



SPECIFICATIONS FOR THE WILDWOOD WWTF HEADWORKS REHABILITATION



Prepared by:

Kimley-Horn and Associates, Inc.

Prepared for:

City of Wildwood, Florida

Kimley-Horn #142173429

©September 2022

Kimley-Horn and Associates, Inc.

101 E Silver Springs Boulevard, Suite 400

Ocala, Florida 34470

352 438 3000

Kimley»»Horn

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THIS IS TO CERTIFY THAT THE
ENCLOSED CIVIL ENGINEERING
CALCULATIONS WERE PERFORMED BY
ME OR UNDER MY DIRECT SUPERVISION.

Seth Schmid, P.E.

Florida Registration Number 54640

Kimley-Horn Registry Number 35106

Date: _____



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END OF SECTION

SECTION 00020 – INVITATION TO BID

CITY OF WILDWOOD – WILDWOOD WWTF HEADWORKS REHABILITATION

DATE: September 7, 2022 Project Number: 142173429

NOTICE IS HEREBY GIVEN that the City of Wildwood will receive sealed bids for construction of the **Wildwood WWTF Headworks Rehabilitation**. All contractors licensed by the State of Florida are hereby invited to submit a bid on the above referenced project. Bids will be received until **3:00 PM, E.S.T., on October 12, 2022**, at the following address: City Hall, 100 N. Main Street, Wildwood, FL 34785. For more information, contact Trey Clayton, Kimley-Horn and Associates at (352) 438-3000.

DESCRIPTION OF WORK: All work for the Project shall be constructed in accordance with the Drawings and Specifications prepared by the Engineer. Bids shall be submitted for furnishing, delivering and installing all materials, equipment and services, including labor for the Work, which generally involves the following activities:

Rehabilitation of the existing Wildwood WWTF Headworks. Work to include concrete repair and coating of the headworks channel and deck, replacement of existing corroded D.I. pipe and fittings, and relocation of the existing drum screen electrical panel.

CONTRACT TIME: Construction time to achieve Substantial Completion is 90 consecutive calendar days from the date of the Notice to Proceed, with an additional 30 consecutive calendar days to achieve Final Completion. Total construction duration is 120 days.

PROJECT MANUAL AND DRAWINGS: Copies of the Project Manual and Drawings are available for review at the City of Wildwood City Hall or the Office of the Engineer. Bid packages may be obtained by contacting the office of the Engineer:

Kimley-Horn and Associates, Inc.
101 E Silver Springs Boulevard, Suite 400
Ocala, Florida 34470
352-438-3000
E-mail: stacy.boney@kimley-horn.com

All bids shall be prepared using the Project Manual and Drawings. Addenda will be sent via e-mail to all plan holders up to seventy-two (72) hours before the Bid closing time. The Owner/Engineer is not responsible for delivery of addenda to prospective bidders.

PRE-BID MEETING: A pre-bid meeting will be held for this project at **10:00 AM on September 28, 2022**, at the City of Wildwood City Hall, 100 North Main Street, Wildwood, Florida 34785.

BID SECURITY: A 5% bid security will be required for this project.

PERFORMANCE AND PAYMENT BOND: The Owner will require that the Contractor furnish a Performance and Payment Bond in an amount equal to 100% of the Contract Price. All Payment and Performance Bonds shall be secured from or countersigned by an agency or surety company recognized in good standing and authorized to do business in the State of Florida.

END OF SECTION

SECTION 00100 - INSTRUCTIONS TO BIDDERS

ARTICLE 1 – DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. *Issuing Office* – The office from which the Bidding Documents are to be issued.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.01 Complete sets of the Bidding Documents may be obtained from the Issuing Office in the number and format stated in the advertisement or invitation to bid.
- 2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

- 3.01 To demonstrate Bidder's qualifications to perform the Work, after submitting its Bid and within ten (10) days of Owner's request, Bidder shall submit (a) written evidence establishing its qualifications such as financial data, previous experience, and present commitments, and (b) the following additional information:
- A. Evidence of Bidder's authority to do business in the state where the Project is located.
- B. Bidder's state or other contractor license number, if applicable.
- C. Subcontractor and Supplier qualification information; coordinate with provisions of Article 12 of these Instructions, "Subcontractors, Suppliers, and Others."
- D. Other required information regarding qualifications
- 3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.
- 3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.
- 3.04 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 – SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

- 4.01 *Site and Other Areas*
- A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional

lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

4.02 *Existing Site Conditions*

A. Subsurface and Physical Conditions; Hazardous Environmental Conditions

1. The Supplementary Conditions identify:
 - a. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.
 - b. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
 - c. reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
 - d. Technical Data contained in such reports and drawings.
2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

B. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site are set forth in the Contract Documents and are based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

C. Adequacy of Data: Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 5.03, 5.04, and 5.05 of the General Conditions.

4.03 *Site Visit and Testing by Bidders*

A. Bidder shall conduct the required Site visit during normal working hours, and shall not disturb any ongoing operations at the Site.

B. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site.

C. Bidder shall comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.

- D. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

4.04 *Owner's Safety Program*

- A. Site visits and work at the Site may be governed by an Owner safety program. As the General Conditions indicate, if an Owner safety program exists, it will be noted in the Supplementary Conditions.

4.05 *Other Work at the Site*

- A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

ARTICLE 5 – BIDDER'S REPRESENTATIONS

5.01 It is the responsibility of each Bidder before submitting a Bid to:

- A. examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents;
- B. visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work;
- D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings;
- E. consider the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;
- F. agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;

- G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
- H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;
- I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and
- J. agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 6 – PRE-BID CONFERENCE

- 6.01 A pre-bid conference will be held at the time and location stated in the invitation or advertisement to bid. Representatives of Owner and Engineer will be present to discuss the Project. Bidders will be issued such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all parties recorded as having received the Bidding Documents. Questions received less than seven days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 7.02 Addenda may be issued to clarify, correct, supplement, or change the Bidding Documents.

ARTICLE 8 – BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of five percent (5%) of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a certified check, bank money order, or a Bid bond (on the form included in the Bidding Documents) issued by a surety meeting the requirements of Paragraphs 6.01 and 6.02 of the General Conditions.
- 8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract Documents, furnished the required contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults.
- 8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the

Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.

- 8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within seven days after the Bid opening.

ARTICLE 9 – CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 – LIQUIDATED DAMAGES

- 10.01 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

ARTICLE 11 – SUBSTITUTE AND “OR-EQUAL” ITEMS

- 11.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or “or-equal” items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or “or-equal” item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.
- 11.02 All prices that Bidder sets forth in its Bid shall be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of “or-equal” or substitution requests are made at Bidder’s sole risk.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 12.01 A Bidder shall be prepared to retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of the Work if required by the Bidding Documents (most commonly in the Specifications) to do so. If a prospective Bidder objects to retaining any such Subcontractor, Supplier, or other individual or entity, and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.
- 12.02 Subsequent to the submittal of the Bid, Owner may not require the Successful Bidder or Contractor to retain any Subcontractor, Supplier, or other individual or entity against which Contractor has reasonable objection.
- 12.03 The apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of the Subcontractors or Suppliers proposed for the Work. If requested by Owner, such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, or other individual or entity. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit a substitute, Bidder’s Bid price will be increased (or decreased) by the difference in cost occasioned by such

substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

- 12.04 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, or other individuals or entities. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.06 of the General Conditions.

ARTICLE 13 – PREPARATION OF BID

- 13.01 The Bid Form is included with the Bidding Documents.
- A. All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.
- B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words “No Bid” or “Not Applicable.”
- 13.02 A Bid by a corporation shall be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown.
- 13.03 A Bid by a limited liability company shall be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- 13.04 A Bid by an individual shall show the Bidder’s name and official address.
- 13.05 A Bid by a joint venture shall be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 13.06 All names shall be printed in ink below the signatures.
- 13.07 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.08 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 13.09 The Bid shall contain evidence of Bidder’s authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder’s state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 14 – BASIS OF BID

- 14.01 *Unit Price*
- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.

- B. The "BID AMOUNT" for each unit price Bid item will be the product of the "QUANTITY" (which is set forth in the Bid Form) for the item and the corresponding "UNIT PRICE" offered by the Bidder. The total of all unit price Bid items will be the sum of these "BID AMOUNTS"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.

14.02 *Allowances*

- A. For cash allowances the Bid price shall include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 13.02.B of the General Conditions.

ARTICLE 15 – SUBMITTAL OF BID

- 15.01 A Bid shall be received no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to Jason McHugh, City Manager, Wildwood City Hall, 100 N. Main Street, Wildwood, FL 34785.

- 15.02 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.

ARTICLE 17 – OPENING OF BIDS

- 17.01 Bids will be opened at the time and place indicated in the advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

- 19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible. If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, then the Owner will reject the Bid as nonresponsive; provided that Owner also reserves the right to waive all minor informalities not involving price, time, or changes in the Work.
- 19.02 If Owner awards the contract for the Work, such award shall be to the responsible Bidder submitting the lowest responsive Bid for the Work inclusive or exclusive of any alternates at its sole discretion.
- 19.03 *Evaluation of Bids*
- A. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- 19.04 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.
- 19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

ARTICLE 20 – BONDS AND INSURANCE

- 20.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the Agreement (executed by Successful Bidder) to Owner, it shall be accompanied by required bonds and insurance documentation.

ARTICLE 21 – SIGNING OF AGREEMENT

- 21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder shall execute and deliver the required number of counterparts of the Agreement (and any bonds and insurance documentation required to be delivered by the Contract Documents) to Owner. Within 30 days thereafter, Owner shall deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

END OF SECTION

SECTION 00300 – BID FORM

1. The undersigned Bidder does hereby declare that he has carefully examined the Invitation to Bid, the Instructions to Bidders, Project Manual and Construction Plans, and project addenda relating to the above entitled matter and the work, and has also examined the site.
2. The undersigned Bidder hereby declares that he has based his proposal on the conditions as they exist on site and has noted all items of work required of the project that is not illustrated on the plans.
3. The undersigned does hereby offer and agree to furnish all materials, to fully and faithfully construct, perform and execute all work in the above titled matter in accordance with the Plans, Drawings and Specifications relating thereto.
4. The undersigned does hereby declare that the prices so stated cover all expenses of every kind incidental to the completion of said work, and the contract therefore, including all claims that may arise through damages or any other causes whatsoever.
5. The undersigned does hereby declare that he shall make no claim on account of minor variation of the approximate estimate in the QUANTITIES or work to be done, nor on account of any misunderstanding or misconception of the nature of the work to be done or the grounds or place where it is to be done.
6. The Bidder acknowledges that (1) each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and (2) estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.
7. The undersigned does also declare and agree that he will commence the work within ten (10) days after notification by the ENGINEER to do so and will complete the work fully and in every respect on or before the time specified in said contract.
8. The undersigned further agrees that the UNIT PRICES submitted on the Bid Form shall govern all errors in extension or addition and shall void the total base bid submitted on the attached sheet. The corrected extension and addition of all items shall be considered to be the correct base bid for comparison purposes.
9. The undersigned further agrees that the UNIT PRICES submitted on the Bid Form will expire if a contract is not executed within ninety (90) days from the date of bid deadline, and that the Contractor will be fully released from any obligations of this Bid Form.
10. The undersigned agrees that this bid is based on substantially completing the project within ninety (90) calendar days and final completion within one hundred twenty (120) calendar days from the date of Notice to Proceed. The Contractor further agrees to pay, as liquidated damages, the sum of one thousand (\$1,000) dollars for each consecutive calendar day thereafter.
11. The Bidder acknowledges having received the following project addenda:
No. _____, Date: _____ No. _____, Date: _____
No. _____, Date: _____ No. _____, Date: _____
No. _____, Date: _____ No. _____, Date: _____
12. By submission of this bid, each bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, that this bid has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this bid with any other bidder or with any competitor.

BID FORM					
WILDWOOD WWTF HEADWORKS REHABILITATION					
ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	BID AMOUNT
GENERAL					
1	MOBILIZATION	LS	1		
2	BONDS & INSURANCE	LS	1		
3	SITE RESTORATION (INCLUDES ALL SITE RESOTRATION, COMPLETE)	LS	1		
CONCRETE REPAIR					
4	HEADWORKS CHANNEL REPAIR, APPROXIMATELY 250 FT ³ (INCLUDING ALL CONCRETE REMOVAL, SURFACE PREPARATION, APPLICATION OF REPAIR MORTAR, DRY AND WET CRACK REPAIR, RESURFACING, REPROFILING, AND CURING PER PLANS AND SPECIFICATIONS, COMPLETE)	LS	1		
5	HEADWORKS CHANNEL COATING, APPROXIMATELY 350 FT ² (INCLUDING ALL SURFACE PREPARATION, APPLICATION OF SPECIFIED COATINGS, CURING, AND INSPECTIONS FOR A COMPLETE COATING SYSTEM)	LS	1		
6	HEADWORKS DECK REPAIR, APPROXIMATELY 50 FT ³ (INCLUDING ALL CONCRETE REMOVAL, SURFACE PREPARATION, APPLICATION OF REPAIR MORTAR, DRY AND WET CRACK REPAIR, RESURFACING, REPROFILING, AND CURING PER PLANS AND SPECIFICATIONS, COMPLETE)	LS	1		
7	HEADWORKS DECK COATING, APPROXIMATELY 250 FT ² (INCLUDING ALL SURFACE PREPARATION, APPLICATION SPECIFIED COATINGS, CURING, AND INSPECTIONS FOR A COMPLETE COATING SYSTEM)	LS	1		
MECHANICAL					
8	20" DI PIPE (INCLUDING ALL RESTRAINTS, APPROPRIATE LINING, AND LINK SEAL REPLACEMENT, COMPLETE)	LF	10		
9	20" TEE	EA	2		
10	20" KNIFE VALVE	EA	1		
ELECTRICAL					
11	RELOCATE EXITING ROTARY DRUM SCREEN CONTROL PANEL (CONTRACTOR TO CUT EXISTING CONDUIT AND RECONNECT TO RELOCATED PANEL)	LS	1		
ALLOWANCE					
12	REMOVAL AND REPLACEMENT OF DETERIORATED REINFORCEMENT	AL	1	\$ 18,000.00	\$ 18,000.00
CONSTRUCTION SUBTOTAL					
PAYMENT AND PERFORMANCE BOND					\$ -
BID TOTAL					

Lump Sum Grand Total amounts are to be shown in both words and figures. In case of discrepancies, the amount in words will govern.

LUMP SUM GRAND TOTAL: \$ _____

WORDS: _____

THIS PROPOSAL DATED THIS _____ day of _____, 2022

ATTEST:

Witness: _____

Signature

Printed Name

By: _____

Authorized Signature (Principal)

Printed Name, Title

Company Name

Address:

Employee I.D. No.

Florida State Certified General
Contractor's License Number

Telephone Number: _____

END OF SECTION

SECTION 00302 – PUBLIC ENTITY CRIMES STATEMENT

NOTICE TO BIDDERS: This form must be properly completed, executed, and returned with the bid documents in order for your bid to be considered. Failure to do so will result in automatic disqualification.

SWORN STATEMENT UNDER SECTION 287133(3)(a), FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

(To be signed in the presence of a notary public or other officer authorized to administer oaths.)

STATE OF _____

COUNTY: _____

Before me, the undersigned authority, personally appeared _____

who, being by me first duty sworn, made the following statement:

1. The business address of _____ (name of bidder or contractor) is _____.

2. My relationship _____ (name of bidder or contractor) is _____ (relationship such as sole proprietor, partner, president, vice president).

3. I understand that a public entity crime as defined in Section 287.133 of the Florida Statutes includes a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity in Florida or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or such an agency or political subdivision and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

4. I understand that “convicted” or “conviction” is defined by the statute to mean a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilt or nolo contendere.

5. I understand that “affiliate” is defined by the statute to mean (1) a predecessor or successor of a person or a corporation convicted of a public entity crime, or (2) an entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime, or (3) those officer, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate, or (4) a person or corporation who knowingly entered into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months.

6. Neither the bidder or contractor nor any officer, director, executive, partner, shareholder, employee, member or agent who is active in the management of the bidder or contractor nor any affiliate of the bidder or contractor has been convicted of a public entity crime subsequent to July 1, 1989.

(Draw a line through paragraph 6 if paragraph 7 below applies.)

7. There has been a conviction of a public entity crime by the bidder or contractor, or an officer, director, executive, partner, shareholder, employee, member or agent of the bidder or contractor who is active in the management of the bidder or contractor or an affiliate of the bidder or contractor. A determination has been made pursuant to Section 287.133(3) by order of the Division of Administrative Hearings that it is not in the public interest for the name of the convicted person or affiliate to appear on the convicted vendor list. The name of the convicted person or affiliate is _____ . A copy of the order of the Division of Administrative Hearings is attached to this statement.

(Draw a line through paragraph 7 if paragraph 6 above applies.)

Sworn to and subscribed before me in the state and county first mentioned above on the _____ day of _____, 2021.

Signed: _____
Notary Public

(Affix seal)

My commission expires: _____

END OF SECTION

SECTION 00303 – DRUG FREE WORKPLACE FORM

The undersigned vendor in accordance with the Florida Statute 287.087 hereby certifies that _____ does:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about dangers of drug abuse in the workplace, the business' policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees from drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employees will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of chapter 1893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm fully complies with the above requirements.

Bidder's Signature

Date

END OF SECTION

SECTION 00304 - IMMIGRATION AFFIDAVIT CERTIFICATION

This Affidavit is required and should be signed, notarized by an authorized principal of the firm, and submitted with formal Invitations to Bid (ITB's) and Request for Proposals (RFP) submittals. Further, Consultants / Bidders are required to enroll in the E-Verify program, and provide acceptable evidence of their enrollment, at the time of the submission of the Consultant's/bidder's proposal. Acceptable evidence consists of a copy of the properly completed E-Verify Company Profile page or a copy of the fully executed E-Verify Memorandum of Understanding for the company. Failure to include this Affidavit and acceptable evidence of enrollment in the E-Verify program may deem the Consultant / Bidder's proposal as nonresponsive.

The City of Wildwood will not intentionally award City contracts to any Consultant who knowingly employs unauthorized alien workers, constituting a violation of the employment provision contained in 8 U.S.C. Section 1324 a(e) Section 274A(e) of the Immigration and Nationality Act ("INA").

The City of Wildwood may consider the employment by any Consultant of unauthorized aliens a violation of Section 274A (e) of the INA. Such Violation by the recipient of the Employment Provisions contained in Section 274A (e) of the INA shall be grounds for unilateral termination of the contract by the City of Wildwood.

Consultant attests that they are fully compliant with all applicable immigration laws (specifically to the 1986 Immigration Act and subsequent Amendment(s)) and agrees to comply with the provisions of the Memorandum of Understanding with E-Verify and to provide proof of enrollment in The Employment Eligibility Verification System (E-Verify), operated by the Department of Homeland Security in partnership with the Social Security Administration at the time of submission of the Consultant's/Bidder's proposal.

Company Name: _____

Print Name: _____ Title: _____

Signature: _____ Date: _____

State of _____

County of _____

The foregoing instrument was signed and acknowledged before me this ____ day of _____, 2022, by _____ who ____ is personally known to me or ____ has produced _____ as identification.

(Notary Signature)

(Affix Seal)

(Print or Type Name)

(Commission Expiration Date)

The signee of this affidavit guarantees, as evidenced by the affidavit required herein, the truth and accuracy of this affidavit to interrogatories hereinafter made.

END OF SECTION

SECTION 00500 – AGREEMENT

This Agreement made this _____ day of _____, 2022 by and between the City of Wildwood hereinafter called "Owner", and _____ doing business as a corporation hereinafter call "Contractor", for the construction of the Wildwood WWTF Headworks Rehabilitation.

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The Contractor will furnish all of the material, supplies, tools, equipment, labor and other services necessary for construction and completion of the work described in the Contract Documents and comply with the terms therein for the lump sum of \$ _____ or as shown in the Bid Schedule.
2. The Contractor will furnish a Performance and Payment Bond, in an amount equal to 100 percent (100%) of the Contract Price and submit such Bond to the Owner within ten (15) calendar days from the date of the Notice of Award.
3. The Contractor will purchase and maintain such comprehensive general liability and other insurance such as required by the General and Supplementary Conditions and furnish Certificates of Insurance to the Owner within ten (15) calendar days from the date of the Notice of Award.
4. The Contractor will commence the work required by the Contract Documents within ten (10) calendar days after the date of the Notice to Proceed and will achieve Substantial Completion (**operational**) within 90 calendar days of the Notice to Proceed. The date of Final Completion will be 30 calendar days following the date of Substantial Completion. Unless the period for Substantial Completion is extended otherwise by the Contract Documents, the Contractor will be assessed liquidated damages in the amount of \$1,000 per calendar day past the date of Substantial Completion. In addition, for Final Completion, the Contractor will be assessed liquidated damages in the amount of \$1,000 per calendar day past the date of Final Completion.
5. The Owner will pay to the Contractor in the manner and at such times as set forth in the General Conditions such amounts as required by the Contract Documents.
6. Progress payments will be made in an amount equal to 90% (ninety percent) of the value of work completed and may include 90% (ninety percent) of the value of materials and equipment not incorporated into the work, but delivered and suitably stored, less, in each case, the aggregate of payments previously made. At the sole discretion of the Owner, monthly progress payments may be increased after 50% (fifty percent) of the work is completed to 95% (ninety-five percent) of the value of work completed and materials and equipment not incorporated but delivered and suitably stored (less the aggregate of previous payments) provided that:
 - (a) Contractor is making satisfactory progress, and
 - (b) There is no specific cause for greater withholding.However, the Owner may subsequently resume retaining 10% (ten percent) of the value of work completed and materials delivered if, in sole determination of the Owner, the Contractor is not performing according to the Contract Documents or not complying with the current progress schedule.
7. The Contractor will provide the Owner with a list of all Sub-contractors and Suppliers used by the Contractor in performing the work covered by this Contract. The Contractor will be required to submit to the Owner appropriate partial Release of Lien from the appropriate Suppliers and Sub-contractors with each Application for Payment before payment is made by the Owner. Final payment will be paid to the Contractor when the Contractor and all Sub-contractors and Suppliers have provided the Owner with their final Release of Lien.
8. The term "Contract Documents" means and includes the following:
 - (a) Invitation For Bids
 - (b) Instruction to Bidders
 - (c) Bid Form

- (d) Bid Bond
- (e) Public Entity Crimes Statement
- (f) Drug Free Workplace Form
- (g) Immigration Affidavit Certification
- (h) Agreement
- (i) Performance and Payment Bond
- (j) Certificate of Insurance
- (k) General Conditions
- (l) Supplementary Conditions
- (m) Special Provisions
- (n) Technical Specifications prepared or issued by Kimley-Horn and Associates, Inc. dated September 2022.
- (o) Drawings prepared by Kimley-Horn and Associates, Inc., Sheets 01 through 06 dated September 2022.
- (p) Addenda As Follows:

No. _____ dated _____, _____	No. _____ dated _____, _____
No. _____ dated _____, _____	No. _____ dated _____, _____

9. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.
10. The Contractor agrees that all materials, techniques, methods, and safety are exclusively the responsibility of the Contractor and not the Engineer or Owner.
11. Contractor agrees to immediately notify Owner if Contractor is adjudged as bankrupt or insolvent or makes a general assignment for the benefit of its creditors, or if a trustee or receiver is appointed for the Contractor or for any of its property, or if Contractor files a petition or take advantage of any debtor's act, or to reorganize under the bankruptcy or applicable laws.
12. The Contractor shall indemnify and save harmless the City of Wildwood its Engineer (Kimley-Horn and Associates, Inc.), officers, agents and employees from all suits, actions or claims of any character, name and description brought for, or on account of any injuries, deaths or damages received or sustained by any person, persons or property by or from the Contractor, his agents or employees, or by, or in consequence of, any neglect in safeguarding the work or through the use of unacceptable materials in the construction of the improvement, or by, or on account of, any act or omission, neglect, or misconduct of the Contractor, his agents or employees, or by, or on account of, any claims or amounts recovered for any infringement of patent, trademarks, or copyright or from any claims or amounts arising or recovered under the Workmen's Compensation Law or any other laws, by-laws, ordinances, order or other decree, and so much of the money due to Contractor under any virtue of his contract as shall be considered necessary to the Engineer, may be retained for use of the Owner, or in case of money is due, his Surety shall be held until such suit or lawsuits, action or actions, claim or claims, for injuries, deaths or damages, as aforesaid, shall have been settled and suitable evidence to that effect furnished to the Owner. The Contractor agrees to furnish insurance coverage in the type and amounts stipulated by the Specifications and Contract Documents.
13. The breach of any provision of this contract and those provisions stated more fully in the specifications for Wildwood WWTF Headworks Rehabilitation, dated September 2022 shall entitle Owner to collect damages against Contractor and if necessary, to seek injunctive relief against Contractor, and to collect costs and attorney's fees through all appeals.

IN WITNESS WHEREOF, the parties thereto have executed, or caused to be executed by their duly authorized officials, this Agreement in triplicate each of which shall be deemed an original on the date first above written.

OWNER: City of Wildwood

BY: _____

NAME: _____
(Please Type/Print)

TITLE: _____

DATE: _____

ATTEST:

By: _____

(Name: Please Type/Print)

(Title)

CONTRACTOR: _____

BY: _____

NAME: _____
(Please Type/Print)

ADDRESS: _____

DATE: _____

ATTEST:

By: _____

(Name: Please Type/Print)

(Title)

END OF SECTION

SECTION 00630 – PERFORMANCE AND PAYMENT BOND

The successful Bidder, simultaneously with the execution of the Agreement, shall furnish a Performance and Payment Bond in an amount equal to 100 percent (100%) of the Contract Price. The Bond shall be secured from a Surety Company listed on the Treasury Department's most current list and acceptable to the Owner.

Performance and Payment Bonds may be submitted on a standard form used by the Bidder's Surety Company. The Owner reserves the right to accept or reject the style and content of the Performance Bond Form submitted by the Bidder.

Performance and Payment Bonds shall be submitted with the executed Agreement.

END OF SECTION

SECTION 00650 – CERTIFICATE OF INSURANCE

A. INSURANCE REQUIREMENTS

1. Contractor shall purchase and maintain such comprehensive general liability and other insurance as required by the General Conditions.
2. The limits of liability for the insurance required by the General Conditions shall provide coverage for not less than the following amounts or greater where required by law:

- a. General Liability

Bodily Injury:

\$500,000 each occurrence

\$500,000 aggregate

Property Damage:

\$200,000 each occurrence

\$200,000 aggregate

Personal and Advertising Injury

(per person/organization):

\$200,000 each occurrence

\$200,000 aggregate

Products – Completed Operations Aggregate:

\$200,000 aggregate

- b. Automobile Liability

Bodily Injury:

\$300,000 each person

\$300,000 each occurrence

Property Damage:

\$300,000 each occurrence

- c. Excess Liability

Bodily Injury & Property Damage Combined

\$-0- each occurrence

\$-0- aggregate

- d. Worker's Compensation

In Accordance with State and Federal Statutory Limits

\$200,000 employer's liability

e. Contractual Liability

\$1,000,000 each occurrence (bodily injury and property damage)

\$1,000,000 general aggregate

f. Property Insurance

Property Insurance to the full value of completed work. Property insurance will be subject to a maximum of \$500.00 deductible. Deductible for any claim shall be paid by Contractor at no expense to Owner.

B. CERTIFICATE OF INSURANCE FORM

1. The Certificate of Insurance submitted to the Owner shall be on the Insurance Company's form with a format similar to the popular ACORD Corporation form.
2. The Owner shall be shown as the Certificate Holder.
3. The Owners project name and work order number shall be shown on the Certificate.
4. The Certificate shall be submitted in triplicate along with the executed Contract Agreement and Performance and Payment Bonds.

END OF SECTION

**STANDARD GENERAL CONDITIONS
OF THE CONSTRUCTION CONTRACT**

Prepared by



Issued and Published Jointly by



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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 Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. 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 Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 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. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document 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, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer has declined to address. A demand for money or services by a third party is not a Claim.
 11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and

Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Engineer*—The individual or entity named as such in the Agreement.
21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner’s acceptance of the Bid.
27. *Notice to Proceed*—A written notice 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.

28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
29. *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.
30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative.
33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals and the performance of related construction activities.
35. *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.
36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
37. *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, and such other lands furnished by Owner which are designated for the use of Contractor.
38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
39. *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.
40. *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.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.

43. *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 a Subcontractor.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
45. *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 but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *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; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 *Terminology*

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding 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 Article 10 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 15.03 or 15.04).
- 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. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- 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. *Bonds:* 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 Contractor’s Insurance:* When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance:* After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.

- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), 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;
 - 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.

2.04 *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 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, 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 and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *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 2.03.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 the component parts of the Work.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents,

drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.

- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, 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.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 *Reference Standards*

- A. Standards Specifications, Codes, Laws and Regulations
 - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, 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, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 - 2. No provision of any such standard specification, manual, reference standard, 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 part of the Contract Documents prepared by or for Engineer. 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 part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

- A. *Reporting Discrepancies:*
 - 1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to

applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents:* If, before or 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) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) 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 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
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 part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); 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 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers 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 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; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- 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.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *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 Contract 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 Contract. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

4.02 *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 such date.

4.03 *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.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 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 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. 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, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, 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 Times and Contract Price. 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.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. 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. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
 - 1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 - 2. abnormal weather conditions;
 - 3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 - 4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
- E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.
- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *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.
- 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 permanent improvements are to be made 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.

5.02 *Use of Site and Other Areas*

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

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, 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 any such claim, and against all 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 directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent 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 and adjacent areas 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 of 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 structures or land to stresses or pressures that will endanger them.

5.03 *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 adjacent to the Site;

2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
 3. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on 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.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site 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 5.03 is materially inaccurate; or
 2. is of such a nature as to require a change in the Drawings or Specifications; 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 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.
- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating

whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.

D. *Possible Price and Times Adjustments:*

1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, 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 fall within any one or more of the categories described in Paragraph 5.04.A;
 - 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 Paragraph 13.03; and,
 - c. 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.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or
 - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent 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 do not warrant or guarantee 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 information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;

- c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then 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 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.
- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Possible Price and Times Adjustments:*
 - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - 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 Paragraph 13.03;
 - c. 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; and
 - d. Contractor gave the notice required in Paragraph 5.05.B.
 - 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
 - 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings*: The Supplementary Conditions identify:
1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 2. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on 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 removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) 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 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.

- G. 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, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
- H. 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, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. 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 (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.H shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. 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 failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, 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. 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 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and

supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond 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 the accompanying bond.

- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then 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 bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, 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.

- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 *Contractor's Insurance*

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).
 - 4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
 - 1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 - 2. claims for damages insured by reasonably available personal injury liability coverage.
 - 3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
 - 1. Products and completed operations coverage:
 - a. Such insurance shall be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 - 2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 - 3. Broad form property damage coverage.
 - 4. Severability of interest.

5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
 8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability*: Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability*: Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance*: Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.
- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
1. include at least the specific coverages provided in this Article.
 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.

4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 *Property Insurance*

- A. *Builder's Risk:* Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
 2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
 3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent

constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.

4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).
 5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
 6. extend to cover damage or loss to insured property while in transit.
 7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
 8. allow for the waiver of the insurer's subrogation rights, as set forth below.
 9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
 10. not include a co-insurance clause.
 11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
 12. include performance/hot testing and start-up.
 13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, 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 insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the 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 Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, 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 or Contractor as trustee or fiduciary, 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 occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.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, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, 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 builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of

insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.

- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR’S RESPONSIBILITIES

7.01 *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.
- 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.

7.02 *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, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner’s written consent, which will not be unreasonably withheld.

7.03 *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, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work 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.

7.04 *“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 Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item 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 is permitted, Contractor

may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.

1. If Engineer in its sole discretion determines that 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, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, 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;
 - 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
 - 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.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer considered the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 Substitutes

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for

review of proposed substitute items of material or equipment from anyone other than Contractor.

2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
3. 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:
 - a. shall certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design,
 - 2) be similar in substance to that specified, and
 - 3) be suited to the same use as that specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
 - 2) 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
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from that specified, and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. 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.

- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.
- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. 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 the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. 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.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.

- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. 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.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.
- O. 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 money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *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.

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, 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 the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

7.09 *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.

7.10 *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 or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and 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 such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.12 *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, other work in progress, 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 Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- 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 7.12.A.2 or 7.12.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 at its expense (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 protection 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 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
- G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 *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.

7.14 *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.

7.15 *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.

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements:*

1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the 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 and equipment 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 of that submittal, and that Contractor approves the 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 set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Contractor shall submit the number of copies required in the Specifications.
- 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 7.16.D.

2. *Samples:*

- a. Contractor shall submit the number of Samples required in the Specifications.
- b. Contractor shall 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 7.16.D.

3. 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. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.
- 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 or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 4. Engineer's review and approval of a Shop Drawing or Sample 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 7.16.A.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 will document any such approved variation from the requirements of the Contract Documents in a Field Order.
 5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
 6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
 7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.
 8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.
- 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.
 2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
 3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *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 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;
 - 6. the issuance of a notice of acceptability by Engineer;
 - 7. any inspection, test, or approval by others; or
 - 8. any correction of defective Work by Owner.
- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, 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 7.18.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 7.18.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.

7.19 *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 Laws and Regulations.
- 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, 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, 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 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's

employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. 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.

- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, 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.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. 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.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual

rights against Contractor with respect to the breach of the obligations set forth in this paragraph.

- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.
- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) 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 any such claims, and against all 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 damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

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

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

9.03 *Furnish Data*

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

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *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.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *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 (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- 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.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *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.

10.02 *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 10.08. 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.

10.03 *Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. 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.

10.04 *Rejecting Defective Work*

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. 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, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

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

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, 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 15.06.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 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 - 1. *Change Orders:*
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
 - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
 - 2. *Work Change Directives:* A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.
 - 3. *Field Orders:* Engineer may authorize minor changes in the Work if the changes 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. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-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. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 *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, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. 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, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
 - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
 - 3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).
- C. *Contractor's Fee:* When applicable, 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 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.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 11.01.C.2.a and 11.01.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with

respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;

- d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
- 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 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.
 - 1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 - 2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
 - 3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.

- B. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. 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;
 2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
 4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *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.

ARTICLE 12 – CLAIMS

12.01 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in

good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.
 - 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval:* If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim:* If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results:* If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 Cost of the Work

- A. *Purposes for Determination of Cost of the Work:* The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 - 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 - 2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work 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 13.01.C, 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, and 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 bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, 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 13.01.
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 6.05), 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 communication 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 that Contractor is required by the Contract Documents to purchase and maintain.
- C. *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 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here 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 Paragraph 13.01.B.
- D. *Contractor's Fee:* When the Work as a whole 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, Change Proposal, Claim, set-off, or other 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 11.04.C.
- E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, 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.

13.02 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*: Contractor agrees that:
 - 1. 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
 - 2. 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*: 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.

13.03 *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 Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- 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. 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 the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price 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;
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that it 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 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction 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.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- 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, obtaining, and paying for all inspections and tests required:
 - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 - 3. by manufacturers of equipment furnished under the Contract Documents;
 - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.
- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. 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. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated,

installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.

- E. *Preservation of Warranties*: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages*: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages 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. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require special inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then 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, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages 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 pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. 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, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *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, then 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.

14.07 *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, 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, then 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 14.07, 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, 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 incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. 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 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 *Progress Payments*

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 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 during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *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, a warehouse bond, 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.
- C. *Review of Applications:*
1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, 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 13.03, 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; 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 money 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 15.01.C.2.
 6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.
- D. *Payment Becomes Due:*
1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.
- E. *Reductions in Payment by Owner:*
1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. the Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. the Contract Price has been reduced by Change Orders;
 - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;

- k. 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;
 - l. there are other items entitling Owner to a set off against the amount recommended.
 2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, 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, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
 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 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 *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 and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- 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 preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in

writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. 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 punch list.

15.04 *Partial Use or Occupancy*

- 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. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be 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 15.03.A through E for that part of the Work.
 - 2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work 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 15.03 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 6.05 regarding builder's risk or other property insurance.

15.05 *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, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *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, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
 - d. a list of all disputes that Contractor believes are unsettled; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) 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, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

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 have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. 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 15.07. 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. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.
- D. *Payment Becomes Due:* Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.

- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *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 Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such other adjacent areas;
 - 2. correct such defective Work;
 - 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 to 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. 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 repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- 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, 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 are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
 - 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
 - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this Article, Owner or Contractor may:
1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
 2. agree with the other party to submit the dispute to another dispute resolution process; or
 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *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, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract 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.

18.03 *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. 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.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

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

18.08 *Headings*

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

SECTION 00800 – SUPPLEMENTAL CONDITIONS

These Supplemental Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC C-700 (2013 Edition). All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplemental Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplemental Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplemental Conditions is the same as the address system used in the General Conditions, with the prefix “SC” added thereto.

SC-2 PRELIMINARY MATTERS

SC-2.01 Add the following new paragraph immediately after Paragraph 2.01.A as 2.01.A.1:

Contractor shall record all required bonds, at the contractor’s expense, in the public records of Sumter County, Florida and shall provide certified copies of said bonds along with the executed agreement to the Owner within ten (15) calendar days of the Notice of Intent to Award.

SC-2.02 Delete Paragraph 2.02.A in its entirety and insert the following in its place:

Owner shall furnish to Contractor up to three (3) printed or hard copies of the Drawings and Project Manual and one set in electronic format. Additional copies will be furnished upon request at the cost of reproduction.

SC-5 AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

SC 5.06 Delete Paragraphs 5.06.A and 5.06.B in their entirety and insert the following:

- A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.
- B. Not Used.

SC-6 BONDS AND INSURANCE

SC 6.01 Delete Paragraphs 6.01.A in their entirety and insert the following:

- A. Contractor shall furnish a performance and payment bond 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. The bond 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 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.

SC-6.03 Add the following new paragraph immediately after Paragraph 6.03.J:

- A. The limits of liability for the insurance required by Paragraph 5.04 of the General Conditions shall be as specified in Document 00650 – Minimum Insurance Requirements, or greater where required by Laws and Regulations.

SC-7 CONTRACTOR'S RESPONSIBILITIES

SC-7.02.B Amend the first and second sentences of Paragraph 7.02.B to state "...all Work at the Site shall be performed during regular working hours, Monday through Saturday, except where not allowed by CSX, FDOT or Sumter County for portions of work within their control. Contractor will not perform Work on a Sunday or any legal holiday."

SC-7.06 Add the following new paragraph immediately after Paragraph 7.06.O as 7.06.P:

The General Contractor shall be required to perform, at a minimum, 51% of the contract amount of this project.

SC-7.17 Add the following new paragraphs immediately after Paragraph 7.17.E:

- F. Contractor shall furnish required submittals with sufficient information and accuracy in order to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing subsequent submittals of Shop Drawings, samples, or other items requiring approval and Contractor shall reimburse Owner for Engineer's charges for such time.
- G. In the event that Contractor requests a change of a previously approved item, Contractor shall reimburse Owner for Engineer's charges for its review time unless the need for such change is beyond the control of Contractor.

SC-10 ENGINEER'S STATUS DURING CONSTRUCTION

SC-10.03 Add the following new paragraphs immediately after Paragraph 10.03.A:

- B. The Resident Project Representative (RPR) will be Engineer's employee or agent at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions. RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall be through or with the full knowledge and approval of Contractor. The RPR shall:
 - 1. *Schedules:* Review the progress schedule, schedule of Shop Drawing and Sample submittals, and schedule of values prepared by Contractor and consult with Engineer concerning acceptability.
 - 2. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.
 - 3. *Liaison:*
 - a. Serve as Engineer's liaison with Contractor, working principally through Contractor's authorized representative, assist in providing information regarding the intent of the Contract Documents.
 - b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
 - c. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.
 - 4. *Interpretation of Contract Documents:* Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.
 - 5. *Shop Drawings and Samples:*

- a. Record date of receipt of Samples and approved Shop Drawings.
 - b. Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.
6. *Modifications*: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR's recommendations, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.
7. *Review of Work and Rejection of Defective Work*:
 - a. Conduct on-Site observations of Contractor's work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
 - b. Report to Engineer whenever RPR believes that any part of Contractor's work in progress will not produce a completed Project that conforms generally to the Contract Documents or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
8. *Inspections, Tests, and System Startups*:
 - a. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.
 - b. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems start-ups.
9. *Records*:
 - a. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.
 - b. Maintain records for use in preparing Project documentation.
10. *Reports*:
 - a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Shop Drawing and Sample submittals.
 - b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.
 - c. Immediately notify Engineer of the occurrence of any Site accidents, emergencies, and acts of God endangering the Work, damage to property by fire or other causes, or the discovery of any Hazardous Environmental

Condition.

11. *Payment Requests:* Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the schedule of values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.
12. *Certificates, Operation and Maintenance Manuals:* During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Specifications to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.
13. *Completion:*
 - a. Participate in a Substantial Completion inspection, assist in the determination of Substantial Completion and the preparation of lists of items to be completed or corrected.
 - b. Participate in a final inspection in the company of Engineer, Owner, and Contractor and prepare a final list of items to be completed and deficiencies to be remedied.
 - c. Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the Notice of Acceptability of the Work.

C. The RPR shall not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).
2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.
3. Undertake any of the responsibilities of Contractor, Subcontractors, Suppliers, or Contractor's superintendent.
4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor's work unless such advice or directions are specifically required by the Contract Documents.
5. Advise on, issue directions regarding, or assume control over safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.
8. Authorize Owner to occupy the Project in whole or in part.

SC-15 PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

SC-15.01 Delete Paragraph 15.01.B.1 in its entirety and replace with the following:

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.

SC 15.03.B Add the following new subparagraph to Paragraph 15.03.B:

1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, shall be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

SC-17 FINAL RESOLUTION OF DISPUTES

SC-17.01 Delete Paragraphs 17.01.A and 17.01.B in their entirety and replace with the following:

- A. All claims, disputes, and other matters in question between Owner and Contractor arising out of or relating to the contract Documents or the breach thereof (except for claims which have been waived by the making or acceptance of final payment) will be decided by proper legal procedures to be heard in the Circuit Court of Sumter County, Florida.
- B. No filing of suite or commencement of legal procedures of any claim, dispute or other matter that is required to be referred to Engineer initially for decision will be made until the earlier of (a) the date on which Engineer has rendered a written decision or (b) the thirty-first day after the parties have presented their evidence to the Engineer if a written decision has not been rendered by Engineer before that date. No commencement of legal proceedings for any such claim, dispute or other matter will be made later than thirty days after the date on which the Engineer has rendered a written decision in respect thereof; and the failure to commence legal proceedings within said thirty days period will result in the Engineer's decision being final and binding upon Owner and Contractor. If Engineer renders a decision after legal proceedings have been initiated, such decision may be entered as evidence but will not supersede the legal proceedings, except where the decision is acceptable to the parties concerned. No commencement of legal proceedings of any written decision of Engineer rendered will be made later than ten days after the party initiating such procedures has delivered written notice of intention to appeal as provided in paragraph GC 9.09.

END OF SECTION

SECTION 00801 – SPECIAL PROVISIONS

PART 1 - GENERAL

The Special Provisions of these specifications are intended as modifications or supplements to Information for Bidders; General Conditions; or Technical Specifications, with the intent that any provisions of this section shall govern. If at any time the plans or specifications for this project are unclear, the CONTRACTOR shall contact the Engineer immediately. For those situations where details are not included in the plans or miscellaneous work arises during the project which is not covered by the plans or specification for this project, the Construction shall be performed in accordance with *FDOT Standard Specifications for Road and Bridge Construction* and *FDOT Roadway and Traffic Design Standards (Latest edition)*.

1.01 CONSTRUCTION LAYOUT SURVEY

- A. Base lines and benchmarks shall be established by the CONTRACTOR's surveyor for the CONTRACTOR's use. The CONTRACTOR will be responsible for performing all survey required for accurate layout of the proposed work.

1.02 AS-BUILT SURVEY

- A. The CONTRACTOR shall provide surveyed as-built plans, prepared and certified by a professional land surveyor, documenting the actual constructed condition of all paving, grading, drainage and underground utility construction in accordance with Section 01720 "Project Record Drawings".

1.03 POLLUTION PREVENTION AND CONTROL

- A. The CONTRACTOR is responsible for maintaining full and complete erosion control throughout the project until all work is complete and accepted by City of Wildwood. Erosion control is a performance-based criteria, and the measures needed depend on the CONTRACTOR's sequence of work, cleanliness and organization of the sites, and weather conditions during the work. The CONTRACTOR shall provide all necessary erosion control measures to prevent any violations as described in the Florida Department of Environmental Protection Generic Permit for Stormwater Discharges from Large and Small Construction Activities, latest revision.
- B. Under this item the CONTRACTOR is responsible for filing a Notice of Intent to Use the Generic Permit for Stormwater Discharge from Large and Small Construction Activities with the FDEP and following all permit requirements.

1.04 MAINTENANCE OF TRAFFIC

- A. The contractor shall be responsible, during the course of construction, for proper maintenance control, and detour of traffic in the area of construction. Traffic control and Maintenance shall be in conformance with the Manual of Traffic Control and the FDOT Standard Index (600 Series). The Public shall, at all times, be protected by barricades, flashers, flagmen, and other safety devices as needed. All safety precautions shall be taken and all traffic controls shall be furnished, satisfactory to County, Department of Transportation, and/or any other governmental agency having jurisdiction, where partial or complete obstruction of streets is required for the performance of the work. The

CONTRACTOR shall maintain positive drainage for all active travel lanes at all times. The cost of any temporary drainage facilities required are to be included in this bid item. All temporary striping and the removal of any conflicting striping, as well as adjustment of the existing traffic signals to accommodate the Maintenance of Traffic plan are to be included in this bid item.

- B. The CONTRACTOR shall prepare a Maintenance of Traffic plan for approval by the Engineer and Owner prior to initiating any work. Detours shall be submitted by the CONTRACTOR for review by the Owner. No road closures are permitted without the Owner's authorization. It shall be the CONTRACTOR's responsibility, as Bidder, prior to submitting his Bid, to determine the requirements of these agencies so that his Proposal reflects all costs to be incurred. No claims for additional payment shall be considered for costs incurred due to the proper maintenance, control, detour, signing, striping, and protection of traffic.

1.05 PRIVATE PROPERTY PROTECTION

- A. The CONTRACTOR shall not trespass onto private property outside of the right-of-way and easements without the written permission of the individual property owner. The CONTRACTOR shall be solely responsible for any claims that may arise out of damage to private property resulting from trespass onto private property. The CONTRACTOR shall promptly settle all such claims without delay. The written permission of the private property's owner shall be available for inspection by the Engineer or the Owner upon request.

1.06 INSPECTION AND TESTING

- A. GENERAL – The Project Engineer or representative inspector under the Engineer's direct supervision shall provide construction observation as the Owner's representative in accordance with Section 00800, Supplemental Conditions.
- B. TESTING – CONTRACTOR shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents. The testing results shall be provided directly to the OWNER's representative throughout the performance of the Work. The CONTRACTOR shall be responsible for the costs of any retesting of failing components as identified by the independent testing laboratory.
- C. Material sampling and testing shall be in accordance with the FDOT Standard Specifications for Road and Bridge Construction, 2010 edition, unless otherwise noted.
- D. INSPECTIONS – Construction inspections will periodically be conducted by the Project Engineer or an authorized representative. The CONTRACTOR shall complete each specified item of work listed below which pertains to the project and notify the project engineer or his representative at least forty-eight (48) hours in advance of a request for inspection. The CONTRACTOR's project superintendent shall be present at all inspections and upon request by the inspector, furnish construction equipment to aid in the inspection.
- E. The following are mandatory inspections which shall be conducted when the item of work applies to the subject project.

1. Concrete Rehabilitation – The CONTRACTOR shall request inspection of all newly rehabbed concrete prior to coating.
 2. Coatings and Painting – The CONTRACTOR shall request inspection of all newly installed coatings prior to substantial completion.
 3. Substantial Completion Inspection – When all construction is completed. The CONTRACTOR, Inspector and Engineer shall prepare a punch list indicating any unfinished items at this time.
 4. Final Inspection – Final inspection will be conducted following the correction of the punch list items.
- F. All inspections shall be conducted and approved by the Project Engineer or his representative prior to approval of the payment request for the item of work.
- G. 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.

1.07 LEGAL REQUIREMENTS

- A. The CONTRACTOR's attention is directed to the safety regulations promulgated by the State of Florida, Department of Commerce and to the provisions of Chapter 403, Florida Statutes, regarding control of air and water pollution as well as the Rules and Regulations of the Department of Environmental Regulation.
- B. The CONTRACTOR shall be responsible for obtaining all permits and obeying all Federal, State, County and City laws, by-laws, ordinances, resolutions, and regulations which pertain to his work.
- C. The CONTRACTOR shall take care to strictly observe all applicable OSHA, State, Local or other Federal Standards with respect to the safety of persons during construction.

1.08 PUBLIC CONVENIENCE AND SAFETY

- A. No street or roadway shall be closed, except when and where directed by the Engineer or County Inspector. The work shall be conducted so that there shall, at all items, be a safe passageway for traffic, whenever the street or roadway is not closed. The CONTRACTOR shall provide and maintain a passable driveway, as directed by the Engineer, whenever it is necessary to divert traffic from any part of the street or roadway actually under construction. Driveways must be accessible at all times, in case of an emergency, and must be left in a usable condition at the end of each day.
- B. The CONTRACTOR shall provide, erect, and maintain all necessary barricades, suitable and sufficient red lights, danger signals and signs, provide a sufficient number of watchmen, and take all necessary precautions for the protection of the work and safety of the public. Streets or highways, which are closed to traffic, shall be protected by effective barricades on which acceptable warning signs shall be placed. The CONTRACTOR shall provide and maintain detour signs at all closures and intersections along the detour route(s) to direct the traffic around the closed portion(s) of the work. All temporary detour route(s) shall be clearly indicated throughout their entire length. All barricades and obstructions

shall be illuminated at night. All lights shall be kept burning from sunset to sunrise. All barricades shall be well built and designed so as not to be blown over by the wind.

- C. Allowable work hours for this project are from 7:00AM to 7:00PM, Monday – Saturday. No work may be performed on Sundays or major recognized holidays. Night work may be required for certain operations, but only with approval from the Engineer and Owner.

1.09 MAINTENANCE AND PROTECTION OF WORK

- A. The CONTRACTOR shall maintain all earthwork construction throughout the life of the contract, unless otherwise provided, and shall take all reasonable precautions to prevent loss of material from the roadway due to the action of wind or water. He shall repair, at his expense, except as otherwise provided herein, any slides, washouts, settlement, subsidence, or other mishap which may occur prior to final acceptance of the work.
- B. All channels excavated as a part of the contract work shall be maintained against natural shoaling or other encroachments to the lines, grades, and cross sections shown in the plans, until final acceptance of the project.

1.10 REMOVED MATERIALS

- A. The CONTRACTOR shall haul all excess materials off the job site. It will be the CONTRACTOR's responsibility to dispose of all excess material in an off-site acceptable location. No additional payment will be made for hauling or disposal of excess material.

1.11 SODDING DISTURBED AREAS

- A. The Contractor will be responsible for sodding all areas disturbed during construction. Sodding shall include laying, leveling, and rolling sod of similar variety to the existing sod. The contractor is responsible for watering until the new sod is firmly established.

1.12 QUANTITIES

- A. The CITY may delete or add quantities with an established unit price. Any change in the quantity shall not constitute a change in the unit price.

1.13 BURNING

- A. Burning shall not be permitted on this project without prior approval from the Engineer and the Owner. If burning is allowed, it shall be the responsibility of the CONTRACTOR to obtain all required burning permits, and to have adequate supervision and safety measures at all times during burning. No unattended burning will be allowed.

1.14 EXCAVATION SAFETY

- A. All excavation operations involved in this project shall comply with the Trench Safety Act (90-96, Laws of Florida) which specifically adopts the provision of the Occupational Safety and Health Administrations Excavation Safety Standards (29 C.F.R. Part 1926.650 Subpart P)
- B. It shall be the responsibility of the CONTRACTOR to ensure worker safety, provide sufficient required insurance, comply with all safety codes, laws, and requirements, and to

include any cost of such safety requirements in the project bid. No additional compensation shall be allowed for the cost of such compliance.

- C. It shall be the CONTRACTOR's option and responsibility to select the compliance method(s) and to ensure the proper employment of said method(s) during the entire project.
- D. These standards shall apply to all areas of construction whether or not specifically mentioned in another division of these specifications.

1.15 LICENSING

- A. The CONTRACTOR and all subcontractors shall be properly licensed in Sumter County, Florida.

1.16 DEMOLITION

- A. The extent of the demolition work is indicated on the drawings or as required for the installation of the new components. The work includes any other miscellaneous work associated with the removal of aboveground and below ground structures, piping, equipment, conduit, wire, valve pads, valve boxes, fencing, signs, concrete slabs, asphalt, and any other items required to be removed from the project.
- B. The CONTRACTOR shall be responsible for all excavation, including rock, unsuitable soils, bedding, backfill, dewatering, sheeting, testing and proper disposal of any items demolished as part of this project as necessary
- C. The CONTRACTOR shall be responsible for all shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished, and adjacent facilities or work to remain.
- D. The CONTRACTOR shall return any equipment in working condition to the City.
- E. The CONTRACTOR shall submit a schedule indicating proposed methods and sequence of operations for demolition work to Engineer for review and approval prior to commencement of work. The CONTRACTOR shall provide a detailed sequence of demolition and removal work to ensure uninterrupted operation of the City's onsite operations.

1.17 CONSTRUCTION SEQUENCE AND TEMPORARY BYPASS PUMPING

- A. The CONTRACTOR shall coordinate directly with the City of Wildwood Wastewater Department to schedule shutting off the applicable upstream lift stations during the Wildwood WWTF Headworks Rehabilitation. The CONTRACTOR shall provide pipeline plugs and a standby pump truck as required. Night work may be required for certain operations, but only with approval from the Owner.
- B. At each location where bypass pumping is deemed necessary, the CONTRACTOR shall provide bypass pumping system, including pipeline plugs, pumps of adequate size to handle peak flow, and temporary discharge piping to ensure total flow of main can be safely diverted around the area of work. Bypass pumping system shall be required to operate 24 hours per day.

- C. The CONTRACTOR shall provide adequate standby equipment available and ready for immediate operation and use in the event of an emergency or breakdown. Install one standby pump for each size pump utilized at the mainline flow bypassing locations, ready for use in the event of primary pump failure.
- D. For each system, prior to placing bypass equipment, the CONTRACTOR shall submit to Engineer detailed plans and descriptions outlining provisions and precautions to be taken regarding handling of existing wastewater flows. Include locations, equipment capacities, materials, and other incidental items necessary and/or required to ensure proper protection of facilities, including protection of access and bypass pumping locations from damage due to discharge flows, and compliance with requirements and permit conditions specified within. Construction associated with each system shall not begin until Engineer has reviewed provisions and requirements.

END OF SECTION

SECTION 01150 - MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. The following explanation of the Measurement and Payment for the bid items is provided; however, the omission of reference to any item shall not alter the intent of the Bid Form or relieve the Contractor of the necessity of constructing a complete project under this Contract.
- B. The quotations prepared by the Contractor for the various items of work are intended to establish a total price for completion of the work in its entirety. Should the contractor feel that the cost for any particular work item has not been established by the Schedule of Payment items or this section, the Contractor shall include the cost for that work in one of the bid items so the proposal for the project reflects the total cost to complete the work in its entirety.
- C. The quantities set forth in the Bid Form are approximate and are given to establish a uniform basis for the comparison of bids. The Owner reserves the right to increase or decrease the quantity of any item or portion of the work during the progress of construction in accordance with the terms of the Contract. The Schedule of Values shall serve as a basis of developing additive or deductive Change Orders.
- D. Unit prices are used as a means for computing the bid, for Contract purposes, for periodic payments, for determining value of additions or deletions.
- E. Payment shall be made for the items listed on the Bid Form on the basis of the work actually performed and completed, such work including but not limited to, the furnishing of all necessary labor, materials, equipment, tools, transportation, delivery, disposal of waste and surplus material, restoration and all other appurtenances to complete the construction and installation of the work as shown on the drawings and described in the specifications.

1.02 SUBMITTALS

- A. Informational:
 - 1. Schedule of Values
 - 2. Application for Payment
 - 3. Final Application for Payment
- B. Submittals shall be in accordance with Section 01300.

1.03 SCHEDULE OF VALUES

- A. Contractor shall prepare a schedule of values for review with the return of the executed agreement to the Owner. The schedule shall contain the installed value of the component parts of work for the purpose of making progress payments during the construction period.
- B. The schedule shall contain sufficient detail for proper identification of work accomplished. The sum of all scheduled items shall equal the total value of the contract.

C. Unit Price Work:

1. Separate payment will be made for the items of work described herein and listed on the Bid Form. Any related work not specifically listed but required for satisfactory completion of the work shall be considered to be included in the scope of the appropriate listed work items.
2. No separate payment will be made for the following items and the cost of such work shall be included in the applicable pay items of work. Final payments shall not be requested by the Contractor or made by the City until as-built (record) drawings have been submitted and approved by the City and Engineer.
 - a. Shop Drawings, Working Drawings.
 - b. Clearing, grubbing and grading except as hereinafter specified.
 - c. Trench excavation, including necessary pavement removal and rock removal
 - d. Dewatering and disposal of surplus water.
 - e. Structural fill, backfill, and grading.
 - f. Replacement of unpaved roadways, and shrubbery plots.
 - g. Cleanup and miscellaneous work.
 - h. Foundation and borrow materials
 - i. Testing and placing system in operation.
 - j. Any material and equipment required to be installed and utilized for the tests.
 - k. Pipe, structures, pavement replacement, asphalt and shell driveways and/or appurtenances included within the limits of lump sum work
 - l. Maintaining the existing quality of service during construction.
 - m. Maintaining or detouring of traffic.
 - n. Appurtenant work as required for a complete and operable system.
 - o. Seeding and mulching.
 - p. As-built Record Drawings.

D. Lump Sum Work:

1. Where payment for items is shown to be paid for on a lump sum basis, no separate payment will be made for any item of work required to complete the lump sum items. Lump sum contracts shall be complete, tested and fully operable prior to request for final payment. Contractor may be required to provide a break-down of the lump sum totals.

2. An unbalanced, front end loaded schedule will not be acceptable.

1.04 APPLICATION FOR PAYMENT

- A. Include accepted schedule of values for each portion of work and the unit price breakdown for the work to be paid on a unit price basis, and a listing of Owner selected equipment, if applicable, and allowances, as appropriate.
- B. Preparation:
 1. List each Change Order and Written Amendment executed prior to date of submission as a separate line item.
 2. Submit application for payment, a listing of materials on hand as applicable, and such supporting data as may be requested by the Owner/Engineer.

PART 2 - PRODUCTS

2.01 ITEM DESCRIPTIONS FOR Wildwood WWTF HEADWORKS REHABILITATION

A. MOBILIZATION

1. Method of Measurement: The quantity to be paid for under this Section shall be on a lump sum (LS) basis. The Contractor's lump sum price shall include full compensation for all work related to mobilization and demobilization for infrastructure and the work items listed below, and any other related work, except for any work designated to be paid for separately or to be specifically included in the costs of other work under the Contract.
2. Basis of Payment: Measurement and payment for mobilization will be made at the contract lump sum price for the item, which price and payment shall be full compensation for the preparatory work and operations in mobilizing for beginning work on the project including, but not limited to, those operations necessary for the movement of personnel, equipment, supplies and incidentals to the project site, and for the establishment of field office as necessary, building, safety equipment and first aid supplies, sanitary and other facilities, as required by these specifications, and State and City laws and regulations; and any other reconstruction expense necessary for the start of the work; the cost of field engineering, permits and fees, construction schedules, shop drawings, temporary facilities, laydown storage area, construction aids, erosion control, any general requirements, indemnification, anything not included in the other bid form line items, work associated with CONTRACTOR support during Owner/ENGINEER reviews and inspection, reinspection and any re-work resulting from same. The Contractor shall submit invoices substantiating the cost of mobilization with each pay request and shall not exceed percent complete of the construction work. The percentage of monthly compensation for this item shall match the percentage of total contract work completed to date as agreed with Owner/ENGINEER. The items specified in this bid item consist of the costs of any pre and post construction expenses necessary for the start and completion of the project, excluding the cost of construction materials.

B. BONDS & INSURANCE

1. Method of Measurement: The quantity to be paid for under this Section shall be on a lump sum (LS) basis.
2. Basis of Payment: Payment shall be made at the Contract Lump Sum Price and shall include all compensation for providing and maintaining bonds and insurance for the project in accordance with the Contract documents.

C. RESTORATION

1. Method of Measurement: The quantity to be paid for under this Section shall be on a Lump Sum (LS) basis.
2. Basis of Payment: Payment shall be at the Contract Lump Sum Price and shall include, but not be limited to, furnishing all materials, labor, and equipment required to restore the project and staging areas to an equal or better condition than what was existing prior to the start of the project except for any work designated to be paid for separately or to be specifically included in the costs of other work under the Contract.

D. HEADWORKS CHANNEL REPAIR

1. Method of Measurement: The quantity to be paid for under this Section shall be on a Lump Sum (LS) basis.
2. Basis of Payment: Payment shall be at the Contract Lump Sum Price and shall include, but not be limited to, furnishing all materials, labor, and equipment required for all concrete removal, surface preparation, application of repair mortar, dry and wet crack repair, resurfacing, reprofiling, curing, O&M manuals, and any other items required for a complete and functional system as shown in the project plans and specifications.

E. HEADWORKS CHANNEL COATING

1. Method of Measurement: The quantity to be paid for under this Section shall be on a Lump Sum (LS) basis.
2. Basis of Payment: Payment shall be at the Contract Lump Sum Price and shall include, but not be limited to, furnishing all materials, labor, and equipment required for all surface preparation, application of specified coatings, curing, inspections, O&M manuals, and any other items required for a complete and functional system as shown in the project plans and specifications.

F. HEADWORKS DECK REPAIR

1. Method of Measurement: The quantity to be paid for under this Section shall be on a Lump Sum (LS) basis.
2. Basis of Payment: Payment shall be at the Contract Lump Sum Price and shall include, but not be limited to, furnishing all materials, labor, and equipment required for all concrete removal, surface preparation, application of repair mortar,

dry and wet crack repair, resurfacing, reprofiling, curing, O&M manuals, and any other items required for a complete and functional system as shown in the project plans and specifications.

G. HEADWORKS DECK COATING

1. Method of Measurement: The quantity to be paid for under this Section shall be on a Lump Sum (LS) basis.
2. Basis of Payment: Payment shall be at the Contract Lump Sum Price and shall include, but not be limited to, furnishing all materials, labor, and equipment required for all surface preparation, application of specified coatings, curing, inspections, O&M manuals, and any other items required for a complete and functional system as shown in the project plans and specifications.

H. 20" D.I. PIPING

1. Method of Measurement: The quantity to be paid for under this Section shall be to the nearest linear foot (LF) along the horizontal center line of the pipe between the limits as shown on the drawings, complete and accepted.
2. Basis of Payment: Payment shall be made at the Contract Unit Price per lineal foot and shall include, but not be limited to, furnishing all materials, labor, and equipment required to remove all existing piping, restraints, fittings, and appurtenances; hauling and legal off-site disposal of debris, temporary shoring, support of existing aboveground improvements to remain and be protected, dewatering, installation of the pipe main in accordance with City standards including the joint restraints, appropriate lining as shown in the project plans, link seal replacement, filling, flushing, cleaning, pressure testing (including temporary caps/plugs for testing as may be required), and any other items required for a complete and functional system as shown in the project plans and specifications.

I. 20" TEE

1. Method of Measurement: The quantity to be paid for under this Section shall be per each (EA) valve installed, complete and accepted.
2. Basis of Payment: Payment shall be made at the Contract Unit Price per valve and shall include, but not be limited to, furnishing all materials, labor, and equipment required to install the tee and tee appurtenances as required, identification tags, O&M manuals, and any other items required for a complete and functional system as shown in the project plans and specifications.

J. 20" KNIFE VALVE

1. Method of Measurement: The quantity to be paid for under this Section shall be per each (EA) valve installed, complete and accepted.
2. Basis of Payment: Payment shall be made at the Contract Unit Price per valve and shall include, but not be limited to, furnishing all materials, labor, and equipment required to install the valve, valve appurtenances, valve box, as required, identification tags, bypass valves as specified, O&M manuals, and any other items

required for a complete and functional system as shown in the project plans and specifications.

K. RELOCATE EXISTING CONTROL PANEL

1. Method of Measurement: The quantity to be paid for under this Section shall be on a Lump Sum (LS) basis.
2. Basis of Payment: Payment shall be made at the Contract Lump Sum Price and shall include, but not be limited to, furnishing all materials, labor, and equipment for the relocation and reconnection of the existing rotary drum screen; furnishing all materials, labor, and equipment required to install the new conduit and wiring with any stripping, trenching, compaction, backfill and re sodding required for a complete and fully operable system, including testing and start-up, identification tags, O&M manuals as shown in the Contract Documents, ready for approval by the Engineer and acceptance by the Owner.

L. REMOVAL AND REPLACEMENT OF DETERIORATED REINFORCEMENT

1. Method of Measurement: The quantity to be paid for under this Section shall be on an Allowance (AL) basis.
2. Basis of Payment: Payment shall be made with an Allowance Price and shall include, but not be limited to, all materials, labor, and equipment required to remove, repair, and replace the deteriorated reinforcement in accordance with the plans and Contract Documents.

END OF SECTION

SECTION 01300 - SUBMITTALS

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. The Contractor shall submit to the Engineer, shop drawings, project data and samples required by specification sections.

1.02 SCHEDULES

- A. The Contractor shall prepare and submit a Construction Schedule prior to beginning work.
- B. The Contractor shall prepare and submit a separate schedule listing dates for submission of shop drawings and projected return dates.

PART 2 - PRODUCTS

2.01 SHOP DRAWINGS

- A. Original drawings, prepared by Contractor, Subcontractor, Supplier or Distributor, which illustrate portions of the Work; showing fabrication, layout, setting or erection details including, but not limited to the following:
 - 1. Mechanical equipment
 - 2. Valves and operators (w/specific locations)
 - 3. Piping and fittings (w/specific locations)
 - 4. Electrical wiring diagrams
 - 5. Concrete mix designs (with specific locations), grouts, etc.
 - 6. Paintings, coatings, liners, etc.
 - 7. Fencing details
 - 8. Asphalt and base material
- B. Shop drawing submittals shall be prepared by a qualified detailer.
- C. Identify details by reference to sheet numbers and detail shown on Contract Drawings.

2.02 PROJECT DATA

- A. Manufacturer's standard schematic drawings:
 - 1. Modify drawings to delete information which is not applicable to project.
 - 2. Supplement standard information to provide additional information applicable to project.
- B. Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard descriptive data.
 - 1. Clearly mark each copy to identify pertinent materials, products or models.
 - 2. Show dimensions and clearances required.

3. Show performance characteristics and capacities.
4. Show wiring diagrams and controls.

2.03 SAMPLES

- A. Physical examples to illustrate materials, equipment or workmanship, and to establish standards by which completed work is judged.
- B. Office samples of sufficient size and quantity to clearly illustrate:
 1. Functional characteristics of product or material, with integrally related parts and attachment devices.
 2. Full range of color samples.

2.04 PAY REQUESTS

- A. Pay Requests shall be made in accordance with the requirements of the Agreement between Owner and Contractor.
- B. Amount of Retainage shall be 10% unless otherwise stated in the Agreement between Owner and Contractor.

PART 3 - EXECUTION

3.01 SUBMISSION REQUIREMENTS

- A. Schedule submissions at least 14 days before dates reviewed submittals will be needed.
- B. Submit number of copies of Shop Drawings, Project Datum and Samples which Contractor requires for distribution plus 4 copies which will be retained by Engineer.
- C. Accompany submittals with transmittal letter, in duplicate, containing:
 1. Date.
 2. Project title and number.
 3. Contractor's name and address.
 4. Notification of deviations from Contract Documents.
 5. Other pertinent data.
- D. Submittals must include:
 1. Date of submittal and revision dates.
 2. Project title and number.
 3. The names of:
 - a. Engineer.
 - b. Contractor.
 - c. Subcontractor.

- d. Supplier.
- e. Manufacturer.
- f. Separate detailer when pertinent.
- 4. Identification of product or material.
- 5. Relation to adjacent structure or materials.
- 6. Field dimensions, clearly identified as such.
- 7. Identification of deviations from Contract Documents.
- 8. Contractor's stamp, initialed or signed, certifying to review of submittal, verification of field measurements and compliance with Contract Documents.

3.02 RESUBMISSION REQUIREMENTS

A. Shop Drawings:

- 1. Revise initial drawings as required and resubmit as specified for initial submittal.
- 2. Indicate on drawings any changes which have been made other than those requested by Engineer.

B. Project Data and Samples:

- 1. Submit new datum and samples as required for initial submittal.

3.03 DISTRIBUTION OF SUBMITTALS AFTER REVIEW

A. Distribute copies of Shop Drawings and Project Datum which carry Engineer's stamp, to:

- 1. Contractor's file.
- 2. Job site file.
- 3. Record Documents file.
- 4. Other prime contractors.
- 5. Subcontractors.
- 6. Supplier.
- 7. Fabricator.

B. Distribute samples as directed.

END OF SECTION

SECTION 01410 - TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Contractor shall employ and pay for services of an Independent Testing Laboratory to perform specified services.
- B. Inspection, Sampling and Testing is required for:
 - 1. Densities and Proctors (for trench backfill, soil and roadway base materials compaction)
 - 2. Asphalt mix designs
 - 3. Cast-in-place Concrete (slump and compressive strength)
 - 4. Bacteriological Clearance
 - 5. Painting
 - 6. Water Quality Tests
 - 7. Other operations specified in these specifications or as required by the Engineer.
- C. Contractor's employment of Testing Laboratory shall in no way relieve Contractor of their obligation to perform Work in accordance with Contract.

1.02 QUALIFICATION OF LABORATORY

- A. Meet "Recommended Requirements for Independent Laboratory Qualification", latest edition, published by American Council of Independent Laboratories.
- B. Meet basic requirements of ASTM E 329-90 "Standard Practice for Use in the Evaluation of Testing Agencies for Concrete and Steel as Used in Construction".
- C. Certified in the State of Florida in accordance with FDEP requirements.

1.03 LABORATORY DUTIES; LIMITATIONS OF AUTHORITY

- A. Cooperate with Engineer and Contractor; provide qualified personnel promptly on notice.
- B. Perform specified inspections, sampling and testing of materials and methods of construction:
 - 1. Comply with specified standards; ASTM, other recognized authorities, and as specified.
 - 2. Ascertain compliance with requirements of Contract Documents.
- C. Promptly notify Engineer, and Contractor, of irregularities or deficiencies of Work which are observed during performance of services.
- D. Promptly submit 2 copies of reports of inspections and tests to Engineer, including:
 - 1. Date issued.
 - 2. Project title and number.
 - 3. Testing Laboratory name and address.
 - 4. Name of Inspector

5. Date of inspection or sampling.
 6. Record of temperature and weather.
 7. Date of test.
 8. Identification of product and specification section.
 9. Location in project.
 10. Type of inspection or test.
 11. Observations regarding compliance with Contract Documents.
- E. Laboratory is not authorized to:
1. Release, revoke, alter, or enlarge on, requirements of Contract Documents.
 2. Approve or accept any portion of Work.
 3. Perform any duties of the Contractor.

1.04 CONTRACTOR'S RESPONSIBILITIES

- A. Select laboratory, and coordinate testing with Lab and Engineer's representative.
- B. Cooperate with Laboratory personnel, provide access to Work.
- C. Provide to Laboratory, preliminary representative samples of materials to be tested, in required quantities.
- D. Furnish copies of mill test reports.
- E. Furnish casual labor and facilities:
 1. To provide access to Work to be tested.
 2. To obtain and handle samples at the site.
 3. To facilitate inspections and tests.
 4. For Laboratory's exclusive use for storage and curing of test samples.
- F. Notify Laboratory sufficiently in advance of operations to allow for his assignment of personnel and scheduling of tests.
- G. Pay for services of the Testing Laboratory to perform additional inspections, sampling and testing required:
 1. For Contractor's convenience.
 2. When initial tests indicate Work does not comply with Contract Documents.
 3. Such payment shall be made directly by the Contractor.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01500 - PRE-CONSTRUCTION AND POST-CONSTRUCTION VIDEO

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnish all necessary labor, materials, and equipment to perform color audio-video recording of the project site surfaces as specified herein. Contractor shall furnish to the Engineer and Owner an original copy of a continuous color audio-video DVD recording of each project segment.
- B. The Owner reserves the right to reject the audio-video DVD because of poor quality, unintelligible audio or uncontrolled pan or zoom. Any video rejected by the Owner shall be re-videoed at no additional cost to the Owner. The Contractor shall submit two (2) DVD to the Engineer for format and content approval prior to the start of any work.

1.02 PURPOSE OF WORK

- A. The purpose of the color audio-video taping of the project is to provide the necessary information for restoration of surface features after completion of the project. The Contractor shall be responsible for repairing any damage(s) or defect(s) not documented as existing prior to construction.

PART 2 - QUALITY ASSURANCE

2.01 QUALITY ASSURANCE

- A. The video recording shall be performed by a qualified audio-video taping firm or individual knowledgeable in construction practices and experienced in the implementation of established inspection procedures.

PART 3 - EXECUTION

3.01 EXECUTION

- A. Prior to the commencement and upon completion of any construction, equipment or material mobilization, the Contractor shall perform an audio-video survey of each project site area which will be excavated, or which has the potential to be disturbed by the Contractor's operations. Specific areas of this project include, but are not limited to:
 - 1. All routes that are scheduled for construction, including both sides of all streets and the entire width of easements plus 10 feet on each side on which construction is to be performed. The surface features recorded shall include, but not be limited to, roadways, driveways, sidewalks, curbs, culverts, headwalls, retaining walls, buildings, above-ground utilities, parks, lawns, landscaping, trees, tree canopies, shrubbery, and fences.
 - 2. All areas to be entered by vehicles or equipment, including construction areas for both internal and excavated improvements.
 - 3. Other areas that may be impacted by the work, including work staging areas and field offices, as directed by the Owner.
- B. All video recording shall be in full color.
- C. A complete view, in sufficient detail with audio description of the exact location shall be provided.

- D. The engineering plans shall be used as a reference for stationing in the audio portion of the recordings for easy location identification.
- E. All video recordings shall contain the name of the project, the date and time of the video recording, the name and address of the photographer, and any other identifying information required.
- F. All video recording shall be performed during regular business hours, unless otherwise approved by the Owner. No video recording shall be performed if the weather is not acceptable, such as rain, fog, or elongated shadows that distort perception and tend to prevent clear resolution.
- G. Two complete sets of video recordings shall be submitted on digital video disks (DVD) for the permanent and exclusive use of the Engineer and Owner prior to the start of any construction on the project.
- H. Construction shall not start until the pre-construction video recordings are completed, submitted, and accepted by the Engineer and Owner. In addition, no progress payments shall be made until the pre-construction video recordings are accepted by the Owner.
- I. The final payment shall not be made until the post-construction video recordings are accepted by the Owner.

PART 4 - PRODUCTS (NOT USED)

END OF SECTION

SECTION 01700 – CONTRACT CLOSEOUT

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED:

- A. Comply with requirements stated in General Conditions and in Specifications for administrative procedures in closing out the Work.

1.02 SUBSTANTIAL COMPLETION:

- A. When Contractor considers the Work is substantially complete, he shall submit to the Engineer:
 - 1. A written notice that the Work, or designated portion thereof, is substantially complete.
 - 2. A list of items to be completed or corrected.
- B. Within a reasonable time after receipt of such notice, the Engineer will make an inspection to determine the status of completion.
- C. Should the Engineer determine that the Work is not substantially complete:
 - 1. The Engineer will promptly notify the Contractor, in writing, giving the reasons therefore.
 - 2. Contractor shall remedy the deficiencies in the Work, and send a second written notice to substantial completion to the Engineer.
 - 3. The Engineer will re-inspect the Work.
- D. When the Engineer finds that the Work is substantially complete, he will:
 - 1. Prepared and deliver to Owner a tentative Certificate of Substantial Completion with a tentative list of items to be completed or corrected before final payment.
 - 2. After consideration of any objections made by the Owner as provided in Conditions of the Contract, and when the Engineer considers the Work substantially complete, he will execute and deliver to the Owner and the Contractor a definite Certificate of Substantial Completion with a revised tentative list of items to be completed or corrected.

1.03 FINAL INSPECTION:

- A. When Contractor considers the Work is complete, he shall submit written certification that:
 - 1. Contract Documents have been reviewed.
 - 2. Work has been completed in accordance with Contract Documents.
 - 3. Work has been completed with the list of items to be corrected.
 - 4. Equipment and systems have been tested in the presence of the Owner's representative and are operational.
 - 5. Work is completed and ready for final inspection.
- B. The Engineer will inspect to verify the status of completion with reasonable promptness after receipt of such certification.
- C. Should the Engineer consider that the Work is incomplete or defective:
 - 1. The Engineer will promptly notify the Contractor in writing, listing the incomplete or defective work.
 - 2. Contractor shall take immediate steps to remedy the stated deficiencies and send a second written certification to the Engineer that the Work is complete.

3. The Engineer will re-inspect the Work
- D. When the Engineer finds that the Work is acceptable under the Contract Documents, he shall request the Contractor to make closeout submittals.
- 1.04 RE-INSPECTION FEES:
- A. Should the Engineer perform re-inspections due to failure of the Work to comply with the claims of status of completion made by the Contractor:
 1. Owner will compensate the Engineer for such additional services.
 2. Owner will deduct the amount of such compensation from the final payment to the Contractor.
- 1.05 CONTRACTOR'S CLOSEOUT SUBMITTALS TO ENGINEER:
- A. Evidence of compliance with requirements of governing authorities.
 - B. Project Record Documents.
 - C. Operating and Maintenance Data, Instructions to Owner's Personnel.
 - D. Warranties and Bonds.
 - E. Keys and Keying Schedule.
 - F. Spare Parts and Maintenance Materials.
 - G. Evidence of Payment and Release of Liens.
 - H. Certificate of Insurance for Products and Completed Operations.
 - I. Contractor's Final Affidavit.
 - J. Lien Waivers from Subcontractors and Suppliers.
- 1.06 FINAL ADJUSTMENT OF ACCOUNTS
- A. Submit a final statement of accounting to the Engineer.
 - B. Statement shall reflect all adjustments to the Contract Sum:
 1. The original Contract Sum.
 2. Additions and deductions resulting from:
 - a. Previous Change Orders
 - b. Unit Prices
 - c. Deductions for uncorrected Work
 - d. Penalties and Bonuses
 - e. Deductions for liquidated damages
 - f. Deductions for re-inspection payments
 - g. Other adjustments
 3. Total Contract Sum, as adjusted.
 4. Previous payments.
 5. Adjustment in Contract Time.
 6. Sum remaining due.
 - C. Engineer will prepare a final Change Order, reflecting approved adjustment to the Contract Sum, which were not previously made by Change Orders.

1.07 FINAL APPLICATION FOR PAYMENT:

- A. Contractor shall submit the final Application for Payment in accordance with procedures and requirement stated in the General Conditions.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01720 - PROJECT RECORD DRAWINGS

PART 1 - GENERAL

1.01 PROJECT RECORD DOCUMENTS

- A. Maintain at the site for the Owner one record copy of:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other Modifications to the Contract.
 - 5. Engineer Field Orders or written instructions.
 - 6. Reviewed Shop Drawings.
 - 7. Field test records.

1.02 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. Conditions of the Contracts
- B. Section 01700 – Project closeout

1.03 MAINTENANCE OF DOCUMENTS

- A. Store documents in approved location apart from documents used for construction.
- B. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
- C. Make documents available at all times for inspection by Engineer and Owner. Record drawing information shall be maintained concurrently with Pay Requests.

1.04 MARKING DEVICES

- A. Provide ink marking pens for recording information in a color code.

1.05 RECORDING

- A. Label each document "PROJECT RECORD" in neat large, printed letters.
- B. Record information currently with construction progress.
 - 1. Do not conceal any work until required information is recorded.
 - 2. Contractor shall mark clearly on the record drawing any changes, modifications, or deviations from the issued construction documents.
 - 3. For construction documents that are constructed per plan, the contractor shall acknowledge on each sheet that the as-built condition is per the plan.
- C. Drawings shall be drawn to record actual construction:
 - 1. Horizontal location of pipes shall be provided any time the pipe passes a

permanent surface reference point. Permanent surface reference points must be permanent structures manholes, catch basins, concrete sidewalk or concrete curbs. Edge of pavement and road intersections may not be used without the Engineer's approval. Any deviations from the alignment shown on the drawings must be noted.

2. Vertical location of piping shall be provided at fittings, tie-ins and 250-foot intervals. Vertical location shall be pipe elevation as called for on the drawings.
 3. All fittings, including sleeves and valves shall be located vertically and horizontally by two measurements to permanent surface reference points.
 4. Field changes of dimension and detail.
 5. Changes made by Field Order or by Change Order.
 6. Details not on original Contract Drawings.
- D. Specifications and Addenda; legibly mark each Section to record:
1. Manufacturer, trade name, catalog number, and supplier of each item actually installed.
 2. Changes made by Field Order or by Change Order.

1.06 SUBMITTAL

- A. The contractor shall submit progress record drawings with each pay application for review by the engineer. Applications for payment submitted without progress record drawings may not be reviewed.
- B. The contractor shall submit progress record drawings with the notification of substantial completion.
- C. At contract close-out, Record Documents shall be submitted to Engineer in the following formats for Owner:
 1. Two CDs with electronic as-builts in AutoCAD format.
 2. Three 24" x 36" hard copy as-builts.
- D. Accompany submittal with transmittal letter in duplicate, containing:
 1. Date.
 2. Project title and number.
 3. Contractor's name and address.
 4. Title and number of each record document.
 5. Signature of Contractor or his authorized representative.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01730 - OPERATION AND MAINTENANCE MANUALS

PART 1 - GENERAL

1.01 RELATED INFORMATION

- A. Compile product data and related information appropriate for Owner's maintenance and operation of products furnished under the Contract.
 - 1. Prepare operating and maintenance data as specified in this Section and as referenced in other pertinent sections of Specifications.
- B. Instruct Owner's personnel in the maintenance of products and in the operation of equipment and systems.
- C. Related Requirements Specified in Other Sections.
 - 1. Section 01300 – Submittals
 - 2. Section 01720 - Project Record Drawings

1.02 1.02 FORM OF SUBMITTALS

- A. Prepare data in the form of an instructional manual and electronic format for use by Owner's personnel.
- B. Hard-Copy Format:
 - 1. Size: 8-1/2 in. x 11 in.
 - 2. Text: Manufacturer's printed data, or neatly typewritten.
 - 3. Drawings:
 - a. Provide reinforced punch binder tab, bind in with text.
 - b. Fold larger drawings to the size of the text pages.
 - 4. Provide flyleaf for each separate product, or each piece of operating equipment.
 - a. Provide typed description of product, and major component parts of equipment.
 - 5. Cover: Identify each volume with typed or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS". List:
 - a. Title of Project.
 - b. Identity of separate structure as applicable.
 - c. Identity of general subject matter covered in the manual.
- C. Binders:

1. Commercial quality expandable catalog binders with durable and cleanable plastic covers.
 2. When multiple binders are used, correlate the data into related consistent groupings.
- D. Electronic format shall be in .pdf file format. Copies of specific manuals shall either be scanned or converted to .pdf format and submitted on CD disc to Owner. Submit after approval of hard copies from Engineer.

1.03 CONTENT OF MANUAL

- A. Neatly typewritten table of contents for each volume, arranged in a systematic order.
1. Contractor, name of responsible principal, address and telephone number.
 2. A list of each product required to be included, indexed to the content of the volume.
 3. List, with each product, the name, address and telephone number of:
 - a. Subcontractor or installer.
 - b. Maintenance contractor, as appropriate.
 - c. Identify the area of responsibility of each.
 - d. Local source of supply for parts and replacement.
 4. Identify each product by product name and other identifying symbols as set forth in Contract Documents.
- B. Product Data:
1. Include only those sheets which are pertinent to the specific product.
 2. Annotate each sheet to:
 - a. Clearly identify the specific product or part installed.
 - b. Clearly identify the data applicable to the installation.
 - c. Delete references to inapplicable information.
- C. Drawings:
1. Supplement product data with drawings as necessary to clearly illustrate relations of component parts of equipment and systems.
 2. Coordinate drawings with information in Project Record Documents to assure correct illustration of completed installation.
 3. Do not use Project Record Documents as maintenance drawings.
- D. Written text, as required to supplement product data for the particular installation:

1. Organize in a consistent format under separate headings for different procedures.
 2. Provide a logical sequence of instructions for each procedure.
- E. Copy of each warranty issued.
1. Provide information sheet for Owner's personnel, give:
 - a. Proper procedures in the event of failure.
 - b. Instances which might affect the validity of warranties.

1.04 MANUAL FOR EQUIPMENT AND SYSTEMS

- A. Submit three (3) complete paper copies and three (3) electronic copies of manual in final form.
- B. Content, for each unit of equipment and system, as appropriate:
1. Description of unit and component parts.
 - a. Function, normal operating characteristics, and limiting conditions.
 - b. Performance curves, engineering data and tests.
 - c. Complete nomenclature and commercial number of all replaceable parts.
 2. Operating procedures:
 - a. Start-up, break-in, routine and normal operating instructions.
 - b. Regulation, control, stopping, shut-down and emergency instructions.
 - c. Summer and winter operating instructions.
 - d. Alignment, adjusting and checking.
 3. Servicing and lubrication schedule:
 - a. List of lubricants required for each piece of equipment.
 - b. Schedule for manufacturer recommended maintenance.
 4. Manufacturer's printed operating and maintenance instructions.
 5. Original manufacturer's parts list, illustrations, assembly drawings and diagrams required for maintenance.
 6. Other data as required under pertinent sections of specifications.

1.05 SUBMITTAL SCHEDULE

- A. Submit one copy of completed data in final form at least fifteen days prior to final inspection or acceptance.

1. Copy will be returned after final inspection or acceptance, with comments.
- B. Submit specified number of copies of approved data in final form at least 10 days after final inspection or acceptance.

1.06 INSTRUCTION OF OWNER'S PERSONNEL

- A. Prior to final inspection or acceptance, fully instruct Owner's designated operating and maintenance personnel in the operation, adjustment and maintenance of all products, equipment and systems.
- B. Operating and maintenance manual shall constitute the basis of instruction.
 1. Review contents of manual with personnel in full detail to explain all aspects of operations and maintenance.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 02016 – EXISTING UTILITIES AND UNDERGROUND STRUCTURES

PART 1 - GENERAL

1.01 GENERAL

- A. The plans depict the approximate location of known existing utilities. The locations of those facilities (horizontal and vertical) were obtained from survey information, plans, and record drawings. The depiction of the approximate location of known existing utilities does not guarantee that those facilities are in the exact location shown, nor that all utilities present are shown.

1.02 CONTRACTOR'S RESPONSIBILITIES

- A. Locate the cables, ducts, conduit, pipeline, etc. in advance of the proposed construction.
- B. Coordinate the Work with all existing utility companies.
- C. Notify Engineer of any substantial changes and/or conflicts that would require a deviation in the plans. Late discovery of existing underground utilities does not constitute "required" deviations should early discovery prevent them.
- D. Repair any damage done to existing utilities at no additional expense to the Owner.

END OF SECTION

SECTION 03110 - MODIFICATIONS AND REPAIR TO CONCRETE

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment, and incidentals required and cut, remove, repair or otherwise modify parts of existing concrete structures or appurtenances as shown on the Drawings and as specified herein. Work under this Section shall also include bonding new concrete to existing concrete.

1.02 SUBMITTALS

- A. Submit to the Engineer, in accordance with Section 01300, a schedule of demolition and the detailed methods of demolition to be used at each location.
- B. Submit manufacturer's technical literature on all product brands proposed for use, to the Engineer for review. The submittal shall include the manufacturer's installation and/or application instructions.
- C. Submit for acceptance, complete test reports from approved independent testing laboratories certifying that repair system conforms to performance characteristics and testing requirements specified herein.
- D. Provide certificates signed by manufacturer or manufacturer's representative certifying that materials to be installed comply in all respects with the requirements of this specification, and that the installer is qualified and approved to install the materials in accordance with the manufacturer's product data.
- E. Provide copy of report from manufacturer's representative confirming that the surfaces to which the repair mortar is to be applied are in a condition suitable to receive same.
- F. When substitutions for acceptable brands of materials specified herein are proposed, submit brochures and technical data of the proposed substitutions to the Engineer for approval before delivery to the project.

1.03 REFERENCE STANDARDS

- A. American Society for Testing and Materials (ASTM)
 - 1. ASTM C 109 - Test Method for Compressive Strength of Hydraulic Cement Mortars.
 - 2. ASTM C 78 - Flexural Strength.
 - 3. ASTM C 496 - Splitting Tensile Strength.
 - 4. ACI 503 R Appendix A – Direct Tensile Bond Strength to Concrete.
 - 5. EN 13421 – Elastic Modulus.
 - 6. ASTM 672 – Scaling Resistance.
 - 7. ASTM C 1202 - Rapid Chloride Permeability.
 - 8. EN 13290 – Carbonation Depth.
 - 9. ASTM C1012 – Sulfate Resistance.

10. ASTM C267 – Acid Resistance.
 11. National Sanitation Foundation NSF 61.
 12. ASTM C 266 - Setting Time.
 13. ASTM C881 – Standards Specification for Epoxy-Resin-Base Bonding Systems for Concrete.
 14. ASTM C882 – Standard Test Method for Bond Strength of Epoxy-Resin Systems Used with Concrete by Slant Shear.
 15. ASTM C883 – Standard Test Method for Effective Shrinkage of Epoxy-Resin Systems Used with Concrete.
 16. ASTM D570 – Standard Test Method for Water Absorption of Plastics.
 17. ASTM D638 – Standard Test Method for Tensile Properties of Plastics.
 18. ASTM D695 – Standard Test Method for Compressive Properties of Rigid Plastics.
 19. ASTM D732 – Standard Test Method for Shear Strength of Plastics by Punch Tool.
 20. ASTM D790 – Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- B. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.04 QUALITY ASSURANCE

- A. No existing structure or concrete shall be shifted, cut, removed, or otherwise altered until authorization is given by the Engineer.
- B. When removing materials or portions of existing structures and when making openings in existing structures, all precautions shall be taken and all necessary barriers, shoring and bracing and other protective devices shall be erected to prevent damage to the structures beyond the limits necessary for the new work, protect personnel, control dust and to prevent damage to the structures or contents by falling or flying debris. Unless otherwise permitted, shown or specified, line drilling will be required in cutting existing concrete.
- C. Manufacturer Qualifications: Manufacturer shall be ISO 9001:2000 registered and have no less than 10 years' experience in manufacturing cementitious repair materials. Manufacturers that cannot provide test data specified herein will not be considered for the project. Manufacturer must also be able to provide on-site technical representation to advise on installation.
- D. Applicator's Qualifications: Applicator shall be experienced in work of the type specified in this section and shall be approved in writing by the manufacturer.
- E. Pre-Installation Meeting: Prior to installation of repair mortar, conduct meeting with the applicator; and owner's representative to verify and review the following:
 1. Project Requirements for repair procedures as set out in the Contract Documents.
 2. Manufacturer's product data including application instructions.
 3. Substrate conditions and procedures for substrate preparation and repair mortar

installation.

- F. Technical Consultation: The manufacturer's representative shall provide technical consultation on repair mortar application.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver the specified products in original, unopened containers with the manufacturer's name, labels, product identification and batch numbers.
- B. Store and condition the specified product as recommended by the manufacturer.

1.06 PROJECT CONDITIONS

- A. Comply with manufacturer's product data regarding condition of substrate to receive repair mortar, weather conditions before and during installation, and protection of the installed repair mortar.

PART 2 - PRODUCTS

2.01 APPROVED MANUFACTURERS

- A. Xypex Chemical Corporation.
- B. Sauereisien

2.02 REPAIR PRODUCTS

- A. Channel Repair and Reprofiling Mortar - Xypex Megamix II
- B. Dry Crack Repair Materials - Xypex Concentrate
- C. Actively Leaking Crack Repair Materials - Xypex Patch'n' Plug.
- D. Deck Surface Repair Mortar – Sauereisen RestoKrete No. 209HB

2.03 MATERIALS

- A. General
 - 1. Materials shall comply with this Section and any state or local regulations.
- B. Channel Repair Mortar
 - 1. General
 - a. Repair mortar shall be a one component, cementitious mortar that can be sprayed or trowel-applied at a thickness of 3/8 " (10 mm) to 2" (50 mm) per layer for patching and resurfacing of deteriorated concrete. The proprietary blend of components produces a high-performance repair mortar that is enhanced by the inclusion of unique "Crystalline Waterproofing and Protection Technology".
 - 2. Material
 - a. Properties of the cured material shall meet or exceed the performance as specified herein.

1. Compressive Strength (ASTM C 109)	24 hrs	2600 psi	(18 MPa)
	3 days	4600 psi	(32 MPa)
	7 days	6100 psi	(42 MPa)
	28 days	7700 psi	(53 MPa)
2. Flexural Strength (ASTM C 78)	28 days	1190 psi	(8.2 MPa)
3. Splitting Tensile Strength (ASTM C 496)	28 days	603 psi	(4.2 MPa)
4. Direct Tensile Bond Strength to Concrete ASTM C 1583	90 days	330 psi	(2.3 MPa)
5. Elastic Modulus (EN13412)	28 days	290,000 psi	20.4 GPa
6. Scaling Resistance (ASTM 672)	50 scaling		No scaling
7. Rapid Chlorine Permeability (ASTM C 1202)	28 days	= or <	572 coulombs
	90 days	= or <	420 coulombs
8. Carbonation Depth (EN 13290)	49 days @ 1% CO2	No measurable carbonation depth in 56-day sample	
9. Sulfate Resistance (ASTM C1012)	6 mo expansion	0.027%	
	12 mo expansion	0.029%	
10. Acid Resistance (ASTM C 267)	Mass Loss (84 days)	Negligible (retained 99.8% mass)	
11. Setting Time (ASTM C 266)	Initial (hrs:min)	3:25	
	Final (hrs:min)	5:00	

C. Deck Surface Mortar

1. General

- a. Deck Surface Mortar shall be a three-part epoxy material specifically designed to fill larger voids, air pockets and irregularities. The epoxy shall provide a smooth finish and appropriate bonding surface for epoxy topcoats. Vinyl ester topcoats shall not be used.

2. Material

- a. Properties of the cured material shall meet or exceed the performance as specified herein.

Compressive Strength (ASTM C 109)	7 Days	5020 psi	(35 MPa)
Tensile Strength	7 Days	1645 psi	(11 MPa)
Density (ASTM C 905)	47.3 pcf		0.76 g/cm ³
Maximum Service Temperature	150°F		65°C
Application Time	Working Time at 70°F	30 minutes	
	Recoat Window at 70°F	4-6 hrs (min) to 72 hrs (max)	

D. Crack Repair Epoxy Adhesive

1. General

- a. Crack Repair Epoxy Adhesive shall be a blend of Portland cement, fine treated silica sand and active proprietary chemicals. When mixed with water and applied as a cementitious coating, the active chemicals cause a catalytic reaction which generates a non-soluble crystalline formation of dendritic fibers within the pores and capillary tracts of concrete. This process causes concrete to become permanently sealed against the penetration of liquids from any direction.

2. Material

- a. Properties of the cured material shall meet or exceed the performance as specified herein.

Compressive Strength (ASTM C 109)	24 hrs	1740 psi	(12 MPa)
	28 days	3630 psi	(25 MPa)
Setting Time (ASTM C 266)	Initial (min:sec)	1:30 – 4:00	
	Final (min:sec)	4:30 – 9:00	

- 3. “Crystalline Waterproofing and Protection Technology” in Repair Mortar and Dry crack repair materials shall have been tested as a coating on concrete in accordance with the following standards and conditions, and the testing results shall meet or exceed the performance as specified herein.

- a. Crystalline Penetration: Crystallizing capability of waterproofing material shall be evidenced by independent SEM (Scanning Electron Microscope) photographs documenting penetration of crystal-forming waterproofing material to a depth of 2 inches (50 mm) at 21 days. Independent SEM testing at 1000 times magnification documenting evidence of crystal growth at 30 cm from the surface having had the coating applied when tested at 1 year after application shall be provided.

- b. Permeability: Independent testing shall be performed according to U.S. Army Corps of Engineers CRD C48 "Permeability of Concrete". Concrete samples shall have design strength of 2000 psi (14 MPa) and thickness of 2 inches (50 mm). Treated samples shall have 2 coats of crystalline waterproofing applied per manufacturer's directions. Samples to be pressure tested to 175 psi (405-foot head of water) or 1.2 MPa (123.4 m head of water). Control samples shall leak and treated samples, after crystalline growth has occurred, shall exhibit no measurable leakage.
- c. Permeability - Negative Side Application: Independent testing shall be performed according to EN 12390 – 8 or other recognized direct pressure test. Concrete samples shall have a design strength of 25 MPa (3600 psi). Treated samples shall have 1 heavy coat of crystalline waterproofing applied per manufacturer's directions and be cured for 28 days. Treated samples shall be exposed to water pressure on the side opposite to the crystalline coating. Coated samples shall exhibit a greater than 90% reduction in depth of water penetration as compared to the control samples.
- d. Chemical Resistance: Independent testing shall be performed according to ASTM C 267 "Chemical Resistance of Mortars" and ASTM C 39 "Compressive Strength of Cylindrical Concrete Specimens". Concrete samples (treated and untreated) shall have design strength of 4000 psi (27.6 MPa). Treated samples shall have 2 coats of crystalline waterproofing applied per manufacturer's directions. Untreated and treated specimens to be immersed for a minimum of 84 days in following chemical solutions: hydrochloric acid (3.5 pH), brake fluid, transformer oil, ethylene glycol, toluene, caustic soda. Treated specimens shall exhibit no detrimental effects after exposure and shall have a minimum of 14% increase in compressive strength versus untreated control specimens.
- e. Permeability Against Petroleum Products: Independent testing shall be performed according to a modified EN 12390 – 8 or other recognized direct pressure test. Concrete samples to have design strength of 4000 – 4500 psi (25 MPa – 30 MPa) Permeability of Gasoline, Diesel and Transformer Oil shall be compared for treated samples versus control samples. Samples treated with 2 coats of Crystalline Waterproofing shall exhibit an over 90% reduction in depth of penetration for all three petrochemicals tests.
- f. Air Permeability Testing: Concrete samples 30mm long shall be treated with 2 coats crystalline material, cured for 2 days and allowed to dry for 18 days. Air shall be forced through the control and treated samples at 100 KPa and the treated samples shall show a 50% reduction in air passage.
- g. Independent Laboratory: Testing shall be performed by a qualified independent testing laboratory.

PART 3 - EXECUTION

3.01 GENERAL

- A. Cut, repair, reuse, demolish, excavate, or otherwise modify parts of the existing structures or appurtenances, as indicated on the Drawings, specified herein, or necessary to permit completion of the Work. Finishes, joints, reinforcements, sealants, etc., are specified in respective Sections. All work shall comply with other requirements of this of Section and as shown on the Drawings.

- B. All commercial products specified in this Section shall be stored, mixed, and applied in strict compliance with the manufacturer's recommendations.
- C. Strictly follow the repair mortar manufacturer's written instructions and the requirements of this specification regarding all aspects of repair work including surface preparation, mixing, application, and curing.
- D. In all cases where concrete is repaired in the vicinity of an expansion joint, or control joint the repairs shall be made to preserve the isolation between components on either side of the joint.
- E. When drilling holes for dowels/bolts at new or existing concrete, drilling shall stop if rebar is encountered. As approved by the Engineer, the hole location shall be relocated to avoid rebar. Rebar shall not be cut without prior approval by the Engineer. Where possible, rebar locations shall be identified prior to drilling using "rebar locators" so that drilled hole locations may be adjusted to avoid rebar interference.

3.02 CONCRETE REMOVAL

- A. Concrete designated to be removed to specific limits as shown on the Drawings or directed by the Engineer, shall be done by line drilling at limits followed by chipping or jack-hammering as appropriate in areas where concrete is to be taken out. Remove concrete in such a manner that surrounding concrete or existing reinforcing to be left in place and existing in place equipment is not damaged. Saw cutting at limits of concrete to be removed shall only be done if indicated on the Drawings, or after obtaining written approval from the Engineer.
- B. Where existing reinforcing is exposed due to saw cutting/core drilling and no new material is to be placed on the sawcut surface, a coating or surface treatment of epoxy paste shall be applied to the entire cut surface to a thickness of 1/4-in.
- C. In all cases where the joint between new concrete or repair mortar and existing concrete will be exposed in the finished work, except as otherwise shown or specified, the edge of concrete removal shall be a 1-in deep saw cut on each exposed surface of the existing concrete.
- D. Concrete specified to be left in place which is damaged shall be repaired by approved means to the satisfaction of the Engineer.
- E. The Engineer may from time to time direct the Contractor to make additional repairs to existing concrete. These repairs shall be made as specified or by such other methods as may be appropriate.

3.03 EXAMINATION

- A. Site Visit: Prior to repair mortar installation, arrange visit to project site with Manufacturer's Representative. Representative shall inspect and certify that the concrete surfaces are in acceptable condition to receive repair mortar application.
- B. Examination of Defects: Examine surfaces to which the repair mortar is to be applied for any structural defects such as spalls, delaminations, honeycombing, rock pockets, faulty construction joints and cracks. Such defects are to be repaired prior to the application of the repair mortar in accordance with Manufacturer's product data.

3.04 INSTALLATION OF REPAIR MORTAR SYSTEM

- A. Unless specified elsewhere herein, strictly comply with the repair mortar manufacturer's most recent written instructions with respect to, but not limited to, the following:

1. Surface Preparation
 2. Mixing of Materials
 3. Protection and Handling of Materials
 4. Application
- B. Prior to installation, install a test section under anticipated ambient and project conditions to demonstrate acceptable bond.

3.05 CURING

- A. Strictly follow the mortar repair manufacturer's written instructions regarding curing the repair materials after installation.

3.06 INTERFACE WITH OTHER MATERIALS

- A. **Backfilling:** Backfilling can take place as soon as the repair mortar has gained enough strength that it will not be dislodged or otherwise adversely impacted by this activity. A minimum of 24 hours is recommended. If backfilling prior to the end of the 72-hour curing period ensure that the backfill is moist.
- B. **Paint, Epoxy, Stucco or Other Coatings:** Ensure that the repair surface is sufficiently rough to accept paints or other coatings. Where necessary, use a suitable bonding agent to obtain proper adhesion.
- C. **Responsibility to Ensure Compatibility:** Xypex Chemical Corporation and Sauereisen make no representations or warranties regarding compatibility of the repair treatments with other coatings, plasters, stuccos, tiles or other surface-applied materials that is applied over the repair mortars.

END OF SECTION

SECTION 09300 - HIGH-PERFORMANCE CONCRETE COATINGS

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Work under this Section includes but is not limited to coating of wetted concrete surfaces and other surfaces designated to be coated except factory applied finishes. Coating shall be performed at such times and in such places as the Contractor and Engineer may agree upon in order that dust-free and neat work is obtained. All coating shall be done in strict accordance with the recommendations of the manufacturer and shall be performed in a manner satisfactory to the Engineer.
- B. A corrosion resistant epoxy coating shall be applied to the coating systems as indicated on the Contract Drawings and listed in Part 2 and Part 3. Corrosion-resistant epoxy coating shall be formulated and installed to protect concrete surfaces from corrosion. Installation shall be executed when structures are in the dry condition.

1.02 MATERIAL SUBMITTALS

- A. Submit the following:
 - 1. Manufacturer's current printed recommendations and product data sheets for all coating system products supplied under this Section including manufacturers printed performance criteria, surface preparation and application requirements and procedures, and safety requirements.
 - 2. Safety Data Sheets (SDS) for any materials brought on-site including all resurfacing system materials, solvents, and abrasive blast media.
 - 3. Storage requirements including temperature, humidity, and ventilation for coating system materials.
 - 4. Manufacturer's requirements, including application and safety procedures for coating system materials.
- B. Corrosion Resistant Coating Manufacturer's written instructions and drawing details for treatment of coating materials at terminations in the structures to be coated including pipe penetrations, metal embedments, and gate frames. Details for the corrosion resistant coating system at concrete joints.

1.03 INFORMATION SUBMITTALS

- A. Coating contractor must be a prequalified and certified specialty concrete repair and rehabilitation (SCRR) contractor. The qualification information submittal shall include the following items:
 - 1. A company profile detailing its experience with specialty concrete repair and rehabilitation.
 - 2. A copy of current General Contractor's license.
 - 3. A record of experience showing ten years' experience providing maintenance services on structures of similar sizes and types.
 - 4. The firm shall provide documentation verifying compliance with the Steel Structure Painting Council (SPCC) and the National Association of Corrosion Engineers International (NACE).

1.04 QUALITY ASSURANCE

- A. Minimum qualifications shall be as follows:
 - 1. Coating contractor:
 - a. All repair work shall be performed by a specialty concrete repair and rehabilitation (SCRR) contractor that shall have been licensed in the state where the project is located for not less than 10 years.
 - b. The SCRR shall be a firm with a minimum of 10 previous and concurrent years of providing maintenance services on structures of similar sizes and types of those included in this specification to ensure the owner that it has the organization, technical skill, quality control, reliability, and financial stability to maintain and guarantee the structures in accordance with the quality required by these specifications.
 - c. The SCRR shall be approved and/or certified by the manufacturer of any repair product to be used.
- B. The coating manufacturer shall furnish an affidavit attesting to the successful use of its material as a coating for concrete structures for a minimum period of 5 years in wastewater headspace conditions. The coating system shall be applied by a qualified applicator trained in handling, mixing and application of the material including the required surface cleaning and preparation.
- C. The Contractor shall not use or retain contaminated, outdated, or diluted materials for resurfacing. All materials used shall be from new containers not previously opened.
- D. The manufacturer's requirements, including application procedures and safety procedures shall be followed in detail and strictly adhered to at all times when the work is in progress.
- E. The Contractor shall use only products of the approved manufacturer and shall use products of only one manufacturer in any one system.
- F. The Contractor shall conduct his/her work such that the coating system is installed as specified herein and as recommended by the coating system manufacturer. Any nonconforming coating system work shall be corrected as specified herein or as recommended by the manufacturer at no additional cost to the Owner.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver all materials to the site in their original, unopened containers. Each container shall bear the manufacturer's name and label.
- B. Materials shall be stored in accordance with manufacturer's recommendations in enclosed structures and shall be protected from weather and adverse temperature conditions. Flammable materials shall be stored in accordance with state and local codes. Materials exceeding storage life as defined by the manufacturer shall be removed promptly from the site.
- C. Mix all materials in an enclosed mixing area to protect the mixing operation and materials from direct sunlight, inclement weather, freezing, or other means of damage or contamination.

1.06 FIELD CONDITIONS

- A. The field conditions shall be as indicated in this section unless otherwise allowed by the

coating manufacturer and approved in writing by the Engineer.

- B. All new concrete shall be allowed to cure for 28 days minimum before surface preparation activities begin.
- C. All repair materials shall be allowed to cure for the time required by the manufacturer before surface preparation activities begin.
- D. Apply coatings only when ambient air temperature is between 65 and 95 deg F.
- E. Do not apply coatings when relative humidity exceeds 90 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.
- F. Substrate surface temperature: 50oF minimum, and at least 10oF higher than dew point temperature.
- G. No dust generation shall be allowed during this period.

1.07 WARRANTY

- A. The Manufacturer warrants that the product and installation meet that quality and technical standards published in their current literature and be free from defects, including adhesion, bubbling, deterioration, or failure of coating for a period of 7 years from date of Substantial Completion.

PART 2 PRODUCTS

2.01 HIGH-PERFORMANCE CONCRETE COATING

- A. Composition
 - 1. The material used in the coating shall be a combination of powder, liquid and hardener that must be mixed together as used, specially compounded to protect concrete surfaces from corrosion.
- B. Physical Properties are as follows:
 - 1. All cured corrosion-resistant epoxy coating shall be seamless and free of cracks, pinholes or other defects adversely affecting the protective characteristics of the material. The Engineer may authorize the repair of such defects by approved methods.
 - 2. The coating shall have good impact resistance and shall have sufficient elongation to bridge existing static hairline cracks (those which do not see thermal movement) in the concrete.
 - 3. The coating shall be repairable at any time during the life of the structure.
 - 4. Special Safety and Handling:
 - a. Follow special safety and handling requirements by the coating system manufacturer, if any.

2.02 ACCEPTABLE MANUFACTURERS

- A. The following coating manufacturers are acceptable, where indicated.
 - 1. Sauereisen

2. Or Approved Equal

2.03 COATING SYSTEMS

A. System No. 1: Repaired Headworks Channel

1. System No. 1 shall be used for the horizontal and vertical surfaces of the headworks channel.
2. Surface Preparation: Prepare surface as specified in Part 3.
3. Primer: Include primer if necessary, per manufacturers written instructions and recommendations.
4. Sauereisen:
 - a. Finish Coat: Two (2) coats of Sauereisen SewerGard No. 210X at a minimum of 75 mils DFT per coat for a minimum 150 mils DFT total.
5. Approved Equal:
 - a. In accordance with the manufacturer's requirements.

B. System No. 2: Repaired Headworks Deck

1. System No. 2 shall be used for the headworks deck.
2. Surface Preparation: Prepare surface as specified in Part 3.
3. Sauereisen:
 - a. Primer: Include primer if required per manufacturer's written instructions and recommendations.
 - b. Intermediate Coat: One (1) coat of Sauereisen SewerGard No. 210X and broadcast sand over the surface while the coat is still wet for slip resistance.
 - c. Top Coat: One (1) coat of Sauereisen Conothane Glaze No. 310.
4. Approved Equal:
 - a. In accordance with the manufacturer's requirements.

PART 3 EXECUTION

3.01 GENERAL

- A. Thinners or cleaning solvents used shall be approved by the coating manufacturer.
- B. Strictly follow the coating manufacturer's written instructions and the requirements of this specification regarding all aspects of protective coating work including mixing, application, recoat times and curing.
- C. Environmental Requirements:
 1. Comply with the coating manufacturer's recommendations as to environmental conditions under which coating materials can be applied.

2. Do not apply coating materials when dust is being generated.

3.02 CONTROL OF AMBIENT CONDITIONS IN STRUCTURES TO BE COATED

- A. Control ambient conditions in the structures to be coated, and provide protective enclosures during surface preparation, application, and curing, to meet the specified conditions. This control work shall be continued throughout the coating system installation and curing.
- B. The minimum ambient condition requirements inside the structures for coating system work shall be as follows:
 1. During all phases of coating system installation and curing:
 - a. Air temperature - 65°F minimum.
 - b. Relative humidity - below 90%.
 - c. Substrate surface temperature: 50°F minimum, and at least 10°F higher than dew point temperature.
 - d. No dust generation.
- C. Contractor shall provide ventilation and isolation of each structure to be coated. Contractor shall provide all means necessary to exhaust noxious gases and odors, which may be present during the work.

3.03 SURFACE PREPARATION

- A. Comply with initial cleaning and surface preparation, as specified herein, and manufacturer's written instructions and recommendations applicable to substrates and coating systems indicated. When the specified and recommended manufacturer's surface preparation system differ, use the system in which the Engineer's opinion is the more restrictive (conservative).
- B. Surface Preparation of Coating Systems:
 1. Systems No.1 and No. 2:
 2. Abrasive blast clean or hydro blast clean all exposed surfaces of the repaired headworks channel to remove all degraded or loose concrete, and to produce a sound, clean substrate free of laitance, surface contaminants, loose materials, or otherwise deleterious substances. Cleaning shall be in accordance with SSPC-SP-13/NACE.
 3. Cleaning of repaired concrete surfaces, after proper cure of resurfacing mortars, must produce a minimum, uniform substrate anchor pattern or surface profile between CSP 4 and 6 in accordance with ICRI 310.2.
 4. Should cleaning not remove degraded or loose concrete, chipping or other abrading tools shall be used to remove the deteriorated concrete until a sound, clean substrate is achieved which is free of calcium sulfate, loose coarse or fine aggregate, laitance, loose hydrated cement paste, and otherwise deleterious substances. Abrasive blast cleaning and any other means necessary shall be used to open up all air voids or "bugholes" to expose their complete perimeter and depth. Leaving shelled over, hidden air voids beneath the exposed concrete surface will not be acceptable. Concrete substrate shall be dry prior to the application of any surface filler or coating materials.

5. All repaired concrete to be coated shall have achieved a minimum of 28 days of cure time prior to coating application.
6. Contractor shall confirm that any curing compounds, if used, are compatible with the coating system specified.

3.04 INSTALLATION OF COATING SYSTEM

- A. Unless specified elsewhere herein, strictly comply with the coating manufacturer's most recent written instructions with respect to the following to provide a seamless coating system:
 1. Mixing of All Materials.
 2. Protection and Handling of All Materials.
 3. Recoat Limitation and Cure Times.
 4. Minimum Ambient and Substrate Temperatures, Substrate's Degree of Dryness, Relative Humidity and Dew Point of Air.
 5. Application.
 6. Final Curing.
 7. Use of Proper Application Equipment.
- B. The protective coating shall provide sealed substrates to prevent penetration of gases, liquids, chemicals, and other harmful substances.
- C. Repair all voids or damaged areas of the concrete substrates to be lined using the specified trowel applied repair materials recommended by the manufacturer to provide "bughole" free surfaces for the corrosion resistant coating.
- D. Uniformly apply coatings at spreading rate required to achieve minimum coat DFT as recommended by manufacturer.
- E. Provide coating system terminations at leading edges (above or below the water line) and at all metallic interruptions to the concrete substrate, pipe supports, pipe penetrations, gates to adjacent structures, tanks, and channels. Treat terminations in accordance with the termination details and instructions provided by the coating manufacturer.
- F. Treat coating application at joints or cracks in accordance with the termination details or written instructions provided by the coating manufacturer.

3.05 CURING OF PROTECTIVE COATING SYSTEM

- A. Protected finish coating from damage during curing as recommended by the coating manufacturer. Ambient conditions shall be controlled during curing to ensure the minimum air temperature and minimum relative humidity as required by the coating manufacturer.

3.06 FIELD QUALITY CONTROL INSPECTION AND TESTING

- A. SCRR's representative shall perform the procedures listed below in conjunction with the requirements of this Section and prepare daily inspection reports documenting all required inspection and test findings.
- B. Inspect and record substrate profile (anchor pattern) requirements visual inspection and

comparison to ICRI 310.2 CSP Replicas for concrete substrates. Perform profile comparison for concrete once for every 100 sq. ft. of surface area to be lined.

- C. Measure and record ambient air temperature once every two hours of each shift using a thermometer and measure and record substrate temperature once every two hours using a surface thermometer.
- D. Measure and record relative humidity every two hours of each shift using a sling psychrometer in accordance with ASTM E337.
- E. Check for the presence of substrate moisture in the concrete by performing the Standard Test method for Indicating Moisture in Concrete by the Plastic Sheet Method in accordance with ASTM D4263. If the presence of moisture is indicated, take measures to force dry the concrete substrate prior to commencing with coating system application. Force drying can be accomplished using indirect heaters and fans. If the source of substrate moisture cannot be eliminated by force drying, the Contractor shall consult with the Engineer. Perform this test once for every 200 sq. ft. of area to be coated and more frequently at darkened concrete areas.
- F. Confirm correct mixing of coating materials as specified herein.
- G. Inspect and record that the "pot life" of coating materials is not exceeded during installation.
- H. Provide and record adhesion of the coating materials in accordance with ASTM D7234. Testing shall be performed at one location for every 200 sq. ft. of surface area to be coated.
- I. Measure and record the thickness of the coating system using the following methods:
- J. Use notched gauge in accordance with ASTM D4414 for Wet Film Thickness at least once every 50 sq. ft. of coating area.
- K. Following cure, the coating shall be tested for dry film thickness once for every 500 sq. ft. of surface area using a Positector 100 DFT Gauge calibrated in accordance with the instrument manufacturer's instructions. Any areas found to be below minimum coat DFT as recommended by manufacturer shall receive an additional application of the coating or shall be removed/recoated as required to meet the total DFT requirement.
- L. All coating surfaces shall be visually inspected for areas showing poor adhesion, air inclusion, edges or seam defects or any other defects in the coating preventing a complete seal of the surfaces to be protected. Deficiencies or defective work will be marked for repair, removal, or replacement by the SCRR at no additional cost to the Owner.

END OF SECTION

SECTION 09800 - PAINTING AND COATING

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Work under this Section includes but is not limited to painting of plaster, wood, metal, masonry, and other surfaces designated to be painted except factory applied finishes. Painting shall be performed at such times and in such places as the Contractor and Engineer may agree upon in order that dust-free and neat work is obtained. All painting shall be done in strict accordance with the recommendations of the manufacturer and shall be performed in a manner satisfactory to the Engineer.

1.02 SUBMITTALS

- A. Submit manufacturer's data sheets showing the following information:
1. Percent solids by volume.
 2. Minimum and maximum recommended dry-film thickness per coat for prime, intermediate, and finish coats.
 3. Recommended surface preparation.
 4. Recommended thinners.
 5. Statement verifying that the specified prime coat is recommended by the manufacturer for use with the specified intermediate and finish coats.
 6. Application instructions including recommended equipment and temperature limitations.
 7. Curing requirements and instructions:
 8. Color charts and if requested color samples.

1.03 REFERENCE STANDARDS

- A. Reference standards and recommended practices referred to in this Specification Section shall be the latest revision of any such document in effect at the bid time. The following documents are a part of this Section. Where this Section differs from these documents, the requirements of this Section shall apply.
- B. American Society for Testing and Materials (ASTM)
1. ASTM A780—Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
 2. ASTM C501—Standard Test Method for Relative Resistance to Wear of Unglazed Ceramic Tile by the Taber Abrasion Method.
 3. ASTM D520—Standard Specification for Zinc Dust Pigment.
 4. ASTM D522—Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings.

5. ASTM D1002—Standard Test Method for Apparent Shear Strength of Single-Lap-Joint Adhesively Bonded Metal Specimens by Tension Loading (Metal-to-Metal).
 6. ASTM D2240—Standard Test Method for Rubber Property—Durometer Hardness.
 7. ASTM D3734—Standard Specification for High-Flash Aromatic Naphtha's.
 8. ASTM D2697—Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings.
 9. ASTM D4060—Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abrasion Method.
 10. ASTM D4138—Standard Practices for Measurement of Dry Film Thickness of Protective Coating Systems by Destructive, Cross-Sectioning Means.
 11. ASTM D4258—Standard Practice for Surface Cleaning Concrete for Coating.
 12. ASTM D4260—Standard Practice for Liquid and Gelled Acid Etching of Concrete.
 13. ASTM D4261—Standard Practice for Surface Cleaning Concrete Unit Masonry for Coating.
 14. ASTM D4263—Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method.
 15. ASTM D4787—Standard Practice for Continuity Verification of Liquid or Sheet Linings Applied to Concrete Substrates.
 16. ASTM D6386—Standard Practice for Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Painting.
 17. ASTM D7091—Standard Practice for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Metals and Nonmagnetic, Nonconductive Coatings Applied to Non-Ferrous Metals.
 18. ASTM E84—Standard Test Method for Surface Burning Characteristics of Building Materials.
- C. National Association of Corrosion Engineers International (NACE)
1. NACE SP0188—Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates.
- D. Steel Structure Painting Council (SSPC)
1. SSPC PA-1—Shop, Field, and Maintenance Painting of Steel.
 2. SSPC PA-2—Measurement of Dry Coating Thickness with Magnetic Gauges.
 3. SSPC SP-1—Solvent Cleaning.
 4. SSPC SP-2—Hand Tool Cleaning.

- 5. SSPC SP-3—Power Tool Cleaning.
 - 6. SSPC SP-5—White Metal Blast Cleaning.
 - 7. SSPC SP-6—Commercial Blast Cleaning.
 - 8. SSPC SP-7—Brush-Off Blast Cleaning.
 - 9. SSPC SP-10—Near-White Blast Cleaning.
 - 10. SSPC SP-11—Power Tool Cleaning to Bare Metal.
 - 11. SSPC SP-13—Surface Preparation of Concrete
- E. U.S. Department of Defense
- 1. MIL-P-21035—Paint High Zinc Dust Content, Galvanizing Repair.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. All materials shall be delivered to the job in original sealed and labeled containers of the paint manufacturer and shall be subject to inspection by the Engineer. Labels shall show name of manufacturer, type of coating, formulation, color and instructions for thinning.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Coatings in contact with Potable Water shall comply with requirements of the Safe Drinking Water Act and other applicable federal, state, and local requirements. Provide certification by manufacturer that components and materials comply with NSF/ANSI 61-2016 – Drinking Water Components.

2.02 MANUFACTURERS

- A. Nationally recognized manufacturers of paints and protective coatings who are regularly engaged in the protection of such materials for essentially identical service conditions.

2.03 PAINTING AND COATING SYSTEMS

- A. The following index lists the various painting and coating systems by service and generic type

System No.	Generic Type	Surface Material	Finish	Typical Function
1	Zinc / Polyurethane / Fluoropolymer	Ductile Iron	Low Sheen	Exterior Piping

2.04 COATING SCHEDULE

- A. No paint is required on hot-dipped galvanized steel, or stainless steel.
- B. The following coating systems are required for this project:

Description	Application	System No.
Exterior Piping and Equipment	Non-Immersion	1

2.05 COATING SYSTEMS

- A. System No. 1
 1. System No. 1 shall be used for exterior (exposed) piping where indicated.
 2. Surface Preparation: SP-6.
 3. Shop Primer: One coat of the following system or equal: Tnemec Series 91-H2O, 94- H2O Hydro-Zink or Series 90-97 Theme-Zinc, DFT 2.5 to 3.5 mils.
 4. Intermediate Coat: One coat of the following system or equal: Tnemec Series 73 or 1075 Endura-Shield, DFT 2.0 to 3.0 mils.
 5. Finish Coat: One coat of the following system or equal: Tnemec Series 700 or Series 701 Hydro Flan, DFT 2.0 to 3.0 mils.
 6. Total DFT 6.0 to 12.0 mils.

PART 3 - EXECUTION

3.01 MIXING

- A. Exercise care to keep fire hazards to a minimum. Provide an approved hand fire extinguisher near each paint storage and mixing area. No oily waste, rags, or painting equipment shall be left scattered throughout the premises.
- B. Mix coatings in accordance with manufacturer's instructions. Colors shall be thoroughly mixed with no streaks or separation of color. Do not add thinners, driers or other additives except as recommended by the coating manufacturer. Do not incorporate in the coating any thinners or solvents used for cleaning brushes or equipment.
- C. Protect all adjacent areas against damage and leave storage and mixing areas clean at the completion of painting.

3.02 ACCEPTANCE OF SURFACES

- A. Inspect all surfaces and adjoining work and report to the Engineer in writing any existing unsatisfactory conditions. No painting work shall be started until the unsatisfactory conditions are remedied.
- B. Commencement of surface preparation and painting shall constitute the acceptance of existing conditions and any defects appearing in the painting work thereafter shall be by the Contractor at no additional cost.

3.03 PROTECTION OF ADJACENT SURFACES

- A. Provide necessary protection for completed work and all adjoining surfaces. Provide temporary closures as required to prevent circulation of dust from adjacent areas where other work is in progress. Where it is necessary to remove existing protection of work of others, such protection shall be fully replaced. It shall be the responsibility of the Contractor to locate and avoid damage to any and all existing water, gas, sewer, electric, telephone, and other utilities, structures, or appurtenances. The Contractor shall repair or pay for all damages caused by his operations or his personnel to existing utilities, structures, appurtenances, or properties, either below ground or above ground and shall settle in full all damage suites which may arise as a result of his operations.

3.04 VENTILATION

- A. Provide adequate ventilation for safe application and for proper drying of coatings on interior surfaces. It is essential that the solvent vapors released during and after application of coatings be removed from tanks or enclosed places. During coating application in enclosed areas the capacity of ventilating fans shall be at least 300 cfm per gallon of coating applied per hour. Continuous forced ventilation at a rate of at least one complete air change per 4 hours shall be provided for at least 7 days after coating application is completed. Air shall be exhausted from the lowest portions of tanks or enclosed spaces with the top openings kept open and clear.

3.05 SURFACE PREPARATION

A. General

1. Prepare all surfaces in accordance with the coating manufacturer's instructions and as specified. Surfaces shall be uniform texture, dry, and free from dust, grit, oil, grease, or any material which will adversely affect adhesion or appearance of the coating. Rough edges of metal, weld seams and sharp edges from scaffold lugs shall be ground to a curve.
2. Surfaces that have been cleaned, pretreated, and/or otherwise prepared for painting shall be given a coat of the first-coat material as soon as practicable prior to any deterioration of the prepared surface.
3. Hardware, accessories, plates, fixtures, and similar items in contact with coated surfaces shall be removed, masked, or otherwise protected prior to surface preparation and painting operations.
4. Exposed nails and other ferrous metals on surfaces to be coated shall be spot- primed with a metal primer compatible with the finish.

B. Surface Preparation SP 6 - Commercial Blast Cleaning

1. Remove all oil and grease from the surface. Blast clean surface to a Commercial Finish, removing mill scale, dirt, rust, and foreign matter by the methods outlined in SSPC SP 6. Two thirds of each square inch of surface area shall be free of all visible residues.
2. Blasting shall be done with centrifugal wheel or compressed air blast using either steel grit or flint silica sand. Abrasive should provide a profile depth of 1.0 to 2.0 mils. Steel Grit #G-80 or flint silica sand 20-50 mesh is recommended to obtain proper profile depth. Remove all dust and sand by vacuuming.

3. The blast cleaned surface shall be primed as soon as possible and before any rusting of the surface occurs.

3.06 APPLICATION

- A. All work shall be performed by skilled painters. Surfaces shall be free of drops, ridges, waves, laps and brush marks. Edges of paint adjoining other colors or materials shall be sharp and true.
- B. Strictly follow the coating manufacturer's written instructions and the requirements of this specification regarding all aspects of coating work including, but not limited to, mixing, application, recoat times and curing.
- C. Do not apply coatings in temperatures below 50 degrees F. except where the manufacturer allows lower temperatures. No exterior painting shall be done during inclement weather when relative humidity exceeds 85%, the ambient temperature is within 5 degrees F of the Dew Point or under conditions identified by the manufacturer as unsuitable.
- D. The average rate of application shall not exceed the theoretical rate of coverage recommended by the coating manufacturer for the type of surface involved, less an allowance for losses. Average dry film thickness shall not be less than thickness set forth under Painting Systems. Not more than 10-20% of points inspected may be less than 90% of the specified thickness. Deficiencies shall be corrected by application of additional coating.
- E. Each coat shall be uniform in coverage and color. Successive coats shall perceptibly vary in color. Each coat shall be carefully examined, and faulty material, poor workmanship, holidays, damaged areas and other imperfections shall be touched up prior to applying succeeding coats. Comply with coating manufacturer's recommendations for drying time between coats.
- F. Incidental niches, recesses, passages, closets, etc., shall be finished to match similar or adjacent spaces. Access doors, panels, convectors, grilles and similar items shall be coated the same color as adjacent work, except for non-ferrous metal or where otherwise directed by the Engineer. Primed hardware shall be coated to match adjacent work to which they are attached.
- G. In the event that the finished surfaces are not acceptable, completely refinish entire unit areas or sections as necessary in order to eliminate visible laps or other indications of repairs.
- H. Mixing, thinning, pot life, application procedure, equipment, coverage, curing, re-coating, storage and number of coats shall be in accordance with coating manufacturer's instructions.
- I. Avoid degradation and contamination of blasted surfaces, and avoid between-coat contamination. Surfaces contaminated shall be cleaned before applying next coat. Method of cleaning contaminated surface shall be approved by the Engineer or Owner's representative.
- J. Each application of material shall be worked into corners, crevices, joints, etc., and distributed evenly over flat surfaces. Spraying techniques that result in a uniform wet pattern shall be used and dry spraying should be avoided. Dry spray shall be removed prior to coating being applied.

- K. All bolts, welds, sharp edges, and difficult access areas shall receive a primer brush coat or spray coat prior to primer spray application.

3.07 PIPE COLOR CODING

- A. Coat all exposed piping, conduit, and appurtenances to conform to a color code as approved by the Engineer.

3.08 CLEAN-UP

- A. At completion of the painting work, clean off all paint spots and other paint materials from surfaces where they are not intended to be. Remove from the premises all rubbish and accumulated material and leave the work in clean orderly condition, acceptable to the Engineer. All cloths and waste that might constitute a fire hazard shall be placed in closed metal containers or destroyed at the end of each day. Upon completion of the work, all staging, scaffolding, and containers shall be removed from the site and/or destroyed in an approved and legal manner.

3.09 DAMAGED COATINGS

- A. Damaged coatings, pinholes, and holidays shall have edges feathered and repaired in accordance with the recommendations of the manufacturer, as approved by the Engineer.
- B. All finish coats, including touch up and damage-repair coats shall be applied in a manner which will present a uniform texture and color-match appearance.

3.10 UNSATISFACTORY APPLICATION

- A. If the item has an improper finish, color, or insufficient film thickness, the surface shall be cleaned and top coated with the specified material to obtain the specified color and coverage. Specific surface preparation information to be secured from the coatings manufacturer and the Engineer.
- B. All visible areas of chipped, peeled, or abraded paint shall be hand or power-sanded, feathering the edges. The areas shall then be primed and finish coated in accordance with the specifications.
- C. Work shall be free of runs, bridges, shiners, laps, or other imperfections. Evidence of these conditions shall be cause for rejection.
- D. Any defects in the coating system shall be repaired by the Contractor per written recommendations of the coating manufacturer.

3.11 GUARANTEE AND ANNIVERSARY INSPECTION

- A. All work shall be warranted for a period of one year from date of acceptance of the project.
- B. The Owner will notify the Contractor at least 30 days prior to the anniversary date and shall establish a date for the inspection. Any defects in the coating system shall be repaired by the Contractor at no additional cost to the Owner. Should a failure occur to 25% of the painted surface, either interior or exterior, the entire surface shall be cleaned and painted in accordance with these specifications.

END OF SECTION