

CONTRACT DOCUMENTS

**NASSAU STREET REDEVELOPMENT
POPE AVE / LAGOON ROAD
INTERSECTION PROJECTS
RFP #2016-0030**

Prepared by:



The Town of Hilton Head Island

Beaufort County, South Carolina

October, 2016

**NASSAU STREET REDEVELOPMENT
POPE AVENUE / LAGOON ROAD
INTERSECTION IMPROVEMENT PROJECTS**

CONTRACT DOCUMENTS AND TECHNICAL SPECIFICATIONS

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**TOWN OF HILTON HEAD ISLAND – RFP 2016-0030
FOR THE CONSTRUCTION OF THE
NASSAU STREET REDEVELOPMENT AND POPE AVENUE / LAGOON ROAD
INTERSECTION PROJECTS**

The Town of Hilton Head Island is soliciting sealed proposals from qualified contractors for the construction of transportation infrastructure improvements on Nassau Street and the intersection of Pope Avenue and Lagoon Road. The Nassau Street redevelopment project consists of demolition, grading, storm drainage installation, paving, pathway, and installation of pervious on-street parking spaces. The Pope Avenue and Lagoon Road intersection project consists of milling and resurfacing Pope Avenue, installation of new mast arm traffic signals and stormwater infrastructure, construction of new turn lanes, new pathway and curb and gutter.

Construction plans and specifications will be used as the primary basis for developing proposals.

Sealed proposals are due by **2:00 PM on October 27, 2016**. Sealed proposals should be hand carried or delivered by traceable means to:

Jennifer Lyle, P.E.
Assistant Town Engineer
Town of Hilton Head Island
One Town Center Court
Hilton Head Island, SC 29928

All proposals must be clearly marked on the outside with the following: **“RFP 2016-0030 NASSAU ST REDEVELOPMENT AND POPE AVE / LAGOON RD INTERSECTION PROJECTS”** Only sealed proposals received on or before the time and date stated above will be considered. Proposals will be opened at 2:05 PM. The only information that will be made publically available at that time is the formal list of proposals received.

A **mandatory pre-proposal conference** will be held at the Town of Hilton Head Island, South Carolina Town Hall at **10:00 AM on October 11, 2016** in Conference Room 4. Proposals will not be accepted from those contractors who do not attend the mandatory pre-proposal conference. Project Contract Documents and Plans will be available for review at this conference. All offerors may submit questions or requests for clarification in writing to Jennifer Lyle no later than 4:30 PM, October 17, 2016. After that date, no more questions or requests will be accepted. All questions and answers will be provided to contractors by October 21, 2016.

Each offeror is required to be a licensed general contractor within the State of South Carolina. Prior to commencement of work, the selected Contractor and any associated subcontractors will be required to obtain a Town of Hilton Head Island business license to operate within Town limits. Proposers shall be licensed to perform the work described herein as required by Section 40-11-10 et seq., South Carolina Code of Laws, 1976 (as amended) and Section 10-1-10 et seq., Code of the Town of Hilton Head Island, South Carolina, 1983 (as amended).

Proposals must be accompanied by a certified check or Bond in an amount equal to at least 5% of the amount of the proposal made payable to the Town. A Contract Performance and Payment Bond in the amount of 100% of the contract amount will be required once a contract has been

awarded and before a notice to proceed is issued.

Proposals must be signed by an official authorized to bind the offeror, and shall contain a statement to the effect that the proposal is firm for a period of at least 90 days from the date of opening.

The Town reserves the right to accept or reject any or all offers received as a result of this request or to negotiate with all qualified offerors or to cancel in part or in its entirety this solicitation if it is in the best interest of the Town to do so. The Town further reserves the right to waive any technicalities and formalities and to delete or reduce the quantities of certain items at its sole discretion.

This solicitation does not commit the Town to award a contract or to pay for any costs incurred in the preparation of your proposal or to procure or contract for any articles of goods or services.

The Town Manager may terminate this contract in whole or part at any time for the convenience of the Town. If the contract is terminated for convenience, the Town will pay the contractor for costs incurred for services performed at the time of termination.

The Town does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment or in the provision of goods and services.

The Contractor shall be required to meet all tasks of this contract within **the specified calendar days of** Notice to Proceed shown below. These deadlines may be extended as needed upon demonstrated necessity by the Contractor and written approval of the Town. Liquidated Damages of One Thousand Dollars (\$1,000.00) per day shall be assessed for each day exceeding the performance period, until the work is completed.

Phase 1-A: Nassau Street Storm / Resurfacing
60 Calendar Days from Notice to Proceed
Liquidated Damages: \$1,000.00 / day

Phase 1-B: Nassau Street
60 Calendar Days from Notice to Proceed
Liquidated Damages: \$1,000.00 / day

Phase 1-C: Pope Ave / Lagoon Rd Intersection
120 Calendar Days from Notice to Proceed
Liquidated Damages: \$1,000.00 / day

Any bidder who qualifies for consideration under the Town's Local Vendor Preference Program should include a copy of their certification form with their bid. Should you have any questions about this preference, please contact Tom Fultz at 843-341-4600 or log on to the Town's Website at www.hiltonheadislandsc.gov.

For additional information concerning this solicitation, please contact Jennifer Lyle at JenniferL@hiltonheadislandsc.gov or (843) 341-4779.

Special Instructions:

Include five references for which your company has completed similar, public sector or government construction projects. Identify a point of contact with phone number for each project.

Schedule:

For purposes of preparing proposals, it shall be presumed that:

- (i.) Proposal Opening shall occur on **October 27, 2016**.
- (ii.) Execution of Agreement anticipated on or before **November 18, 2016**.
- (iii.) Notice to Proceed anticipated on or before **December 1, 2016**.
- (iv.) Substantial Completion is expected by **April 1, 2017**, 120 Calendar days from Notice to Proceed.

A penalty of One Thousand Dollars (\$1,000.00) per day will be assessed for each day required to complete the work past the Substantial Completion deadline.

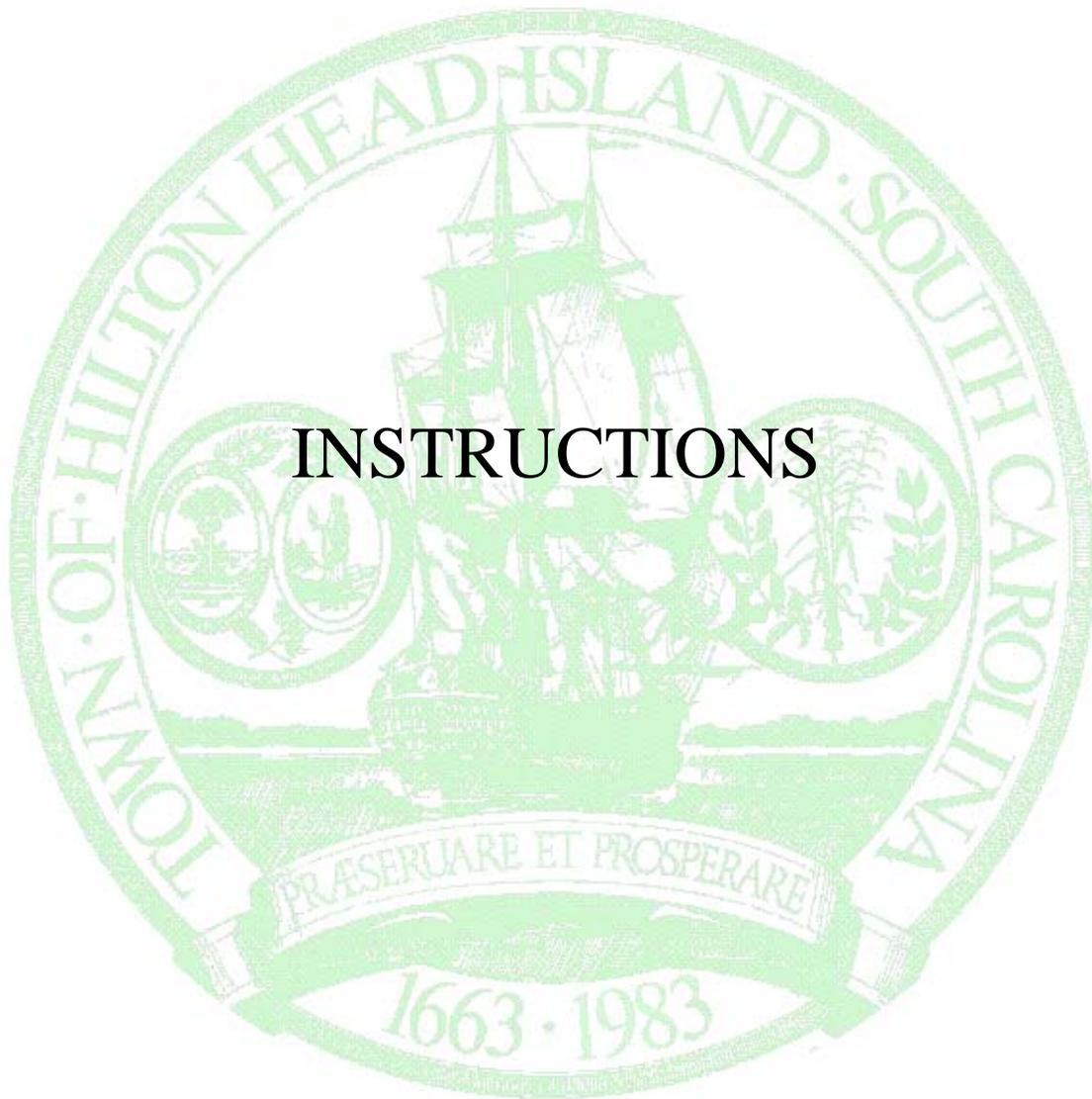
Construction activity shall only occur from Monday through Saturday from 7:00 AM to sunset unless otherwise authorized by the Town. Any work on Pope Avenue requiring a lane closure may occur from 7:00 am to 7:00 pm based on a variance granted by the SCDOT to allow day time lane closures on Pope Avenue. A bid alternate is included in this RFP for lane closures to occur on Pope Avenue from 7:00 pm to 7:00 am. There is no access permitted on Sundays to the work site. Lighting of the work site is prohibited if daytime lane closures are except as may be specifically authorized in writing by the Town.

Contract Documents:

The Project Contract Documents and Plans shall be used as the primary basis for developing proposals. Reference is made to said documents for full particulars. Contract Documents and Plans may be found on the Town's website

<http://www.hiltonheadislandsc.gov/government/procurement/>. Copies of the Project Contract Documents and Plans may be inspected at the Town of Hilton Head Island Town Hall, One Town Center Court, Hilton Head Island, SC 29928, Monday through Friday 8AM to 4:30PM.

NASSAU STREET REDEVELOPMENT AND POPE AVE / LAGOON ROAD
INTERSECTION PROJECTS



INSTRUCTIONS

INSTRUCTIONS TO OFFERORS

1. INTENTION: It is intended that the Instructions to Offerors, Special Conditions, General Conditions Construction Drawings, and Technical Specifications shall cover the complete work to which they relate.
2. PROPOSED FORMS: All proposals must be made upon the Proposed Forms hereto annexed, and shall state the amount proposed for each item as shown, and all proposals must be for materials and work called for in the specifications.
3. RIGHT TO REJECT OFFERS: The Town reserves the right to reject any or all proposals and to waive formalities. No proposals will be received after the time set for opening proposals. Any unauthorized conditions, limitations, or provisions attached to the proposal, except as provided herein, will render it informal and may cause its rejection. Any Offeror may withdraw their proposal, either personally or by written request at any time prior to the scheduled closing time for receipt of proposals.
4. ACCEPTANCE OF PROPOSALS: Proposals may not be revoked or withdrawn after the time set for the opening, but shall remain open for acceptance for a period of ninety (90) calendar days following that time.
5. PROPOSALS: The Proposals are to be enclosed in a sealed envelope addressed as follows:

Jennifer Lyle, P.E.
Assistant Town Engineer
Town of Hilton Head Island
One Town Center Court
Hilton Head Island, SC 29928

and clearly marked:

“RFP 2016-0030 NASSAU ST REDEVELOPMENT AND POPE AVE / LAGOON RD INTERSECTION PROJECTS”

Proposals must be accompanied by a certified check or Bid Bond in an amount equal to at least 5% of the amount of the proposal, made payable to the Town, to guarantee that the successful Offeror will within 10 days from the date of the Notice of Award of Contract enter into a contract with the Town and execute to said in the form set forth in the contract bond and specifications referred to in said request for proposals. A Contract Performance and Payment Bond in the amount of 100% of the contract amount will be required from the selected Offeror if the proposal exceeds \$100,000.00.

Proposals must be signed by an official of your company authorized to bind the Offeror, and shall contain a statement that the proposal is good for a period of at least ninety (90) days from the date of proposal opening.

PROPOSAL SELECTION CRITERIA:

The Contract will be awarded, if it is awarded, to the Offeror with the most advantageous proposal. The Town shall determine the most advantageous proposal, based on the following criteria:

- 40% Fee Proposal
- 30% Quality of work and experience on projects of similar scope/size (minimum three projects of similar scope and size completed within the past 10 years as the general contractor, a demonstrated record of completed projects on time and on budget and meeting all defined project requirements/expectations, and experience and quality of key personnel assigned to the project (based on resumes and reference checks). The project team is comprised of all required disciplines to successfully complete the project.
- 30% Work plan and schedule – Proposed work plan demonstrates a complete understanding of the tasks reflected in the scope of services. The plan accurately identifies all major challenges. The proposed project schedule is detailed and includes necessary tasks to meet the project deadlines. Sufficient resources are dedicated to complete the project in the time allowed.

The Contractor shall provide the following information for evaluation:

Fee

The Contractor shall complete the line item fee schedules as provided in this document. All items must include a price including all bid alternates. If the Contractor fails to follow these instructions, the proposal may be deemed non-responsive. Three fee proposals are included in this project:

- Nassau Street
- Lagoon Pope Intersection
- Lagoon Pope Intersection Night Work Alternate

Quality of Work, Project Experience, Qualifications of Key Personnel

The Contractor shall complete the accompanying PROPOSAL QUESTIONNAIRE in a manner that provides a detailed, comprehensive history of its work experience with similar types of projects, including:

- All pertinent projects shall be listed (with client, date, and location);
- Describe the project;
- The contact amount for each project;
- Reference or active contact person (name, title, organization/company, phone number, e-mail) for each project (please confirm that reference contact

information is valid and up to date); **References are scheduled to be contacted between October 28th and November 3rd.**

- Whether the Offeror involved:
 - a) Maintains a permanent place of business;
 - b) Has adequate plant equipment to do the work properly and expeditiously;
 - c) Has suitable financial status to meet obligations incident to the work; and
 - d) Has appropriate technical experience.

As part of the PROPOSAL QUESTIONNAIRE, the Contractor shall provide resumes and information on the key personnel to be assigned to this project.

Work Plan

The project phasing is identified so stormwater infrastructure will be accessible during each phase of the project. Careful consideration will need to be made to ensure limited disruptions for access to neighboring properties. The contractor's proposal shall include a detailed Work Plan that describes how he intends to keep access to properties open in the area, while maintaining traffic and pedestrian control within the project limits. Provide a detailed critical path method schedule for each identified project phase shown below and in Exhibit A – Phasing Plan:

Phase 1-A: Nassau Street Storm / Resurfacing

60 Calendar Days from Notice to Proceed

Phase limits are from Deallyon Avenue to Sta. 10+25 (behind KennyB's), including storm drainage trunkline to pond, road re-surfacing, minor pathway work, pond reshaping as necessary to install the 36" RCP and outlet structure.

Phase 1-B: Nassau Street

60 Calendar Days from Notice to Proceed

Phase limits from Sta. 10+25 (behind Kenny B's) to Pope Avenue travel lane, including storm drainage, utility coordination/relocation, road re-construction, driveway and parking lot modifications Circle Center, on-street parking, curb and gutter, pavement markings, signage

Phase 1-C: Pope Ave / Lagoon Rd Intersection

120 Calendar Days from Notice to Proceed

All work on Pope Avenue, all storm through outfall into pond, all work on Existing Lagoon Road, new signal at Lagoon Road, all road work on new Lagoon Road Extension from Station 0+00 to Station 4+00, including a portion of the roundabout, access to surface parking lot, and new parking spaces in parking lot.

6. **INTERPRETATION OF PLANS AND SPECIFICATIONS:** If any person contemplating submitting a proposal for the proposed contract is in doubt as to the true meaning of any part of the plans, specifications, or other proposed contract documents, he may submit to Jennifer Lyle, Assistant Town Engineer, a written request no later than **4:30 PM October 17, 2016**, for an interpretation thereof. The person submitting the request will be

responsible for its prompt delivery. Any interpretation of the proposed documents will be made only by Addendum duly issued, and a copy of such Addendum will be mailed or delivered to each person receiving a set of such documents.

7. **OFFEROR'S UNDERSTANDING**: Offerors should visit the work site(s) to ascertain by inspection pertinent local conditions such as location, character and accessibility of the site including existing surface and subsurface conditions in the work area, availability of facilities, location and character of existing work within or adjacent thereto, labor conditions, etc. The Town shall make available to all prospective Offerors existing site information that it may possess. Such information shall be given as the best factual information available without being considered as a representative of the Town.
8. **MODIFICATIONS OF QUANTITIES [VALUE ENGINEERING]**: If the selected proposal exceeds the money available for the work, the Town may delete enough of the work to bring the cost within the available funds. The Town reserves the right to delete whichever items or portions of items it considers to be in the best interest of the Town.
9. **CONTRACT COMPLETION TIME**: The time for completion of the work under this contract shall be within the specified calendar days of Notice to Proceed shown below from the date specified in written notice to the Contractor to proceed with the work. This may be extended by the Town for good cause shown.

Phase 1-A: Nassau Street Storm / Resurfacing

60 Calendar Days from Notice to Proceed

Liquidated Damages: \$1,000.00 / day

Phase 1-B: Nassau Street

60 Calendar Days from Notice to Proceed

Liquidated Damages: \$1,000.00 / day

Phase 1-C: Pope Ave / Lagoon Rd Intersection

120 Calendar Days from Notice to Proceed

Liquidated Damages: \$1,000.00 / day

10. **CONTRACT SECURITY**: If the Proposal is greater than \$100,000, the successful Offeror shall deliver to the Town an executed Performance and Payment Bond in an amount equal to at least 100% of the accepted proposal as security for the faithful performance of the contract and for payment of all persons performing labor and furnishing materials and equipment in connection with this contract. The sureties of all bonds shall be such surety company or companies as are approved by the Town, and as are authorized to transact business in the State of South Carolina. The Contractor will be required to have a current business license from the Town of Hilton Head. The Bond shall cover the one-year service and guarantee on equipment.
11. **GENERAL CONDITIONS**: The Final Contract Documents will include the "Standard General Conditions of the Construction Contract" EJCDC C-700 (2007 Edition) prepared

by the National Society of Professional Engineers and amended by the Town of Hilton Head Island – Exhibit C.

12. CONTRACTOR'S AND SUB-CONTRACTOR'S INSURANCE:

The Contractor shall not commence work under this agreement until he has obtained all the insurance required under this paragraph and such insurance has been approved by the Town, nor shall the Contract allow any Sub-contractor to commence work on his subcontract until the insurance required of the Sub-contractor has been so obtained and accepted.

a) Employer's Liability Insurance: The Contractor shall take out and maintain during the life of the contract the South Carolina statutory Workmen's Compensation and Employer's Liability Insurance for all of his employees to be engaged in work on the project under the contract and, in case any such work is sublet, the Contractor should require the Sub-contractor similarly to provide Workmen's Compensation and Employer's Liability Insurance for all the latter's employees to be engaged in such work.

b) General Liability, Bodily Injury and Property Damage Liability Insurance: The Contractor shall take out and maintain during the life of the contract a General Liability Insurance policy for an amount not less than One Million dollars (\$1,000,000.00.) The policy shall include the Bodily Injury Liability and Property Damage Liability Insurance to protect him and any Sub-contractor performing work covered by the contract from claims for damages for personal injury, including accidental death, as well as from claims for property damage, which may arise from operations under the contract, whether such operations be by himself or by a Sub-contractor or by anyone directly or indirectly employed by either of them and the amount of such insurance should be not less than:

Bodily Injury Liability Insurance, in an amount not less than \$1,000,000.00 for injuries, including wrongful death to any one person, and subject to the same limit for each person in an amount not less than \$500,000.00 on account of one accident.

Property Damage Insurance in an amount not less than \$350,000.00 for damages on account of any one accident, and in an amount not less than \$1,000,000.00 for damages on account of all accidents.

c) Builder's Risk Insurance (Fire and Extended Coverage): The Contractor shall have adequate fire and standard extended coverage, with a company or companies acceptable to the Town, in force on the project.

The provisions with respect to Builder's Risk Insurance shall in no way relieve the Contractor of his obligation of completing the work covered by the Contract.

d) Proof of Carriage of Insurance: Prior to commencing work hereunder, Contractor, at his expense, shall furnish a current insurance certificate showing the certificate holder as Town of Hilton Head Island, One Town Center Court, Hilton Head Island, SC 29928,

Attention: Jennifer Lyle, and with a special notation naming The Town of Hilton Head Island as an additional insured on the liability coverage. The Contractor shall furnish the Town with certificates showing the type, amount, class of operations, effective dates and date of expiration of policies. Such certificates shall contain a clause to the effect that the policy shall not be canceled or reduced, restricted, or limited until thirty (30) days after the Town has received written notice, as evidenced by return receipt of registered or certified letter. Certificates of Insurance shall contain transcript from the proper office of the insurer, the location, and the operations to which the insurance applies, the expiration date, and the above mentioned notice of cancellation clause.

Contractor shall either:

- (a) require each of his sub-contractors to procure and maintain during the life of his subcontract, Sub-contractor Comprehensive General Liability, Automobile Liability and Property Damage Liability Insurance of the type and in the same amounts as specified in this contract; or
- (b) insure the activities of his sub-contractors in his own policy.

Certificates of Insurance must be filed at time of proposal opening through the Town on form provided in specifications or on AIA Document G705, November, 1978 Edition by an insurer authorized to do business in the State of South Carolina by the South Carolina Insurance Commission. All blanks and questions on Certification must be filled out completely. Incomplete or inadequate Certificate will be returned to Contractor as unsatisfactory and commencement of his work will be delayed until satisfactory Certificate is submitted. Such delay will not warrant extension of contract time.

13. PERFORMANCE AND PAYMENT BONDS

The Contractor shall furnish the following specified bonds. These bonds shall be kept effective and in full force for one year after completion and acceptance of the work. These bonds shall serve as a guarantee of function and workmanship of the work. These bonds shall make the Contractor's sureties responsible for underwriting the work against faulty workmanship or defective materials. Final acceptance of the work shall not relieve the sureties of responsibility for a period of one year after this final acceptance.

It is distinctly agreed and understood that any change made in the drawings and specifications for the work, (whether such changes increase or decrease the amount thereof) or any change in the manner or the time of payments made by the Town to the Contractor, shall in nowise annul, release, or affect the liability of the surety on the bond given by the Contractor.

The successful Contractor shall furnish, within ten (10) days after written notice of acceptance of proposal, a Payment Bond for the protection of all persons supplying labor and materials to the Contractor and his subcontractors for the performance of work as specified in this Agreement. The Bond shall be in the amount of One Hundred Percent (100%) of the amount specified in this Agreement, issued by a Surety Company licensed

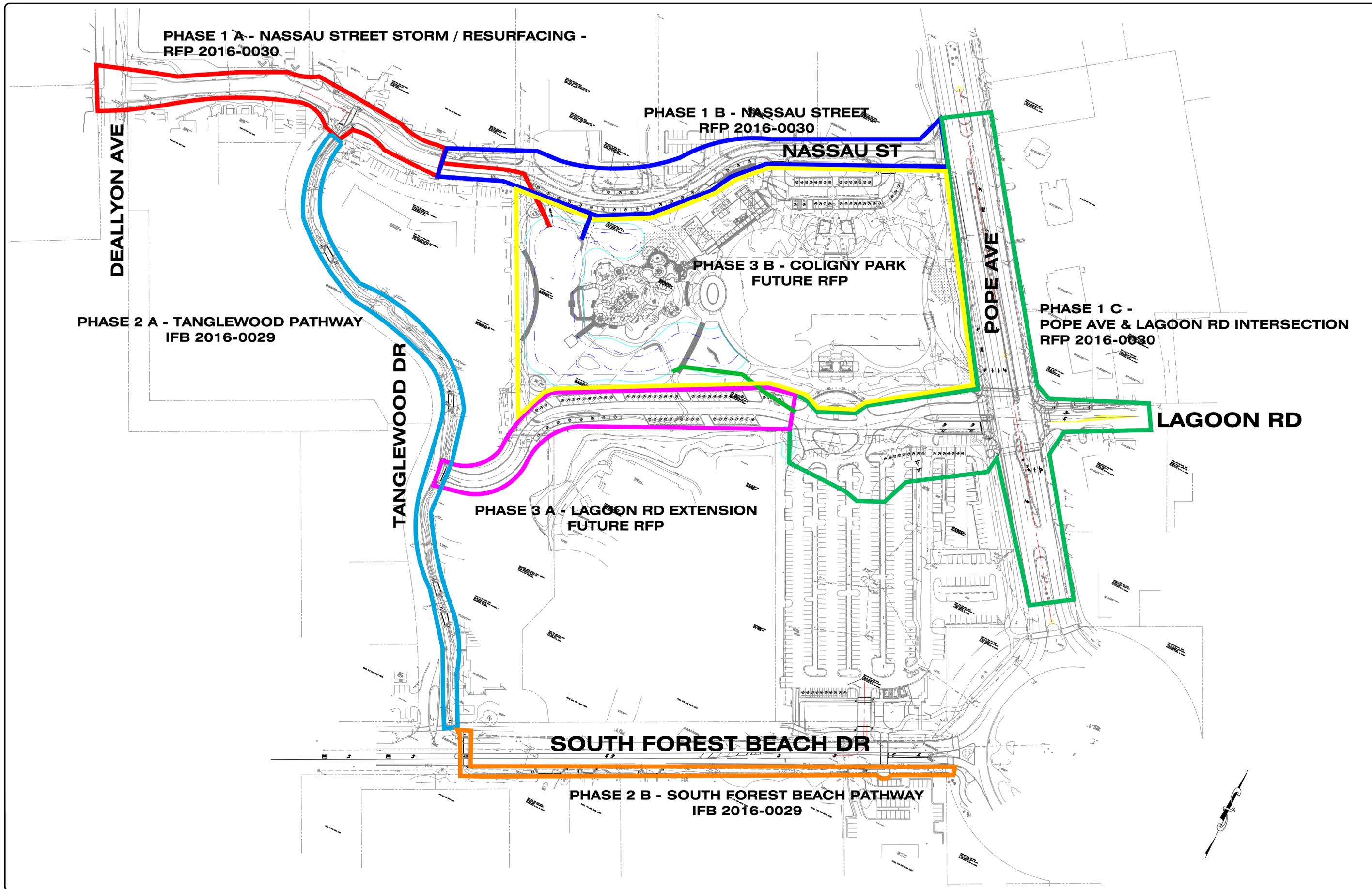
in South Carolina. The bond shall be written on EJCDC C-615 Performance Bond, 2007 Edition.

Every person who has furnished labor or materials to the contractor or its sub-contractors for the work provided pursuant to this contract, in respect of which a payment bond is furnished under this Article and who has not been paid in full therefore before the expiration of a period of ninety (90) days after the day on which the last of the labor was performed by such person, shall have the right to sue on the payment bond for the amount, or the balance thereof, unpaid at the time of institution of such suit, and to prosecute said action for the sum or sums justly due such person; provided, however, that any person having a direct contractual relationship with a sub-contractor of the contractor, but no contractual relationship expressed or implied with the contractor furnishing said payment bond shall have a right of action upon the payment bond upon giving written notice to the contractor within ninety (90) days from the date on which such person did or performed the last of the labor or furnished or supplied the last of material upon which such claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the material was furnished or supplied or for whom the labor was done or performed. Such notice shall be personally served or served by mailing the same by registered or certified mail, postage prepaid in an envelope addressed to the Contractor at any place the contractor maintains an office or conducts his business.

Every suit instituted upon payment bond shall be brought in a court of competent jurisdiction for the town, but no such suit shall be commenced after the expiration of one year after the day on which the last of the labor was performed or material was supplied by the person bringing suit. The obligee named in the bond need not be joined as a party in such suit.

14. LAWS AND REGULATIONS: The Contractor shall comply with District, County, State and Federal laws applicable to the work.
15. SAFETY AND HEALTH REGULATIONS: The Contractor shall comply with the Department of Labor Safety and Health Regulations for Construction promulgated under the Occupational Safety and Health Act of 1970 (PL 91-596) and under Section 107 of the Contract Work and Safety Standards Act (PL 91-54). The regulations are administered by the Department of Labor and the Contractor shall allow access to project to personnel from that Department.
16. TERMINATION OF CONTRACT: If the Town is made to stop construction of the work because of an order from a Court or State Department, the contract may be terminated. Payment will be made for work completed and a pro-ration of the work underway, and for the overhead and profit of the completed work and work underway. Payment will not be made for anticipated profit and overhead on work not completed or underway.

17. PERMITS: Town and State permits apply to the work and will be made part of the Contract. At the time of proposal solicitation, all permits have been applied for but may not have been issued.



**EXHIBIT A - COLIGNY REDEVELOPMENT
CONSTRUCTION PHASING PLAN**



NASSAU STREET REDEVELOPMENT AND POPE AVE / LAGOON ROAD
INTERSECTION PROJECTS



PROPOSAL DOCUMENTS

The Contractor shall complete all of the Proposal Documents included as part of this section. All Proposal Documents shall be part of the Proposal and shall include the following:

- Proposal Transmittal
- Fee Proposal – Exhibit C (Unit Cost Bid Schedule)
- Certificate of License
- Certificate of Insurance
- Collusion Statement and Professional Liability/Performance Statement
- Bid Surety
- Bid Bond
- Payment Bond
- Performance Bond
- References
- Questionnaire

PROPOSAL TRANSMITTAL

TO: Town of Hilton Head Island, South Carolina

ATTENTION: Jennifer Lyle, Assistant Town Engineer

PROJECT: NASSAU STREET REDEVELOPMENT AND
POPE AVE / LAGOON RD INTERSECTION PROJECTS

DATE: _____

FROM: _____ (Company Name)

_____ (Address)

_____ (Telephone No.)

Having carefully examined the plans, specifications and documents contained within this solicitation, dated _____, and also having carefully inspected the work site, the undersigned hereby agrees to furnish all necessary materials, equipment and labor required, as well as all other things necessary for the complete execution of all work which is issued pursuant to this contract. The sum total of all costs reflected in Fee Proposal, Exhibit C, covered by and in conformity with the aforesaid plans, specifications and contract documents is \$_____.

	Total Proposed Fee
NASSAU STREET REDEVELOPMENT	\$
POPE AVE / LAGOON RD INTERSECTION - Daytime Work	\$
GRAND TOTAL FEE	\$

	Total Proposed Fee with night work alternate
NASSAU STREET REDEVELOPMENT	\$
POPE AVE / LAGOON RD INTERSECTION – Night Work	\$
GRAND TOTAL FEE	\$

BY: _____ **DATE:** _____

TITLE: _____

WITNESS: _____

(CORPORATE SEAL)

CERTIFICATE OF LICENSE

This is to certify that _____
has complied with the requirements of Section 40-11-10 et seq, of the South Carolina Code of Laws, 1976 (as amended) and Section 10-1-10 et seq, of the Code of the Town of Hilton Head Island, South Carolina, 1983 (as amended).

State of S.C. Contractor's License No. (if applicable) _____

State of S.C. Offeror's License No. (if applicable) _____

Town of Hilton Head Island Business License No. _____

By: _____ Date: _____

Title: _____

Notes:

1. Contractor is required to be a licensed General Contractor with a Marine classification within the State of South Carolina.
2. Contact the Business Office of the Town of Hilton Head Island, South Carolina to obtain a Town Business License.

CERTIFICATE OF INSURANCE
SPECIMEN
ENDORSEMENT - CASUALTY

Attached to and forming part of the Policy Number _____ of the

(Name of Insurance Company)

Insurance Company, issues at its _____

(City)

_____, Agency.

(State)

Date of Endorsement _____

In consideration of the premium for which the policy is written and proper rate adjustment when applicable, the Insurance Company agrees as follows:

Item (1) This policy shall not be cancelled, changed (which includes renewal), allow to lapse, or allowed to expire until thirty days after the Town of Hilton Head Island, SC, Town Manager, One Town Center Court Hilton Head Island, SC 29928 has received written notice thereof as evidenced by return receipt of registered letter or until such time as other valid and effective insurance coverage acceptable in every respect to the Town of Hilton Head Island, SC, and providing equal protection called for in the policy shown below shall have received, accepted, and acknowledged by the Town of Hilton Head Island, SC. It is also agreed that the said notice shall be valid only as to such improvements or projects as shall have been designated by number in said notice, and that as to any improvement or project not designated by number in said notice, coverage shall be continued in full force and effect.

The foregoing insurance provisions have been incorporated into by the reference and are hereby made a part of insurance policy number _____, this _____ day of _____, 2015.

(Name of Company)

(Signature of Authorized Representative)

**COLLUSION STATEMENT
AND
PROFESSIONAL LIABILITY/PERFORMANCE STATEMENT**

This proposal is submitted for use in connection with and in response to _____
_____. This is to certify to the best of my knowledge and belief that the cost and pricing data summarized herein are complete, current and accurate as of _____ and that a financial management capability exists to fully and accurately account for the financial transactions under this project. I further certify that this proposal is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a proposal for the same materials, supplies or equipment and is in all respects fair and without collusion or fraud. I agree to abide by all conditions of this proposal and certify that I am authorized to sign this proposal for the offeror.

I certify that our company has/has not been involved in any litigation within the past five (5) years regarding professional liability or performance. (If there has been litigation, attach an explanation).

Has a federal agency or a federally certified state or local agency performed any review of your accounts, records, or contracts in connection with any grant or contract within any grant or contract within the past twelve months? Yes No

If "yes," give name, address, and telephone number of reviewing office on an attached statement.

Date of Execution

Signature of Proposer

Title of Proposer

Company Name

Address

City/State/Zip Code

Telephone Number

BID SURETY

_____ (Company Name) agrees to execute a contract and provide performance surety within fifteen (15) calendar days of receipt of a Notice of Award from the Town of Hilton Head Island, South Carolina.

To secure the obligations of this agreement, the attached Bid Surety in the amount of five (5) percent of the total bid price, \$_____, is provided.

If the undersigned fails to execute a contract as required herein, he shall forfeit the Bid Surety amount to the Town of Hilton Head Island, South Carolina, as liquidated damages for such failure.

The attached Bid Surety is in the form of:

- Letter of Credit
- Certified Check
- Bid Bond

BY: _____ DATE: _____

TITLE: _____

WITNESS: _____

CORPORATE SEAL

REFERENCES

Name of Firm: _____

Age of Business: _____

References should be companies or agencies that have contracted with the Offeror within the last **five years** for similar type construction work. Five are preferable, but **at least three references are required.**

REFERENCE 1

Name: _____

Address: _____

Telephone Number: _____

Contract: _____

Description of Contract: _____

Amount of Contract: \$ _____

REFERENCE 2

Name: _____

Address: _____

Telephone Number: _____

Contract: _____

Description of Contract: _____

Amount of Contract: \$ _____

REFERENCE 3

Name: _____

Address: _____

Telephone Number: _____

Contract: _____

Description of Contract: _____

Amount of Contract: \$ _____

REFERENCE 4

Name: _____

Address: _____

Telephone Number: _____

Contract: _____

Description of Contract: _____

Amount of Contract: \$ _____

REFERENCE 5

Name: _____

Address: _____

Telephone Number: _____

Contract: _____

Description of Contract: _____

Amount of Contract: \$ _____

EXHIBT C

FEE

NASSAU STREET REDEVELOPMENT AND POPE AVE / LAGOON RD INTERSECTION PROJECTS

RFP 2016-0030



The Town of Hilton Head Island
Beaufort County, South Carolina

EXHIBIT C: FEE PROPOSAL

Project D - POPE-LAGOON INTERSECTION

NIGHTTIME (7 PM TO 7 AM WORK HOURS)

RFP 2016-0030 - COLIGNY AREA IMPROVEMENTS

LIST OF ESTIMATED QUANTITIES / UNIT COST BID SCHEDULE

The unit prices given on this document, along with any negotiated changes in quantities, shall become the basis for, and included in, the contract agreement. Offerors are responsible for verifying all quantities and notifying the Owner of any discrepancies greater than 10% of estimate, in writing, prior to the bid opening. 7-digit SCDOT specification numbers refer to the 2007 Standard Specifications for Highway Construction of the South Carolina Department of Transportation. SP refers to the Special Provision.

ITEM	SPEC. NO.		DESCRIPTION	QUANTITY		COST	
	SCDOT OR SPEC	PROV.		NUMBER OF UNITS	UNIT MEASURE	PER UNIT	TOTAL COST

PROJECT B - LAGOON ROAD EXTENSION (STA. 0+00 - 4+00)

ITEM	SPEC. NO.		DESCRIPTION	QUANTITY		COST	
	SCDOT OR SPEC	PROV.		NUMBER OF UNITS	UNIT MEASURE	PER UNIT	TOTAL COST
MISCELLANEOUS							
Item			Description	Quantity		Unit Cost	Total Cost
B-M1	6271005		4" White Broken Lines (Gaps Excl.) Thermo 90 mil	80	lf		
B-M2	6271025		24" White Solid Lines - Thermo 125 mil	24	lf		
B-M3	6271030		White Single Arrows - Thermo 125 mil	2	ea		
B-M4	101453		30" STOP Sign	1	ea		
B-M5	8156211		Inlet Structure Filter Type E (Catch Basin)	5	ea		
B-M6	8156490		Gravel Construction Exit	1	ea		
B-M7	8100200		Temporary Cover	1000	sy		
B-M8	675027G		4" Conduit	300	lf		
B-M9	675027O		6" Conduit	150	lf		
MISCELLANEOUS SUBTOTAL							\$ -
DEMOLITION							
Item			Description	Quantity		Unit Cost	Total Cost
B-D1	2023000		Remove Existing Pavement, Base, and Paths	3330	sy		
B-D2	2024100		Remove Existing Curb & Gutter	600	lf		
DEMOLITION SUBTOTAL							\$ -
WATER DISTRIBUTION SYSTEM							
Item			Description	Quantity		Unit Cost	Total Cost
B-W1	331000SC		Connect to existing watermain	1	ea		
B-W2	331000SC		8" Watermain	428	lf		
B-W3	331000SC		2" Water lateral	40	lf		
B-W4	331000SC		2" Gate Valve & Box	1	ea		
B-W5	331000SC		8" Gate Valve & Box	1	ea		
B-W6	331000SC		6" Fire Hydrant Assembly w/ V&B	2	ea		
WATER DISTRIBUTION SYSTEM SUBTOTAL							\$ -
GRADING & DRAINAGE							
Item			Description	Quantity		Unit Cost	Total Cost
B-G1	2011001		Clearing and Grubbing	0.7	ac		
B-G2	9520305		Earthwork and Grading Complete	1	ls		
B-G3	7203110		Curb & Gutter	920	lf		
B-G4	7192105		Storm Manhole	3	ea		
B-G5	7192012		Grate inlet	1	ea		
B-G6	7191005		Curb Inlet	5	ea		
B-G7	7141113		18" RCP Stormwater Pipe	50	lf		
B-G8	7141115		30" RCP Stormwater Pipe	351	lf		
B-G9	7141116		36" RCP Stormwater Pipe	518	lf		
B-G10	8155110		Temporary Diversion Dike With Ditch	100	lf		
B-G11	8156490		Gravel Construction Exit	1	ea		
GRADING & DRAINAGE SUBTOTAL							\$ -

EXHIBIT C: FEE PROPOSAL
Project D - POPE-LAGOON INTERSECTION
NIGHTTIME (7 PM TO 7 AM WORK HOURS)
RFP 2016-0030 - COLIGNY AREA IMPROVEMENTS
LIST OF ESTIMATED QUANTITIES / UNIT COST BID SCHEDULE

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ITEM	SPEC. NO.		DESCRIPTION	QUANTITY		COST	
	SCDOT OR SPEC	PROV		NUMBER OF UNITS	UNIT MEASURE	PER UNIT	TOTAL COST
PAVING							
Item			Description	Quantity		Unit Cost	Total Cost
B-P1	4011004		Liquid Asphalt Binder PG64-22	20.5	ton		
B-P2	4030320		Full Depth Pavement (2" Surface Course, Tack Coat, Prime Coat)	386.1	ton		
B-P3	3050108		8" Graded Aggregate Base Course	3861	sy		
B-P4	4039030		Traffic Pattern XD	81	sy		
B-P5	7201505		Concrete Wheel Stop	16	ea		
						PAVING SUBTOTAL	\$ -
			TOTAL FEE				\$ -

EXHIBIT C: FEE PROPOSAL

Project D - POPE-LAGOON INTERSECTION

DAYTIME (7 AM TO 7 PM WORK HOURS)

RFP 2016-0030 - COLIGNY AREA IMPROVEMENTS

LIST OF ESTIMATED QUANTITIES / UNIT COST BID SCHEDULE

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ITEM	SPEC. NO.		DESCRIPTION	QUANTITY		COST	
	SCDOT OR SPEC	PROV.		NUMBER OF UNITS	UNIT MEASURE	PER UNIT	TOTAL COST

PROJECT B - LAGOON ROAD EXTENSION (STA. 0+00 - 4+00)

ITEM	SPEC. NO.		DESCRIPTION	QUANTITY		COST	
	SCDOT OR SPEC	PROV.		NUMBER OF UNITS	UNIT MEASURE	PER UNIT	TOTAL COST
MISCELLANEOUS							
Item			Description	Quantity		Unit Cost	Total Cost
B-M1	6271005		4" White Broken Lines (Gaps Excl.) Thermo 90 mil	80	lf		
B-M2	6271025		24" White Solid Lines - Thermo 125 mil	24	lf		
B-M3	6271030		White Single Arrows - Thermo 125 mil	2	ea		
B-M4	101453		30" STOP Sign	1	ea		
B-M5	8156211		Inlet Structure Filter Type E (Catch Basin)	5	ea		
B-M6	8156490		Gravel Construction Exit	1	ea		
B-M7	8100200		Temporary Cover	1000	sy		
B-M8	675027G		4" Conduit	300	lf		
B-M9	675027O		6" Conduit	150	lf		
						MISCELLANEOUS SUBTOTAL	\$ -
DEMOLITION							
Item			Description	Quantity		Unit Cost	Total Cost
B-D1	2023000		Remove Existing Pavement, Base, and Paths	3330	sy		
B-D2	2024100		Remove Existing Curb & Gutter	600	lf		
						DEMOLITION SUBTOTAL	\$ -
WATER DISTRIBUTION SYSTEM							
Item			Description	Quantity		Unit Cost	Total Cost
B-W1	331000SC		Connect to existing watermain	1	ea		
B-W2	331000SC		8" Watermain	428	lf		
B-W3	331000SC		2" Water lateral	40	lf		
B-W4	331000SC		2" Gate Valve & Box	1	ea		
B-W5	331000SC		8" Gate Valve & Box	1	ea		
B-W6	331000SC		6" Fire Hydrant Assembly w/ V&B	2	ea		
						WATER DISTRIBUTION SYSTEM SUBTOTAL	\$ -
GRADING & DRAINAGE							
Item			Description	Quantity		Unit Cost	Total Cost
B-G1	2011001		Clearing and Grubbing	0.7	ac		
B-G2	9520305		Earthwork and Grading Complete	1	ls		
B-G3	7203110		Curb & Gutter	920	lf		
B-G4	7192105		Storm Manhole	3	ea		
B-G5	7192012		Grate inlet	1	ea		
B-G6	7191005		Curb Inlet	5	ea		
B-G7	7141113		18" RCP Stormwater Pipe	50	lf		
B-G8	7141115		30" RCP Stormwater Pipe	351	lf		
B-G9	7141116		36" RCP Stormwater Pipe	518	lf		
B-G10	8155110		Temporary Diversion Dike With Ditch	100	lf		
B-G11	8156490		Gravel Construction Exit	1	ea		
						GRADING & DRAINAGE SUBTOTAL	\$ -

EXHIBIT C: FEE PROPOSAL
Project D - POPE-LAGOON INTERSECTION
DAYTIME (7 AM TO 7 PM WORK HOURS)
RFP 2016-0030 - COLIGNY AREA IMPROVEMENTS
LIST OF ESTIMATED QUANTITIES / UNIT COST BID SCHEDULE

The unit prices given on this document, along with any negotiated changes in quantities, shall become the basis for, and included in, the contract agreement. Offerors are responsible for verifying all quantities and notifying the Owner of any discrepancies greater than 10% of estimate, in writing, prior to the bid opening. 7-digit SCDOT specification numbers refer to the 2007 Standard Specifications for Highway Construction of the South Carolina Department of Transportation. SP refers to the Special Provision.

ITEM	SPEC. NO.		DESCRIPTION	QUANTITY		COST	
	SCDOT OR SPEC	PROV		NUMBER OF UNITS	UNIT MEASURE	PER UNIT	TOTAL COST
PAVING							
Item			Description	Quantity		Unit Cost	Total Cost
B-P1	4011004		Liquid Asphalt Binder PG64-22	20.5	ton		
B-P2	4030320		Full Depth Pavement (2" Surface Course, Tack Coat, Prime Coat)	386.1	ton		
B-P3	3050108		8" Graded Aggregate Base Course	3861	sy		
B-P4	4039030		Traffic Pattern XD	81	sy		
B-P5	7201505		Concrete Wheel Stop	16	ea		
						PAVING SUBTOTAL	\$ -
			TOTAL FEE				\$ -

EXHIBIT C: FEE PROPOSAL

Project A - NASSAU STREET

RFP 2016-0030 - COLIGNY AREA IMPROVEMENTS

LIST OF ESTIMATED QUANTITIES / UNIT COST BID SCHEDULE

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ITEM	SPEC. NO. SCDOT OR SPEC PROV	DESCRIPTION	QUANTITY		COST	
			NUMBER OF UNITS	UNIT MEASURE	PER UNIT	TOTAL COST
MISCELLANEOUS						
Item		Description	Quantity		Unit Cost	Total Cost
A-M1	1031000	Mobilization	1	ls		
A-M4	1050800	Construction Staking, Lines and Grades	1	ls		
A-M5	SP-1	As-Built Survey	1	ls		
A-M6	1071000	Traffic Control	1	ls		
A-M7	6271005	4" White Broken Lines (Gaps Excl.) Thermoplastic - 90 mil.	500	lf		
A-M8	6271010	4" White Solid Lines Thermoplastic - 90 mil.	700	lf		
A-M9	6271020	12" White Solid Lines - Thermo. - 125 mil.	725	lf		
A-M10	6271025	24" White Solid Lines (Stop/Diag Lines) - Thermo. - 125 mil.	108	lf		
A-M11	6271030	White Single Arrows (LT, STRGHT, RT) Thermo. - 125 mil.	3	ea		
A-M12	SP-2	White Word Message "ONLY" - Thermoplastic - 125 mil.	1	ea		
A-M13	6271040	White Combination Arrows (Str&Rt.) Thermo. - 125 mil.	1	ea		
A-M14	6271074	4" Yellow Solid Lines Thermoplastic - 90 mil.	230	lf		
A-M15	SP-2	Pathway White Word Message "Stop" or "Yield" - Thermo. - 125 Mil.	11	ea		
A-M16	675027G	Furnish & Install 4.0" Schedule 80 PVC Conduit	500	lf		
A-M17	675027O	Furnish & Install 6.0" Schedule 80 PVC Conduit	500	lf		
A-M18	SP-3	Pathway Stop / Yield Signs	11	ea		
A-M19	7204900	Detectable Warning Surface (Chocolate Brown)	264	sf		
A-M20	SP-4	Traffic Pattern XD	129	sy		
					MISCELLANEOUS SUBTOTAL	\$ -
DEMOLITION						
Item		Description	Quantity		Unit Cost	Total Cost
A-D1	2023000	Remove Existing Pavement, Base, and Paths	4530	sy		
A-D2	2024100	Remove Existing Curb & Gutter	1590	lf		
A-D3	2021000	Remove Existing Utilities	1	ls		
A-D4	2021000	Structure demolition	1	ls		
					DEMOLITION SUBTOTAL	\$ -
WATER DISTRIBUTION SYSTEM						
Item		Description	Quantity		Unit Cost	Total Cost
A-W1	331000SC	Connect to existing watermain	2	ea		
A-W2	331000SC	8" PVC Watermain	715	lf		
A-W3	331000SC	6" PVC Water lateral	50	lf		
A-W4	331000SC	6" DIP Water lateral	35	lf		
A-W5	331000SC	2" PVC Water lateral	120	lf		
A-W6	331000SC	2" Gate Valve & Box	3	ea		
A-W7	331000SC	6" Gate Valve & Box	1	ea		
A-W8	331000SC	8" Gate Valve & Box	2	ea		
A-W9	331000SC	6" Fire Hydrant Assembly w/ V&B	2	ea		
A-W10	331000SC	6" Double Check Backflow Preventer	1	ea		
A-W11	331000SC	1.5" Water Meter with Backflow Preventer	3	ea		
A-W12	331000SC	6" Post Indicator Valve	1	ea		
A-W13	331000SC	8" X 6" Tapping Sleeve	1	ea		
A-W14	331000SC	8" X 2" Tapping Sleeve	1	ea		
A-W15	331000SC	8" X 6" Tee	2	ea		
A-W16	331000SC	8" X 8" Tee	2	ea		
A-W17	331000SC	8" 22.5 Bend	4	ea		
A-W18	331000SC	8" 45 Bend	2	ea		
A-W19	331000SC	8" 11.25 Bend	1	ea		
A-W20	331000SC	6" 11.25 Bend	1	ea		
A-W21	331000SC	6" 45 Bend	1	ea		
					WATER DISTRIBUTION SYSTEM SUBTOTAL	\$ -
SANITARY SEWER SYSTEM						
Item		Description	Quantity		Unit Cost	Total Cost
A-SS1	333000	Connect to Existing Manhole	1	ea		
A-SS2	333000	8" SDR-26 PVC Sewer Main 0-6' Depth	275	lf		
A-SS3	333000	Sewer Manhole 0-6' Depth	3	ea		
A-SS4	333000	Single Service Connection	3	ea		
A-SS5	333000	12" DIP	60	lf		
A-SS6	333000	6" Lateral	70	lf		
A-SS7	333000	8" Lateral	40	lf		
					SANITARY SEWER SYSTEM SUBTOTAL	\$ -
STORM DRAINAGE						
Item		Description	Quantity		Unit Cost	Total Cost
A-SD1	7192105	Storm Manhole	7	ea		
A-SD2	7192012	Grate Inlet	11	ea		
A-SD3	7191005	Curb Inlet	11	ea		
A-SD4	7191005	Curb Inlet (Hooded)	11	ea		
A-SD5	334000 + Detail	Large Junction Box	2	ea		
A-SD6	SP-5	Interference Storm/Sewer Box	2	ea		
A-SD7	7141112	15" RCP Stormwater Pipe	21	lf		
A-SD8	7141113	18" RCP Stormwater Pipe	389	lf		
A-SD9	7141114	24" RCP Stormwater Pipe	379	lf		
A-SD10	7141115	30" RCP Stormwater Pipe	70	lf		
A-SD11	7141116	36" RCP Stormwater Pipe	940	lf		
A-SD12	SP-6	Outfall Control Structure (CS# 110)	1	ea		
A-SD13	SP-6	Outfall Control Structure (CS# 15)	1	ea		
					STORM DRAINAGE SUBTOTAL	\$ -

**TOWN OF HILTON HEAD ISLAND
PROPOSAL for CONSTRUCTION**

*NASSAU STREET REDEVELOPMENT AND POPE AVE / LAGOOND ROAD
INTERSECTION PROJECTS*

NOTE: In order for the Proposal to be considered, it is necessary for an authorized individual of the firm, and on behalf of the firm, to furnish the information requested below.

Date Prepared: _____

Submitted To: Town of Hilton Head Island, ATTN: Engineering Division, One Town Center Court, Hilton Head Island, SC 29928.

Submitted By:

(Complete Firm Name: Must be the same as the name that will appear on Proposals)

(Complete Street Address and Suite Number, if applicable)

(P. O. Box Number, if applicable) (Zip Code for P. O. Box Number)

(City) (County) (State) (Zip Code for Street Address)

Telephone Number: (_____) _____

Fax Number: (_____) _____

Web Site Address: _____

E-mail Address: _____

Federal Employer Identification Number: _____

PROPOSAL QUESTIONNAIRE

1. Indicate below the marine / bridge **construction experience** of the Key Personnel* to be assigned to this project; these are the Project Manager, the Job Superintendent or Construction Manager. Please specify if one person will fulfill more than one key role. Also, please attach resumes of the Key Personnel*.

Position on this Project	Individual's Name	Years Employed By The Firm	Total Years Construction Experience
Officer in Charge			
*Project Manager			
*Superintendent or Construction Mgr			
*Foreman			

2. Provide a list of Sub-Contractors intended to be used on this project. The Town is aware the sub-contractors may change. Please acknowledge that all sub-contractors used on the project must be approved by the Town.

Project Sub-Contractors				
Company Name	Trade / Specialty	Office Location	Years in Business under this name	Number of Projects worked together

3. List all **similar projects** (roadway construction, storm drainage infrastructure, pathway construction, pervious parking space construction) the firm has completed, as a Prime Contractor only:

Contract Owner - Name, Phone Number, and E-mail	Contract Amount	Date Completed	Type of Construction Work / Description of Project
1.)			
2.)			
3.)			
4.)			
5.)			

6.)			
7.)			
8.)			
9.)			
10.)			

4. Provide and attach a **WORK PLAN and Critical Path Method schedule** depicting a detailed construction sequence, with major tasks and time durations for each tasks, showing how the job will be completed within the allotted time for each phase listed below. Project tracking software printouts accompanied by detailed description of each task are required.

Phase 1-A: Nassau Street Storm / Resurfacing
60 Calendar Days from Notice to Proceed

Phase 1-B: Nassau Street
60 Calendar Days from Notice to Proceed

Phase 1-C: Pope Ave / Lagoon Rd Intersection
120 Calendar Days from Notice to Proceed

At a minimum, the schedule shall include the following major tasks:

- Surveying / Staking
- Utility Location and Coordination
- Erosion and Sediment Control Installation
- Traffic Control for Each Phase
- Pedestrian Traffic Control
- Mast Arm Traffic Signal Installation
- Demolition
- Clearing and Grubbing
- Storm Drainage Installation
- Grading and Earthwork
- Concrete Curb Installation
- Pavement Base Preparation
- Asphalt Paving
- Pervious Paver Installation
- Fine Grading
- Signing and Marking
- Cleanup / Punch List
- Final Completion

5. How many years has the firm been in business under the present name? _____
6. How many years of experience does the firm have in roadway construction work? _____
7. How many years of experience does the firm have as a Prime Contractor? _____
8. How many years of experience does the firm have as a Sub-Contractor? _____
9. How is the firm presently organized? (i.e. Corporation, Company, Partnership, Sole Proprietorship, etc. _____
10. Date of Organization: _____
11. Organized under the Laws of which State? _____

12. Date Commenced Business: _____

13. If the firm is a corporation, is it registered with the Secretary of State, to do business in South Carolina? _____(Y/N). If yes, give date of Certificate of Existence or Authority.

14. If the firm is a corporation not organized under the laws of South Carolina, provide the complete name and address of its Registered Agent in South Carolina.

15. List the present officers of the firm and their titles:

16. Is the firm licensed with South Carolina Licensing Board for Contractors? If so, what is the limitation group and classifications? _____

17. Has any officer or partner of the firm ever been an officer or partner of some other firm that failed to complete a construction contract? _____ (Y/N). If yes, give name of individual, other firm, and name of owner of project, location, type of project, and the reason for the failure to complete such project.

18. Has the firm, its parent or subsidiary, including owners, corporate officers or stockholders, either collectively or individually, ever been suspended, disqualified, or debarred from doing business with any Municipality, State or the Federal Government? _____(Y/N). If yes, provide complete details, including the agency and relevant circumstance - when, where and why.

19. Have you or any officer, partner, or employee(s) of the firm been suspended, disqualified, or debarred from doing business by South Carolina, or any other State or the Federal Government? _____ (Y/N). If yes, provide complete details, including the agency and relevant circumstance - when, where and why.

20. Have you or any of the individuals or entities referred to above, in the past six years, been indicted, pled guilty, pled *nolo contendere*, or been convicted of any antitrust violation for any act prohibited by State or Federal law committed in any jurisdiction in the United States involving fraud, collusion, conspiracy with respect to bidding on public contracts? _____(Y/N). If yes, give complete details.

21. Have you or any of the individuals or entities referred to above, in the past six years, been indicted, pled guilty, pled *nolo contendere*, or been convicted of embezzlement, theft, forgery, bribery, receiving stolen property, or any other offense indicating a lack of business integrity, or business honesty which seriously and directly affects the question of present responsibility as a contractor in any jurisdiction in the United States? _____(Y/N). If yes, give complete details.

22. Are you under the protection of any Bankruptcy Court, or does the firm have pending any Petition in any Bankruptcy Court, or has there been an assignment for the benefit of any creditors? _____ (Y/N). If yes, give complete details.

23. Has the firm, its subsidiaries, affiliates or parent companies ever defaulted on a contract with any Local, State or Federal Government? _____ (Y/N). If yes, give complete details.

24. List any Officers, Directors, Bid Estimators and any other individual(s) and their position, which are authorized to submit bids on behalf of the firm.

25. List the firm's subsidiaries, affiliates and parent companies.

26. Provide the names of the individuals or companies which have a financial interest of at least five (5%) percent in the firm, and reflect the amount of that interest of each. If another company owns the firm, list its officers and directors.

27. Name of Surety Company: _____

Surety Address: _____

Agency Name: _____

Agency Address: _____

City: _____ State: _____ Zip Code: _____

Agency Phone Number: (_____) _____

30. What type(s) of road, drainage, site construction and mast arm signal installation experience does the firm have? Provide the number of years the firm has engaged in these types of projects and the estimated number of similar projects the firm has completed.

31. The individuals listed below are authorized to approve, sign and/or execute on the firm's behalf, the following documents:

- Document Code Nos.: 1 - Organization's Statement of Experience and Equipment.
 2 - Bid Proposals, Contracts and Bonds.
 3 - Change Order(s)/Supplemental Agreement(s)
 4 - Force Account Agreement(s)

NAME	TITLE	DOCUMENT CODE NO.

If any changes are made to this list after the preparation date of this Proposal Questionnaire, it **SHALL** be the sole responsibility of the Contractor to submit an original Certified document advising of such changes to the office to which this Proposal Questionnaire was submitted.

AFFIDAVIT

_____ BEING DULY SWORN DEPOSES AND SAYS THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS AFFIDAVIT FOR AND ON BEHALF OF THE APPLICANT FIRM, AND THE ANSWERS TO THE FOREGOING QUESTIONS AND ALL STATEMENTS HEREIN CONTAINED ARE TRUE AND CORRECT TO THE BEST OF HIS/HER KNOWLEDGE.

Sworn and subscribed to before
me on this _____ day of

_____, _____

(Notary Public)
(Not an Officer of the firm)

(Name of Applicant)

(Authorized Signature)

(Print or Type Name)

(Title)

AFFIX
CORPORATE
SEAL
HERE

NOTICE: THE TOWN MUST BE NOTIFIED OF ANY SIGNIFICANT CHANGE IN THE INFORMATION FURNISHED IN THIS QUESTIONNAIRE WITHIN FIFTEEN (15) DAYS OF THE OCCURRENCE OF SUCH CHANGE.

**Engineers Joint Documents Committee
Design and Construction Related Documents
Instructions and License Agreement**

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and that consultation with an attorney is recommended with respect to use or modification of the text. You further acknowledge that EJCDC documents are protected by the copyright laws of the United States.

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Term:

The license is effective until terminated. You may terminate it at any time by destroying **EJCDC Design and Construction Related Documents** altogether with all copies, modifications and merged portions in any form. It will also terminate upon conditions set forth

elsewhere in this Agreement or if you fail to comply with any term or condition of this Agreement. You agree upon such termination to destroy **EJCDC Design and Construction Related Documents** along with all copies, modifications and merged portions in any form.

Limited Warranty:

EJCDC warrants the CDs and diskettes on which **EJCDC Design and Construction Related Documents** is furnished to be free from defects in materials and workmanship under normal use for a period of ninety (90) days from the date of delivery to you as evidenced by a copy of your receipt.

There is no other warranty of any kind, either expressed or implied, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose. Some states do not allow the exclusion of implied warranties, so the above exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

EJCDC does not warrant that the functions contained in **EJCDC Design and Construction Related Documents** will meet your requirements or that the operation of **EJCDC Design and Construction Related Documents** will be uninterrupted or error free.

Limitations of Remedies:

EJCDC's entire liability and your exclusive remedy shall be:

1. the replacement of any document not meeting EJCDC's "Limited Warranty" which is returned to EJCDC's selling agent with a copy of your receipt, or
2. if EJCDC's selling agent is unable to deliver a replacement CD or diskette which is free of defects in materials and workmanship, you may terminate this Agreement by returning EJCDC Document and your money will be refunded.

In no event will EJCDC be liable to you for any damages, including any lost profits, lost savings or other incidental or consequential damages arising out of the use or inability to use **EJCDC Design and Construction Related Documents** even if EJCDC has been advised of the possibility of such damages, or for any claim by any other party.

Some states do not allow the limitation or exclusion of liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you.

General:

You may not sublicense, assign, or transfer this license except as expressly provided in this Agreement. Any

attempt otherwise to sublicense, assign, or transfer any of the rights, duties, or obligations hereunder is void.

This Agreement shall be governed by the laws of the State of Virginia. Should you have any questions concerning this Agreement, you may contact EJCDC by writing to:

Arthur Schwartz, Esq.
General Counsel
National Society of Professional Engineers
1420 King Street
Alexandria, VA 22314

Phone: (703) 684-2845
Fax: (703) 836-4875
e-mail: aschwartz@nspe.org

You acknowledge that you have read this agreement, understand it and agree to be bound by its terms and conditions. You further agree that it is the complete and exclusive statement of the agreement between us which supersedes any proposal or prior agreement, oral or written, and any other communications between us relating to the subject matter of this agreement.

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER *(Name and Address)*:

SURETY *(Name and Address of Principal Place of Business)*:

OWNER *(Name and Address)*:

BID

Bid Due Date:

Description *(Project Name and Include Location)*:

BOND

Bond Number:

Date *(Not earlier than Bid due date)*:

Penal sum _____ \$ _____
(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER

SURETY

Bidder's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Above addresses are to be used for giving any required notice. Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
 - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2 All Bids are rejected by Owner, or
 - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

PAYMENT BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

CONTRACT

Effective Date of Agreement:

Amount:

Description (*Name and Location*):

BOND

Bond Number:

Date (*Not earlier than Effective Date of Agreement*):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner to pay for labor, materials, and equipment furnished by Claimants for use in the performance of the Contract, which is incorporated herein by reference.
2. With respect to Owner, this obligation shall be null and void if Contractor:
 - 2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and
 - 2.2 Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.
3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.
4. Surety shall have no obligation to Claimants under this Bond until:
 - 4.1 Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.
 - 4.2 Claimants who do not have a direct contract with Contractor:
 1. Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed; and
 2. Have either received a rejection in whole or in part from Contractor, or not received within 30 days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and
 3. Not having been paid within the above 30 days, have sent a written notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.
5. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.
6. Reserved.
7. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety.
8. Amounts owed by Owner to Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any performance bond. By Contractor furnishing and Owner accepting this Bond, they agree that all funds earned by Contractor in the performance of the Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to Owner's priority to use the funds for the completion of the Work.
9. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the Contract. Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders, and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, Owner, or Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory Bond and not as a common law bond.

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. Definitions

15.1 Claimant: An individual or entity having a direct contract with Contractor, or with a first-tier subcontractor of Contractor, to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms “labor, materials or equipment” that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of Contractor and Contractor’s subcontractors, and all other items for which a mechanic’s lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

15.2 Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3 Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract, or to perform and complete or otherwise comply with the other terms thereof.

FOR INFORMATION ONLY – *(Name, Address, and Telephone)*

Surety Agency or Broker:

Owner’s Representative *(Engineer or other)*:

**Engineers Joint Documents Committee
Design and Construction Related Documents
Instructions and License Agreement**

Instructions

Before you use any EJCDC document:

1. Read the License Agreement. You agree to it and are bound by its terms when you use the EJCDC document.
2. Make sure that you have the correct version for your word processing software.

How to Use:

1. While EJCDC has expended considerable effort to make the software translations exact, it can be that a few document controls (e.g., bold, underline) did not carry over.
2. Similarly, your software may change the font specification if the font is not available in your system. It will choose a font that is close in appearance. In this event, the pagination may not match the control set.
3. If you modify the document, you must follow the instructions in the License Agreement about notification.
4. Also note the instruction in the License Agreement about the EJCDC copyright.

License Agreement

You should carefully read the following terms and conditions before using this document. Commencement of use of this document indicates your acceptance of these terms and conditions. If you do not agree to them, you should promptly return the materials to the vendor, and your money will be refunded.

The Engineers Joint Contract Documents Committee ("EJCDC") provides **EJCDC Design and Construction Related Documents** and licenses their use worldwide. You assume sole responsibility for the selection of specific documents or portions thereof to achieve your intended results, and for the installation, use, and results obtained from **EJCDC Design and Construction Related Documents**.

You acknowledge that you understand that the text of the contract documents of **EJCDC Design and Construction Related Documents** has important legal consequences and that consultation with an attorney is recommended with respect to use or modification of the text. You

further acknowledge that EJCDC documents are protected by the copyright laws of the United States.

License:

You have a limited nonexclusive license to:

1. Use **EJCDC Design and Construction Related Documents** on any number of machines owned, leased or rented by your company or organization.
2. Use **EJCDC Design and Construction Related Documents** in printed form for bona fide contract documents.
3. Copy **EJCDC Design and Construction Related Documents** into any machine readable or printed form for backup or modification purposes in support of your use of **EJCDC Design and Construction Related Documents**.

You agree that you will:

1. Reproduce and include EJCDC's copyright notice on any printed or machine-readable copy, modification, or portion merged into another document or program. All proprietary rights in **EJCDC Design and Construction Related Documents** are and shall remain the property of EJCDC.
2. Not represent that any of the contract documents you generate from **EJCDC Design and Construction Related Documents** are EJCDC documents unless (i) the document text is used without alteration or (ii) all additions and changes to, and deletions from, the text are clearly shown.

You may not use, copy, modify, or transfer EJCDC Design and Construction Related Documents, or any copy, modification or merged portion, in whole or in part, except as expressly provided for in this license. Reproduction of EJCDC Design and Construction Related Documents in printed or machine-readable format for resale or educational purposes is expressly prohibited.

If you transfer possession of any copy, modification or merged portion of EJCDC Design and Construction Related Documents to another party, your license is automatically terminated.

Term:

The license is effective until terminated. You may terminate it at any time by destroying **EJCDC Design and Construction Related Documents** altogether with all copies, modifications and merged portions in any form. It will also terminate upon conditions set forth elsewhere in this Agreement or if you fail to comply with any term or condition of this Agreement. You agree upon such termination to destroy **EJCDC Design and**

Construction Related Documents along with all copies, modifications and merged portions in any form.

Limited Warranty:

EJCDC warrants the CDs and diskettes on which **EJCDC Design and Construction Related Documents** is furnished to be free from defects in materials and workmanship under normal use for a period of ninety (90) days from the date of delivery to you as evidenced by a copy of your receipt.

There is no other warranty of any kind, either expressed or implied, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose. Some states do not allow the exclusion of implied warranties, so the above exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

EJCDC does not warrant that the functions contained in **EJCDC Design and Construction Related Documents** will meet your requirements or that the operation of **EJCDC Design and Construction Related Documents** will be uninterrupted or error free.

Limitations of Remedies:

EJCDC's entire liability and your exclusive remedy shall be:

1. the replacement of any document not meeting EJCDC's "Limited Warranty" which is returned to EJCDC's selling agent with a copy of your receipt, or
2. if EJCDC's selling agent is unable to deliver a replacement CD or diskette which is free of defects in materials and workmanship, you may terminate this Agreement by returning EJCDC Document and your money will be refunded.

In no event will EJCDC be liable to you for any damages, including any lost profits, lost savings or other incidental or consequential damages arising out of the use or inability to use **EJCDC Design and Construction Related Documents** even if EJCDC has been advised of the possibility of such damages, or for any claim by any other party.

Some states do not allow the limitation or exclusion of liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you.

General:

You may not sublicense, assign, or transfer this license except as expressly provided in this Agreement. Any attempt otherwise to sublicense, assign, or transfer any of the rights, duties, or obligations hereunder is void.

This Agreement shall be governed by the laws of the State of Virginia. Should you have any questions concerning this Agreement, you may contact EJCDC by writing to:

Arthur Schwartz, Esq.
General Counsel
National Society of Professional Engineers
1420 King Street
Alexandria, VA 22314

Phone: (703) 684-2845
Fax: (703) 836-4875
e-mail: aschwartz@nspe.org

You acknowledge that you have read this agreement, understand it and agree to be bound by its terms and conditions. You further agree that it is the complete and exclusive statement of the agreement between us which supersedes any proposal or prior agreement, oral or written, and any other communications between us relating to the subject matter of this agreement.

PERFORMANCE BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (*Name and Address*): SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

CONTRACT

Effective Date of Agreement:
Amount:
Description (*Name and Location*):

BOND

Bond Number:
Date (*Not earlier than Effective Date of Agreement*):
Amount:
Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner for the performance of the Contract, which is incorporated herein by reference.

1. If Contractor performs the Contract, Surety and Contractor have no obligation under this Bond, except to participate in conferences as provided in Paragraph 2.1.
2. If there is no Owner Default, Surety's obligation under this Bond shall arise after:
 - 2.1 Owner has notified Contractor and Surety, at the addresses described in Paragraph 9 below, that Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with Contractor and Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If Owner, Contractor, and Surety agree, Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive Owner's right, if any, subsequently to declare a Contractor Default; and
 - 2.2 Owner has declared a Contractor Default and formally terminated Contractor's right to complete the Contract. Such Contractor Default shall not be declared earlier than 20 days after Contractor and Surety have received notice as provided in Paragraph 2.1; and
 - 2.3 Owner has agreed to pay the Balance of the Contract Price to:
 1. Surety in accordance with the terms of the Contract; or
 2. Another contractor selected pursuant to Paragraph 3.3 to perform the Contract.
3. When Owner has satisfied the conditions of Paragraph 2, Surety shall promptly, and at Surety's expense, take one of the following actions:
 - 3.1 Arrange for Contractor, with consent of Owner, to perform and complete the Contract; or
 - 3.2 Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
 - 3.3 Obtain bids or negotiated proposals from qualified contractors acceptable to Owner for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by Owner and contractor selected with Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to Owner the amount of damages as described in Paragraph 5 in excess of the Balance of the Contract Price incurred by Owner resulting from Contractor Default; or
 - 3.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
 1. After investigation, determine the amount for which it may be liable to Owner and, as soon as practicable after the amount is determined, tender payment therefor to Owner; or
 2. Deny liability in whole or in part and notify Owner citing reasons therefor.
4. If Surety does not proceed as provided in Paragraph 3 with reasonable promptness, Surety shall be deemed to be in default on this Bond 15 days after receipt of an additional written notice from Owner to Surety demanding that Surety perform its obligations under this Bond, and Owner shall be entitled to enforce any remedy available to Owner. If Surety proceeds as provided in Paragraph 3.4, and Owner refuses the payment tendered or Surety has denied liability, in whole or in part, without further notice Owner shall be entitled to enforce any remedy available to Owner.
5. After Owner has terminated Contractor's right to complete the Contract, and if Surety elects to act under Paragraph 3.1, 3.2, or 3.3 above, then the responsibilities of Surety to Owner shall not be greater than those of Contractor under the Contract, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the Contract. To the limit of the amount of this Bond, but subject to commitment by Owner of the Balance of the Contract Price to mitigation of costs and damages on the Contract, Surety is obligated without duplication for:

- 5.1 The responsibilities of Contractor for correction of defective Work and completion of the Contract;
- 5.2 Additional legal, design professional, and delay costs resulting from Contractor's Default, and resulting from the actions of or failure to act of Surety under Paragraph 3; and
- 5.3 Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of Contractor.

6. Surety shall not be liable to Owner or others for obligations of Contractor that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than Owner or its heirs, executors, administrators, or successors.

7. Surety hereby waives notice of any change, including changes of time, to Contract or to related subcontracts, purchase orders, and other obligations.

8. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located, and shall be instituted within two years after Contractor Default or within two years after Contractor ceased working or within two years after Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

9. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the address shown on the signature page.

10. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

11. Definitions.

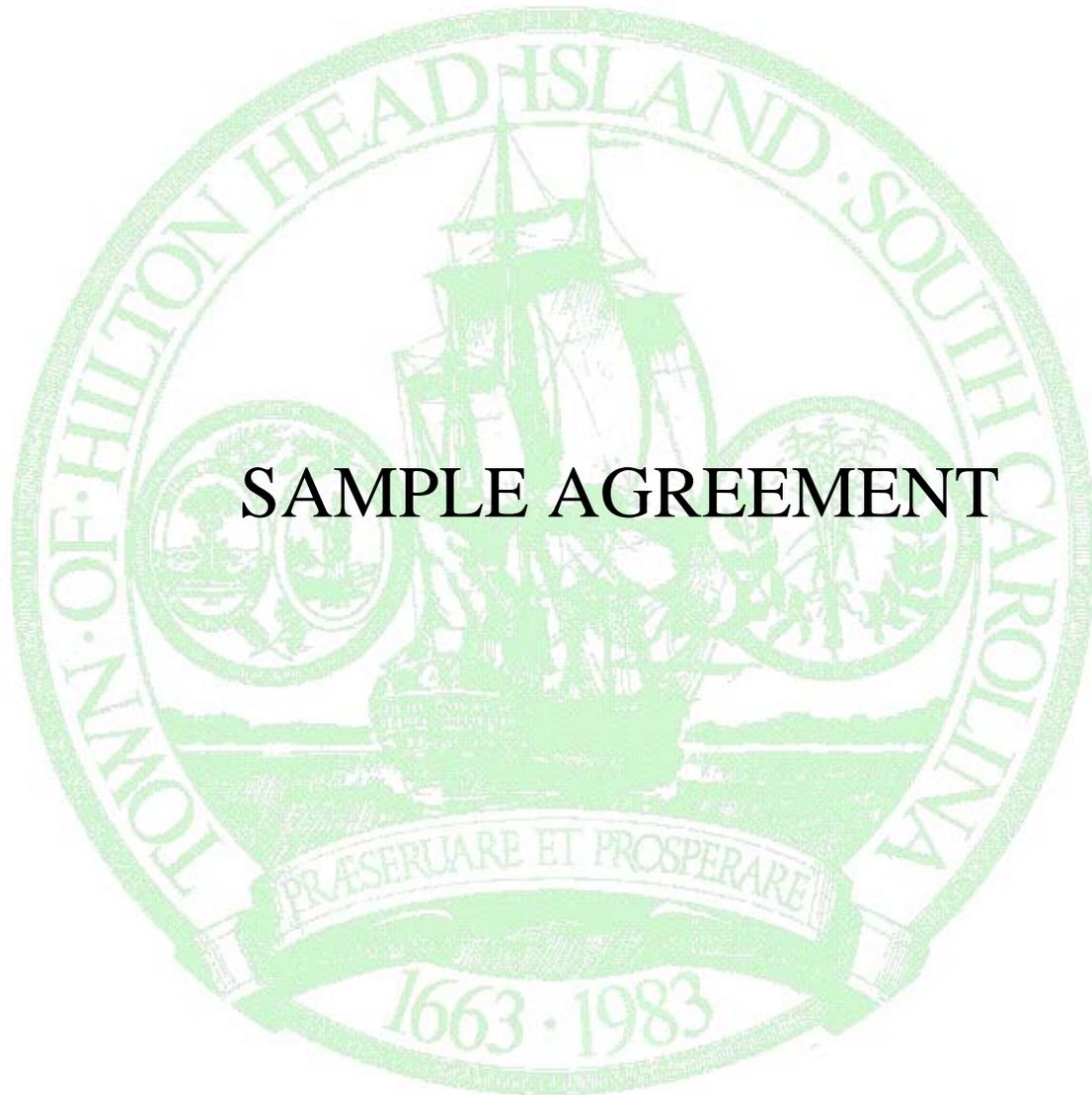
- 11.1 Balance of the Contract Price: The total amount payable by Owner to Contractor under the Contract after all proper adjustments have been made, including allowance to Contractor of any amounts received or to be received by Owner in settlement of insurance or other Claims for damages to which Contractor is entitled, reduced by all valid and proper payments made to or on behalf of Contractor under the Contract.
- 11.2 Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.
- 11.3 Contractor Default: Failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.
- 11.4 Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or otherwise comply with the other terms thereof.

FOR INFORMATION ONLY – *(Name, Address and Telephone)*

Surety Agency or Broker:

Owner's Representative *(Engineer or other party)*:

NASSAU STREET REDEVELOPMENT AND
POPE AVE / LAGOON RD INTERSECTION PROJECTS



SAMPLE AGREEMENT

Liquidated Damages: \$1,000.00 / day

Phase 2-A: Pope Ave / Lagoon Rd Intersection
120 Calendar Days from Notice to Proceed
Liquidated Damages: \$1,000.00 / day

4. All work performed under this contract shall be warranted for one year, to include all materials and workmanship.
5. The Town Manager may terminate this contract in whole or in part at any time for the convenience of the Town. If the contract is terminated for the convenience, the Town will pay the contractor for costs incurred to that date of termination.
6. Should any part of this Agreement be rendered void, invalid, or unenforceable by any court of law, such a determination shall not render void, invalid, or unenforceable any other part of this Agreement.
7. This Agreement has been made and entered into in the State of South Carolina, and the laws of South Carolina shall govern the validity and interpretation of this Agreement in the performance due hereunder.
8. This Agreement may not be modified unless such modification is in writing and signed by both parties.
9. The Contractor may not assign this contract without the prior written approval of the Town.
10. The Contractor shall defend, indemnify, and hold harmless the Town, its officers, directors, agents, and employees from and against any and all actions, costs, claims, losses, expenses, and/or damages, including attorney's fees, whether incurred prior to the institution of litigation, during litigation, or on appeal arising out of or resulting from the conduct of any activity hereby authorized or the performance of any requirement imposed pursuant by this Agreement, however caused or occasioned, unless caused by the willful misconduct or gross negligence of the Town.
11. The parties hereto intend that no master/servant, employer/employee, or principal/agent relationship will be created by this Agreement. Nothing contained herein creates any relationship between the Town and the Contractor other than that which is expressly stated herein. The Town is interested only in the results to be achieved under this Agreement, and the conduct and control of the agents and employees of the Contractor and the methods utilized by the Contractor in fulfilling its obligations hereunder shall lie solely and exclusively with the Contractor and its agents and employees shall not be considered agents or employees of the Town for any purpose. No person employed by the Contractor

shall have any benefits, status, or right of employment with the Town.

12. The Contractor, by signing this Contract, hereby certifies that Contractor shall comply with all applicable requirements of the South Carolina Illegal Immigration Reform Act, S.C. Code Ann. §41-8-10 (2007) et seq., (the "Act"), and that Contractor covenants and agrees as follows:

12.1. Contractor shall not knowingly or intentionally employ any unauthorized alien and, unless excluded from coverage of the "Act", shall verify the work authorization of newly hired employees performing work under the contract by either:

(a) registering and participating in the Federal Work Authorization Program (E-verify) and verifying the work authorization of every new hired employee within five (5) business days after employing employee; or

(b) employing only workers who, at the time of said employment:

1. possess a valid South Carolina driver's license or identification card; or
2. are eligible to obtain a South Carolina driver's license or identification card by providing proof of name, social security number and date and place of birth; or
3. possess a valid driver's license or identification card from another state deemed by the Executive Director Department of Motor Vehicles to have requirements at least as strict as those in South Carolina.

Contractor may choose either option 1 (a) or option 1(b) but acknowledges that Contractor cannot use both.

12.2. Contractor agrees to provide to the Town all documentation requested by it to establish either:

(a) the applicability of the South Carolina Illegal Immigration Reform Act to Contractor; or

(b) compliance with the South Carolina Illegal Immigration Reform Act by Contractor.

12.3. Contractor agrees to include in any contracts with its sub-contractors language requiring its sub-contractors to:

(a) comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws; 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 of the South Carolina Code of Laws.

12.4. Contractor acknowledges and agrees that it shall comply with requirements of the Immigration Reform and Control Act of 1986 including the non-discrimination provisions thereof, and shall complete all required I-9 documentation for all workers employed by it.

12.5. Contractor certifies it shall comply with all state, federal, and local laws, rules, regulations and orders applicable to it in performance of work under the contract.

IN WITNESS WHEREOF, the parties hereto have affixed their signatures hereto the date first written hereinabove.

WITNESSES: <<CONTRACTOR'S FULL NAME>>

_____ **By:** _____

_____ **Its:** _____

WITNESSES: **TOWN OF HILTON HEAD ISLAND**

_____ **By:** _____

Stephen G. Riley, ICMA-CM

Its: Town Manager

CONTRACTOR AFFIDAVIT
SOUTH CAROLINA ILLEGAL IMMIGRATION REFORM ACT

In accordance with the requirements of the South Carolina Illegal Immigration Reform Act, _____ ("Contractor") hereby certifies that it is currently in compliance with the requirements of Title 8, Chapter 14 of the South Carolina Code Annotated and will remain in compliance with such requirements throughout the term of its contract with the Town of Hilton Head Island, South Carolina

The Contractor hereby acknowledges that in order to comply with requirements of S. C. Code Annotated Section 8-14-20(B), it will:

(1) Register and participate in the federal work authorization program (E-verify) to verify the employment authorization of all new employees; and require agreement from its subcontractors, and through the subcontractors, the sub-subcontractors, to register and participate in the federal verification employment authorization of all new employees.

OR

(2) Employ only workers who:

- (a) Possess a valid South Carolina driver's license or identification card issued by the South Carolina Department of Motor Vehicles; or
- (b) Are eligible to obtain a South Carolina driver's license or identification card in that they meet the requirements set forth in S. C. Code Annotated Sections 56-1-40 through 56-1-90; or
- (c) Possess a valid driver's license or identification card from another state where the license requirements are at least as strict as those in South Carolina, as determined by the South Carolina Department of Motor Vehicles.

The Contractor agrees to provide to the Town of Hilton Head Island upon request any documentation required to establish the applicability of the South Carolina Illegal Immigration Reform Act to the contractor, subcontractor or sub-subcontractor. The Contractor further agrees that it will, upon request, provide the Town of Hilton Head Island with any documentation required to establish that the contractor and any subcontractors or sub-subcontractors are in compliance with the requirements of Title 8, Chapter 14 of the S. C. Code Annotated.

Date: _____

By: _____
Contractor

Title: _____

Construction

By signing its bid or proposal, Contractor certifies 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 Town of Hilton Head Island 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.

Non-Construction

By signing your offer, you certify that you will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws and agree to provide to the Town of Hilton Head Island upon request any documentation required to establish either: (a) that Title 8, Chapter 14 is inapplicable to you and your subcontractors or sub-subcontractors; or (b) that you and your 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." You agree to include in any contracts with your subcontractors language requiring your 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.

EXHIBT A

GENERAL CONDITIONS

**NASSAU STREET REDEVELOPMENT AND
POPE AVE / LAGOON ROAD INTERSECTION
PROJECTS
RFP 2016-0030**



The Town of Hilton Head Island
Beaufort County, South Carolina

EXHIBIT A

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by



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PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
A Practice Division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

and

**Amended by the Town of Hilton Head Island
September 11, 2009**

Endorsed by



CONSTRUCTION SPECIFICATIONS INSTITUTE

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor (EJCDC C-520 or C-525, 2007 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the Narrative Guide to the EJCDC Construction Documents (EJCDC C-001, 2007 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (EJCDC C-800, 2007 Edition).

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Proposal Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Proposal which clarify, correct, or change the Proposal Requirements or the proposed Contract Documents.
2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
5. *Proposal*—The offer or proposal of a Proposaller submitted on the prescribed form setting forth the prices for the Work to be performed.
6. *Proposaller*—The individual or entity who submits a Proposal directly to Owner.
7. *Proposal Documents*—The Proposal Requirements and the proposed Contract Documents (including all Addenda).
8. *Proposal Requirements*—The advertisement or invitation to Proposal, Instructions to Proposallers, Proposal security of acceptable form, if any, and the Proposal Form with any supplements.
9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with

respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.
12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer’s written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 1 of the Specifications.

22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.
27. *Notice of Award*—The written notice by Owner to the Successful Proposalders stating that upon timely compliance by the Successful Proposalders with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*—The bound documentary information prepared for Proposal and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms

“substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.

45. *Successful Proposalders*—The Proposalders submitting a responsive Proposal to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 Terminology

- A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Proposal Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 Delivery of Bonds and Evidence of Insurance

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 Copies of Documents

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Proposal opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 Starting the Work

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:
1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
 2. a preliminary Schedule of Submittals; and
 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress

Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

- A. Standards, Specifications, Codes, Laws, and Regulations
 1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Proposal (or on the Effective Date of the Agreement if there were no Proposal), except as may be otherwise specifically stated in the Contract Documents.
 2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or

authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
 - 1. A Field Order;
 - 2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or
 - 3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
 - 2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party

receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.

- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 - 1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
 - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and

drawings, but such reports and drawings are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such “technical data,” Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any “technical data” on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer’s Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner’s obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer’s findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Proposal or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Proposal Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

- A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or

Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. Not Shown or Indicated:

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 - 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 - 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous

Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.

- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 Performance, Payment, and Other Bonds

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.
- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 ***Contractor's Insurance***

This section has been deleted – refer to the Special Conditions for Contractor's Insurance requirements

5.05 ***Owner's Liability Insurance***

This section has been deleted – refer to the Special Conditions for Contractor's Insurance requirements

5.06 ***Property Insurance***

This section has been deleted – refer to the Special Conditions for Contractor's Insurance requirements

5.07 ***Waiver of Rights***

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does

not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

- A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular

working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.
- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or

equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *“Or-Equal” Items:* If in Engineer’s sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an “or-equal” item, in which case review and approval of the proposed item may, in Engineer’s sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
 - 3) it has a proven record of performance and availability of responsive service.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
2. *Substitute Items:*
 - a. If in Engineer’s sole discretion an item of material or equipment proposed by Contractor does not qualify as an “or-equal” item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
 - b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

- c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - 1) shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design,
 - b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
 - 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
 - 3) will identify:
 - a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and
 - 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
- C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.
- D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Proposal Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.
- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the

applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from

the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Proposal, or, if there are no Proposal, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Proposal (or, on the Effective Date of the Agreement if there were no Proposal) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

- A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
 2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
 3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and

annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or

omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

- A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria,

materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

- a. Submit number of Samples specified in the Specifications.
- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the

requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. Engineer's Review:

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. Resubmittal Procedures:

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 - 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 - 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 - 1. observations by Engineer;
 - 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 - 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 - 4. use or occupancy of the Work or any part thereof by Owner;
 - 5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
 - 6. any inspection, test, or approval by others; or
 - 7. any correction of defective Work by Owner.

6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute

resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations,

specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 Related Work at Site

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be

affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
 - 1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 - 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 - 3. the extent of such authority and responsibilities will be provided.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER’S RESPONSIBILITIES

8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

- A. Owner’s duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner’s identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

- A. Owner’s responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

- A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

- A. Owner’s responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform

generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in

connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 Authorized Changes in the Work

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 Unauthorized Changes in the Work

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 Execution of Change Orders

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
 - 1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
 - 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
 - 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).
- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
 - 1. deny the Claim in whole or in part;
 - 2. approve the Claim; or
 - 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 Cost of the Work

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:
 - 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
 - 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive Proposal from subcontractors acceptable to Owner and Contractor and shall deliver such Proposal to Owner, who will then determine, with the advice of Engineer, which Proposal, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance

established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.

- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:*
 - 1. Contractor agrees that:
 - a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance:*
 - 1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately

identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Proposal and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
 - 1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include

an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or
2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or

approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.
- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. repair such defective land or areas; or
 - 2. correct such defective Work; or
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments:*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole

prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and

- c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Change Orders;
- c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due:*

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment:*

- 1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
- 2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
- 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due

as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of

Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
 - 2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
 - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which

this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. Application for Payment:

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and
 - d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. Engineer's Review of Application and Acceptance:

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for

Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Payment Becomes Due:*

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

- A. The making and acceptance of final payment will constitute:
 1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

This section has been deleted – refer to the Contract for termination conditions

ARTICLE 16 – DISPUTE RESOLUTION (DELETED)

ARTICLE 17 – MISCELLANEOUS

17.01 Giving Notice

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 Computation of Times

- A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 Cumulative Remedies

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 Survival of Obligations

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all

continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

EXHIBT B

SPECIAL CONDITIONS

**NASSAU STREET REDEVELOPMENT AND POPE AVE / LAGOON RD
INTERSECTION PROJECTS
RFP 2016-0030**



The Town of Hilton Head Island
Beaufort County, South Carolina

SPECIAL CONDITIONS

If there are any conflicts between these Special Conditions and the project General Conditions, the project Special Conditions shall prevail.

SC-1. DESCRIPTION OF THE WORK: The work to be done consists of clearing and grubbing, tree removal, grading, asphalt paving, drainage improvements, curb and gutter and pathway construction, utility relocations, mast arm traffic installation, and pavement marking and signing. Some work activities shall be conducted under traffic.

SC-2. GENERAL PROVISIONS: The work on this project is to be performed under the South Carolina Department of Transportation (SCDOT) Standard Specifications for Highway Construction, Current Edition; current SCDOT supplemental Specifications released by SCDOT at the time the bids for this project were opened; the Federal Highway Administration Manual on Uniform Traffic Control Devices for Streets and Highway (MUTCD), Current Edition; the Plans, Project Specifications, and these Special Conditions.

The Offeror shall show satisfactory evidence of experience and qualifications, if requested by the Town.

SC-3. DEFINITIONS: A substantial amount of specification language constitutes definitions for terms found in other Contract Documents, including Plans (also may be referred to as drawings) which must be recognized as diagrammatic in nature and not completely descriptive of requirements indicated thereon. Certain terms used in Contract Documents are defined generally in this section. Definitions in this section are general for the work to the extent not stated more explicitly in another section of Contract Documents.

Whenever the word, "Engineer" appears in these specifications and in the Plans, add the words "or Owner's Representative."

Where not otherwise explained, terms such as: "directed", "requested", "authorized", "selected", "approved", "required", "accepted", and "permitted" shall mean "directed by Engineer/owner, etc." However, no such implied meaning will be interpreted to extend Engineer's/Owner's responsibility into Contractor's area of construction supervision.

Where used in conjunction with Engineer's/Owner's response to submittals, requests, applications, inquiries, reports, and claims by Contractor, the meaning of term "approved" will be held to limitations of Engineer's/Owner's responsibilities

and duties as specified in General and Supplementary Conditions. In no case will "approval" by Engineer/owner be interpreted as a release of Contractor from responsibilities to fulfill requirements of Contract Documents.

The term "install" is used to describe operations at project site, including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations, as applicable in each instance.

The term "provide" means furnish and install, complete and ready for intended use, as applicable in each instance.

The term "installer" is used to describe the entity (person or firm) engaged by Contractor or its subcontractor for performance of a particular unit of work at the project site, including installation, erection, application, and similar required operations. It is a general requirement that such Installers be experienced in operations they are engaged to perform.

SC-4. INDUSTRY STANDARDS

General Applicability of Standards: Applicable standards of construction industry have the same force and effect (and are made a part of Contract Documents by reference) as if copied directly into Contract Documents, or as if published copies were bound herewith.

Reference Standards (referenced directly in Contract Documents or by governing regulations) have precedence over non-referenced standards which are recognized in industry for applicability to work.

Non-referenced Standards recognized in the construction industry are hereby defined, except as otherwise limited in Contract Documents, to have direct applicability to the work, and will be so enforced for performance of the work.

The following abbreviations may be used throughout these specifications.

AASHTO	American Association of State Highway and Transportation Officials.
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
FS	Federal Specification (General Service Administration)
SCDOT	South Carolina Department of Transportation

SC-5. CONTRACTOR'S AND SUBCONTRACTOR'S INSURANCE:

The Contractor shall not commence work under this agreement until he has obtained all the insurance required under this paragraph and such insurance has been approved by the Town, nor shall the Contract allow any Subcontractor to commence work on his subcontract until the insurance required of the Subcontractor has been so obtained and accepted.

a) Employer's Liability Insurance: The Contractor shall take out and maintain during the life of the contract the South Carolina statutory Workmen's Compensation and Employer's Liability Insurance for all of his employees to be engaged in work on the project under the contract and, in case any such work is sublet, the Contractor should require the Subcontractor similarly to provide Workmen's Compensation and Employer's Liability Insurance for all the latter's employees to be engaged in such work.

b) General Liability, Bodily Injury and Property Damage Liability Insurance: The Contractor shall take out and maintain during the life of the contract a General Liability Insurance policy for an amount not less than One Million dollars (\$1,000,000.00.) The policy shall include the Bodily Injury Liability and Property Damage Liability Insurance to protect him and any Subcontractor performing work covered by the contract from claims for damages for personal injury, including accidental death, as well as from claims for property damage, which may arise from operations under the contract, whether such operations be by himself or by a Subcontractor or by anyone directly or indirectly employed by either of them and the amount of such insurance should be not less than:

Bodily Injury Liability Insurance, in an amount not less than \$1,000,000.00 for injuries, including wrongful death to any one person, and subject to the same limit for each person in an amount not less than \$500,000.00 on account of one accident.

Property Damage Insurance in an amount not less than \$350,000.00 for damages on account of any one accident, and in an amount not less than \$1,000,000.00 for damages on account of all accidents.

c) Proof of Carriage of Insurance: Prior to commencing work hereunder, Contractor, at his expense, shall furnish a current insurance certificate showing the certificate holder as Town of Hilton Head Island, One Town Center Court, Hilton Head Island, SC 29928, Attention: Jennifer Lyle, and with a special notation naming The Town of Hilton Head Island as an additional insured on the liability coverage. The Contractor shall furnish the Town with certificates showing the type, amount, class of operations, effective dates and date of expiration of policies. Such certificates shall contain a clause to the effect that the

policy shall not be canceled or reduced, restricted, or limited until thirty (30) days after the Town has received written notice, as evidenced by return receipt of registered or certified letter. Certificates of Insurance shall contain transcript from the proper office of the insurer, the location, and the operations to which the insurance applies, the expiration date, and the above mentioned notice of cancellation clause.

Contractor shall either:

(a) require each of his subcontractors to procure and maintain during the life of his subcontract, Subcontractor Comprehensive General Liability, Automobile Liability and Property Damage Liability Insurance of the type and in the same amounts as specified in this contract; or

(b) insure the activities of his subcontractors in his own policy.

Certificates of Insurance must be filed at time of bid opening through the Owner on form provided in specifications or on AIA Document G705, November, 1978 Edition by an insurer authorized to do business in the State of South Carolina by the South Carolina Insurance Commission. All blanks and questions on Certification must be filled out completely. Incomplete or inadequate Certificate will be returned to Contractor as unsatisfactory and commencement of his work will be delayed until satisfactory Certificate is submitted. Such delay will not warrant extension of contract time.

The above section supersedes Article 5.04 in the General Conditions.

SC-6 COMMENCEMENT AND COMPLETION OF WORK: The Contractor agrees that time is of the essence in this Agreement. The Contractor shall commence work within 10 days after Notice to Proceed is issued. All work under this contract shall be completed within **specified calendars days** of the Notice To Proceed shown below. Any and all extensions of time shall be in accordance with the general conditions of the contract except as otherwise hereinafter provided.

Phase 1-A: Nassau Street Storm / Resurfacing

60 Calendar Days from Notice to Proceed

Liquidated Damages: \$1,000.00 / day

Phase 1-B: Nassau Street

60 Calendar Days from Notice to Proceed

Liquidated Damages: \$1,000.00 / day

Phase 1-C: Pope Ave / Lagoon Rd Intersection

120 Calendar Days from Notice to Proceed

Liquidated Damages: \$1,000.00 / day

If the Contractor fails to prosecute the work with such diligence as will insure the completion of the work within the allotted time, plus any extensions made in accordance with Article 12 of the General Conditions; and, if the Owner does not exercise his reservations as set forth in Article 13, the Contractor shall continue the work in which event the actual damages for the delay will be impossible to determine. In lieu thereof, liquidated damages in the amount of **\$1,000.00** per each day of delay of the work until the work is completed.

The Contractor shall not be liable for any excess costs, if the failure to perform the contract arises out of causes beyond the control and without the fault of negligence of the Contractor. Such causes may include, but are not restricted to, acts of God or of the public enemy, acts of the government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather, but in every case the failure to perform must be beyond the control and without the fault or negligence of the Contractor. If the failure to perform is caused by the default of a subcontractor, and if such default arises out of causes beyond the control of both the Contractor and the subcontractor, and without the fault or negligence of either of them, the Contractor shall not be liable for any excess costs for failure to perform, unless the supplies or services to be furnished by the subcontractor were obtainable from other sources in sufficient time to permit the Contractor to meet the required delivery schedule. Unless weather delays are specifically allowed in this Agreement, they are not cause for excusable delays.

SC-7. DRAWINGS: The work shall conform to the plans, all of which form a part of, and are included in, these specifications and are available at the Town of Hilton Head Island-Engineering Division, 1 Town Center Court, Hilton Head Island, SC 29928.

SC-8. OBSERVATIONS AND TESTS: Before acceptance of the whole or any part of the work, it shall be subjected to observation and tests to determine that it is in accordance with the plans and specifications. The Contractor will be required to maintain all work in a first class condition for a 30-day operating period after the same has been completed as a whole and the Owner has notified the Contractor in writing that the work has been finished to his satisfaction. The Contractor shall pay for all testing. He shall engage a mutually acceptable laboratory or qualified individual to conduct the tests in accordance with these specifications. No portion of the work will be accepted until tests prove it has been satisfactorily completed. The Contractor shall give the Project Engineer or Project Representative a minimum of 48 hours notice for all required observations or tests.

SC-9. BONDS: The Performance Bonds in the amount of 100% of the contract amount and Payment Bonds in the amount of 100% of the contract amount shall be furnished to the Town. This paragraph shall supercede Article 5 of the General Conditions.

SC-10. SAFETY AND HEALTH REGULATIONS: The Contractor shall comply with the Department of Labor Safety and Health Regulations for Construction promulgated under the Occupational Safety and Health Act of 1970 (PL 91-596) and under Section 107 of the Contract Work and Safety Standards Act (PL 91-54). The regulations are administered by the Department of Labor and the Contractor shall allow access to project to personnel from that Department.

SC-11. HOLD HARMLESS CLAUSE: The Contractor agrees to hold harmless, indemnify and defend the Town and his agents, architects, engineers and employees from and against any and all claims, losses, damages, demands, causes of action and any and all related costs and expenses, of every kind and character, growing out of, incidental to, or resulting directly or indirectly from the Contractor's performance of the work described herein, whether such loss, damage, injury, or liability is contributed to by the negligence of the Town, its agents, architects, engineers, or employees, except that the Contractor shall have no liability for damages or the costs incidental thereto caused by the sole negligence of the Town, its agents, architects, engineers, or employees.

The Contractor will require any and all subcontractors to conform with the provisions of this clause prior to commencing any work and agrees to ensure that this clause is in conformity with the insurance provisions of the contract.

SC-12. CONTRACTOR'S STATUS: It is agreed that the Contractor shall occupy the status of an Independent Contractor and the Contractor's employees are not employees of the Town.

The Contractor will be required to assume sole responsibility for the complete effort, as required by this Agreement. The Town will consider the Contractor to be the sole point of contact with regard to contractual matters.

SC-13. SUBCONTRACTING: If any part of the work covered by this Agreement is to be subcontracted, the Contractor shall identify the subcontracting organization and the contractual arrangements made with same. All subcontractors must be approved, in writing by the Town. The Contractor will also furnish the corporate or company name and the names of the officers of any subcontractors.

SC-14. SUB-CONTRACTOR REFERENCES: The Contractor shall provide the Owner with three (3) references of companies or agencies that have contracted with the sub-Contractor within the past three (3) years for similar type construction work (use formats similar to Page 43). The Owner shall approve each sub-Contractor prior to his engagement by the Contractor.

SC-15. CONTRACTOR'S AFFIDAVIT: Upon completion of the work and prior to final payment and settlement of all sums due hereunder, Contractor will furnish to Town, a Contractor's Affidavit in the usual form submitted by Contractor under the laws of the State of South Carolina to the effect that all bills for labor, materials and services in connection with said contract have been paid in full, acknowledging receipt of the contract price and averring that there are no outstanding claims under said contract which could become a lien on the real estate arising out of said contract.

STATUTORY AFFIDAVIT

COUNTY OF _____

STATE OF _____

FROM _____
(Contractor)

TO _____

RE:

Contract entered into the ____ day of 2016, between the above-mentioned parties for the construction of the **Nassau Street Redevelopment and Pope Ave / Lagoon Rd Intersection Projects** in the Town of Hilton Head Island.

KNOWN ALL MEN BY THESE PRESENTS:

1. The Undersigned hereby certifies that all work required under the above Contract has been performed in all accordance with the terms thereof, that all material men, subcontractors, mechanics and laborers have been paid and satisfied in full, and that there are not outstanding claims of any character, (including disputed claims or any claim to which the Contractor has or will assert any defense) arising out of the performance of the Contract which have not been paid and satisfied in full except as listed herein below: (Instruction - Enter the "none" or list the names of claimants and the amount claimed by each.)
2. The Undersigned further certified that to the best of his knowledge and belief there are not unsatisfied claims for damages resulting from injury or death to any employees, subcontractors, or the public at large arising out of the performance of the Contract, or any suits or claims for any other damage of any kind, nature, or description which might constitute a lien upon the property of the Owner
3. The Undersigned makes this affidavit as provided by law and for the purpose of receiving final payment in full settlement of all claims against the Owner arising under or by virtue of the Contract, and acceptance of such payment is acknowledged as a release of the Owner from any and all claims arising under or by virtue of the Contract.

This ___ day of _____, 2016.

Signature

Title

Firm

COUNTY OF

STATE OF

Personally before me, the Undersigned authority, appeared

Who is known to me to be an official of the firm of

Who, after being duly sworn, stated on his oath that he had read the above statement and that the same is true and correct.

Notary Public
My Commission Expires:

This ___ day of _____, 2016

- SC-16. RESIDENT PROJECT ENGINEER: The Town reserves the right to furnish a Resident Project Engineer as deemed necessary to insure the Project quality control and conform to Plans and Specifications, who will act as the Owner's Representative on the Project and will have the authority of the Engineer as set forth in the Contract Documents.
- SC-17. BARRICADES, DANGER AND WARNING SIGNS: All traffic control devices shall be in accordance with the "Manual on Uniform Traffic Control Devices" latest edition. The Contractor shall install and maintain barricades, suitable and sufficient lights, danger signals, signs, and other traffic control devices and shall take all necessary precautions for the protection of the work and safety of the public. Lanes closed to traffic shall be protected by effective barricades, lighted during hours of darkness. Suitable warning signs shall be provided to control, direct traffic and warn pedestrians. Upon completion, all barricades, signs and the like shall be removed.
- SC-18. TOOLS, PLANT AND EQUIPMENT: If at any time before the commencement or during the progress of the work, tools, plant or equipment appear to the Engineer to be insufficient, inefficient or inappropriate to secure the quality of the work required or the proper rate of progress, the Engineer may order the Contractor to increase their efficiency, to improve their character, to augment their number, or to substitute new tools, plant, or equipment, as the case may be, and the Contractor must conform to such order; but a failure of the Engineer to demand such increase of efficiency, number, or improvement shall not relieve the Contractor of his obligation to secure the quality of work and the rate of progress necessary to complete the work within the time required by his contract to the satisfaction of the Town.
- SC-19. ACCIDENTS: The Contractor shall provide, at the site, such equipment and medical facilities as are necessary to supply first-aid service to anyone who may be injured in connection with the work. The Contractor must report in writing to the Engineer all accidents whatsoever arising out of, or in connection with, the performance of the work, whether on or adjacent to the site, which causes death, personal injury or property damages, giving full details and statement of witnesses. In addition, if death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts to the Engineer, giving full details in writing of the claim. The Contractor shall advise his superintendent and foreman, who are on the site of the work, the name of hospital and phone number and the name and phone number of the doctor he proposes to use in case of an accident.
- SC-20. SANITARY PROVISIONS: The Contractor shall provide temporary sanitary facilities for the use of the workmen during the progress of the work. The sanitary

facilities shall conform to the requirements of the South Carolina Department of Health & Environmental Control. All facilities shall be removed at the completion of the contract.

SC-21. MODIFICATION AND DELETION OF WORK: The itemized quantities shall be considered by the Contractor as the quantities required to complete the work for the purpose of bidding. Should actual quantities required in the construction of the work be greater or less than the quantities shown on the items, an amount equal to the difference in quantities at the unit prices for the item will be added to or deducted from the contract price.

When itemized quantities are not given in the Proposal, the work shown on the plans or specified shall be considered by the Contractor to be included in his contract for the lump sum prices bid.

The Town reserves the right to delete quantities and portions of the work shown on the plans due to access issues and land rights.

SC-22. RESPONSIBILITY REGARDING EXISTING UTILITIES AND STRUCTURES: The Contractor shall contact "Palmetto Utility Protection Service at 1-888-721-7877, at least 72 hours prior to beginning excavation. The existence and location of underground utilities will be investigated and verified in the field by the Contractor before starting work. The location of all known interferences based on the best information available has been shown on the drawings, but this information may not be complete. Excavation in the vicinity of existing structures and utilities shall be carefully done by hand. The Contractor shall be held responsible for any damage to and for maintenance and protection of existing utilities and structures. The Contractor is responsible for coordinating with the utility companies for locations, any relocation, adjustment or replacement of utility facilities.

SC-18. INTERRUPTION OF UTILITY SERVICE: The Contractor's operations shall be so conducted as to interfere as little as possible with utility services. Any proposed interruption by the Contractor must be accepted in advance by the Engineer.

SC-24. OMISSION: The drawings and specifications shall both be considered as a part of the contract. Any work and material shown in the one and omitted in the other, or described in the one and not shown in the other, or which may fairly be implied by both or either, shall be furnished and performed as though shown in both, in order to give a complete and first class job.

SC-25. MEASUREMENT AND PAYMENT: Measurement and payment shall be made for the units and at the lump sum contract prices shown in Exhibit C. Direct

payment shall only be made for those items or work specifically listed in the Proposal and the cost of any other work must be included in the contract price for the applicable items to which it relates.

Schedule "A" Terms & Conditions - The Town will pay the Contractor within thirty (30) working days upon receipt and authorization to pay from the Town's contract representative of Contractor's invoice for work completed and accepted by the Town. The Town does not pay any late charges.

Progress Payments - Progress payments will be made on monthly estimates, based on the amount of work done or completed. The monthly payments will be approximate, and all payments will be subject to correction in the subsequent estimates and the final payment.

The Town has the right to withhold payment for an invoice or any portion of an invoice where payment is in question. Contractor is still required to complete the remaining portions of the Agreement.

The amount of payments shall be the total value of the work done to the date of the estimate on the basis of the lump sum price.

Partial payments will also be made for the delivered cost of materials intended to be incorporated in the Work, provided the materials meet the requirements of the Contract Documents when delivered to Project Site and stored in acceptable manner. Payments will be made only if a copy of the invoice from the materials supplier listing the cost of the materials accompanies the payment request.

The **retainage of 10%** shall apply to all payment requests.

The Contractor will be funded at 90% of actual cost until Substantial Completion has been fulfilled whereby the retainage of 10% of the cost, less change orders, may be released, at the Town's sole discretion.

It is the intent of the Owner to occupy the site on the date specified for completion. If, however, the Work has not been completed on the date specified, the Owner reserves the right to occupy and use those portions completed or not completed until the Work is completed.

Payment Application Times - The date for each progress payment is the 25th day of each month. The period of construction work covered by each payment request is the period ending 10 days prior to date for each progress payment, and starting day following end of preceding period.

Submit to the Owner an itemized application for payment at least 10 days before the date of each progress payment.

Payment Application Forms – EJCDC Document C620 Contractor's Application for Payment.

Application Transmittal - Submit 2 executed copies of each payment application. Transmit each copy with a transmittal form listing attachments, and recording appropriate information related to application in a manner acceptable to the Owner.

Comply with procedures for submittals specified in SC-36 - SUBMITTALS.

Application Preparation - Except as otherwise indicated, complete every entry provided for on the form, including notarization and execution by authorized persons. Incomplete applications will be returned without action. Listing must include amounts of executed change orders issued prior to last day of the "period of construction" covered by application.

Meeting To Coordinate Pay Requests - Contractor should plan to meet with Owner's Representative the same time every month to coordinate quantities and amounts for that month's pay request.

Final Payment Application - The administrative actions and submittals which must precede or coincide with submittal of final payment application are summarized but not limited to the following:

Completion of final punch list items.

Assurance, satisfactory to Owner, that unsettled claims will be settled and that work not actually completed and accepted will be completed without undue delay.

Submit Contractor's Statutory Affidavit of Payment of Debts and Claims furnished in this Section.

Submit waivers of lien from every entity (including Contractor) who could lawfully and possibly file a lien in excess of \$100 arising out of Contract and related to work covered by payment. Submit Contractor's Statutory Affidavit provided in this section.

Transmittal of required project construction records to Owner.

Proof, satisfactory to Owner, that taxes, fees and similar obligations of Contractor have been paid.

Removal of temporary facilities, services, surplus materials, rubbish and similar elements.

SC-26. "OR EQUIVALENT," CLAUSE: Although the plans and specifications make reference to particular manufacturers and model numbers for various products, such reference is made only to establish function and quality of such products. If it is desired to use materials or equipment of trade names or of manufacturer's names which are different from those mentioned in the contract documents,

information pertaining to such items must reach the hands of the Engineer at least 10 days prior to the date set for the opening of bids. The burden of proving equality of a proposed substitute to an item designated by trade name or by manufacturer's name in the contract document rests on the party submitting the request for acceptance. The written application for review of a proposed substitute must be accompanied by technical data which the party requesting review desires to submit in support of his application. The Engineer will give consideration to reports from reputable independent testing laboratories, verified experience records showing the reputation of the proposed product with previous users or any other written information that is reasonable in the circumstances. The application to the Engineer for review of a proposed substitute must be accompanied by a schedule setting forth in what respects the material or equipment submitted for consideration differs from the materials or equipment designated in the contract documents. The degree of proof required for acceptance of a proposed substitute as equivalent to a named product is the amount of proof necessary to convince the Engineer beyond all doubt. To be acceptable, a proposed substitute must, in addition, meet or exceed all express requirements of the contract documents.

If submittal is accepted by the Engineer, an addendum will be issued to all prospective bidders at least five (5) days prior to the date set for the opening of bids.

The Engineer shall be the final judge on questions of similarity and equality.

SC-27. RECORD DATA AND DRAWINGS: The Contractor shall at all times during construction of the project, keep accurate, legible records of the locations, types, sizes, and elevations of storm drainage pipes, drainage structures, curb lines, lighting conduit, water and sanitary sewer lines, service laterals, manholes, cleanouts, fittings, valves, and other related work performed under this project. The Contractor shall prepare a set of "record" drawings from the data stated above. The horizontal locations of all portions of items installed on this project shall be accurately tied down to features that are physical and visible, such as property corner markers and/or permanent type structures. The actual elevations of the finished grade elevations of installed roadway, concrete curbing, pathways shall be clearly indicated on the "record" drawings at the intervals specified on the construction drawings. These "record" drawings shall be kept clean and dry and maintained in a current state with the progress of the work. If at any time, a copy of this plan or portion of it is requested by the Owner, such copy shall be made available within 24 hours after the request is made.

Before final acceptance of the completed installation and before final payment by the Owner, the Contractor shall deliver to the Owner, a completed set of record drawings accurately depicting the data described above. This deliverable shall be a hard copy set of plans including clear and legible record data. The Town shall provide the original construction plans in AutoCAD format. All storm drainage

structure and invert elevations shall be shown, along with finish grades on roadway edges of pavement, top of curb and centerline of pathway at 50-foot cross section intervals as per the design plans. Where applicable, design elevations shall be struck through and the actual as-built elevation shall be shown above or below the design elevation and underlined.

SC-28. PROPERTY CORNERS: The Contractor shall be responsible for restoring any and all property corners or monuments disturbed during construction. They shall be restored in accordance with the Town's Land Management Ordinance, by a Professional Land Surveyor registered in the State of South Carolina before final payment will be made.

SC-29. SITE CLEAN-UP: The Contractor is responsible for daily removal of any waste, spillage or otherwise unused material associated with the work and shall dispose of this material off site at his own expense.

It is the intent of the Town that the work be accomplished with minimum disturbance to the properties adjacent to the work area (specifically, the adjacent lawns, landscaping, trees, and buildings), and that the immediate and general vicinity of the work area remain in its pre-project state subsequent to completion of the work. All materials utilized by the Contractor during construction shall be removed from the site; including survey stakes, debris, flagging and other temporary survey controls.

Should the Contractor during the progress of the work, lose, dump, or misplace any material or equipment which in the opinion of the Town or Engineer may be considered unaesthetic, environmentally deleterious, dangerous to the public, or impact adjacent properties, the Contractor shall recover and remove same within 24 hours of receipt of said notice at no additional cost to the Town.

The Contractor shall inspect the work areas at the end of every workday to ensure that all debris left by the Contractor's and subcontractor's workers has been removed from the work areas and properly disposed of. This includes, for example, lunch bags, soda cans, drink cups, etc.

Upon completion of all construction activity, the Contractor shall restore all staging, storage, transport, and work areas, fences, and other facilities to an equivalent pre-project condition or better to the approval of the Town.

SC-30. PLANS AND SPECIFICATIONS: The successful Contractor will be furnished 5 (five) sets of contract documents, free of charge, for use in the execution of the work.

Any corrections of errors or omissions in plans and specifications may be made by the Owner when such correction is necessary for the proper fulfillment of their intention as construed by him. Where said correction of errors or omissions,

except as provided in the next two paragraphs below, adds to the amount of work to be done by the Contractor, compensation for said additional work shall be made under the item for Extra Work except where the additional work may be classed under some item or work for which a unit price is included in the Proposal.

The fact that specific mention of a fixture, or of any part of the work, is omitted in the specifications, whether intentionally or otherwise, when the same is clearly shown or indicated on the plans, or is usually and customarily required to complete fully such work as is specified herein, will not entitle the Contractor to consideration in the matter of any claim for extra compensation, but the said fixture or work, must be installed as if called for by on the drawings and specifications.

All work indicated on the plans and not mentioned in the specifications, or vice versa, and all work and material usual and necessary to make the work complete in all parts, whether or not they are indicted on the plans or mentioned in the specifications, shall be furnished and executed the same as if they were called for by both the drawings and specifications.

When a requirement is made by the documents that is not possible to meet, such as the requirement for unavailable materials, prompt notice shall be submitted to the Owner for direction and no further action in the matter shall be taken by the Contractor until an approved modification of the requirements is made.

The Contractor and all subcontractors shall cooperate with one another and with other Contractors doing related work and shall coordinate their work with the work of other trades and other Contractors so as to facilitate the general progress of the work. Each trade shall afford all other trades and all other Contractors every reasonable opportunity for the installation of their work and for the storage of their materials.

The Contractor shall provide a construction schedule which shall be in sufficient detail to accurately show the work to be accomplished.

SC-31. CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS: If such separate Contractor sues the Owner on account of any damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor who shall defend such proceedings at the Contractor's expense.

SC-32. TIME: Construction activity may occur from Monday through Saturday from 7:00 AM to 7:00 PM unless otherwise authorized by the Owner. Lighting of the work site is prohibited except as may be specifically authorized in writing by the Owner.

No Sunday or Holiday work will be permitted, except of great emergency and then only upon written notification to and approval from the Owner.

The Owner reserves the right to instruct the Contractor to delay the start of construction activity in certain locations.

If night work alternative is selected by the Town, work hours that require a lane closure on Pope Avenue will be from 7:00 pm to 7:00 am.

SC-33. UNCOVERING AND CORRECTION OF WORK: The subcontractors or sub-subcontractors and the contractor shall remedy any defect due to faulty materials or workmanship and pay for any damage to other work resulting therefrom, which shall appear within a period of one year from the date of acceptance as defined in the General Conditions, and in accordance with the terms of any special guarantees provided in the contract.

SC-34. MISCELLANEOUS PROVISIONS: Equal Opportunity - In the hiring of employees for the performance of work under this contract or any subcontract hereunder, no contractor, subcontractor, not any person acting on behalf of such contractor or subcontractor, shall by reason or race, creed, or color discriminate against any citizen who is qualified and available to perform the work to which the employment relates.

No contractor, nor any person on his behalf, shall, in any manner, discriminate against or intimidate any employees hired for the performance of work under this contract on account of race, creed, or color.

SC-35. SUSPENSION OF WORK AND TERMINATION: The Town may without cause terminate this contract in whole or in part at any time for its convenience. In such instance, an adjustment shall be made to the Contractor, for the reasonable costs of the work performed and accepted by the Town through the date of termination. Termination costs do not include lost profits, consequential damages, delay damages, unabsorbed or under absorbed overhead of the Contractor or its subcontractors, and/or failure to include termination for convenience clause into its subcontractors and material purchase orders shall not expose the Town to liability for lost profits in conjunction with a termination for convenience settlement or equitable adjustment. Contractor expressly waives any claims for lost profit or consequential damages, delay damages, or indirect costs which may arise from the Town's election to terminate this contract in whole or in part for its convenience.

The above paragraph supersedes Article 15 in the General Conditions.

SC-36. CONTRACTOR SUPERVISION: The contractor shall provide a qualified supervisor on the project site at all times during construction.

SC-37. SUBMITTALS: Submittal Requirements - Coordinate preparation and processing of submittals in a manner as to not delay performance of the work.

Unless otherwise specified, make submittals in groups containing associated items to ensure that information is available for checking each items when it is received.

Provide permanent marking on each submittal to identify project, date, Contractor, subcontractor, submittal type and similar information to distinguish it from other submittals. Show Contractor's executed review and approval marking and provide space for Owner's "Action" marking.

Identification - Consecutively number submittals. Accompany each submittal with a letter of transmittal containing pertinent information required for identification and checking of submittals.

When material is resubmitted for any reason, transmit under a new letter of transmittal and with new submittal number, and reference original or previous submittal number.

Timing - Make submittals far enough in advance of scheduled dates for installation to provide time required for reviews, for securing necessary approvals, for possible revisions and resubmittals, and for placing orders and securing delivery.

In scheduling, allow at least 10 calendar days for review by the Owner following receipt of the submittal.

Delays caused by tardiness in receipt of submittals will not be an acceptable basis for extension of the contract completion date.

Distribution - Provide additional distribution of approved submittals to subcontractors, suppliers, fabricators, installers, governing authorities and others as necessary for proper performance of the work. Include such additional copies in initial transmittal where required to receive "Action" marking before final distribution.

Review - Review by the Owner shall not be construed as a complete check, but only that the general method of construction and detailing is satisfactory.

Owners action - Approved: Work may proceed.

Approved as noted: Work may proceed, provided it complies with notations and corrections on submittal.

Disapproved, Resubmit: Do not proceed with work. Revise submittal in accordance with notations thereon, and resubmit without delay to obtain a different action marking.

Submittals Formats – Provide newly-prepared information, on reproducible sheets, with graphic information at accurate scale (except as otherwise indicated), with name of preparer indicated (firm name). Show dimensions and note which are based on field measurement. Identify materials and products in the work shown. Indicate compliance with standards, and special coordination requirements. Do not allow shop drawing copies to be used in the work without approval by the Owner.

Scale and measurement - Make shop drawings accurately to a scale sufficiently large to show pertinent aspects of the item and its relationship to the work.

Submittal - 2 blue prints or xerox copies of prints; one will be returned.

Product Data - Product data shall include standard printed information on materials, products, and systems.

Collect required data into one submittal for each unit of work or system.

Mark each copy to show which choices and options are applicable to project. Include manufacturer's standard printed recommendations for application and use, compliance with standards and application of labels and seals, if any.

Maintain one set of product data (for each submittal) at project site, available for reference by Owner and others.

At Contractor's option, provide a preliminary single-copy of product data for landscape architect's review and approval.

Do not proceed with installation of materials, products, or systems until final copy of applicable product data is in possession of installer.

Samples - Samples include both fabricated and unfabricated physical examples of materials, products and units of work; both as complete units and as smaller portions of units of work; either for limited visual inspection or (where indicated) for more detailed testing and analysis.

Provide units identical with final condition of proposed materials or products for the work. Include "range" samples (not less than 3 units) where unavoidable variations must be expected, and describe or identify variations between units of each set. Provide full set of optional samples where Owner's selection is required.

Include information with each sample to show generic description, source or product name and manufacturer, limitations, and compliance with standards.

Samples are submitted for review and confirmation of color, pattern, texture, and "kind" by Owner. Owner will not "test" samples (except as otherwise indicated) for compliance with other requirements, which are therefore the exclusive responsibility of Contractor.

Comply with requirements for "samples" to greatest extent possible and process transmittal forms to provide a record of activity.

Furnish two copies of inspection and test reports where required.

SC-38. PROJECT COORDINATION: Administration and Supervision - Coordinate various elements of the work and entities engaged to perform work; and coordinate the work with existing facilities/conditions, and with work by separate contractors and by owner.

Survey/Recording - Working from established lines and levels at or near project site, establish and maintain dependable markers for lines and levels of the work construction. Calculate dimensions and measure for layout of work; do not scale the drawings. Maintain surveyor's log of layout work. Record deviations (if any) from drawing information on existing conditions, and review with Engineer at time of discovery. Provide copy of survey log and as-built drawings to owner at contract completion.

Require Installer of each major unit of work to inspect substrate and conditions for installation, and to report (in writing) unsatisfactory conditions. Correct unsatisfactory conditions before proceeding. Inspect each product immediately before installation. Do not install damaged or defective products, materials or equipment.

Preparation for installation - Contractor shall perform complete construction staking. Contact all utilities and have all buried cable flagged prior to construction. Notify owner of any underground obstructions that significantly effect work.

Prior to starting installation of the work, the contractor shall hold a preinstallation conference, attended by owner's representative, representatives of contractors where coordination is required, to approve all aspects of work. Also, review significant aspects of requirements for the work. Record discussion and distribute a plan of action.

Installation - Comply with manufacturer's instructions and recommendations to extent printed information if more detailed or stringent than requirements contained directly in contract documents.

Timing - Install work during time and under conditions which will ensure best possible result, coordinated with required inspection and testing.

Anchor work securely in place, properly located by measured line and level, organized for best possible uniformity, visual effect, operational efficiency, durability, and similar benefit to Owner's use.

Mount individual units of work at proper grades, if not otherwise indicated: Refer uncertainties to Owner before proceeding.

Clearing and protection - General - Clean each element of work at time of installation. Provide sufficient maintenance and protection during construction to ensure freedom from damage and deterioration at time of substantial completion.

SC-39. QUALITY CONTROL:

Quality Assurance: Required inspection and testing services are intended to assist in determination of compliance of the work with requirements, but do not relieve Contractor of responsibility for those compliances, or for general fulfillment of requirements of Contract Documents. Specified inspections and tests are not intended to limit Contractor's quality control program.

Qualification of Testing Agencies: The testing laboratory will be qualified to the Owner's approval in accordance with requirements specified in applicable sections.

Contractor's Quality Control: Contractor shall maintain qualified, experienced superintendent on site, who in the Contractor's absence shall be his representative. Directions given to superintendent shall be as given to Contractor. Written verification will follow as necessary. Superintendent shall conduct ongoing inspections to insure contract requirements are being met.

Require installer of each major unit of work to inspect substrate to receive work, and conditions under which work will be performed and to report (in writing to Contractor) unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to installer.

Discrepancies between dimensions on Drawings, the Specifications, and the existing conditions shall be referred to the Owner for adjustment before affected work is started.

Before ordering material or doing work which is dependent for proper size of installation upon coordination with site conditions, the Contractor shall verify dimensions by taking measurements at the site, and shall be responsible for the correctness of the measurements. No consideration will be given to any claim

based on differences between the actual dimensions and those indicated on the Drawings.

Where installation includes manufactured products, comply with manufacturer's applicable instructions and recommendations for installation.

The contractor shall perform the following tasks prior to installation:

Check to ensure that materials and products have been approved.

Check to ensure testing provisions have been made for required control testing.

Physically examine materials to ensure compliance with Drawings and Specifications.

Inspect each item of materials or equipment immediately prior to installation, and reject damaged and defective items.

Contractor shall verify that items fabricated off-site meet with specifications.

Project Conditions: Install work during conditions of temperature, humidity, exposure, forecasted weather, and status of project completion which will ensure best possible results for each unit of work, in coordination with entire work. Isolate each unit of work from non-compatible work, as required to prevent damage or deterioration.

Coordinate enclosure (covering) of work with required inspections and tests, so as to minimize necessity of uncovering work for that purpose.

Installation: Provide attachment and connection devices and methods for securing work properly as it is installed; true to line and level, and within recognized industry tolerances if not otherwise indicated. Allow for expansions and movements. Provide uniform joint widths in exposed work, organized for best possible visual effect. Refer questionable visual-effect choices to Owner for final decision prior to continuing work.

Where mounting heights are not indicated, mount individual units of work at industry-recognized standard mounting heights for applications indicated. Refer questionable mounting height choices to Owner for final decision.

Field Quality Control: Representative of the testing laboratory shall have access to the work at all times. Provide facilities for such access in order that the laboratory may properly perform its function.

Specimens and samples for testing, unless otherwise provided in the Contract Documents, will be taken by the testing personnel. Sampling equipment and personnel will be provided by the testing laboratory. Deliveries of specimens and samples to the testing laboratory will be performed by the testing laboratory.

- SC-40. QUALITY ASSURANCE: In addition to the standards described in this Section, comply with pertinent requirements of governmental agencies having jurisdiction.

Complete installation of temporary lighting and electrical work shall be in accordance with National Electrical Code.

ANSI Standards: Comply with applicable provisions of ANSI A10 Series standards on construction safety.

Obtain and pay for required inspections, permits, and fees for temporary utilities. Provide notices required by governmental authorities. File drawings necessary to obtain permits.

- SC-41. PROJECT CONDITIONS: Make required connections to existing utility systems with minimum disruption to services in the existing utility systems. When disruption of the existing service is required, do not proceed without the utility company's approval and, when required, provide alternate temporary service.

- SC-42. TEMPORARY UTILITIES: Temporary connections to existing permanent service lines shall be made at locations as directed by the Owner and local authorities having jurisdiction.

Install, operate, maintain, and protect temporary facilities in a manner and at locations which will be safe, non-hazardous, sanitary, and protective of persons and property, and free of harmful effects.

If Contractor fails to correctly install temporary services, he shall be held responsible for resultant damages.

Where a service of a type other than those described below is required, the Contractor shall provide the service and necessary equipment at his own expense.

Terminate use and remove facilities at earliest reasonable time, when no longer needed or when permanent facilities have, with authorized use, replaced the need. no temporary systems shall form a part of the permanent systems. Remove temporary facilities, including connections and debris, resulting from temporary installation.

Restore to original condition permanent service lines, grounds, and buildings disturbed or damaged by the installation and removal of temporary service lines.

SC-43. LIGHTING AND ELECTRICAL SERVICE: Provide necessary temporary electrical service as required to meet project electrical requirements at the job site until final acceptance.

Extend temporary service from existing public utility service. Provide meter and extend service with panel (including disconnect) to site location indicated on Drawings.

Provide adequate capacity to power construction tools and equipment required to complete the Project.

Cost of electricity shall be paid by the Contractor.

Provide and pay for portable electric generators to meet temporary electrical needs during construction operations.

Extension of service from temporary panel shall be the responsibility of each trade requiring service.

SC-44. WATER: Water for construction purposes may be obtained from SOUTH ISLAND PUBLIC SERVICE DISTRICT present facility; with their permission. Contractor shall be responsible for extending lines from source, for making connections, and paying tap fees if required.

SC-45. FIRE PROTECTION: Keep flammable material at an absolute minimum and ensure that such material is properly handled and stored.

Open fires shall not be built or open salamanders used unless constantly manned with extinguishing equipment until final extinguishing.

SC-46. PROTECTION OF WORK AND PROPERTY: Maintain adequate protection of work from damage and protect Owner's property from injury or loss arising in connection with this Contract. Contractor shall be responsible for making required repairs.

Locate, protect, and maintain bench marks, monuments, control points and project engineering reference points. Re-establish disturbed or destroyed items at Contractor's expense.

Furnish, erect, and maintain lights, signs, fences, enclosures, barricades, guards, railings, trench covers, and other means required by law or deemed appropriate to protect work and persons.

Roadways, fences, concrete walls, utilities, and other dwelling infrastructure within the work area and access route shall be protected by the Contractor to prevent damage thereto by the Contractor's operations.

- SC-47. DISPOSAL OF WASTE MATERIALS: Remove waste materials from Owner's property and dispose of offsite. No burning of material shall be allowed on site.
- Do not discharge volatile or other harmful or dangerous materials into drainage systems, surface waters or wetlands.
- SC-48. DUST CONTROL: Control dust caused by the work. Dampen surfaces as required. Comply with pollution control regulations of governing authorities.
- SC-49. EROSION AND SEDIMENTATION CONTROL: Contractor shall be responsible for soil erosion and sedimentation originating from project site and shall take precautions to prevent potential erosion and sedimentation.
- Erosion and sedimentation control shall comply with local codes and regulations.
- Protective measures shall be in effect until completion of work.
- Areas of bare soil left uncovered longer than 2 weeks shall receive temporary seeding, pinestraw, mulch, or other means of erosion control approved by Owner.
- Final seeding shall be done as soon as feasibly possible.
- Acceptable erosion control measures shall be used where sediment is evidenced leaving the site.
- Sedimentation ponds shall be used should excessive sediment be evidenced leaving site or straw bales proven ineffective.
- Contractor shall clean streets, pipes, storm sewers, and private property of sediment originating from site daily.
- SC-50. SURFACE WATER CONTROL: Excavations shall be kept free of water. Presence of ground water shall not increase contract price.
- Adjoining properties shall be kept free of surface water runoff originating from construction site during construction period.
- SC-51. PROJECT IDENTIFICATION AND SIGNS: Signs of advertisements shall not be displayed without Owner's approval and approval of local governing agencies.
- Project sign design shall be approved by Owner.
- SC-52. MATERIALS AND EQUIPMENT:
- Submittals: Requests for Substitutions: Submit 3 fully executed copies of the Substitution Request Form located at the end of the Section or an equal document.

Quality Assurance: In procuring items in this work, it is the Contractor's responsibility to verify the detailed requirements of the specifically named codes and standards and to verify that the items procured for use in this Work meet or exceed the specification requirements.

The Owner reserves the right to reject items incorporated into the work which fail to meet the specified minimum requirements. The Owner further reserves the right, and without prejudice to other recourse the Owner may take, to accept non-complying items subject to an adjustment in the Contract Amount as approved by the Owner.

It is also the Contractor's responsibility, when so required by the Contract Documents to deliver to the Owner all required proof that the materials and/or workmanship meet or exceed the requirements of the specifically named code or standard. Such proof shall be in the form requested in writing by the Owner.

Certificates of Compliance: Show on each certification the name and location of the work, name and address of Contractor, quantity and date or dates of shipment or delivery to which the certificate applies, and name of the manufacturing or fabricating company. Certification shall be in the form of letter or company-standard forms containing required data.

In addition to the above information, laboratory test reports submitted with Certificate of Compliance shall show the date or dates of testing, the specified requirements for which testing was performed, and results of the test.

Delivery, Storage and Handling: Deliver, store and handle products in accordance with manufacturer's recommendations and by methods and means which will prevent damage, deterioration, and loss including theft.

Control delivery schedules to minimize long-term storage of products at site and overcrowding of construction spaces. In particular, provide delivery/installation coordination to ensure minimum holding or storage times for products recognized to be flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other sources of loss.

Materials storage area will be designated on drawings or be selected by Owner.

Warranties (Guarantees): Warranties on the work are in several categories, including those of General Conditions, and including (but not necessarily limited to) the following specific categories related to individual units of work specified in these specifications.

Special Project Warranty: A warranty specifically written and signed by Contractor for a defined portion of the work; and, where required, countersigned by subcontractor, installer, manufacturer, or other entity engaged by Contractor.

Specified Product Warranty: A warranty which is required by Contract Documents, to be provided for a manufactured product incorporated into the work, or has written and executed a special project warranty as a direct result of Contract Document requirements.

Coincidental Product Warranty: A warranty which is not specifically required by Contract Documents, but which is available on a product incorporated into the work, by virtue of the fact that manufacturer of product has published warranty in connection with purchases and uses of product.

General Limitations: This section shall not be misconstrued to require the Contractor to provide warranties beyond the manufacturers warranty period.

It is recognized that specific warranties are intended primarily to protect Owner against failure of the work to perform as required, and against deficient, defective, and faulty materials and workmanship, regardless of sources. Except as otherwise indicated, specific warranties do not cover failures in the work which result from:

Unusual and abnormal phenomena of nature.

The Owner's misuse, maltreatment, or improper maintenance of the work after Contractor's maintenance period has been completed.

Vandalism after time of substantial completion.

Damages or Losses: In connection with Contractor's correction of warranted work which has failed, remove and replace other work of project which has been damaged as a result of such failure, or must be removed and replaced to provide access for correction of warranted work.

Except as otherwise indicated or required by governing regulations, special project warranties and product warranties are not extended to cover damage to building contents (other than work of Contract) which occurs as a result of failure of warranted work.

Except as otherwise indicated, when work covered by a special project warranty or product warranty has failed and has been corrected by the replacement or restoration, reinstate warranty by written endorsement for a period of time equal to original warranty, starting on date of acceptance of replaced or restored work.

Except as otherwise indicated, costs of replacing or restoring failing warranted units or products is Contractor's obligation, without regard for whether Owner has already benefited from use through a portion of anticipated useful service lives.

Owner reserves the right, at time of substantial completion or thereafter, to reject coincidental product warranties submitted by Contractor, which in opinion of Owner tend to detract from or confuse interpretation or requirements of Contract documents.

Do not purchase, subcontract for, or allow others to purchase or sub-contract for materials or units of work for project where a special project warranty, specified product warranty, certification or similar commitment is required, until it has been determined that entities required to countersign such commitments are willing to do so.

Where a special project warranty (guarantee) or specified product warranty is required, prepared a written document to contact terms and appropriate identification, ready for execution by required parties. Submit draft to Owner with copy to Engineer for approval prior to final executions.

Project Compliances: The compliance requirements, for individual products as indicated in Contract Documents, are multiple in nature and may include generic, descriptive, proprietary, performance, prescriptive, compliance with standards, compliance with codes, conformance with graphic details, and other similar forms and methods of indicating requirements, all of which must be complied with. Also "allowances" and similar provisions of Contract Documents will have a bearing on selection process.

Where more than one choice is available as options for Contractor's selection of a product or material, select an option which is compatible with other products and materials already selected (which may have been from among options for those other products and materials). Total compatibility among options is not ensured by limitations within Contract Documents, but must be provided by Contractor. Compatibility is a basic general requirement of product/material selections.

Provide products which comply with requirements, and which are undamaged and unused at time of installation, and which are complete with accessories, trim, finish, safety guards, and other devices and details needed for complete installation and for intended use and effect.

Standard Products: Where available, provide standard products of types which have been produced and used previously and successfully on other projects and in similar applications.

Continued Availability: Where additional amounts of a product, by nature of its application, are likely to be needed by Owner at a later date for maintenance and repair or replacement work, provide a standard product which is likely to be available to Owner at such later date.

Except as otherwise indicated for required approval labels, and operating data, do not permanently attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which will be exposed to view either in occupied spaces or on exterior of the work.

Labels: Locate required labels and stamps on a concealed surface or, where required for observation after installation, on an accessible surface which, in occupied spaces, is not conspicuous.

Provide permanent nameplate in each item of service-connected or power operated equipment. Indicate manufacturer, product name, model number, serial number, capacity, speed, ratings, and similar essential operating data. Locate nameplates on an easily accessed surface which, in occupied spaces, is not conspicuous.

Contractor's options for selecting products are limited by Contract Documents, tradition or procedures experienced by Contractor on previous construction projects. Required procedures include, but are not necessarily limited to, the following for various indicated methods of specifying.

Provide product indicated, except advise Owner before proceeding, where known that named product is not a reasonable or acceptable selection.

Provide one of the named projects, at Contractor's option; but excluding products which do not comply with requirements. Do not provide or offer to provide an unnamed product, except where none of named products comply with requirements or are a feasible selection; advise Owner before proceeding.

Where named products in specifications text are accompanied by the term "or equal", or other language of similar effect, comply with "substitutions" procedures below for obtaining approval (by Change Order) to provide an unnamed product.

Except as otherwise indicated, is defined to mean manufacturer's name for product, as recorded in published product literature, of latest issue as of date of Contract Documents. Refer request to use products of later (or earlier) model to Owner for acceptance before proceeding.

Where only compliance with an imposed standard, code, or regulation is required, selection from among products which comply with requirements including those standards, codes, and regulations, is Contractor's option.

Provide products which comply with specific performances indicated, and which are recommended by manufacturer (in published product literature or by individual certification) for application indicated. Overall performance of a product is implied where product is specified with only certain performance requirements.

Provide products which have been produced in accordance with prescriptive requirements, using specified ingredients and components, and complying with specified requirements for mixing, fabricating, curing, finishing, testing, and similar operations in manufacturing process.

Where matching with an approved sample is required, final judgment of whether a product proposed by Contractor matches approved samples satisfactorily is Owner's judgment. Where no product within specified cost category is available, which matches sample satisfactorily and complies with requirements, comply with

"substitutions" procedures below for selection of a matching product outside established cost category or, of a product not complying with requirements.

Except as otherwise indicated, where specified product requirements include "...as selected from Manufacturer's standard colors, patterns, textures..." or words of similar effect, the selection of manufacturer and basic product (complying with requirements) is Contractor's option, and subsequent selection of color, pattern, and texture is Owner's selection. Where specified produce requirements include "...as selected from standard colors, patterns, textures available within the industry...", or words to that effect, selection of product (complying with requirements, and within established cost category) is Owner's selection, including designation of manufacturer where necessary to obtain desired color, pattern, or texture.

Substitutions After Contract Award:

Procedures: Drawings, specifications, samples, manufacturer's literature, performance data, etc. shall accompany requests for substitutions. Burden of proof shall be on Contractor.

Permission to effect change shall be by Change Order. Permission shall not relieve Contractor, sub-Contractor, manufacturer, fabricator, or supplier from responsibility for any deficiency that may exist in substituted product, or for any departures or deviations from requirements of Contract Documents as modified by such Change Order.

Unless specifically qualified, Contractor shall warrant by his request that proposed substitute product will satisfy standards and requirements satisfied by originally specified project. Change Order shall not be deemed to modify Contract Documents with respect, thereto.

If substitution affects a correlated function, adjacent construction, or work of other trades or Contractors, the necessary changes and modifications to affected work shall be considered essential work and included as part of proposed substitution, without additional expense.

Conditions: Contractor's request for substitution will be received and considered when extensive revisions to Contract Documents are not required and changes are in keeping with general intent of Contract Documents; when timely, fully documented and properly submitted; and when one or more of following conditions is satisfied, all as judged by Owner.

Where request is directly related to an "or equal" clause or other language of same effect in Contract Documents.

Where required product, material, or method cannot be provided within Contract time, but not as a result of Contractor's failure to pursue the work promptly or to coordinate various activities properly. When a specified product is not available,

proof must be submitted that firm orders were placed within 14 days following contract awards, or if unavailability is due to a strike, lockout, bankruptcy, discontinuance by manufacturer of product or natural disaster.

Where required product, material, or method cannot be provided in a manner which is compatible with other materials of the work, or cannot be properly coordinated therewith, or cannot be warranted as required, or cannot be used without adversely affecting Owner's insurance coverage on completed work, or will encounter other substantial non-compliance which are not possible to otherwise overcome except by making requested substitution, which Contractor thereby certifies to overcome such non-compatibility, non-coordination, non-warranty, non-insurability, or other non-compliance as claimed.

Where required product, material, or method cannot receive required approval by a governing authority, and the requested substitution can be so approved.

Where substantial advantage is offered Owner, in terms of cost, time, energy conservation, or other valuable considerations, after deducting offsetting responsibilities Owner may be required to bear, including additional compensation to Engineer for redesign and evaluation services, increased cost of other work by Owner or separate Contractors, and similar considerations.

SC-53. PROJECT MEETINGS:

Description: To enable orderly review during progress of the work, and to provide for systematic discussion of problems, the Owner may conduct project meetings throughout the construction period.

The Contractor's relations with his subcontractors and materials suppliers, and discussions relative thereto, are the Contractor's responsibility.

Submittals: To the maximum extent practical, advise the Owner at least two (2) days in advance of project meetings regarding all items to be added to the agenda.

Meetings: Except as noted below for Pre-construction Meeting, project meetings will be scheduled at times mutually agreed upon by Owner, and Contractor.

To the maximum extent practicable, meetings will be held at the job site.

Persons designated by the Contractor to attend and participate in the project meetings shall have all required authority to commit the Contractor to solutions agreed upon in the project meetings. The Owner will prepare scheduling and agenda and will oversee the meetings.

Pre-Construction Meeting: Pre-construction meeting will be scheduled within 10 days after the Owner has issued Notice to Proceed. Provide attendance by

authorized representatives of the Contractor and all major subcontractors. The Owner shall advise other interested parties and request their attendance.

Meeting Agenda: Distribute data on and discuss the following:

Organization of Contractor's subs and personnel, and those of materials suppliers, and Engineer.

Channels and procedures for communications.

Construction schedule, including sequence of critical work.

Contract Documents, including distribution of required copies of original documents and revisions.

Compliance with plans and specifications.

Any interpretations, conflicts or omissions in plans and specifications requested by Contractor.

Processing of Shop Drawings and other data submitted to the Owner.

Processing of field decisions and Change Orders.

Payment procedures.

Utility Coordination

Construction Limits / Priv. Prop.

Rules and regulations governing performance of the Work.

Procedures for safety and first aid, security, quality control, housekeeping, and other related matters.

Responsibility for locating existing utilities and for damage to existing utilities. Time schedule for relocation of utilities, if required.

Traffic control.

Substitutions of materials or methods.

Progress Meeting: The Owner shall require each entity then involved in planning, coordination or performance work to be properly represented at each meeting. Review each entity's present sequences, deliveries, access, site utilization, temporary facilities and services, hours of work, hazards and risks, housekeeping, and change orders.

Agenda to include, but not limited to:

Review minutes and directives of previous meeting.

Review progress of work since last meeting, including status of submittals for approval.

Identify problems in critical path.

Develop corrective measures and procedures to regain critical path.

Review quantities of work completed and materials stored for payment requests.

Review Traffic Control.

SC-54. FIELD ENGINEERING: Any changes in the work shall be in accordance with Article 10 of the General Conditions.

SC-55. CLAIMS AND DISPUTE RESOLUTION: Contractor shall notify the Owner in writing within five (5) calendar days of the date any dispute or claim occurs or is discovered, that may arise in the course of this Agreement.

Only the Owner has the authority to resolve Agreement disputes or claims.

The Owner will not automatically agree to arbitration or other means to resolve disputes or claims.

The above paragraph supersedes Article 16 in the General Conditions.

SC-56. SOUTH CAROLINA LAW CLAUSE: The person, partnership, association, or corporation with whom this Agreement is made must comply with local and State laws which require such person or entity to be authorized and/or licensed to do business in the Town. Notwithstanding the fact that applicable statutes may exempt or exclude the successful Offeror from requirements that it be authorized and/or licensed to do business in the Town, by submission of this signed Agreement, the Contractor agrees to subject itself to the jurisdiction and process of the Fourteenth Judicial Circuit Court of Beaufort County, as to all matters and disputes arising or to arise under this Agreement and the performance thereof including any questions as to the liability for taxes, licenses or fees levied by State or local government.

SC-57. KICKBACKS: It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under an Agreement with the Town to the prime Contractor or higher tier subcontractor, or any person associated therewith, as an inducement for the award of a subcontractor order.

SC-58. GRATUITIES: It shall be unethical for any person to offer, or give, or agree to give any Town employee or former Town employee, or for any Town employee or former Town employee to solicit, demand, accept, or agree to accept from another person a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, or preparation of any part of a program requirement or purchase request, influencing the content of any specification or

procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter pertaining to any program requirement, or an Agreement, or to any solicitation or bid therefore.

SC-59. NONRESIDENT TAXPAYERS: If the Contractor is a South Carolina nonresident taxpayer and the Agreement amount is \$10,000 or more, the Contractor acknowledges and understands that in the event he is awarded an Agreement he shall submit a Nonresident Taxpayer Registration Affidavit (State form #1-312-6/94), before a contract can be signed. Affidavit must certify that the nonresident taxpayer is registered with the SC Department of Revenue or the SC Secretary of State's Office, in accordance with Section 12-9-310(A)(2)(3) of the SC Code of Laws (1976) as amended.

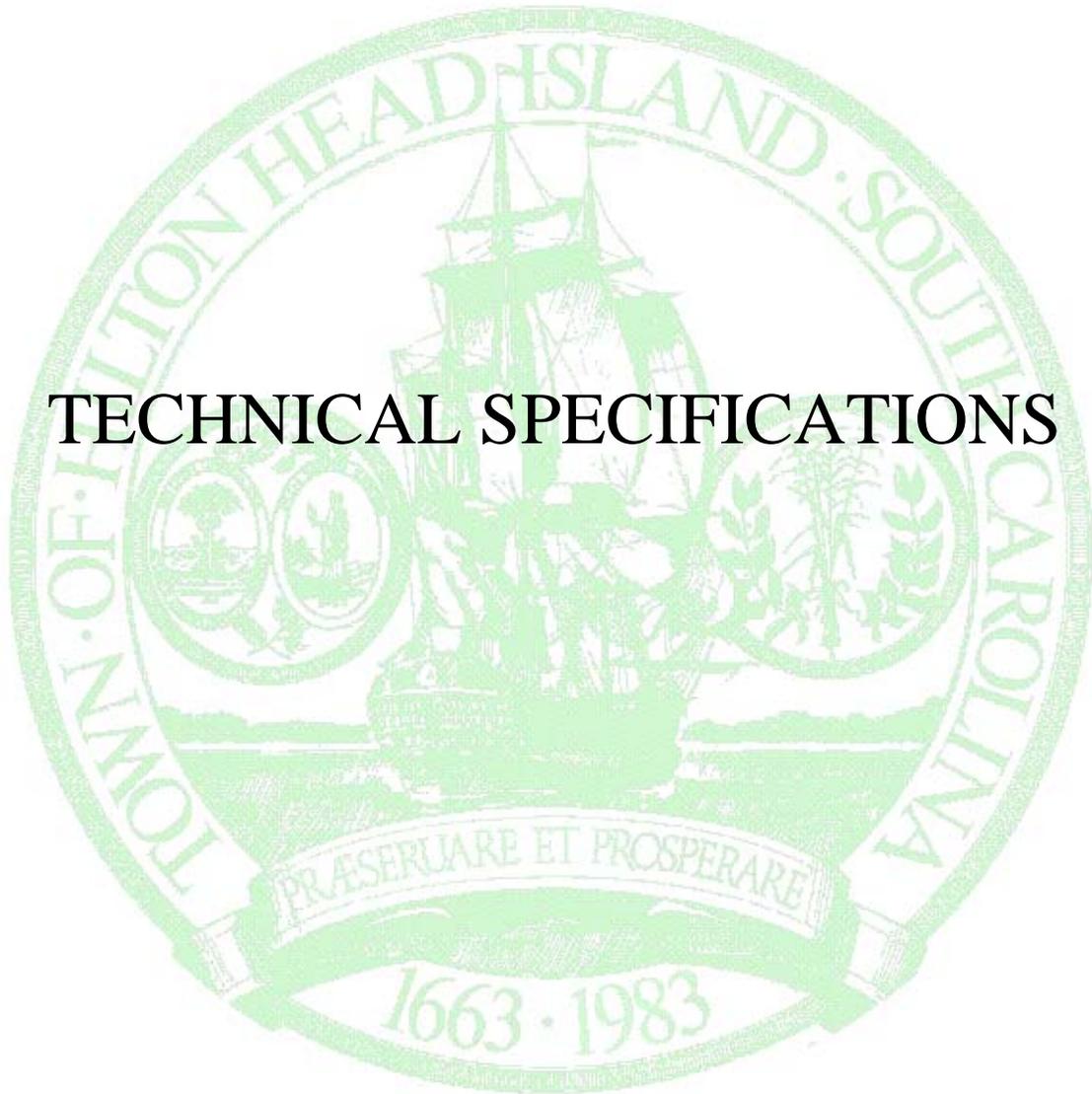
SC-60. OFFICIALS NOT TO BENEFIT: No Town Council member or Commissioner of the Town, Town employee, or official shall be admitted to any share or parts of this Agreement or to any benefit that may arise therefrom. All Offerors shall adhere to all provisions of the South Carolina Ethics Act.

SC-61. CONSTRUCTION SCHEDULE AND PROCEDURES: The Contractor shall submit to the Town and Engineer for approval at least ten (10) days prior to the contract execution, a practicable critical path method construction schedule based on calendar days and the major tasks involved, and a methodology statement for prosecution of the work. No work on site shall begin until the schedule is approved in writing by the Town.

The Contractor shall continually update a construction schedule for the work and a sequence of operations he intends to take in doing the work. Each such schedule shall be subjected to review and change during the progress of the work at the request of the Town and Engineer.

SC-62. ADDITIONAL SERVICES: Any additional services or work to this Agreement will be negotiated by a separate amendment to this Agreement with a specific cost, scope of services/work and completion date.

NASSAU STREET REDEVELOPMENT AND POPE AVE / LAGOON ROAD
INTERSECTION PROJECTS



**TOWN OF HILTON HEAD ISLAND
NASSAU STREET REDEVELOPMENT AND POPE AVE / LAGOON ROAD
INTERSECTION PROJECTS**

TECHNICAL SPECIFICATIONS

PART 1 – GENERAL

1. SCOPE

The project consists of Selective Clearing, Grading, Paving, Drainage, Signing, and Marking, and Pathway construction along South Forest Beach Drive (on the beach side) and Tanglewood Drive on Hilton Head Island in accordance with the Plans and these Specifications. The CONTRACTOR shall comply with all Terms and Conditions included in the TOWN, SCDOT, County, and OCRM permits issued for this work.

2. SUBMITTALS

2.1 Construction Schedule. The CONTRACTOR shall submit to the TOWN and ENGINEER for approval within 10 days of the contract execution, a practicable critical path method construction schedule based on calendar days and the major tasks involved and a methodology statement for prosecution of the work. No work on site shall begin until the schedule is approved in writing by the TOWN.

2.2 Contact List. The CONTRACTOR shall submit to the TOWN and ENGINEER at least 10 days prior to initiation of work a typed list of pertinent project personnel and their telephone numbers and e-mail addresses by which key personnel can be reached for purposes of notification and other matters discussed in these Specifications. Should a subcontractor perform the work, the CONTRACTOR shall provide a contact person or person(s) directly employed by the CONTRACTOR who shall be the TOWN's point of contact and who shall be in responsible charge of the subcontractor during the duration of the work.

2.3 List of Subcontractors. CONTRACTOR shall submit to the TOWN and ENGINEER at least 10 days prior to the initiation of work a list that includes the name and physical address of each subcontractor and vendor and a description of the work or products to be provided by each entity. All subcontractors and vendors shall be acceptable to the TOWN.

2.4 Progress Reports. Between the time that the Notice to Proceed is issued and project mobilization to the project site, the CONTRACTOR shall only submit weekly progress reports. The CONTRACTOR shall notify the ENGINEER and TOWN's

Project Manager at least three (3) days in advance of the mobilization of equipment and/or materials to the project site. Once the CONTRACTOR is mobilized to the work site, the CONTRACTOR shall submit daily reports that summarize the work completed at the end of each work day. Daily Reports shall be submitted every working day during the construction period (even when no work is done) between the time at which the CONTRACTOR is mobilized at the work site and the time of Final Acceptance. Reports shall be submitted by 10:00 a.m. to the ENGINEER and TOWN's Project Manager on a daily basis via e-mail. The CONTRACTOR shall coordinate with the TOWN's Project Manager to formulate an acceptable form format for the daily report.

3. SURVEY REQUIREMENTS

- 3.1 Horizontal control data and elevations for the work are included in the Plans. Descriptions of the monument control in the vicinity of the work are also furnished in the Plans.
- 3.2 The CONTRACTOR shall establish the horizontal and vertical limits of the work and shall only use the tabulated and noted control provided in the Plans. *The CONTRACTOR shall not scale positions, distances, dimensions, elevation, slope, etc. from the Plans for the purposes of work layout.* The CONTRACTOR shall be responsible for all measurements that may be required for the execution of the work to the location and limit marks prescribed in the Plans and in these Specifications. The ENGINEER reserves the right to modify the locations and elevations of the limit marks as may be required to meet changed conditions or as a result of necessary modifications to the work. As required in Section 9 of the Supplemental General Specifications, a surveyor registered in the State of South Carolina shall be responsible for and certify all survey work.
- 3.3 If the CONTRACTOR elects to establish temporary benchmarks through the work site, they shall be established by a closed loop of levels from a permanent benchmark or a line of levels between two permanent benchmarks. Any such temporary benchmark shall be located upon fixed objects such as utilities, roadways, etc. to assure reliability through the duration of the work.
- 3.4 **Construction Stakes.** The CONTRACTOR shall furnish, at his own expense, such stakes, templates, platforms, equipment, tools and material, and all labor as may be required in laying out any part of the work from the monuments, control data and elevations. It shall be the responsibility of the CONTRACTOR to maintain and

preserve the stakes and other marks established by the ENGINEER for the purposes of this work until authorized to remove them. If such marks are destroyed by the CONTRACTOR or through his negligence prior to their authorized removal, they may be replaced by the ENGINEER at his discretion, and the expense of replacement will be deducted from any amounts due or to become due. Work may be suspended at any time when location and limit marks established by the CONTRACTOR are not reasonably adequate to permit checking of the work. It shall be the responsibility of the CONTRACTOR to determine rights of way, easements, and construction limits and other marks as established by the ENGINEER to ensure that the work spatially accurate.

- 3.5 Record Data and Drawings.**- The CONTRACTOR shall keep accurate, legible records of the locations, types, and sizes of sanitary lines, service laterals, manholes, cleanouts, water lines, fittings, valves, hydrants, drainage pipes, drainage structures, pipe sizes and materials, approved field modifications, and other related work performed under this project. On a set of project plans, the CONTRACTOR shall prepare a set of "record" drawings from the data stated above. The horizontal locations of all portions of items installed on this project shall be accurately tied down to features that are physical and visible, such as property corner markers and/or permanent type structures. The actual invert elevations of all manholes, storm sewers and structures, sanitary sewers as built shall be clearly indicated on the "record drawings". These "record drawings" shall be kept clean and dry and maintained in a current state with the progress of the work. If at any time, a copy of this plan or portion of it is requested by the OWNER, such copy shall be made available within 24 hours after the request is made. The final "record drawings" will be provided to the OWNER in hard copy format and an electronic (PDF) format.
- 3.6 Property Corners.** The CONTRACTOR shall be responsible for restoring any and all property corners or monuments disturbed during construction. They shall be restored in accordance with the Town's Land Management Ordinance, by a professional land surveyor registered in the State of South Carolina before final payment will be made.
- 3.7 Project Coordination.**
Survey/Recording - Working from established lines and levels at or near project site, establish and maintain dependable markers for lines and levels of the work construction. Calculate dimensions and measure for layout of work; do not scale the drawings. Maintain surveyor's log of layout work. Record deviations (if any) from drawing information on existing conditions, and review with Engineer at time of discovery. Provide copy of survey log and as-built drawings to owner at contract completion.
- 3.8 Field Engineering.**
Surveys and Records/Reports: Work from lines and levels established by property

survey, and as shown in relation to the work, establish and maintain bench marks and other dependable markers to set lines and levels for the work and elsewhere on site as needed to properly locate each element of entire project. Survey and stake property corners, easements, and rights of way as necessary to determine construction limits and ensure horizontal construction accuracy.

Calculate and measure required dimensions as shown (within recognized tolerances if not otherwise indicated).

Do not scale drawings to determine critical dimensions.

Advise subcontractors performing the work, of marked lines and levels provided for their use in layout of work.

Survey Procedures: Verify construction staking from information shown on Drawings in relation to survey, existing bench marks, and fasteners before proceeding with actual work. As work proceeds, check major location of critical dimensions. Replace all staking damaged or removed during construction process prior to installation.

- 3.9** The TOWN reserves the right to withhold final payment until acceptable verifiable as-built drawings prepared, signed, and seal by a Profession Surveyor Licensed in the State of South Carolina have been submitted.

4. PROTECTION OF EXISTING STRUCTURES

Roadways, fences, concrete walls, utilities, and other dwelling infrastructure within the work area and access route shall be protected by the CONTRACTOR to prevent damage thereto by the CONTRACTOR'S operations.

5. SITE CLEAN-UP and RESTORATION

5.1 It is the intent of the TOWN that the work be accomplished with minimum disturbance to the properties adjacent to the work area (specifically, the adjacent upland, lawns, landscaping, trees, and nearshore areas), and that the immediate and general vicinity of the work area remain in its pre-project state subsequent to completion of the work. All materials utilized by the CONTRACTOR during construction shall be removed from the site; including survey stakes, debris, flagging and other temporary survey controls.

5.2 Should the CONTRACTOR during the progress of the work, lose, dump, or misplace any material or equipment which in the opinion of the TOWN or ENGINEER may be considered unaesthetic, environmentally deleterious, dangerous to the public, or

impact adjacent properties the CONTRACTOR shall recover and remove same within 24 hours of receipt of said notice at no additional cost to the TOWN.

- 5.3** The CONTRACTOR shall inspect the work areas at the end of every workday to ensure that all debris left by the CONTRACTOR's and subcontractor's workers has been removed from the work areas and properly disposed of. This includes, for example, lunch bags, soda cans, drink cups, etc.
- 5.4** Upon completion of all construction activity, the CONTRACTOR shall restore all staging, storage, transport, and work areas, fences, and other facilities to an equivalent pre-project condition or better to the approval of the TOWN, ENGINEER.

6. EXAMINATION & FINAL ACCEPTANCE

- 6.1** The work will be thoroughly examined at the cost and expense of the TOWN as soon as practicable, and no later than thirty (30) days after the completion of the entire work or any portion of the work thereof. The CONTRACTOR or his authorized representative will be notified when the examination(s) is (are) to be made and will be permitted to accompany the survey party.
- 6.2** Should deficiencies in the work be determined relative to the Constructions Plans and Contract Documents, the CONTRACTOR will be required to correct same at the discretion and direction of the ENGINEER or TOWN. Corrections to the work involving the placement of additional material of any kind, shall be paid for at the contract rate. No direct payment shall be made for corrections to the work involving the removal and replacement of unacceptable materials, escarpment removal, or site clean-up, unless specifically allowed by the ENGINEER or TOWN.
- 6.3** Final acceptance of the whole or a part of the work and the deductions or corrections of deductions made thereon will not be reopened after having once been made, except on evidence of collusion, fraud or obvious error, and the acceptance of a completed section shall not change the time of payment of the retained percentages of the whole or any part of the work.

PART 2 - MATERIALS

7. **GENERAL.** The majority of quantities listed in the plan set are based on SCDOT 2007 Standard Specifications for Highway Construction and SCDOT's standard drawings. Those quantities that are not part of the SCDOT's 2007 Standard Specifications or standard drawings are specified below.
8. **7204900. DETECTABLE WARNING SURFACE**

All detectable warning surfaces shall have a concrete apron surrounding the surface as per the plans. STEP-SAFE® tiles shall be used. The tiles shall be a 300 x 300mm (11.8 x 11.8") square which is one foot installed, and the color shall be CHOCOLATE BROWN. The coarse aggregate on the back of each tile enhances adhesion to Portland cement concrete substrate, using an exterior latex-based adhesive material. The Detectable Warning Surface materials must comply with the current requirements of the Americans with Disabilities Act.
9. **SP-1 AS-BUILT SURVEY** – An As-Built Survey Plat must be prepared and certified by a South Carolina professional land surveyor that accurately identifies and depicts the horizontal location of all property corners, easements, and the horizontal and vertical locations of all on-site improvements. This shall include all new impervious areas (roadways, pathways, sidewalks, parking facilities, paved areas, and buildings,) utilities, storm drainage structures, pipes, channels, and detention/retention areas. The diameter and type of material shall be clearly labeled on all new storm drainage pipes. All storm drainage structures, grate/rim and invert elevations shall be shown, along with finish grades on pavements and curbing as per the design plans. Design elevations shall be struck through and the actual as-built elevations shall be underlined and shown directly above or below the design elevation. The plat shall be clearly labeled and based upon the following datums NAD 83 and NAVD 88. The as-built survey shall confirm that all new facilities are within their intended easements. The As-Built Survey shall be delivered to the Town in the form of two (2) sets of hard copy, sealed prints at a legible scale, and the digital file in AutoCAD 2010 format or newer.
10. **SP-2 PATHWAY WHITE WORD MESSAGE “STOP” OR “YIELD”-** The detail for The White Word message “STOP” can be found on the “Paving, Grading, and Details” plan sheet of the construction plans.
11. **SP-3 PATHWAY STOP / YIELD SIGNS.** The detail for the Pathway Stop / Yield signs can be found on “Paving, Grading, and Details” plan sheets of the construction plans.
12. **SP-4 TRAFFIC PATTERNS XD**

The Contractor is to utilize TRAFFIC PATTERNS XD specifications for the stamped and painted asphalt at each cross-walk locations. Technical specifications for TRAFFIC PATTERNS XD can be found on TRAFFIC PATTERNS XD's website at:

<http://www.ennisflint.com/Products/TrafficScapes/TrafficPatternsXD>

12.1 COLOR and PATTERN. Unless otherwise specified by the TOWN, the Contractor is to use the *Sand* color and Offset Brick pattern of the TRAFFIC PATTERNS XD.

13. SP-5 INTERFERENCE STORM / SEWER BOX

The detail for the Interference Storm / Sewer Boxes can be found on P. C3.6 of the construction plans for Nassau Street

14. SP-6 OUTFALL CONTROL STRUCTURE (CS # 110 & CS # 15)

The detail for the Outfall Control Structure (CS # 110 & CS #15) can be found on P. C3.6 of the construction plans for Nassau Street

15. SP-7 MAST-ARM TRAFFIC SIGNAL INSTALLATION:

The Owner shall provide the mast signal supports, pedestrian signal poles, oval street name signs, and custom pedestrian push button signs.

This lump sum unit cost item is for the installation of the mast-arm traffic signal and pedestrian signals for the Lagoon Road and Pope Avenue Intersection (Project D). The SCDOT 2007 Standard Specifications for this item and individual quantities are listed below:

SCDOT SPEC	DESCRIPTION	QUANTITY	UNIT
6888180	Install Double-Arm Mast-Arm Pole	2	ea
6888190	Install Pedestrian Pole	4	ea
6865710	Provide 5-Section Signal Heads	2	ea
6865731	Provide 3-Section Signal Heads	8	ea
6888305	Install Mast-Arm Mounted Signal Heads	10	ea
6887940X	Construct Concrete Foundation - Double-Arm Mast-Arm	2	ea
6887940Z	Construct Concrete Foundation - Pedestrian Pole	4	ea
6865783	Provide 1-Section Pedestrian Signal Heads	8	ea
6888320	Install Pedestrian Signal Heads	8	ea
6865842	Provide/Install Ped Signal Mounting Hardware - Dual Heads - Top of Pole	4	ea
6865791	Provide 2" Pedestrian Pushbuttons	8	ea
6888325	Install 2" Pedestrian Buttons and Accompanying Signs	8	ea
6510105	Provide Flat Sheet Type III Fixed Size/Message Sign	20	sf
6888132	Install Flat Sheet Type III Fixed Size/Message Sign	6	ea
6513020	Provide/Install Mounting Assembly for Overhead Signs	4	ea
675027S	2.0" Schedule 80 PVC Conduit - Directionally Bored	558	lf
675027G	4.0" Schedule 80 PVC Conduit - Trenched	33	lf
6750278	2.0" Schedule 80 PVC Conduit - Trenched	318	lf
6770388	#14 Copper Wire -4 Conductor Black	1405	lf
6770389	#14 Copper Wire -4 Conductor Gray	681	lf
6770393	#14 Copper Wire - 8 Conductor Black	1279	lf
6770394	#14 Copper Wire - 8-Conductor Gray	470	lf
6770413	#14 Copper Wire - 1-Conductor Gray Detector Loop Wire	3934	lf
6780495	Asphalt Sawcut for Loop Detector Installation	1065	lf
6789496	Loop Sealant	7	gal
6800499	Construct/Assemble New Ground Mounted Power Service	1	ea
6800518	Provide/Install 13" x 24" x 18" Junction Boxes	10	ea
6800570	Provide/Install 24" x 24" x 36" Junction Box	1	ea
6845511	Provide/Install 332 Signal Cabinet w/ Controller and Concrete Foundation	1	ea

16. WATER DISTRIBUTION SPECIFICATIONS

SECTION 331000SC - WATER UTILITIES

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Piping
- B. Valves
- C. Fittings
- D. Connect to Existing System

- E. All necessary appurtenances to convey potable water from the existing system to the location shown on the plans.

1.2 RELATED SECTIONS

- A. Section 31 00 00 – Earthwork
- B. Section 31 10 00 – Site Clearing
- C. Section 32 92 00 – Turf and Grasses

1.3 OPTIONS

- A. The bid form and specifications describe several pipe materials. Owner will select the one to be used. Where manufacturers of material or equipment are named in the specifications, Contractor may use equipment or materials of other manufacturers provided they are reviewed and accepted by Engineer and South Island Public Service District as meeting specifications prior to ordering such equipment or materials.

1.4 REFERENCES (Latest Revision)

- A. ASTM D 3740 – Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- B. ASTM E 329 – Agencies Engaged in Construction Inspection and/or Testing.
- C. ANSI/AWWA C 153/A–21.53 – Ductile Iron Compact Fittings for Water Service.
- D. ANSI/AWWA C 110/A21.10 – Ductile Iron and Gray Iron Fittings,
- E. ANSI/AWWA C 150/A–21.50 – Thickness Design of Ductile Iron Pipe.
- F. ANSI/AWWA C 151/A–21.51 – Ductile Iron Pipe, Centrifugally Cast, for Water, or other liquids.
- G. ANSI/AWWA C 104/A–21.4 – Cement–Mortar Lining for Ductile Iron Pipe and Fittings for Water.
- H. ASTM D 1784 – Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds.
- I. ASTM D 2241 – Poly (Vinyl Chloride) (PVC) Pressure–Rated Pipe (SDR – Series).
- J. ANSI/AWWA C 901 – Polyethylene (PE) Pressure Pipe and Tubing, 1/2 inch through 3–inches for Water Service.
- K. ASTM D 2737 – Polyethylene (PE) Plastic Tubing.
- L. ANSI/AWWA C 115/A21.15 – Flanged Ductile Iron Pipe with Ductile Iron or Gray Iron Threaded Flanges.
- M. ANSI/AWWA C 111/A21.11 – Rubber Gasket Joints for Ductile Iron Pressure Pipe and Fittings.
- N. ASTM D 3139 – Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.

- O. ANSI/AWWA C 900 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 inches through 12 inches, for Water Transmission and Distribution.
- P. ANSI/AWWA C 500 – Metal–Seated Gate Valves for Water Supply Service.
- Q. ANSI/AWWA C 509 – Resilient–Seated Gate Valves for Water Supply Service.
- R. ANSI/AWWA C 502 – Dry–Barrel Fire Hydrants.
- S. ANSI/AWWA C 800 – Underground Service Line Valves and Fittings.
- T. ANSI/AWWA C 600 – Installation of Ductile Iron Water Mains and Their Appurtenances.
- U. ANSI/AWWA C 605 – Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water.
- V. ASTM D 2774 – Underground Installation of Thermoplastic Pressure Piping.
- W. ASTM D 6938 – In–Place Density and Water Content of Soil and Soil – Aggregate By Nuclear Methods (Shallow Depth).
- X. ANSI/AWWA C 651 – Disinfecting Water Mains.
- Y. ASTM D 1557 – Laboratory Compaction Characteristics of Soil Using Modified Effort.
- Z. ANSI/AWWA C 504 – Rubber–Seated Butterfly Valves.
- AA. ANSI B–18.2.2 – Square and Hex Bolts and Screws.
- BB. ANSI B–18.2.2 – Square and Hex Nuts.
- CC. ANSI/NSF Standard 61.
- DD. ANSI/AWWA C200 – Steel Water Pipe – 6 inch (150 mm) and Larger.
- EE. ASTM A 53 – Pipe, Steel, Black and Hot–Dipped, Zinc–Coated, Welded and Seamless.
- FF. ANSI/AWWA C905 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14–inch through 48–inch (350 mm through 1,200 mm), for Water Transmission and Distribution.
- GG. ANSI/AWWA C 512 – Air Release, Air/Vacuum, and Combination Valves for Waterworks Service.
- HH. ANSI/AWWA C 515 – Reduced–Wall, Resilient–Seated Gate Valves for Water Supply Service.
- II. ASTM A 139 – Electric–Fusion (Arc) – Welded Steel Pipe (NPS4 and Over).

1.5 QUALITY ASSURANCE

- A. Materials – Contractor will furnish the Engineer and Owner a description of all material before ordering. Engineer will review the Contractor’s submittals and provide in writing an acceptance or rejection of material. All materials shall conform to standards of South Island Public Service District.

- B. Manufacturer – Material and equipment shall be standard products of a manufacturer who has manufactured them for a minimum of 2 years and who provides published data on quality and performance of the products.
- C. Subcontractor – A subcontractor for any part of the work must have experience on similar work, and if required, furnish Engineer with a list of projects and Owners or Engineers who are familiar with its competence.
- D. Design – If Contractor wishes to furnish devices, equipment, structures, and systems not designed by Engineer, these items shall be designed by either a Professional Engineer registered in the state of this project, or by someone Engineer accepts as qualified. If required, complete design calculations and assumptions shall be furnished to the Engineer or Owner before acceptance.
- E. Testing Agencies – Soil testing shall be conducted by a testing laboratory which operates in accordance with ASTM D 3740 and E 329 latest revision and be acceptable to the Engineer prior to engagement. Mill certificates of tests on materials made by manufacturers will be accepted provided manufacturer maintains an adequate testing laboratory, makes regularly scheduled tests that are spot checked by an outside laboratory, and furnishes satisfactory certificates with name of entity making the test.
- F. Hydrostatic tests on pipe shall be made by Contractor with equipment qualified by the Engineer. The Engineer or Project Representative reserves the right to accept or reject testing equipment. Hydrostatic testing shall be conducted in the presence of Engineer or Project Representative and a representative of Water Supplier.
- G. All pipe, fittings, packing, jointing materials, valves, and fire hydrants shall conform to Section C of the American Water Works Association (AWWA) Standards.
- H. All materials and products which contact potable water must be third party certified as meeting the specifications of ANSI/NSF Standard 61.

1.6 REQUIREMENTS OF REGULATORY AGENCIES

- I. Water mains shall be sterilized to meet requirements of the appropriate Health Department. Sterilization shall be in accordance with AWWA Standards C-651, latest revision.
- J. Fire line sprinkler systems and dedicated fire lines shall be protected by an acceptable double check valve assembly. Water lines in high hazard categories shall be protected by an acceptable Reduced Pressure Zone (RPZ) Backflow Preventer.
- K. Any pipe, solder, or flux which is used in the installation or repair of any public water system or in any plumbing in a residential or nonresidential facility which provides water, through connection to a public water system, for human consumption shall be lead free. Lead free is defined as not more than 0.2% lead with respect to solder and flux and not more than 8.0% lead with respect to pipes and pipe fittings. Leaded joints necessary for repair of cast iron pipes shall be exempt from the lead free requirement.
- L. No water pipe shall pass through or come in contact with any part of a sewer manhole. Water lines may come in contact with storm sewers or catch basins if there is no practical alternative, provided ductile iron is used, no joints of water line are within the storm sewer or catch basin, and joints are located as far as possible from storm sewer or catch basin.
- M. Potable water lines shall not be laid less than 25 feet horizontally from any portion of a wastewater tile field or spray field, or shall be otherwise protected by a method acceptable to DHEC.

- N. Where the minimum cover of 30 inches cannot be provided, pipe shall be steel, concrete, ductile iron, or other material and method acceptable to DHEC, and, when necessary, insulated to prevent freezing.
- O. Air relief valves shall be provided in accordance with sound engineering practices at high points in water mains as required. Automatic air relief valves shall not be used in situations where flooding of the manhole or chamber may occur.
- P. The open end of an air relief pipe from automatic valves or from a manually operated valve shall be extended to the top of pit and provided with a screened downward facing elbow.
- Q. Chambers, pits, or manholes containing valves, blow-off, meters, air release valves, or other such appurtenances to a distribution system, shall not be connected directly to any storm drain or sanitary sewer.
- R. There shall be no connection between distribution system and any pipes, pumps, hydrants, or tanks whereby unsafe water or other contaminated materials may be discharged or drawn into the system.
- S. Asbestos cement pipe shall not be used in potable water system except in the repair of existing asbestos cement lines.
- T. Thermoplastic pipe shall not be used above grade.
- U. Steel pipe shall not be allowed in water systems unless specified as in AWWA C200 or ASTM A53.
- V. Water mains shall be installed out of contaminated areas, unless using piping materials protecting the system (i.e., Ductile Iron Pipe with chemical resistant gaskets). Route lines out of contaminated areas if possible.
- W. Cross Connection Control (Backflow Prevention Devices):
 1. There shall be no connection between the distribution system and any pipes, pumps, hydrants, or tanks whereby unsafe water or other contaminated materials may be discharged or drawn into the system.
 2. No-by-passes shall be allowed, unless the bypass is also equipped with an equal, acceptable backflow prevention device.
 3. Reduced pressure principal backflow prevention assemblies shall not be installed in any area location subject to possible flooding. This includes pits or vaults not provided with a gravity drain to the ground's surface capable of exceeding discharge rate of relief valve. Generally, if installed in a pit, drain line shall be 2 times the size of line entering backflow prevention device. The drain cannot empty into any type of ditch, storm drain, or sewer, which could flood water back into pit.
 4. All piping up to inlet of the backflow prevention device must be suitable for potable water. The pipe must be AWWA or NSF approved. Black steel pipe cannot be used on inlet side of the device.

1.7 PRODUCT DELIVERY, STORAGE & HANDLING

- A. Material shall be unloaded in a manner avoiding damage and shall be stored where it will be protected and will not be hazardous to traffic. Contractor shall repair any damage caused by the

storage. Material shall be examined before installation and neither damaged nor deteriorated material shall be used in the work.

1.8 SEQUENCING AND SCHEDULING

- A. Contractor shall arrange work so sections of mains between valves are tested, sterilized, pavement replaced, and the section placed in service as soon as reasonable after installation.

1.9 ALTERNATIVES

- A. The intention of these specifications is to produce the best system for the Owner. If Contractor suggests alternative material, equipment or procedures will improve the results at no additional cost, Engineer and Owner will examine suggestion, and if it is accepted, it may be used. The basis upon which acceptance of an alternative will be given is its value to the Owner, and not for Contractor's convenience.

1.10 GUARANTEE

- A. Contractor shall guarantee the quality of materials, equipment, and workmanship for a period of 12 months after acceptance. Defects discovered during this period shall be repaired by Contractor at no cost to the Owner.

1.11 EXISTING UTILITIES

- A. All known utility facilities are shown schematically on plans, and are not necessarily accurate in location as to plan or elevation. Utilities such as service lines or unknown facilities not shown on plans will not relieve the Contractor of responsibility under this requirement. "Existing Utilities Facilities" means any utility existing on the project in its original, relocated, or newly installed position. Contractor will be held responsible for the cost of repairs to damaged underground facilities; even when such facilities are not shown on plans
- B. The Contractor shall call for underground utility locations before starting work. Underground utilities location service can be contacted at 811 or 1-888-721-7877.

1.12 CONNECT NEW MAIN TO EXISTING SYSTEM

- A. Contractor shall furnish necessary pipe and perform all excavation, dewatering, shoring, backfilling, etc., necessary to make the connection of a new main to existing water system. Contractor shall contact the Superintendent of Water Utility a minimum of 48 hours in advance of construction. Contractor shall be responsible for coordinating construction with the utility operator.

1.13 DAMAGE TO EXISTING WATER SYSTEM

- A. Damage to any part of the existing water system by Contractor or Subcontractors, repaired by Utility Owner's forces, shall be charged to Contractor on basis of time and material, plus 30% for overhead and administration.

1.14 MEASUREMENT AND PAYMENT

- A. Measurement – The length of mains, and branch lines to be paid for will be determined by measurement along the centerline of the various sizes and types of pipe actually furnished and installed, from the center of fitting, and from the center of the main to the end of the branch connection. No deduction will be made for the space occupied by valves and fittings.
- B. Payment –
1. Pipe – Payment will be made at the contract unit price per linear foot for the various types and sizes of pipe that are actually placed, as shown on the plans, or as directed by the Engineer. Excavation, installation, backfill, compaction, testing, metal detector tape, tracing wire, and all other incidentals to installation of the mains shall be considered as subsidiary obligations of the Contractor for the completion of the line in place.
 2. Fittings – Fittings for iron and plastic pipe in the distribution system will be paid for on the basis of the unit price per pound of ductile iron fittings at the weights listed in AWWA Specification C–153 for mechanical joint compact fittings. (Excluding Accessories.) No distinction will be made between the weight of compact ductile iron, cast iron or ductile iron fittings, unless the fittings used are not manufactured as compact fittings. Fittings not manufactured as compact fittings will be paid for on the basis of the unit price per pound of ductile iron fittings at the weights listed in AWWA C–110. P.V.C. fittings used for P.V.C. pipe, at the Contractor's option, will be considered a subsidiary obligation to the pipe and will not be measured for separate payment. Payment for P.V.C. fittings shall be included in the unit price per foot for P.V.C. The adapters necessary to connect to valves shall be considered a part of the line in which they are installed.
 3. Valves – Payment will be made at the contract unit price for each size. Payment will include furnishing and installing the valve, valve boxes, extensions, or manholes.
 4. Fire Hydrants – Payment will be made at the contract unit price. Payment will include the cost of furnishing, installing and connecting the hydrant, gravel sump, restrained joints, and backfilling. The 6 inch pipe from the main line to the hydrant will be paid for as 6 inch pipe. Gate valve and valve box will be paid for separately.
 5. Cleaning and Disinfecting – No separate payment will be made for cleaning and disinfecting. Cleaning and disinfecting piping in the distribution system will be included in the lump sum and unit prices for the appropriate items.
 6. House Service Connections – Payment will be made at the contract unit price. Payment will include the cost of furnishing and installing the tapping saddle, corporation stop, curb stop and marking stake at the property line. The service pipe will be paid for at the contract unit price for each size specified.
 7. Grassing – There will be no separate measurement or payment. Grassing shall be considered as a subsidiary obligation of the Contractor in the restoration of disturbed areas.
 8. Metal Detector Tape – No separate payment will be made for tape. The cost of furnishing and placing metal detector tape shall be included in the contract unit price for installing pipe.

9. Connections to Existing Mains – Payment will be made at the contract unit price for each type connection and will include all equipment, labor, and materials required to locate, excavate, cut, connect, backfill, and compact.
10. Tapping Sleeves and Crosses – Payment will be made at the contract unit price. Payment will include all labor, materials, and equipment necessary to locate, excavate, furnish, and install the sleeve or cross, valve, valve boxes or manholes, tap the existing main, backfilling and compaction.
11. Remove and Replace Existing Pavement – Payment will be made on a square yard basis, and constructed in accordance with the detail shown.
12. Flush Valves – Payment will be made at the contract unit price. Payment will include furnishing and installing the ball valve, riser pipe and cap, valve or meter box, and the concrete collar.
13. Tracing Wire – No separate payment will be made for wire. The cost of furnishing and placing location wire shall be included in the contract unit price for installing pipe.
14. Restrained Joints – Payment will be made at the contract unit price for each size installed. Payment will include all labor, materials, and equipment necessary to furnish and install each restrained joint.
15. Air Release Valve in Manhole – Payment will be made at the contract unit price for each size. Payment will include furnishing and installing the air release valve, saddle, ball valve, manhole, frame, and cover.
16. Backflow Preventer Assembly – Payment will be made at the contract unit price for each size. Payment will include furnishing and installing the backflow preventer assembly, vault, cover, testing, and certification.
17. Casing – Payment will be made at the contract unit price per linear foot. Payment will include dewatering, excavation, providing steel pipe, installation, casing spacers, enclosure method, backfilling, compaction, testing, and all equipment, labor, and materials necessary to complete the work.

1.15 TESTING

- A. Laboratory tests for moisture density relationship for fill materials shall be in accordance with ASTM D 1557, (Modified Proctor).
- B. In place density tests in accordance with ASTM D 6938.
- C. Testing laboratory shall operate in accordance with ASTM D 3740 and E 329 and be acceptable to the Engineer.
- D. The testing laboratory and Project Engineer/Project Representative shall be given a minimum of 48 hours notice prior to taking any of the tests.
- E. Testing shall be Contractor's responsibility and shall be performed at Contractor's expense by a commercial testing laboratory operating in accordance with subparagraph C above.
- F. Test results shall be furnished to the Engineer prior to continuing with associated or subsequent work.

PART 2 – PRODUCTS

Products and materials used in the work shall conform to the following:

2.1 GENERAL REQUIREMENTS

- A. All material or products that come into contact with drinking water shall be third party certified as meeting the specifications of the American National Institute/National Sanitation Foundation Standard 61, Drinking Water System Components – Health Effects. The American National Standards Institute shall accredit the certifying party.
- B. All pipe, fittings, packing, jointing materials, valves, and fire hydrants shall conform to Section C of the AWWA Standards.

2.2 PIPE

- A. Ductile Iron Pipe – Shall conform to ANSI A–21.50 (AWWA C–150) and ANSI A–21.51 (AWWA C–151). All pipe shall be Pressure Class 350 unless otherwise noted. It shall be cement lined in accordance with ANSI A–21.4 (AWWA C–104).
- B. P.V.C. – All pipe shall be blue in color with factory marked homing lines. Pipe 4 inches through 12 inches shall conform to all requirements of AWWA C–900, DR 18, pressure class of 235 p.s.i. and shall have the following minimum wall thickness:

4 inches	0.267 inches
6 inches	0.383 inches
8 inches	0.503 inches
10 inches	0.617 inches
12 inches	0.733 inches

Pipe 14 inches through 18 inches in diameter shall conform to all the requirements of AWWA C 905, DR 18, pressure rating of 235 p.s.i.

Pipe with diameter less than 4 inches shall conform to all requirements of ASTM D–1784 and D–2241 (SDR 21). The pipe shall have a minimum pressure rating of 200 p.s.i. Certificates of conformance with the foregoing specifications shall be furnished with each lot of pipe supplied. All P.V.C. pipe shall bear the National Sanitation Foundation Seal of Approval.

- C. Plastic Tubing – Tubing for service lines shall be:

Polyethylene Tubing: CTS PE 3408 conforming to all requirements of AWWA C–901 and ASTM D–2737 (SDR9). The tubing shall be copper tubing size and rated for a minimum working pressure of 200 p.s.i. Marking on the tubing shall include: nominal tubing pipe size; type of tubing material – PE 3408; SDR 9; pressure rating – 200 p.s.i.; ASTM D–2737; manufacturer’s name and seal of the National Sanitation Foundation.

2.3 JOINTS

- A. Flanged Joints – Shall conform to ANSI A–21.15 (AWWA C–115). Bolts shall conform to ANSI B–18.2.1 and nuts shall conform to ANSI B–18.2.2. Gaskets shall be rubber, either ring or full face,

and shall be 1/8 inch thick. Gaskets shall conform to the dimensions recommended by AWWA C-115 latest revision.

- B. Mechanical Joints – In ductile iron pipe shall conform to ANSI A-21.11 (AWWA C-111).
- C. Push-On-Joints – In ductile iron pipes shall conform to ANSI A-21.11 (AWWA C-111).
- D. Plastic Pipe – Joints in plastic pipe 4 inches and larger shall meet all requirements of AWWA C-900. Joints in plastic pipe 14 inches through 18 inches shall meet all requirements of AWWA C905. Joints in plastic pipe with a diameter less than 4 inches shall conform to ASTM D-3139.
- E. Restrained Joints – Restrained joints for pipe, valves and fittings shall be mechanical joints with ductile iron retainer glands equivalent to "Megalug" or push-on type joints equivalent to "Lok-Ring," "TR Flex," or "Super Lock" and shall have a minimum rated working pressure of 250 p.s.i. for ductile iron pipe and 100 p.s.i. with a minimum safety factor of 2:1 for PVC pipe. The joints shall be in accordance with the applicable portions of AWWA C-111. The manufacturer of the joints shall furnish certification, witnessed by an independent laboratory, that the joints furnished have been tested without signs of leakage or failure. Restrained joints shall be capable of being deflected after assembly.
- F. Natural rubber or other material which will support microbiological growth may not be used for any gaskets, o-rings, and other products used for jointing pipes, setting meters and valves or other appurtenances which will expose such material to water.

2.4 FITTINGS

- A. Fittings for Ductile Iron or Plastic Pipe – Shall be ductile iron, manufactured in accordance with ANSI A-21.53 (AWWA C-153). They shall be cement lined in accordance with ANSI A-21.4 (AWWA C-104). Fittings shall be designed to accommodate the type of pipe used.
- B. Fittings for Flanged Pipe – Shall be manufactured in accordance with ANSI A-21.10 (AWWA C-110), Class 125 flanges.
- C. Fittings for Plastic Pipe – Less than 4 inches shall be PVC with ring tite rubber joints conforming to ASTM D-3139.

2.5 GATE VALVES

- A. Two Inches and Larger – Shall be cast iron or ductile iron body, bronze mounted, double disc or resilient wedge design, with non-rising stems, conforming to AWWA C-500, C-509, or C-515. Valves shall have a working pressure of 200 p.s.i. and be tested at 400 p.s.i.

Valves shall be furnished with "O" ring packing. Two "O" rings shall be located above the thrust collar and one "O" ring below. The thrust collar shall be permanently lubricated and have an anti-friction washer on top of the thrust collar.

Valves installed in pits or above ground shall be furnished with hand wheels. Buried valves shall be furnished with square operating nuts.

- B. Smaller than 2 Inches – Shall be all brass, ball valve type. The pressure rating shall be 175 p.s.i.
- C. Valve Boxes – Underground valves shall be installed in acceptable valve boxes. The valve boxes shall have a suitable base which does not damage the pipe, and shaft extension sections to cover and protect the valve and permit easy access and operation. The box, cover, and any extensions

needed shall be cast or ductile iron having a crushing strength of 1,500 pounds per linear foot. Valve boxes shall conform to the detail shown.

D. Valve Manholes –

1. Masonry – Shall be new whole brick of good quality laid in masonry mortar or cement mortar made of 1 part Portland cement and 2 parts clean sharp sand. Every brick shall be fully bedded in mortar. Manholes shall conform to the locations and details shown on the plans.
2. Precast Concrete – Shall be reinforced concrete constructed in accordance with ASTM C 478 and the details shown on the plans “Precast Concrete Manholes.” The joints shall be tongue and groove sealed with flexible gaskets or mastic sealant. Gaskets shall be O-Ring or equivalent to Type A or B “Tylox” conforming to ASTM C 443. Mastic shall be equivalent to “Ram-nek” with primer. The primer shall be applied to all contact surfaces of the manhole joint at the factory in accordance with the manufacturer’s instructions.
3. Frames and Covers – Shall be cast iron equivalent to the following:

Neenah Foundry Co. R-1668 Type “C” Lid

E. Flush valves – Shall conform to the details shown.

2.6 BUTTERFLY VALVES

A. All butterfly valves shall be of the tight-closing, rubber seated type, with rubber seat positively locking in place sealing against flow from either direction. No metal-to-metal seating surfaces will be permitted. Valves shall be bubble-tight at rated pressures with flow in either direction. Butterfly valves shall conform to ANSI/AWWA C504, Class 150B. Butterfly valves shall not be used on pipe smaller than 14-inches unless otherwise specified.

1. Valve body end connections for buried valves shall be installed using restrained joints equivalent to those manufactured by EBAA Iron, Inc.
2. Valve shafts shall be stainless steel and may consist of a one-piece unit or may be the “Stub Shaft” type. A stub shaft comprises two separate shafts inserted into the valve disc hubs. Each stub shaft shall be inserted into the valve disc hubs for a distance of at least 1 ½ shaft diameters.
3. Valve discs shall be solid ductile iron with an epoxy coating making it corrosion resistant. The thickness of the discs shall not exceed 2 ¼ times the shaft diameter.
4. Valve seats shall be natural or synthetic rubber providing 360 degrees uninterrupted seating. The resilient seat shall be adjustable or replaceable in the field without burning or grinding. The seat shall be molded over a stainless steel ring for support and secured to the disc by corrosion resistant, self locking stainless steel screws.
5. All internal ferrous metal surfaces in the waterway shall be factory coated with a non-toxic, to-component, holiday-free, thermosetting epoxy to a nominal thickness of 4 mils.
6. All butterfly valves shall be manually operated. Operators shall be of the traveling nut, self-locking type and shall be designed to hold the valve in any intermediate position without creeping or fluttering. Operators shall be furnished with externally

adjustable mechanical stop limiting devices. Valves shall have a 2-inch square operating nut and shall be installed with extension stem to extend the operating nut in accordance with the project details. The operator shall be integrally mounted on the valve mounting flange and shall have a gearing totally enclosed for buried service. Maximum force for operating nut shall be 40 pounds.

- B. Valve Boxes – Underground valves shall be installed in approved valve boxes. The valve boxes shall have a suitable base that does not damage the pipe, and shaft extension sections to cover and protect the valve and permit easy access and operation. The cover, box, and any extensions needed shall be cast or ductile iron having a crushing strength of 1,500 pounds per linear foot. Valve boxes shall conform to the detail shown.

2.7 AIR RELEASE, AIR/VACUUM AND COMBINATION AIR VALVES

- A. Shall be designed for water service with a minimum working pressure of 100 p.s.i. The valve shall be constructed of a cast iron body, stainless steel or bronze trim, and stainless steel float. The inlet shall be 2 inches, 5/16-inch orifice, and a minimum venting capacity of 35 c.f.f.a.m. It shall conform to the detail shown on the drawings. Valves shall conform to AWWA C 512 and equivalent to Crispin or Valmatic.

2.8 FIRE HYDRANTS

- A. General – Hydrants shall be manufacturer's current model design and construction. All units to be complete including joint assemblies. Physical characteristics and compositions of various metal used in the hydrant components shall meet the requirements as specified in AWWA C-502 latest revisions. Hydrants shall be suitable for working pressure of 150 p.s.i.
- B. Bonnet – Bonnet may have oil filled or dry reservoir. If oil filled, bonnet must have "O" ring packing so all operating parts are enclosed in a sealed oil bath. Oil filler plug shall be provided in bonnet to permit checking of oil level and adding oil when required. If dry type, hydrant top must have lubricating hole or nut for ease of lubrication. All parts must be removed through top of hydrant without moving entire barrel section from safety flange.
- C. Nozzles and Caps – The hydrant shall have 2 ½ inch connections and 4 ½ inch steamer connection, National standard threads. Nozzles shall be bronze and have interlocking lugs to prevent blowout. Nozzle caps shall be secured to fire hydrant with non-kinking type chain with chain loop on cap ends to permit free turning of caps.
- D. Seat Ring – Seat ring shall be bronze.
- E. Drain Valves and Openings – Positive operating drain valves shall be provided to assure drainage of fire hydrant when the main valve is closed. Drain openings shall have bronze bushings.
- F. Main Valve – Valve shall be designed to close with the pressure and remain closed. Valve shall be made from material resisting damage from rocks or other foreign matter. Valve shall have a full 5 ¼ -inch opening.
- G. Barrel and Safety Flanges – Hydrants shall have a safety-type vertical barrel with 3-1/2 foot bury and be designed with safety flanges and/or bolts to protect the barrel and stem from damage and to eliminate flooding when hydrant is struck. Bury depth shall be cast on barrel of hydrant.
- H. Operating Stop and Nut – Hydrant shall have a positive stop feature to permit opening of hydrant without over travel of stem. Operating nut shall be bronze, 1-1/2-inch, point to flat, pentagon.
- I. Bolts and Nuts – Bolts, washers and nuts shall be corrosion resistant.

- J. Inlet – Bottom inlet of hydrant shall be provided with mechanical joint connection as specified and shall be 6–inch nominal diameter.
- K. Direction of Opening – Hydrant shall be designed to close "right" or clockwise and open "left" or counter–clockwise.
- L. Coatings – All inside and outside portions of hydrant shall be coated in accordance with AWWA C–502. The exterior portion of hydrant above ground level shall be painted with two coats of best grade zinc chromate primer paint and with two coats of approved hydrant enamel. Color shall be Factory Safety Yellow unless otherwise designated by Owner.
- M. Joint Assemblies – Complete joint assemblies consisting of gland, gasket, bolts, and nut shall be furnished for mechanical joint inlets.

2.9 SERVICE CONNECTIONS

- A. Taps in pipe larger than 3 inches shall be made with a tapping machine. A corporation stop shall be installed at the connection to the main. The corporation stop shall be brass manufactured in conformance with AWWA C–800. Inlet and outlet threads shall conform to AWWA C–800.

Corporation stops shall be 1 inch equivalent to Mueller H–15008 or B–25008 with a stainless steel stiffener. Service saddles shall have 1 inch AWWA taps, equal to Ford Styles 202B or S70. Contractor shall adhere to pipe manufacturer's recommendations on maximum tap sizes for each main size.

- B. Taps for services in PVC pipe 3 inches and smaller shall be equivalent to Romac Industries Style 306 Saddle or a PVC Tee. The connection shall be capable of withstanding internal water pressure continuously at 150 p.s.i. House service lines will be 1–inch polyethylene tubing with a curb stop at the property line. The end of the service lateral at the property line shall be marked with a 2 x 4 stake, 36 inches long with the top 6 inches above the ground and painted blue. The depth of the pipe shall be marked on the back of the stake. Location of service line must appear on the "as–built" information and record drawings.

2.10 TAPPING SLEEVES

- A. Shall be mechanical joint type sized to fit the intercepted pipe. They shall have duck–tipped end gaskets and shall be equal to Mueller H–615/715 with a tapping valve attached. The outlet end of the valve shall have a joint suitable for the type of pipe to be used in the new branch. Sleeve shall be sized to fit the intercepted pipe without leaking.

2.11 CURB STOPS

- A. At the end of the service line, where the meter is to be installed, a 1–inch brass ball valve shall be installed. The unconnected end shall be closed inside I.P. thread. All ball valves shall be ¼ turn valves and the full open and closed position shall be controlled by check lugs. The pressure rating shall be 175 p.s.i. The ball valves shall be equivalent to Ford Ball Valve No. B41–444W.

2.12 BACKFLOW PREVENTER ASSEMBLY

- A. Reduced Pressure – Shall consist of two independently operating check valves, one differential relief valve located between the two check valves, two resilient seat gate valves, and four properly placed resilient seated test cocks. Backflow preventer 2 inches and smaller shall have a bronze

valve body. Backflow preventer greater than 2 inches shall be ductile iron or stainless steel. All internal parts in the check and relief valves shall be made of series 300 stainless steel or polymer materials suitable for potable water and rated for 175 p.s.i. working pressure. The assembly shall be constructed so all internal parts can be serviced or removed while in line. Assembly must be factory assembled and tested. Backflow preventer shall be equivalent to Febco Model 860 or Ames Model 4000 SS.

- B. Double Check – Shall consist of two independently operating check valves, two resilient seat gate valves, and four properly placed resilient seated test cocks. Backflow preventer 2 inches and smaller shall have a bronze valve body. Backflow preventer greater than 2 inches shall be ductile iron or stainless steel. All internal parts in the check valves shall be made of Series 300 stainless steel or polymer materials suitable for potable water and rated for 175 p.s.i. working pressure. The assembly shall be constructed so all internal parts can be serviced or removed while in line. Assembly must be factory assembled and tested. Backflow preventer shall be equivalent to Febco Model 805 YD or Ames Model 2000 SS.

2.13 CASING

- A. Casing pipe shall be steel conforming to ASTM A 139, yield point of 35,000 p.s.i., of the diameter shown on the contract drawings for each crossing. The minimum wall thickness shall be 0.25 inches.

2.14 CASING SPACERS

- A. Casing spacers shall be bolt on style with a shell made in two sections of a minimum 14-gauge T-304 Stainless Steel. Connecting flanges shall be ribbed for extra strength. The shell shall be lined with a PVC liner. All nuts and bolts shall be T-304 Stainless Steel. Runners shall be made of Ultra High Molecular Weight Polymer with inherently high abrasion resistance and a low coefficient of friction. The combined height of supports and runners shall keep carrier pipe a minimum of 0.75 inches from casing pipe at all times. Casing Spacers shall be as manufactured by Cascade Waterworks Manufacturing Company, or accepted equivalent.

2.15 METAL DETECTOR TAPE

- A. The tape shall consist of 0.35 mils thick solid foil core encased in a protective plastic jacket resistant to alkalis, acids, and other destructive elements found in the soil. The lamination bond shall be strong enough the layers cannot be separated by hand. Total composite thickness to be 5.0 mils. Foil core to be visible from unprinted side to ensure continuity. The tape shall have a minimum 3-inch width and a tensile strength of 35 lbs. per inch.

A continuous warning message indicating “potable water” repeated every 16 inches to 36 inches shall be imprinted on the tape surface. The tape shall contain an opaque color concentrate designating the color code appropriate to the line being buried (Water Systems – Safety Precaution Blue).

2.16 TRACING WIRE

- A. Tracing wire shall be # 12 gauge insulated single strand copper wire.

2.17 PRODUCT REVIEW

- B. Contractor shall provide the Engineer with a complete description of all products before ordering. The Engineer will review all products before they are ordered.

PART 3 – EXECUTION

3.1 ON-SITE OBSERVATION

- A. Owner's Representative or Engineer shall have the right to require any portion of work be completed in their presence. If any work is covered up after such instruction, it shall be exposed by the Contractor for observation. However, if Contractor notifies Engineer such work is scheduled, and Engineer fails to appear within 48 hours, the Contractor may proceed. All work completed and materials furnished shall be subject to review by the Engineer or Project Representative. Improper work shall be reconstructed. All materials which do not conform to requirements of specifications shall be removed from the work upon notice being received from Engineer for rejection of such materials. Engineer shall have the right to mark rejected materials to distinguish them as such.

Contractor shall give the Project Engineer or Project Representative a minimum of 48-hours' notice for all required observations or tests.

It will also be required of Contractor to keep accurate, legible records of the location of all water lines, service laterals, valves, fittings, and appurtenances. These records will be prepared in accordance with the paragraph on "Record Data" in Special Conditions. Final payment to the Contractor will be withheld until all such information is received and accepted.

3.2 INSTALLATION

- A. Ductile iron pipe shall be laid in accordance with AWWA C-600; Plastic pipe shall be laid in accordance with AWWA C 605, ASTM D 2774, UNI-Bell UNI-B 3 and the pipe manufacturer's recommendations. The standards are supplemented as follows:
 - 1. Depth of Pipe – Contractor shall perform excavation of whatever substances are encountered to a depth providing a minimum cover over top of pipe of 36 inches from the existing or proposed finished grade, unless pipe material is steel, concrete, ductile iron, or other accepted material, and if exposed, should be insulated to prevent freezing.
 - 2. Alignment and Grade – Water mains shall be laid and maintained to lines and grades established by the plans and specifications, with fittings, valves, and hydrants at required locations unless otherwise accepted by Owner. Valve-operating stems shall be oriented in a manner to allow proper operation. Hydrants shall be installed plumb.
 - a. Prior Investigation – Prior to excavation, investigation shall be made to the extent necessary to determine location of existing underground structures, utilities, and conflicts. Care shall be exercised by the Contractor during excavation to avoid damage to existing structures and utilities. Pipe manufacturer's recommendations shall be used when the watermain being installed is adjacent to a facility cathodically protected.
 - b. Unforeseen Obstructions – When obstructions not shown on plans are encountered during progress of work and interfere so an alteration of the plans is required, Owner will alter plans, or order a deviation in line and grade, or arrange for removal, relocation, or reconstruction of obstructions.
 - c. Clearance – When crossing existing pipelines or other structures, alignment and grade shall be adjusted as necessary, with the acceptance of Engineer, to provide clearance

as required by federal, state, and local regulations or as deemed necessary by Engineer to prevent future damage or contamination.

3. Trench Construction – The trench shall be excavated to alignment, depth, and width specified or shown on plans and shall be in conformance with all federal, state, and local regulations for protection of workers.
4. Joint Restraint – All hydrants, bends, plugs, valves, caps and tees on 2 inch pipe and larger, shall be provided with stainless steel tie rods or joint restraints equivalent to Megalugs. Additional restraint shall be as indicated on the drawings.
5. Anchorage for Hydrants – A concrete block 1-foot x 1-foot x 2 feet shall be poured between back of hydrant and undisturbed earth of the trench side without covering weep holes and bolts. Joint restraints equivalent to Megalugs manufactured by EBAA Iron may be used in lieu of concrete blocking.
6. Hydrostatic and Leakage Tests – Ductile iron pipe shall be tested in accordance with AWWA Standard C 600, Section 5.2 – Hydrostatic Testing. Allowable leakage shall not exceed the formula $L = \frac{SDP^{1/2}}{148,000}$, in which L is allowable leakage in gallons per hour; S is length of pipe in feet tested; D is nominal diameter of pipe in inches; and P is average test pressure during leakage test in pounds per square inch gauge. Test shall be conducted for at least 2 hours and a pressure of 150 p.s.i. shall be maintained during the test. Fire lines shall be tested at 225 p.s.i. for the same duration.

P.V.C. pipe shall be tested in accordance with AWWA Standard C 605, Section 7.3 – Hydrostatic Testing. Allowable leakage shall not exceed formula $Q = \frac{LDP^{1/2}}{148,000}$, in which Q is allowable leakage in gallons per hour; L is length of pipe in feet tested; D is nominal diameter of the pipe in inches; and P is average test pressure during leakage test in pounds per square inch gauge. Test shall be conducted for at least 2 hours and a pressure of 150 p.s.i. shall be maintained during the test. Fire lines shall be tested at 225 p.s.i. for the same duration.

Should any test of pipe laid disclose leakage greater than the above specified, Contractor shall, at its own expense, locate and repair defective joints until leakage is within specified allowance. Contractor is responsible for notifying the Engineer 48 hours (minimum) prior to applying pressure for testing. Pressure test will be witnessed by Engineer or Project Representative. All visible leaks shall be repaired regardless of the leakage amount.

7. Bedding, Backfilling, and Compaction – Continuous and uniform bedding shall be provided for all buried pipe. All trenches and excavation shall be backfilled immediately after pipes are laid therein, unless other protection of the pipe line is directed. The backfilling material shall be selected and deposited with special reference to future safety of the pipes. The material shall be completely void of rocks, stones, bricks, roots, sticks, or any other debris causing damage to pipe and tubing or preventing proper compaction of backfill. Except where special methods of bedding and tamping are provided for, clean earth or sand shall be solidly tamped about pipe up to a level at least 2 feet above top of pipes, and shall be carefully deposited to uniform layers, each layer solidly tamped or rammed with proper tools to not injure or disturb the pipeline. The remainder of trench backfilling shall be carried on simultaneously on both sides of pipe in such manner preventing injurious side pressure. Material used shall be selected from excavations anywhere on site if any of the soil is suitable. Stones, other than crushed bedding, shall not come in contact with the pipe and shall not be within 6 inches of any pipe.

Under traffic areas, the top 24 inches of backfill material shall be compacted to a density of not less than 98% of maximum laboratory density at optimum moisture as determined by ASTM D 6938. Below the 24 inch line, and including area around pipe, density shall not be less than 95% of maximum laboratory density, at optimum

moisture. In areas other than traffic areas, the backfill shall be compacted to 90% of maximum laboratory density at optimum moisture.

Whenever trenches have not been properly filled, or if settlement occurs, they shall be refilled, smoothed off, and finally made to conform to the ground surface. Backfilling shall be carefully performed, and the original surface restored to full satisfaction of Engineer immediately after installation.

Where thermoplastic (PVC) pipe is installed, Contractor shall take precautions, in accordance with ASTM D-2774, during backfilling operations, not to create excessive side pressures, or horizontal or vertical deflection of the pipe, nor impair flow capacity.

8. New Service Connections – Contractor shall tap the main and install a service connection to each vacant lot or as directed by Engineer in accordance with detail shown on plans for Water Service Connections. Plastic tubing for service lines shall be installed in a manner preventing abrupt changes or bends in any direction. Contractor shall exercise extreme caution to prevent crimping of the tubing during handling, storage, and installation. Tubing shall have an absolute positive connection to the water main to prevent leakage. Taps shall be made perpendicular to the main. A water service connection shall be marked on the curb with a “W.” The mark shall be made with a branding iron on vertical face of curb and shall be a minimum of 1/4-inch in depth.
9. Detection Tape – Detection tape will be used over all pipe and tubing. The tape shall be laid 18 inches below finished grade.
10. Tracing Wire – Tracing wire will be installed on all water mains and water service laterals directly on top of the water line. The wire shall be secured to the pipe with tape or other acceptable methods at spacings of no more than 36 inches apart. Where water service laterals connect to water mains, the wire insulation shall be stripped so bare wires can and shall be jointed securely together and wrapped with a rubberized insulation tape. The insulated wire must maintain electrical continuity. The tracing wire shall also be stubbed up into each valve box and at each fire hydrant. Stub up connections shall be stripped, joined and wrapped as previously described for water service laterals. This tracing wire system shall be checked and tested by Contractor, in the presence of Engineer or water department, prior to acceptance of water main installation. All equipment, meters, detectors, etc., needed for testing shall be furnished by the Contractor.
11. Jacking and Boring – Steel casing of diameter shown on the plans shall be jacked and bored in location indicated. Joints between sections of the steel casing shall be of a continuous weld made by a certified welder. Jacking and boring shall be in accordance with the State Department of Transportation Standard Specifications. Carrier pipe shall be installed as shown on the detail. After carrier pipe has been installed, ends of the casing shall be sealed using a rubber enclosure and stainless steel straps or brick and mortar.

Where work involves a highway, Resident Engineer of the State Department of Transportation shall be notified 3 days before crossing is started. Where the work involves a railroad, installation shall conform to requirements of AREA specifications. Division Superintendent of the Railroad shall be notified 3 days prior to beginning work. Before commencing work within right-of-way of railroads or highways, Contractor shall verify the Owner has obtained required permits.

12. Lubricants – Lubricate pipe before jointing per manufacturer's recommendations using acceptable lubricants. Lubricants that will support microbiological growth shall not be used. Vegetable shortening shall not be used to lubricate joints.
13. Hydrant drains shall not be connected to or located within 10-feet of sanitary sewers. No flushing device shall be directly connected to any sewer.

14. Pipe for above water crossings shall be adequately supported and anchored, protected from damage and freezing, and accessible for repair or replacement.
15. Underwater line crossings shall have a minimum 2 feet of cover over the pipe. When crossing water courses greater than fifteen 15 feet in width, the following shall be provided:
 - a. The pipe material and joints shall be designed appropriately.
 - b. Valves shall be located on both sides of crossing so the section can be isolated for testing or repair. Valves shall be easily accessible and not subject to flooding.
 - c. A blow-off shall be provided on the side opposite the supply, sized in accordance with State Drinking Regulation Section R.61-58.4(D)(7). Direct blow-off away from streams, over ground.
 - d. Provide ductile iron pipe with mechanical joints for any lines installed in rock.

3.3 AIR RELEASE, AIR/VACUUM AND COMBINATION AIR VALVES

- A. Valves shall be installed in locations as shown on the contract drawings. The Contractor shall verify high points in the water line and notify Engineer of differing conditions from the drawings.
- B. Valves shall be opened during initial filling of the water main. Valves shall be closed during hydrostatic testing. Once tested and the system is accepted for operation, valves shall be opened when water lines are put on line.

3.4 CONNECTIONS OF WATER MAINS

- A. Any physical connection of untested water mains with existing water mains is prohibited except when acceptable backflow prevention devices have been installed and checked by Engineer or Engineer's Representative.
 1. Any new water main to be tested must be capped and restrained with retaining glands or thrust blocks to prevent blow out or leakage during the pressure testing.
 2. Water for filling or flushing a new water main will be obtained through a Temporary Jumper Connection to the existing main. Appropriate taps of sufficient size must be made at the end of new system to allow air to escape during filling sequence.
 3. This physical tie-in with the existing system must be physically disconnected after sufficient water for hydrostatic testing and disinfection has been obtained.
 4. Once the new water system has demonstrated adequate hydrostatic testing and has been flushed and chlorinated in accordance with paragraph 3.5, the new system or main will then be subjected to bacteriological testing.
 5. Permanent connection to the new system must be made with clean materials. The connection may be made with either solid or split ductile iron sleeves. Any connection with stainless steel or similar metal full circle clamps is prohibited. Once connection has been made, the new system must be flushed using water from existing system to insure adequate flow and velocity into new water system.

3.5 DISINFECTION

- A. After hydrostatic and leakage tests have been completed, water pipes shall be disinfected in accordance with AWWA C 651 and Regulations of the local Health Department.

All new mains shall be thoroughly flushed then chlorinated with not less than fifty parts per million (50 ppm) of available chlorine. Chlorine gas or 70% high-test calcium hypochlorite can be used. Water from existing distribution system or other source of supply should be controlled to flow slowly into the newly laid pipeline during application of chlorine. The solution shall be retained in pipeline for not less than 24 hours and a chlorine residual of 25 ppm shall be available at this time. Then system shall be flushed with potable water and the sampling program started. Prior to sampling, the chlorine residual must be reduced to normal system residual levels or be non-detectable in those systems not chlorinating. Normal system residual should be between 0.2 and 0.8 ppm. The chlorine residual shall be measured and reported. If the membrane filter method of analysis is used for coliform analysis, non-coliform growth must also be reported. If non-coliform growth is greater than eighty colonies per one hundred milliliters, the sample result is invalid and must be repeated.

A minimum of two samples from each sampling site shall be collected for total coliform analysis. The number of sites depends on amount of new construction, but must include all dead end lines, be representative of water in newly constructed mains, and shall be collected a minimum of every 1,200 linear feet. Each set of samples shall be taken at least 24 hours apart after disinfection and tested by a State approved lab and shall indicate bacteriological satisfactory water. Contractor shall submit results to the Engineer.

3.6 PARTIAL ACCEPTANCE OF THE WORK

- A. Owner reserves right to accept and use any portion of the work. Engineer shall have power to direct on what line Contractor shall work and the order thereof.

3.7 GRASSING

- A. Grassing of areas disturbed during construction shall be in accordance with the Section 32 92 00 "Turf and Grasses."

3.8 SEPARATION BETWEEN WATER AND SANITARY SEWER OR FORCE MAIN

- A. Water mains shall be laid at least 10 feet horizontally from any existing or proposed sanitary sewer or force main. Deviation may be allowed for installation of the water main closer to a sanitary sewer or force main, provided water main is laid in a separate trench, where bottom of water main is at least 18-inches above top of sanitary sewer or force main. Water mains crossing sanitary sewers or force mains shall be laid to provide a minimum vertical distance of 18 inches between the invert of water main and top of sanitary sewer or force main line; both water and sanitary sewer or force main lines must be ductile iron when laid in violation of separation requirements. At all water and sanitary sewer or force main crossings, one full length of water pipe shall be located so both joints will be as far from the sanitary sewer or force main as possible.
- B. When it is impossible to obtain distances specified in Section R.61-58.4(D)(12)(a) and (b) of the State Primary Drinking Water Regulations, an alternate, SCDHEC accepted design may be allowed. The alternate design must:
 - 1. maximize distances between the water main and sewer line and joints of each;
 - 2. use materials which meet requirements cited in Section R.61-58.4(D)(1) of the State Primary Drinking Water Regulations for sewer line; and

3. Allow enough distance to make repairs to one of the lines without damaging other.

3.9 REMOVE AND REPLACE PAVEMENT

- A. Pavement shall only be removed after prior written authorization by the Owner. Pavement removed and replaced shall be constructed in accordance with latest specifications of the State Department of Transportation. Traffic shall be maintained and controlled per State Department of Transportation regulations.

Edges of the pavement shall be cut to a neat straight line with a masonry saw. Backfill shall be compacted and tested and a concrete base course of 5,000 p.s.i. placed on compacted fill as shown in the details. The concrete base shall be placed within 24 hours after water line is installed. A temporary wearing surface may be used provided it presents a smooth surface. The final wearing surface shall be 1-1/2 inches asphaltic concrete, Type C.

3.10 FIELD QUALITY CONTROL

- A. Soil and density tests shall be made by a testing laboratory acceptable to Engineer. Laboratory tests of the soil shall be made in accordance with ASTM D 1557. In-place density tests shall be made in accordance with ASTM D 6938. Results of tests shall be furnished to the Engineer.

The minimum number of tests required shall be:

Backfill over pipe
in traffic areas. 1 per 100 linear feet or less for each 4 feet of depth or portion thereof.

Backfill over pipe
in non-traffic areas. 1 per 500 linear feet or less for each 4 feet of depth or portion thereof.

The minimum percent of backfill compaction, in accordance to ASTM D1557, shall be the following:

In traffic Areas. 98% of maximum laboratory density.

In non-traffic Areas. . .90% of maximum laboratory density, unless otherwise accepted by the Engineer.

END OF SECTION

17. SANITARY SEWER SYSTEM SPECIFICATION

SECTION 333000 – SANITARY SEWERAGE UTILITIES

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Sewer Pipes.
- B. Manholes.

- C. Connect to existing system.
- D. All necessary appurtenances to collect the sanitary sewerage and deliver it to the existing system.
- E. Pumping Station
- F. Force Main

1.2 RELATED SECTIONS

- A. Section 31 00 00 – Earthwork.
- B. Section 33 10 00 – Water Utilities.

1.3 OPTIONS

- A. The specifications describe several materials. The Owner will select ones to be used. Where manufacturers and models of equipment are named in the specifications, it is intended these are to describe quality and function required. Contractor may use equipment or materials of other manufacturers provided they are reviewed and accepted by the Engineer, South Island PSD and Owner as equivalent to those specified.

1.4 REFERENCES (Latest Revision)

- A. ASTM D 3740 – Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- B. ASTM E 329 – Agencies Engaged in Construction Inspection and/or Testing.
- C. ASTM D 3034 – Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
- D. ASTM D 2321 – Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity–Flow Applications.
- E. ANSI/AWWA C 150/A 21.50 – Thickness Design of Ductile Iron Pipe.
- F. ANSI/AWWA C 151/A 21.51 – Ductile Iron Pipe, Centrifugally Cast, for Water, or other liquids.
- G. ASTM A 746 – Ductile Iron Gravity Sewer Pipe.
- H. ASTM D 3212 – Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.
- I. ASTM F 477 – Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
- J. ASTM D 2241 – Poly (Vinyl Chloride) (PVC) Pressure–Rated Pipe (SDR Series).
- K. ASTM D 3139 – Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.
- L. ASTM A 139 – Electric–Fusion (Arc) Welded Steel Pipe (NPS 4 and Over).
- M. ASTM C 478 – Precast Reinforced Concrete Manhole Sections.

- N. ASTM C 443 – Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
- O. ACI 318 – Building Code Requirements for Structural Concrete.
- P. ASTM C 39/C 39M – Compressive Strength of Cylindrical Concrete Specimens.
- Q. ASTM C 890 – Minimum Structural Design Loading for Monolithic or Sectional Precast Concrete Water and Wastewater Structures.
- R. ASTM C 891 – Installation of Underground Precast Concrete Utility Structures.
- S. ASTM C 913 – Precast Concrete Water and Wastewater Structures.
- T. ASTM A 615/A 615 M – Deformed and Plain Carbon – Steel Bars for Concrete Reinforcement.
- U. ANSI/AWWA C-500 – Metal-Seated Gate Valves for Water Supply Service.
- V. ANSI/AWWA C-509 – Resilient-Seated Gate Valves for Water Supply Service.
- W. ASTM D-6938 – In-Place Density and Water Content of Soil and Soil-Aggregate By Nuclear Methods (Shallow Depth).
- X. ASTM D-1557 – Laboratory Compaction Characteristics of Soil Using Modified Effort.
- Y. ASTM D 714 – Evaluating Degree of Blistering of Paints.
- Z. ASTM D 2794 – Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
- AA. ASTM E 96 – Water Vapor Transmission of Materials.
- BB. ASTM G 154 – Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials.
- CC. ANSI/AWWA C 111/A 21.11 – Rubber-Gasket Joints for Ductile Iron Pressure Pipe and Fittings.
- DD. ASTM A 377 – Index of Specifications for Ductile Iron Pressure Pipe.
- EE. ANSI/AWWA C 600 – Installation of Ductile Iron Water Mains and their appurtenances.
- FF. ANSI/AWWA C115/A21.15 – Flanged Ductile Iron Pipe with Ductile Iron or Gray Iron Threaded Flanges.
- GG. ASTM D 2774 – Underground Installation of Thermoplastic Pressure Piping.
- HH. ASTM F 1417 – Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air.
- II. ANSI/AWWA C900 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 Inches through 12 inches, for Water Transmission and Distribution.
- JJ. ANSI/AWWA C905 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 Inches through 48 inches, for Water Transmission and Distribution.

1.5 MEASUREMENT AND PAYMENT

- A. Measurement – Items listed in the proposal shall be considered as sufficient to complete work in accordance with plans and specifications. Any portion of work not listed in the bid form shall be

deemed to be a part of item it is associated with and shall be included in costs of unit shown on bid form. Payment for unit shown on the bid form shall be considered satisfactory to cover cost of all labor, material, equipment, and performance of all operations necessary to complete work in place. The unit of measurement shall be unit shown on bid form. Payment shall be based upon the actual quantity multiplied by unit prices. Where work is to be performed at a lump sum price, the lump sum shall include all operations and elements necessary to complete work.

B. Payment

1. Gravity Sewer Pipe – Measurements will be made between the centers of manholes or to other pipe ends. No deduction will be made for the space occupied by fittings. Payment will be made at the contract unit price per linear foot for each pipe size at various depths of cut. Depths of cut are measured from existing ground unless otherwise noted. Payment will include cost of pipe, plugs, dewatering, excavating all material, testing, backfilling, compaction, cleaning, metal detector tape, tracing wire, and all work necessary to complete the sewer lines.
2. Trench Wall Supports – No separate payment will be made for bracing and sheeting.
3. Manholes – Payment for manholes will be made at the unit price for various types and depths. Manhole depths are measured from invert to proposed finish grade unless otherwise noted. Payment shall include cost of excavating, dewatering, constructing manholes in accordance with plans, furnishing and installing a frame and cover, steps, interior and exterior coatings, pipe connectors, backfilling, and compacting material around the manhole.
4. Stone Bedding – Will be measured by using the length and depth for which stone is specified by Engineer or Geotechnical Consultant, times a width of 4 feet wider than outside barrel of pipe. Payment will include cost of removing unsuitable material and furnishing and placing the stone.
5. Sand Bedding – Will be measured by using the length and depth for which sand is specified by Engineer or Geotechnical Consultant, times a width of four feet wider than outside barrel of pipe. Payment will include excavating the unsuitable material below the invert, furnishing, and compacting the sand bedding.
6. Service Connection – Payment will be made at the contract unit price. Payment shall include the fitting, plug, and marking stake.
7. Metal Detector Tape – No separate payment will be made for tape. Cost of furnishing and placing metal detector tape shall be included in the contract unit price for installing sewer and force main pipe.
8. Laterals – Shall be measured from center of main to the point where lateral reaches property line. Payment will include furnishing the pipe, excavation, installation, metal detector tape, tracing wire, backfilling, compaction, and all work and materials necessary to complete laterals.
9. Grassing – There will be no separate measurement or payment. Grassing shall be a subsidiary obligation of Contractor in the restoration of disturbed areas.
10. Remove and Replace Existing Pavement – Payment will be made on a square yard basis, and in accordance with the detail shown.
11. Connect Sewers to Existing Structures – Payment will be made at the contract unit price for each pipe size connected. For precast structures payment shall include cost of dewatering, excavation, coring, furnishing and installing flexible sleeve, installing and

connecting pipe to sleeve, backfilling, compaction, clean-up, and all work necessary to complete the connection. For brick structures, payment shall include cost of dewatering, excavation, cutting a hole, installing and grouting in pipe, backfilling, compaction, cleanup, and all work necessary to complete the connection.

1.6 QUALITY ASSURANCE

- A. Contractor will furnish the Engineer and Owner a description of all material before ordering. Engineer will review the Contractor's submittals and provide in writing an acceptance or rejection of material.
- B. Where ductile iron pipe is indicated on the plans, or required by Engineer, it shall be used.
- C. Material and equipment shall be the standard products of a manufacturer who has manufactured them for a minimum of two years and provides published data on their quality and performance.
- D. A subcontractor for any part of the work must have experience on similar work, and if required, furnish Engineer with a list of projects and Owners or Engineers who are familiar with its competence.
- E. If Contractor wishes to furnish devices, equipment, structures, and systems not designed by Engineer, these items shall be designed by either a Professional Engineer registered in the project state or by someone Engineer accepts as qualified. If required, complete design calculations and assumptions shall be furnished to the Engineer or Owner before acceptance.
- F. Testing shall be by a testing laboratory which operates in accordance to ASTM D 3740 or E 329 and shall be acceptable to Engineer prior to engagement. Mill certificates of tests on materials made by manufacturers will be accepted provided the manufacturer maintains an adequate testing laboratory, makes regularly scheduled tests, spot checked by an outside laboratory, and furnishes satisfactory certificates with name of entity making test.
- G. Infiltration, line and grade of sewer, pump performance, and hydrostatic tests on force mains shall be made by Contractor with equipment qualified by Engineer and in the presence of Engineer. Engineer or Project Representative reserves the right to accept or reject testing equipment.

1.7 PRODUCT DELIVERY, STORAGE & HANDLING

- A. Material shall be unloaded in a manner avoiding damage and shall be stored where it will be protected and will not be hazardous to traffic. If stored on private property, Contractor shall obtain permission from property owner and shall repair any damage caused by the storage. Material shall be examined before installation. Neither damaged nor deteriorated material shall be used in the work.

1.8 JOB CONDITIONS

- A. Installation of the sanitary sewerage system must be coordinated with other work on site. Generally, sanitary sewer pipes will be installed first and shall be backfilled and protected so subsequent excavating and backfilling of other utilities does not disturb them. Contractor shall replace or repair any damaged pipe or structure at no additional expense to the Owner.

1.9 SEQUENCING AND SCHEDULING

- A. Contractor shall arrange the work so sections of sewers between manholes are backfilled and tested, lateral sewers connected, pavement replaced, and placed in service as soon as reasonable after installation.

1.10 ALTERNATIVES

- A. The intention of these specifications is to produce the best system for the Owner. If the Contractor suggests alternate material, equipment or procedures will improve results at no additional cost, Engineer and Owner will examine suggestion, and if accepted, it may be used. The basis upon which acceptance of an alternate will be given is its value to Owner, and not for Contractor's convenience.

1.11 GUARANTEE

- A. Contractor shall guarantee quality of materials, equipment, and workmanship for 12 months after acceptance of the completed Project. Defects discovered during this period shall be repaired by Contractor at no cost to the Owner.

1.12 EXISTING UTILITIES

- A. All known utility facilities are shown schematically on the construction drawings, and are not necessarily accurate in location as to plan or elevation. Utilities such as service lines or unknown facilities not shown will not relieve the Contractor of responsibility under this requirement. "Existing Utilities Facilities" means any utility existing on the project in its original, relocated, or newly installed position. Contractor will be held responsible for cost of repairs to damaged underground facilities, even when such facilities are not shown on the drawings.
- B. The Contractor shall call for underground utility locations before starting work. Underground utilities location service can be contacted at 1-888-721-7877 (SC) or 811.

1.13 TESTING

- A. Laboratory tests for moisture density relationship for fill materials shall be in accordance with ASTM D 1557, (Modified Proctor).
- B. In place density tests in accordance with ASTM D 6938.
- C. Testing laboratory shall operate in accordance with ASTM D 3740 and E 329 and be acceptable to the Engineer.
- D. Testing laboratory and Project Engineer/Project Representative shall be given a minimum of 48-hours notice prior to taking any tests.
- E. Testing shall be Contractor's responsibility and shall be performed at Contractor's expense by a commercial testing laboratory operating in accordance with subparagraph C above.

- F. Test results shall be furnished to the Engineer prior to continuing with associated or subsequent work.

PART 2 – PRODUCTS

Materials used in the work shall be those named in Bid Form. In multiple type bids, selection of material types will be at the opinion of Owner. All materials shall conform to requirements of South Island Public Service District. Materials and products used in work shall conform to one of the following:

2.1 SEWER PIPE

- A. PVC Pipe – Shall be polyvinyl chloride plastic (PVC) and shall meet all requirements of ASTM D 3034 SDR 26, except for depths less than 3 feet where ductile iron pipe must be installed. All pipe shall be suitable for use as a gravity sewer conduit. Provisions must be made for contraction and expansion at each joint with a rubber gasket. Pipe sizes and dimensions shall be as shown below. All pipe shall be green or white in color with factory marked homing lines. Fittings shall meet the same specification requirements as pipe.

Nom. Size	Outside Diameter		Min. Wall Thickness
	Average	Tolerance	SDR–26
4	4.215	± 0.009	.162
6	6.275	± 0.011	.241
8	8.400	± 0.012	.323
10	10.500	± 0.015	.404
12	12.500	± 0.018	.481

Tests on PVC Pipe – Pipe shall be designed to pass all tests at 73 ° F. (± 3° F.).

- B. Ductile Iron – Shall conform to ANSI A 21.50 (AWWA C 150), ANSI A 21.51 (AWWA C 151) and ASTM A 746. All pipe shall be Pressure Class 350 unless otherwise noted. All ductile iron pipes and fittings shall be bituminous coated on the outside and lined with Protecto 401 Ceramic Epoxy or equivalent on inside.
 - 1. Coating on the outside shall be an asphaltic coating approximately 1 mil thick. Finished coating shall be continuous, smooth, neither brittle when cold or sticky when exposed to sun, and shall be strongly adherent to the iron.
 - 2. Protecto 401 Ceramic Epoxy or equivalent interior lining shall conform to ASTM E 96, ASTM D 714, ASTM D 2794 and ASTM G 53. Interior of the pipe shall receive 40 mils nominal dry film thickness of epoxy. Lining application, inspection, certification, handling, and surface preparation of area to receive the protective coating shall be in accordance with manufacturer's specifications and requirements.

2.2 JOINTS – GRAVITY SYSTEM

- A. Joints for Ductile Iron Pipe – Shall be slip-on rubber equivalent to "Fastite," "All-tite," or "Tyton."
- B. Joints for PVC Pipe – Shall be integral wall bell and spigot with a rubber ring gasket. Joints shall conform to ASTM D 3212 and gaskets to ASTM F 477.

2.3 OMITTED

2.4 OMITTED

2.5 OMITTED

2.6 MANHOLES

- A. Masonry – Shall be new whole brick of good quality laid in masonry mortar or cement mortar made of one part Portland cement and two parts clean sharp sand. Every brick shall be fully bedded in mortar. Manholes shall conform to locations and details shown on the plans.
- B. Precast Concrete – Shall be reinforced concrete constructed in accordance with ASTM C 478 and details shown on the plans "Precast Concrete Manholes." Coarse aggregate shall be granite stone. The joints shall be tongue and groove sealed with flexible gaskets or mastic sealant. gaskets shall be O-Ring or equivalent to Type A or B "Tylox" conforming to ASTM C 443. Mastic shall be equivalent to "Ram-tek" with primer. Primer shall be applied to all contact surfaces of manhole joint at the factory in accordance with manufacturer's instructions.
- C. Frames and Covers – Shall be cast iron equivalent to the following:

Neenah Foundry Co. R-1668 Type "C" Lid

- D. Manhole Steps – Shall be equivalent to M.A. Industries, Type PS-1 or PS-2-PF. Steps shall be installed at the manhole factory and in accordance with recommendations of step manufacturer. Manholes will not be acceptable if steps are not installed accordingly.
- E. Pipe Connections – Shall have flexible watertight joints at sewer main point of entry into the manhole. The joint shall be an EPDM or polyisoprene sleeve equivalent to "Kor-N-Seal."
- F. Coatings – New manholes shall have all interior surfaces coated with a factory applied acrylic polymer-base coating and sealant. The coating shall be ConSeal CS-55 manufactured by Concrete Sealants, New Carlisle, Ohio or an accepted equivalent. The coating shall be applied in three coats to achieve a total dry film thickness of at least 3.5 mils in accordance with manufacturer's recommendations. Surfaces shall be cleaned of all dust, form oils, curing compounds and other foreign matter prior to the coating application.
- G. New or existing manholes requiring a force main tie-in and the next downstream manhole shall be coated with 125 wet film mils of Raven 405 ultra high build epoxy or an accepted equivalent. The interior surfaces shall be cleaned and prepared according to manufacturer's recommendations.

2.7 TEES

- A. Gravity sewer tees shall be four or six inches and same diameter as the run of pipe. They shall be of same material as the sewer main.

2.8 LATERALS

- A. Shall be Ductile Iron Pipe conforming to paragraph 2.1–B, with push–on joints or Polyvinyl Chloride pipe with bells and rubber gaskets for jointing, conforming, to Paragraph 2.1–A, PVC Pipe.

2.9 STONE BACKFILL

- A. Shall be graded crushed granite with the following gradation:

Square Opening Size	Percent Passing
1 inch	100%
3/4 inch	90 to 100%
3/8 inch	0 to 65%
No. 4	0 to 25%

2.10 SAND BACKFILL

- A. Shall be clean sand free from clay and organic material. Not more than 10% shall pass the No. 100 sieve.

2.11 BORROW

- A. Where it is determined sufficient suitable material is not available from the site to satisfactorily backfill pipe to at least two feet above top of pipe, Contractor shall furnish suitable sandy borrow material to accomplish requirements. Material shall not have more than 60% passing the No. 100 sieve, nor more than 20% passing a No. 200 sieve.

2.12 OMITTED

2.13 METAL DETECTOR TAPE

- A. Will be installed above all pipe. Tape shall consist of 0.35 mils thick solid foil core encased in a protective plastic jacket resistant to alkalis, acids, and other destructive elements found in the soil. The lamination bond shall be strong enough so layers cannot be separated by hand. Total composite thickness shall be 5.0 mils. Foil core to be visible from unprinted side to ensure continuity. The tape shall have a minimum 3 inch width and a tensile strength of 35 lbs. per inch.

A continuous warning message indicating “sewer line” repeated every 16 inches to 36 inches shall be imprinted on the tape surface. Tape shall contain an opaque color concentrate designating color code appropriate to the line being buried (Sewer Line – Green).

PART 3 – EXECUTION

3.1 CONSTRUCTION OBSERVATION

- A. The line, grade, deflection, and infiltration of sewers shall be tested by Contractor under the direction of Engineer. Engineer or Project Representative will have the right to require any portion

of work be completed in their presence. If work is covered up after such instruction, it shall be exposed by Contractor for observation. However, if Contractor notifies Engineer such work is scheduled and Engineer fails to appear within 48 hours, the Contractor may proceed. All work completed and materials furnished shall be subject to review by the Engineer or Project Representative. All improper work shall be reconstructed. All materials not conforming to requirements of specifications shall be removed from the work upon notice being received from Engineer for rejection of such materials. Engineer shall have the right to mark rejected materials to distinguish them as such.

Contractor shall give the Project Engineer or Project Representative a minimum of 48 hours notice for all required observations or tests.

It will also be required by Contractor to keep accurate, legible records of the location of all sanitary lines, service laterals, manholes, force mains, valves, bends, and appurtenances. These records will be prepared in accordance with "Record Data and Drawings" paragraph in the Special Conditions. Final payment to the Contractor will be withheld until all such information is received and accepted.

3.2 LOCATION AND GRADE

- A. Line and grade of sewers and position of all manholes and other structures are shown on the drawings. Grade line as given on the profile or mentioned in these specifications means invert or inside bottom of pipe and price for trenching shall include trench for depth below this line necessary to lay sewer to this grade, but measurements for payment will be made only to grade line. Master control lines and bench marks have been provided by the Engineer. The Contractor shall be responsible for proper locations and grades of sewers.

3.3 SEWER EXCAVATION

- A. Contractor shall perform all excavations of every description and of whatever substance encountered to the depth shown on the plans or specified for all sewers, manholes, and other appurtenances. All excavations shall be properly dewatered before installations are made, by the use of well points, pumping, or other methods accepted by Engineer. Trenches shall be excavated in conformance with the Occupational and Safety Health Administration's (OSHA) Regulations.

Where the character of soil is unsuitable for pipe bedding as determined by Engineer or Geotechnical Consultant, additional excavation will be authorized. Engineer or Geotechnical Consultant shall determine the depth needed for additional bedding and whether material will be sand or stone. The unsuitable material shall be disposed of at Contractor's expense in a proper manner. Bottom of all trenches shall be rounded to conform to bottom of pipe, to afford full bearing on pipe barrel. Excavation in excess of depths and widths required for sewers, manholes, and other structures shall be corrected by pouring subfoundations of 3,000 p.s.i. concrete and half cradle at the Contractor's expense.

- B. Trenches shall not be excavated more than 400 feet in advance of pipe laying.

3.4 TRENCH WALL SUPPORT

- A. Bracing and Sheet piling – The sides of all trenches shall be securely held by stay bracing, or by skeleton or solid sheet piling and bracing, as required by soil conditions encountered, to protect adjoining property and for safety. Where shown on drawings or where directed by Engineer, the Contractor must install solid sheet piling to protect adjacent property and utilities. Sheet piling

shall be steel or timber and Contractor shall submit design data, including the section modulus of members and arrangement for bracing at various depths, to Engineer for review before installing sheeting. It shall penetrate at least 3–feet below the pipe invert. Contractor shall ensure support of pipe and its embedment is maintained throughout installation and ensure sheeting is sufficiently tight to prevent washing out of the trench wall from behind sheeting.

- B. Sheeting Removal – Sheeting shall be removed in units and only when backfilling elevation has reached the level necessary to protect pipe, adjoining property, personnel, and utilities. Removal of sheeting or shoring shall be accomplished in a manner to preclude loss of foundation support and embedment materials. Fill voids left on removal of sheeting or shoring and compact all materials to required densities.
- C. Movable Trench Wall Supports – Do not disturb installed pipe and its embedment when using movable trench boxes and shields. Movable supports should not be used below top of pipe zone unless acceptable methods are used for maintaining the integrity of embedment material. Before moving supports, place and compact embedment to sufficient depths to ensure protection of the pipe. As supports are moved, finish placing and compacting embedment.
- D. When sheeting or shoring cannot be safely removed, it shall be left in place. Sheeting left in place shall be cut off at least 2 feet below the surface. No separate payment shall be made for bracing and sheeting except where shown on drawings or authorized by the Engineer.

3.5 LAYING PIPE

- A. All sewer pipe shall be laid upgrade with spigots pointing downgrade and in accordance with ASTM D 2321. The pipe shall be laid in a ditch prepared in accordance with Paragraph 3.3 "Sewer Excavation." When sewer is complete, the interior surface shall conform on bottom accurately to grades and alignment fixed or given by Engineer. Special care shall be taken to provide a firm bedding in good material, select borrow, stone backfill or 3,000 p.s.i. concrete, as authorized, for length of each joint and 1/2 of the circumference. Holes shall be provided to relieve bells from bedding strain, but not so large to allow separation of the bell from barrel by settlement after backfilling. All pipe shall be cleaned out, and left clean. Every third joint shall be filled around immediately after being properly placed.
- B. Jointing – Comply with manufacturer's recommendations for assembly of joint components, lubrication, and making joints. When pipe laying is interrupted, secure piping against movement and seal open ends to prevent the entrance of water, mud, or foreign material.
- C. Placing and Compacting Pipe Embedment – Place embedment materials by methods which will not disturb or damage the pipe. Work in and tamp haunching material in area between the bedding and underside of pipe before placing and compacting remainder of embedment in pipe zone. Do not permit compaction equipment to contact and damage the pipe. Use compaction equipment and techniques compatible with materials used and location in the trench. Before using heavy compaction or construction equipment directly over the pipe, place sufficient backfill to prevent damage, excessive deflections, or other disturbance of the pipe.
- D. Rock or Unyielding Materials in Trench Bottom – If ledge rock, hard pan, shale, or other unyielding material, cobbles, rubble, debris, boulders, or stones larger than 1.5–inches are

encountered in the trench bottom, excavate a minimum depth of 6–inches below pipe bottom and replace with proper embedment material.

- E. Vertical Risers – Provide support for vertical risers as commonly found at service connections, cleanouts, and drop manholes to preclude vertical or lateral movement. Prevent the direct transfer of thrust due to surface loads and settlement, and ensure adequate support at points of connection to main lines.
- F. Exposing Pipe for Making Service Line Connections – When excavating for a service line connection, excavate material from above the top of main line before removing material from sides of pipe. Materials and density of service line embedment shall conform to specifications for the main line.
- G. Manhole Connections – Use flexible water stops, resilient connectors, or other flexible systems acceptable to the Engineer making watertight connections to manholes and other structures.

Where work involves a highway, a Resident Engineer of the State Department of Transportation shall be notified 3 days before crossing is started. Where work involves a railroad, the work shall conform to requirements of AREA specifications. Division Superintendent of the Railroad shall be notified 3 days prior to beginning work. Before commencing work within the right-of-way of railroads or highways, Contractor shall verify Owner has obtained required permits.

3.6 SEPARATION BETWEEN WATER & SANITARY SEWER

A. Parallel Installation:

- 1. Water mains shall be laid at least 10 feet horizontally from any existing or proposed sanitary sewer, storm sewer, or sewer manhole. The distance shall be measured edge-to-edge.
- 2. When conditions prevent a horizontal separation of 10 feet, water main may be laid closer to a sewer (on a case-by-case basis) provided water main is laid in a separate trench or on an undisturbed earth shelf located on one side of the sewer at such an elevation where bottom of water main is at least 18 inches above top of sewer. It is advised the sewer be constructed of materials and with joints equivalent to water main standards of construction and be pressure tested to assure water-tightness prior to backfilling.

B. Crossing:

- 1. Water mains crossing house sewers, storm sewers, or sanitary sewers shall be laid to provide a separation of at least 18 inches between the bottom of water main and top of sewer. At crossings, one full length of water pipe shall be located so both joints will be as far from the sewer as possible. Special structural support for the water and sewer pipes may be required.
- 2. When conditions prevent a vertical separation of 18 inches, the sewer passing over or under water mains shall be constructed of materials and with joints equivalent to water main standards of construction and shall be pressure tested to assure water-tightness prior to backfilling.

3. When water mains cross under sewers, additional measures shall be taken by providing:
 - a. a vertical separation of at least 18 inches between bottom of the sewer and top of water main;
 - b. adequate structural support for sewers to prevent excessive deflection of joints settling on and breaking the water mains;
 - c. length of water pipe be centered at the point of crossing so joints will be equidistant and as far as possible from sewer; and
 - d. both sewer and water main shall be constructed of water pipe and subjected to hydrostatic tests, as prescribed in this document. Encasement of the water pipe in concrete shall also be considered.
 - e. Crossings shall conform to South Carolina Department of Health and Environmental Control's Bureau of Water Standards for Wastewater Facility Construction: Regulation 61–67.]

3.7 BACKFILLING

- A. All trenches and excavation shall be backfilled immediately after pipes are laid therein, unless other protection of the pipe line is directed. Backfilling material shall be selected and deposited with special reference to the future safety of pipes. Except where special methods of bedding and tamping are provided for, clean earth or sand shall be solidly tamped about pipe up to a level at least 2 feet above top of pipes, and shall be carefully deposited to uniform layers, each layer solidly tamped or rammed with proper tools to not injure or disturb the pipeline. Remainder of the trench backfilling shall be carried on simultaneously on both sides of pipe in such a manner preventing injurious side pressure. The material used shall be selected from excavated material anywhere on site if any of this material is suitable. Backfill material shall be clean and free of rock, organic and other deleterious matter.

Under traffic areas, the top 24 inches of backfill material shall be compacted to a density of not less than 98% of maximum laboratory density at optimum moisture. Below the 24 inch line and to and including area around pipe, density shall not be less than 95% of maximum laboratory density at optimum moisture. In non-traffic areas, the backfill material shall be compacted to a density of not less than 90% of maximum laboratory density at optimum moisture unless otherwise accepted by Engineer. Compaction tests shall be conducted in accordance with ASTM D 6938 by an independent testing laboratory. Tests are to be taken at the direction of Engineer.

Whenever trenches have not been properly backfilled, or if settlement occurs, they shall be refilled, smoothed off and finally made to conform to the ground surface. Backfilling shall be carefully performed, and original surface restored to the full satisfaction of Engineer immediately after installation.

Where thermoplastic (PVC) pipe is installed, Contractor shall take precautions in accordance with ASTM D 2321, during backfilling operations so not to create excessive side pressures, or vertical or horizontal deflection of the pipe nor impair flow capacity.

3.8 MANHOLES

- A. Manholes shall be constructed where shown on the drawings or where directed by Engineer. The channel in bottom of manholes shall be smooth and properly rounded. Special care must be exercised in laying the channel and adjacent pipes to grade. Manhole top elevations

shall be greater than or equal to the 50 year flood elevation, unless watertight covers are provided. Tops of manholes outside of roads shall be built to grades 1–inch above ground surface in developed areas and 6 inches above ground surface in undeveloped areas unless otherwise shown on the plans. Manholes in roads shall be built to grades designated by the Engineer. Manhole sections with either honeycomb defects; exposed reinforcing; broken/fractured tongue or groove; or cracked walls will be subject to rejection by Engineer for use on the project. When mastic sealant is used, improperly applied primer will also be cause for rejection.

No leaks in any manhole will be acceptable. All repairs made from inside the manhole shall be made with mortar composed of one part Portland cement and two parts clean sand. The mixing liquid shall be straight bonding agent equivalent to "Acryl 60."

3.9 STONE BEDDING

- A. Where, in the Engineer's or Geotechnical Consultant's opinion, subgrade of pipe trench is unsuitable material, Contractor shall remove unsuitable material to a depth determined by Engineer or Geotechnical Consultant and furnish and place stone backfill in trench to stabilize subgrade. Presence of water does not necessarily mean stone backfill is required. If well points or other types of dewatering will remove the water, Contractor shall be required to completely dewater trench in lieu of stone backfill. Stone bedding will be limited to areas where well pointing and other conventional methods of dewatering will not produce a dry bottom. Stone shall be placed 4 feet wider than the outside diameter of pipe. The pipe shall be carefully bedded in stone as specified, or in accordance with manufacturer's recommendations.

3.10 SAND BEDDING

- A. Where, in the Engineer's or Geotechnical Consultant's opinion, character of soil is unsuitable for pipe bedding, even though dewatered, additional depth of excavation as determined by Engineer or Geotechnical Consultant shall be made and replaced with clean sand furnished by Contractor.

3.11 DEFLECTION

- A. It is the Contractor's responsibility to assure backfill is sufficient to limit pipe deflection to no more than 5%. When flexible pipe is used, a deflection test shall be made by Contractor on the entire length of installed pipeline, not less than 30–days after completion of all backfill and placement of any fill. Deflection shall be determined by use of a deflection device or by use of a spherical, spheroidal, or elliptical ball, a cylinder, or circular sections fused to a common shaft. Ball, cylinder, or circular sections shall have a diameter, or minor diameter as applicable, of 95% of the inside pipe diameter. The ball, cylinder, or circular sections shall be of a homogeneous material throughout, shall have a density greater than 1.0 as related to water at 39.2 degrees F, and shall have a surface brinell hardness of not less than 150. The device shall be center bored and through bolted with a 1/4 inch minimum diameter steel shaft having a yield strength of 70,000 p.s.i. or more, with eyes at each end for attaching pulling cables. The eye shall be suitably backed with flange or heavy washer; a pull exerted on opposite end of shaft shall produce compression throughout remote end of ball, cylinder, or circular section. Circular sections shall be spaced so distance from the external faces of front and back sections shall equal or exceed diameter of circular section. Failure of the ball, cylinder, or circular section to pass freely through a pipe run, either by being pulled through by hand or by being flushed through with water, shall be cause for rejection of individual run. When a deflection device is used for the test in lieu of a ball, cylinder, or circular sections

described, such device shall be acceptable to Engineer prior to use. Device shall be sensitive to 1.0% of diameter of pipe being measured and shall be accurate to 1.0% of indicated dimension. Installed pipe showing deflections greater than 5% of the normal diameter of pipe shall be retested by a run from opposite direction. If retest also fails, the suspect pipe shall be repaired or replaced at no cost to Owner.

3.12 LEAKAGE

A. In no stretch of sewer between any two adjoining manholes shall infiltration/exfiltration exceed 25 gallons/day/inch of pipe diameter per mile of pipe. In case leakage exceeds this amount, the sewer shall not be accepted until such repairs and replacements are made to comply with above requirements. Such corrections will be made at the Contractor's expense. All visible leaks shall be repaired, regardless of the amount of leakage.

B. Lines shall be tested for leakage by low pressure air testing, infiltration tests, or exfiltration tests, as appropriate. Low pressure air testing for PVC pipe shall be as prescribed in ASTM F 1417. Prior to infiltration or exfiltration tests, trench shall be backfilled up to at least the lower half of pipe. If required, sufficient additional backfill shall be placed to prevent pipe movement during testing, leaving the joints uncovered to permit inspection. Visible leaks encountered shall be corrected regardless of leakage test results. When water table is 2 feet or more above top of pipe at upper end of pipeline section to be tested, infiltration shall be measured using a suitable weir or other device acceptable to Engineer. When Engineer determines infiltration cannot be properly tested, an exfiltration test shall be made by filling the line to be tested with water so a head of at least 2 feet is provided above both water table and top of pipe at upper end of pipeline to be tested. The filled line shall be allowed to stand until pipe has reached its maximum absorption, but not less than 4 hours. After absorption, the head shall be re-established. The amount of water required to maintain this water level during a 2 hour test period shall be measured. Leakage as measured by either the infiltration test or exfiltration test shall not exceed 25 gallons per inch diameter per mile of pipeline per day. When leakage exceeds the maximum amount specified, satisfactory correction shall be made and retesting accomplished. Testing, correction, and retesting shall be made at no additional cost to the Owner.

C. The Contractor shall furnish equipment and plugs and subject force mains to hydrostatic tests at 100 p.s.i. for a period of 2 hours. Any leaks shall be located and repaired. Each section tested shall be slowly filled with water, care being taken to expel all air from the pipes. No pipe installation will be accepted until leakage during pressure test is less than the number of gallons listed for each 1000-foot of pipe tested:

6 inches & less – 0.9 gallons	12 inches – 1.80 gallons
8 inches – 1.20 gallons	14 inches – 2.10 gallons
10 inches – 1.50 gallons	16 inches – 2.40 gallons

3.13 CLEANING AND ACCEPTANCE

A. Before acceptance of sewer system, it shall be tested and cleaned to the satisfaction of Engineer. Where any obstruction is met, Contractor will be required to clean sewers by means of rod and swabs or other instruments. The pipe line shall be straight and show a uniform grade between manholes. The Engineer shall check lines by lamping or other methods to determine final acceptance.

3.14 CLOSING PIPE

- A. When work or pipe installation is suspended, either for the night or at other times, end of sewer must be closed with a tight cover. Contractor will be held responsible for keeping the sewer free from obstruction.

3.15 PARTIAL ACCEPTANCE OF THE WORK

- A. Owner reserves right to accept and use any part of the work. Engineer shall have power to direct on what line the Contractor shall work and order thereof.

3.16 GRASSING

- A. Grassing of areas disturbed during construction shall be in accordance with Section 32 92 00 – “Turf and Grasses.”

3.17 RECORD DATA

- A. It will be required of the Contractor to keep accurate, legible records, locating all sewers, force mains, tees, and laterals. These records will be made available to Engineer before final review for incorporation into the Engineer's Record Drawings. Final payment to the Contractor will be withheld until all such information is received and accepted.

3.18 REMOVE AND REPLACE PAVEMENT

- A. Pavement shall only be removed after prior written authorization by the Owner. Pavement removed and replaced shall be constructed in accordance with latest specifications of the State Department of Transportation. Traffic shall be maintained and controlled per State Department of Transportation regulations.

Edges of the pavement shall be cut to a neat straight line with a masonry saw. Backfill shall be compacted and tested and a concrete base course of 5,000 p.s.i. placed on the fill as shown on details. The concrete base shall be placed within 24 hours after pipeline is installed. A temporary wearing surface may be used provided it presents a smooth surface. The final wearing surface shall be as shown on typical pavement section detail.

3.19 METALLIC DETECTOR TAPE

- A. Contractor shall place metallic detector tape, suitably coded, directly over all installed pipes at a depth of 18 inches below the finished surface.

3.20 OMITTED

3.21 CONNECT SEWERS TO EXISTING STRUCTURES

- A. Contractor shall connect the system to existing structures where indicated. For brick structures, a hole not more than 4 inches larger than the outside diameter of new pipe shall be cut neatly in structure, new pipe laid so it is flush with inside face of structure, and annular

space around pipe filled with a damp, expanding mortar or grout to make a watertight seal. For precast structures, core proper size hole in structure for pipe being connected, attach flexible sleeve into cored hole and connect new pipe into flexible sleeve with a stainless steel band.

3.22 FIELD QUALITY CONTROL

- A. Soil and density tests shall be made by a testing laboratory acceptable to the Engineer. Laboratory tests of the soil shall be made in accordance with ASTM D 1557. In-place density tests shall be made in accordance with ASTM D 6938. Results of the tests shall be furnished to the Engineer.

The minimum number of tests required shall be:

Backfill over sewer in traffic areas..... depth or portion thereof.	1 per 100 linear feet or less for each 4 feet of
Backfill over sewer in non-traffic areas... depth or portion thereof.	1 per 500 linear feet or less for each 6 feet of

END OF SECTION