

**SPECIFICATIONS AND CONTRACT
DOCUMENTS**

**WILLIE BASBY RECREATION
PARK**

**FOR THE
CITY OF COCHRAN**



OCTOBER 2025



*ENGINEERING * LAND PLANNING * SURVEYING *
*CONSTRUCTION MANAGEMENT * LANDSCAPE ARCHITECTURE*
WWW.FDC-LLC.COM

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SPECIFICATIONS AND CONTRACT DOCUMENTS

WILLIE BASBY RECREATION PARK

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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 (*Falcon Design Consultants, Attention: jbrown@fdc-llc.com*)** – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered. Falcon Design Consultants will provide Contract Documents to Bidders and be responsible for issuing all project addenda, responding to written questions, opening bids, and all other items related to this proposed project.
 - B. Owner** – The City of Cochran, Georgia
 - C. Owner's Representative** - Falcon Design Consultants, LLC, an independent consulting engineering firm, is the City of Cochran's appointed Owner's Representative for this project.
 - D. Engineer** – Falcon Design Consultants, LLC, an independent consulting engineering firm, is the Design Engineer of record for this project.

ARTICLE 2 – FUNDING

- 2.01 Project funding is from multiple sources including grant from the Georgia Department of Natural Resources Land and Water Conservation as well as a match from the City of Cochran.

ARTICLE 3 – COPIES OF BIDDING DOCUMENTS

Complete sets of the Contract Documents may be obtained from the Issuing Office. Advertisements for this project will be placed on City's website: <https://cityofcochran.com/bids.aspx> and at the Georgia Procurement Registry website located at: <https://ssl.doas.state.ga.us/gpr/index>. Complete sets of Bidding Documents shall be used in preparing Bids; Owner assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

- 3.01 The Owner, in making copies of Bidding Documents available on the above terms, does so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

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ARTICLE 4 – QUALIFICATIONS OF BIDDERS

- 4.01 Bidders are required to self-perform a minimum of 51% of the total work required to provide a completed project to the Owner.
- 4.02 To demonstrate Bidder's qualifications to perform the Work, Bidder shall submit written evidence with bid such as financial data, previous experience, present commitments, and such other data as may be called for below.

A. Required Bidder Qualification Statement with Supporting Data

B. List of 5 Project References;

C. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;

D. Copy of Contractor's License *[or]* Evidence of Bidder's ability to obtain a State Contractor's License and a covenant by Bidder to obtain the following said license within the time for acceptance of Bids.

ARTICLE 5 – EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

5.01 *Subsurface and Physical Conditions*

A. The Supplementary Conditions identify:

1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous 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).

B. Copies of reports and drawings, if any, referenced in Paragraph 5.01.A will be made available by Owner to any Bidder upon written request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein as provided in Paragraph 4.02 of the General Conditions has been identified and established in Paragraph 8 of 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.

5.02 *Underground Facilities*

A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to Owner and by owners of such Underground Facilities, including Owner, or others.

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5.03 *Hazardous Environmental Condition*

- A. The Supplementary Conditions identify any reports and/or drawings known to Owner relating to a Hazardous Environmental Condition identified at the Site.
- B. Copies of reports and drawings referenced in Paragraph 5.03.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein as provided in Paragraph 4.06 of the General Conditions has been identified and established in Paragraph 8 of 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.

5.04 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 4.02, 4.03, and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 4.06 of the General Conditions. On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. 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. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

5.06 *Not Used*

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

- A. examine and carefully study the Bidding Documents, and the other related data identified in the Bidding Documents;
- B. visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. become familiar with and satisfy Bidder as to all state and local Laws and Regulations that may affect cost, progress, and performance of the Work;
- D. Not used
- E. consider the information known to Bidder; 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

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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, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs;

- F. agree at the time of submitting its Bid that 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(s) 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 Owner written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Owner is acceptable to Bidder; and
- I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

5.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Owner written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Owner are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 6 – PRE-BID CONFERENCE

6.01 A non-mandatory pre-bid conference will be held at **10:00am** on **Thursday, September 25, 2025** at 102 N Second St Suite A, Cochran, GA 31014 for the proposed project. Owner will transmit to all prospective Bidders of record such Addenda as Owner 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 – SITE AND OTHER AREAS

7.01 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

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ARTICLE 8 – INTERPRETATIONS AND ADDENDA

- 8.01 All questions about the meaning or intent of the Bidding Documents are to be submitted in writing to the *Owner's Representative*, Attention: **Jami Brown** via email at jbrown@fdc-llc.com. Interpretations or clarifications considered necessary by Owner's Representative in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Owner as having received the Bidding Documents. Questions received after **5:00 PM** local time on **Thursday, September 25, 2025** may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 8.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner and all Addenda will be posted on the City's website.

ARTICLE 9 – BID SECURITY

- 9.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of 5 percent of Bidder's maximum Bid price and in the form of a certified check, bank money order, or a Bid bond (on the form attached) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.
- 9.02 The Bid security of the Successful Bidder will be retained until 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 returned. 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. The Bid security of other Bidders whom 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 Agreement or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.
- 9.03 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

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ARTICLE 10 – CONTRACT TIMES

- 10.01 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 Article 6 of the Bid Form herein the Agreement.

ARTICLE 11 – LIQUIDATED DAMAGES

- 11.01 Provisions for liquidated damages, if any, are set forth in paragraph 4.03 of the Form of Agreement and Stipulated Price Contract herein the Agreement.

ARTICLE 12 – SUBSTITUTE AND “OR-EQUAL” ITEMS

- 12.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, or those substitute or “or-equal” materials and equipment approved by Owner and identified by Addendum. The materials and equipment described in the Bidding Documents establish a standard of required type, function and quality to be met by any proposed substitute or “or-equal” item. No item of material or equipment will be considered by Owner as a substitute or “or-equal” unless written request for approval has been submitted by Bidder and has been received by Owner at least 5 days prior to the date for receipt of Bids. Each such request shall conform to the requirements of Paragraph 6.05 of the General Conditions. The burden of proof of the merit of the proposed item is upon Bidder. Owner’s decision of approval or disapproval of a proposed item will be final. If Owner approves any proposed item, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.

ARTICLE 13 – SUBCONTRACTORS, SUPPLIERS AND OTHERS

- 13.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. 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, individual, or entity if requested by Owner. If Owner, 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 a substitute, without an increase in the Bid.
- 13.02 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, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Owner makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Owner subject to revocation of such

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acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06 of the General Conditions.

- 13.03 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.
- 13.04 The Contractor shall exercise due diligence to ensure that neither it nor any of its subcontractors engages, employs, or otherwise contracts with any individual or entity that would present an actual or potential conflict of interest in connection with the performance of this Agreement. This includes, but is not limited to, any party who:
- a. Is currently employed by, or has within the past twelve (12) months been employed by, the Owner;
 - b. Has a financial interest that may be materially affected by the outcome of this Contract;
 - c. Has access to non-public, proprietary, or confidential information related to the Project; or
 - d. Is otherwise in a position that could reasonably be perceived to compromise their objectivity or create divided loyalties.

The Contractor shall implement appropriate internal procedures to vet all personnel and subcontractors and shall certify to the Owner, upon request, that no such conflicts exist. In the event a potential conflict is identified, the Contractor shall promptly notify the Owner in writing and shall not proceed with the engagement of the individual or entity unless and until written approval is obtained from the Owner.

Failure to comply with the requirements of this clause may be deemed a material breach of this Agreement.

ARTICLE 14 – PREPARATION OF BID

- 14.01 The Bid Form is included with the Bidding Documents. Additional copies may be obtained from Owner.
- 14.02 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 listed therein.
- 14.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.

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- 14.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown.
- 14.05 A Bid by a limited liability company shall be executed in the name of the firm by a member 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.
- 14.06 A Bid by an individual shall show the Bidder's name and official address.
- 14.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 14.08 All names shall be printed in ink below the signatures.
- 14.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 14.10 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 14.11 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 15 – BASIS OF BID; COMPARISON OF BIDS

15.01 *Lump Sum* – Not Used

15.02 *Unit Price*

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.
- B. The value of items required by the Contract Documents but not show in the line items on the Bid Form shall be included in the unit price of the line item that relates to this work.
- C. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with Paragraph 11.03 of the General Conditions.
- D. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.
- E. Owner may adjust actual quantities by a maximum of 50% without additional costs or adjustment of unit price provided by the Bidder.

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15.03 *Allowances*

- A. In the amount bid on the Bid Form submitted, the Bidder shall include a **\$25,000.00** Contingency Allowance. This allowance is for additional work as directed by the Owner.

15.04 *Completion Time Comparisons*

- A. Not Used

ARTICLE 16 – SUBMITTAL OF BID

- 16.01 With each copy of the Bidding Documents, a Bidder is furnished one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the following documents:

- A. **Required Bid security;**
- B. **List of 5 Project References;**
- C. **Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;**
- D. **Certificate of Insurance (listing Cochran as the Certificate Holder);**
- E. **Contractor Affidavit and Agreement;**
- F. **Subcontractor Affidavit;**
- G. **Contractor's Statement of Legal Status and Financial Capability;**
- H. **Acknowledgment of Addenda;**

- 16.02 A Bid shall be submitted 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 – WILLIE BASBY RECREATION PARK**". A mailed Bid shall be addressed to **City of Cochran; Attention: Candace Summerall - City Clerk; 112 West Dykes Street, Cochran, Georgia 31014.** All bids submitted must be received prior to **2:00 PM local time, October 2, 2025.**

- 16.03 Bid packages submitted shall include **ONE (1)** complete set of bid documents, as required by this section, with original signatures and seals as required and this document set shall be labeled "**Original**". Additionally, **ONE (1)** complete copy set of the bid documents, as required by this section, labeled "**Copy**" shall be included in the bid package.

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ARTICLE 17 – MODIFICATION AND WITHDRAWAL OF BID

- 17.01 A Bid may be modified or 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.
- 17.02 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 18 – OPENING OF BIDS

- 18.01 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 19 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 19.01 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 20 – EVALUATION OF BIDS AND AWARD OF CONTRACT

- 20.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible.
- 20.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.
- 20.03 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.
- 20.04 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.
- 20.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work in accordance with the Contract Documents.

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- 20.06 If the Contract is to be awarded, Owner will award the Contract to the Bidder whose Bid is in the best interests of the Owner.

ARTICLE 21 – CONTRACT SECURITY AND INSURANCE

- 21.01 Article 5 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 executed Agreement to Owner, it shall be accompanied by such bonds.

ARTICLE 22 – SIGNING OF AGREEMENT

- 22.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement along with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 calendar days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within ten calendar days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings, if applicable, with appropriate identification.

SECTION II



CITY OF COCHRAN, GEORGIA

WILLIE BASBY RECREATIONAL PARK

INVITATION TO BID

DATE: OCTOBER 2, 2025

Sealed unit price bids will be received by the City of Cochran, Georgia from prospective contractors for the City of Cochran, Georgia: Willie Basby Recreational Park project. The work consists of furnishing and installing all materials, labor, tools, equipment, and related services required for a complete project. The project is located on the Southeast side of Thompson Street in Cochran, Georgia at the intersection of Wilmore Street and Thompson Street. This project includes, but is not limited to, traffic control, erosion and sediment control, traffic striping, clearing, grading, stormwater installations, and landscaping within the project limits in accordance with the Contract Documents for the City of Cochran: Willie Basby Recreational Park.

The City of Cochran, in accordance with Title VI of the Civil Rights Act of 1964 and 78 Stat. 252, 42 USC 2000d—42 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, part 21, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, sex, or national origin in consideration for an award.

All questions about the meaning or intent of the Bidding Documents are to be submitted in writing to the *Owner's Representative*, Attention: **Jami Brown** via email at jbrown@fdc-llc.com. Interpretations or clarifications considered necessary by Owner in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Owner as having received the Bidding Documents. Questions received after **5:00 PM** local time on **Thursday, September 25, 2025** may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect. Sealed Bids will be received by the City of Cochran at 112 West Dykes Street, Cochran, GA 31014 until **2:00 PM** local time, **Thursday, October 2, 2025**, and then publicly opened and read aloud. Only bids presented with a certification from the bidder that the bid submitted is based upon the current and complete Contract Documents will be accepted and opened.

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No bid may be modified, withdrawn, or canceled for a period of sixty (60) days after the time designated for the receipt of Bids or until the Bidder is notified by the City whichever is sooner. The City reserves the right to reject any and all bids and to waive irregularities, technicalities, and formalities.

Each bid shall be accompanied by a Bid Bond in an amount of not less than five percent (5%) of the total bid amount. The Bid Bond may be in the form of a bond issued by a surety acceptable to the City or a cashier's check made payable to the City of Cochran, Georgia. The entire Bid Bond shall be forfeited to the City of Cochran, Georgia as liquidated damages if the bidder fails to execute the Contract and provide Performance and Payment Bonds within fifteen (15) days after being notified that he has been awarded the Contract.

The successful bidder will be required to furnish a contract Performance Bond and a Payment Bond, each in the sum of one hundred percent (100%) of the total amount bid and provide insurance coverage as required in the Contract Documents.

Note: For more information please refer to the Instruction to Bidders and the Contract Documents, which govern and supersede this Invitation to Bid.

SECTION III

BID FORM



CITY OF COCHRAN, GEORGIA

WILLIE BASBY PARK

BID DATE: THURSDAY, OCTOBER 2, 2025

BID TIME: 2:00 PM

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SECTION III

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

City of Cochran, Georgia

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

Addendum No.

Addendum Date

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has considered the information known to Bidder; 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, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder’s safety precautions and programs.

E. Based on the information and observations referred to in Paragraph 3.01.D above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are

SECTION III

necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

- F. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- G. Bidder has given *Owner's Representative* written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
- 1. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
 - 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

Bidder will complete the Work in accordance with the Contract Documents for the following:

SECTION III

LINE ITEM BID FORM

<u>ITEM NO.:</u>	<u>ESTIMATED QUANTITY</u>	<u>UNITS</u>	<u>DESCRIPTION</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
1	1	N/A	MOBILIZATION, BONDS AND TRAFFIC CONTROL	\$ _____	\$ _____
2	1	L.S.	EROSION CONTROL MEASURES, INSTALLATIONS AND MAINTENANCE PER PLAN SPECIFICATIONS FOR DURATION OF PROJECT	\$ _____	\$ _____
3	1	L.S.	CLEARING AND GRADING WITHIN PROJECT LIMITS OF DISTURBANCE	\$ _____	\$ _____
4	1	LS	2 FEET WIDE CONCRETE FLUME EXTENSION, INSTALLED COMPLETE INCLUDING SOLID COVER PLATES PER DETAIL	\$ _____	\$ _____
5	12	L.F.	6 INCH SDR26 STORM CULVERT INSTALLED COMPLETE	\$ _____	\$ _____
6	3	EA	4 INCH THICK 3000 PSI CONCRETE PICNIC TABLE AND GRILL SLABS, INSTALLED COMPLETE	\$ _____	\$ _____
7	1	EA	GDOT ADA RAMP TYPE "D" WITH DETECTABLE WARNING SURFACE, INSTALLED COMPLETE.	\$ _____	\$ _____
8	25	L.F.	8' WIDE GDOT THERMOPLASTIC STRIPING PEDESTRIAN CROSSINGS	\$ _____	\$ _____
9	950	L.F.	6 FEET WIDE 4 INCH THICK 3000 PSI CONCRETE SIDEWALK ON 95% COMPACTED SUBGRADE TESTED AND INSTALLED COMPLETE	\$ _____	\$ _____
10	1	EA	RELOCATE "PARKING FOR PEYTON WILLIAMS STUDENTS ONLY" SIGN	\$ _____	\$ _____
11	2	EA	32 GALLON TRASH RECEPTACLE MODEL #RRD32-C-00-000, RIM32-S-00-000 WITH FLAT TOP LID MODEL #RFT32-S-02-000 IN EXTREME COATING, BROWN FINISH FROM	\$ _____	\$ _____

SECTION III

			PLAYGROUNDEQUIPMENT.COM PLACED IN CONCRETE FOOTING PER MFR SPECS, INSTALLED COMPLETE		
12	3	EA	6 FOOT SINGULAR PEDESTAL RECTANGULAR PICNIC TABLE MODEL #TRT06-C-06-000 WITH EXTREME COATING IN BROWN FINISH INSTALLED COMPLETE	\$ _____	\$ _____
13	2	EA	PARK BENCH MODEL # BCA04-C-43- 000 FROM PLAYGROUNDEQUIPMENT.COM, EXTREME COATING IN BROWN INSTALLED COMPLETE	\$ _____	\$ _____
14	3	EA	TRADITIONAL CAMP GRILL, MODEL #GSQ24-S-45-000 OR EQUIVALENT, INSTALLED COMPLETE	\$ _____	\$ _____
15	1	L.S.	GIS DIGITAL SURVEY UTILIZING STATE PLANE COORDINATES AND SUBMITTED TO OWNER IN AUTOCAD FORMAT WITH REQUIRED SHAPE FILES AND COMPATIBLE WITH ARCGIS IN ACCORDANCE WITH CONTRACT DOCUMENTS	\$ _____	\$ _____
16	1	N/A	PROJECT CONTINGENCY ALLOWANCE (FOR USE BY CITY ONLY)	\$ <u>25,000.00</u>	\$ <u>25,000.00</u>

TOTAL BASE BID:

_____ Dollars

In Numbers: \$ _____

Unit Prices have been computed in accordance with Paragraph 11.03.B of the General Conditions.

Bidder acknowledges that 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.

SECTION III

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete within 60 calendar days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within 75 calendar days after the date when the Contract Times commence to run.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
- A. Required Bid security;**
 - B. List of 5 Project References (SECTION XVII. – REFERENCE VERIFICATION AND RELEASE FORM);**
 - C. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;**
 - D. Copy of Contractor's License *[or]* Evidence of Bidder's ability to obtain a State Contractor's License and a covenant by Bidder to obtain the following said license within the time for acceptance of Bids.**
 - E. Certificate of Insurance (listing Cochran as the Certificate Holder);**
 - F. Contractor Affidavit and Agreement;**
 - G. Subcontractor Affidavit;**
 - H. Contractor's Statement of Legal Status and Financial Capability;**
 - I. Acknowledgment of Addenda;**

ARTICLE 8 – DEFINED TERMS

- 8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

- 9.01 This Bid is submitted by:
- If Bidder is:

SECTION III

An Individual

Name (typed or printed): _____

By: _____
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____

By: _____
(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____
(CORPORATE SEAL)

Attest _____

Date of Qualification to do business in _____ is ____ / ____ / ____.

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of first joint venture partner -- attach evidence of authority to sign)

SECTION III

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____(SEAL)

By: _____
(Signature of second joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address _____

Phone No. _____ Fax No. _____

E-mail _____

SUBMITTED on _____.

SECTION IV

BID BOND

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

BIDDER (*Name and Address*):

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

OWNER (*Name and Address*):

City of Cochran, Georgia
112 West Dykes Street
Cochran, GA 31014

BID

Bid Due Date: **THURSDAY, OCTOBER 2, 2025**

Description: **WILLIE BASBY RECREATIONAL PARK**

BOND

Bond Number:

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

Penal sum

(Words)

\$

(Figures)

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

BIDDER

SURETY

Bidder's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

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

SECTION IV

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

SECTION V

CONTRACTOR AFFIDAVIT AND AGREEMENT

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. 13-10-91, stating affirmatively that the individual, firm or corporation that is contracting with the City of Cochran, Georgia, has registered with and is participating in a federal work authorization program* [any of the electronic verification of work authorization programs operated by the United States Department of Homeland Security or any equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603], in accordance with the applicability provisions and deadlines established in O.C.G.A. 13-10-91.

The undersigned further agrees that, should it employ or contract with any subcontractor(s) in connection with the physical performance of services pursuant to this contract with City of Cochran, Georgia, contractor will secure from each subcontractor(s) similar verification of compliance with O.C.G.A. 13-10-91 on the Subcontractor Affidavit provided in Rule 300-10-01-.08 or a substantially similar form. Contractor further agrees to maintain records of such compliance and provide a copy of each verification to City of Cochran, Georgia at the time the subcontractor(s) is retained to perform such service.

EEV/Basic Pilot Program* User Identification Number

BY: Authorized Officer or Agent
(Contractor Name)

Date

Title of Authorized Officer of Contractor

Printed Name of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON
THIS THE _____ DAY OF _____, 20____

Notary Public I
My Commission Expires: _____

*As of the effective date of O.C.G.A. 13-10-91, the applicable federal work authorization program is the "EEV/Basic Pilot Program" operated by the U.S. Citizenship and Immigration Services Bureau of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA).

RETURN THIS FORM WITH PROPOSAL DOCUMENTS

SECTION VI

SUBCONTRACTOR AFFIDAVIT

By executing this affidavit, the undersigned subcontractor verifies its compliance with O.C.G.A. §13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services under a contract with _____ (name of contractor) on behalf of City of Cochran, Georgia, has registered with and is participating in a federal work authorization program*[or any of the electronic verification of work authorization programs operated by the United States Department of Homeland Security or any equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603], in accordance with the applicability provisions and deadlines established in O.C.G.A. 13-10-91.

EEV/Basic Pilot Program* User Identification Number

BY: Authorized Officer or Agent
(Subcontractor Name)

Date

Title of Authorized Officer or Agent of Subcontractor

Printed Name of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS
THE _____ DAY OF _____, 20 _____

Notary Public

My Commission Expires: _____

*As of the effective date of O.C.G.A. 13-10-91, the applicable federal work authorization program is the "EEV/Basic Pilot Program" operated by the U.S. Citizenship and Immigration Services Bureau of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA).

RETURN THIS FORM WITH PROPOSAL DOCUMENTS

SECTION VII
REFERENCE VERIFICATION AND RELEASE FORM



CITY OF COCHRAN, GEORGIA

PROJECT TITLE: **WILLIE BASBY RECREATIONAL PARK**

BIDDER: _____
(List name exactly as provided in Bid Form)

Provide at least five (5) references for the Bidder listed above of work similar to the current project being completed within the last five (5) years. Provide the information requested in the form below for the contact person who will verify the Bidder's experience and ability to perform the type of services listed in the ITB.

REFERENCE NO. 1:

Name of Company/Entity: _____

Mailing Address: _____

City/State/Zip Code: _____

Contact Person Name: _____

Contact Person Title: _____

Contract Person Phone No.: _____

Contract Person Email: _____

Date Work Performed: _____

Brief Description of Work Performed: _____

SECTION VII

REFERENCE NO. 2:

Name of Company/Entity:

Mailing Address:

City/State/Zip Code:

Contact Person Name:

Contact Person Title:

Contract Person Phone No.:

Contract Person Email:

Date Work Performed:

Brief Description of Work Performed:

REFERENCE NO. 3:

Name of Company/Entity:

Mailing Address:

City/State/Zip Code:

Contact Person Name:

Contact Person Title:

Contract Person Phone No.:

Contract Person Email:

Date Work Performed:

Brief Description of Work Performed:

SECTION VII

REFERENCE NO. 4:

Name of Company/Entity:

Mailing Address:

City/State/Zip Code:

Contact Person Name:

Contact Person Title:

Contract Person Phone No.:

Contract Person Email:

Date Work Performed:

Brief Description of Work Performed:

REFERENCE NO. 5:

Name of Company/Entity:

Mailing Address:

City/State/Zip Code:

Contact Person Name:

Contact Person Title:

Contract Person Phone No.:

Contract Person Email:

Date Work Performed:

Brief Description of Work Performed:

SECTION VII

REFERENCE VERIFICATION RELEASE STATEMENT

The Bidder listed below hereby authorizes the City of Cochran and its Representatives to contact the references provided for this bid and any additional parties that may be encountered/discovered during the reference conformation process.

BIDDER: _____
(List name exactly as provided in Bid Form)

SIGNED BY: _____
(Printed name and title)

AUTHORIZED
SIGNATURE: _____ **DATE:** _____

SECTION VIII

CONTRACTOR FURNISHED DOCUMENTS

SECTION IX
FORM OF AGREEMENT
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT

THIS AGREEMENT is by and between City of Cochran, Georgia (“Owner”) and
_____ (“Contractor”).

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

- 1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: All material, labor, tools, equipment, and any other miscellaneous items necessary to complete the work as described in the Construction Drawings & Specifications.

ARTICLE 2 – THE PROJECT

- 2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows: The work consists of furnishing and installing all materials, labor, tools, equipment, and related services required for a complete project. The project is located on the Southeast side of Thompson Street in Cochran, Georgia at the intersection of Wilmore Street and Thompson Street. This project includes, but is not limited to, traffic control, erosion and sediment control, traffic striping, clearing, grading, stormwater installations, and landscaping within the project limits in accordance with the Contract Documents for the **City of Cochran: Willie Basby Recreational Park**.

ARTICLE 3 – OWNER

- 3.01 The Project has been developed by the Owner and the Owner’s representatives, assume all duties and responsibilities, and have the rights and authority assigned to the Owner in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

- 4.01 *Time of the Essence*
- A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.
- 4.02 *Days to Achieve Substantial Completion and Final Payment*
- A. The Work will be substantially completed within **60** days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and completed and

SECTION IX

ready for final payment in accordance with Paragraph 14.07 of the General Conditions within 75 days after the date when the Contract Times commence to run.

4.03 *Liquidated Damages*

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner \$100 for each day that expires after the time specified in Paragraph 4.02 above for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner \$500 for each day that expires after the time specified in Paragraph 4.02 above for completion and readiness for final payment until the Work is completed and ready for final payment.

ARTICLE 5 – CONTRACT PRICE

- 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to Paragraphs 5.01.A below:

- A. For all Work at the Unit Price Base Bid of: _____ **DOLLARS**
(\$ _____)
- B. All specific cash allowances are included in the above price in accordance with Paragraph 11.02 of the General Conditions.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by Owner as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 25th day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below. All such payments will be measured by the schedule of values established as provided in Paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.

SECTION IX

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with Paragraph 14.02 of the General Conditions.

a. 95 percent of Work completed and Stored Materials (with the balance being project retainage) for the duration of the project.

B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts as Owner shall determine in accordance with Paragraph 14.02.B.5 of the General Conditions and less 200 percent of Owner's estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

6.03 *Final Payment*

A. Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Owner as provided in said Paragraph 14.07.

ARTICLE 7 – INTEREST

7.01 *Not Used*

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

- A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
- B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract 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 Contractor, including any specific means, methods, techniques, sequences, and procedures of

SECTION IX

construction expressly required by the Contract Documents; and (3) Contractor's safety precautions and programs.

- E. Based on the information and observations referred to in Paragraph 8.01.D above, Contractor does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
- F. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- G. Contractor has given Owner written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Owner is acceptable to Contractor.
- H. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

- A. The Contract Documents consist of the following:
 - 1. This Agreement.
 - 2. Performance bond.
 - 3. Payment bond.
 - 4. General Conditions.
 - 5. Supplemental General Conditions
 - 6. Specifications
 - 7. Exhibits
 - 8. Addenda.
 - 9. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid.
 - b. Documentation submitted by Contractor prior to Notice of Award.
 - c. Certificate of Insurance.

SECTION IX

10. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:

- a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 3.04 of the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 *Assignment of Contract*

- A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

SECTION IX

10.05 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

10.06 *Other Provisions*

1. Indemnification: The CONTRACTOR shall indemnify and hold harmless the OWNER and their agents and employees from and against all claims, damages, losses and expenses, including but not limited to attorney's fees, arising out of or resulting from the performance of the WORK, provided that any such claim, damage, loss, expense or attorney's fees is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property including the loss of use resulting therefrom, and is caused in whole or in part by any negligent act or omission of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not the negligent act is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Clause. In any and all claims against the OWNER or any of their agents or employees, by any employee of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation set forth in this paragraph shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workers' or workman's compensation acts, disability benefit acts or other employee benefit acts.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or have been identified by Owner and Contractor or on their behalf.

This Agreement will be effective on _____ (which is the Effective Date of the Agreement).

OWNER:

CONTRACTOR

City of Cochran, Georgia

By: _____

Title: _____

Attest: _____

Title: _____

Address for giving notices:

112 West Dykes Street

Cochran, GA 31014

Phone: (479) 934-3230

By: _____

Title: _____

(If Contractor is a corporation, a partnership,
or a joint venture, attach evidence of authority
to sign.)

Attest: _____

Title: _____

Address for giving notices:

(Where applicable)

Agent for service of process:

SECTION X



NOTICE TO PROCEED

Date: _____

Project: **Willie Basby Recreational Park**

Owner: **City of Cochran, Georgia**

Owners Contract No.: **N/A**

Contract:

Contractor:

Contractor's Address:

You are notified that the Contract Times under the above Contract will commence to run on _____.
On or before that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 4 of the Agreement, the date of Substantial Completion is _____, and the number of days to achieve Substantial Completion is **60**, and the number of days to achieve readiness for final payment is **75**.

Before you may start any Work at the Site, Paragraph 2.01.B of the General Conditions provides that you and Owner must each deliver to the other (with copies to Engineer and other identified additional insureds and loss payees) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Contractor:

Given by:

Authorized Signature

Title

Date

Owner: **City of Cochran, Georgia**

Given by:

Authorized Signature

Title

Date

SECTION XI

PERFORMANCE BOND

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

CONTRACTOR (*Name and Address*):

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

OWNER (*Name and Address*):

City of Cochran, Georgia

112 West Dykes Street

Cochran, GA 31014

CONTRACT

Effective Date of Agreement:

Amount: \$ _____

Description (*Name and Location*): **WILLIE BASBY RECREATIONAL PARK**

BOND

Bond Number:

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

Amount:

Modifications to this Bond Form:

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

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

SECTION XI

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

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

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

SECTION XI

5. After Owner has terminated Contractor's right to complete the Contract, and if Surety elects to act under Paragraph 3.1, 3.2, or 3.3 above, then the responsibilities of Surety to Owner shall not be greater than those of Contractor under the Contract, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the Contract. To the limit of the amount of this Bond, but subject to commitment by Owner of the Balance of the Contract Price to mitigation of costs and damages on the Contract, Surety is obligated without duplication for:

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

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

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

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

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

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

11. Definitions.

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

SECTION XI

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

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

Surety Agency or Broker:

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

SECTION XII
PAYMENT BOND

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

CONTRACTOR (*Name and Address*):

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

OWNER (*Name and Address*):

City of Cochran, Georgia

112 West Dykes Street
Cochran, GA 31014

CONTRACT

Effective Date of Agreement:

Amount: \$ _____.

Description (*Name and Location*): **WILLIE BASBY RECREATIONAL PARK**

BOND

Bond Number:

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

Amount:

Modifications to this Bond Form:

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

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

SECTION XII

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

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner to pay for labor, materials, and equipment furnished by Claimants for use in the performance of the Contract, which is incorporated herein by reference.
2. With respect to Owner, this obligation shall be null and void if Contractor:
 - 2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and
 - 2.2 Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.
3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.
4. Surety shall have no obligation to Claimants under this Bond until:
 - 4.1 Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.
 - 4.2 Claimants who do not have a direct contract with Contractor:
 1. Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed; and
 2. Have either received a rejection in whole or in part from Contractor, or not received within 30 days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and
 3. Not having been paid within the above 30 days, have sent a written notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.
5. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.
6. When a Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at Surety's expense take the following actions:
 - 6.1 Send an answer to that Claimant, with a copy to Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
 - 6.2 Pay or arrange for payment of any undisputed amounts.
7. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety.

SECTION XII

8. Amounts owed by Owner to Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any performance bond. By Contractor furnishing and Owner accepting this Bond, they agree that all funds earned by Contractor in the performance of the Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to Owner's priority to use the funds for the completion of the Work.

9. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the Contract. Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

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

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

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

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

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

15. Definitions

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

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

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

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

Surety Agency or Broker:
Owner's Representative (Engineer or other):

SECTION XIII

CERTIFICATE OF CONTRACTOR'S ATTORNEY

WILLIE BASBY RECREATIONAL PARK

I, the undersigned, _____, the duly authorized and acting legal representative of _____, do hereby certify as follows:

I have examined the attached Contract and Performance and Payment Bond and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements are adequate and have been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties named thereon; and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with the terms, conditions, and provisions thereof.

Signature: _____

Date: _____

SECTION XIV
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 and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
 7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
 10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.
 12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop

Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement, i.e. Owner's Representative.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 1 of the Specifications.
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 Terminology

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the 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 Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

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

D. *Defective:*

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

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

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

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

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

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

2.02 *Copies of Documents*

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

2.03 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the 15th day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 15 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

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

2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
2. a preliminary Schedule of Submittals; and
3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

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

2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

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

3.02 *Reference Standards*

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

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

- 1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
- 2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable

Law or Regulation , (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. Resolving Discrepancies:

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

3.04 Amending and Supplementing Contract Documents

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

3.05 Reuse of Documents

- A. Contractor and any Subcontractor or Supplier shall not:
 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
 2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.

- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

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

4.01 *Availability of Lands*

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

4.02 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 - 1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and

2. those drawings known to Owner of physical conditions relating to existing surface.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Not Used

4.03 *Differing Subsurface or Physical Conditions*

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

1. is of such a nature as to require a change in the Contract Documents; or
2. differs materially from that shown or indicated in the Contract Documents; or
3. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

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

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

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

- c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
- 3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

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

B. *Not Shown or Indicated:*

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

extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

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

4.06 *Hazardous Environmental Condition at Site*

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

- D. If Contractor encounters a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. Not Used
- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in

Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

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

5.03 *Certificates of Insurance*

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

5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which 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:
1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
 5. 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; and
 6. 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.
- B. The policies of insurance required by this Paragraph 5.04 shall:
1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and 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;
 2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
 3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, 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.

5.06 *Property Insurance*

Not Used

5.07 *Waiver of Rights*

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

- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:
1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

- A. Not Used
- B. Not Used

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

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

Not Used

ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

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

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner’s written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

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

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

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

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.
 1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
 - 3) it has a proven record of performance and availability of responsive service.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
 2. *Substitute Items:*
 - a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

- b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
- c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - 1) shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design,
 - b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
 - 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
 - 3) will identify:
 - a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and
 - 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

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

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.
- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether

initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 - 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject

to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. Not Used

- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

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

6.09 *Laws and Regulations*

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

6.10 *Taxes*

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

6.11 *Use of Site and Other Areas*

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

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

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

6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
1. all persons on the Site or who may be affected by the Work;
 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

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

6.15 *Hazard Communication Programs*

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

6.16 *Emergencies*

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

6.17 *Shop Drawings and Samples*

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

1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

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

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

C. Submittal Procedures:

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

D. Engineer's Review:

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

E. *Resubmittal Procedures:*

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

6.18 *Continuing the Work*

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

6.19 *Contractor's General Warranty and Guarantee*

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

6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

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

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

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.
- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

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

7.03 *Legal Relationships*

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

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

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

8.02 *Replacement of Engineer*

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

8.03 *Furnish Data*

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

8.04 *Pay When Due*

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

8.05 *Lands and Easements; Reports and Tests*

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

8.06 *Insurance*

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

8.07 *Change Orders*

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

8.08 *Inspections, Tests, and Approvals*

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

8.09 *Limitations on Owner's Responsibilities*

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

8.10 *Undisclosed Hazardous Environmental Condition*

- A. Not Used

8.11 *Evidence of Financial Arrangements*

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

8.12 *Compliance with Safety Program*

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

ARTICLE 9 – ENGINEER’S STATUS DURING CONSTRUCTION

9.01 *Owner’s Representative*

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

9.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor’s executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer’s efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer’s visits and observations are subject to all the limitations on Engineer’s authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer’s visits or observations of Contractor’s Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

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

9.04 *Authorized Variations in Work*

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

extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

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

9.06 *Shop Drawings, Change Orders and Payments*

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

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise).

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

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

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

9.10 *Compliance with Safety Program*

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

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

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

10.03 *Execution of Change Orders*

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

10.04 *Notification to Surety*

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

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after

the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
1. deny the Claim in whole or in part;
 2. approve the Claim; or
 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

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

11.01 *Cost of the Work*

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees

shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive 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 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

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

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

C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a

Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 *Allowances*

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

11.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 2. there is no corresponding adjustment with respect to any other item of Work; and
 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

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

12.01 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).
- C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:
1. a mutually acceptable fixed fee; or
 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that

the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

- d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
- e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
- f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

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

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

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

13.01 *Notice of Defects*

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

13.02 *Access to Work*

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

13.03 *Tests and Inspections*

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

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

13.04 *Uncovering Work*

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

13.05 *Owner May Stop the Work*

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

13.06 *Correction or Removal of Defective Work*

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

13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. repair such defective land or areas; or
 - 2. correct such defective Work; or
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to

such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

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

13.09 *Owner May Correct Defective Work*

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

Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

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

14.02 *Progress Payments*

A. Applications for Payments:

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

B. Review of Applications:

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or

revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

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

C. Payment Becomes Due:

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

D. Reduction in Payment:

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

14.03 Contractor's Warranty of Title

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

14.04 *Substantial Completion*

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

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete,

Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. Not Used

14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and
 - d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor

that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. Engineer's Review of Application and Acceptance:

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

C. Payment Becomes Due:

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

14.08 Final Completion Delayed

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

14.09 Waiver of Claims

- A. The making and acceptance of final payment will constitute:
 1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from

failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

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

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *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 notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will 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 established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
 2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 3. Contractor's repeated disregard of the authority of Engineer; or
 4. Contractor's violation in any substantial way of any provisions of the Contract Documents.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:
 1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
 2. 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
 3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.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 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) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed 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.

- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 7 days of receipt of said notice.
- E. 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. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *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;
 - 3. Not Used
 - 4. reasonable expenses directly attributable to termination.
- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) 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 15.03.

- 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 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 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 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

- A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.
- B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.
- C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:
 - 1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
 - 2. agrees with the other party to submit the Claim to another dispute resolution process; or
 - 3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

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

17.03 *Cumulative Remedies*

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

17.04 *Survival of Obligations*

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

17.05 *Controlling Law*

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

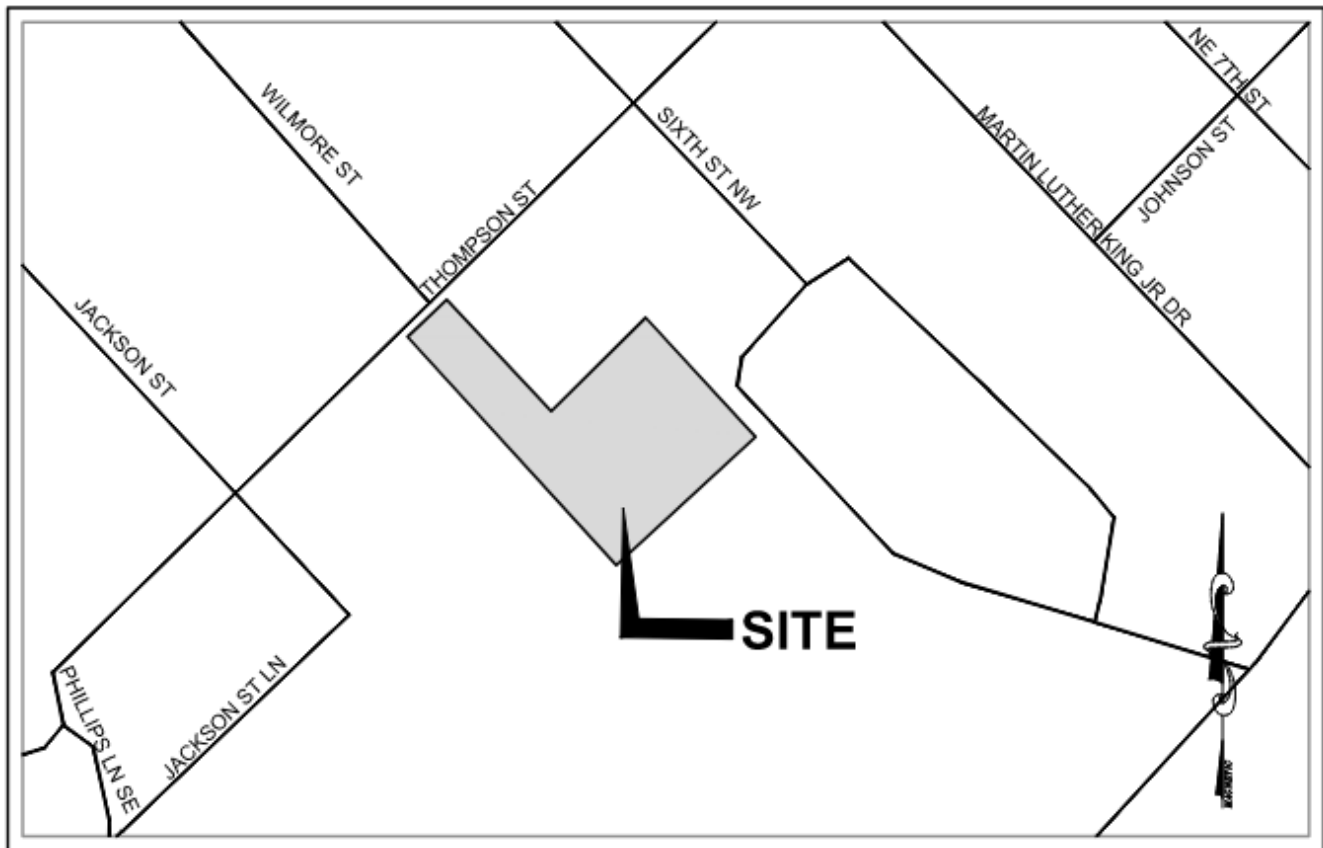
17.06 *Headings*

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

SECTION XV

SUPPLEMENTARY CONDITIONS

1. **THE GENERAL CONDITIONS:** The General Conditions shall apply to all work in the Contract Documents, except as otherwise specified in the Supplementary Conditions. Requirements of the Supplementary Conditions supersede those of the General Conditions.
2. **COMMENCEMENT AND COMPLETION OF WORK:** The Contractor shall commence the Work on the date indicated in the Notice to Proceed and shall diligently prosecute said Work so as to complete the entire projects and place them in use within the number of calendar days set forth in the Agreement.
3. **SCOPE OF WORK:** The work consists of furnishing and installing all materials, labor, tools, equipment, and related services required for a complete project. The project is located on the Southeast side of Thompson Street in Cochran, Georgia at the intersection of Wilmore Street and Thompson Street. This project includes, but is not limited to, traffic control, erosion and sediment control, traffic striping, clearing, grading, stormwater installations, and landscaping within the project limits in accordance with the Contract Documents for the **City of Cochran: Willie Basby Recreation Park**.
4. **LOCATION:** The work under this Contract will be located within the City of Cochran, GA in Bleckley County, GA as shown herein:



SECTION XV


5. **EXTENSION OF TIME AND FAILURE TO COMPLETE ON TIME:** Any and all extensions of time shall be in accordance with the General Conditions, except as otherwise hereinafter provided. Failure to complete the Project on or before the stipulated completion date will result in the assessment of liquidated damages in the amount stated in the Proposal.
6. **WEATHER DELAYS:** Completion time will not be extended for normal bad weather. Time for completion as stated in the Contract Documents includes an allowance for calendar days on which work cannot be performed out-of-doors. The term "calendar day" as used in the Contract Documents shall mean Mondays through Fridays, excluding weekends and legal holidays. For the purpose of this Contract, Contractor agrees that he may expect to lose calendar days due to weather in accordance with the following table:

January - 14 days	February - 14 days	March - 10 days	April - 7 days
May - 6 days	June - 3 days	July - 4 days	August - 2 days
September - 2 days	October - 3 days	November - 5 days	December - 9 days

The Contractor agrees that it shall provide written notice to the OWNER'S REPRESENTATIVE on the day of any adverse weather not anticipated and for which a request for a time extension has been, or will be, made. Said notice shall state with particularity a description of the adverse weather as well as a description of the nature and extent of any delay caused by such weather. Receipt of this notice by the OWNER'S REPRESENTATIVE is a condition precedent to the submission of any claim for an extension of time. Furthermore, the Contractor shall submit a written claim for extension of time within seven (7) days after the occurrence of the adverse weather and such claim shall be supported by such documentation including, but not limited to, official weather reports, as the OWNER'S REPRESENTATIVE may require. No extension will be made for days of bad weather occurring after the building is dried in. Requested working days lost to the weather shall be submitted for review with the pay request for that month, any requests later than the billable month will not be considered. To the extent that any of the terms and conditions set forth in this paragraph are in conflict with any of the terms and conditions of this Agreement, the terms and conditions of this paragraph shall govern and control.

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7. **CONSTRUCTION DRAWINGS AND SCOPE:** Reference construction drawings, specifications, and details on the plan set labeled “Civil Design Drawings for Willie Basby Park.” The cover page for said drawings is shown below:



CIVIL DESIGN DRAWINGS FOR WILLIE BASBY PARK

LAND LOTS 175, 21ST DISTRICT
CITY OF COCHRAN, GEORGIA

CITY OFFICIALS

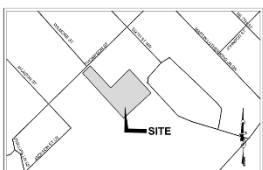
MAYOR	BILLY YEOMANS
COUNCIL MEMBER	TRICIA GARDENER
COUNCIL MEMBER	CARLA COLEY
COUNCIL MEMBER	LONNIE TEDDERS
COUNCIL MEMBER	GARY AYES
COUNCIL MEMBER	SHANE SAVANT
COUNCIL MEMBER	DIANNE LESTER
CITY MANAGER	RICHARD NEWBERN

OWNER/DEVELOPER:
THE CITY OF COCHRAN
112 WEST DYKES STREET
COCHRAN, GA 31514
PHONE: (478) 834-4346
RNEWBERN@CITYOFCOCHRAN.COM

24 HOUR CONTACT:
RICHARD NEWBERN
PHONE: (478) 834-4346

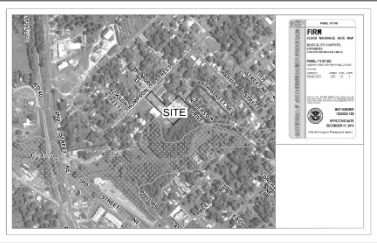
SURVEYOR:
FALCON DESIGN CONSULTANTS, LLC
235 CORPORATE CENTER DR.,
SUITE 200
STOCKBRIDGE, GA 30281
PHONE: (770) 388-8666

ENGINEER:
FALCON DESIGN CONSULTANTS, LLC
235 CORPORATE CENTER DR.,
SUITE 200
STOCKBRIDGE, GA 30281
PHONE: (770) 388-8666



VICINITY MAP
NTS

Sheet Number	Sheet Title
1.0	COVER SHEET
2.0	GENERAL NOTES
2.1	EROSION CONTROL NOTES
2.2	NOTES
2.3	EROSION CONTROL CHECKLIST
3.0	EXISTING CONDITIONS DEMO
4.0	EROSION CONTROL PLAN - INITIAL PHASE
4.0	EROSION CONTROL PLAN - INTERMEDIATE PHASE
4.0	EROSION CONTROL PLAN - FINAL PHASE
7.0	SITE PLAN
8.0	GRADING & DRAINAGE PLAN
8.0 - 8.1	EROSION CONTROL DETAILS
10.0 - 10.1	CONSTRUCTION DETAILS
11.0	LANDSCAPE PLAN
11.1	LANDSCAPE DETAILS



FEMA FLOOD MAP
NTS

FLOOD NOTE
ALL SPONSOR ORIGINALLY SUBMITTED TO THE CITY OF COCHRAN, GEORGIA
COMMUNITY FLOOD MAPS: 130201-130202 (LEFT TO THE DATE: DEC. 11, 2015)
PORTIONS OF THESE PROPERTIES ARE LOCATED IN A FEMA FLOOD HAZARD ZONE.

DEVELOPMENT DATA

<p>OWNER/DEVELOPER: THE CITY OF COCHRAN 112 WEST DYKES STREET COCHRAN, GA 31514 PHONE: (478) 834-4346</p> <p>24 HOUR CONTACT: RICHARD NEWBERN PHONE: (478) 834-4346</p> <p>ENGINEER: FALCON DESIGN CONSULTANTS, LLC 235 CORPORATE CENTER DR., SUITE 200 STOCKBRIDGE, GA 30281 PHONE: (770) 388-8666</p> <p>DESIGNER: FALCON DESIGN CONSULTANTS, LLC 235 CORPORATE CENTER DR., SUITE 200 STOCKBRIDGE, GA 30281 PHONE: (770) 388-8666</p> <p>REPRESENTATIVE: FALCON DESIGN CONSULTANTS, LLC 235 CORPORATE CENTER DR., SUITE 200 STOCKBRIDGE, GA 30281 PHONE: (770) 388-8666</p> <p>RELOCATION DATA: THE CITY OF COCHRAN, GEORGIA THERE ARE NO STATE BARRIERS LOCATED WITHIN 1/4 MILE OF THE SITE</p>	<p>FLOOD HAZARD DATA: THE FLOOD HAZARD DATA IS BASED ON THE FLOOD HAZARD DATA FOR THE CITY OF COCHRAN, GEORGIA. THE FLOOD HAZARD DATA IS BASED ON THE FLOOD HAZARD DATA FOR THE CITY OF COCHRAN, GEORGIA. THE FLOOD HAZARD DATA IS BASED ON THE FLOOD HAZARD DATA FOR THE CITY OF COCHRAN, GEORGIA.</p> <p>REQUEST FOR PROPOSALS (RFP): REQUEST FOR PROPOSALS (RFP) FOR THE CITY OF COCHRAN, GEORGIA. THE RFP IS FOR THE CITY OF COCHRAN, GEORGIA. THE RFP IS FOR THE CITY OF COCHRAN, GEORGIA.</p> <p>7. SITE REQUIREMENTS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">TOTAL AREA</td> <td style="width: 50%;">1.18 ACRES</td> </tr> <tr> <td>TOTAL DEVELOPABLE AREA</td> <td>1.18 ACRES</td> </tr> <tr> <td>UNDEVELOPABLE AREA</td> <td>0.00 ACRES</td> </tr> </table>	TOTAL AREA	1.18 ACRES	TOTAL DEVELOPABLE AREA	1.18 ACRES	UNDEVELOPABLE AREA	0.00 ACRES
TOTAL AREA	1.18 ACRES						
TOTAL DEVELOPABLE AREA	1.18 ACRES						
UNDEVELOPABLE AREA	0.00 ACRES						

DATE: 10/1/2015
TIME: 10:00 AM
BY: RICHARD NEWBERN
FOR: THE CITY OF COCHRAN, GEORGIA

1.0

8. **REPORTS AND DRAWINGS USED:** In the preparation of Drawings and Specifications, Engineer has relied upon:

A. The following reports of explorations and test of subsurface conditions at the site of the Work:

1) None

B. The following drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) which are contiguous to the site of the Work.

1) None

9. **SANITARY CONVENIENCES:** THE CONTRACTOR shall provide adequate sanitary conveniences for use of those employed on the work and their use shall be strictly enforced. Such conveniences shall be made available when the first employees arrive on the site and shall be removed after the departure of the last employees from the job.

SECTION XV

10. **ENVIRONMENTAL IMPACT:** THE CONTRACTOR shall conduct all operations so as to minimize, to the greatest extent possible, adverse environmental impact.
- A. **NOISE:** All equipment and machinery shall be provided with exhaust mufflers maintained in good working order so as to reduce operating noise to minimum levels.
 - B. **DUST/SMOKE:** All equipment movements shall be accompanied by a minimum of dust. Traveled surfaces and earthwork shall be maintained in a moist condition to avoid the generation of dust or the airborne movement of particulate matter under all prevailing atmosphere conditions. Burning operations will be conducted only with written permission of the OWNER and/or appropriate regulatory agency. The CONTRACTOR shall be responsible for obtaining all permits and comply with all codes, ordinances and regulations pertaining to the burning.
 - C. **TRAFFIC:** Equipment and vehicles related to this project shall be routed over roads which will result in the least effect on traffic and nuisance to the public. All material shall be loaded in a manner which will preclude the loss of any portion of the load in transit, including covering, if necessary.
 - D. **SEDIMENTATION:** All points of concentrated runoff from rainfall shall be visually monitored to determine that no eroded material from the construction site is being deposited offsite. Measures shall be taken to promptly eliminate such a deposition if occurring, including the installation of detention basins. All work shall be performed per the “Georgia Soil and Water Conservation Commission - Manual for Erosion and Sediment Control in Georgia – 2016 Edition or latest revision”
11. **PROJECT VIDEO RECORDING:** Contractor is to provide a full color video survey of the complete project limits to the Owner. This video is to be taken within 72 hours of the Contractor’s mobilization and start of the project and delivered to the OWNER’S REPRESENTATIVE.
12. **PROJECT PHOTO LOG:** Contractor is required to take daily digital progress photos of the work being performed. These photos are required to show a TIME/DATE stamp directly on each picture. Minimum 10M resolution required. Photos are to be delivered to the OWNER’S REPRESENTATIVE monthly with each pay request submitted.
13. **GIS AS-BUILT SURVEY:** Contractor is required to provide a complete GIS survey of all work performed. Survey is to be completed on Georgia State Plane coordinates and to provide an X,Y, & Z coordinate for all fittings, taps, valves, hydrants, meters, and water line on a minimum of 50’ spacing. Contractor is to provide complete digital data with shape files at the completion of the project.
14. **CONSTRUCTION STAKEOUT:** CONTRACTOR will provide benchmarks and baseline coordination’s for horizontal and vertical control at the site of the work to be approved by the

SECTION XV

Owner. From the baselines and benchmarks the CONTRACTOR shall complete the layout of the work and shall be responsible for all measurements that may be required for the executions of the work prescribed in the specifications or on the Drawings, subject to such modifications as may be required to meet changed conditions or as a result of necessary modifications to the Work.

The CONTRACTOR shall furnish, at his own expense, all such stakes, spikes, steel pins, templates, platforms, equipment, instruments, tools and material and all labor as may be required in laying out any part of the Work from the baselines and benchmarks.

It shall be the responsibility of the CONTRACTOR to maintain and preserve all stakes and other marks established by the OWNER'S REPRESENTATIVE until authorized to remove them, and if such marks are destroyed by the Contractor or through his negligence prior to their authorized removal, they may be replaced by the OWNER'S REPRESENTATIVE at his discretion, and the expense of replacement will be deducted from any amounts due or to become due the CONTRACTOR.

All survey data shall be recorded in accordance with standard and approved methods. All field notes, sketches, records and computations made by the CONTRACTOR in laying out the work shall be available at all times during the progress of the work for the ready examination by the OWNER'S REPRESENTATIVE or his duly authorized representative.

The OWNER'S REPRESENTATIVE may make original and final surveys and make computations to determine the quantities of work performed or finally in place, if required.

The CONTRACTOR shall conduct such surveys and computations as are necessary to determine the quantities of work performed or placed during each period for which a progress payment is to be made. All original field notes, computations and other records, or facsimile copies thereof, taken by the CONTRACTOR for the purpose of construction and for progress surveys, shall be furnished promptly to the representative of the OWNER'S REPRESENTATIVE for permanent records and for determining the proper amount of progress payments due to the CONTRACTOR. Unless waived in each specific case, quantity surveys conducted by the CONTRACTOR shall be conducted during the presence of a representative of the OWNER'S REPRESENTATIVE.

THE OWNER'S REPRESENTATIVE may make checks as the work progresses to verify lines and grades established by the CONTRACTOR and to determine the conformance of the completed work as it progresses with the requirements of Contract Documents and Drawings. Such as checking by the OWNER'S REPRESENTATIVE or his representative shall not relieve the CONTRACTOR of his responsibility to perform all work in accordance with the Contract Documents and Drawings and the lines and grades given therein. In the event that location marks as established by the CONTRACTOR are found to be inaccurate or inadequate, work shall be suspended until corrections have been made.

Contractor to provide Owner with complete electronic GIS survey based upon State Plane Coordinate System of all improvements including all subsurface structures related to the

SECTION XV

completed project.

No separate payment will be made for the costs involved in the survey work, layout work or staking performed by the CONTRACTOR. All such costs will be considered as incidental to the Work.

15. **UTILITIES:** Utilities such as sewer, water and electric lines encountered in the work shall be protected from Injury and maintained in service until moved or replaced as required under this Contract or by others or abandoned as may be necessary for this proper construction and use of the new work. State law requires that the contractor call Georgia811 at 811 or 1-800-282-7411 at least 72 hours in advance of construction commencing.
16. **ADJUSTMENT OF DISCREPANCIES:** In all cases of discrepancies between the various dimensions and details shown on drawings, or between the drawings and these specifications, the more expensive construction shall be estimated before construction is started, the matter shall be submitted to the OWNER'S REPRESENTATIVE for clarification. Without such a decision, discrepancies shall be adjusted by the CONTRACTOR at his own risk and in settlement of any complications arising from such adjustment, the CONTRACTOR shall bear all of the extra expense involved.
17. **RESTORATION:** Reasonable care shall be taken during construction to avoid damage to vegetation. Ornamental shrubbery and tree branches shall be temporarily tied back, where appropriate, to minimize damage. Trees which receive damage to branches shall be trimmed to maintain appearance of the tree. Tree trunks receiving damage from equipment shall be treated with a tree dressing.
18. **MAINTENANCE DURING CONSTRUCTION:** The CONTRACTOR shall maintain the Work from the beginning of construction operations until final acceptance. This maintenance shall continue continuous and effective work prosecuted day by day with adequate equipment and forces to the end that site and structures thereon are kept in satisfactory condition at all times, including satisfactory signing or marking as appropriate and control of traffic where required by use of traffic control devices as required by the State in which this project is located.

Upon completion of the Work, the CONTRACTOR shall remove all construction signs and barriers before final acceptance. While undergoing improvements, the roads shall be kept open to all traffic by the CONTRACTOR. The CONTRACTOR shall keep the portion of the site being used by public traffic, whether it be through or local traffic, in such condition that traffic will be adequately accommodated. The CONTRACTOR shall bear all cost of signs and markings as required and other maintenance work during construction and before the Work is accepted and of constructing and maintaining such approaches, crossings, intersections, and other features as may be necessary without direct compensation.
19. **BARRICADES, DANGER, WARNING AND DETOUR SIGNS:** The CONTRACTOR shall provide, erect, and maintain all necessary barricades, suitable and sufficient lights, danger signals, signs and other traffic control devices, and shall take all necessary precautions for the protection of the work and safety of the public. Highways and streets closed to traffic shall be protected by effective barricades, and obstructions shall be lighted during hours of darkness. Suitable warning

SECTION XV

signs shall be provided to properly control and direct traffic Barricades, danger, warning and detour signs shall be installed as per Georgia DOT Specifications, Section 107.07 – Public Convenience and Safety and Section -150 Traffic Control in accordance with “Georgia Department of Transportation – Standard Specifications Construction of Transportation Systems” – January 21, 2021 or latest revision.

The CONTRACTOR shall furnish, install, and maintain all necessary barricades, warning signs, and other protection devices in accordance with the State requirements in which the project is located. Temporary signs may be reused, provided they are in good condition and legible. All protective devices shall be kept in good, legible condition while in use. All work and materials provided shall be per the “Manual on Uniform Traffic Control Devices for Streets and Highways – 2009 MUTCD” with Revisions 1 and 2, May 2012 or latest revision.

As soon as construction advances to the extent that temporary barricades, and signs are no longer needed to inform the traveling public, such signs shall be promptly removed.

The cost of furnishing, erecting, maintaining, and removing protective devices will not be paid for as a separate Bid Item. Where the CONTRACTOR is required to perform any of these functions, the cost thereof shall be included in the overall Bid submitted. Ownership of the temporary warning devices shall remain with the CONTRACTOR.

20. **HIGH VOLTAGE ACT:** The CONTRACTOR acknowledges the requirement of the High Voltage Act of the General Assembly of Georgia by execution of this Contract.
21. **ACCESS FOR INSPECTION:** Access for inspection shall be provided for representatives of the OWNER, OWNER’S REPRESENTATIVE, DESIGN ENGINEER and applicable regulatory agencies.
22. **INSURANCE:** The limits of liability for the insurance required by paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:
 - a. Workers’ Compensation, and related coverages under Paragraphs 5.04.A.1 and A.2 of the General Conditions shall not contain an exclusion for any owner or officer that will be present on the project site at any time and provide coverage for not less than the following amounts:
 - i. State: Statutory
 - ii. Applicable Federal
 - iii. Employer’s Liability:
 1. Each Accident – \$1,000,000
 2. Bodily Injury by Disease Policy Limit - \$1,000,000
 3. Each Employee for Bodily Injury By Disease - \$1,000,000
 - b. Contractor’s Commercial General Liability under Paragraphs 5.04.A.3 through A.6 of the General Conditions covering liability arising from premises, operations, products-

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completed operations, personal and advertising liability, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract), and contractual liability coverages not less than the following amounts:

- i. General Aggregate (applying per project) \$2,000,000
- c. Products - Completed
 - i. Operations Aggregate \$2,000,000
- d. Personal and Advertising
 - i. Injury \$1,000,000
- e. Each Occurrence
 - i. \$1,000,000
- f. Property Damage liability insurance will provide Explosion, Collapse, and Under-ground coverages where applicable.
- g. Excess or Umbrella Liability- Coverage is to be excess of the Commercial General Liability, Automobile Liability and Employers' Liability as underlying policies. The limits of liability may be provided by a combination of primary and excess or umbrella liability policies , but in no event may the total limits of liability available for any one occurrence or accident be less than the below limits:
 - i. General Aggregate \$5,000,000
 - ii. Each Occurrence \$5,000,000
- h. Automobile Liability-Business Automobile Liability insurance covering all owned, non-owned and hired vehicles with limits not less than the following amounts:
 - i. Combined Single Limit
 - i. Each Accident \$1,000,000
- j. Contractor's Liability Insurance
 - i. Policy Limit:
 - \$1,000,000 Per Claim
 - \$1,000,000 Aggregate
 - ii. Claims Expenses (including Defense Costs) within limits
 - \$25,000 Deductible per loss.
 - iii. Coverage will include Bodily Injury or Property Damage, including Clean-Up costs, from a pollution event from covered operations or completed operations of the Work performed at the project Site by the Contractor or Sub-Contractors.
- k. Builders Risk Insurance (Special Form)
 - i. The contractor shall procure and shall maintain during the life of the contractor agreement Builder's Risk Insurance to protect the Owner as the First Named Insured along with the Contractor as a Named Insured against All-Risks perils of property insurance including flood and earthquake. The amount of insurance shall be the equal of 100% of the completed value of the project.
- l. Property insurance covering the Contractors and Sub-contractors' business personal property and its equipment shall be the responsibility of the respective parties.

23. **SUBCONTRACTORS:** The Contractor shall not contract with any person or entity to whom the Owner or the OWNER'S REPRESENTATIVE has made reasonable objection. The Contractor shall not be required to contract anyone to whom he has a reasonable objection.

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24. **SAFETY AND PROTECTION:** Attention is invited to the regulations issued by OSHA 2207 and the Department of Labor pursuant to Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333) entitled "Safety and Health Regulations for Construction" (29 CFR Part 1926 910) July 1, 1993 edition, or latest revision. The Contractor shall be required to comply with those regulations to the extent that any resulting Contract involves construction.
25. **RETAINAGE OF CONTRACTORS PAYMENT:** The retainage shall be an amount equal to 5% of Contractor's partial pay estimate for the duration of the project. Partial pay estimates may include stored materials. Contractor must submit invoices and all materials must be located at the site of work. Retainage will be held on stored materials.
26. **SEDIMENT AND EROSION CONTROL:** Siltation and soil erosion must be minimized during construction. Contractor shall take measures necessary to stop soil erosion at the source in accordance with GWSCC.
27. **SITE RESTORATION:** Restore disturbed areas to original or better conditions.
28. **USE OF CHEMICALS:** All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant or other classification, must show approval of either EPA or USDA. Use of all such chemicals and disposal of residues shall be in conformance with instructions.
29. **TESTING:** The independent geotechnical testing laboratory will be retained by the Contractor. Testing required by the plans and specifications will be performed as required by the Contract Documents and at the discretion and under the direction of the OWNER'S REPRESENTATIVE. Payment for all testing services will be made by the Contractor. Copies of all test results will be forwarded in duplicate to the OWNER'S REPRESENTATIVE. The Contractor shall maintain a current file on the jobsite of all test results for review.
30. **OWNERSHIP OF DEMOLISHED EQUIPMENT:** Any major equipment removed as a result of this project shall remain the property of the OWNER. The Contractor shall take reasonable care to protect equipment during removal and shall deliver the equipment for permanent storage to a point to be designated by the OWNER.
31. **RECORD DRAWINGS:** The Contractor shall maintain a red lined set of construction drawings indicating any field changes to the Drawings. The information shall include physical measurements or coordinates for the horizontal location of key physical features such as bends in underground pipelines and vertical elevations of the equipment or pipelines. As a prerequisite to final payment of the Retainage, the Contractor shall deliver to the OWNER'S REPRESENTATIVE the marked up set of drawings for preparation of the Record Drawings of the Work along with the required GIS as-built survey. Failure to maintain this information shall not relieve the Contractor of the responsibility of obtaining the information prior to final payment.

SECTION XV

32. **QUALIFICATIONS FOR ACCEPTABLE SURETIES:** A surety, to be acceptable, will be required to meet the following criteria:

a. A company holding a Certificate of Authority as an acceptable surety on Federal Bonds, as published in the latest such listing in the Federal Register; and an insurance company licensed to do business within the state of Georgia as a company writing policies of insurance and/or bid bonds, payment bonds and performance bonds, regulated as such by the Georgia Department of Insurance and Solvency Pool, and meet the following additional criteria:

- 1) A company with a rating in the A.M. Best Companies' most recent published rating of "A++ or A+: Class IV or Larger."
- 2) A company with a rating in the A.M. Best Companies' most recent published rating of "A: Class V or Larger."
- 3) A company with a rating in the A.M. Best Companies' most recent published rating of "A-: Class X or Larger."
- 4) A company which can furnish an assumption certificate or cut through clause in a statement of coverage under which payment is guaranteed 100% to third-party claimants by a reinsurer with a rating in A.M. Best Companies' most recent published rating of "A or A+: Class V or Larger"
- 5) In lieu of the A.M. Best Company Rating, insures rated AAA, AA+, AA, AA- by Standard & Poor's Insurance Rating Services will also be acceptable.

33. **OPERATION OF EXISTING FACILITIES:** The Contractor shall not interrupt the operation of the existing water treatment facility. During the course of the work should an interruption become absolutely necessary, the contractor shall notify and coordinate with the Owner and the OWNER'S REPRESENTATIVE at least 72 hours in advance to minimize disruption of service. The Contractor shall cooperate fully with the Owner in minimizing interruption of operations.

Contractor shall notify and coordinate with the Owner and the OWNER'S REPRESENTATIVE at least 72 hours in advance to minimize disruption of service. The Contractor shall cooperate fully with the Owner in minimizing interruption of operations.

34. **RESIDENT OWNER'S REPRESENTATIVE OFFICE:** Not Required.

35. **PERMITS:** The Contractor shall secure and pay for all necessary construction related permits with the City of Cochran required for completion of the work.

36. **STATED ALLOWANCES:** The following allowances shall be included in the Base Bid Proposal of the Contractor:

- a. In the amount bid on the Bid Form submitted, the Bidder shall include a \$25,000.00 Contingency Allowance.

SECTION XV

- b. This allowance is for additional work as directed by the Owner. Monies not utilized by the Owner for this project will be removed from the final contract price at the completion of the project by use of a Change Order.

37. **ARTICLE 15: SUSPENSION OF WORK AND TERMINATION:**

a) The Owner may, at any time, terminate, in whole or in part, the Work under this Contract for the Owner's convenience and without cause. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of Work under the Contract is terminated, and the date upon which such termination becomes effective;

b) After Receipt of a Notice of Termination, and except as otherwise directed by the Owner, the Contractor shall:

- i. Stop work under the Contract on the date and to the extent specified in the Notice of Termination;
- ii. Place no further orders or subcontracts for materials, services or facilities except as necessary to complete the portion of the Work under the Contract which is not terminated;
- iii. Terminate all orders and subcontracts to the extent that they relate to the performance of the Work terminated by the Notice of Termination;
- iv. Assign to the Owner, in the manner, at times, and to the extent directed by the Owner, all of the right, title and interest of the Contractor under the orders and subcontracts so terminated. The Owner shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;
- v. Settle all outstanding liabilities and all Claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Owner to the extent the Owner may require. Its approval or ratification shall be final for all the purposes of this Paragraph 15.5.2;
- vi. Transfer title to the Owner, and deliver in the manner, at the times, and to the extent, if any, directed by the Owner, (i) the fabricated or unfabricated parts, Work in progress, completed Work, supplies, and other material produced as a part of, or acquired in connection with the performance of the Work terminated by the Notice of Termination, and (ii) the completed or partially completed plans, drawings, information, and other property which, if the Contract had been completed, would have been required to be furnished to the Owner;

SECTION XV

- vii. Use his best efforts to sell, in the manner, at the times, to the extent, and at the price or prices that the Owner directs or authorizes, and property of the types referred to in Subparagraph (b) (6) of this Paragraph, but the Contractor (i) shall not be required to extend credit to any purchaser, and (ii) may acquire any such property under the conditions prescribed and at a price or prices approved by the Owner. The proceeds of any such transfer or deposition shall be applied in reduction of any payments to be made by the Owner to the Contractor under this Contract or shall otherwise be credited to the price or cost of the Work covered by this Contract or paid in such other manner as the Owner may direct;
 - viii. Complete performance of such part of the Work as shall not have been terminated by the Notice of Termination; and,
 - ix. Take such action as may be necessary, or as the Owner may direct, for the protection and preservation of the property related to this Contract which is in the possession of the Contractor and in which the Owner has or may acquire an interest;
- c) After receipt of a Notice of Termination, the Contractor shall submit to the Owner his termination claim, in the form and with the certification the Owner prescribes. Such claims shall be submitted promptly but in no event later than one (1) year from the effective date of termination, unless one or more extensions in writing are granted by the Owner upon request of the Contractor made in writing within such one (1) year period or authorized extension. However, if the Owner determines that the facts justify such action, it may receive and act upon any such termination claim at any time after such one (1) year period or extension. If the Contractor fails to submit his termination claim within the time allowed, if any, due to the Contractor because of the termination. The Owner shall then pay to the Contractor the amount so determined.
- d) Subject to the provisions of paragraph (c), the Contractor and the owner may agree upon the whole or any part of the amount or amount to be paid to the Contractor because of the total or partial termination of Work under paragraph 15.5.2. The amount or amounts may include a reasonable allowance for profit on Work done. However, such agreed amount or amounts, exclusive of settlement costs, shall not exceed the Contract Sum as reduced by the amount of payments otherwise made and as further reduced by the Contract price of work not terminated. The Contract shall be amended accordingly, and the Contractor shall be paid the agreed amount. Nothing in paragraph (e) of this Paragraph 15.5.2, prescribing the amount to be paid to the Contractor in the event of failure of the Contractor and the Owner to agree upon the whole amount to be paid to the Contractor because of the termination of Work under this clause, shall be deemed to limit, restrict, or otherwise determine or affect the amount of amounts which may be agreed upon to be paid to the Contractor pursuant to this Subparagraph (d);
- e) If the Contractor and the Owner fail to agree as a paragraph (d) provides, on the whole amount to be paid to the Contractor because of the termination of Work under this Paragraph 15.5.2, the Owner shall determine, on the basis of information available to it, the amount, if any, due to the Contractor by reason of the termination and shall pay to the Contractor the amounts determined as follows:

SECTION XV

- 1) For all Work performed before the effective date of the Notice of Termination, the total (without duplication of any items) of:
 - i) The cost of such Work;
 - ii) The cost of settling and paying claims arising out of the termination of Work under subcontracts or others as Paragraph 15.5.1 provides. This cost is exclusive of the amounts paid or payable on account of supplies or materials delivered or services furnished by the subcontractor before the effective date of the Notice of Termination. These amounts shall be included in the cost on account of which payment is made under (i) above; and
 - iii) A sum, as profits on (i), above; that the Owner determines to be fair and reasonable. But, if it appears that the Contractor would be sustained a loss on the entire Contract had it been completed, no profit shall be included or allowed under this subdivision (iii) and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss.
- 2) The reasonable cost of the preservation and protection of property incurred under paragraph (b) (ix) of this Paragraph 15.5.2; and any other reasonable cost identical to termination of Work under this Contract, including expense incidental to the determination of the amount due to the Contractor as a result of the termination of Work under this Contract. The total sum of this Paragraph 15.5.2. shall not exceed the total Contract Sum as reduced by the amount of payments otherwise made and as further reduced by the Contract Price of Work not terminated. Except for normal spoilage, and except to the extent that the Owner shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amount payable to the Contractor under (1) above, the fair value, as determined by the Owner of property which is destroyed, lost, stolen, or damaged, to the extent that it is undeliverable to the Owner, or to a buyer under Subparagraph (b) (7) of this Paragraph 15.5.2;
- f) The Contractor shall have the right to make claim from any determination the Owner makes under paragraph (c) or (e) of this Paragraph 15.5.2. But, if the Contractor has failed to submit his claim within the time provided in paragraph (c) of this Paragraph 15.5.2 and has failed to request extension of such time, he shall have no such right of appeal. In any case where the Owner has determined the amount due under Subparagraph (c) or (e) of this Paragraph 15.5.2, the Owner shall pay to the Contractor the following: (1) the amount so determined by the owner or (2) if an adverse proceeding is initiated, the amount finally determined in such proceeding;
- g) In arriving at the amount due the Contractor under this Paragraph 15.5.2, there shall be deducted (1) all unliquidated advance or other payments on account theretofore made to the Contractor, applicable to the termination portion of this Contract, (2) any claim which the Owner may have against the Contractor in connection with this Contract, and (3) the agreed price for, or the proceeds of sale of, any materials, supplies or other things kept by the Contractor or sold,

SECTION XV

under the provisions of this Paragraph 15.5.2, and not otherwise recovered by or credited to the Owner;

h) If the termination hereunder be partial, before the settlement of the termination portion of this Contract, the Contractor may file with the Owner a request in writing for an equitable adjustment of the price or prices specified in the Contract related to the continued portion of the Contract (the portion not terminated by the Notice of Termination). Such equitable adjustments as may be agreed upon shall be made in the price or prices. Nothing contained herein shall limit the right of the Owner and the Contractor to agree upon the amount or amounts to be paid to the Contractor for the completion of the continued portion of the Contract when the Contract does not contain an established contract price for the continued portion.”

38. **ADDITION OF TECHNICAL SPECIFICATIONS:**

- a. **This project shall follow the specifications therein the 2016 Georgia Soil and Water Conservation Commission Manual for Erosion and Sediment Control.**
- b. **This project shall utilize GDOT specifications, Section 107.07 – Public Convenience and Safety and Section – 150 Traffic Control in accordance with “Georgia Department of Transportation – Standard Specifications for Construction of Transportation Systems” – January 21, 2021 or latest revision.**
- c. **This project shall utilize and follow the “Manual on Uniform Traffic Control Devices for Street and Highways – 2009 MUTCD” with revisions 1 and 2 dated May 2012 or latest revision.**
- d. **This project shall follow the specifications listed therein the latest plan set as titled, “Civil Design for Willie Basby Park.”**
- e. **This project shall follow the applicable City of Cochran ordinances, the State of Georgia’s State Minimum Standard Codes, and codes and regulation adopted by the State Fire Marshal’s Office.**

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 Scope

- A. The Bid lists each item of the Project for which payment will be made. No payment will be made for any items other than those listed in the Bid.
- B. Required items of work and incidentals necessary for the satisfactory completion of the work which are not specifically listed in the Bid, and which are not specified in this Section to be measured or to be included in one of the items listed in the Bid, shall be considered as incidental to the work. All costs thereof, including Contractor's overhead costs and profit, shall be considered as included in the lump sum or unit prices bid for the various Bid items. The Contractor shall prepare the Bid accordingly.
- C. Work includes furnishing all plant, labor, equipment, tools and materials and performing all operations required to complete the work satisfactorily, in place, as specified and as indicated on the Drawings.

1.02 Descriptions

- A. Measurement of an item of work will be by the unit indicated in the Bid.
- B. The record lengths, dimensions, quantities, etc. shall be determined by the Contractor and the Owner's Representative at the submittal of each Contractor's Pay Application.
- C. Pavement will be paid for on a per ton basis at the specified thickness compacted and in place.
- C. Payment will include all necessary and incidental related work not specified to be included in any other item of work listed in the BID.
- D. Unless otherwise stated in individual sections of the Specifications or in the Bid, no separate payment will be made for any item of work, materials, parts, equipment, supplies or related items required to perform and complete the work. The costs for all such items required shall be included in the price bid for the item of which it is a part.
- E. Payment will be made by extending unit prices multiplied by quantities provided and then summing the extended prices to reflect actual work. Such price and payment shall constitute full compensation to the Contractor for furnishing all plant, labor, equipment, tools and materials and for performing all operations required to provide to the Owner the entire Project complete, in place, as specified and as indicated on the Drawings.

END OF SECTION

SECTION 01100

SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Contract description.
 - 2. Work sequence.
 - 3. Specification conventions.

1.2 CONTRACT DESCRIPTION

A. PROJECT SUMMARY

- 1. The work consists of furnishing and installing all materials, labor, tools, equipment, and related services required for a complete project. The work consists of furnishing and installing all materials, labor, tools, equipment, and related services required for a complete project. The project is located on the South side of Ash Street in Cochran, Georgia between the intersections of Beech Street and Lucas Road. This project includes, but is not limited to traffic control, erosion and sedimentation control, driveway and parking installation, traffic striping, clearing, grading and stormwater installations, utility installations, playground, pavilion and restroom building construction and/or installation and landscaping within the project limits in accordance with the Contract Documents for the City of Cochran's "**ASH STREET PARK**" project.
- 2. The contractor is responsible for sequencing work to provide a project that has continuous operation of the existing collection system without having an impact on the customers served by this system.

1.3 SPECIFICATION CONVENTIONS

- A. These Specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.
- B. Specifications are contained within the Contract Documents and Technical Specifications.
- C. Applicable standards have been referenced in these documents and are utilized as fully developed project requirements and specifications for this project.

END OF SECTION

SECTION 01200

PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Contingency allowances.
- B. Schedule of Values.
- C. Application for Payment.
- D. Change procedures.
- E. Defect assessment.
- F. Unit prices.
- G. Lump Sum prices.
- H. Alternates.

1.2 CONTINGENCY ALLOWANCES

- A. Include in Contract a stipulated sum/price of **\$75,000.00** for use only upon Owner's written instruction as a contingency allowance.
- B. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead, and profit will be included in Change Orders authorizing expenditure of funds from this contingency allowance.
- C. Funds will be drawn from contingency allowance only by Change Order and as directed by the Owner.
- D. At closeout of Contract, funds remaining in contingency allowance will be credited to Owner by Change Order.

1.3 SCHEDULE OF VALUES

- A. Submit construction schedule on Contractor's standard form or electronic media printout will be considered for this use.
- B. Submit Schedule of Values as electronic file to Project website within 10 days after date of Owner-Contractor Agreement.
- C. Format: Use Bid Form of this Project Manual. Identify each line item with a number. Also, identify Contingency Allowance.

- D. Revise schedule to list approved Change Orders with each Application for Payment.

1.4 APPLICATION FOR PAYMENT

- A. Submit three copies of each Application for Payment on Contractor's electronic media driven form on the 25th of each month.
- B. Content and Format: Use Schedule of Values for listing items in Application for Payment.
- C. Submit updated construction schedule with each Application for Payment.
- D. Submit Lien Waiver to match current Pay Request.
- E. Payment Period: Monthly.
- F. Substantiating Data: When Owner's Representative requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
 - 1. Current construction digital images specified in Section 01330 - Submittal Procedures.
 - 2. Partial release of liens from major Subcontractors and vendors.
 - 3. Record Documents as specified in Section 01700 - Execution Requirements, for review by Owner's Representative, which will be returned to Contractor.
 - 4. Affidavits attesting to off-Site stored products.
 - 5. Construction Progress Schedule, revised and current as specified in Section 01330 - Submittal Procedures.

1.5 CHANGE PROCEDURES

- A. Submittals: Submit name of individual who is authorized to receive change documents and is responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. Carefully study and compare Contract Documents before proceeding with fabrication and installation of Work. Promptly advise Owner's Representative of any error, inconsistency, omission, or apparent discrepancy.
- C. Requests for Interpretation (RFI) and Clarifications: Allot time in construction scheduling for liaison with Owner's Representative; establish procedures for handling queries and clarifications.
 - 1. Use AIA G716 - Request for Information for requesting interpretations.
 - 2. Owner's Representative may respond with a direct answer on the Request for Information form, issue a Clarification Notice, issue a Field Order, or submit a Change Order Request (Proposal).

- D. Owner's Representative will advise of minor changes in the Work not involving adjustment to Contract Price or Contract Time by issuing supplemental instructions on a Field Order.
- E. Owner's Representative may issue Proposal Request including a detailed description of proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change. Contractor will prepare and submit estimate within five (5) days.
- F. Stipulated Price Change Order: Based on Proposal Request and Contractor's fixed price quotation.
- G. Work Directive Change: Owner's Representative may issue directive, signed by Owner, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work and designate method of determining any change in Contract Price or Contract Time. Promptly execute change.
- H. Document each quotation for change in Project Cost or Time with sufficient data to allow evaluation of quotation.
- I. Change Order Forms: EJCDC C-941 - Change Order.
- J. Execution of Change Orders: Owner's Representative will issue Change Orders for signatures of parties as provided in Conditions of the Contract.
- K. Correlation of Contractor Submittals:
 - 1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Price.
 - 2. Promptly revise Progress Schedules to reflect change in Contract Time, revise sub schedules to adjust times for other items of Work affected by the change, and resubmit.
 - 3. Promptly enter changes in Record Documents.

1.6 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of Owner's Representative, it is not practical to remove and replace the Work, Owner's Representative will direct appropriate remedy or adjust payment.
- C. The defective Work may remain, but price will be adjusted to new price at discretion of Owner's Representative and Owner.
- D. Defective Work will be partially repaired according to instructions of Owner's Representative, and price will be adjusted to new price at discretion of Owner's Representative and Owner.

- E. Individual Specification Sections may modify these options or may identify specific formula or percentage price reduction.
- F. Authority of Owner's Representative and Owner to assess defects and identify payment adjustments is final.
- G. Nonpayment for Rejected Products: Payment will not be made for rejected products for any of the following reasons:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products not completely unloaded from transporting vehicle.
 - 4. Products placed beyond lines and levels of the required Work.
 - 5. Products remaining on hand after completion of the Work.
 - 6. Loading, hauling, and disposing of rejected products.

1.7 UNIT PRICES

- A. Unit prices shown on the bid form are complete and inclusive of all labor and materials equipment and all other appurtenances necessary to provide the specified measured unit for each item in the bid form in accordance with the Contract Documents and Technical Specifications.

1.8 LUMP SUM PRICES

- A. Lump Sum prices shown on the Bid Form are complete and inclusive of all labor, materials, equipment, and all other appurtenances necessary to provide a complete work in accordance with the Contract Documents and Technical Specifications.

1.9 ALTERNATES

- A. Alternate methods, materials or other items addressed by the Contract Documents and Technical Specifications that were not submitted and approved prior to the submission of the bids will not be addressed after the execution of the Contract Documents.

END OF SECTION

SECTION 01300

ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Coordination and Project conditions.
- B. Preconstruction meeting.
- C. Progress meetings.

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various Sections of Contract Documents to ensure efficient and orderly sequence of installation of interdependent construction elements.
- B. Coordination Meetings: In addition to other meetings specified in this Section, hold coordination meetings with personnel and Subcontractors to ensure coordination of Work.
- C. Coordinate completion and clean-up of Work of separate Sections in preparation for Substantial Completion.

1.3 PRECONSTRUCTION MEETING

- A. Owner's Representative will schedule and preside over meeting after Notice of Award.
- B. Attendance Required: Owner's Representative, Architect, Owner, appropriate governmental agency representatives, major Subcontractors, and Contractor.
- C. Minimum Agenda:
 - 1. Distribution of Contract Documents.
 - 2. Designation of personnel representing parties in Contract, and Owner's Representative.
 - 3. Communication procedures.
 - 4. Procedures and processing of requests for interpretations, field decisions, field orders, submittals, substitutions, Applications for Payments, proposal request, Change Orders, and Contract closeout procedures.
 - 5. Scheduling.
 - 6. Critical Work sequencing.
- D. Contractor: Record minutes and distribute copies to all participants for review, comments, and corrections, within 24 hours after meeting. Participants have 24 hours to address any issues with Contractor's minutes and Contractor will issue final meeting minutes to all participants within three (3) days.

1.4 SITE MOBILIZATION MEETING – Not Used

1.5 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum bi-weekly intervals.
- B. Arrange for meetings, prepare agenda with copies for participants, and preside over meetings.
- C. Attendance Required: Job superintendent, major Subcontractors, Contractor, and Owner's Representative, Architect, Owner, as appropriate to agenda topics for each meeting.
- D. Minimum Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems impeding planned progress.
 - 5. Review of submittal schedule and status of submittals.
 - 6. Review of off-Site fabrication and delivery schedules.
 - 7. Maintenance of Progress Schedule.
 - 8. Corrective measures to regain projected schedules.
 - 9. Planned progress during succeeding work period.
 - 10. Coordination of projected progress.
 - 11. Maintenance of quality and work standards.
 - 12. Effect of proposed changes on Progress Schedule and coordination.
 - 13. Other business relating to Work.
- E. Contractor: Record minutes and distribute copies to all participants for review, comments, and corrections, within 24 hours after meeting. Participants have 24 hours to address any issues with Contractor's minutes and Contractor will issue final meeting minutes to all participants within three (3) days.

1.6 CLOSEOUT MEETING

- A. A final closeout meeting will be held at the request of the Contractor to review the completed project, produce final project punch list, and the Contractor will deliver all required closeout documents, attic stock, material specifications, warranties, operation and maintenance manuals, and all other related documents.
- B. Attendance Required: Job superintendent, Contractor, Owner's Representative, and Owner, as appropriate to agenda topics for meeting.

END OF SECTION

SECTION 01323

CONSTRUCTION PROGRESS SCHEDULES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Submittals.
- B. Quality assurance.
- C. Bar chart schedules.
- D. Review and evaluation.
- E. Updating schedules.
- F. Distribution.

1.2 SUBMITTALS

- A. Within 10 days after date of Owner-Contractor Agreement, submit proposed preliminary construction schedule defining planned operations for first 60 days of Work, with general outline for remainder of Work.
- B. Submit updated schedules with each Application for Payment.
- C. Submit network schedules under transmittal letter form specified in Section 01330 - Submittal Procedures or submit electronic construction schedules via email as PDF electronic file to Owner's Representative
- D. Schedule Updates:
 - 1. Overall percent complete, projected and actual.
 - 2. Completion progress by listed activity and subactivity, to within five working days prior to submittal.
 - 3. Changes in Work scope and activities modified since submittal.
 - 4. Delays in submittals or resubmittals, deliveries, or Work.
 - 5. Adjusted or modified sequences of Work.
 - 6. Other identifiable changes.
 - 7. Revised projections of progress and completion.
- E. Narrative Progress Report:
 - 1. Submit with each monthly submission of Progress Schedule.
 - 2. Summary of Work completed during the past period between reports.
 - 3. Work planned during the next period.
 - 4. Explanation of differences between summary of Work completed and Work planned in previously submitted report.
 - 5. Current and anticipated delaying factors and estimated impact on other activities and completion milestones.

6. Corrective action taken or proposed.

1.3 QUALITY ASSURANCE

- A. Scheduler: Contractor's personnel specializing in scheduling with experience in scheduling construction work of complexity comparable to the Project
- B. Contractor's Administrative Personnel: Having experience in using and monitoring schedules on comparable Projects.

1.4 Not Used

1.5 Not Used

1.6 BAR CHART SCHEDULES

- A. Format: Bar chart Schedule, to include at least:
 - 1. Identification and listing in chronological order of those activities reasonably required to complete the Work, including:
 - a. Subcontract Work.
 - b. Project closeout and cleanup.
 - c. Work sequences, constraints, and milestones.
 - 2. Listings identified by Specification Section number.
 - 3. Identification of the following:
 - a. Horizontal time frame by year, month, and week.
 - b. Duration, early start, and completion for each activity and subactivity.
 - c. Critical activities and Project float.
 - d. Subschedules to further define critical portions of Work.

1.7 REVIEW AND EVALUATION

- A. Participate in joint review and evaluation of schedules with Owner's Representative at each submittal.
- B. Evaluate Project status to determine Work behind schedule and Work ahead of schedule.

1.8 UPDATING SCHEDULES

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity. Update schedules to depict current status of Work.
- C. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.

- D. Upon approval of a Change Order, include the change in the next schedule submittal.
- E. Indicate changes required to maintain Date of Substantial and Total Completion.
- F. Submit sorts as required to support recommended changes.

1.9 DISTRIBUTION

- A. Following joint review, distribute copies of updated schedules to Contractor's Project site file, to Subcontractors, suppliers, Owner's Representative, Owner, and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

END OF SECTION

SECTION 01330

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Definitions.
- B. Submittal procedures.
- C. Construction progress schedules.
- D. Proposed product list.
- E. Product data.
- F. Shop Drawings.
- G. Samples.
- H. Other submittals.
- I. Design data.
- J. Test reports.
- K. Certificates.
- L. Manufacturer's instructions.
- M. Construction digital images.
- N. Contractor review.
- O. Owner's Representative review.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Owner's Representative's responsive action.
- B. Informational Submittals: Written and graphic information and physical Samples that do not require Owner's Representative's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Owner Representative - accepted form.

- B. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.
- C. Identify: Project, Contractor, Subcontractor and supplier, pertinent Specification Section number appropriate to submittal.
- D. Apply Contractor's stamp, signed or initialed, certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is according to requirements of the Work and Contract Documents.
- E. Schedule submittals to expedite Project, and deliver to Owner's Representative at business address or submit electronic submittals via email as PDF electronic files. Coordinate submission of related items.
- F. For each submittal for review, allow 10 days excluding delivery time to and from Contractor.
- G. Identify variations in Contract Documents and product or system limitations that may be detrimental to successful performance of completed Work.
- H. Allow space on submittals for Contractor and Owner's Representative review stamps.
- I. When revised for resubmission, identify changes made since previous submission.
- J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
- K. Submittals not requested will not be recognized nor processed.
- L. Incomplete Submittals: Owner's Representative will not review. Complete submittals for each item are required. Delays resulting from incomplete submittals are not the responsibility of Owner's Representative.

1.4 CONSTRUCTION PROGRESS SCHEDULES

- A. Comply with Section 01323 - Construction Progress Schedules.

1.5 PROPOSED PRODUCT LIST

- A. Within 10 days after date of Owner-Contractor Agreement, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, indicate manufacturer, trade name, model or catalog designation, and reference standards.

1.6 PRODUCT DATA

- A. Product Data: Action Submittal: Submit to Owner's Representative for review for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Submit number of copies Contractor requires, plus three (3) copies Owner's Representative will retain.
- C. Submit electronic submittals via email as PDF electronic files.
- D. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- E. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- F. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01700 - Execution Requirements.

1.7 ELECTRONIC GIS FILES OF PROJECT DRAWINGS

- A. Electronic GIS Files of Project Drawings: May only be used to expedite production of Shop Drawings for the Project. Use for other Projects or purposes is not allowed.
- B. Electronic GIS Files of Project Drawings: Distributed only under the following conditions:
 - 1. Use of files is solely at receiver's risk. Owner's Representative does not warrant accuracy of files. Receiving files in electronic form does not relieve receiver of responsibilities for measurements, dimensions, and quantities set forth in Contract Documents. In the event of ambiguity, discrepancy, or conflict between information on electronic media and that in Contract Documents, notify Owner's Representative of discrepancy and use information in hard-copy Drawings and Specifications.
 - 2. GIS files do not necessarily represent the latest Contract Documents, existing conditions, and as-built conditions. Receiver is responsible for determining and complying with these conditions and for incorporating addenda and modifications.
 - 3. User is responsible for removing information not normally provided on Shop Drawings and removing references to Contract Documents. Shop Drawings submitted with information associated with other trades or with references to Contract Documents will not be reviewed and will be immediately returned.
 - 4. Receiver shall not hold Owner's Representative responsible for data or file clean-up required to make files usable, nor for error or malfunction in translation, interpretation, or use of this electronic information.

5. Receiver shall understand that even though Owner's Representative has computer virus scanning software to detect presence of computer viruses, there is no guarantee that computer viruses are not present in files or in electronic media.
6. Receiver shall not hold Owner's Representative responsible for such viruses or their consequences, and shall hold Owner's Representative harmless against costs, losses, or damage caused by presence of computer virus in files or media.

1.8 SHOP DRAWINGS

- A. Shop Drawings: Action Submittal: Submit to Owner's Representative for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. Not used.
- D. Submit number of opaque reproductions Contractor requires, plus two copies Owner's Representative will retain.
- E. Submit electronic submittals via email as PDF electronic files.
- F. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01700 - Execution Requirements.

1.9 SAMPLES

- A. Samples: Action Submittal: Submit to Owner's Representative for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Samples for Selection as Specified in Product Sections:
 1. Submit to Owner's Representative for aesthetic, color, and finish selection.
 2. Submit Samples of finishes, textures, and patterns for Owner's Representative selection.
- C. Submit Samples to illustrate functional and aesthetic characteristics of products, with integral parts and attachment devices. Coordinate Sample submittals for interfacing work.
- D. Include identification on each Sample, with full Project information.
- E. Submit number of Samples specified in individual Specification Sections; Owner's Representative will retain one Sample.

- F. Reviewed Samples that may be used in the Work are indicated in individual Specification Sections.
- G. Samples will not be used for testing purposes unless specifically stated in Specification Section.
- H. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01700 - Execution Requirements.

1.10 OTHER SUBMITTALS

- A. Closeout Submittals: Comply with Section 01700 - Execution Requirements.
- B. Permits: Within 15 days after date of Owner-Contractor Agreement, submit a list of permits and licenses to be obtained, identifying the granting agency and the required date of permit submittal.

1.11 DESIGN DATA

- A. Informational Submittal: Submit data for Owner's Representative's knowledge as Contract administrator or for Owner.
- B. Submit information for assessing conformance with information given and design concept expressed in Contract Documents.

1.12 TEST REPORTS

- A. Informational Submittal: Submit reports for Owner's Representative's knowledge as Contract Administrator and for Owner.
- B. Submit test reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

1.13 CERTIFICATES

- A. Informational Submittal: Submit certification by manufacturer, installation/application Subcontractor, or Contractor to Owner's Representative, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product but must be acceptable to Owner's Representative.

1.14 MANUFACTURER'S INSTRUCTIONS

- A. Informational Submittal: Submit manufacturer's installation instructions for Owner's Representative's knowledge as Contract administrator or for Owner.

- B. Submit printed instructions for delivery, storage, assembly, installation, adjusting, and finishing, to Owner's Representative in quantities specified for Product Data.
- C. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.15 MANUFACTURER'S FIELD REPORTS – Not Used

1.16 ERECTION DRAWINGS – Not Used

1.17 CONSTRUCTION DIGITAL IMAGES

- A. Provide digital images of Site and construction throughout progress of Work.
- B. Each month submit digital images with Application for Payment.
- C. Digital Images: Deliver complete set of digital image electronic files on CD-ROM to Owner with Project record documents. Identify electronic media with date digital images were taken. Submit images that have same aspect ratio as sensor, uncropped.
 - 1. Digital Images: Uncompressed JPEG format, produced by digital camera with minimum sensor size of 12.0 megapixels, and image resolution of not less than 2240 by 1680 pixels.
 - 2. Date and Time: Include date and time imprinted on each image.
 - 3. Include a photo log identifying each digital image by filename and containing a description of the activity, issue or object shown by the digital image.

1.18 CONTRACTOR REVIEW

- A. Review for compliance with Contract Documents and approve submittals before transmitting to Owner's Representative.
- B. Contractor: Responsible for:
 - 1. Determination and verification of materials including manufacturer's catalog numbers.
 - 2. Determination and verification of field measurements and field construction criteria.
 - 3. Checking and coordinating information in submittal with requirements of Work and of Contract Documents.
 - 4. Determination of accuracy and completeness of dimensions and quantities.
 - 5. Confirmation and coordination of dimensions and field conditions at Site.
 - 6. Construction means, techniques, sequences, and procedures.
 - 7. Safety precautions.
 - 8. Coordination and performance of Work of all trades.
- C. Stamp, sign or initial, and date each submittal to certify compliance with requirements of Contract Documents.
- D. Do not fabricate products or begin Work for which submittals are required until approved submittals have been received from Owner's Representative.

1.19 OWNER'S REPRESENTATIVE REVIEW

- A. Do not make "mass submittals" to Owner's Representative. "Mass submittals" are defined as six or more submittals or items in one day or 15 or more submittals or items in one week. If "mass submittals" are received, Owner's Representative's review time stated above will be extended as necessary to perform proper review. Owner's Representative will review "mass submittals" based on priority determined by Owner's Representative after consultation with Owner and Contractor.
- B. Informational submittals and other similar data are for Owner's Representative's information, do not require Owner's Representative's responsive action, and will not be reviewed or returned with comment.
- C. Submittals made by Contractor that are not required by Contract Documents may be returned without action.
- D. Submittal approval does not authorize changes to Contract requirements unless accompanied by Change Order, Field Order, or Work Change Directive.
- E. Owner may withhold monies due to Contractor to cover additional costs beyond the second submittal review.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

SECTION 01400

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Quality control.
- B. Tolerances.
- C. References.
- D. Labeling.
- E. Testing and inspection services.

1.2 QUALITY CONTROL

- A. Monitor quality control over suppliers, products, services, Site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with specified standards as the minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- C. Perform Work using persons qualified to produce required and specified quality.
- D. Products, materials, and equipment may be subject to inspection by Owner's Representative and Owner at place of manufacture or fabrication. Such inspections shall not relieve Contractor of complying with requirements of Contract Documents.
- E. Supervise performance of Work in such manner and by such means to ensure that Work, whether completed or in progress, will not be subjected to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.

1.3 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' recommended tolerances and tolerance requirements in reference standards. When such tolerances conflict with Contract Documents, request clarification from Owner's Representative before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard except when more rigid requirements are specified or are required by applicable standards.
- B. Conform to reference standard by date of issue current as of date of Contract Documents except where specific date is established by code.
- C. Obtain copies of standards and maintain on Site when required by product Specification Sections.
- D. When requirements of indicated reference standards conflict with Contract Documents, request clarification from Owner's Representative before proceeding.
- E. Neither contractual relationships, duties, or responsibilities of parties in Contract nor those of Owner's Representative shall be altered from Contract Documents by mention or inference in reference documents.

1.5 LABELING

- A. Attach label from agency approved by authorities having jurisdiction for products, assemblies, and systems required to be labeled by applicable standards.
- B. Label Information: Include manufacturer's or fabricator's identification, approved agency identification, and the following information, as applicable, on each label:
 - 1. Model number.
 - 2. Serial number.
 - 3. Performance characteristics.
- C. Manufacturer's Nameplates, Trademarks, Logos, and Other Identifying Marks on Products: Not allowed on surfaces exposed to view in public areas, interior or exterior.

1.6 Not used.

1.7 TESTING AND INSPECTION SERVICES

- A. Contractor will employ and pay for specified services of an independent testing firm to perform testing and inspection related work if required by the Contract Documents.
- B. Independent firm will perform tests, inspections, and other services specified in individual Specification Sections and as required by Owner's Representative.
- C. Contractor will be responsible for coordination and scheduling of all required testing in accordance with the contract documents and as directed by the Owner's Representative and Owner.
- D. Testing, inspections, and source quality control may occur on or off Project Site. Perform off-Site testing as required by Owner's Representative.

1.8 MANUFACTURER'S FIELD SERVICES – Not Used

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Temporary facilities under Construction Management Agreement.

B. Temporary Utilities:

1. Temporary electricity.
2. Temporary lighting for construction purposes.
3. Temporary water service.
4. Temporary sanitary facilities.

C. Construction Facilities:

1. Vehicular access.
2. Parking.
3. Progress cleaning and waste removal.
4. Traffic regulation.
5. Fire-prevention facilities.

D. Temporary Controls:

1. Barriers.
2. Enclosures and fencing.
3. Security.
4. Water control.
5. Dust control.
6. Erosion and sediment control.
7. Noise control.
8. Pollution control.

E. Removal of utilities, facilities, and controls.

1.2 REFERENCES – Not Used

1.3 TEMPORARY FACILITIES UNDER AGREEMENT

A. Temporary Provisions Provided by Contractor:

1. Temporary barriers, barricades, covered walkways, fencing, exterior closures, and interior closures is required.
2. Temporary field office as required.
3. Cleaning during construction.
4. Access to existing facilities.
5. Temporary sanitary facilities.
6. Temporary electrical service and distribution system for power and lighting.
7. Temporary telephone and internet service.

B. Contractor: Coordinate provisions with Owner's Representative and provide the following items as necessary for execution of the Work including associated costs:

1. Construction aids.
2. Temporary fire protection, dust control, erosion and sediment control, water control, noise control, and other necessary temporary controls.
3. Temporary barriers, barricades, and similar devices as necessary for safety and protection of construction personnel and public.
4. Not used.
5. Not used.
6. Not used.
7. Temporary provisions for protection of installed Work.

1.4 TEMPORARY ELECTRICITY

A. Provide and pay for power service required from utility source as needed for construction operation.

1.5 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

A. Provide and pay for lighting systems as needed to maintain specified conditions for construction operations.

1.6 TEMPORARY HEATING

A. Provide and pay for heating devices and heat as needed to maintain specified conditions for construction operations.

1.7 TEMPORARY COOLING

A. Provide and pay for cooling devices and cooling as needed to maintain specified conditions for construction operations.

1.8 TEMPORARY VENTILATION

A. Provide and pay for ventilation devices as needed to maintain specified conditions for construction operations.

1.9 COMMUNICATION SERVICES

A. Provide and pay for communication devices as needed to maintain specified services during construction operations.

1.10 TEMPORARY WATER SERVICE

- 1.11 Provide and pay for suitable water services as needed to maintain specified conditions for construction operations.

1.12 TEMPORARY SANITARY FACILITIES

- A. Provide and pay for suitable sanitary services as needed to maintain specified conditions for construction operations.

1.13 FIELD OFFICES AND SHEDS – Not Used

1.14 VEHICULAR ACCESS

- A. Contractor to develop vehicle access plan as needed.
- B. Contractor to indicate on shop drawing for Owner's Representative's approval.
- C. Provide unimpeded access for emergency vehicles. Maintain 20- foot wide driveways with turning space between and around combustible materials.
- D. Provide and maintain access to fire hydrants free of obstructions.
- E. Provide means of removing mud from vehicle wheels before entering streets.

1.15 PARKING

- A. Provide temporary surface parking areas to accommodate construction personnel.
- B. Contractor to indicate on shop drawings for Owner's Representative's approval.
- C. If Site space is not adequate, provide additional off-Site parking.
- D. Use of existing on-Site streets and driveways used for construction traffic is not permitted. Tracked vehicles are not allowed on paved areas.
- E. Do not allow heavy vehicles or construction equipment in parking areas.
- F. Do not allow vehicle parking on existing pavement.
- G. Maintenance:
 - 1. Maintain traffic and parking areas in sound condition.
 - 2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original condition.
- H. Removal, Repair:
 - 1. Remove temporary materials and construction at Substantial Completion.
 - 2. Repair existing facilities damaged by use, to original condition.

- I. Mud from Site vehicles: Provide means of removing mud from vehicle wheels before entering streets.

1.16 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain Site in clean and orderly condition.

1.17 PROJECT IDENTIFICATION – Not Used

1.18 TRAFFIC REGULATION

- A. Signs, Signals, and Devices:

1. Post-Mounted and Wall-Mounted Traffic Control and Informational Signs: As approved by authorities having jurisdiction.
2. Traffic Control Signals: As approved by local jurisdictions.
3. Traffic Cones, Drums, Flares, and Lights: As approved by authorities having jurisdiction.
4. Flag Person Equipment: As required by authorities having jurisdiction.

- B. Flag Persons: Provide trained and equipped flag persons to regulate traffic when construction operations or traffic encroach on public traffic lanes.

- C. Flares and Lights: Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.

- D. Haul Routes:

1. Consult with authorities having jurisdiction and establish public thoroughfares to be used for haul routes and Site access.
2. Confine construction traffic to designated haul routes.
3. Provide traffic control at critical areas of haul routes to regulate traffic and to minimize interference with public traffic.

- E. Removal:

1. Remove equipment and devices when no longer required.
2. Repair damage caused by installation.

1.19 FIRE-PREVENTION FACILITIES

- A. Establish fire watch for cutting, welding, and other hazardous operations capable of starting fires. Maintain fire watch before, during, and after hazardous operations until threat of fire does not exist.

- B. Portable Fire Extinguishers: NFPA 10; 10-pound capacity, 4A-60B: C UL rating.

1. Provide minimum of one fire extinguisher in every piece of equipment utilized.

1.20 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.
 - 1. Provide barricades required by authorities having jurisdiction for public rights-of-way
- B. Protect non-owned vehicular traffic, stored materials, Site, and structures from damage.

1.21 ENCLOSURES AND FENCING

- A. Construction: Contractor's option for temporary enclosures and fencing to be approved by Owner's Representative.

1.22 SECURITY

- A. Security Program:
 - 1. Protect Work on existing premises from theft, vandalism, and unauthorized entry.
 - 2. Maintain program throughout construction period until directed by Owner's Representative.
- B. Entry Control:
 - 1. Restrict entrance of persons and vehicles to Project Site.
 - 2. Allow entrance only to authorized persons with proper identification.
 - 3. Maintain log of workers and visitors and make available to Owner on request.

1.23 DUST CONTROL

- A. Execute Work by methods that minimize raising dust from construction operations.
- B. Provide positive means to prevent airborne dust from dispersing into atmosphere.

1.24 EROSION AND SEDIMENT CONTROL

- A. Contractor to provide all erosion and sediment control BMPs in accordance with the Georgia Department of Natural Resources – Environmental Protection Division “Manual for Erosion and Sediment Control in Georgia” 2016 Edition, or latest.

1.25 NOISE CONTROL

- A. Provide methods, means, and facilities to minimize noise from personnel and noise produced by construction operations.

1.26 PEST AND RODENT CONTROL – Not Used

1.27 POLLUTION CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances and pollutants produced by construction operations.

1.28 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, and materials before Final Application for Payment inspection.
- B. Remove underground installations to minimum depth of 2 feet.
- C. Clean and repair damage caused by installation or use of temporary Work.
- D. Restore existing and permanent facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

SECTION 01600

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Product delivery requirements.
- C. Product storage and handling requirements.
- D. Product options.
- E. Equipment electrical characteristics and components.

1.2 PRODUCTS

- A. At minimum, comply with specified requirements and reference standards.
- B. Specified products define standard of quality, type, function, dimension, appearance, and performance required.
- C. Furnish products of qualified manufacturers that are suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise. Confirm that manufacturer's production capacity can provide sufficient product, on time, to meet Project requirements.
- D. Domestic Products: Except where specified otherwise, domestic products are required and interpreted to mean products mined, manufactured, fabricated, or produced in United States or its territories.

1.3 PRODUCT DELIVERY REQUIREMENTS

- A. Transport and handle products according to manufacturer's instructions.
- B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products; use methods to prevent soiling, disfigurement, or damage.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store and protect products according to manufacturer's instructions.
- B. Store products with seals and labels intact and legible.

- C. Store sensitive products in weathertight, climate-controlled enclosures in an environment suitable to product.
- D. For exterior storage of fabricated products, place products on sloped supports aboveground.
- E. Provide off-Site storage and protection when Site does not permit on-Site storage or protection.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store products; use methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Products complying with specified reference standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of one of manufacturers named and complying with Specifications; no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit Request for Substitution for any manufacturer not named, according to Section 01630 - Product Substitution Procedures.

PART 2 - PRODUCTS – Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

SECTION 01630

PRODUCT SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Quality assurance.
- B. Product options.
- C. Product substitution procedures.

1.2 QUALITY ASSURANCE

- A. Contract is based on products and standards established in Contract Documents without consideration of proposed substitutions.
- B. Products specified define standard of quality, type, function, dimension, appearance, and performance required.
- C. Substitution Proposals: Proposals for substitution of products, methods, etc. must be submitted to the Owner's Representative in writing a minimum of 10 working days prior to the submission of bids. Requests for substitutions may only be submitted by licensed contractors that are listed on the Plan Holder list. Do not bid substitute products unless substitution has been accepted and approved in writing by Owner.

1.3 PRODUCT OPTIONS

- A. See Section 01600 - Product Requirements.

1.4 PRODUCT SUBSTITUTION PROCEDURES

- A. Document - Instructions to Bidders specifies time restrictions for submitting requests for substitutions during Bidding period only.
- B. Substitutions may be considered after the bid process when a product becomes unavailable through no fault of Contractor.
- C. Document each request with complete data, substantiating compliance of proposed substitution with Contract Documents, including:
 - 1. Manufacturer's name and address, product, trade name, model, or catalog number, performance and test data, and reference standards.
 - 2. Itemized point-by-point comparison of proposed substitution with specified product, listing variations in quality, performance, and other pertinent characteristics.
 - 3. Reference to Article and Paragraph numbers in Specification Section.

4. Cost data comparing proposed substitution with specified product and amount of net change to Contract Sum.
 5. Changes required in other Work.
 6. Availability of maintenance service and source of replacement parts as applicable.
 7. Certified test data to show compliance with performance characteristics specified.
 8. Samples when applicable or requested.
 9. Other information as necessary to assist Owner's Representative's evaluation.
- D. A request constitutes a representation that Bidder:
1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
 2. Will provide same warranty for substitution as for specified product.
 3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
 4. Waives claims for additional costs or time extension that may subsequently become apparent.
 5. Will coordinate installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.
 6. Will reimburse Owner for review or redesign services by Owner's Representative associated with reapproval by authorities having jurisdiction.
- E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals without separate written request or when acceptance will require revision to Contract Documents.
- F. Substitution Submittal Procedure:
1. Submit requests for substitutions on Bidders standard form of document.
 2. Submit three copies of Request for Substitution for consideration. Limit each request to one proposed substitution.
 3. Submit Shop Drawings, Product Data, and certified test results attesting to proposed product equivalence. Burden of proof is on proposer.
 4. Owner's Representative will notify Contractor in writing of decision to accept or reject request.

1.5 INSTALLER SUBSTITUTION PROCEDURES

- A. Document - Instructions to Bidders specifies time restrictions for submitting requests for substitutions during Bidding period.
- B. Document each request with:
1. Installer's qualifications.
 2. Installer's experience in work similar to that specified.
 3. Other information as necessary to assist Owner's Representative's evaluation.
- C. Substitution Submittal Procedure:
1. Submit three copies of Request for Substitution for consideration. Limit each request to one proposed substitution.

2. Owner's Representative will notify Contractor in writing of decision to accept or reject request.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

SECTION 01700

EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Closeout procedures.
- B. Project record documents.
- C. Maintenance service.

1.2 CLOSEOUT PROCEDURES

- A. Prerequisites to Substantial Completion: Complete following items before requesting Certification of Substantial Completion, either for entire Work or for portions of Work:
 - 1. Submit maintenance manuals, Project record documents, digital images of construction photographs, and other similar final record data in compliance with this Section.
 - 2. Conduct inspection to establish basis for request that Work is substantially complete. Create comprehensive list (initial punch list) indicating items to be completed or corrected, value of incomplete or nonconforming Work, reason for being incomplete, and date of anticipated completion for each item. Include copy of list with request for Certificate of Substantial Completion.
 - 3. Obtain and submit releases enabling Owner's full, unrestricted use of Project. Discontinue or change over and remove temporary facilities and services from Project Site, along with construction tools, mockups, and similar elements.
 - 4. Perform final cleaning according to this Section.
- B. Substantial Completion Inspection:
 - 1. When Contractor considers Work to be substantially complete, submit to On:
 - a. Written certificate that Work, or designated portion, is substantially complete.
 - b. List of items to be completed or corrected (initial punch list).
 - 2. Within seven days after receipt of request for Substantial Completion, Owner's Representative will make inspection to determine whether Work or designated portion is substantially complete.
 - 3. Should Owner's Representative determine that Work is not substantially complete:
 - a. Owner's Representative will promptly notify Contractor in writing, stating reasons for its opinion.
 - b. Contractor shall remedy deficiencies in Work and send second written request for Substantial Completion to Owner's Representative.
 - c. Owner's Representative will reinspect Work.
 - d. Redo and Inspection of Deficient Work: Repeated until Work passes Owner's Representative's inspection.

4. When Owner's Representative finds that Work is substantially complete, Owner's Representative will:
 - a. Prepare Certificate of Substantial Completion, accompanied by Contractor's list of items to be completed or corrected as verified and amended by Owner's Representative and Owner (final punch list).
 - b. Submit Certificate to Owner and Contractor for their written acceptance of responsibilities assigned to them in Certificate.
 5. After Work is substantially complete, Contractor shall:
 - a. Allow Owner occupancy of Project under provisions stated in Certificate of Substantial Completion.
 - b. Complete Work listed for completion or correction within time period stipulated.
- C. Prerequisites for Final Completion: Complete following items before requesting final acceptance and final payment.
1. When Contractor considers Work to be complete, submit written certification that:
 - a. Contract Documents have been reviewed.
 - b. Work has been examined for compliance with Contract Documents.
 - c. Work has been completed according to Contract Documents.
 - d. Work is completed and ready for final inspection.
 2. Submittals: Submit following:
 - a. Final punch list indicating all items have been completed or corrected.
 - b. Final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 - c. Specified warranties, workmanship/maintenance bonds, maintenance agreements, and other similar documents.
 - d. Accounting statement for final changes to Contract Sum.
 - e. Contractor's affidavit of payment of debts and claims on AIA G706 - Contractor's Affidavit of Payment of Debts and Claims.
 - f. Contractor affidavit of release of liens on AIA G706A - Contractor's Affidavit of Release of Liens.
 - g. Consent of surety to final payment on AIA G707 - Consent of Surety to Final Payment Form.
 3. Perform final cleaning for Contractor-soiled areas according to this Section.
- D. Final Completion Inspection:
1. Within seven days after receipt of request for final inspection, Owner's Representative will make inspection to determine whether Work or designated portion is complete.
 2. Should Owner's Representative consider Work to be incomplete or defective:
 - a. Owner's Representative will promptly notify Contractor in writing, listing incomplete or defective Work.
 - b. Contractor shall remedy stated deficiencies and send second written request to Owner's Representative that Work is complete.
 - c. Owner's Representative will reinspect Work.
 - d. Redo and Inspection of Deficient Work: Repeated until Work passes Owner's Representative's inspection.

1.3 PROJECT RECORD DOCUMENTS

- A. Maintain on Site one set of the following record documents; record actual revisions to the Work:
 - 1. Not used.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed Shop Drawings, product data, and Samples.
 - 6. Digital Photos and Videos required by the Contract Documents.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress, not less than weekly.
- E. Specifications: Legibly mark and record, at each product Section, description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates used.
 - 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction as follows:
 - 1. Provide GIS survey data based upon State Plane Coordinate System of all improvements including all subsurface structures as required by the Contract Documents.
 - 2. Include Contract modifications such as Addenda, supplementary instructions, change directives, field orders, minor changes in the Work, and change orders.
 - 3. Not used.
 - 4. Identify and locate existing buried or concealed items encountered during Project.
 - 5. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 6. Field changes of dimension and detail.
 - 7. Not used.
- G. Project Videos: Digital videos of the complete project area and adjacent properties are required to be produced within 72-hours prior to commencing the construction related activities for this project. Videos are to be submitted to the Owner and Owner's Representative prior to beginning any work.
- H. Project Photos and Photo Logs: Digital photos are to be taken periodically during the construction of the project. These photos are to have a minimum resolution of 12 megapixels and have a full Time/Date stamp affixed to each photo. Digital photos are to be submitted with the monthly pay request to the Owner and Owner's Representative.

- I. Submit marked-up paper copy documents to Owner's Representative with claim for final Application for Payment.
- J. Submit PDF electronic files of marked-up documents to Owner's Representative with claim for final Application for Payment.

1.4 MAINTENANCE SERVICE

- A. Furnish service and maintenance of components indicated in Specification Sections for one year during warranty period.
- B. Do not assign or transfer maintenance service to agent or Subcontractor without prior written consent of Owner.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION – Not Used

END OF SECTION

SECTION 01720

RECORD DOCUMENTS

PART 1 GENERAL

1.01 SCOPE

- A. The work under this Section includes, but is not necessarily limited to, the compiling, maintaining, recording and submitting of project record documents as herein specified.
- B. Record documents include, but are not limited to:
 - 1. Not used;
 - 2. Specifications;
 - 3. Change orders and other modifications to the Contract;
 - 4. Owner's Representative field orders or written instructions, including Requests for Information (RFI) and Clarification Memorandums;
 - 5. Reviewed shop drawings, product data and samples;
 - 6. Videos, photos, and written records related to the project;
 - 7. Test records.
- C. The Contractor shall maintain on the Project site, throughout the Contract Time, an up to date set of Record Drawings.

1.02 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Storage
 - 1. Store documents and samples in the Contractor's field office or as agreed with the Owner's Representative, apart from documents used for construction.
 - 2. Provide files and racks for storage of documents as required.
 - 3. Provide locked cabinet or secure storage space for storage of samples as required.
- B. File documents and samples in accordance with format of these Specifications.
- C. Maintenance
 - 1. Maintain documents in a clean, dry, legible condition and in good order.

2. Do not use record documents for construction purposes.
 3. Maintain at the site for the Owner/Owner's Representative one copy of all record documents.
- D. Make documents and samples available at all times for inspection by Owner's Representative.
- E. Failure to maintain the Record Documents in a satisfactory manner may be cause for withholding of a certificate for payment.

1.03 QUALITY ASSURANCE

- A. Unless noted otherwise, Record Drawings shall provide dimensions, distances and coordinates to the nearest 0.1 foot.
- B. Unless noted otherwise, Record Drawings shall provide elevations to the nearest 0.01 foot for all pertinent items constructed by the Contractor.

1.04 RECORDING

- A. Label each document "PROJECT RECORD" in neat, large printed letters.
- B. Recording
1. Record information concurrently with construction progress.
 2. Do not conceal any work until required information is recorded.

1.05 RECORD DRAWINGS

- A. Record Drawings shall be reproducible, shall have a title block indicating that the drawings are Record Drawings, the name of the company preparing the Record Drawings, and the date the Record Drawings were prepared. If drawings are provided in electronic format, they shall be submitted in either AutoCAD 2018, or latest edition, or PDF format. The Contractor will be provided electronic copies of the Drawings, or it may elect to provide reproducible drawings via another method. Reproducible shall be defined as being reproducible so as to allow a paper print to be produced.
- B. Legibly mark drawings to record actual construction, including:
1. All Construction
 - a. Changes of dimension and detail.
 - b. Changes made by Requests for Information (RFI), field order, clarification memorandums or by change order.

- c. Not used.
- 2. Site Improvements, Including Underground Utilities
 - a. Horizontal and vertical locations of all exposed and underground utilities and appurtenances, both new facilities constructed and those utilities encountered, referenced to permanent surface improvements.
 - b. Location of and dimensions of roadways and parking areas, providing dimensions to edge of pavement when present.
 - c. The locations shall be referenced to at least two easily identifiable, permanent landmarks (e.g., power poles, valve markers, etc.) or benchmarks.
 - d. Not used.
- 3. Structures
 - a. Not used.
 - b. Location of all influent and effluent lines denoted by size and direction.

1.06 SPECIFICATIONS

- A. Legibly mark each section to record:
 - 1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment installed.
 - 2. Changes made by Requests for Information (RFI), field order, clarification memorandums, or by change order.

1.07 SUBMITTAL

- A. At contract closeout, deliver Record Documents to the Owner.
- B. 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 Contractor's authorized representative

END OF SECTION

SECTION 02125

EROSION AND SEDIMENTATION CONTROL

PART 1 - GENERAL

1.1 SUMMARY

- A. The work specified in this Section consists of providing and maintaining temporary and permanent erosion and sedimentation controls as shown on the Drawings. This Section also specifies the subsequent removal of temporary erosion and sedimentation controls.
- B. Temporary and permanent erosion and sedimentation controls include grassing and mulching of disturbed areas and structural barriers at those locations which will ensure that erosion during construction will be maintained. Acceptable limits are as established by current Georgia Erosion and Sedimentation Control Act and applicable codes, ordinances, rules, regulations and laws of local and municipal authorities having jurisdiction. All work will conform to the Georgia Soil and Water Conservation Commission's "Manual for Erosion and Sediment Control in Georgia"; 2016 edition or latest.

1.2 SUBMITTALS

- A. Submit product data in accordance with the requirements of these Specifications.
- B. Prior to any construction activity, the Contractor shall submit, for the Engineer's approval, a schedule for the accomplishment of temporary and permanent erosion and sedimentation control work. No work shall be started until the erosion and sedimentation control schedule and methods of operation have been approved by the Engineer.

1.3 QUALITY ASSURANCE

- A. The temporary and permanent erosion and sedimentation control measures shown on the Drawings are minimum requirements. Any additional erosion and sedimentation control measures required by the Contractor's means, methods, techniques and sequence of operation will be installed by the Contractor at no additional cost to the Owner.
- B. Perform all work under this Section in accordance with all pertinent rules and regulations including, but not necessarily limited to, those stated in these Specifications, where provisions of pertinent rules and regulations conflict with these Specifications, the more stringent provisions shall govern.
- C. Provide all materials and promptly take all actions necessary to achieve effective erosion and sedimentation control in accordance with the Georgia Erosion and

SECTION 02125

Sedimentation Control Act, local ordinances, other permits, local enforcing agency guidelines and these Specifications.

D. Basic Principals

1. Coordinate the land disturbance activities to fit the topography, soil types and conditions.
2. Minimize the disturbed area and the duration of exposure to erosive elements.
3. Provide temporary or permanent stabilization to disturbed areas immediately after rough grading is complete.
4. Safely convey run-off from the site to a stable outlet to prevent flooding and damage to downstream facilities resulting from increased runoff from the site.
5. Retain sediment on-site that was generated on-site.
6. Minimize encroachment upon watercourses.

E. Implementation

1. The Contractor is solely responsible for the control of erosion within the Project site and the prevention of sedimentation from leaving the Project site or entering waterways.
2. The Contractor shall install temporary and permanent erosion and sedimentation controls which will ensure that runoff from the disturbed area of the Project site shall pass through a filter system before exiting the Project site.
3. The Contractor shall provide temporary and permanent erosion and sedimentation control measures to prevent silt and sediment from entering the waterways. The Contractor shall maintain an undisturbed vegetative buffer a minimum of 25 feet from wrosted vegetation. The Contractor shall exercise extreme care during land disturbance operations with the 25-foot vegetative buffer to prevent degradation of the stream.
4. The Contractor shall limit land disturbance activity to those areas shown on the Drawings.
5. All fines imposed for improper erosion and sedimentation control shall be paid by the Contractor.

SECTION 02125

1.4 MAINTENANCE

- A. The Contractor shall maintain erosion and sedimentation control measures within disturbed areas on the entire site at no additional cost to the Owner until the acceptance of the Project.

1.5 GRASSING

- A. Grassing materials shall meet the requirements of the following sections of the “Georgia Department of Transportation – Standard Specifications Construction of Transportation Systems – January 21, 2021 or latest revision”:

Material	Section
Topsoil	893.01
Seed and Sod	890
Fertilizer	891.01
Agricultural Lime	882.02
Mulch	893.02
Inoculants	893.04

- B. Mulch Binder: Mulch on slopes exceeding 3 (horizontal) to 1 (vertical) shall be held in place by the use of a mulch binder, as approved by the Engineer. The mulch binder shall be non-toxic to plant and animal life and shall be approved by the Engineer.
- C. All erosion and sedimentation control measures and devices shall be constructed and maintained until adequate permanent disturbed area stabilization has been provided and accepted by the Engineer. All temporary erosion and sedimentation control structures and devices shall be removed.

END OF SECTION

SECTION 02200

EARTHWORK

PART 1 - GENERAL

1.1 SUMMARY

Work in this section consists of all labor, materials, and equipment necessary for earthwork and related operations. This work includes, but is not limited to, excavating all classes of material encountered, handling, storage, transportation and disposal of all excavated and unsuitable material, construction of fills and embankments, backfilling around structures, backfilling trenches and pits, compacting, sheeting, shoring and bracing, preparation of subgrades, surfacing and grading, and any other similar, incidental, or appurtenant earthwork operations which may be necessary to properly complete the work.

1.2 GENERAL

- A. **Benchmarks:** Establish and maintain two corresponding permanent bench marks on the site for reference. All vertical dimensions shall be checked from these benchmarks.
- B. **Finish Grades:** Finished grades, as used herein, mean the final grade elevations indicated on the drawings. Should finished grades shown on spot elevations conflict with those shown by the contours, the spot elevations shall govern.
- C. **Preliminary Earthwork:** Contractor shall remove soft organic type material from the wet areas within the construction areas.
- D. **Borrow Pits:** Submit representative samples of all fill material requiring compaction to the Designated Testing Laboratory. Material and borrow pits shall be approved by the Engineer prior to filling operations. If the quantity available from site grading is not sufficient, purchasing, hauling, and blending of fill shall be done by the Contractor.
- E. **Controlled Fill**
 - 1. Class I Fill is all structural fill to underside of slabs and to support foundations or footings.
 - 2. Class II Fill is all fill below finish grade immediately behind walls and in trenches and embankments under walks, drives, parking areas, and all areas to be paved. Top two-feet of this fill shall be Class I Fill.
 - 3. Class III Fill is all backfill used for filling trenches not under paved areas, slabs, foundations or footings.

SECTION 02200

- F. Insufficient Fill Material: If quantity of grading material is insufficient to provide finish grade elevations indicated on drawings, Contractor shall obtain additional fill material of specified quality at no additional cost to the Owner.
- G. Excess Cut Material: If quantity of grading material is in excess of quantities necessary to provide finish grade elevations indicated on drawings, any excess material shall be deposited and dressed on site or wasted as directed by the Engineer.
- H. Elevations shown on the Drawings as existing are taken from the best existing data and are intended to convey reasonably accurate information about existing elevations. The Contractor should satisfy himself as to exact quantities of excavation and fill materials required to complete the work.
- I. Safety: The Contractor shall perform all earthwork operations in a safe and proper manner. All applicable OSHA regulations shall be observed and practiced by the Contractor. Safety on the jobsite is the Contractor's responsibility.
- J. Storage: Temporary stockpile locations shall be coordinated with the Owner. Stockpiles shall not block existing surface drainage or access to existing equipment, valves, hydrants, etc. Practice effective erosion control measures around all stockpiles.
- K. Sheeting, Shoring and Bracing: The Contractor shall furnish, place and maintain all sheeting, shoring, bracing and timbering required to properly support any excavation or trenching to prevent all movement of soil, pavement, structures or utilities outside of the excavation or trench. Sheeting, shoring and bracing shall be placed to allow the work to be constructed to the lines and grades shown on the drawings. All sheeting, shoring and bracing shall be removed from the excavation.

PART 2 - PRODUCTS

2.1 FILL MATERIAL

- A. Sand Fill: Material shall consist of a clean sand with a fineness modulus of 1.6 to 3.1 and containing not more than 10 percent by weight finer than No. 200 U.S. Standard Sieve.
- B. Earth Fill: Material shall consist of inorganic material free of roots, cobbles and boulders and classified as GM, GC, SW, SP, SM, ML, SC, or CL by ASTM D 2487-85.

2.2 UNSUITABLE SITE FILL MATERIAL

SECTION 02200

- A. Material which does not conform to the above classifications (soil classification MH, OH, OL and PT) may not be used as Site Fill material.

PART 3 - EXECUTION

3.1 SITE GRADING

- A. Remove all organic matter, stumps and other deleterious matter. Pre-densify the areas to be filled or upon which structures are to be placed. A loaded dump truck or other rubber-tired equipment should be used for the predensification. Overlapping passes of the vehicle should be made across the site in one direction and then at right angles to the original direction of rolling.
- B. Finish grading shall be given uniform slopes between points for which finished him grades are shown, or between points and existing established grade.
- C. Provide drainage away from building walls, where not shown otherwise on the drawings, at a grade of at least 3-inches in 10-feet. Provide shallow swales where indicated on plans at a minimum flowline grade of not less than 1/8-inch per foot. Provide rounding at top and bottom of banks and at other breaks in grade.

3.2 RAINWATER, SURFACE WATER, AND BACKUP

- A. Protect all work, including excavations and trenches, from rainwater, surface water, and back-up of drains and sewers. Furnish all labor, pumps, shoring, enclosures, and equipment necessary to protect and to keep work free of water.

END OF SECTION

SECTION 02311

ROUGH GRADING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Excavating topsoil.
 - 2. Excavating subsoil.
 - 3. Cutting, grading, filling, rough contouring, compacting, and site structures.
- B. Related Sections:
 - 1. Section 02315 - Excavation and Fill
 - 2. Section 02320 - Backfill
 - 3. Section 02324 - Trenching

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- 1. Payment shall be made at the price bid for the unit type shown in the Bid Form of the Contract Documents for the line items related to this specification.
- 2. Basis of Payment: Includes but is not limited to all labor, equipment, and materials necessary to provide the work required by the Contract Documents.

1.3 REFERENCES

- A. American Association of State Highway and Transportation Officials:
 - 1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 10-lb Rammer and an 18-in. Drop.
- B. ASTM International:
 - 1. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 - 2. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³).
 - 3. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
 - 4. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
 - 5. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.4 SUBMITTALS

- A. Section 01330 - Submittal Procedures: Requirements for submittals.
- B. Materials Source: Submit name of imported materials suppliers.
- C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

SECTION 02311

1.5 SUSTAINABLE DESIGN SUBMITTALS – Not Used

1.6 CLOSEOUT SUBMITTALS

- A. Section 01700 - Execution Requirements: Requirements for submittals.
- B. Project Record Documents: Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.

1.7 QUALITY ASSURANCE

- A. Perform Work in accordance with ASTM D698.
- B. Perform Work in accordance with Owner and/or GDOT Standards and Specifications.

PART 2 - PRODUCTS

2.1 SUSTAINABILITY CHARACTERISTICS – Not Used

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01300 - Administrative Requirements: Verification of existing conditions before starting work.
- B. Verify site conditions.
- C. Verify survey benchmark and intended elevations for the Work are as indicated on Drawings.

3.2 PREPARATION

- A. Contractor must contact Georgia 811 by visiting my.georgia811.com or by dialing 811 or 1-800-282-7411 not less than three working days before performing Work.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.
- B. Identify required lines, levels, contours, and datum.
- C. Notify utility company to remove or relocate utilities as required.
- D. Protect utilities indicated to remain from damage.
- E. Protect plant life, lawns, and other features remaining as portion of final landscaping.
- F. Protect benchmarks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

SECTION 02311

3.3 TOPSOIL EXCAVATION

- A. Excavate topsoil from areas to be further excavated or regraded without mixing with foreign materials for use in finish grading.
- B. Do not excavate wet topsoil.
- C. Stockpile in area designated on site to depth not exceeding 8 feet and protect from erosion.
- D. Remove excess topsoil not intended for reuse, from site.

3.4 SUBSOIL EXCAVATION

- A. Excavate subsoil from areas to be further excavated or regraded.
- B. Excavate and process wet material to obtain optimum moisture content.
- C. Remove excess subsoil not intended for reuse, from site.
- D. Stockpile subsoil in area designated on site to depth not exceeding 8 feet and protect from erosion.
- E. Benching Slopes: Horizontally bench existing slopes greater than 1: 4 to key placed fill material to slope to provide firm bearing.
- F. Stability: Replace damaged or displaced subsoil as specified for fill.

3.5 FILLING

- A. Fill areas to contours and elevations with unfrozen materials.
- B. Place fill material in continuous layers and compact in accordance with schedule at end of this section.
- C. Maintain optimum moisture content of fill materials to attain required compaction density.
- D. Slope grade away from structures minimum 2 percent slope for minimum distance of 10 ft, unless noted otherwise.
- E. Make grade changes gradual. Blend slope into level areas.
- F. Repair or replace items indicated to remain damaged by excavation or filling.
- G. Install Work in accordance with Owner and/or GDOT Standards and Specifications.

3.6 TOLERANCES

- A. Section 01400 - Quality Requirements: Tolerances.
- B. Top Surface of Subgrade: Plus or minus 1/10 foot from required elevation.

SECTION 02311

3.7 FIELD QUALITY CONTROL

- A. Section 01700 - Execution Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Perform laboratory material tests in accordance with ASTM D698.
- C. Perform in place compaction tests in accordance with the following:
 - 1. Density Tests: ASTM D1556.
 - 2. Moisture Tests: ASTM D3017.
- D. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.
- E. Frequency of Tests: Minimum of one test per lift placed.

3.8 SCHEDULES

- A. Structural Fill:
 - 1. Fill Type S1 : 8 inches thick.
 - 2. Compact uniformly to minimum 100 percent of maximum density by standard Proctor.
- B. Subsoil Fill:
 - 1. Fill Type S1 : 8 inches thick.
 - 2. Compact uniformly to minimum 100 percent of maximum density by standard Proctor.
- C. Topsoil Fill:
 - 1. Fill Type S3 : 6 inches thick.
 - 2. Compact uniformly with weighted roller submitted to Engineer for approval.

END OF SECTION

SECTION 02315

EXCAVATION AND FILL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Excavating for slabs-on-grade.
 - 2. Excavating for site structures.
 - 3. Excavating for landscaping.
- B. Related Sections:
 - 1. Section 02311 - Rough Grading: Topsoil and subsoil removal from site surface.
 - 2. Section 02320 - Backfill.
 - 3. Section 02324 - Trenching: Excavating for utility trenches.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- 1. Payment shall be made at the price bid for the unit type shown in the Bid Form of the Contract Documents for the line items related to this specification.
- 2. Basis of Payment: Includes but is not limited to all labor, equipment, and materials necessary to provide the work required by the Contract Documents.

1.3 REFERENCES

- A. Local utility standards when working within 24 inches of utility lines.

1.4 SUBMITTALS

- A. Section 01330 - Submittal Procedures: Requirements for submittals.
- B. Excavation Protection Plan: Describe sheeting, shoring, and bracing materials and installation required to protect excavations and adjacent structures and property; include structural calculations to support plan.
- C. Shop Drawings: Indicate soil densification grid for each size and configuration footing requiring soils densification.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with Georgia Department of Transportation and Owner Standards and Specifications.

SECTION 02315

1.6 QUALIFICATIONS – Not Used

PART 2 - PRODUCTS – Not Used

PART 3 - EXECUTION

3.1 PREPARATION

- A. Contractor must contact Georgia 811 by visiting my.georgia811.com or by dialing 811 or 1-800-282-7411 not less than three working days before performing Work.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.
- B. Identify required lines, levels, contours, and datum.
- C. Notify utility company to remove or relocate utilities as required.
- D. Protect utilities indicated to remain from damage.
- E. Protect plant life, lawns, and other features remaining as portion of final landscaping.
- F. Protect benchmarks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

3.2 SOIL DENSIFICATION - VIBRO-COMPACTION – Not Used

3.3 EXCAVATION

- A. Underpin adjacent structures that may be damaged by excavation work.
- B. Excavate subsoil to accommodate foundations, slabs-on-grade, drainage paving and site structures.
- C. Excavate to limits of alluvial soils or three feet deep whichever is the smaller to comply with referenced geotechnical report.
- D. Compact disturbed load bearing soil in direct contact with foundations to original bearing capacity; perform compaction in accordance with Section 02200.
- E. Slope banks with machine to angle of repose or less until shored.
- F. Do not interfere with 45 degree bearing splay of foundations.
- G. Grade top perimeter of excavation to prevent surface water from draining into excavation.
- H. Trim excavation. Remove loose matter.
- I. Remove lumped subsoil, boulders, and rock up to 1/3 cu yd measured by volume. Remove larger material as specified in Section 02200.

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- J. Notify Engineer of unexpected subsurface conditions.
- K. Correct areas over excavated with structural fill Type S1 or S2 specified in Section 02055 and as directed by Engineer.
- L. Remove excess and unsuitable material from site.
- M. Repair or replace items indicated to remain damaged by excavation.

3.4 FIELD QUALITY CONTROL

- A. Section 01400 - Quality Requirements.
- B. Perform inspection of excavation and controlled fill operations in accordance with applicable code.
- C. Request visual inspection of bearing surfaces by Owner's geotechnical testing firm before installing subsequent work.

3.5 PROTECTION

- A. Prevent displacement or loose soil from falling into excavation; maintain soil stability.
- B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.
- C. Protect structures, utilities and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth operations.

END OF SECTION

SECTION 02523

CONCRETE SIDEWALK AND DRIVEWAY

PART 1 - GENERAL

1.1 SUMMARY

- A. Concrete sidewalk shall be constructed of Portland cement concrete, at the locations and to the dimensions, lines, grades and cross section indicated on the Drawings or as directed by the Engineer and in conformity with the provisions and requirements set out in these Specifications.
- B. Concrete driveways shall be constructed of Portland cement concrete, at the locations and to the dimensions, lines, grades and cross section indicated on the Drawings or as directed by the Engineer, and in conformity with the provisions and requirements set out in these Specifications.
- C. Concrete sidewalk and driveway shall include all the necessary excavation, unless otherwise indicated, subgrade and subbase preparation, backfilling, final clearing up and completing all incidentals thereto, as indicated on the Drawings or as directed by the Engineer.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Materials used in the construction of sidewalks and driveways, in addition to the general requirements of these Specifications, shall conform, unless otherwise stipulated, to the following:
 - 1. Concrete shall be manufactured of the materials meeting the requirements of and in accordance with the provisions and requirements for 3000 PSI concrete as defined in Section 03300 and in accordance with GDOT Class "A" concrete.
 - 2. Crushed stone for base shall meet the gradation requirements for Size 7 or 8 as specified in ASTM D 448 or AASHTO M43.

2.2 FORM MATERIAL

- A. Forms may be constructed of wood or metal.
- B. The lumber to be used in the construction of wood forms shall be free of bulge or warp, of uniform width, not less than 2-inches (commercial) in thickness, except that 1-inch thickness, except that 1-inch thickness may be used on curves and shall be sound and free from loose knots. Stakes shall be not less than 2 x 4-inch lumber of sufficient length that, when driven they will hold the forms rigidly in place.

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- C. Metal forms shall be approved sections and shall have a flat surface on top. They shall present a smooth surface of the desired contour, sufficiently thick and braced to withstand the weight of the concrete without bulging or becoming displaced.

PART 3 - EXECUTION

3.1 LABOR

For finishing, competent and skilled finishers shall be provided.

3.2 EQUIPMENT

- A. All equipment necessary and required for the construction of concrete sidewalks and driveways, must be on the Project, proven to be in first class working condition and approved by the Engineer, before construction will be permitted to begin.
- B. A one bag mixer will be permitted when the total output of concrete, per 10-hour day does not exceed 25 cubic yards and is subject to testing in accordance with these Specifications.
- C. Satisfactory floats, edgers, spades and tamps shall be furnished. Mechanical tamps shall generate a minimum of 200 LBS/SQ. IN. in downward force for tamping subgrade. A 10-foot longitudinal float of the inverted T-type with plough handles attached for manipulation, and a rigid float not less than 18-inches longer than the width of the walk being constructed, shall be provided.

3.3 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Unless otherwise indicated or stipulated, the removal of structure, obstructions, etc., will be performed in accordance with the requirements of these Specifications.

3.4 SUBGRADE PREPARATION

- A. The subgrade for sidewalks and driveways shall be formed by excavation to a depth equal to the thickness of the concrete +2-inches.
- B. All subgrade shall be of such width as to permit the proper installation and bracing of the forms.
- C. Yielding, or unsuitable material shall be removed and backfilled with satisfactory material. Place 6-inches of graded aggregate base under commercial/industrial driveways, compacted thoroughly and finished to a smooth, unyielding surface and proper line, grade and cross section of the

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proposed construction.

3.5 FORMS

- A. All forms shall be set upon the prepared subgrade, true to lines and grade, and held rigidly in place so as to not to be disturbed or displaced during the placing of the concrete. The top of the form shall be set to exact grade and the height shall be equal to not less than the thickness of the proposed concrete.
- B. All forms shall be so constructed as to form the cross section, contour, etc., of the proposed construction.
- C. Immediately before placing the concrete, the forms shall be given a coat of light oil and where being removed and used again, the forms shall be thoroughly cleaned and oiled each time.
- D. Forms shall be removed within 24 hours after placing concrete and no pressure shall be exerted upon the concrete in removing forms.
- E. When the sidewalk is to be joined to an existing sidewalk, the existing sidewalk, if not in proper condition for the junction, shall be cut to a neat line perpendicular to both the centerline and the surface, or as indicated by the Engineer.

3.6 EXPANSION JOINTS / CONTROL JOINTS

- A. Unless otherwise indicated on the Drawings or as directed by the Engineer, premoulded expansion joint filler, 3/4-inch in thickness, shall be placed at the locations and in line with expansion joints in the adjoining pavement, gutter, and not otherwise indicated on the Drawings, a 2-inch premoulded expansion joint filler shall be placed at intervals of not over 40 feet apart. All premoulded expansion joint filler must be cut to full width or length of the proposed construction and shall extend to within 2-inch of the top or finished surface. All longitudinal expansion joints shall be placed as indicated on the Drawings or as directed by the Engineer.
- B. All expansion joints shall be true, even and present a satisfactory appearance.
- C. All expansion joint material protruding after the concrete has been finished shall be trimmed as directed by the Engineer.
- D. Control joints shall be tooled into the concrete surface at a spacing that matches the width of the concrete walkway. The depth of the control joint is to be a minimum of 25% of the overall thickness of the concrete slab.

3.7 MANUFACTURING AND PLACING CONCRETE

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- A. Immediately before placing concrete, the depth of the proposed concrete shall be checked by means of a templet cut true to the cross section of the proposed construction and any irregularities shall be corrected.
- B. Immediately before placing concrete, all subgrade shall be thoroughly sprinkled or wetted.
- C. Concrete shall not be placed upon a frozen subgrade or subbase.
- D. Construction joints will be as specified or at expansion joints, unless otherwise approved by the Engineer.
- E. The concrete shall be placed immediately after mixing, the edges, sides, etc., shall be thoroughly spaded and the surfaces tamped sufficiently to thoroughly compact the concrete and bring the mortar to the surface. The concrete shall be deposited and compacted in a single layer.

3.8 FINISHING

- A. The concrete shall be stuck-off with a transverse template resting upon the side forms and then shall be floated with a 10 foot longitudinal float working the float transversely across the concrete with a sawing motion, always maintaining it parallel to the edges of the sidewalk, or driveway, where practicable, and in such a manner that all surplus water, laitance and inert material shall be removed from the surface. This operation shall be continued until the surface of the concrete shows no variation from 10-foot straightedge. If necessary, additional concrete shall be added to fill depressions, and the longitudinal float used again. The longitudinal float shall not be moved ahead more than one-half its length at any time.
- B. When the surface of the concrete is free from water and just before the concrete obtains its initial set, it shall be gone over and finished with a wooden float so as to produce a sandy texture. The longitudinal surface variations shall be not more than 1/4-inch under a 10-foot straightedge, nor more than 1/8-inch on a five-foot transverse section. The surface of the concrete must be finished so as to drain completely at all times.
- C. All edges of the sidewalks or driveways shall be carefully finished and rounded with an edging tool having a radius of 1/2-inch.
- D. The surface of sidewalks shall be divided into blocks by use of a grooving tool. Grooves shall be placed so as to cause contraction joints to be placed at a groove line, where practical. The grooves shall be spaced approximately six feet apart and the blocks shall be rectangular unless otherwise ordered by the Engineer. The grooves shall be cut to a depth of not less than 1-inch. The edges of the

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grooves shall be edged with an edging tool having a radius of 1/4-inch, and any marks caused by edging or otherwise shall be removed with a wetted brush or wooden float so as to give the surface a uniform texture and finish.

- E. The edges of the concrete at contraction joints shall be rounded with an edging tool having a radius of 1/4-inch. The top and ends, where practicable, of expansion joint material shall be cleaned of all concrete and the expansion joint material shall be trimmed so as to be slightly below the surface of the concrete. All marks caused by edging shall be removed with a wetted brush or wooden float.

3.9 PROTECTION AND CURING

- A. Immediately after finishing the concrete, it shall be covered and cured.
- B. The Contractor shall construct such barricades and protection devices as are necessary to keep pedestrians and traffic off the sidewalks or driveways.
- C. If any sidewalk or driveway is damaged at any time previous to final acceptance of the project, it shall be repaired by removing all concrete within the limits of the grooves, and be replaced, at the Contractor's expense, with concrete of the type, kind and finish in the original construction.

3.10 BACKFILLING

- A. Immediately after the concrete has set sufficiently, the spaces along the sides or edges of the sidewalk or driveway shall be refilled with suitable material, this material shall be in compacted layer of not over 4-inches each, until firm and solid.

3.11 FIELD QUALITY CONTROL

- A. Section 01400 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Section 03300 - Perform laboratory material tests in accordance Quality Control.

END OF SECTION

SECTION 02630

STORM DRAINAGE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Storm drainage piping within City rights of way.
2. Accessories.
3. Catch basins.
4. Cleanouts.
5. Manholes.
6. Head Walls.
7. Bedding and cover materials.

B. Related Sections:

1. Section 02320- Backfill.
2. Section 02324- Trenching.
3. Section 03300- Cast-in-Place Concrete.

1.2 REFERENCES

A. Georgia Soil and Water Conservation Commission (GSWCC):

1. Manual for Erosion and Sediment Control in Georgia; 2016 or Latest Edition.

B. Georgia Department of Transportation (GDOT):

1. Standard Specifications- Georgia Department of Transportation – Standard Specifications Construction of Transportation Systems – January 21, 2021 or latest revision.

C. American Concrete Institute

1. ACI 301- Specifications for Structural Concrete.
2. ACI 304- Guide for Measuring, Mixing, transporting, and Placing Concrete.
3. ACI 305- Hot Weather Concreting.
4. ACI 306- Cold Weather Concreting.
5. ACI 318- Building Code Requirements for Structural Concrete.

F. ACI 306- Cold Weather Concreting.

G. Concrete Reinforcing Steel Institute:

1. CRSI Manual of Standard Practice.

H. American Society for Testing and Materials:

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1. ASTM C76- Standard Specifications for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
2. ASTM C443- Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
3. ASTM C478 Standard Specification for Circular Precast Reinforced Concrete Manhole Sections.
4. ASTM C923- Standard Specification for resilient Connectors Between Reinforced Concrete Manholes Structures.
5. ASTM D698- Standard Test Method for Laboratory Compaction Characteristic of Soil Using Standard Effort (12,400 ft-lbf/ft³(600 kN-m/m³)).
6. ASTM D2321-Standard Practice for Underground Installation of Thermoplastic pipe for Sewers and Other Gravity-Flow Applications.
7. ASTM D3350- Standard Specification for Polyethylene Plastics Pipe and Fitting Materials.

1.3 SUBMITTALS

- A. Product Data: Submit data indicating pipe, pipe accessories, and shop drawings for inlet boxes, manhole covers, steps, and grates.
- B. Manufacturer's Installation Instructions: Submit special procedures required to install Product specified.
- C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

- A. Project Record Documents:
 1. Accurately record actual locations of pipe runs, connections, catch basins, cleanouts, and invert elevations.
 2. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with Construction of Transportation Systems.
- B. Maintain one copy of each document on site.
- C. Video Inspection, at Engineer's direction, shall be required per engineer's inspection criteria for all new storm sewer installed.

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PART 2 - PRODUCTS

2.1 STORM DRAINAGE PIPING

- A. Reinforced Concrete Pipe: ASTM C76; mesh or bar reinforcement; inside nominal diameter of 15-inches minimum, bell and spigot ends.
 - 1. Fitting: Reinforced Concrete.
 - 2. Joints: ASTM C443, rubber compression gasket.
- B. Max Flow Steel Spiral Rib Pipe: ASTM A798 installation; Nominal diameter of 15-inches minimum, 16 Gauge Min.; helical lock seam; 10 MM min. polymer coated.
 - 1. Fittings: Same material and manufacturer.
 - 2. Joints: Steel pipe coupling bands, Same material and manufacturer.
- C. Plastic Pipe: ASTM D3550, High Density Polyethylene (HDPE) material, A.D.S. N-12, corrugated, smooth wall interior, inside nominal diameters of 15-inches minimum, bell and spigot style ends.
 - 1. Fittings: Same material and manufacturer.
 - 2. Joints, Rubber O-ring gasket, silt tight.

2.2 ACCESSORIES

- A. Pipe and Structure Grout: Specified in section 03300.
- B. Rip Rap Grout: 70 percent sand, 30 percent 3/8 inch aggregate slump, 5-8 percent entrained air, minimum compressing strength 3500psi.
- C. Reinforcement: Specified in Section 03300.

2.3 CATCH BASINS/INLETS AND CLEAN OUTS

- A. Inlet Box & Grate
 - 1. Construction: Pre-cast, HS-20 loading.
 - 2. Grate & Frame: HS-20 loading- heavy duty, bicycle safe.
 - 3. Nominal minimum Inside Dimensional: 2 x 2 foot.
 - 4. According to GDOT Standards 2013.
- C. Concrete Clean Out:
 - 1. Construction: Cast-in place, HS-20 Loading.
 - 2. Lid: Approved 3/8" inch steel cut to fit.
 - 3. Nominal Minimum Inside Diameter: 2 x 2 foot.

2.4 MANHOLE

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- A. Construction: Pre-cast, ASTM C478, HS-20 loading.
- B. Lid: Neenah R-1706-1, or equivalent.
- C. Steps: Aluminum and cast in place when concrete is cast and be 9 ¼ inch x 12 ½ inch. As an alternate, steps may be polypropylene (M.A. Industries PS2-PFS or equivalent) and can be press fit into preformed holes.
- D. Nominal Minimum Inside Diameter: 4 foot diameter manhole shall be utilized for all piping 30 inch in diameter and less, 5 foot diameter manhole shall be utilized for all piping 36 inch through 42 inch, 6 foot diameter manholes shall be utilized for all piping 48 inch through 60 inch.
- E. Manhole Sections: Reinforced pre-cast concrete as specified in Drawings in accordance with ASTM C478 with gaskets in accordance with ASTM C923.

2.5 HEAD WALL

- A. Concrete: Specified in section 03300.
- B. Reinforcement: Specified in Section 03300.

2.6 PRE-CAST CONCRETE

- A. Provide all units shown in Plans and as needed for a complete and proper installation.
- B. Design Criteria- Design units in accordance with:
 - 1. ACI 304 and 318.
 - 2. CRSI Manual of Standard Practice.
 - 3. Applicable ASTM Standards.

2.7 BEDDING AND COVER MATERIALS

- A. Bedding: Use Fill as specified in 02320 or uniformly graded rock wrapped in drainage fabric or Fill Type Class I or Class II, see GDOT Standard Detail 1030D.
- B. Cover and Backfill: Fill Type Class II as specified in Section 02320 or Flowable Fill as specified in Section 600 GDOT Specifications.

PART 3 - EXECUTIONS

3.1 EXAMINATION

- A. Verify trench cut and excavation base is ready to receive work and excavations, dimensions, and elevations are as indicated on drawings.

3.2 PREPARATION

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- A. Remove old culvert, and related debris and dispose.
- B. Hand trim excavations to required elevations. Correct over excavation with material as directed by engineer.
- C. Remove large stones or other hard matter, which could damage piping or impede consistent backfilling or compaction.

3.3 BEDDING

- A. Excavate pipe trench in accordance with Section 02324 for work of this Section. Hand trim excavation for accurate placement of pipe to elevations indicated.
- B. Place bedding material at trench bottom, level materials in continuous layer not exceeding 6 inches compacted depth.
- C. Maintain optimum moisture content of bedding material to attain required compaction density.

3.4 INSTALLATION-PIPE

- A. Install pipe, fittings, and accessories as indicated in accordance with ASTM D2321 with the exception that minimum cover shall be 1 foot. Seal joints watertight.
- B. Place pipe on minimum 6-inch deep bedding materials.
- C. Lay pipe to slope gradients noted on drawings with maximum variation from indicated slope of 1/8 inch in 10 feet.
- D. Install backfill at side over top of pipe as indicated. Install top cover to minimum compacted thickness or 12 inches, compact to 98 percent according to ASTM D698.

3.5 INSTALLATION- CATCH BASINS, CLEANOUTS, AND MANHOLES

- A. Lift pre-cast structures as lifting points designated by manufacturer.
- B. When lowering manholes and drainage structures in excavations and joining pipe to units, take precautions to ensure interior of pipeline and structures remain clean.
- C. Form bottom of excavation clean and smooth to correct elevation, install and compact bedding material. Flowable fill can be used in place of bedding material, as specified in Section 600 GDOT Specifications.
- D. Form and place Cast-In-Place Concrete base pad, with provision for storm sewer pipe end sections according to Section 03300.

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- E. Level top surface of base pad; sleeve concrete shaft sections to receive storm sewer pipe sections.
- F. Set pre-cast structures bearing firmly and fully on bedding.
- G. Move pre-cast boxes into position in a manner that is not detrimental to the construction of the concrete or reinforcement.
- H. Establish Elevations and pipe inverts for inlets and outlets as indicated on Drawings.
- I. Assemble multi-section structures by lowering each section into excavations. Lower, set level, and firmly position base section before placing additional sections.
- J. Removes foreign materials from joint surfaces and verify sealing materials are placed properly. Maintain alignment between sections by using guide devices affixed to lower section.
- K. Mount grate/lid and frame level in grout, secured to top section to elevation indicated.
- L. Install aggregate at sides and around box as indicated on Drawings. Compact to 98 percent according to ASTM D698.
- M. Grout flow line inverts and pipe connections the full wall width.
- N. Place manhole sections plumb and level, trim to correct elevations, anchor to base pad.
- O. Pipes stubbed into boxes shall be saw-cut to length such that ends do not protrude into the interior of the box in excess of 4 inches.
- P. Manholes shall be placed a minimum of every 400 feet and at connections under the traveled roadway.
- Q. Cleanouts shall be placed a minimum of every 50 feet and at connections outside the traveled roadway.

3.6 HEAD WALL

- A. Install required reinforcement as indicated.
- B. Form and place concrete to the dimensions indicated per Section 03300.

3.7 FIELD QUALITY CONTROL

- A. Request inspection prior to and immediately after placing aggregate cover over pipe.
- B. Compaction Testing: In accordance with ASTM D698.

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- C. When test indicate work does not meet specified requirements, remove work, replace and retest.

3.8 PROTECTION OF FINISHED WORK

- A. Protect pipe and aggregate cover from damage or displacement until backfilling operation is in progress.
 - 1. Take care not to damage or displace installed pipe and joints during construction of pipe supports, backfilling, testing, and other operations.
 - 2. Repair or replace pipe that is damaged or displaced from construction operations.

END OF SECTION

SECTION 02750

RIGID PAVEMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Concrete paving for:
 - a. Concrete sidewalks and plazas.
 - b. Concrete driveway aprons.
- B. Related Requirements:
 - 1. Section 02311 - Rough Grading
 - 2. Section 02523 – Concrete Sidewalk and Driveway

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- 1. Payment shall be made at the price bid for the unit type shown in the Bid Form of the Contract Documents for the line items related to this specification.
- 2. Basis of Payment: Includes but is not limited to all labor, equipment, and materials necessary to provide the work required by the Contract Documents.

1.3 REFERENCE STANDARDS

- A. American Association of State Highway and Transportation Officials:
 - 1. AASHTO M324 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
- B. American Concrete Institute:
 - 1. ACI 301 - Specifications for Structural Concrete.
 - 2. ACI 304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete.
- C. ASTM International:
 - 1. ASTM A184/A184M - Standard Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
 - 2. ASTM A185/A185M - Standard Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.
 - 3. ASTM A497/A497M - Standard Specification for Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement.
 - 4. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
 - 5. ASTM A706/A706M - Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement.
 - 6. ASTM A767/A767M - Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement.
 - 7. ASTM A775/A775M - S Standard Specification for Epoxy-Coated Steel Reinforcing Bars.
 - 8. ASTM A884/A884M - Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement.
 - 9. ASTM A934/A934M - Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars.

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10. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
11. ASTM C33 - Standard Specification for Concrete Aggregates.
12. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
13. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.
14. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic Cement Concrete.
15. ASTM C150 - Standard Specification for Portland Cement.
16. ASTM C172 - Standard Practice for Sampling Freshly Mixed Concrete.
17. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
18. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
19. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
20. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
21. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete.
22. ASTM C595 - Standard Specification for Blended Hydraulic Cements.
23. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.
24. ASTM C979 - Standard Specification for Pigments for Integrally Colored Concrete.
25. ASTM C989 - Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars.
26. ASTM C1017/C1017M - Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete.
27. ASTM C1064/C1064M - Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.
28. ASTM C1116 - Standard Specification for Fiber-Reinforced Concrete and Shotcrete.
29. ASTM C1315 - Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.
30. ASTM C1371 - Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers.
31. ASTM C1549 - Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer.
32. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
33. ASTM D1752 - Standard Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.
34. ASTM D6690 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
35. ASTM E408 - Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques.
36. ASTM E903 - Standard Test Method for Solar Absorptance, Reflectance, and Transmittance of Materials Using Integrating Spheres.
37. ASTM E1918 - Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-Sloped Surfaces in the Field.
38. ASTM E1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.

SECTION 02750

1.4 SUBMITTALS

- A. Section 01330 - Submittal Procedures: Requirements for submittals.
- B. Design Data:
 - 1. Submit concrete mix design for each concrete strength. Submit separate mix designs when admixtures are required for the following:
 - a. Hot and cold weather concrete work.
 - 2. Identify mix ingredients and proportions, including admixtures.
 - 3. Identify chloride content of admixtures and whether or not chloride was added during manufacture.

1.5 QUALITY ASSURANCE

- A. Obtain cementitious materials from same source throughout.

1.6 QUALIFICATIONS

- A. Installer: Company specializing in performing work of this section with minimum five years' experience.

1.7 AMBIENT CONDITIONS

- A. Section 01500 - Temporary Facilities and Controls: Ambient conditions control facilities for product storage and installation.
- B. Do not place concrete when base surface temperature is less than 40 degrees F, or surface is wet or frozen.

PART 2 - PRODUCTS

2.1 CONCRETE PAVING

- A. Concrete Materials:
 - 1. Concrete Materials: As specified in Section 03300.

2.2 MIXES

- A. Concrete Mix - By Performance Criteria:
 - 1. Mix and deliver concrete in accordance with ASTM C94/C94M, Option A.
 - 2. Mix as specified in Section 03300.

2.3 SOURCE QUALITY CONTROL

- A. Contractor to provide testing facility for required onsite sample collection and testing at no additional cost to the Owner.
- B. Submit proposed mix design of each class of concrete to appointed firm for review prior to commencement of Work.

SECTION 02750

- C. Tests on cement, aggregates, and mixes will be performed to ensure conformance with specified requirements.
- D. Test samples in accordance with ASTM C94/C94M.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01700 - Execution Requirements: Requirements for installation examination.
- B. Verify compacted subgrade is dry and ready to support paving and imposed loads.
 - 1. Field pentrometer testing of the subbase with a minimum of one test in ten feet to determine soft spots.
 - 2. Remove soft subbase and replace with compacted fill.
- C. Verify gradients and elevations of base are correct.

3.2 PREPARATION

- A. Section 01700 - Execution Requirements: Requirements for installation preparation.
- B. Moisten substrate to minimize absorption of water from fresh concrete.
- C. Coat surfaces of catch basin frames with oil to prevent bond with concrete paving.
- D. Notify Engineer minimum 24 hours prior to commencement of concreting operations.

3.3 INSTALLATION

- A. Forms:
 - 1. Place and secure forms and screeds to correct location, dimension, profile, and gradient.
 - 2. Assemble formwork to permit easy stripping and dismantling without damaging concrete.
- B. Reinforcement:
 - 1. Place reinforcing at mid-height of paving.
- C. Placing Concrete:
 - 1. Place concrete as specified in Section 03300.
 - 2. Ensure reinforcing is not disturbed during concrete placement.
 - 3. Place concrete continuously over the full width of the panel and between predetermined construction joints.
- D. Joints
 - 1. Place tooled control joints at six-foot intervals. Align curb, gutter, and sidewalk joints.
 - 2. Provide keyed joints as indicated.
- E. Finishing:

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1. Sidewalk Paving: Light broom, radius to 1/2 inch radius, and trowel joint edges.
- F. Curing and Protection
 1. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
 2. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
- 3.4 TOLERANCES
 - A. Section 01400 - Quality Requirements: Tolerances.
 - B. Maximum Variation of Surface Flatness: 1/4 inch in 10 ft.
 - C. Maximum Variation From True Position: 1/2" inch.
- 3.5 FIELD QUALITY CONTROL
 - A. Section 01400 – Quality Requirements
 - B. Section 01700 - Execution Requirements: Requirements for testing, adjusting, and balancing.
 - C. Section 03300 - Perform field testing in accordance with ASTM C94/C94M.
 - D. Inspect reinforcing placement for size, spacing, location, support.
 - E. Testing firm will take cylinders and perform slump and air entrainment tests in accordance with ACI 301.
 - F. Strength Test Samples:
 1. Sampling Procedures: ASTM C172.
 2. Cylinder Molding and Curing Procedures: ASTM C31/C31M, cylinder specimens, standard cured.
 3. Sample concrete and make one set of five cylinders for every 50 cu yds or less of each class of concrete placed each day and for every 5,000 sf of surface area paving.
 4. Make one additional cylinder during cold weather concreting, and field cure.
 - G. Field Testing:
 1. Measure slump and temperature for each compressive strength concrete sample.
 2. Measure air content in air entrained concrete for each compressive strength concrete sample.
 - H. Cylinder Compressive Strength Testing:
 1. Test Method: ASTM C39/C39M.
 2. Test Acceptance: Average compressive strength of three consecutive test meet or exceed specified compressive strength.
 - I. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

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3.6 PROTECTION

- A. Section 01700 - Execution Requirements: Requirements for protecting finished Work.
- B. Immediately after placement, protect paving from premature drying, excessive hot or cold temperatures, and mechanical injury.
- C. Do not permit traffic over paving 48 hours minimum after finishing.

END OF SECTION

SECTION 02760

PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes painted thermoplastic markings applied to asphalt pavement.

1.2 PRE-INSTALLATION MEETINGS

- A. Pre-installation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers approved by the Georgia Department of Transportation Office of Materials and Testing Qualified Products List, latest edition, for thermoplastic traffic paint.

2.2 PERFORMANCE REQUIREMENTS

- A. Accessibility Standard: Comply with applicable provisions in "2010 ADA Standards for Accessible Design".
- B. Thermoplastic Traffic Marking Paint shall meet or exceed the chemical composition and performance requirements of Federal Specification TT-P1952 E, TT-P-1952 F Type III, and shall comply with AASHTO M 249.

2.3 PAVEMENT-MARKING PAINT

- A. Pavement-Marking Thermoplastic Paint: White thermoplastic material contains at least 8 percent by weight titanium dioxide that meets the requirements of ASTM D 476, Type II, Rutile. The white thermoplastic material shall be pure white and free from dirt or tint.

- B. Pavement-Marking Thermoplastic Paint: Yellow thermoplastic material shall match Federal Test Standard Number 595, Color 13538.
- C. Glass Beads: AASHTO M 247, Type 1.
- D. Raised Pavement Markers (RPMs) shall meet the requirements of Georgia Department of Transportation Standard Specifications Section 654.

PART 3 - EXECUTION

3.1 PAVEMENT MARKING

- A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Engineer.
- B. Allow paving to age for a minimum of **30** days before starting pavement thermoplastic markings.
- C. Sweep and clean surface to eliminate loose material and dust.
- D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 90 mils.
 - 1. Apply graphic symbols and lettering with paint-resistant, die-cut stencils. Apply paint so that it cannot run beneath stencil.
 - 2. Broadcast glass beads uniformly into wet markings at a rate of 6 lbs./gal.

END OF SECTION

SECTION 03100

CONCRETE FORMS AND ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Formwork for cast-in place concrete.
 - 2. Shoring, bracing, and anchorage.
 - 3. Architectural form liners.
 - 4. Form accessories.
 - 5. Form stripping.
- B. Related Sections:
 - 1. Section 03200 - Concrete Reinforcement.
 - 2. Section 03300 - Cast-in-Place Concrete.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- 1. Payment shall be made at the price bid for the unit type shown in the Bid Form of the Contract Documents for the line items related to this specification.
- 2. Basis of Payment: Includes but is not limited to all labor, equipment, and materials necessary to provide the work required by the Contract Documents.

1.3 REFERENCES

- A. American Concrete Institute:
 - 1. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials.
 - 2. ACI 301 - Specifications for Structural Concrete.
 - 3. ACI 318 - Building Code Requirements for Structural Concrete.
 - 4. ACI 347 - Guide to Formwork for Concrete.
- B. American Forest and Paper Association:
 - 1. AF&PA - National Design Specifications for Wood Construction.
- C. The Engineered Wood Association:
 - 1. APA/EWA PS 1 - Voluntary Product Standard for Construction and Industrial Plywood.
- D. ASTM International:
 - 1. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).

1.4 DESIGN REQUIREMENTS

- A. Design, engineer and construct formwork, shoring and bracing in accordance with ACI 318 to conform to applicable code requirements to achieve concrete shape, line and dimension as indicated on Drawings.

SECTION 03100

1.5 PERFORMANCE REQUIREMENTS

- A. Vapor Retarder Permeance: Maximum 1 perm when tested in accordance with ASTM E96/E96M, desiccant method.

1.6 SUBMITTALS

- A. Section 01330 - Submittal Procedures: Requirements for submittals.
- B. Shop Drawings:
 - 1. Submit formwork, shoring, and reshoring shop drawings.
 - 2. Indicate the following:
 - a. Pertinent dimensions, openings, methods of construction, types of connections, materials, joint arrangement and details, ties and shores, location of framing, studding and bracing, and temporary supports.
 - b. Means of leakage prevention for concrete exposed to view in finished construction.
 - c. Sequence and timing of erection and stripping assumed compressive strength at time of stripping, height of lift and height of drop during placement.
 - d. Vertical, horizontal and special loads in accordance with ACI 347, Section 2.2 and camber diagrams, when applicable.
 - e. Notes to formwork erector showing size and location of conduits and piping embedded in concrete in accordance with ACI 318, Section 6.3.
 - f. Procedure and schedule for removal of shores and installation and removal of reshores.
- C. Design Data:
 - 1. Indicate design data for formwork.
 - 2. Indicate loads transferred to structure during process of concreting.
 - 3. Include structural calculations to support design.

1.7 SUSTAINABLE DESIGN SUBMITTALS – Not Used

1.8 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 347.
- B. For wood products furnished for work of this Section, comply with AF&PA.
- C. Perform Work in accordance with Owner Standards and Specifications.

1.9 QUALIFICATIONS – Not Used

1.10 MOCK-UP – Not Used

1.11 DELIVERY, STORAGE, AND HANDLING

- A. Section 01600 - Product Requirements: Products storage and handling requirements.
- B. Deliver void forms and installation instructions in manufacturer's packaging.

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- C. Store off ground in ventilated and protected manner to prevent deterioration from moisture.

1.12 COORDINATION

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate this Section with other sections of work, requiring attachment of components to formwork.

PART 2 - PRODUCTS

2.1 SUSTAINABILITY CHARACTERISTICS – Not Used

2.2 WOOD FORM MATERIALS

- A. Form Materials: At discretion of Contractor.

2.3 PREFABRICATED FORMS – Not Used

2.4 ARCHITECTURAL FORM LINERS – Not Used

2.5 FORMWORK ACCESSORIES

- A. Form Ties: Removable Snap-off type, galvanized metal, fixed length, cone type, 1 inch back break dimension, free of defects capable of leaving holes larger than 1 inch in concrete surface.
 - 1. Manufacturers:
 - a. Heckmann Building Products, Inc.
 - b. Symons by Dayton Superior.
 - c. Wall-Ties & Forms, Inc.
 - d. Substitutions: 01600 - Product Requirements.
- B. Spreaders: Standard, non-corrosive metal form clamp assembly, of type acting as spreaders and leaving no metal within 1 inch of concrete face. Wire ties, wood spreaders or through bolts are not permitted.
- C. Form Anchors and Hangers:
 - 1. Do not use anchors and hangers exposed concrete leaving exposed metal at concrete surface.
 - 2. Symmetrically arrange hangers supporting forms from structural steel members to minimize twisting or rotation of member.
 - 3. Penetration of structural steel members is not permitted.
- D. Form Release Agent: Colorless mineral oil that will not stain concrete, or absorb moisture, or impair natural bonding or color characteristics of coating intended for use on concrete.
 - 1. Manufacturers:
 - a. Architectural Concrete Chemicals, LLC.
 - b. Nox-Crete Products Group.
 - c. Substitutions: 01600 - Product Requirements.

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- E. Corners: Chamfer, wood strip type; 1x1 inch size; maximum possible lengths.
- F. Dovetail Anchor Slot: Galvanized steel, 22-gage thick, non-filled, release tape sealed slots, anchors for securing to concrete formwork.
 - 1. Manufacturers:
 - a. BoMetals, Inc.
 - b. Wall-Ties & Forms, Inc.
 - c. Substitutions: 01600 - Product Requirements.
- G. Vapor Retarder: Where indicated on Drawings, 8-mil thick polyethylene sheet.
- H. Bituminous Joint Filler: ASTM D1751.
- I. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Size, strength and character to maintain formwork in place while placing concrete.

2.6 COATINGS – Not Used

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Verify lines, levels, and centers before proceeding with formwork. Verify dimensions agree with Drawings.
- C. When formwork is placed after reinforcement resulting in insufficient concrete cover over reinforcement before proceeding, request instructions from Architect/Engineer.

3.2 INSTALLATION

- A. Earth Forms:
 - 1. Trench earth forms neatly, accurately, and at least 2 inches wider than footing widths indicated on Drawings.
 - 2. Trim sides and bottom of earth forms.
 - 3. Construct wood edge strips at top of each side of trench to secure reinforcing and prevent trench from sloughing.
 - 4. Form sides of footings where earth sloughs.
 - 5. Tamp earth forms firm and clean forms of debris and loose material before depositing concrete.
- B. Formwork - General:
 - 1. Provide top form for sloped surfaces steeper than 1.5 horizontal to one vertical to hold shape of concrete during placement, unless it can be demonstrated that top forms can be omitted.
 - 2. Construct forms to correct shape and dimensions, mortar-tight, braced, and of sufficient strength to maintain shape and position under imposed loads from construction operations.

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3. Camber forms where necessary to produce level finished soffits unless otherwise shown on Drawings.
 4. Carefully verify horizontal and vertical positions of forms. Correct misaligned or misplaced forms before placing concrete.
 5. Complete wedging and bracing before placing concrete.
- C. Forms for Smooth Finish Concrete:
1. Use steel, plywood or lined board forms.
 2. Use clean and smooth plywood and form liners, uniform in size, and free from surface and edge damage capable of affecting resulting concrete finish.
 3. Install form lining with close-fitting square joints between separate sheets without springing into place.
 4. Use full size sheets of form lines and plywood wherever possible.
 5. Tape joints to prevent protrusions in concrete.
 6. Use care in forming and stripping wood forms to protect corners and edges.
 7. Level and continue horizontal joints.
 8. Keep wood forms wet until stripped.
- D. Architectural Form Liners:
1. Erect architectural side of formwork first.
 2. Attach form liner to forms before installing form ties.
 3. Install form liners square, with joints and pattern aligned.
 4. Seal form liner joints to prevent grout leaks.
 5. Dress joints and edges to match form liner pattern and texture.
- E. Forms for Surfaces to Receive Membrane Waterproofing: Use plywood or steel forms. After erection of forms, tape form joints to prevent protrusions in concrete.
- F. Framing, Studding and Bracing:
1. Space studs at 16 inches on center maximum for boards and 12 inches on center maximum for plywood.
 2. Size framing, bracing, centering, and supporting members with sufficient strength to maintain shape and position under imposed loads from construction operations.
 3. Construct beam soffits of material minimum of 2 inches thick.
 4. Distribute bracing loads over base area on which bracing is erected.
 5. When placed on ground, protect against undermining, settlement or accidental impact.
- G. Erect formwork, shoring, and bracing to achieve design requirements, in accordance with requirements of ACI 301.
- H. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.
- I. Obtain Architect/Engineer's approval before framing openings in structural members not indicated on Drawings.
- J. Install chamfer strips on external corners of slabs.
- K. Install void forms in accordance with manufacturer's recommendations.

SECTION 03100

- L. Do not reuse wood formwork more than two times for concrete surfaces to be exposed to view. Do not patch formwork.

3.3 APPLICATION - FORM RELEASE AGENT

- A. Apply form release agent on formwork in accordance with manufacturer's recommendations.
- B. Apply prior to placement of reinforcing steel, anchoring devices, and embedded items.
- C. Reuse and Coating of Forms: Thoroughly clean forms and reapply form coating before each reuse. For exposed work, do not reuse forms with damaged faces or edges. Apply form coating to forms in accordance with manufacturer's specifications. Do not coat forms for concrete indicated to receive "scored finish". Apply form coatings before placing reinforcing steel.

3.4 INSTALLATION - INSERTS, EMBEDDED PARTS, AND OPENINGS

- A. Install formed openings for items to be embedded in or passing through concrete work.
- B. Locate and set in place items required to be cast directly into concrete.
- C. Coordinate with Work of other sections in forming and placing openings, slots, recesses, sleeves, bolts, anchors, other inserts, and components of other Work.
- D. Install accessories straight, level, and plumb. Ensure items are not disturbed during concrete placement.
- E. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection. Locate openings at bottom of forms to allow flushing water to drain.
- F. Close temporary openings with tight fitting panels, flush with inside face of forms, and neatly fitted so joints will not be apparent in exposed concrete surfaces.
- G. Form Ties:
 - 1. Use sufficient strength and sufficient quantity to prevent spreading of forms.
 - 2. Place ties at least 1 inch away from finished surface of concrete.
 - 3. Leave inner rods in concrete when forms are stripped.
 - 4. Space form ties equidistant, symmetrical and aligned vertically and horizontally unless otherwise shown on Drawings.
- H. Arrangement: Arrange formwork to allow proper erection sequence and to permit form removal without damage to concrete.
- I. Construction Joints:
 - 1. Install surfaced pouring strip where construction joints intersect exposed surfaces to provide straight line at joints.
 - 2. Just prior to subsequent concrete placement, remove strip and tighten forms to conceal shrinkage.
 - 3. Show no overlapping of construction joints. Construct joints to present same appearance as butted plywood joints.

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4. Arrange joints in continuous line straight, true and sharp.
 - J. Embedded Items:
 1. Do not embed wood or uncoated aluminum in concrete.
 2. Obtain installation and setting information for embedded items furnished under other Specification sections.
 3. Securely anchor embedded items in correct location and alignment prior to placing concrete.
 - K. Openings for Items Passing Through Concrete:
 1. Frame openings in concrete where indicated on Drawings. Establish exact locations, sizes, and other conditions required for openings and attachment of work specified under other sections.
 2. Coordinate work to avoid cutting and patching of concrete after placement.
 3. Perform cutting and repairing of concrete required as result of failure to provide required openings.
 - L. Screeds:
 1. Set screeds and establish levels for tops of concrete slabs and levels for finish on slabs.
 2. Slope slabs to drain where required or as shown on Drawings.
 3. Before depositing concrete, remove debris from space to be occupied by concrete and thoroughly wet forms. Remove freestanding water.
 - M. Screenshot Supports:
 1. For concrete over waterproof membranes and vapor retarder membranes, use cradle, pad or base type screed supports which will not puncture membrane.
 2. Staking through membrane is not be permitted.
- 3.5 FORM CLEANING
- A. Clean forms as erection proceeds, to remove foreign matter within forms.
 - B. Clean formed cavities of debris prior to placing concrete.
 - C. Flush with water or use compressed air to remove remaining foreign matter. Ensure that water and debris drain to exterior through clean-out ports.
 - D. During cold weather, remove ice and snow from within forms. Do not use de-icing salts. Do not use water to clean out forms, unless formwork and concrete construction proceed within heated enclosure. Use compressed air or other means to remove foreign matter.
- 3.6 FORM REMOVAL
- A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads and removal has been approved by Architect/Engineer.
 - B. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.

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- C. Store removed forms in manner that surfaces to be in contact with fresh concrete will not be damaged. Discard damaged forms.
- D. Leave forms in place for minimum number of days as specified in ACI 347.

3.7 ERECTION TOLERANCES

- A. Construct formwork to maintain tolerances required by ACI 301.

3.8 FIELD QUALITY CONTROL

- A. Section 01400 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Inspect erected formwork, shoring, and bracing to ensure that work is in accordance with formwork design, and that supports, fastenings, wedges, ties, and items are secure.
- C. Notify Engineer after placement of reinforcing steel in forms, but prior to placing concrete.
- D. Schedule concrete placement to permit formwork inspection before placing concrete.

3.9 SCHEDULES – Not Used

END OF SECTION

SECTION 03200

CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Reinforcing bars.
 - 2. Welded wire fabric.
 - 3. Reinforcement accessories.
- B. Related Sections:
 - 1. Section 03100 - Concrete Forms and Accessories.
 - 2. Section 03300 - Cast-in-Place Concrete.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- 1. Payment shall be made at the price bid for the unit type shown in the Bid Form of the Contract Documents for the line items related to this specification.
- 2. Basis of Payment: Includes but is not limited to all labor, equipment, and materials necessary to provide the work required by the Contract Documents.

1.3 REFERENCES

- A. American Concrete Institute:
 - 1. ACI 301 - Specifications for Structural Concrete.
 - 2. ACI 318 - Building Code Requirements for Structural Concrete.
 - 3. ACI 530.1 - Specifications for Masonry Structures.
 - 4. ACI SP-66 - ACI Detailing Manual.
- B. ASTM International:
 - 1. ASTM A82/A82M - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
 - 2. ASTM A184/A184M - Standard Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
 - 3. A185/A185M-07 Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.
 - 4. ASTM A496/A496M - Standard Specification for Steel Wire, Deformed, for Concrete Reinforcement.
 - 5. ASTM A497/A497M - Standard Specification for Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement.
 - 6. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
 - 7. ASTM A704/A704M - Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement.
- C. American Welding Society:
 - 1. AWS D1.4 - Structural Welding Code - Reinforcing Steel.
- D. Concrete Reinforcing Steel Institute:
 - 1. CRSI - Manual of Standard Practice.

SECTION 03200

2. CRSI - Placing Reinforcing Bars.

1.4 SUBMITTALS

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Indicate bar sizes, spacings, locations, and quantities of reinforcing steel and welded wire fabric, bending and cutting schedules, and supporting and spacing devices.
- C. Certificates: Submit AWS qualification certificate for welders employed on the Work.
- D. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.
 - 1. Submit certified copies of mill test report of reinforcement materials analysis.

1.5 SUSTAINABLE DESIGN SUBMITTALS – Not Used

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with CRSI - Manual of Standard Practice.
- B. Prepare shop drawings in accordance with ACI SP-66.

1.7 QUALIFICATIONS – Not Used

1.8 COORDINATION

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate with placement of formwork, formed openings and other Work.

PART 2 - PRODUCTS

2.1 SUSTAINABILITY CHARACTERISTICS – Not Used

2.2 REINFORCEMENT

- A. Reinforcing Steel: ASTM A615/A615M, 60-ksi yield grade, deformed billet bars, uncoated finish.
- B. Welded Deformed Wire Fabric: ASTM A497/A497M; in coiled rolls; unfinished.

2.3 ACCESSORY MATERIALS

- A. Tie Wire: Minimum 16 gage annealed type
- B. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during concrete placement conditions.
- C. Special Chairs, Bolsters, Bar Supports, Spacers Adjacent to Weather Exposed Concrete Surfaces: Plastic tipped steel type; size and shape to meet Project conditions.

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2.4 FABRICATION

- A. Fabricate concrete reinforcement in accordance with CRSI Manual of Practice.
- B. Form standard hooks for 180-degree bends, 90-degree bend, stirrup and tie hooks, as indicated on Drawings.
- C. Form reinforcement bends with minimum diameters in accordance with ACI 318.
- D. Locate reinforcement splices not indicated on Drawings, at point of minimum stress. Review location of splices with Engineer.

2.5 SHOP FINISHING – Not Used

2.6 SOURCE QUALITY CONTROL

- A. Section 01400 - Quality Requirements: Testing, inspection and analysis requirements.
- B. Make completed reinforcement available for inspection at manufacturer's factory prior to packaging for shipment. Notify Engineer at least seven days before inspection is allowed.
- C. When fabricator is approved by authority having jurisdiction, submit certificate of compliance indicating Work performed at fabricator's facility conforms to Contract Documents.
 - 1. Specified shop tests are not required for Work performed by approved fabricator.

PART 3 - EXECUTION

3.1 PLACEMENT

- A. Place, support and secure reinforcement against displacement. Do not deviate from required position beyond specified tolerance.
- B. Do not displace or damage vapor retarder.
- C. Accommodate placement of formed openings.
- D. Space reinforcement bars with minimum clear spacing in accordance with ACI 318.
 - 1. Where bars are indicated in multiple layers, place upper bars directly above lower bars.
- E. Maintain concrete cover around reinforcement in accordance with ACI 318 as follows:

Reinforcement Location		Minimum Concrete Cover
Footings and Concrete Formed Against Earth		3 inches
Concrete exposed to earth or weather	No. 6 bars and larger	2 inches
	No. 5 bars and smaller	1-1/2 inches
Supported Slabs,	No. 14 bars and larger	1-1/2 inches

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Walls, and Joists	No. 11 bars and smaller	3/4 inches
Beams and Columns		1-1/2 inches
Shell and Folded Plate Members	No. 6 bars and larger	3/4 inches
	No. 5 bars and smaller	1/2 inches

- F. Splice reinforcing where indicated on Drawings in accordance with splicing device manufacturer's instructions.

3.2 ERECTION TOLERANCES

- A. Section 01400 - Quality Requirements: Tolerances.
- B. Install reinforcement within the following tolerances for flexural members, walls, and compression members:

Reinforcement Depth	Depth Tolerance	Concrete Cover Tolerance
Greater than 8 inches	plus or minus 3/8 inch	minus 3/8 inch
Less than 8 inches	plus or minus 1/2 inch	minus 1/2 inch

- C. Install reinforcement within the tolerances specified in ACI 530.1 for foundation walls.

3.3 FIELD QUALITY CONTROL

- A. Section 01400 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Field testing will be performed by Owner's testing laboratory in accordance with ACI 318.
- C. Provide free access to Work and cooperate with appointed firm.
- D. Reinforcement Inspection:
1. Placement Acceptance: Specified and ACI 318 material requirements and specified placement tolerances.
 2. Periodic Placement Inspection: Inspect for correct materials, fabrication, sizes, locations, spacing, concrete cover, and splicing.

3.4 SCHEDULES – Not Used

END OF SECTION

SECTION 03350

CONCRETE FINISHING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Repair of surface defects
- B. Finishing of formed surfaces
- C. Slabs and flatwork

1.02 RELATED SECTIONS

- A. Concrete formwork is specified in Section 03100 - Concrete Forming.
- B. Cast-in-place concrete is specified in Section 03300 - Cast-In-Place Concrete.

1.03 MEASUREMENT AND PAYMENT

- A. Measurement: Repair of surface defects, finishing, and curing of concrete will not be measured separately for payment.
- B. Payment: Repair of surface defects, finishing, and curing of concrete will be paid for as part of the indicated Contract unit prices or lump-sum prices for the associated concrete work as indicated in the Bid Schedule of the Bid Form.

1.04 REFERENCES

- A. American Association of State Highway and Transportation Officials (AASHTO):
- B. American Concrete Institute (ACI):
 - 1. ACI 117 Standard Specification for Tolerances for Concrete Construction and Materials
 - 2. ACI 301 Standard Specifications for Structural Concrete
 - 3. ACI 308 Standard Practice for Curing Concrete
 - 4. ACI 503.4 Standard Specification for Repairing Concrete with Epoxy Mortars
- C. American Society for Testing and Materials (ASTM):

1. ASTM C33 Specification for Concrete Aggregates
2. ASTM C150 Specification for Portland Cement
3. ASTM C881 Specification for Epoxy-Resin-Base Bonding Systems for Concrete
4. ASTM E1155 Standard Test Method for Determining F_F Floor Flatness and F_L Floor Levelness Numbers

D. Georgia Department of Transportation – Standard Specifications Construction of Transportation systems – April 18, 2013 or latest revision

1.05 SUBMITTALS

- A. General: Refer to Section 01330 - Submittal Procedures for submittal requirements and procedures. Submittals involving exposed concrete finishes require approval of the Engineer before they may be incorporated in the Work.
- B. Shop Drawings: Submit drawings, or diagrams to scale, that indicate the location in plan and elevation of all concrete finishes.
- C. Product Data: Submit manufacturers' product data for manufactured products.
- D. Samples:
 1. Submit 1/2-pint sample container of aluminum oxide and silicon carbide abrasive grit for review and acceptance where "non-slip finish" is indicated.
 2. Submit samples not less than 12 inches by 12 inches in size of each type of sand blast finish, indicating materials and methods used to produce the sand blast finishes. Review by the Engineer will be for color and texture only. Approved samples will become the Engineer's control samples.

1.06 QUALITY ASSURANCE

- A. Finishes:
 1. Finishing of formed concrete surfaces shall conform to applicable requirements of ACI 301.
 2. Finishes for slabs and flatwork shall conform to applicable requirements of ACI 301.
 3. Special architectural finishes for formed concrete surfaces shall conform with applicable requirements of ACI 301.

- B. Curing: Conform to requirements of ACI 301 and ACI 308, as applicable, and requirements specified herein.
- C. Site Mock-Ups: Provide site mock-ups, at least 3 feet by 4 feet in size, of finishes of formed surfaces in exposed locations and of exposed slab finishes for the Engineer's review and approval. Refer to Section 01400 – Quality Requirements, for requirements and procedures.
- D. Site Mock-ups of Architectural Concrete: Provide site mock-ups of architectural concrete showing finish texture and pattern of exposed formed concrete surfaces.
 - 1. Size of mock-up shall be a minimum of 8 feet by 10 feet, unless otherwise approved by the Engineer to be smaller.
 - 2. The number of mock-up panels required shall be the number necessary to obtain the Engineer's approval of pattern and texture of panel.
 - 3. Approved mock-up shall be used as the standard for the aesthetic quality of the surface finish of architectural concrete.
- E. Requirements of Regulatory Agencies: Comply with air pollution regulations of governing authorities for sand-blasting activities and operations.

PART 2 - PRODUCTS

2.01 TOOLS AND EQUIPMENT: The Contractor shall furnish all materials, tools, equipment, facilities, and services as required for performing the required concrete-finishing work.

2.02 REPAIR AND FINISHING MATERIALS

- A. Portland Cement: ASTM C150, Type II, of same brand as used in the work. Furnish white portland cement where required to produce color matching color of surrounding concrete.
- B. Aggregate:
 - 1. For Bonding Grout: ASTM C33, washed clean sand passing a No. 30 sieve.
 - 2. For Patching Mortar: ASTM C33, washed clean, graded fine aggregate of suitable size for areas to be repaired. Clean coarse aggregate up to Size No. 8 may be added for repair of larger pockets and voids.
- C. Commercial Patching Mortar: A structural repair mortar may be furnished if appropriate for the use and approved by the Engineer.
- D. Epoxy Patching Mortar: As specified in ACI 503.4 for Epoxy Mortar.

- E. Epoxy Adhesive: ASTM C881, Type II or Type V, epoxy-based bonding agent.
- F. Anti-Slip Abrasive Grit: Virgin grain Aluminum Oxide or Silicon Carbide particles, or a mixture of the two.

2.03 CURING MATERIALS

- A. Damp Curing Materials: (As listed in the project documents)
 - 1. Waterproof Sheet Materials: ASTM C171, waterproof paper with white paper face, polyethylene film pigmented white, or white burlap-polyethylene sheeting.
 - 2. Burlap: AASHTO M182, of class or weight suitable for the use and location. Do not use burlap where concrete is exposed to direct sunlight.
- B. Curing Compound: ASTM C309, liquid membrane-forming curing compound, Type 1, Class A or B as appropriate for the use or location.
 - 1. Where concrete surfaces will receive architectural finishes, such as resilient floor coverings or paint, or membrane waterproofing, membrane-forming curing compound shall not leave a coating or residue that will impair bond of adhesives, paints, and coatings with concrete.

PART 3 - EXECUTION

3.01 REPAIR OF SURFACE DEFECTS

- A. Repair Standards: Repair of surface defects shall conform with applicable requirements of ACI 301. When using epoxy mortar, conform with applicable requirements of ACI 503.4.
- B. Surface Defects:
 - 1. Repair of surface defects shall begin immediately after form removal. For repair with epoxy mortar, concrete shall be dry.
 - 2. Surface defects are defined to include: form-tie holes, air voids or pockets, bug holes with a nominal diameter or depth greater than 1/4-inch, honeycombed areas, rock pockets, visible construction joints, fins and burrs.
 - 3. Repair of surface defects shall be tightly bonded and shall result in concrete surfaces of uniform color and texture, matching adjacent surfaces, and free of shrinkage cracks.
- C. Repair Work:
 - 1. Remove honeycombed and other defective concrete down to sound concrete. Saw-cut the edges perpendicular to the surface or slightly undercut. Feather-edges will not be permitted. Dampen the area to be patched and an area at least 6 inches wide surrounding it to prevent absorption of water from the patching mortar.
 - 2. Where rock pockets or similar defects or voids expose steel reinforcement, cutout to solid surface behind the reinforcing steel to provide suitable key-lock for patching mortar. Patching mortar shall envelope the exposed reinforcing bar.

3. Bond patching mortar to concrete with bonding grout or epoxy adhesive. Bonding grout shall consist of 1 part portland cement to 1 part No. 30 mesh sand, mixed to the consistency of a thick cream, and then well brushed onto the concrete. Bond commercial patching mortar to concrete in accordance with the manufacturer's instructions.
4. Make the patching mortar of the same materials and of approximately the same proportions as used for the concrete, except omit the coarse aggregate. Use not more than 1 part portland cement to 2-1/2 parts sand by damp loose volume, and substitute white portland cement for a portion of the regular gray portland cement to produce patching mix matching the surrounding concrete in color when dry. Determine the proportion of white portland cement by trial mixes and test areas, prior to repair of actual defective areas.
5. After surface water has evaporated from the area to be patched, brush the bond coat well into the surface. When the bond coat begins to lose the water sheen, apply the patching mortar. Compact the mortar into place and strike off so as to leave the patch slightly higher than the surrounding surface. To permit initial shrinkage, leave the patch undisturbed for at least 1 hour before being finally finished. Keep the patched area damp for 7 days.
6. Neatly finish patched surfaces to match adjacent surrounding surface texture of concrete. Grind or fill surfaces to produce level and plumb, true planes.
7. For walls exposed in the finish work, form tie holes shall be patched and finished flush with adjacent surface. For holes passing entirely through walls, a plunger type injection gun or other suitable device shall be used to completely fill the holes.
8. Patching of honeycombed areas or rock pockets that are too large and unsatisfactory for mortar patching shall be cut out to solid surface, keyed, and packed solid with matching concrete to produce firm bond and flush surface. Patching shall match texture of adjacent surfaces where exposed in the finished work.
9. Repair work in exposed locations that does not match the texture and color of surrounding adjacent surfaces or that was not well performed shall be removed and performed again until the repair work conforms with Specification requirements.
10. Surfaces to receive membrane waterproofing shall have fins and loose material removed, and voids and cracks patched flush with adjacent surfaces.
11. Completed repairs shall be cured as herein specified under Article 3.04, Curing.

3.02 FINISHING OF FORMED SURFACES

A. Unexposed Surfaces:

1. Concrete that will not be exposed in the completed structure shall be any form finish as specified in Section 03 11 00 - Concrete Forming, and ACI 301 for "rough form finish."
2. Concrete to receive membrane waterproofing shall receive a "smooth form finish" in accordance with ACI 301.

- B. Exposed Surfaces: Unless indicated otherwise, concrete that will be exposed in the completed structure shall receive the following finishes as indicated:
1. Smooth Form Finish: Conform to ACI 301.
 2. Smooth Rubbed Finish: Conform to ACI 301.
 3. Grout Cleaned Finish: Conform to ACI 301.
 4. Unspecified Finish: When finish is not indicated, provide "smooth form finish" as specified above.
- C. Sand Blast Finish:
1. Blasting Operations and Requirements:
 - a. Apply sandblasted finish to exposed concrete surfaces where indicated.
 - b. Perform sand blasting at least 72 hours after placement of concrete. Coordinate with formwork construction, concrete placement schedule, and formwork removal to ensure that surfaces to be blast finished are blasted at the same age for uniform results.
 - c. Determine type of nozzle, nozzle pressure, and blasting techniques required to match the Engineer's control samples.
 - d. Abrasive blast corners and edge of patterns carefully, using back-up boards, to maintain uniform corner or edge line.
 2. Depths of Cut: Use an abrasive grit of proper type and gradation to expose aggregate and surrounding matrix surface to match the Engineer's control samples as follows:
 - a. Brush Sand Blast Finish: Remove cement matrix to expose face of fine aggregate; no reveal.
 - b. Light Sand Blast Finish: Expose fine aggregate with occasional exposure of coarse aggregate; maximum 1/16-inch reveal.
 - c. Medium Sand Blast Finish: Generally expose coarse aggregate; 3/16-inch to 1/4-inch reveal.
 3. Surface Continuity: Perform sand blast finishing in as continuous an operation as possible, utilizing the same work crew to maintain continuity of finish on each surface or area of work. Maintain patterns of variances in depths of cuts as indicated.
 4. Construction Joints: Use technique acceptable to the Engineer to achieve uniform treatment of construction joints.

5. Protection and Repair:
 - a. Protect adjacent materials and finishes from dust, dirt, and other surface or physical damage during abrasive blast finishing operations. Provide protection as required and remove from site at completion of the work.
 - b. Repair or replace other work damaged by finishing operations.
6. Clean-up: Maintain control of concrete chips, dust, and debris in each area of the work. Clean up and remove such material at the completion of each day of operation. Prevent migration of airborne materials by use of tarpaulins, wind breaks, and similar containing devices.

3.03 SLABS AND FLATWORK

- A. Placement and Finishing Standards: Slabs and flatwork shall be placed, consolidated, and finished in accordance with applicable requirements of ACI 301. Coordinate with Section 03300 - Cast-In-Place Concrete, as applicable.
 1. High volume fly ash concrete (HVFAC) exhibits little or no bleed water. Commence finishing as soon as power screeding is complete, and commence initial curing as soon as finishing has been completed.
- B. Placement:
 1. Slabs and flatwork shall be placed and finished monolithically. Strike off and screed slabs to true, plane surfaces at required elevations, and thoroughly compact concrete with vibrators, floats, and tampers to force coarse aggregate below the surface. Finish slab within four hours of concrete placement.
 2. Whether indicated or not, in areas where drains occur, slope finished slab to drains. Slope shall be a minimum of 1/8-inch per foot unless otherwise indicated.
- C. Slab Finishes: Unless indicated otherwise, slabs and flatwork shall receive the following finishes as indicated:
 1. Scratched Finish: Conform to ACI 301. Provide "scratched finish" for slab substrates to receive cementitious toppings or finishes, such as terrazzo or mortar setting bed for ceramic tile.
 2. Floated Finish: Conform to ACI 301. Provide "floated finish" for track slabs and mud slabs and for slabs and flatwork to receive roofing and membrane waterproofing.
 3. Troweled Finish: Conform to ACI 301. Provide "troweled finish" for interior slabs and flatwork to be exposed in the completed structure, for slabs to receive resilient floor coverings, and for flatwork to receive elastomeric bearing pads.
 4. Broom Finish: Conform to ACI 301. Exact texture and coarseness of the broom finish shall match the approved site mock-up. Provide fine or medium-coarse "broom finish" as

indicated for exterior sidewalks and paving, exterior ramps, equipment and transformer pads, and subway invert slab.

5. Nonslip Finish: Conform to ACI 301. Nonslip materials shall be aluminum oxide and silicone carbide grit particles. Provide "nonslip finish" for interior pedestrian ramps, walkways, subway cross-passage floors, and other floor areas where indicated.
6. Swirl Pattern Finish: Provide for garage floors. After basic floating operations have been completed, hand float slabs using wood float to produce a continuous swirl patterned surface, free from porous spots, irregularities, depressions, and small pockets or rough spots such as may be caused by accidentally disturbing particles of coarse aggregate embedded near surface. Use natural arm circular motion to produce rows of approximately one-foot radius swirl pattern covering approximately half of the preceding row with each successive row.
7. Unspecified Finish: When finish is not indicated or specified, provide finishes as specified in ACI 301.

D. Surface Tolerances: As specified herein:

1. Flat Tolerance: Slabs and flatwork with "troweled finish" and with "nonslip finish."
2. Straightedge Tolerance: Slabs and flatwork with fine "broom finish" or medium-coarse "broom finish."
3. Bullfloated Tolerance: Slabs and flatwork with "scratched finish," with "floated finish," and with coarse "broom finish."

E. Joints:

1. Construction, expansion, isolation, and contraction joints shall be located as indicated. Construction joints shall act as contraction joints. Where additional contraction joints are required to prevent shrinkage cracks, saw-cut such joints. All joints shall be straight and true to line. Saw-cut joints not less than twelve hours nor more than twenty-four hours after placing concrete, unless otherwise approved by the Engineer.
 - Control joints in sidewalks shall be installed at a center-to-center distance equal to the width of the sidewalk up to a maximum distance of 10 l.f.
 - Expansion joints in sidewalks shall be installed at center-to-center maximum distance of 40 l.f.
 - Expansion joints shall be installed adjacent to all connections with existing concrete and or walls.
 - Control joints in curbing shall be installed to match the placement of control joints in adjacent sidewalks as directed by the Engineer.
2. Mark-off lines or edges at formed construction and expansion joints shall be finished with 1/4-inch radius curved edging tool, neat and true to line, uniform throughout.

3.04 CURING

A. Not Utilized

3.05 PROTECTION

- A. Protect exposed concrete surfaces, including flatwork, as required to prevent damage from impact or strains.
- B. Protect fresh concrete from drying winds, rain, damage, or soiling.
- C. Refer to Section 03300 - Cast-In-Place Concrete, Article 3.09, for additional requirements.

3.06 TOLERANCES

- A. Formed Surfaces: Conform with applicable requirements of ACI 117.
 - 1. Where elastomeric bearing pads are indicated, the level plane upon which bearing pads are placed shall not vary more than 1/16-inch from a 10-foot straightedge placed in any direction across the area and the area shall extend a minimum of 1 inch beyond the limits of the pads.
 - 2. Bearing surfaces of girders on a slope or girders with a camber shall be finished on a horizontal/level plane so that loads are uniformly distributed over the entire surface of the elastomeric bearing pads.

3. The finished plane shall not vary more than 1/8-inch from the elevation indicated.
- B. Slabs and Flatwork: Conform to applicable classification requirements of ASTM E1155, as follows:
1. Very Flat Tolerance: F_F 50, F_L 30. True plane with maximum variation of 1/8-inch in 10 feet when measured with a 10-foot straightedge placed anywhere on the slab in any direction.
 2. Flat Tolerance: F_F 30, F_L 20. True plane with maximum variation of 3/16-inch in 10 feet when measured with a 10-foot straightedge placed anywhere on the slab in any direction.
 3. Straightedge Tolerance: F_F 20, F_L 15. True plane with maximum variation of 5/16-inch in 10 feet when measured with a 10-foot straightedge placed anywhere on the slab in any direction.
 4. Bullfloated Tolerance: F_F 15, F_L 13. True plane with maximum variation of 1/2 inch in 10 feet when measured with a 10-foot straightedge placed anywhere on the slab in any direction.

END OF SECTION 03350