construction personnel. Comply with Owner and DHEC for type, number, location, operation, and maintenance of fixtures and facilities.

B. Maintain daily in clean and sanitary condition.
1.6 BARRIERS:

A. Provide barriers to prevent unauthorized entry to construction areas, to allow for Owner’s use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

C. Provide fencing/barriers around work area to ensure the safety of workers on the project. Areas of construction must be properly enclosed and secured at all times.

1.7 EXTERIOR ENCLOSURES:

A. Before construction operations begin, Contractor will install chain-link enclosure fence with lockable entrance gates at staging and storage areas. Contractor to provide padlocks.

1. Maintain security by limiting the number of keys and restricting distribution to authorized personnel. Provide Owner with one set of keys.

2. Contractor will remove enclosure fence at end of construction.

3. Contractor is responsible for filling in post holes and reseeding grassed areas as required.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 ENVIRONMENTAL PROCEDURES AND CONTROLS:

A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

B. Pollution Controls.

1. Use water mist, temporary enclosures, and other suitable methods to limit the spread of dirt and dust generated by construction operations. Comply with governing environmental protection regulations.

   a. Do not create hazardous or objectionable conditions, such as ice, flooding, and pollution when using water.

2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Clean adjacent buildings and improvements of dust, dirt and debris caused by Construction operations. Return adjacent areas to condition existing before start of demolition.

3.2 TEMPORARY FACILITIES INSTALLATION, OPERATION AND MAINTENANCE, AND REMOVAL:

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Installation: Install temporary sanitary facilities, barriers, and exterior enclosures at time of Project mobilization.

C. Maintenance and Operation:
   1. Clean site daily.
   2. Temporary sanitary facilities to be cleaned daily.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, or not later than Substantial Completion.

END OF SECTION 01500
SECTION 01550 – VEHICULAR ACCESS AND PARKING

PART 1 - GENERAL

1.1 SECTION INCLUDES:

A. Access roads.
B. Parking.
C. Existing pavements and parking areas.
D. Permanent pavements and parking facilities.
E. Construction parking controls.
F. Traffic signs and signals.
G. Maintenance.
H. Removal, repair.
I. Mud from site vehicles.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 ACCESS ROADS:

A. Use of designated existing on-site streets and driveways for construction traffic is permitted.
B. Tracked vehicles not allowed on paved areas.
C. Provide unimpeded access for emergency vehicles. Maintain 20-foot width driveways with turning space between and around combustible materials.
D. Provide and maintain access to fire hydrants free of obstructions.

3.2 PARKING:

A. Use of designated areas of existing parking facilities by construction personnel is permitted.
B. Do not allow heavy vehicles or construction equipment in parking areas.
C. Arrange with Owner for temporary parking areas to accommodate use of construction personnel.
D. When site space is not adequate, provide additional off-site parking.
E. Locate as approved by Owner.
3.3 CONSTRUCTION PARKING CONTROL:

A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and Owner’s operations.

B. Monitor parking of construction personnel’s vehicles in existing facilities. Maintain vehicular access to and through parking areas.

C. Prevent parking on or adjacent to access roads or in non-designated areas.

3.4 HAUL ROUTES:

A. Consult with authority having jurisdiction, establish public thoroughfares to be used for haul routes and site access.

B. Confine construction traffic to designated haul routes.

C. Provide traffic control at critical areas of haul routes to regulate traffic, to minimize interference with public traffic.

3.5 TRAFFIC SIGNS AND SIGNALS:

A. At approaches to site and on site, install at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.

3.6 MAINTENANCE:

A. Maintain traffic and parking areas in a sound condition free of excavated material, construction equipment, products, mud, snow, and ice.

B. Maintain existing paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.

3.7 REMOVAL, REPAIR:

A. Repair existing facilities damaged by use, to original condition.

B. Remove equipment and devices when no longer required.

C. Repair damage caused by installation.

3.8 MUD FROM SITE VEHICLES:

A. Provide means of removing mud from vehicle wheels before entering streets.

END OF SECTION 01550
SECTION 01741 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SECTION INCLUDES:

A. Waste management requirements and implementation.

1.2 WASTE MANAGEMENT REQUIREMENTS:

A. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

B. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

C. Methods of trash/waste disposal that are not acceptable:

1. Burning on the project site.
2. Burying on the project site.
3. Dumping or burying on other property, public or private.
4. Other illegal dumping or burying.

D. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, State and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 WASTE MANAGEMENT IMPLEMENTATION:

A. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

B. Meetings: Discuss trash/waste management goals and issues at project meetings.

1. Pre-bid meeting.
2. Pre-construction meeting.
3. Regular job-site meetings.
C. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all constructors and installers.

1. As a minimum, provide:
   a. Separate area for storage of materials to be reused on-site, such as wood cut-offs for blocking.
   b. Separate dumpsters for each category of recyclable.
   c. Recycling bins at worker lunch area.

2. Provide containers as required.

3. Provide adequate space for pick-up and delivery and convenience to subcontractors.

4. Keep recycling and trash/waste bin areas heat and clean and clearly marked in order to avoid contamination of materials.

D. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

E. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

F. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

G. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

H. Clean site daily to remove trash and debris.

END OF SECTION 01741
SECTION 15000 - MECHANICAL GENERAL PROVISIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

B. This section is a Division-15 Basic Materials and Methods Section, and a part of each Division-15 section making reference to mechanical related work specified herein.

1.2 SUMMARY OF MECHANICAL WORK:

A. Drawings: Refer to the HVAC-Series drawings for graphic representations, schedules and notations showing mechanical work.

B. Specifications: Refer to Division-15 sections for the primary technical specifications of mechanical work.

C. General Outline: The facilities and systems of the mechanical work can be described (but not by way of limitation) as follows: Replacement of existing heating water boiler with a new boiler, along with replacement of existing heating, water, and chilled water distribution pumps.

1.3 COORDINATION OF MECHANICAL WORK:

A. General: Refer to the Division 1 sections for general coordination requirements applicable to the entire work. It is recognized that the contract documents are diagrammatic in showing certain physical relationships which must be established within the mechanical work, and in its interface with other work including utilities and electrical work, and that such establishment is the exclusive responsibility of the Contractor.

B. Coordination Drawings: For locations where several elements of mechanical (or combined mechanical and electrical) work must be sequenced and positioned with precision in order to fit into the available space, prepare coordination drawings (shop drawings) showing the actual physical dimensions (at accurate scale) required for the installation. Prepare and submit coordination drawings prior to purchase – fabrication – installation of any of the elements involved in the coordination.

C. The Contractor shall be responsible for coordinating with all other divisions and if any item called for in another division requires work by the Contractor in this division, he shall be required to furnish it at his cost, whether it was specifically called for in this division or not.

1.4 QUALITY ASSURANCE, STANDARDS AND SYMBOLS:

A. General: Refer to Division 1 sections for general administrative/procedural
requirements related to compliance with codes and standards. Specifically, for the mechanical work (in addition to standards specified in individual work sections), the following standards are imposed, as applicable to the work in each instance:

4. South Carolina Department of Health & Environmental Control.

B. Secure and pay for all costs related to permits, governmental fees, license, cost necessary for the proper execution and completion of the work, which are applicable at the time the bids are received.

1.5 ELECTRICAL CODE LABELING REQUIREMENTS:

A. All electrically powered equipment to be UL labeled or labeled by similar testing agency or shall meet International Building Code for Alternate Material and Methods in lieu of labels.

1.6 SUBMITTALS:

A. General: Refer to Division 1 sections for general requirements concerning work-related submittals (refer to other Division 1 sections for administrative submittals). For mechanical work, the following quantities are required for each category of submittal (in addition to the quantities specified in Division 1), unless otherwise indicated in individual work sections (quantity does not include copies required by governing authorities, or by Contractor for its own purposes):

   1. 6 Sets, including 3 for Maintenance Manuals.

B. Engineer will review Contractor's shop drawings and related submittals with respect to the ability of the detailed work, when complete, to be a properly functioning integral element of the overall system designed by the Engineer.

C. Before submitting a shop drawing or any related material to the Engineer, the Contractor, and his Subcontractor (if any) shall: review each such submission for conformance with the means, methods, dimensional space limitations, techniques, sequences, operations of construction, safety precautions, and programs incidental thereto, all of which are the sole responsibility of the Contractor; approve each such submission before submitting it; and so stamp each such submission before submitting it. The Engineer shall assume that no shop drawing or related submittal comprises a variation unless the Contractor and his Subcontractor (if any) advises the Engineer otherwise via a written instrument which is acknowledged by the Engineer in writing. The shop drawings and related material (if any) called for are indicated below. In the event that the Engineer will require more than ten (10) working days to perform review, the Engineer shall so notify the Contractor.

D. The Engineer shall return shop drawings and related materials with comments provided that each submission has been called for and is stamped by the Contractor and his Subcontractor (if any) as indicated above. The Engineer shall return without
comment material not called for or which has not been approved by the Contractor and his Subcontractor (if any).

E. Product Data Required:

1. Boiler.
2. Mechanical Insulation.
3. Valves.
5. Welding Certificates.
7. Pump.

F. Certifications: 3 copies.

G. Test Reports: 3 copies.

H. Warranties (Guarantees): 6 copies, including 3 for maintenance manuals.

I. Maintenance Manuals: 3 complete sets with individual sets of this data bound in 10-1/2 x 11-1/2 loose-leaf 3-ring binders, 1-1/2", 2", or 3" ring size, with rigid permanent vinyl covered back and front. Separators with index tabs and loose-leaf sheet protectors shall be provided. One set shall have all sheets individually encased in clear plastic document protectors.

Each set shall include the following data:

1. Valve Directory indicating valve number, size, manufacturer, location, function, and normal position. Valve tag numbers shall be as specified.

2. Mechanical Equipment: Show the following information for all mechanical equipment:
   a. Nameplate designation.
   b. Manufacturer's nameplate data.
   c. Location of equipment.
   d. Area served.
   e. Complete parts drawing and list.
   f. Manufacturer's operating instructions.
   g. Manufacturer's maintenance instructions.
   h. Manufacturer's installation instructions.
   i. Nearest supplier for parts and replacements with telephone number.
   j. Nearest service organization for equipment with telephone number.

3. Control Data:
   a. Control diagrams and wiring diagrams where applicable.
   b. Description of control system.
   c. Catalog data, maintenance, and calibration instruction for all
4. Maintenance Instruction: A typewritten form of instructions for maintenance of the systems, in itemized form and with time schedule for maintenance work, shall be furnished. The instructions shall list each item of mechanical equipment requiring inspection, lubrication or service, and describe the performance of such maintenance. The list shall include the type of bearings for each piece of equipment, the type of frequency of lubrication required. The operating personnel shall be instructed in the care of the system in accordance with the typewritten instructions.

5. New equipment start-up reports and operating/service logs.

1.7 PRODUCTS, MECHANICAL WORK:

A. General: Refer to Division 1 sections for general requirements on products, materials, and equipment.

PARTS 2 AND 3 - PRODUCTS AND EXECUTION

2.1 ELECTRICAL PROVISIONS OF MECHANICAL WORK:

A. Wiring:

1. All control wiring (120V and less) to be complete to all motorized equipment and control devices listed in this specification and shown on the mechanical drawings shall be done under Division 15. The Contractor shall refer to Electrical plans and specifications to determine the source of electrical energy for the various control circuits. All wiring shall be in conduit, shall conform with Division 16 of these specification, all local codes, the National Electrical Code, and shall be installed by an approved licensed Electrical Contractor. Wiring diagrams indicating wire sizes and conduit runs for all electrical work that is required to be installed under this contract shall be submitted to the Engineer for prior approval before work is begun. Upon completion of the work, the wiring diagrams shall be revised to incorporate any additions or corrections and two copies of the "as installed" diagrams shall be furnished to the owner and one to the Engineer on reproducible paper or electronic media.

B. Motors:

1. Motors for equipment shall be of approved manufacture and of electrical, speed, and torque characteristics shown on the drawings. Motors 3/4 h.p. and above shall be wound for 3 phase, 60 cycle current; and 1/2 h.p. and under, 1 phase, 60 cycle current. Single phase motors shall be furnished with built-in overload and under-voltage protection. Nameplates for all motors shall be stamped for the current characteristics indicated on the drawings.
2. The use of shaded pole motors above 1/20 h.p. is prohibited.

3. Motors shall be premium high efficiency type (90% plus) and shall have capacity of not less than the horsepower noted on the drawings, and shall not exceed their full rated load when the driven equipment is operating at specified capacity under the most severe conditions likely to be encountered.

4. Motors shall have continuous-duty classification based on 40 deg. C. ambient temperature of reference.

5. All motors 1/2 h.p. and larger shall have grease lubricated ball bearings.

6. All motors, regardless of horsepower, shall have over-current protection installed either as an integral part of the motor, or within the motor controlling device in accordance with the National Electrical Code.

C. Motor Starters:

1. Motor starters not integral to supplied equipment shall be furnished and installed by the Electrical Contractor.

2.2 FOUNDATIONS AND MISCELLANEOUS STEEL SUPPORTS:

A. Foundations: All concrete foundations anchor forms, or pads that may be necessary and required for the installation of equipment specified under this contract, shall be furnished and installed. This contractor to provide anchor bolts for the equipment foundations/pads.

B. Miscellaneous Steel Supports: All supporting steel grillage, steel angles, channels, pipe or structural steel stands, and anchoring devices that may be required to adequately and rigidly support either piping, insulation, or equipment installed under this contract, shall be provided and installed.

2.3 CHASES AND OPENINGS:

A. Lay out all chases and openings, required for the execution of this work. Provide thimbles in walls and partitions. Thimbles shall be standard weight galvanized steel pipe.

2.4 MECHANICAL SYSTEM IDENTIFICATION:

A. Piping System: All piping installed under this division of the specifications shall be identified as follows.

B. Method of Marking: Colored stencil letters that designate the material being handled, shall be applied at not more than 40 foot intervals on straight pipe runs, at each terminal piece of equipment, adjacent to valves, and where pipe passes through walls and floors. Piping shall be marked at all the equipment connections.

C. Identification: Lettering shall be stenciled in block letters, size as scheduled below.
Letters on covered (insulated) pipe shall be stenciled on covering. On uncovered pipe, painted bands shall be wide enough (See Table 1) to accommodate required letters. Lettering shall be positioned so that it can be easily read by a man standing on the floor. Lettering on parallel groups of lines shall be neatly lined up. Surfaces of piping or insulation finished in dark colored shall be lettered in white; and that finished in light colors shall be lettered in black.

1. All lines also shall be marked with arrows indicating the direction of flow.

<table>
<thead>
<tr>
<th>Outside Diameter of Pipe or Converting (Inches)</th>
<th>Size of Letter (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 to 1-1/4</td>
<td>1/2</td>
</tr>
<tr>
<td>1-1/2 to 2</td>
<td>3/4</td>
</tr>
<tr>
<td>2-1/2 to 12</td>
<td>1-1/4</td>
</tr>
</tbody>
</table>

All dimensions are given in inches.

2.5 ACCESSIBILITY:

A. No valves, controls, unions, etc., shall be placed in any pipe line at a location that will be inaccessible after the system is completed.

2.6 EXCAVATING FOR MECHANICAL WORK:

A. Not Applicable

2.7 PAINTING MECHANICAL WORK:

A. General: No painting shall be done under this division other than the sizing of the insulation jackets. Color stenciling of piping for identification, and touching up paint that is chipped or scratched from mechanical equipment supplied; and 2 coats of black rust preventative on all exposed support metal and hangers mounted outdoors and in mechanical rooms.

2.8 CLEANING, TESTING, ADJUSTMENTS, AND INSPECTIONS:

A. Shall be accomplished in accordance with the following instructions and requirements. Provide temporary fill and drainage lines, wherever required, and connect them to the piping systems for these procedures and, finally, upon completion disconnect and remove these temporary lines.

B. Cleaning and Oiling: All piping systems shall be thoroughly cleaned of grease, iron cuttings, welding slag, loose scale, and other refuse. Should any pipe, valves, strainers, other specialties, and equipment be stopped up by refuse, disconnect, clean, reconnect such pipe, equipment and material. All strainer baskets shall be removed, cleaned, and replaced.

C. Exterior surfaces of piping, materials, or equipment that is to be painted or insulated shall be cleaned to remove lint, grease, and oil.
D. All components of the mechanical systems shall be cleaned on outside of dust, trash, paint, and masonry dropping, and left in first class condition. Belt drives shall be adjusted for proper tension and sheaves aligned. All motor and equipment bearings shall be lubricated as recommended by the individual manufacturer and oil reservoir shall be left full.

2.9 TESTS:

A. All tests are to be made in the presence of the Owner's/Engineer's Field Representative.

1. Water Piping shall be hydrostatically tested with water pressure of not less than 150 psi. Care shall be taken to avoid putting excessive pressures on mechanical seals, accessories, specialties, safety devices, chillers, pumps, etc. Water system shall be filled and all air vented at least 24 hours before the actual test pressure is applied. Test pressure shall be applied, if practical, when water and average ambient temperatures are approximately equal and constant. Test pressure shall be maintained for not less than two (2) hours without appreciable drop after the force pump has been disconnected. Leaks in screwed fittings shall be corrected by remaking the joints. Leaks in welded joints shall be cut out and rewelded. Contractor shall exercise care to not place excessive pressure on existing piping.

2. Adjustments and balancing shall be coordinated with cleaning and testing to assure equipment performance as specified and shown on the drawings.

2.10 EQUIPMENT START-UP:

A. The contractor to responsible for all equipment start-up. All equipment to be started by the contractor or under the contractor's direct supervision.

B. Control devices shall be adjusted and placed in operation by the Controls sub-Contractor.

2.11 BALANCING:

A. Systems balancing tests and adjusting shall be performed by an independent NEBB certified agency. Testing and balancing shall begin after the contractor informs the Owner that construction has progressed to the point of allowing testing and balancing. The HVAC contractor shall assist the balancing sub-contractor during the balancing phases of work to expedite the work. Assistance to include, but not limited to, operation of system, installing valves that may have been omitted, etc.

2.12 MECHANICAL WORK CLOSEOUT:

A. General: Refer to the Division 1 sections for general closeout requirements. Maintain a daily log of operational data on mechanical equipment and systems through the closeout period.
B. Record Drawings: For mechanical work, give special attention to the complete and accurate recording of piping, other concealed and non-accessible work, branching arrangement and valve location for piping systems, and work of change orders where not shown accurately by contract documents. Submit to Engineer at end of project one set of electronic media that show all recorded changes in the mechanical work.

C. Closeout Equipment/Systems Operations: Sequence operations properly so that work of project will not be damaged or endangered. Coordinate with seasonal requirements. Operate each item of equipment and each system in a test run of appropriate duration (with the Engineer present, and with the Owner's operating personnel present), to demonstrate sustained, satisfactory performance. Adjust and correct operations as required for proper performance. Clean and lubricate each system, and replace excessively worn parts and similar expendable items of the work.

D. Operating Instructions: Conduct a one (1) day walk-through instruction seminar for the Owner's personnel to be involved in the continued operation and maintenance of mechanical equipment and systems. Explain the identification system, operational diagrams, emergency and alarm provisions, sequencing requirements, seasonal provisions, security, safety, efficiency and similar features of the systems.

E. Turn-Over of Operations: At the time of substantial completion, turn over the prime responsibility for operation of the mechanical equipment and systems to the Owner's operating personnel. However, until the time of final acceptance, provide one full-time operating engineer, who is completely familiar with the work, to consult with and continue training the Owner's personnel.

END OF SECTION 15000
SECTION 15001 - DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division - 1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK:

A. The extent of demolition work shall be as indicated by the drawings and/or by the requirements of this section. In general, but not limited to, removal of existing boiler, pump, and designated portions of heating hot water piping necessary for the installation and re-connection of new boilers. In addition, work includes demolition of existing heating, water and chilled water distribution pumps.

B. Demolition includes removal and disposal of demolished materials.

1.3 SUBMITTALS:

A. Schedule: Submit proposed methods and operations of demolition to Engineer for review prior to start of work. Include in schedule coordination for systems shut-off.

1.4 JOB CONDITIONS:

A. Occupancy: Building will be in operation during work and can be shut down at scheduled shut-down times.

B. Condition of existing systems: The Owner assumes no responsibility for actual condition of items to be demolished. Conditions existing at time of inspection for bidding purposes will be maintained by Owner in so far as practicable.

C. Protection: Ensure safe passage of persons in and around areas of demolition. Conduct operations to prevent injury to building, structure, other facilities, and persons.

D. Damages: Promptly repair damages caused to facilities by demolition operations at no cost to Owner.

E. Utility Services: Maintain existing utilities, keep in service, and protect against damage during demolition operations.

PART 2 - PRODUCTS

Not applicable.
PART 3 - EXECUTION

3.1 DEMOLITION:

A. Demolition of all parts to be removed shall be done in a safe, orderly fashion taking care to avoid damage to parts which are to be left in place. All debris shall be removed from the premises as it is generated and shall not be allowed to accumulate. In the event the Contractor has any question about items to be removed, the Contractor to ask the Engineer.

B. Contractor shall be responsible for the proper evacuation, removal, and disposal of existing chiller refrigerant charge and oil. Refrigerant recovery and disposal process shall be in accordance with federal, state and local regulations.

3.2 DISPOSAL OF DEMOLISHED MATERIALS:

A. General: Remove from site debris, rubbish, and other materials resulting from demolition operations.

B. Removal: Transport demolished materials removed from premise and legally dispose of offsite.

END OF SECTION 15001
SECTION 15060 - PIPE, TUBE, AND FITTINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division - 1 specification sections, apply to work of this section.

B. This section is a Division-15 Basic Materials and Methods Section, and a part of each Division-15 section making reference to pipe, tube and fittings specified herein.

1.2 DESCRIPTION:

A. Extent of pipe, tube, and fittings required by this section is indicated on drawings and/or specified in other Division-15 sections.

1.3 QUALITY ASSURANCE:

A. Manufacturers: Firms regularly engaged in the manufacture of piping products of types and sizes required, and which have been in satisfactory use for not less than five (5) years in similar service.

B. Welding: Qualify welding procedures, welders, and operators in accordance with ANSI B 31.1, paragraph 127.5, for shop and project site welding of piping work.

C. Certify welding of piping work using the Standard Procedure Specifications by, and welders tested under supervision of, the National Certified Pipe Welding Bureau.

D. Welding Certifications, Piping Work: Provide welding certificates of qualified welders as per specifications Section 15000, page 3, paragraph 1.6.E.5

1.4 PRODUCT HANDLING:

A. Provide factory-applied plastic end-caps on each length of pipe and tube. Maintain end-caps through shipping, storage and handling as required to prevent pipe-end damage and eliminate dirt and moisture from inside of pipe and tube.

B. Where possible, store pipe and tube inside and protected from weather. Where it is necessary to store outside, elevate well above grade and enclose with durable, waterproof wrapping.

C. Protect flanges and fittings from moisture and dirt by inside storage and enclosure, or by packaging with durable, waterproof wrapping.
PART 2 – PRODUCTS

2.1 PIPING MATERIALS:

A. General: Provide domestic manufactured (U.S.A.) pipe and tube of the type, joint type, grade, size and weight (wall thickness or Class) indicated for each service. Where type, grade or class is not indicated, provide proper selection as determined by Installer for installation requirements, and comply with governing regulations and industry standards.

B. Steel Pipe: Black Steel Pipe Schedule 40: ASTM A 53, A 106 or A 120; except comply with ASTM A 53 or A 106 where close coiling or bending is required.

2.2 PIPE/TUBE FITTINGS:

A. General: Provide factory-fabricated fittings of the type, materials, grade, class and pressure rating indicated for each service and pipe size. Provide sizes and types matching pipe, tube, valve or equipment connection in each case. Where not otherwise indicated, comply with governing regulations and industry standards for selections, and with pipe manufacturer’s recommendations where applicable.

B. Fittings for Steel Pipe:

1. Steel Pipe Nipples: Shall be of the same material and finish as the lines in which they are installed. No all-thread (close) nipples will be permitted.

2. Joints in steel pipe shall be in accordance with the following:

   a. Screwed Piping: Joints shall be made with a non-hardening pipe joint compound applied to the male thread only.
   b. Welded Piping: Joints shall be made as specified within.
   c. Gasket Material for flanged joints shall be similar in all respects to Style D,150 lb. series, as produced by Flexitallic Gasket Company. Comparable material by Garlock, or Akron Metallic Gasket Company will be acceptable.

C. Fittings for Black Steel Pipe:


2. Flanged Fittings - 150 lb. gray cast iron conforming to ASTM No. A181.

3. Unions - 300 lb. malleable iron ground joints with brass-to-iron seats conforming to ANSI No. B16.3.

4. Flanges - 150 lb. steel welding neck with raised face conforming to ASTM No. A181 except for matching flanges required at equipment and valves.
5. Welding Fittings - including elbows, reducing ells, caps, straight tees, reducing tees, straight and reducing laterals and reducers shall be "standard weight," Grade B fittings, meeting ASTM A234, as produced by Crane, Tube-Turns, Taylor Forge or equal. Furnish long radius 90 degree elbows. Complete ASTM specification information shall be stamped on each fitting.

6. Standard Weight Weldolets or Threadolets may be used in lieu of welding tees only where the branch line is at least two pipe sizes smaller than main. Under no circumstances will it be permissible for one pipe line to be welded directly into another, regardless of size.

7. Manufactured Welding Fittings and Flanges which have been machined, remarked, painted, or otherwise produced domestically from non-domestic forgings will not be acceptable. Fittings and flanges shall have the manufacturer's trademark permanently identified in accordance with MSS SP-25.

2.3 MISCELLANEOUS PIPING MATERIALS/PRODUCTS:

A. Insulating (Dielectric) Unions: Provide standard products recommended by the manufacturer for use in the service indicated, and which effectively isolate ferrous from non-ferrous piping (electrical conductance), prevent galvanic action, and stop corrosion.

PART 3 – EXECUTION

3.1 INSTALLATION:

A. General: Install pipe, tube and fittings in accordance with recognized industry practices which will achieve permanently-leakproof piping systems, capable of performing each indicated service without piping failure. Install each run with a minimum of joints and couplings, but with adequate and accessible unions for disassembly and maintenance/replacement of valves and equipment. Reduce sizes (where indicated) by use of reducing fittings. Align piping accurately at connections, within 1/16" misalignment tolerance.

B. Locate piping runs, except as otherwise indicated, vertically and horizontally (pitched to drain) and avoid diagonal runs wherever possible. Orient horizontal runs parallel with walls and column lines. Locate runs as shown or described by diagrams, details and notations, or, if not otherwise indicated, run piping in the shortest route which does not obstruct usable space or block access for servicing the building and its equipment. Hold piping close to walls, overhead construction, columns and other structural and permanent-enclosure elements of the building; limit clearance to 0.5" where furring is shown for enclosure or concealment of piping, but allow for insulation thickness, if any. Where possible, locate insulated piping for 1.0" clearance outside insulation.
C. Electrical Equipment Spaces: Do not run piping over electrical or electronic equipment spaces and enclosures unless unavoidable. Install drip pan under piping that must be run over electrical spaces.

D. Piping System Joints: Provide joints of the type indicated in each piping system.

E. Thread pipe in accordance with ANSI No. B2.1; cut threads full and clean using sharp dies. Ream threaded ends to remove burrs and restore full inside diameter. Apply pipe joint compound, or pipe joint tape (Teflon) where recommended pipe/fitting manufacturer, on male threads at each joint and tighten joint to leave not more than 3 threads exposed.

F. Where pipe passes through walls, use galvanized iron sleeve with double layers of tar paper between pipe and sleeves to prevent electrolysis.

G. Furnish and install dielectric couplings at all connections of dissimilar metals as required.

H. Weld pipe joints in accordance with recognized industry practice and as follows:

1. Black steel pipe and fittings 2" & larger, except connections to equipment, shall have welded or flanged joints; pipe sizes 1-1/2" and below shall have screwed joints. Welded fittings shall be used in all Lines 2" and above.

2. The electric welding process shall be used and all welding must be done in accordance with the latest accepted standards.

3. All joints must be absolutely tight under test and operating conditions; defective joints must be remade. After completing a welded joint, it shall be mandatory for the welder to stamp or otherwise identify it as his work by number, letter or symbol assigned to him.

4. Weld pipe joints only when ambient temperature is above 0 degrees F where possible.

5. Bevel pipe ends at a 37.5 degree angle where possible, smooth rough cuts, and clean to remove slag, metal particles and dirt.

6. Install welding rings for butt-welded joints.

7. Use pipe clamps or tack-weld joints with 1.0" long welds; 4 welds for pipe sizes to 12".

8. Build up welds with a stringer-bead pass, followed by a hot pass, followed by a cover or filler pass. Eliminate valleys at center and edges of each weld. Weld by procedures which will ensure elimination of unsound or unfused metal, cracks, oxidation, blow-holes and non-metallic inclusions.

9. Do not weld-out piping system imperfections by tack welding procedures;
re-fabricate to comply with requirements.

10. Install forged branch-connection fittings wherever branch pipe is indicated, or install regular "T" fitting (at Contractor's option).

11. Spray paint all welded connections with black rust preventative paint.

I. Flanged joints: Match flanges within piping system and at connections with valves and equipment. Clean flange faces and install gaskets. Tighten bolts to provide uniform compression of gaskets.

J. Insulating (Dielectric) Unions: Comply with manufacturer's instructions for installing unions. Install unions in a manner which will prevent galvanic action and stop corrosion where the "joining of ferrous and non-ferrous piping" is required.

3.2 CLEANING, FLUSHING, INSPECTING:

A. General: Clean exterior surfaces of installed piping systems of superfluous materials, and prepare for application of specified coatings (if any). Clean piping as specified in Section 15000. Flush out piping systems with clean water before proceeding with required tests. Inspect each run of each system for completion of joints, supports and accessory items.

B. Inspect pressure piping in accordance with procedures of ANSI No. B31.

C. PIPING TESTS: See Section 15000.

END OF SECTION 15060
SECTION 15080 - PIPING ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:
   A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division - 1 specification sections, apply to work of this section.
   B. This section is a Division-15 Basic Materials and Methods Section, and is a part of each Division-15 section making reference to piping specialties specified herein.

1.2 DESCRIPTION:
   A.Extent of piping accessories work is indicated by drawings and schedules, and by requirements of this section.
   B. In addition, the requirements of this section apply to piping work specified elsewhere in these specifications.

1.3 QUALITY ASSURANCE:
   A. Manufacturers: Firms regularly engaged in the manufacture of piping accessories of types and sizes required, whose products have been in satisfactory use in similar service for not less than 2 years.
   B. Installer: A firm with at least 3 years of successful installation experience on projects with piping accessories work similar to that required for this project.

1.4 SUBMITTALS:
   A. Manufacturer's Data; Piping Accessories:
      1. Submit manufacturer's data on piping accessories.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING:
   A. Delivery piping accessories in factory-wrapped water-resistant fiber board type containers.
   B. Handle products carefully to avoid damage to components and to finish. Do not install damaged accessories; replace and remove from project site.
   C. Store accessories in a clean dry space; protect from dirt, fumes, water and construction traffic.

PART 2 - PRODUCTS

2.1 MANUFACTURED PRODUCTS:
A. General: Provide factory-fabricated piping accessories recommended by the manufacturer for use in the service indicated. Provide products of the types and pressure-ratings indicated for each service or, if not indicated, provide proper selection as determined by the piping system installer to comply with installation requirements. Provide sizes and connections which properly mate with pipe, tube, valve and equipment connections. Where more than one type is indicated, selection is Installer's option.

B. Gauges and Thermometers: Furnish and install gauges with 4-1/2" dials and thermometers with Digital Solar Readouts.

1. Gauges: Dials shall be white with black figures and markings. A plexiglass dial with dual scale plate shall protect the face and pointer. Brass gauge cocks shall be furnished suitable for 250 psig SWP. Gauges shall be similar to Trerice 600 C with 1/2 of 1% accuracy. Gauges of comparable construction by Weiss, or Weksler, will be acceptable.

2. Thermometers: Furnish Weiss Model DVS35 or DVBM25 Digital Vari-Angle thermometer with Hi-impact ABS case, 040/300 Deg. F range 3/8” LCD display, 1% accuracy, 1/10 Deg. Resolution, and recalibration with internal potentiometer. Thermometer to have 10 Lux rating with 10 second update. Ambient operation conditions shall be -30/140 Deg. F Sensor shall be passivated thermistor.

PART 3 – EXECUTION – N/A

END OF SECTION 15080
SECTION 15090 - HANGERS, SUPPORTS AND ANCHORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division - 1 specification sections, apply to work of this section.

B. This section is a Division-15 Basic Materials and Methods Section, and is a part of each Division-15 section making reference to hangers, supports and anchors specified herein.

1.2 DESCRIPTION OF WORK:

A. Extent of hangers, supports and anchors required by this section is indicated on drawings and/or specified in other Division-15 sections.

1.3 QUALITY ASSURANCE:

A. Manufacturer: A firm regularly engaged in the manufacture of hangers, supports and anchors, of types and sizes required, whose products have been in satisfactory use in similar service for not less than 5 years.

B. Code Compliance: Comply with International Mechanical Code pertaining to product materials and installation of hangers, supports and anchors unless otherwise indicated in these specifications.

C. UL and FM Compliance: Provide products which are Underwriters’ Laboratories listed and Factory Mutual approved.

D. MSS Standard Compliance: Provide products which comply with Manufacturers’ Standardization Society's SP-69 for type required.


1.4 SUBMITTALS:

A. Manufacturer's Data; Hangers, Supports, and Anchors:

1. Submit manufacturer’s data on hangers, supports and anchors, including but not limited to, dimensions, sizes, loading capacities, and installation instructions.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING:

A. Deliver products wrapped in factory-fabricated fiberboard type containers.

B. Do not install damaged products; replace and return damaged units to manufacturer.
HANGERS, SUPPORTS, AND ANCHORS

C. Store hangers, supports and anchors in a clean dry space. Store in original cartons and protect from dirt, physical damage and construction traffic.

PART 2 - PRODUCTS

2.1 HORIZONTAL-PIPING HANGERS AND SUPPORTS:

A. General: Except as otherwise indicated, provide factory-fabricated horizontal piping hangers and supports of MSS type and size indicated, bolts (if any) and washers; comply with MSS SP-58 and manufacturer's published product information. Where MSS type or size is not indicated, provide proper selection as determined by Installer for installation requirements, and comply with MSS SP-69 and manufacturer's published product information; size hangers and supports properly for piping including insulation (if any). Provide copper-plated hangers and supports for uninsulated copper-piping systems.

1. Adjustable Clevis Hanger: MSS Type 1, fabricated from steel. **Hanger to be large enough to be on outside of pipe insulation.**

2.2 VERTICAL-PIPING CLAMPS:

A. General: Except as otherwise indicated, provide factory-fabricated vertical piping clamps of MSS type and size indicated; comply with MSS SP-58 and manufacturer's published product information. Where MSS type or size is not indicated, provide proper selection as determined by Installer for installation requirements, and comply with MSS SP-69 and manufacturer's published product information. Size clamps properly for piping, including insulation (if any). Provide copper-plated clamps for copper-piping systems.

1. Two-Bolt Riser Clamp: MSS type 8.

2.3 HANGER-ROD ATTACHMENTS:

A. General: Except as otherwise indicated, provide factory-fabricated hanger-rod attachments of MSS type and size indicated; comply with MSS SP-58 and manufacturer's published product information. Where MSS type or size is not indicated, provide proper selection determined by Installer for installation requirements, and comply with MSS SP-69 and manufacturer's published product information. Size attachments properly for piping, including insulation (if any). Provide copper-plated hanger-rod attachments for uninsulated copper-piping systems.

2.4 BUILDING ATTACHMENTS:

A. General: Except as otherwise indicated, provide factory-fabricated building attachments of MSS type and load-rating indicated; comply with MSS SP-58 and manufacturer's published product information. Where MSS type or load-rating is not indicated, provide proper selection determined by Installer for installation requirements, and comply with MSS SP-69 and manufacturer's published product information. Size units properly for the piping loading.
1. Concrete Inserts: MSS type 18, steel.
2. Steel C-Clamps: MSS type 23, steel.
7. SADDLES: MSS type 40.

2.5 HORIZONTAL PIPING SUPPORT SCHEDULE:

A. For Copper and Schedule 40 Steel Pipe

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>Rod Diameter</th>
<th>Maximum Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 1&quot;</td>
<td>3/8&quot;</td>
<td>6'-0&quot;</td>
</tr>
<tr>
<td>1-1/4&quot;</td>
<td>3/8&quot;</td>
<td>6'-0&quot;</td>
</tr>
<tr>
<td>1-1/2&quot;</td>
<td>3/8&quot;</td>
<td>6'-0&quot;</td>
</tr>
<tr>
<td>2&quot; to 3&quot;</td>
<td>1/2&quot;</td>
<td>10'-0&quot;</td>
</tr>
<tr>
<td>4&quot; thru 6&quot;</td>
<td>3/4&quot;</td>
<td>10'-0&quot;</td>
</tr>
<tr>
<td>8&quot; thru 12&quot;</td>
<td>7/8&quot;</td>
<td>10'-0&quot;</td>
</tr>
</tbody>
</table>

PART 3 - EXECUTION

3.1 PREPARATION:

A. Proceed with installation of hangers, supports and anchors only after required building structural work has been completed in areas where the work is to be installed. Correct inadequacies including (but not limited to) proper placement of inserts, anchors and other building structural attachments.

B. Prior to installation of hangers, supports, and associated work, Installer shall meet at project site with Contractor, installer of each component of associated work, inspection and testing agency representatives (if any), installers of other work requiring coordination with work of this section and Engineer for purpose of reviewing material selections and procedures to be followed in performing the work in compliance with requirements specified.

3.2 INSTALLATION OF BUILDING ATTACHMENTS:

A. Install building attachments at required locations within concrete or on structural steel for proper piping support. Space attachments within maximum piping span length indicated in MSS SP-69.

3.3 INSTALLATION OF HANGERS AND SUPPORTS:
A. General: Install hangers, supports, clamps and attachments to support piping properly from building structure; comply with MSS SP-69. Arrange for grouping of parallel runs of horizontal piping to be supported together on trapeze type hangers where possible. Install supports with maximum spacings complying with MSS SP-69. Where piping of various sizes is to be supported together by trapeze hangers, space hangers for smallest pipe size or install intermediate supports for smaller diameter pipe. Do not use wire or perforated metal to support piping, and do not support piping from other piping.

B. Install hangers and supports complete with necessary inserts, bolts, rods, nuts, washers and other accessories. Except as otherwise indicated for exposed continuous pipe runs, install hangers and supports of same type and style as installed for adjacent similar piping.

C. Prevent electrolysis in support of copper tubing by use of hangers and supports which are copper plated, or by other recognized industry methods.

D. Provisions for Movement:
   1. Install hangers and supports to allow controlled movement of piping systems and to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends and similar units.
   2. Load Distribution: Install hangers and supports so that piping live and dead loading and stresses from movement will not be transmitted to connected equipment.
   3. Insulated Piping: Comply with the following installation requirements.
      a. Clamps: Attach clamps, (where required) including spacers (if any), to piping with clamps projecting through insulation; do not exceed pipe stresses allowed by ANSI No. B31.
      b. Shields: Install galvanized coated protective shields at each hanger on insulated piping.

3.4 ADJUSTMENT OF HANGERS AND SUPPORTS:
   A. Adjust hangers and supports to bring piping to proper levels and elevations.

END OF SECTION 15090
PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. This section is a Division-15A Basic Materials and Methods Section, and is a part of each Division-15A section making reference to hangers, supports and anchors specified herein.

1.2 DESCRIPTION OF WORK:

A. General: The requirements for seismic protection measures to be applied to mechanical equipment and systems specified herein are in addition to any other items called for in other sections of these specifications.

B. Mechanical Equipment:

1. Mechanical equipment, piping, and components shall be seismically protected in accordance with the 2015 Edition International Building Code, Chapter 16 and ASCE 7, Section 9.6 for Seismic Protection of Mechanical Equipment and Components.


1.3 PERFORMANCE REQUIREMENTS:

A. Seismic-Restraint Loading:

1. SEISMIC Design Category as defined in IBC Chapter 16: C
2. Assigned Occupancy Category: II
3. Site Class as defined in the IBC: D
4. Component Importance Factor:
   a. 1.5 for life safety related items which includes gas piping.
   b. 1.0 for all other items.

1.4 SUBMITTALS:

A. Product Data for the following:

1. Include rated load, rated deflection, and overload capacity for each vibration isolation device.
2. Illustrate and indicate style, material, strength, fastening provision, and finish for each type and size of seismic-restraint component used.

   a. Tabulate types and sizes of seismic restraints, complete with report numbers and rated strength in tension and shear as evaluated by an agency acceptable to authorities having jurisdiction.
   b. Annotate to indicate application of each product submitted and compliance with requirements.
3. **Restrained-Isolation Devices:** Include ratings for horizontal, vertical, and combined loads.

B. **Delegated-Design Submittal:** For vibration isolation and seismic-restraint details indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1. **Design Calculations:** Calculate static and dynamic loading due to equipment weight and operation, seismic forces required to select vibration isolators and seismic restraints.
2. **Indicate materials and dimensions and identify hardware, including attachment and anchorage devices.**
3. **Field-fabricated supports.**
4. **Seismic-Restraint Details:**
   a. **Design Analysis:** To support selection and arrangement of seismic restraints. Include calculations of combined tensile and shear loads.
   b. **Details:** Indicate fabrication and arrangement. Detail attachments of restraints to the restrained items and to the structure. Show attachment locations, methods, and spacings. Identify components, list their strengths, and indicate directions and values of forces transmitted to the structure during seismic events. Indicate association with vibration isolation devices.
   c. **Preapproval and Evaluation Documentation:** By an agency acceptable to authorities having jurisdiction, showing maximum ratings of restraint items and the basis for approval (tests or calculations).

C. **Coordination Drawings:** Show coordination of seismic bracing for mechanical components with other systems and equipment in the vicinity, including other supports and seismic restraints.

D. **Welding certificates.**

E. **Qualification Data:** For professional engineer and testing agency.

F. **Field quality-control test reports.**

**PART 2 – PRODUCTS**

2.1 **PRODUCTS:**

A. **Available Manufacturers:** Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

B. **Manufacturers:** Subject to compliance with requirements, provide products by one of the following:

C. **Basis-of-Design Product:** Subject to compliance with requirements, provide products by one of the following manufacturers:
1. Ace Mountings Co., Inc.
2. Amber/Booth Company, Inc.
4. Isolation Technology, Inc.

PART 3 - EXECUTION

3.1 PREPARATION:

A. Proceed with installation of seismic protection devices only after required building structural work has been completed in areas where the work is to be installed. Correct inadequacies including (but not limited to) proper placement of inserts, anchors and other building structural attachments.

B. Prior to installation of seismic protection devices, installer shall meet at project site with contractor, installer of each component of associated work, inspection and testing agency representatives (if any), installers of other work requiring reviewing material selections and procedures to be followed in performing the work in compliance with requirements specified.

END OF SECTION 15095
SECTION 15100 - VALVES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division - 1 specification sections, apply to work of this section.

B. This section is a Division-15 Basic Materials and Methods Section and is a part of each Division-15 section making reference to valves specified herein.

1.2 DESCRIPTION OF WORK:

A. Extent of valves required by this section is indicated on drawings and/or specified in other Division-15 sections.

1.3 QUALITY ASSURANCE:

A. Manufacturers: Firms regularly engaged in the manufacture of valves, of types and sizes required, and which have been in satisfactory use for not less than one year in similar service.

B. Inspection of Castings: Provide valve bodies, bonnets and discs which have been inspected in accordance with manufacturer’s standard written quality control procedure and, where indicated in accordance with standards of the Manufacturers’ Standardization Society of the Valve and Fitting Industry (MSS).

C. Marking of Valves: Comply with MSS SP-55, except as otherwise indicated.

D. Hydrostatic Testing of Valves: Provide valves which have been tested in accordance with manufacturer’s standard written test procedure and, where indicated, as follows:

   1. Standard Method: Comply with MSS SP-61, except as otherwise indicated.

1.4 PRODUCT HANDLING:

A. Provide manufacturer’s standard temporary protective coating on cast iron and steel valves, and provide factory-applied end-caps on valves. Maintain coating and end-caps through shipping, storage and handling, in adequate condition to inhibit corrosion, prevent damage and eliminate dirt and moisture from inside of valves. During transportation and delivery, handle valves with care using adequate lifting equipment. Do not drop or abuse valves. Store valves inside and protected from weather. Where coating has been removed or damaged, and where valves are in environment which could reasonably be expected to cause rusting, protect valves with separate, durable, waterproof wrapping.

PART 2 - PRODUCTS:

2.1 VALVE TYPES AND SIZES:
A. General: Except as otherwise indicated, provide factory-fabricated valves of the type, body material and pressure class indicated. Where type or body material is not indicated, provide proper selection as determined by Installer for installation requirements, with pressure class selected from MSS or ANSI standards based on the maximum pressure and temperature in the piping system. Except as otherwise indicated, provide valve size same as connecting pipe size.

2.2 HVAC PIPING VALVES:

A. Butterfly Valves: to be "Milwaukee" Valve Series ML for "On-Off" operation. Valves shall be constructed for a working pressure of 150 psi with bodies of cast iron, discs of ductile iron, shafts of 17-4PH stainless steel, seats and O-rings Type E.P.D.M. All valves 6 inches and greater to have gear drive operator. Valves of similar design and equivalent construction as manufactured by Demco, Keystone, or Norris will be acceptable. Any valve offered shall be lug-body-drilled and tapped.

B. Manual Air Vents: to be provided as required. Vents that require pipe discharges to drains shall be 1/4" Crane No. 17 angle valves. All other manual vents shall be 3/8" ball valves as specified.

C. Ball Valves:

1. For Pipe sizes 1" to 3": Three-piece carbon steel with swing out accessibility, 150 psi working pressure. Similar to Grinnell Series 3914, threaded full port.

2. For pipe sizes less than 1": Use Series 3911.

3. Comparable valves as manufactured by Flowset or Apollo will be acceptable.

D. Drain Cocks: to be Wolverine 1/2" No. 667 W.S.A. with stuffing box. Comparable cocks as manufactured by Nibco or Chicago Faucet will be acceptable.

PART 3 - EXECUTION:

3.1 INSTALLATION:

A. General: Except as otherwise indicated, comply with the following requirements.

1. Install valves where required for proper operation of piping and equipment, including valves in branch lines where necessary to isolate sections of piping. Locate valves so as to be accessible and so that separate support can be provided when necessary.

2. Install valves with stems pointed up, in the vertical position where possible, but in no case with stems pointed downward from a horizontal plane unless unavoidable. Install valve drains with hose-end adaptor for each valve that must be installed with stem below horizontal plane.
B. Insulation: Where insulation is indicated, install extended-stem valves, arranged in the proper manner to receive insulation.

C. Applications Subject to Shock: Install valves with bodies of metal other than cast-iron where thermal or mechanical shock is indicated or can be expected to occur.

D. Applications Subject to Corrosion: Do not install bronze valves and valve components in direct contact with steel, unless the bronze and steel are separated by a dielectric insulator. Install bronze valves in steam and condensate service and in other services where corrosion is indicated or can be expected to occur.

END OF SECTION 15100
SECTION 15140 - PUMPS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division - 1 specification sections, apply to work of this section.

B. This section is a Division-15 Basic Materials and Methods Section, and is a part of each Division-15 section making reference to pumps specified herein.

1.2 DESCRIPTION OF WORK

A. Extent of pump work is indicated on drawings and in schedules, and by requirements of this section.

B. The applications of general-use centrifugal type pumps required for project include the following:
   1. HVAC water pumps

C. Electrical connections for pump motors are indicated on Electrical Power Plans.

D. Refer to Division 15 sections for electrical connection work required in conjunction with pump motors; not work of this section.

E. Refer to other Division 15 sections for equipment thermal insulation work required in conjunction with pumps; not work of this section.

1.3 QUALITY ASSURANCE

A. Manufacturers: Provide products produced by one of the following (for each rating of centrifugal pump):
   1. Bell and Gossett, ITT Div.
   2. Taco, Inc.
   3. Armstrong

B. UL and NEMA Compliances: Provide high efficiency (90+%) electric motors and products which have been listed and labeled by Underwriters' Laboratories and comply with NEMA standards.

1.4 SUBMITTALS

A. Product Data; Pumps:

   Submit manufacturer's data on pumps, including but not limited to, pump characteristic performance curves, certified where indicated.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver and store pump products in factory-wrapped packages which properly protect pumps against weather, dirt and damage.

B. Handle pumps carefully to avoid damage to motors, components, enclosures and finish. Do not install damaged units; replace and return damaged units to pump manufacturer.

PART 2 - PRODUCTS

2.1 BASE MOUNTED END SUCTION PUMPS
A. Furnish and install, as indicated on the plans and specifications, pump equipped with water-tight, long-life, self-lubricating seal. The pumps shall be of the end-suction, radially-split casing type with back pull-out feature permitting removal of the complete rotating assembly without disturbing pipe connections. Pump construction shall be (bronze-fitted) suitable for a maximum working pressure of 175 psig. The pump shaft shall be supported by heavy-duty ball bearings.

B. Pump and motor to be mounted on a rigidly constructed fabricated steel baseplate and directly connected through a flexible coupling, non-metallic such as Woods-Surflex. Motors shall feature shaft grounding rings to prevent motor bearing failure due to VFD service.

C. The complete unit shall be suitable for the service as shown in the pump schedule and the pump manufacturer shall conduct operating tests to verify the conditions of head and capacity specified.

D. Certificates of this test shall be provided to the Engineer. Pump rating curves shall be the result of testing and rating in accordance with procedures of the Hydraulic Institute.

E. Pumps shall be so constructed that they provide positive bearing support.

F. Shafts shall be provided with removable shaft sleeves. For mechanical seal type pumps, sleeves shall be cupro-nickel or brass and for packed type pumps, sleeves shall be stainless steel.

G. Suction discharge connection shall be drilled and tapped for gauges and be flanged to utilize either 150 psi or 125 psi ANSI flanges.

H. The base mounted pumps shall be installed on existing bases. The pump shall be leveled by means of properly spaced metal shims or wedges located directly under the base plate and spaced closely enough to give uniform support. The pump and motor to be both aligned before and after grout is poured and again after piping connections. Piping to be supported by other than pump. Gauge to be supplied on suction and discharge with gauge valves so exact readings can be made.

I. Pumps mounted outdoors to have totally enclosed motors.

J. Pump Characteristics: Any pumps offered for approval shall meet the following conditions:

1. Pump suction shall be not less than one specified.
2. Impeller diameter shall not exceed 85% of pump volute.
3. Point selection on performance curve shall be left of center of maximum efficiency plot with only 3 percentage points left of center.

K. Provide one (1) additional pump impeller, full size, for each different pump specified. Impeller shall be readily available for trimming in the event the system balance exceeds the limits set forth by the Energy Code.

PART 3 - EXECUTION

3.1 INSTALLATION OF PUMPS

A. Install pumps where shown.

3.2 ELECTRICAL CONNECTIONS

A. Insure that pump units are wired properly, with rotation in direction indicated and intended for proper pump performance.

B. Provide positive electrical pump and motor grounding.
3.3 FIELD QUALITY CONTROL

A. Upon completion of installation of pumps, and after motors have been energized with normal power source, bleed air from pump casings and test pumps to demonstrate compliance with requirements. Where possible, field correct malfunctioning units, then retest to demonstrate compliance. Replace units which cannot be satisfactorily corrected.

END OF SECTION 15140
SECTION 15250 - SYSTEMS INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division - 1 specification sections, apply to work of this section.

B. This section is a Division-15 Basic Materials and Methods Section, and is a part of each Division-15 section making reference to insulation products specified herein.

1.2 DESCRIPTION:

A. Extent of insulation work is indicated by drawings and by the requirements of this section. In general, the work to include insulating all piping systems, valve bodies, flanges, unions, drip legs, vents, drains, etc. as described hereafter.

B. The piping systems to be insulated include:

1. Heating hot water piping (supply and return)

C. Equipment to be insulated include:

1. Chilled water pump bodies

1.3 QUALITY ASSURANCE:

A. Manufacturers: Provide piping insulation products produced by one of the following for each type and temperature range of insulation:

1. Certainteed Corp.
2. Johns-Manville Corp.
3. Owens-Corning Fiberglas Corp.
4. Pittsburg Corning Corp.

B. Installer: A firm with at least 5 years successful installation experience on projects with piping insulations similar to that required for this project.

C. Flame/Smoke Ratings: Flame/Smoke Ratings: Provide composite piping insulation (insulation, jackets, coverings, sealers, mastics, and adhesives) with flame-spread rating of 25 or less and a smoke-developed rating of 50 or less, as tested by ASTM E84 (NFPA 255) method.

1.4 SUBMITTALS:

A. Manufacturer’s Data, Insulation:

B. Submit manufacturer’s data on piping insulation.
C. Provide certifications or other data as necessary to show compliance with these specifications and governing regulations. Include proof of compliance for test of products for fire rating, corrosiveness, and compressive strength.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING:

A. Protect insulation against dirt, water and chemical and mechanical damage. Do not install damaged insulation; remove from project site.

B. Deliver insulation, coverings, cements, adhesives and coatings to the site in factory-fabricated containers with the manufacturer's stamp, or label, affixed showing fire hazard ratings of the products.

C. Store insulation in original wrappings and protect from weather and construction traffic.

PART 2 - PRODUCTS:

2.1 PIPE INSULATION:

A. As designated below shall be insulated with one-piece molded fibrous glass insulation (-60 to 850 degrees F.) with all service jacket double self-sealing lap and thickness as follows:

   1. All pipe sizes (inside and outside building).
      a. Pipe size 2-1/2 inches and larger – 2 inch, Pipe size 2 inches and smaller – 1 inch.

B. Insulation shall be Owens Corning Fiberglas "ASJ Max" Paper Free ASJ/SSL-11. Similar insulation from listed manufacturers will be considered. Insulation properties to include but not be limited to the following:

   1. Encapsulated paper jacket
   2. Jacket to have factory applied double pressure sensitive adhesive.
   4. UL listed.
   5. Permeance: 0.02 perm/in.
   6. Puncture resistance: 50 units (ASTM D781)
   7. Thermal conductivity: 0.27 BTU .IN/HR./ft. \(^2\) Deg. F @ 150 Deg. F mean temperature.

C. On all piping exposed in Equipment rooms and exposed piping in building, finish with aluminum jacket. The material shall be Childers Aluminum Weatherproof Jacketing with Lap-Seal and with factory attached moisture barrier. The jacketing shall be .020" thickness (3003-H14 alloy) and shall be 3/16" cross crimp for rigidity. The jacketing shall be applied with 2" circumferential and 1-1/2" longitudinal laps and shall be secured with 3/8" aluminum strapping and seals spaced 8" o.c. All elbows in aluminum jacket lines shall be covered with .020" aluminum (3003-H14 alloy) with factory applied moisture barrier.
D. All fittings, valve bodies, unions and flanges shall be vapor seal insulated with molded pipe fittings of same material and thickness to adjoining insulation, wired on with two (2) #14 copper wires and vapor sealed by applying a 1/8" thick vapor barrier mastic recommended by insulation manufacturer. While the mastic is tacky, embed a layer of glass fabric lagging tape in the mastic. After the initial mastic coat has dried, finish the surface with an additional 1/8" thick mastic coat, troweled on to a smooth and neat contour. Finally, cover with Aluminum Jacket as specified herein.

2.2 EQUIPMENT INSULATION:

A. Equipment not insulated by the manufacturer shall be insulated in accordance with the following:

1. Chilled water pumps and suction diffusers to be insulated with Armaflex AP sheet closed-cell insulation, black in color 1 inch thick and to meet ASTM C 534 Type II

PART 3 - EXECUTION

3.1 INSTALLATION OF INSULATION:

A. General: Install insulation products in accordance with the manufacturer's written instructions, and in accordance with recognized industry practices to ensure that the insulation serves its intended purpose.

B. Install insulation on pipe systems subsequent to testing and acceptance of tests and until any electric heating cable that may be required has been installed.

C. Install insulation materials with smooth and even surfaces. Insulate each continuous run of piping with full-length units of insulation, with a single cut piece to complete the run. Do not use cut pieces or scraps abutting each other.

D. Clean and dry pipe surfaces prior to insulating. Butt insulation joints firmly together to ensure a complete and tight fit over surfaces to be covered.

E. Maintain integrity of vapor-barrier jackets on pipe insulation, and protect to prevent puncture or other damage.

F. Cover valves, flanges, fittings and similar items in each piping system with equivalent thickness and composition of insulation as applied to adjoining pipe run. Install factory molded, precut or job fabricated units (at Installer's option) except where a specific form or type is indicated.

G. Extend piping insulation without interruption through walls, floors and similar piping penetrations, except where otherwise indicated. Install protective metal shields and insulated inserts wherever needed to prevent compression of insulation.

H. All insulation work shall be done by mechanics skilled in its application and regularly
employed by the Insulation Contractor who shall be a sub-contractor to this Contractor. Special care shall be given to the covering of irregular fittings in order to obtain an even surface resulting in a neat and workmanlike appearance.

3.2 PROTECTION AND REPLACEMENT:

A. Replace damaged insulation which cannot be repaired satisfactorily, including units with vapor barrier damage and moisture saturated units. Replace/Repair pipe insulation that is removed from existing piping to make new alterations or pipe connections or removal of existing pipe.

B. Protection: The Installer of the piping insulation shall advise the Contractor of required protection for the insulation work during the remainder of the construction period, to avoid damage and deterioration.

END OF SECTION 15250
SECTION 15513 - CONDENSING BOILERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:
   A. Drawings and general provisions of Contract including General and Supplementary
      Conditions and Division-1 specification sections apply to work of this section.
   B. Division - 15 Basic Materials and Methods sections apply to work of this section.

1.2 DESCRIPTION OF WORK:
   A. Extent of boiler work required by this section is indicated on drawings and
      schedules, and by requirements of this section.
   B. Type of boiler specified in this section include the following:
      1. Packaged gas-fired boilers, heating hot water, condensing type.
   C. Refer to other Division-15 sections for concrete pads, piping, specialties, pumps,
      etc. required external to boilers for installation, not work of this section.

1.3 QUALITY ASSURANCE:
   A. Manufacturers: Firms regularly engaged in manufacture of boilers, of types and
      capacities required, whose products have been in satisfactory use in similar service
      for not less than 5 years. Provide products produced by one of the following for
      each type and capacity of heat generation units:
      1. Lochinvar
      2. Raypack
      3. Patterson-Kelly
   B. Installer: A firm with at least 3 years of successful installation experience on
      projects with installation work similar to that required for the project.
   C. NEC Compliance: Comply with National Electrical Code (NFPA 70) as
      applicable to installation and electrical connections of electrical components.

PART 2 - PRODUCTS

2.1 BOILER-GENERAL:
   A. The boiler basis of design shall be equal to "LOCHINVAR CREST" having a
      modulating input gas heat and shall be operated on Natural Gas. The boiler
      shall be capable of full modulation firing down to 4% of rated input with a
      turndown ratio of 25:1.
   B. The boiler shall bear the ASME "H" stamp for 160 psi working pressure. The
316L stainless steel fire tube heat exchanger shall be fully welded designed design. The boiler shall feature a single pressure vessel. Fire Tube shall be capable of transferring 16,000 to 20,000 Btu’s per tube. There shall be no banding material, bolts, gaskets or "O" rings in the heat exchanger construction. The heat exchanger shall be designed for a single-pass water flow in order to limit the water side pressure drop. The condensate collection basin shall be constructed of welded 316L stainless steel. The complete heat exchanger assembly shall carry a ten (10) year limited warranty.

C. The BOILER shall be certified and listed by C.S.A. International under the latest edition of the harmonized ANSI Z21.13 test standard for the U.S. and Canada. Boiler shall comply with the energy efficiency requirements of the latest edition of the ASHRAE 90.1 standard. Boiler shall operate at a minimum of 96.2% thermal efficiency at full fire as registered with AHRI.

2.2 BOILER-CONSTRUCTION:

A. Boiler shall be constructed with a heavy gauge steel jacket assembly, primed and pre-painted on both sides. The combustion chamber shall be sealed and completely enclosed, independent of the outer jacket assembly, so that integrity of the outer jacket does not affect a proper seal. Two burner/flame observation ports shall be provided. The single burner shall be a premix design constructed of high temperature stainless steel with a woven Fecralloy outer covering to provide modulating firing rates. Boiler shall be supplied with two gas valves designed with negative pressure regulation and be equipped with a pulse width modulation blower system, to precisely control the fuel/air mixture to provide modulating boiler firing rates for maximum efficiency. Boiler shall operate in a safe condition with gas supply pressures as low as 4 inches of water column. The burner flame shall be ignited by direct spark ignition with flame monitoring via a flame sensor.

2.3 CONTROLS:

A. Boiler shall utilize a 24 VAC control circuit and components. The control system shall have a display for boiler set-up, boiler status, and boiler diagnostics. All components shall be easily accessed and serviceable from the front and top of the jacket. Boiler shall be equipped with a temperature/pressure gauge; high limit temperature control with manual reset; ASME certified pressure relief; outlet water temperature sensor (dual thermistor); return water temperature sensor; outdoor air sensor, flue temperature sensor (dual thermistor); high and low gas pressure switches, low water cut off with manual reset, blocked drain switch and a condensate trap for the heat exchanger condensate drain.

B. The boiler shall feature control with a Multi-Colored Graphic LCD display with Navigation Dial and Soft Keys for three loop temperature setpoints with individual outdoor air reset curves, pump delay with adjustable freeze protection, pump exercise, and USB PC port connection. The boiler shall have the capability to accept a 0-10 VDC input connection for BMS control of modulation or set point, enable disable of the boiler, variable system pump
signal and a 0-10 VDC output of boiler modulation rate. The Boiler shall have a built-in "Cascade" with sequencing options for "lead lag" or "efficiency optimized" modulation logic, with both capable of rotation while maintaining modulation of up to eight boilers without utilization of an external controller. Supply voltage shall be 120 volt / 60 hertz / single phase.

2.4 ELECTRICAL:

A. The boiler shall be equipped with two terminal strips for electrical connection, and a low voltage connection board with 42 data points for safety and operating controls. A high voltage terminal strip shall be provided for supply voltage. The high voltage terminal strip plus integral relays are provided for independent pump control of the Boiler pump.

2.5 VENTING AND COMBUSTION AIR:

A. The boiler shall be installed and vented with a vertical vent with a vertical rooftop termination. The flue system shall be sch.80 CPVC with sealed vent materials, including all required fittings, rain collars/caps, and drain sections. Boiler air inlet shall intake from the mechanical room.

2.6 OPTIONAL EQUIPMENT ACCESSORIES:

A. Provide and install Condensate Neutralization Kit.

PART 3- EXECUTION

3.1 INSTALLATION:

A. Unit shall be installed, as project will allow.

END OF SECTION 15513
SECTION 15700 - LIQUID HEAT TRANSFER

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division - 1 specification sections, apply to work of this section.

B. Division-15 Basic Materials and Methods Sections apply to the work of this section.

1.2 DESCRIPTION OF WORK

A. Extent of HVAC water piping work is indicated on the drawings and in schedules, and by the requirements of this section.

B. The types of equipment served by HVAC water piping include the following:
   1. Condensing Heating Water Boilers
   2. Pumps

1.3 QUALITY ASSURANCE

A. Subcontract the installation to a single firm specializing and experienced in hot water piping systems for not less than 5 years.

PART 2 - PRODUCTS

2.1 GENERAL

A. Installation of piping systems shall include all pipe, valves, fittings, appurtenances and accessories that are shown on the drawings and that are required to complete the systems for safe, satisfactory and acceptable operation.

2.2 PIPE

A. Black Steel. Heating water above ground, chilled water piping above ground, including appurtenant vent and drain lines - Schedule 40 ASTM A53 or A106.

2.3 VALVES

A. Including gate, balancing, butterfly and check - Type as previously specified and related to those indicated on drawings.
2.4 FITTINGS & COUPLINGS

A. Type as previously specified.

2.5 BASE MOUNTED PUMPS

A. Type as previously specified in Section 15140

2.6 SUCTION DIFFUSERS

A. Provide at each pump a Suction Diffuser manufactured by Bell & Gossett or Taco of size and type noted on drawings. Units shall consist of angle type body with inlet vanes and combination Diffuser-Strainer-Orifice Cylinder with 3/16" diameter openings for pump protection. Unit shall be equipped with disposable fine mesh start-up strainer which shall be removed after thirty days of operation. Strainer free area shall be no less than five times the section area of the pump connection.

1. Unit shall be provided with adjustable support foot to carry weight of suction piping.

2.7 TEMPERATURE AND PRESSURE TEST PORTS

A. Furnish and install test ports. Ports shall be suitable to accept a 1/8" diameter thermometer stem or pressure gauge adapter and shall have dual EPDM internal seal. Device shall have a threaded cap with internal seal and a plastic or metal retainer strap. Ports for insulated pipe or equipment shall be 1/4" MPT (or 1/2" MPT) by 2-3/4" long. Ports for uninsulated pipe or equipment shall be 1/4" MPT (or 1/2" MPT) by 1-3/8" long.

Ports to have brass body with dual EPDM seals and brass cap with a retainer strap.

B. Manufacturers:

Flow Design Inc., SuperSeal™
Pete's Plug
Sysco

C. Installation:

1. Install pointing vertically up or in a horizontal plane. Do not have the test port pointing downward.
2. Install in accordance with the manufacturer's instructions.

PART 3 - EXECUTION
3.1 INSTALLATION OF PIPING SYSTEM

A. General: Comply with the requirements of the Division 23 sections for installation of basic piping materials. Install piping products in accordance with the manufacturer's written instructions, the applicable requirements of ANSI B31.1, and in accordance with recognized industry practices to insure that products serve the intended function.

B. Install air vents at the high points of the piping system.

C. Install drains at the low points of the piping system.

D. Install eccentric reducer where pipe is reduced in size, with tops of both pipes and reducer flush.

E. Install return-branch piping and return risers vertically down into mains.

3.2 EQUIPMENT CONNECTIONS

A. General: Connect piping system to mechanical equipment in the manner shown, and comply with the equipment manufacturer's instructions where not otherwise indicated.

END OF SECTION 157004
SECTION 15990 - TESTING/ADJUSTING/BALANCING: HEATING/VENTILATION/COOLING SYSTEMS

PART 1 – GENERAL

1.1 REFERENCED STANDARDS:

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

1. ASSOCIATED AIR BALANCE COUNCIL (AABC)
   AABC NSTSB 2002 National Standards for Total System Balance, Sixth Edition

2. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
   ANSI S1.4 1983 Sound Level Meters (ASA 47)

3. ACOUSTICAL SOCIETY OF AMERICA (ASA)
   ASA 65 1986 Octave-Band and Fractional-Octave-Band Analog and Digital Filters

4. AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR-CONDITIONING ENGINEERS, INC. (ASHRAE)
   ASHRAE 1999 Handbook HVAC Applications

5. SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC. (SMACNA)

6. National Environmental Balancing Bureau (NEBB)

1.2 RELATED DOCUMENTS:

A. Section 15000, Mechanical General Conditions - specifically Paragraph 2.12 A through E.

B. Section 15900, Building Management System (BMS)

C. Appendix A of this section

1.3 DESCRIPTION OF WORK:
A. The work includes testing, adjusting, and balancing (TAB) of all fluid moving pieces of equipment/systems and equipment/systems of thermal transfer as indicated by the contract documents including but not limited to: heating, ventilating, and cooling (HVAC) water distribution systems including equipment, and piping which are located within buildings.

B. Water Distribution Systems: shall be TAB'd in compliance with this section.

C. Equipment and systems to be TAB’d are listed in the table below.

<table>
<thead>
<tr>
<th>Equipment Mark/Tag</th>
<th>Thermal Testing</th>
<th>Electrical Testing</th>
<th>Pressure Testing</th>
<th>Adjusting/Balancing</th>
<th>Remarks</th>
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<td>Pumps P-5, P-6, P-7, P-8</td>
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<td></td>
<td>X</td>
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</tr>
</tbody>
</table>

Notes:
1. Adjust and balance new boiler to achieve design flow using automatic flow-limiting circuit balancing valves

PART 2 – PRODUCTS

2.1 CONSUMABLES:
   A. Provide consumables as required to complete the specified TAB fieldwork.
   B. Consumables include but are not limited to; test plugs, tape, drill bits, hose, manometer fluid, batteries, etc.

PART 3 – EXECUTION

   Not Applicable.

END OF SECTION 15990