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The Peach County Board of Commissioners will accept sealed bids for the construction of the Culvert Replacement until 2:00 P.M. local time on October 25, 2016 at the Peach County Administration offices located at 213 Persons Street, Ft. Valley, GA. Sealed Bids for RFB 16-021 will be opened in public to inventory all required documentation October 25, 2016 @ 2:30 pm, in the Peach County Commissioners meeting room, 213 Persons Street, Fort Valley, GA 31030. Bids will not be discussed or made public until the Board of Commissioners has chosen the successful contractor or contractors. No bid may be withdrawn after the closing time for the receipt of bids for a period of sixty (60) calendar days after bid opening date.

The following will serve as a brief description of the work:

155 Barrow Road: Work includes removing existing 24" corrugated metal pipe (CMP), constructing +42 l.f. of 24" polypropylene pipe, constructing precast concrete headwalls, replacing riprap, replacing asphalt pavement, and performing all ancillary items necessary to complete the work as specified.

Lakeside Drive at Lucy Giles Lake: Work includes removing existing 72" CMP and filling void, constructing +99 l.f. of 72" reinforced concrete pipe (RCP), constructing a concrete wall, replacing asphalt pavement, and performing all ancillary items necessary to complete the work as specified. Note that both pipe inverts are below water surface.

Plans, Specifications, and Contract Documents are available for review at the offices of Peach County Administration offices located at 213 Persons Street, Ft. Valley, GA during regular business hours.

Bidding documents may be obtained from Triple Point Engineering, Inc., 5223 Riverside Drive, Suite 101, Macon GA 31210, Phone (478) 476-0700, upon payment of \$200 for each set per contract (non-refundable).

All bids must be accompanied by a Bid Bond in an amount not less than ten percent (10%) of the Base Bid. Performance Bond and Payment Bond, each in the amount of one hundred percent (100%) of the contract amount, will be required of the successful bidder. Bond must be written by an acceptable Surety Company licensed to do business in the State of Georgia and listed with the Department of the Treasury. Bidders must be licensed Utility Contractor in the State of Georgia. See Instructions to bidders for additional bidding requirements.

Pre-Bid Conference: A Pre-Bid Conference will be held at the Peach County Administration offices located at 213 Persons Street, Ft. Valley, GA. On October 19, 2016 at 10:00 A.M. All bidders are recommended to attend and review the plans and specifications with the Owner and Engineer and discuss the coordination of construction.

The Owner reserves the right to reject any or all bids and to waive informalities or technicalities or to re-advertise at their discretion.

1. Defined Terms: Terms used in these Instructions to Bidders which are defined in the General Conditions of the Construction Contract have the meanings assigned to them in the General Conditions. The Term “Bidder” means one who submits a Bid directly to Owner, as distinct from a sub-bidder, who submits a bid to a Bidder. The term “Successful Bidder” means the lowest, qualified, responsible and responsive Bidder to whom Owner (on the basis of Owner’s evaluation as hereinafter provided) makes an award. The term “Bidding Documents” includes the Advertisement for Bids, Instruction to Bidders, the Proposal and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

2. Copies of Bidding Documents
 - 2.1 Complete sets of the Bidding Documents in the number and for the sum, if any, stated in the Advertisement for Bids may be obtained from Engineer.

 - 2.2 Complete sets of Bidding Documents must be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

 - 2.3 In making copies of Bidding Documents available on the above items, the Owner and Engineer do so only for the purpose of obtaining Bids on the work and do not confer a license or grant for any other use.

3. Qualifications of Bidders
 - 3.1 To demonstrate qualifications to perform the work, each Bidder must submit with the Bid the following information:
 - a. Financial and corporate:
 - Year-End Financial Statement Certified by CPA
 - Documentation of Bankruptcy within last 7 years
 - If name of firm has changed in the last five years, provide an explanation.
 - Location of permanent office within 75 miles of project
 - List of construction equipment available for use on the project

 - b. Safety:
 - Documentation of EMR – less than 1.0 preferred
 - OSHA 300 Log

 - c. Experience:
 - Project information from at least three comparable (construction cost, scope of work) projects over the last five years. Provide Owner’s name and contact information, description of project (including scope of work and contract amount), and Engineer’s name and contact information.
 - Litigation history for the last 7 years

- List of Current Projects, including Owner's name and contact information, description of project, and Engineer's name and contact information.
 - Qualifications of project manager, superintendent, and subcontractors who will be involved with the project.
- d. References: Provide a list of at least three (3) current professional references for whom comparable work has been performed. This list shall include company name, person to contact, address, and telephone number.
- e. Schedule: Provide a critical path schedule that lists each task to be completed and the length of time to complete each task, and the length of time to complete the entire project.

If, based on the documentation submitted with the Bid, the Bidder does not demonstrate adequate qualifications, the Owner may disqualify the Bidder.

- 3.2 Bidders must be General Contractors in the State of Georgia with a WP or EL Classification. The license number must be placed on the exterior of the sealed envelope and on the bid documents. A sealed envelope without license numbers will not be opened.
- 3.3. Submit the following completed documents with the Bid. Bids not containing the following completed documents will be considered "non-responsive" and may be rejected for consideration.
- Certification by Contractor, Non-Segregated Facilities (Signed and Dated)
 - Certification by Contractor, Drug-Free Workplace Act (Signed and Dated)
 - Non-Collusion Affidavit or Prime Contractor (Signed, notarized, and dated)
 - Conflict of Interest Certification (Signed and Dated)
 - Vendor Information Form
 - W9 Form
 - Contractor Affidavit under O.C.G.A. 13-10-91(b) (1)
 - Affidavit Verifying Status For County Public Benefit Application Contracts (Signed, notarized, and dated)
 - Sole Proprietor Exemption Affidavit (If Applicable)
 - Private Employer Exemption Affidavit Pursuant To O.C.G.A. 36-60-6(d), (If Applicable)
 - List of Subcontractors
 - Acceptable Alternate Work Sheet for Contractor Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion (Lower-Tier Participant) HUD Programs

Additional information to be submitted:

- Year-End Financial Statement Certified by CPA

- Documentation of Bankruptcy within last 7 years
- Explanation of name change within last 5 years (if applicable)
- Documentation of location of permanent office within 75 miles
- List of construction equipment available for use on the project
- OSHA 300 Log
- Project information from at least three comparable projects over the last five years
- Litigation history for the last 7 years
- List of Current Projects
- Qualifications of project manager, superintendent, and subcontractors who will be involved with the project.

4. Examination of Contract Documents and Site

4.1 It is the responsibility of each Bidder before submitting a Bid, to (a) examine the Contract Documents thoroughly, (b) visit the site to become familiar with local conditions that may affect cost, progress, performance or furnishing of the work, (c) consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the work, (d) study and carefully correlate Bidder's observations with the Contract Documents and (e) notify Engineer of all conflicts, errors or discrepancies in the Contract Documents.

4.2 Reference is made to the Supplementary Conditions for identification of:

4.2.1 Those drawings of physical conditions in or relating to existing surface and subsurface conditions, (except Underground Facilities), which are at or contiguous to the site which have been utilized by Engineer in preparation of the Contract Documents. Bidder may rely upon the accuracy of the technical data contained in such drawings but not upon the completeness thereof for the purposes of bidding or construction.

4.2.2 Those reports and drawings are not part of the Contract Documents, but the technical data contained therein upon which Bidder is entitled to rely as provided in Paragraphs 4.02 of the General Conditions are incorporated therein by reference. Such technical data has been identified and established in the Supplementary Conditions.

4.3 Information and data reflected in the Contract Documents with respect to Underground Facilities at or contiguous to the site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities or others, and Owner does not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary Conditions.

4.4 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders on subsurface conditions, Underground Facilities and other physical conditions, and possible changes in the Contract Documents due to

differing conditions appear in Paragraphs 4.02 and 4.03 of the General Conditions.

- 4.5 Before submitting a Bid, each Bidder will, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests and studies and obtain any additional information and data which pertain to the physical conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the work and which Bidder deems necessary to determine its Bid for performing and furnishing the work in accordance with the time, price and other terms and conditions of the Contract Documents.
 - 4.6 On request in advance, Owner will provide each Bidder access to the site to conduct such explorations and tests, as each Bidder deems necessary for submission of a Bid. Bidder shall fill all holes, clean up and restore the site to its former conditions upon completion of such explorations.
 - 4.7 The land upon which the work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by Contractor in performing the work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by Contractor. Easements for permanent structures or permanent changes in existing structures are to be obtained and paid for by Owner unless otherwise provided in the Contract Documents.
 - 4.8 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of the Paragraph 4, that without exception, the Bid is premised upon performing and furnishing the work required by the Contract Documents and such means, methods, techniques, sequences or procedures of construction as may be indicated in or required by the Contract Documents, and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the work.
5. Interpretations and Addenda
- 5.1 All questions about the meaning or intent of the Contract Documents are to be directed to Engineer. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than seven days prior to the date for opening of Bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

- 5.2 Addenda may also be issued to modify the Bidding Documents as deemed advisable by Owner or Engineer.
6. Bid Security
- 6.1 Each Bid must be accompanied by Bid security made payable to Owner in an amount of ten percent (10%) of the Bidder's maximum Bid price and in the form of a certified or bank check or a Bid Bond issued by a surety meeting the requirements of Paragraph 5.01 B. of the General Conditions.
- 6.2 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Agreement and furnished the required contract security, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Agreement and furnish the required contract security within fifteen days after the Notice of Award, Owner may nullify the Notice of Award and the Bid security of that Bidder will be forfeited. 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 the seventh day after the Effective Date of the Agreement or the one hundred twentieth day after the Bid opening, whereupon Bid security furnished by such Bidders will be returned. Bid security with Bids which are not competitive will be returned within seven days after the Bid opening.
7. Indemnification: The Contractor must agree to indemnify and to hold the Owner, its employees, and agents harmless from any and all claims for damages to persons and/or property arising out of or in any way connected with the performance by Contractor of any work, services, or functions contracted for.
8. Contract Time: The numbers of days within which, or the dates by which, the work is to be completed and ready for final payment (the Contract Time) are set forth in the Bid Form and the Agreement.
9. Liquidated Damages: As time is an essential element in this contract, all work shall be completed within the allotted time as specified in the Bid Form and the Agreement. For each calendar day that any portion of the pump station and force main construction shall remain uncompleted after the end of the time specified, the amount of Two Hundred Fifty Dollars per calendar day (\$250.00/day) will be assessed. The amount is assessed not as a penalty, but as a predetermined and agreed liquidated damages to be used, in part, to pay any additional expenses incurred by the Owner as a result of being delayed.

The Contractor shall not be charged with liquidated damages or any excess cost when the delay in satisfactory completion of all the work is due solely to the following and the Contractor has promptly given written notice of such delay to the Owner or Engineer within 10 days of the commencement thereof:

- a. To any preference, priority or allocation order duly issued by the Owner, or

- b. To unforeseeable causes beyond the control and without any fault or negligence of the Contractor, or a subcontractor, including but not restricted to, acts of God, acts of the public enemy, acts of the Owner, fires, floods, epidemics, quarantine restrictions, and abnormal and unforeseeable weather, or
 - c. To any delays of subcontractors occasioned solely by any of the causes specified in paragraphs (a) and (b) other than delays due to fault or negligence of the Contractor or another subcontractor.
10. Substitute or “Or Equal” Items: The materials and equipment described in the Bidding Documents establish a standard or required function, dimension, appearance and quality to be met by any proposed substitution. No substitution will be considered unless written request for approval has been submitted by the Bidder and has been received by Engineer at least fifteen days prior to the date for receipt of Bids. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including drawings, cuts, performance and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or work that incorporation of the substitute would require shall be included. The burden of proof of the merit of the proposed substitute is upon the Bidder. The Engineer’s decision of approval or disapproval of a proposed substitution shall be final. If Engineer approves any proposed substitution, 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. This paragraph will only apply to major material and equipment listed in the Proposal.
11. Subcontractors, Suppliers and Others
- 11.1 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, and other persons and organizations (including those who are to furnish the principal items of material and equipment) to be submitted to Owner in advance of the specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within seven days after the Bid opening, submit to Owner, a list of all such Subcontractors, Suppliers and other persons and organizations 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, person or organization if requested by Owner. If Owner or Engineer after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, other person or organization, either may before the Notice of Award is given request the apparent Successful Bidder to submit an acceptable substitute without an increase in Bid price.
- 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 and other persons and organizations. The declining to make requested substitutions will not constitute grounds for sacrificing the Bid security of any Bidder. Any Subcontractor, Supplier, other person or organization listed and to whom Owner or Engineer does not make written objection prior to the giving of the Notice of Award shall be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06 of the General Conditions.

11.2 No Contractor shall be required to employ any Subcontractor, Supplier, other person or organization against whom Contractor has reasonable objection.

12. Bid

12.1 The Bid is included with the Bidding Documents; additional copies may be obtained from Engineer.

12.2 All blanks in the Bid must be completed in ink or by typewriter.

12.3 Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature.

12.4 Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.

12.5 All names must be typed or printed below the signature.

12.6 The Bid shall contain an acknowledgement of receipt of all Addenda (the numbers of which must be filled in on the Proposal).

12.7 The address and telephone number for communications regarding the Bid must be shown.

13. Submission of Bids

13.1 Bids shall be submitted at the time and place indicated in the Advertisement for Bids and shall be enclosed in an opaque sealed envelope, marked with the Project title and name and address of the Bidder and accompanied by the Bid security and other required documents. **The Contractor's Georgia Utility Contractor's License Number shall also be marked on the outside of the envelope.** If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it.

- 13.2 All bids shall be bound. One bound original and four bound copies of the bid shall be submitted. The original must have all documents signed with original signatures. The original shall be marked “ORIGINAL” in blue ink on the front page. The four copies shall be marked “COPY” in red ink.
14. Modification and Withdrawal of Bids
- 14.1 Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.
- 14.2 If, within twenty-four 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, that Bidder will be disqualified from further bidding on the work to be provided under the Contract Documents.
15. Opening of Bids: Following the opening of the sealed bids, the County will award the contract in accordance with the following procedure: The County will first eliminate from consideration all bids that are not “responsive” as such term is defined in the General Conditions, and will further eliminate any bid to which the County does not assign an aggregate score of at least 225 under the criteria set forth in the invitation to bid (Section 17.4). The County will deem all remaining bids to be responsive and responsible.
16. Bids to Remain Subject to Acceptance: All responsive and responsible bids will remain subject to acceptance for one hundred twenty days after the day of the Bid opening, but Owner may, in its sole discretion, and in accordance with Instruction to Bidders, Section 6.2, release any Bid and return the Bid security prior to that date.
17. Award of Contract
- 17.1 Owner reserves the right to reject any and all bids, to waive any and all informalities not involving price, time or changes in the work and to negotiate contract terms with the Successful Bidder, and the right to disregard all nonconforming, non-responsive, unbalanced or conditional bids. Also, Owner reserves the right to reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner. Discrepancies in the multiplication of units of work and unit prices will be resolved in favor of the correct sum.
- 17.2 In evaluating Bids, Owner will consider the qualifications of the Bidders, 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.

- 17.3 Owner may consider the qualifications and experience of Subcontractors, suppliers, and other persons and organizations proposed for those portions of the work as to which the identity of Subcontractors, Suppliers, and other persons and organizations must be submitted as provided in the Supplementary Conditions. Owner also may consider the operating costs, maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in the work when such data is required to be submitted prior to the Notice of Award. Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of Bidders, proposed Subcontractors, Suppliers and other persons and organizations to perform and furnish the work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.
- 17.4 Evaluation Criteria: The evaluation criteria to be used by the County (and the maximum points that the County may assign to each) in reviewing the sealed bids is as follows:
- (a) Financial and Corporate - 100 points
 - (b) Safety – 25 points
 - (c) Experience – 50 points (Note: No points will be deducted for lack of previous job experience with jobs of a size up to 30% less in scope or cost of this project)
 - (d) References – 30 points
 - (e) Schedule – 75 points (Note: time is critical due to grant deadlines and need of service. Points will be deducted for schedules that show estimated completion of the construction beyond the time specified in the Bid, Section 300.
- 17.5 If the Contract is to be awarded, it will be awarded on the basis of the base bid to the lowest Bidder whose evaluation by Owner indicates to Owner that the award will be in the best interest of the Project. Any alternates will be considered after selecting the Successful Bidder.
- 17.6 If the Contract is to be awarded, Owner will give the Successful Bidder a written Notice of Award within one hundred twenty days after the days of the Bid opening.
- 17.7 The Owner reserves the right to award the contract conditional upon funds being made available for such construction.
18. Contract Security: Paragraph 5.01 of the General Conditions and the Supplementary Conditions set forth Owner's requirements as to Performance and Payment Bonds. When the Successful Bidder delivers the executed Agreement to the Owner, it must be accompanied by the required Performance and Payment Bonds.

19. Taxes: The Contractor shall pay all applicable sales, consumer, use and other similar taxes required by law. The Contractor is responsible for reviewing the pertinent State Statutes involving the sales tax and sales tax exemption and complying with all requirements. The Contractor shall include all Federal, State and local taxes in his bid. The Contractor shall indemnify, defend and hold harmless, Owner, Engineer and their employees, agents and representatives from and against any and all claims, damages, losses, penalties, fines and tax liabilities whatsoever resulting from Contractor's failure to include such taxes in his bid, pay any such tax or comply with any applicable tax requirements or statutes.
20. Signing of Agreement: When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with all other written Contract Documents attached. Within ten days thereafter Contractor shall sign and deliver the required number of counter parts of the Agreement and attached documents to Owner with the required Bonds. Within ten days thereafter, Owner shall deliver one fully signed counterpart to Contractor.
21. Laws and Regulations: The Contractor shall keep himself fully informed of all laws, ordinances and regulations of State, City and County in any manner affecting those engaged or employed in the work, or the materials used in the work, or in any way affecting the conduct of the work, and of all orders and decrees of bodies or tribunals having any jurisdiction or authority over same. If any discrepancy or inconsistency should be discovered in this contract, or in the drawings or specifications herein referred to, in relation to any such law, ordinance, regulation, order or decree, he shall forthwith report the same in writing to the Owner. He shall at all times, himself, observe and comply with all such existing and future laws, ordinances and regulations and shall protect and indemnify the Owner and its agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree whether by himself or by his employees.
22. Non-Segregated Facilities: Bidders must certify that they do not and will not, maintain or provide for their employees any facilities that are segregated on a basis of race, color, creed or national origin. Execution of the "Certification of Non-Segregated Facilities" contained within these documents must be accomplished and submitted with the Bid.
24. The firm chosen shall take affirmative action in complying with all state and federal requirements concerning EEOC and the treatment of all employees without regard to or discrimination by reason of race, color, religion, sex, national origin, or physical handicap.
25. The Contractor shall submit a job-specific Health and Safety Plan to the Owner for their records prior to commencing any work.

END OF SECTION

Contract 16-021
Section 00300

BID

TO: PEACH COUNTY, GEORGIA

FROM: _____
(Bidder's Name)

FOR: _____

Submitted: _____, 20__

The undersigned Bidder, in compliance with your Invitation to Bid for the construction of this Project, having examined the Contract Documents and the site of the proposed Work, and being familiar with all of the conditions surrounding the construction of the proposed Project, including the availability of materials and labor, hereby proposes to construct the Project in accordance with the Contract Documents.

The Bidder proposes and agrees, if this Bid is accepted, to contract with Peach County, Georgia in the form of Contract Agreement specified, to furnish all necessary products, machinery, tools, apparatus, means of transportation and labor necessary to complete the construction of the Work in full and complete accordance with the reasonably intended requirements of the Contract Documents to the full and entire satisfaction of Peach County, Georgia with a definite understanding that no money will be allowed for extra work except as set forth in the Contract Documents, for the following prices:

Location	Bid
Barrow Road	
Lakeside Drive	
Total Bid	\$

Unsuitable Materials (Soil) Replacement (Per Cubic Yard)	\$
--	----

The Unsuitable Materials item is intended to provide a unit cost for replacing

unsuitable soil with select materials if directed by the Engineer.

Total Bid in the amount of

_____ Dollars

(\$ _____) which sum hereinafter is called the "Base Bid".

The Bidder agrees hereby to commence Work under this Contract, with adequate personnel and equipment, on a date to be specified in a written order of the Engineer, and to achieve substantial completion of all Work under this Contract within ninety (90) consecutive calendar days from and including October 25, 2016. Bidder further agrees to pay as liquidated damages, the sum of \$50.00 for each calendar day thereafter required to achieve substantial completion of all Work.

The Bidder declares an understanding that the quantities shown for unit price items are subject to either increase or decrease, and that should the quantities of any of the items of Work be increased, the Bidder proposes to do the additional Work at the unit prices stated herein; and should the quantities be decreased, the Bidder also understands that payment will be made on the basis of actual quantities at the unit price bid and will make no claim for additional costs or anticipated profits for any decrease in quantities; and that actual quantities will be determined upon completion of Work, at which time adjustment will be made to the Contract Price by direct increase or decrease.

In case of discrepancies between the figures shown in the unit prices and the totals, the unit prices shall apply and the totals shall be corrected to agree with the unit prices. In case of discrepancies between written amounts and figures, written amounts shall take precedence over figures and the sum of all Bid extensions (of unit prices) plus lump sum items shall take precedence over the Bidder's represented BID TOTAL.

The Bidder furthermore agrees that, in the case of a failure to execute the Contract Agreement and Bonds within ten days after receipt of conformed Contract Documents for execution, the attached Bid Bond accompanying this Bid and the monies payable thereon shall be paid into the funds of Peach County as liquidated damages for such failure.

Attached hereto is a Bid Bond for the sum of _____

_____ Dollars (\$ _____) according to the conditions of "Instructions to Bidders" and provisions thereof.

Bidder acknowledges receipt of the Following Addenda:

Addendum No. 1, dated: _____

Addendum No. 2, dated: _____

Addendum No. 3, dated: _____

Addendum No. 4, dated: _____

BIDDER: _____

By: _____

Name: _____
(Print or Type)

Title: _____

Address: _____

Phone: _____

Attest: _____

Name: _____
(Print or Type)

Title: _____

(SEAL)

Note: Attest for a corporation must be by the corporate secretary; for a partnership by another partner; for an individual by a notary.

Note: If the Bidder is a corporation, the Bid shall be signed by an officer of the corporation; if a partnership, it shall be signed by a partner. If signed by others, authority for signature shall be attached.

The full names and addresses of persons or parties interested in the foregoing Bid, as principals, are as follows:

<u>Name</u>	<u>Address</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

END OF SECTION

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned,

_____ as Principal, and _____
as Surety, are hereby held and firmly bound unto the _____
as OWNER in the penal sum of _____ for the
payment of which, well and truly to be made, we hereby jointly and severally bind ourselves,
successors and assigns.

Signed, this _____ day of _____, 2016.

The Condition of the above obligation is such that whereas the Principal has submitted to
_____ Peach County Board of Commissioners
_____ a certain BID, attached hereto and hereby made a part hereof, to enter into a contract in
writing, for the _____ Culvert Replacement.

NOW, THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, ,and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which

the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

_____(L.S.)
Principal

Surety

By: _____

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the PROJECT is located.



PEACH COUNTY

Culvert Replacements

CONTRACT AGREEMENT

**155 BARROW ROAD and LAKESIDE DRIVE AT LUCY GILES
LAKE**

PEACH COUNTY, GA

CONTRACT #16 - 021

Peach County, Georgia

CONSTRUCTION CONTRACT

THIS AGREEMENT made by and between PEACH COUNTY, GEORGIA, a political subdivision of the State of Georgia hereinafter called "**County**", and [_____] a contractor doing business as a corporation, authorized to do business in Georgia hereinafter called "**Contractor**".

WITNESSETH: that for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the **County**, the **Contractor** hereby agrees to commence and complete the construction described as follows:

General Scope of Work:

Furnish all labor, materials, and equipment for the replacing culverts at the following locations:

- A. Culvert Replacement at 155 Barrow Road
- B. Culvert Replacement on Lakeside Drive at Lucy Giles Lake

The Contractor shall protect all utilities impacted by construction, and coordinate all utility construction with the respective utility owners. Prior to being released for construction, the Contractor shall submit a plan to the County for review and approval that ensures protection of existing utilities. Additionally, the Contractor shall submit a dewatering plan for the work on Lakeside Drive prior to beginning work.

WITNESSETH THAT:

WHEREAS, the COUNTY desires to engage a qualified and experienced CONTRACTOR to perform certain services relative to the CONSTRUCTION of culvert replacements at 155 Barrow Road and Lakeside Drive at Lucy Giles Lake.

And; WHEREAS, the CONTRACTOR has represented to the COUNTY that it is experienced and qualified to perform the services contemplated and acknowledges that the COUNTY has relied upon such representation.

NOW, THEREFORE, the COUNTY and the CONTRACTOR in consideration of the promises and mutual obligations contained herein and under the conditions hereinafter set forth, do agree as follows:

CULVERT REPLACEMENTS, hereinafter called the "Project", shall be constructed by the CONTRACTOR for the sum of [_____] and all extra work in connection therewith, and at Contractor's own cost and expense necessary to furnish all materials, supplies, machinery, Equipment, tools, superintendence, labor, insurance, and other accessories and services to complete the said project in accordance with the conditions and prices stated in the Proposal, the General Scope of Work, the General Conditions, and the approved plans and specifications, which include all explanatory matter thereof, as prepared by the County, hereinafter called the "Work", all of which are made a part hereof and collectively constitute the Construction Contract.

The **Contractor** shall promptly commence the Work with adequate force and equipment within Ten (10) calendar days from receipt of Notice to Proceed, or as may be specified by Special Provision, and to complete the Work within ninety (90) days of the time of award, by no later than **February 2, 2017** or as may be specified by Special Provision.

The **County** agrees to pay the **Contractor** in current funds for the performance of the Contract subject to additions and deductions as provided in the General Conditions of the Contract.

The **Contractor** and their subcontractors, material suppliers, vendors, and other participates must complete the Lower Tier Contractor Certification Regarding Debarment, Suspension, and Other Responsibility Matters form contained herein.

The **Contractor** shall complete, or have completed by a subcontractor acting as the Utility Contractor, any work related to existing water main system(s) and sanitary sewer main system(s). Contractor performing this work must have a current Utility Contractor's License, and shall submit proof of such.

IN WITNESS WHEREOF, the parties to those presents have executed this Contract in two (2) counterparts, each of which shall be deemed an original.

Executed this _____ day of _____, 2016.

PEACH COUNTY, GEORGIA

ATTEST: By: (Seal)

Melvin Walker
Chairman, Board of Commissioners

CONTRACTOR

ATTEST: By: (Seal)

Authorized Signer Name and Title (print)

Authorized Signer signature

**PRIME CONTRACTOR CERTIFICATION REGARDING DEBARMENT,
SUSPENSION AND OTHER RESPONSIBILITY MATTERS**

I hereby certify that I am the _____ and duly authorized representative of the firm of _____, whose address is _____, and I certify that I have read and understand the attached instructions and that to the best of my knowledge and belief the firm and its representatives:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by the Georgia Department of Transportation and by any Federal department or agency;

(b) I acknowledge that this certification is provided pursuant to Executive Order 12549 and 49 CFR Part 29 and that this firm agrees to abide by the rules and conditions set forth therein for any misrepresentation that would render this certification erroneous, including termination of this Agreement and other remedies available to the Georgia Department of Transportation and Federal Government.

(c) I further acknowledge that this certificate is to be furnished to the Georgia Department of Transportation, in connection with the Prime Contractor Agreement involving participation of Federal-Aid Highway Funds, and is subject to applicable State and Federal laws, both criminal and civil.

Date _____

(Seal)

**SUBCONTRACTOR CERTIFICATION REGARDING DEBARMENT,
SUSPENSION AND OTHER RESPONSIBILITY MATTERS**

I hereby certify that I am the _____ and duly authorized representative of the firm of _____, whose address is _____, and I certify that I have read and understand the attached instructions and that to the best of my knowledge and belief the firm and its representatives:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by the Georgia Department of Transportation and by any Federal department or agency;

(b) I acknowledge that this certification is provided pursuant to Executive Order 12549 and 49 CFR Part 29 and that this firm agrees to abide by the rules and conditions set forth therein for any misrepresentation that would render this certification erroneous, including termination of this Agreement and other remedies available to the Georgia Department of Transportation and Federal Government.

(c) I further acknowledge that this certificate is to be furnished to the Georgia Department of Transportation, in connection with the Prime Contractor Agreement involving participation of Federal-Aid Highway Funds, and is subject to applicable State and Federal laws, both criminal and civil.

Date _____

_____ (Seal)

INSTRUCTIONS

Instructions for Debarment Certification

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions.

This certification applies to all subcontractors, material suppliers, vendors and other lower tier participants and shall be completed by them and included in the **Bid** Proposal.

1. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out in Debarment Certificate above.
2. The certification, Debarment, is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the Department or Agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the person to whom the proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction", "debarred", "suspended", "ineligible", "lower tier covered transaction", "participant", "person", "primary covered transaction", "principal", "proposal", and "voluntarily excluded", as used in these instructions and the certification, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this proposal/contract that should the proposed covered transaction be entered into, it shall not knowingly enter into a lower tier covered transaction with a person/firm who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction unless authorized by the department or Agency with which this transaction originated.
6. The prospective lower tier participant further agrees by submitting this proposal/contract that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion---Lower Tier Covered Transaction", without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the

method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Non-procurement List.

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

9. Except for transactions authorized under paragraph 5 of these instructions, if the participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction in addition to other remedies available to the Federal Government, the department or Agency may pursue available remedies, including suspension and/or debarment.

DRAFT

FINAL AFFIDAVIT

(Must be Executed and Submitted Prior to Final Payment)

TO: PEACH COUNTY, GEORGIA

I, _____ (Contractor authorized person), hereby certify that all suppliers of materials, equipment and service, subcontractors, mechanics, and laborers employed by _____ (Contractor) or any of his subcontractors in connection with the written agreement dated, _____ 2016, entered into a Contract with County for Construction of _____ [project] in PEACH COUNTY have been paid and satisfied in full as of, this _____ day of, _____ 2016 and that there are no outstanding obligations or claims of any kind for the payment of which Peach County on the above named projects might be liable, or subject to, in any lawful proceeding at law or in equity.

Signature

Title

_____ (Contractor authorized person) Personally appeared before me this this _____ day of, _____ 2016, who under oath deposes and says that he is of the firm of _____ (Contractor) that he has read the above statement and that to the best of his knowledge and belief same is an exact true statement.

Notary Public

My Commission Expires

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DRAFT

GENERAL CONDITIONS

1.0 DEFINITIONS

Wherever used in this Agreement, whether in the singular or in the plural, the following terms shall have the following meanings:

Agreement Execution - means the date on which the COUNTY executes and enters into an Agreement with the CONTRACTOR to perform the Work.

Agreement Price - means the total monies, adjusted in accordance with any provisions herein, payable to the CONTRACTOR under this Agreement.

Contract - means the Agreement Documents specifically identified and incorporated herein by reference in Section 2.0, CONTRACT DOCUMENTS.

Contractor - means the party or parties contracting directly with the COUNTY to perform Work pursuant to this Agreement.

Contract - means the Agreement Documents specifically identified and incorporated herein by reference in Section 2.0, CONTRACT DOCUMENTS.

Contract Time - means the period of time stated in this Agreement for the completion of the Work.

COUNTY - means Peach County, Georgia, a political subdivision of the State of Georgia.

DIRECTOR - Director of Peach County Public Works Department

Drawings - means collectively, all the drawings, sealed by a Georgia Professional Engineer, Architect, Landscape Architect, Surveyor or other approved design professionals, approved for construction by the COUNTY, listed in this Agreement, and also such supplementary drawings as the COUNTY'S consultant(s) may issue from time to time in order to clarify or explain such drawings or to show details which are not shown thereon.

Specifications - means the written technical provisions including all appendices thereto, both general and specific, which form a part of the Agreement Documents.

Subcontractor - means any person, firm, partnership, joint venture, company, corporation, or entity having a contractual agreement with CONTRACTOR or with any of its subcontractors at any tier to provide a part of the Work called for by this Agreement.

Supplemental Agreement - means a written order to the CONTRACTOR signed by COUNTY and accepted by the CONTRACTOR, effecting an addition, deletion or revision in the Work, or an adjustment in the Agreement Price or the Contract Time, issued after execution of this Agreement.

Work - means any and all obligations, duties and responsibilities, including furnishing equipment, materials, workmanship, labor and any other services or things necessary to the

GENERAL CONDITIONS

successful completion of the Project, assigned to or undertaken by the CONTRACTOR under this Agreement.

2.0 CONTRACT DOCUMENTS

2.1 List of Documents

The Agreement, any required bonds, the General Conditions, the Detailed Scope of Work, the Exhibits, The Proposal, The Bid Form, and all Supplemental Agreements shall constitute the Agreement Documents.

2.2 Conflict and Precedence

2.2.1 The Agreement Documents are complementary, and what is called for by one is as binding as if called for by all. In the event there are any conflicting provisions or requirements in the component parts of this Agreement, the several Agreement Documents shall take precedence in the following order:

1. Supplemental Agreements
2. Agreement
3. General Conditions
4. Detailed Scope of Work
5. Proposal/Bid/Quote
6. Specifications
7. Drawings

3.0 COVENANTS AGAINST CONTINGENT FEES

The CONTRACTOR shall comply with the relevant requirements of all Federal, State, County or local laws. The CONTRACTOR warrants that no person or selling agency has been employed or retained to solicit or secure this Agreement upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the CONTRACTOR for the purpose of securing business and that the CONTRACTOR has not received any non-COUNTY fee related to this Agreement without the prior written consent of the COUNTY. For breach or violation of this warranty, the COUNTY shall have the right to annul this Agreement without liability or at its discretion to deduct from the Agreement Price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

4.0 INSURANCE

The CONTRACTOR shall, at all times that this Agreement is in effect, cause to be maintained in force and effect an insurance policy(s) that will insure and indemnify both COUNTY and CONTRACTOR against liability or financial loss resulting from injuries occurring to persons or property or occurring as a result of any negligent acts or activity of the CONTRACTOR during the term of this Agreement. The certificate holder shall be shown as Peach County Board of Commissioners, 235 Person Street, Fort Valley, Georgia 31030. The liability under such insurance policy(s) shall be not less than: \$2,000,000.

GENERAL CONDITIONS

A. **WORKERS COMPENSATION** - Coverage to apply for all employees for Statutory limits in compliance with the applicable state and federal laws. The policy must include Employer's Liability with a minimum limit of \$ 500,000 each accident/ \$ 500,000 disease policy limit/ \$ 500,000 disease - each employee.

B. **COMPREHENSIVE GENERAL LIABILITY** - Shall have minimum limits of \$ 1,000,000 Per Occurrence Combined Single Limit for Bodily Injury Liability and Property Damage Liability. This shall include Premises/Operations, Independent Contractors, Products/Completed Operations, Broad Form Property Damage, XCU Coverage, Blanket Contractual Liability, and Personal Injury Coverage.

C. **BUSINESS AUTO LIABILITY** - Shall have minimum limits of \$ 1,000,000 Per Occurrence Combined Single Limit for Bodily Injury Liability and Property Damage Liability. This shall include, Owned Vehicles, Hired and Non-Owned Vehicles.

SPECIAL REQUIREMENTS:

E. The Peach County Board of Commissioners is to be included as an **ADDITIONAL INSURED** on both the Comprehensive General Liability and Business Auto Liability Policies and Umbrella if necessary.

F. **HOLD HARMLESS CLAUSE**
See Article 6.0, INDEMNIFICATION

G. Current valid, insurance policies meeting the requirements herein identified shall be maintained during the duration of the named project. Renewal certificates shall be sent to the COUNTY 30 days prior to any expiration date. There shall also be a 30 day notification to the COUNTY in the event of cancellation or modification of any stipulated insurance coverage.

H. It shall be the responsibility of the CONTRACTOR to ensure that all subcontracts comply with the same insurance requirements that the COUNTY requires the CONTRACTOR to maintain.

I. Certificates of insurance, policies, bonds, and any other contract requirements meeting the required Risk Management and Insurance provisions shall be forwarded to the COUNTY'S Public Works Office with the executed Contract. A renewal certificate should be forwarded to the Public Works Office 30 days prior to the expiration date of the policy. There should also be a 30 day notification to the COUNTY in the event of cancellation or modification of any stipulated insurance coverage. It will be the responsibility of the Public Works Department to monitor contract requirements.

J. All Insurance Policies of the CONTRACTOR will be required to be written on an Occurrence Basis. If a particular CONTRACTOR has insurance which is written on a Claims-Made Basis, these policies should be referred for approval by the County Administrator or action by the Board of Commissioners. When requesting evidence of insurance (certificates/policies) from CONTRACTOR, it should be clearly stated on the Certificate of Insurance or Insurance Policy whether the policy is written on an Occurrence Basis or Claims-Made Basis. A Claims-Made Policy may be acceptable but does require special review and tailoring for certain items. The Finance Section will assist with this

GENERAL CONDITIONS

process. When a Claims-Made Policy is acceptable, actual copies of the policies will be required to be forwarded to the COUNTY'S Finance Section.

K. Any certificates of insurance naming an insurance company that does not have at least a "B" rating by A. M. Best & Company shall be referred to the Finance Section for approval by the County Administrator or action by the Board of Commissioners.

L. All insurance documentation and approvals must be in place before the commencement of any work.

THE COUNTY SHALL HAVE NO DUTY TO PAY OR PERFORM UNDER THIS CONTRACT OR AGREEMENT UNTIL SUCH CERTIFICATES MEETING THE ABOVE REQUIREMENTS SHALL HAVE BEEN DELIVERED TO AND APPROVED BY THE COUNTY.

5.0 PROHIBITED INTERESTS

A. Conflict of Interest: The CONTRACTOR agrees that it presently has no interest and shall acquire no interest, direct or indirect, that would conflict in any manner or degree with the performance of its services hereunder. The CONTRACTOR further agrees that, in the performance of the Agreement, no person having any such interest shall be employed directly or indirectly by the CONTRACTOR.

B. Interests of Public Officials: No member, officer, or employee of the COUNTY during his tenure or for one year thereafter, shall have any interest, direct or indirect, in this Agreement or the proceeds thereof.

6.0 INDEMNIFICATION

The CONTRACTOR agrees, to the fullest extent permitted by law, to indemnify and hold harmless the COUNTY, its officers, directors, agents and employees from and against all claims, damages, liabilities or costs, including reasonable attorneys' fees and defense costs, to the extent caused by the Contractor's negligent performance of construction services or sub-standard materials under this Agreement and that of its sub-contractors or anyone to whom the CONTRACTOR is legally liable.

7.0 INDEPENDENT CONTRACTOR

The CONTRACTOR shall perform the services under this Agreement as an independent contractor and nothing contained herein shall be construed to be inconsistent with this relationship or status. Nothing in this Agreement shall be interpreted or construed to constitute the CONTRACTOR or any of its agents or employees to be the agent, employee, or representative of the COUNTY nor shall imply any rights under any tax exemption the COUNTY might enjoy.

8.0 SUBCONTRACTING

The CONTRACTOR shall not subcontract in excess of 25% of the work covered by this Agreement or permit subcontracted work to be further subcontracted without the

GENERAL CONDITIONS

COUNTY'S prior written approval of the subcontractor(s). The COUNTY will not approve any subcontractor for work covered by this Agreement that has not been recommended for approval by the DIRECTOR.

All subcontracts in the amount of \$5,000 or more shall include the provisions set forth in this Agreement.

9.0 ASSIGNABILITY

The CONTRACTOR shall not assign or transfer whether by an assignment or notation, any of its rights, obligations, benefits, liabilities or other interest under this Agreement without the written consent of the COUNTY.

10.0 EQUAL EMPLOYMENT OPPORTUNITY

During the performance of this Agreement, the CONTRACTOR agrees as follows:

A. The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin, religion, age, disability, marital or veteran status or any other legally protected status.

B. The CONTRACTOR will, in all solicitations or advertisements for employees placed by qualified applicants, receive consideration for employment without regard to race, creed, color, sex, national origin, religion, age, disability, marital or veteran status or any other legally protected status.

C. The CONTRACTOR will cause the foregoing provisions to be inserted in all subcontracts for any work covered by the Agreement so that such provision will be binding upon each subcontractor, provided that the foregoing provisions shall not apply to contracts or subcontracts for standard commercial supplies of raw materials.

D. The CONTRACTOR shall only utilize personnel authorized to work in the United States in accordance with applicable federal and state laws. If the CONTRACTOR is found to be in violation of applicable federal, state and /or local laws and/or regulations, and if the Peach County has reasonable cause to believe that the CONTRACTOR has knowingly employed individuals who are not eligible to work in the United States, the County shall have the right to cancel the contract immediately without penalty or recourse and suspend or debar the CONTRACTOR from doing business with the County.

11.0 ANTI-KICKBACK CLAUSE

Salaries of employees, equipment operators, superintendents, technicians, or professionals performing work under this Agreement shall be paid unconditionally and not less often than once a month without deduction or rebate on any account except only such payroll deductions as are mandatory by law. The CONTRACTOR hereby promises to comply with all applicable "Anti-Kickback" laws, and shall insert appropriate provisions in all subcontracts covering work under this Agreement.

GENERAL CONDITIONS

12.0 CLAIMS AND DISPUTES PERTAINING TO SALARY RATES

Claims and disputes pertaining to salary rates or to classifications of employees, equipment operators, superintendents, technicians, or professionals of subcontractors performing work under this Agreement shall be promptly reported in writing by the CONTRACTOR to the COUNTY for the latter's decision which shall be final with respect thereto. Nothing herein, however, shall be construed as relieving the CONTRACTOR from its responsibilities as primary contracting party with such subcontractors.

13.0 PERSONNEL AND EQUIPMENT

The CONTRACTOR represents that it has secured or will secure, at its own expense, all personnel necessary to complete this Agreement; none of whom shall be employees of, or have any contractual relationship with the COUNTY. Primary liaison with the COUNTY will be through a representative specifically designated by the CONTRACTOR. All of the services required hereunder will be performed by the CONTRACTOR under the representative's supervision, or by the sub-contractor stipulated in the proposal and all personnel engaged in the work shall be fully qualified and shall be authorized or permitted under law, if applicable, to perform such services.

The CONTRACTOR shall employ only qualified registered surveyors in responsible charge of any survey work.

The CONTRACTOR shall employ only qualified professional engineer in responsible charge of any engineering work.

The CONTRACTOR shall employ a standard of care, skill and diligence in the performance of the services in this contract as is ordinarily possessed and exercised by members of the same profession, currently practicing, under similar circumstances, sufficient to construct structures that meet accepted industry standards in terms of quality and accuracy for their intended purpose.

The CONTRACTOR acknowledges all applicable rules and regulations of the Occupational Safety and Health Administration (OSHA) and the State of Georgia with regard to worker health and safety.

14.0 CHANGES AND EXTRA WORK

The COUNTY may, at any time, request changes in the work to be performed hereunder. All such changes, including any increase or decrease in the amount of the CONTRACTOR'S compensation, which are mutually agreed upon by and between the COUNTY and the CONTRACTOR, shall be incorporated in written Supplemental Agreements to this Agreement.

Changes that involve an increase in the budgeted contract amount shall require the approval of the County Administrator or the Board of Commissioners. Changes to the scope of work

GENERAL CONDITIONS

that do not involve increasing the project budget may be approved by the DIRECTOR or authorized designee of the COUNTY.

15.0 AUDITS AND INSPECTORS

The CONTRACTOR shall maintain all books, documents, papers, time sheets, accounting records and other evidence pertaining to costs incurred on the Project and used in support of its proposal and shall make such material available at all reasonable times during the period of the Agreement and for seven years from the date of final payment under the Agreement, for inspection by the COUNTY or any reviewing agencies, and copies thereof shall be furnished upon request. The CONTRACTOR agrees that the provisions of this Article shall be included in any Agreements it may make with any subcontractor, assignee, or transferee.

16.0 CONTRACTOR COORDINATION

The CONTRACTOR shall cooperate fully with the DIRECTOR, the Public Works Operations Manager or their duly authorized representative (s), Georgia Department of Transportation, Federal government officials, municipalities and local government officials, utility companies, railroads, and others, as may be directed by the COUNTY.

If the COUNTY undertakes or awards other contracts for additional related work, the CONTRACTOR shall fully cooperate with such other Contractor/Consultant and COUNTY employees or appointed committee(s), and shall carefully fit its own work to such additional work as may be directed by the COUNTY. The CONTRACTOR shall not commit or permit any act which will interfere with the performance of work by any other CONTRACTOR or by COUNTY employees.

17.0 VERBAL AGREEMENT OR CONVERSATION

No verbal agreement or conversation with any officer, agent, or employee of the COUNTY, either before, during, or after the execution of this Agreement, shall affect or modify any of the terms or obligations herein contained, nor shall such verbal agreement or conversation entitle the CONTRACTOR to any additional payment whatsoever under the terms of this Agreement. All changes to this Agreement shall be in writing and appended hereto as prescribed in Article 3.0 above.

18.0 NOTICES

All notices shall be in writing and delivered in person or transmitted by certified mail, postage prepaid.

Notices to the COUNTY shall be addressed to the DIRECTOR as follows:

Paul Schwindler, P.E., Director
Peach County Public Works
410 Old Macon Road
Fort Valley, Georgia 31030

GENERAL CONDITIONS

And
Dan Wallace, P.E.
Triple Point Engineering
5223 Riverside Drive, Suite 101
Macon, GA 31210

Notices to CONTRACTOR shall be addressed as follows:

19.0 LIAISON

The DIRECTOR or his duly appointed representative shall act as the Liaison between the CONTRACTOR and the COUNTY and all utilities, authorities or governments whose properties will be affected. The CONTRACTOR shall arrange for conferences and exchanges of data and information and for necessary approvals.

All correspondences, data, information, invoices and reports shall be directed to the Liaison to provide for proper distribution to the parties concerned.

The Liaison will expedite any necessary decisions affecting the performance of the CONTRACTOR'S Agreement, but the CONTRACTOR shall not make use of the Liaison's services on trivial or minor matters normally to be decided by the CONTRACTOR.

20.0 DELIVERY OF DOCUMENTS

Except as otherwise provided herein, the CONTRACTOR shall submit all progress documents, reports, sketches, planning notes, and other papers and supporting data required under this Agreement to the COUNTY in triplicate. The CONTRACTOR shall deliver the required progress reports in a timely manner so that the work can be reviewed.

21.0 PROGRESS REPORTS

The CONTRACTOR shall report to the COUNTY on suitable forms approved by the COUNTY the status of work on the last day of each month during the life of the Agreement. The report shall include, but is not limited to:

1. Construction activities completed during this period
2. Problems and/or unforeseen conditions

GENERAL CONDITIONS

3. Required inspections conducted during the period
4. Complete schedule; items impacting the schedule; projected completion date
6. Quality assurance activities

22.0 CONFERENCES AND FIELD INSPECTIONS

The CONTRACTOR shall familiarize himself with existing infrastructure facilities and visit key locations throughout the PROJECT area, acquainting themselves with all local conditions involved in the prosecution of this Agreement. The CONTRACTOR may request that a representative of the COUNTY accompany him on specific site visits if field conditions are such that they warrant special attention. As work progresses either party may request a conference or additional field inspection to discuss elements of the work. In this event, the parties shall agree on a time and place for the conference or inspection and each party shall attend. All conferences and meetings shall be held at a location that will not be a direct cost to the PROJECT. In the event the parties cannot agree on a time and place for the conference, the COUNTY will have final decision. The CONTRACTOR shall attend as many meetings or conferences as necessary to finalize the work.

23.0 RIGHT TO ENTRY

The CONTRACTOR will notify all property owners or occupants of the intent to enter properties for the purpose of accomplishing surveys or other field investigations in accordance with the practices of the COUNTY. The CONTRACTOR shall discuss with and receive approval from the COUNTY prior to sending said notices of intent to enter private property. Upon request by the CONTRACTOR, the COUNTY will provide the necessary documents identifying the CONTRACTOR as being in the employ of the COUNTY for the purposes described in the Agreement. If the property owners or occupant denies the CONTRACTOR permission to enter, such incident will be reported to the COUNTY and the COUNTY will initiate such action as is dictated by current policy and procedure.

24.0 UTILITIES

Utilities such as sewer, water, data, 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 as the case may be, or abandoned as may be necessary for the proper construction and use of the new work.

The CONTRACTOR shall identify all major elements of privately, publicly or cooperatively owned utilities that may be impacted by proposed elements of the PROJECT. The CONTRACTOR shall stop work, and immediately notify the COUNTY of any unforeseen utility conflicts encountered or discovered.

The CONTRACTOR shall make no commitments to the utility companies that are binding upon the COUNTY. The COUNTY will conduct any necessary negotiations with the utilities and authorities. However, the CONTRACTOR may be required to participate in such negotiations at the request of the COUNTY during the prosecution of the PROJECT if such work is undertaken by the County.

25.0 TESTS AND INSPECTIONS

GENERAL CONDITIONS

CONTRACTOR shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for COUNTY'S and DIRECTOR'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 test or approvals shall be performed by organizations acceptable to DIRECTOR and COUNTY.

26.0 REVIEW OF WORK

The COUNTY and DIRECTOR their consultants and other representatives and personnel of the COUNTY, 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. The Project activities and data collected under this Agreement and amendments hereto. All reports, drawings, studies, specifications, estimates, maps and computations, prepared by or for the CONTRACTOR, shall be available to authorized representatives of the COUNTY for inspection and review at all reasonable times in the main offices of the COUNTY.

Refusal by the CONTRACTOR to submit progress reports and/or required submittals shall be cause to withhold payment to the CONTRACTOR until the CONTRACTOR complies with the COUNTY'S request in this regard.

27.0 NOTICE OF DEFECTS

Prompt notice of all defective Work of which the COUNTY or DIRECTOR has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted

28.0 CORRECTION OR REMOVAL OF DEFECTIVE WORK

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 the DIRECTOR, 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 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).

29.0 COUNTY MAY CORRECT DEFECTIVE WORK

If CONTRACTOR fails within a reasonable time after written notice from DIRECTOR to correct defective Work, or to remove and replace rejected Work as required by DIRECTOR in accordance with Paragraph 28.0, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any

GENERAL CONDITIONS

other provision of the Contract Documents, COUNTY may, after seven days written notice to CONTRACTOR, correct, or remedy any such deficiency.

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 COUNTY of COUNTY'S rights and remedies under this paragraph 29.0.

30.0 COUNTY MAY STOP WORK

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, COUNTY may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of COUNTY to stop the work shall not give rise to any duty on the part of the COUNTY 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.

31.0 SUPERVISION AND CONTROL

The CONTRACTOR shall perform the services required to accomplish the Work plan as stated herein under such control and supervision by the COUNTY as the COUNTY may deem appropriate. The CONTRACTOR shall employ sufficient qualified personnel to perform the work within the time stipulated in the agreement.

32.0 ENVIRONMENTAL IMPACT

The CONTRACTOR shall conduct all operations so as to minimize, to the greatest extent possible, adverse environmental impact.

32.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.

32.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 atmospheric conditions.

Burning operations will be conducted only with written permission of the COUNTY 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.

32.C. Traffic: Trucks 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.

32.D. Erosion Sedimentation & Pollution Control: All points 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 Erosion Sedimentation &

GENERAL CONDITIONS

Pollution Control permitting shall be the responsibility of the CONTRACTOR. It shall be the CONTRACTOR'S responsibility to submit the Notice of Intent (NOI) for discharging storm water from the construction project if applicable, and the contractor shall be responsible for compliance with the requirements set forth in the Erosion Sedimentation & Pollution Control Plan and federal, state and local regulations.

32.E. Fuel & Lubrication Spills: All spills shall be removed from the site immediately by the CONTRACTOR.

32.F. Fuel Storage & transfer: All spills shall be allowed only in areas approved by the COUNTY or DIRECTOR.

33.0 MAINTENANCE DURING CONSTRUCTION

The CONTRACTOR shall maintain the Work from the beginning of construction operations until final acceptance. This maintenance shall constitute continuous and effective Work prosecuted day by day with adequate equipment and forces to the end that the 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 in accordance with the latest MUCD standards and/or the county.

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 is through or local traffic, in such condition that traffic will be adequately accommodated. The CONTRACTOR shall bear all costs 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 others features as may be necessary without direct compensation.

34.0 BARRICADES, DANGER, WARNING & 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 signs shall be provided to properly control and direct traffic.

The CONTRACTOR shall furnish, install, and maintain all necessary barricades, warning signs, and other protection devices in accordance with the most recent version of Manual on the Federal Highway Administration's Uniform Traffic Control Devices (MUCD) standards and/or County 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 a good, legible condition while in use.

GENERAL CONDITIONS

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.

35.0 TERMINATION OF AGREEMENT FOR CAUSE

If through any cause, the CONTRACTOR shall fail to fulfill in a timely and proper manner its obligations under this Agreement, or if the CONTRACTOR shall violate any of the covenants, agreements or stipulations of this Agreement, the COUNTY shall thereupon have the right to terminate this Agreement by giving written notice to the CONTRACTOR of such termination, and specifying the effective date thereof, at least five (5) normal business days before the effective date of such termination. Failure to maintain the scheduled level of effort or providing the deliverable product for each identified project milestone as proposed and prescribed, or deviation from the project schedule without prior approval of the COUNTY, shall constitute cause for termination. In such event, all finished or unfinished work by the CONTRACTOR under this Agreement shall become the property of the COUNTY, and the CONTRACTOR shall be entitled to receive just and equitable compensation for any satisfactory work completed, as determined by the COUNTY.

If this termination of agreement for cause is invoked against the CONTRACTOR, then the CONTRACTOR shall be liable and responsible for payment to the COUNTY for any costs above the Agreement Price as defined in the Contract that are incurred by the County in order to satisfactorily complete the PROJECT to the satisfaction of the COUNTY. Payment to the COUNTY will be due within 30 calendar days upon written notification from the COUNTY.

36.0 TERMINATION FOR CONVENIENCE OF THE COUNTY

The COUNTY may terminate this Agreement for its convenience at any time by a notice in writing to the CONTRACTOR. If the Agreement is terminated by the COUNTY as provided in this Article, the CONTRACTOR will be paid compensation for those services actually performed. Partially completed tasks will be compensated for based on a signed statement of completion to be submitted by the CONTRACTOR which shall itemize each task element and briefly state what work has been completed and what work remains to be done.

All such expenses shall be properly documented and submitted to the DIRECTOR or his designee for processing. The Peach County Board of Commissioners shall be the final authority in the event of any disputes over authorized costs between the DIRECTOR and the CONTRACTOR.

GENERAL CONDITIONS

37.0 CONTRACTOR'S PAYMENT AND RETAINAGE OF PAYMENT

Partial pay estimates may include stored materials. CONTRACTOR must submit invoices and all materials must be located at the site of the work. Retainage will not be held on stored materials.

The retainage shall be an amount equal to 10% of the CONTRACTOR'S partial pay estimate until 50% completion. Further payments shall be made in full to the CONTRACTOR and no additional amounts may be retained unless the DIRECTOR certifies that the job is not proceeding satisfactorily, but amounts previously retained shall not be paid to the CONTRACTOR. At 50% completion or any time thereafter when the progress of the work is not satisfactory, additional amounts may be retained, but in no event shall the total retainage be more than 20% of the value of the work completed. Upon substantial completion of the work, any amount retained may be paid to the CONTRACTOR. When the work has been substantially completed except for work which cannot be completed because of weather conditions, lack of materials, or other reasons which in the judgement of the COUNTY are valid reasons for non-completion, the COUNTY may make additional payments, retaining at all times an amount sufficient to cover the estimated cost of the work still to be completed.

38.0 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 convenience shall be made available when the first employee(s) arrive on the site and shall be removed after the departure of the last employee from the job site.

End of Section

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal, and
(Corporation, Partnership, or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto the

Peach County Board of Commissioners
(Name of Owner)

213 Persons Street, Fort Valley, Georgia 31030
(Address of Owner)

hereinafter called OWNER, in the penal sum of _____ Dollars,

(\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of _____, 201____, a copy of which is hereto attached and made a part hereof, for the construction of:

Culvert Replacement

NOW THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety, and during the one-year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each one of which shall be deemed an original, this the _____ day of _____, 201__.

ATTEST:

Principal: _____

(Principal Secretary)

(SEAL)

By: _____ (s)

(Address)

Witness as to Principal

Surety

(Address)

By: _____
Attorney-in-Fact

By: _____

ATTEST:

(Address)

Witness as to Surety

(Address)

Note: DATE OF BOND MUST NOT BE PRIOR TO DATE OF CONTRACT. IF CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the PROJECT is located.

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal, and
(Corporation, Partnership, or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called SURETY, are held and firmly bound unto

Peach County Board of Commissioners
(Name of Owner)

213 Persons Street, Fort Valley, Georgia 31030
(Address of Owner)

hereinafter called OWNER, in the penal sum of _____ Dollars,

(\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of _____, 201____, a copy of which is hereto attached and made a part hereof, for the construction of:

Culvert Replacement

NOW THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUBCONTRACTORS, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void: otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in four (4) counterparts, each one of which shall be deemed an original, this the _____ day of, _____ 201_____.

ATTEST:

(Principal Secretary)

Principal

BY: _____ (s)

(SEAL)

(Address)

Witness to Principal

(Address)

ATTEST:

(Surety Secretary)

(Surety)

BY: _____

Attorney-in-Fact

(SEAL)

(Address)

Witness to Surety

(Address)

Note: DATE OF BOND MUST NOT BE PRIOR TO DATE OF CONTRACT. IF CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the PROJECT is located.

CERTIFICATE OF OWNER'S ATTORNEY

I, the undersigned, _____, the duly authorized and acting legal representative of Peach County Board of Commissioners , do hereby certify as follows: I have examined the foregoing contract and surety bonds and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements has 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 terms, conditions and provisions thereof.

Signature of Attorney

Date

To:

OWNER: Peach County Board of Commissioners

PROJECT DESCRIPTION: Barrow Road and Lakeside Drive Culvert Replacement

The OWNER has considered the BID submitted by you for the above described WORK dated _____ in response to its Advertisement for BIDS and Instructions to Bidders.

You are hereby notified that your BID has been accepted for items in the amount of \$_____.

As required by the Instructions to BIDDERS, please execute the Agreement and furnish the required CONTRACTOR's Performance Bond, Payment Bond, and certificates of insurance within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS within ten (10) days from the date of this Notice said OWNER will be entitled to consider all your rights arising out of the OWNER's acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER

Dated this _____ day of _____, 201_____.

Owner

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged

By:

This, the _____ day of _____ 201_____

BY _____

TITLE _____

TO: _____ Date: _____

You are hereby notified to commence WORK on Culvert Replacement in accordance with the Agreement dated _____ on or before _____ 20____, and you are to complete the WORK within _____ consecutive calendar days thereafter. The date of completion of all WORK is therefore _____.

Peach County Board of Commissioners
Owner

BY: _____

TITLE: _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged

By _____

This , the _____ day of _____, 20 ____

BY _____

TITLE _____

NOTE: Copies of the executed Notice to Proceed shall be provided to the Georgia Department of Health and Environment Control’s Central and District Offices and also to the Georgia Budget and Control Board.

No. _____

Date of Issuance: _____ Effective Date: _____

Project:	Owner:	Owner's Contract No.:
Contract:	Date of Contract:	
Contractor:	Engineer's Project No.:	

The Contract Documents are modified as follows upon execution of this Change Order:

Description:

Attachments: (List documents supporting change):

CHANGE IN CONTRACT PRICE:

Original Contract Price:
\$ _____

[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____:
\$ _____

Contract Price prior to this Change Order:
\$ _____

[Increase] [Decrease] of this Change Order:
\$ _____

Contract Price incorporating this Change Order:
\$ _____

CHANGE IN CONTRACT TIMES:

Original Contract Working days Calendar days
Substantial completion (days or date): _____
Ready for final payment (days or date): _____

[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____:
Substantial completion (days): _____
Ready for final payment (days): _____

Contract Times prior to this Change Order:
Substantial completion (days or date): _____
Ready for final payment (days or date): _____

[Increase] [Decrease] of this Change Order:
Substantial completion (days or date): _____
Ready for final payment (days or date): _____

Contract Times with all approved Change Orders:
Substantial completion (days or date): _____
Ready for final payment (days or date): _____

RECOMMENDED:	ACCEPTED:	ACCEPTED:
By: _____ Engineer (Authorized Signature)	By: _____ Owner (Authorized Signature)	By: _____ Contractor (Authorized Signature)
Date: _____	Date: _____	Date: _____
Approved by Funding Agency (if applicable): _____		Date: _____

A. GENERAL INFORMATION

This document was developed to provide a uniform format for handling contract changes that affect Contract Price or Contract Times. Changes that have been initiated by a Work Change Directive must be incorporated into a subsequent Change Order if they affect Price or Times.

Changes that affect Contract Price or Contract Times should be promptly covered by a Change Order. The practice of accumulating Change Orders to reduce the administrative burden may lead to unnecessary disputes.

If Milestones have been listed in the Agreement, any effect of a Change Order thereon should be addressed.

For supplemental instructions and minor changes not involving a change in the Contract Price or Contract Times, a Field Order should be used.

B. COMPLETING THE CHANGE ORDER FORM

Engineer normally initiates the form, including a description of the changes involved and attachments based upon documents and proposals submitted by Contractor, or requests from Owner, or both.

Once Engineer has completed and signed the form, all copies should be sent to Owner or Contractor for approval, depending on whether the Change Order is a true order to the Contractor or the formalization of a negotiated agreement for a previously performed change. After approval by one contracting party, all copies should be sent to the other party for approval. Engineer should make distribution of executed copies after approval by both parties.

If a change only applies to price or to times, cross out the part of the tabulation that does not apply.

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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.
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:*

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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.

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ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

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

2.02 *Copies of Documents*

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

2.03 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of 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, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

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

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

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

3.02 *Reference Standards*

- A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of 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.

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

4.01 *Availability of Lands*

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

4.02 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 - 1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
 - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such “technical data,” Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 - 1. the completeness of such reports and drawings for Contractor’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
 - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 - 3. any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

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

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

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

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor’s cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a 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.

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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

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adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

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

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are

necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.

- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 Performance, Payment, and Other Bonds

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the

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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

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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*

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;
 2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
 3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
 4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
 5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and
 7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.
- B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.
- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.
- E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

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

of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

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

5.08 *Receipt and Application of Insurance Proceeds*

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

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

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such

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failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

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

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

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

6.02 *Labor; Working Hours*

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

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

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

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of 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 and 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

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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

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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.

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

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 Related Work at Site

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

7.02 *Coordination*

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

7.03 *Legal Relationships*

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

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

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

8.02 *Replacement of Engineer*

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

8.03 *Furnish Data*

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

8.04 *Pay When Due*

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

8.05 *Lands and Easements; Reports and Tests*

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

8.06 *Insurance*

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

8.07 *Change Orders*

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

8.08 *Inspections, Tests, and Approvals*

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

8.09 *Limitations on Owner's Responsibilities*

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

8.10 *Undisclosed Hazardous Environmental Condition*

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

8.11 *Evidence of Financial Arrangements*

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

8.12 *Compliance with Safety Program*

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

ARTICLE 9 – ENGINEER’S STATUS DURING CONSTRUCTION

9.01 *Owner’s Representative*

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

9.02 *Visits to Site*

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

9.03 *Project Representative*

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

9.04 *Authorized Variations in Work*

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

9.05 *Rejecting Defective Work*

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

9.06 *Shop Drawings, Change Orders and Payments*

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

9.07 *Determinations for Unit Price Work*

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

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

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

9.09 *Limitations on Engineer's Authority and Responsibilities*

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

9.10 *Compliance with Safety Program*

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

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

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

10.02 *Unauthorized Changes in the Work*

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

10.03 *Execution of Change Orders*

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

10.04 *Notification to Surety*

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

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of

said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

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

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

11.01 *Cost of the Work*

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

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive 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

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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

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- inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
- b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
 - d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

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

D. Reduction in Payment:

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

14.03 Contractor's Warranty of Title

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

14.04 Substantial Completion

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive

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certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

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

14.06 *Final Inspection*

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

Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment:*

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

B. *Engineer's Review of Application and Acceptance:*

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

C. *Payment Becomes Due:*

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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;

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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 30 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. 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 in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
 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:

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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 applicable jurisdiction, such day will be omitted from the computation.

17.03 Cumulative Remedies

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

17.04 Survival of Obligations

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

17.05 Controlling Law

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

17.06 *Headings*

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

SUPPLEMENTARY GENERAL 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 of Proceed and shall diligently prosecute said WORK so as to complete the entire project and place it in use within the calendar days noted.
3. **SCOPE OF THE WORK:** The WORK includes the furnishing of all necessary machinery, equipment, tools, labor and other construction means, and all materials and equipment required to perform the WORK and Specifications and including the placing of the WORK into satisfactory operation.
4. **LOCATION:** The WORK under this Contract will be located in Peach County, Georgia as shown on the Construction Drawings.
5. **DEFINITIONS:**
 - a. Responsible Bidder— Means a person or entity that has the capability in all respects to perform fully and reliably the contract requirements. This will be determined by the County as a bid proposal that has an aggregate score of 225 or greater as outlined in the Evaluation Criteria in the Instructions to Bidders.
 - b. Responsive Bidder—Means a person or entity that has submitted a bid or proposal that conforms in all material respects to the requirements set forth in the invitation for bids.
 - c. MUTCD – Manual on Uniform Traffic Control Devices for Streets and Highways, latest edition.
6. **NON-DISCRIMINATION:** It is the policy of the Project Sponsor (OWNER) not to discriminate on the basis of age, race, sex, color, national origin or disability in its hiring and employment practices, or in admission to, access to, or operation of its programs, services and activities. With regard to all aspects of this project, the Contractor certifies and warrants it will comply with this policy.
7. Sponsors and contractors must follow the flood hazard area requirements of the Flood Disaster Protection Act of 1973 contained in 40 CFR Part 30.
8. **FIRE AND EXTENDED COVERAGE INSURANCE (BUILDER'S RISK):**
 - a. The Contractor shall maintain, as applicable, in an Insurance Company or Insurance Companies acceptable to the Owner, Fire, Extended Coverage and Vandalism and Malicious Mischief Insurance on buildings and structures, while in the course of construction, including foundations, additions, attachments and all permanent fixtures belonging to and constituting a part of said buildings or structures. The policy or policies shall also cover machinery if the cost of machinery is included in the Contract. The amount of insurance must at all times be at least equal to the actual cash value of the insured property. The policy shall be in the name of the Owner and the Contractor, as their interests may appear, and shall also cover the interests of all subcontractors performing work.

SUPPLEMENTARY GENERAL CONDITIONS

- b. The Contractor shall provide the Owner with satisfactory evidence certifying that the foregoing insurance is in force; and such evidence shall include provisions that the insurance shall not be cancelled, allowed to expire or be materially changed without giving the Owner advance notice by registered mail.
- c. Cancellation and Re-Insurance: If any insurance should be cancelled or changed by the insurance company or should any insurance expire during the period of this contract, the Contractor shall be responsible for securing other acceptable insurance to provide the coverage specified in this section to maintain continuous coverage during the life of this contract.
9. **SUB-CONTRACTOR LIST:** CONTRACTOR shall supply a list of all sub-contractors shall be submitted with the Bid.
10. **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 Bid.

11. **CONSTRUCTION DRAWINGS:** The WORK shall conform to the following construction drawings:

<u>Sheet No.</u>	<u>Description</u>
-	Title Sheet
1	155 Barrow Road
2	Lakeside Drive at Lucy Giles Lake
3	G.D.O.T. and Miscellaneous Details
4	Erosion Control and Miscellaneous Details

12. **REPORTS AND DRAWINGS USED BY THE ENGINEER:** In the preparation of Drawings and Specifications, ENGINEER has relied upon:

Site Survey by Wellston Associates Land Surveyors, LLC, May 10, 2016

13. **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 convenience 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.
14. **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

SUPPLEMENTARY GENERAL CONDITIONS

generation of dust or the airborne movement of particulate matter under all prevailing atmospheric 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: Trucks 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. Erosion Sedimentation & Pollution Control: 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 Erosion Sedimentation & Pollution Control permitting shall be the responsibility of the Contractor. It shall be the Contractor's responsibility to submit the Notice of Intent (NOI) for discharging stormwater from the construction project, and the Contractor shall be responsible for compliance with the requirements set forth in the Erosion Sedimentation & Pollution Control Plan and federal, state and local regulations.
 - e. Fuel & Lubrication Spills: All Spills shall be removed from the site immediately by the CONTRACTOR. No residue from the spill shall remain on site.
 - f. Fuel Storage & transfer: Fuel storage and transfer will be allowed only in areas approved by the Owner or Engineer.
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 as the case may be, or abandoned as may be necessary for the proper construction and use of the new WORK.
 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 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: The CONTRACTOR shall conduct his operations so that restoration of concrete floors, walls, doors, paving, grassed slopes, etc. is complete at the time a request for final review is made by the CONTRACTOR.
 18. MAINTENANCE DURING CONSTRUCTION: The CONTRACTOR shall maintain the WORK from the beginning of construction operations until final acceptance. This maintenance shall constitute continuous and effective WORK prosecuted day by day with adequate equipment and forces to the end that the 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 in accordance with the latest MUCD standards and/or the county.

SUPPLEMENTARY GENERAL CONDITIONS

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 costs 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 & 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 signs shall be provided to properly control and direct traffic.

The CONTRACTOR shall furnish, install, and maintain all necessary barricades, warning signs, and other protection devices in accordance with the MUCD standards and/or County 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 a good, legible condition while in use.

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. **ACCESS FOR INSPECTION:** Access for inspection shall be provided for representatives of the Georgia Department of Health and Environmental Control, suppliers, the OWNER or his representative.
21. **LIMITS OF LIABILITY:** 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. Worker's Compensation
 - (1) State: \$500,000 each incident
 - (2) Applicable Federal
(e.g. Longshoreman's): \$500,000 each incident
 - (3) Employer's Liability: \$500,000 each incident
 - b. Comprehensive
 - (1) Bodily injury (including completed operations and products liability):

SUPPLEMENTARY GENERAL CONDITIONS

\$ 1,000,000/\$2,000,000 Each Occ/policy limit

Property Damage:

\$ 1,000,000

Each Occ

\$ 2,000,000

Annual Aggregate

(2) Personal Property Damage liability insurance will provide Explosion, Collapse and Underground coverages where applicable.

(3) Personal injury, with employment exclusion deleted.

\$1,000,000/\$2,000,000

Ea Occ/policy limit

(4) CONTRACTOR shall name OWNER and ENGINEER as an additional insured under the comprehensive General Liability set forth above.

c. Comprehensive Automobile Liability:

Bodily Injury:

\$ 1,000,000

Each Occurrence

\$ 2,000,000

Policy limit

Property Damage:

\$ 1,000,000

Each Occurrence

\$ 2,000,000

Policy limit

d. Contractual Endorsement:

The Contractual Liability required by paragraph of the General Conditions shall provide coverage for not less than the following amounts.

Bodily injury (including completed operations and products liability):

\$1,000,000

Each Occurrence

Property Damage:

\$ 1,000,000

Each Occurrence

\$ 2,000,000

Policy limit

22. GENERAL CONDITIONS - Paragraph 5.06 and all references thereto are not applicable to this Contract Agreement.

23. GENERAL CONDITIONS - Paragraph 6.02, B.

The Owner shall allow for the performance of Work on Saturdays.

24. GENERAL CONDITIONS - Paragraph 14.02, C. shall be deleted and replaced with the following:

SUPPLEMENTARY GENERAL CONDITIONS*C. Payment Becomes Due:*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor within 30 days of Engineer's payment recommendation.

25. GENERAL CONDITIONS – Paragraph 16.01, A. shall be deleted and replaced with the following:

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. Owner and contractor shall agree to the choice of a mediator. If owner and contractor are unable to reach an agreement or choice of a mediator, a mediator shall be appointed by the presiding Judge of Peach Superior Court, upon the arbitration for the appointment of a mediator being submitted to the County by either the owner or the contractor. Timely submission of the request shall stay the effect of Paragraph 10.05.E.
26. RETAINAGE OF CONTRACTOR'S PAYMENT: The retainage shall be an amount equal to 10% of CONTRACTOR's partial pay estimate until 50% completion. Further payments shall be made in full to the CONTRACTOR and no additional amounts may be retained unless the ENGINEER certifies that the job is not proceeding satisfactorily, but amounts previously retained shall not be paid to the CONTRACTOR. At 50% completion or any time thereafter when the progress of the WORK is not satisfactory, additional amounts may be retained but in no event shall the total retainage be more than 20% of the value of the WORK completed. Upon substantial completion of the WORK, any amount retained may be paid to the CONTRACTOR. When the WORK has been substantially completed except for WORK which cannot be completed because of weather conditions, lack of materials or other reasons which in the judgment of the OWNER are valid reasons for noncompletion, the OWNER may make additional payments, retaining at all times an amount sufficient to cover the estimated cost of the WORK still to be completed.

Partial pay estimates may include stored materials. CONTRACTOR must submit invoices and all materials must be located at the site of the WORK. Retainage will not be held on stored materials.
 27. WORKER HEALTH AND SAFETY: The CONTRACTOR acknowledges all applicable rules and regulations of Occupational Safety and Health Administration (OSHA) and the State of Georgia with regard to worker health and safety. The CONTRACTOR shall also submit a job-specific Health and Safety Plan to the OWNER for their records prior to commencing WORK.
 28. ACCESS ROAD DAMAGE: Any damage to the access roads or parking areas caused by the CONTRACTOR shall be repaired by the CONTRACTOR at his own expense.

END OF SECTION

SECTION 00950

PEACH COUNTY CONTRACT CONDITIONS

PEACH COUNTY CONTRACT CONDITIONS**CERTIFICATION BY CONTRACTOR****Regarding: NON-SEGREGATED FACILITIES**

The **Contractor** certifies that he does not, and will not, provide and maintain segregated facilities for his employees at his establishments and, further that he does not, and will not, permit his employees to perform their services at those locations, under his control, where segregated facilities are provided and maintained. Segregated facilities include, but are not necessarily limited to, drinking fountains, transportation, parking, entertainment, recreation, and housing facilities; waiting, rest, wash, dressing, and locker rooms, and time clock, **Work**, storage, restaurant, and other eating areas which are set apart in fact, or by explicit directive, habit, local custom, or otherwise, on the basis of color, creed, national origin, and race. The **Contractor** agrees that, except where he has obtained identical certifications from proposed subcontractor for specific time periods, he will obtain identical certifications from proposed subcontractor prior to the award of subcontracts exceeding \$10,000.00 which are not exempt from the provisions of the Equal Opportunity clause, and that he will retain such certifications in his files.

The **Contractor** agrees that a breach of this certification is a violation of the Equal Opportunity clause in this Contract. The penalty for making false statements is prescribed in 18 U.S.C. 1001.

Contractor (Print)

(Signature)

Name of Signer (Print)

Title of Signer

Date

PEACH COUNTY CONTRACT CONDITIONS

CERTIFICATION BY CONTRACTOR

Regarding: Drug-Free Workplace Act

The Contractor certifies that provisions of Sections 50-24-1 through 50-24-6 of the Official Code of Georgia annotated, relating to the “Drug-Free Workplace Act” have been, and will be, complied with in full. Including compliance by sub-contractors performing work under this agreement.

Contractor (Print)

(Signature)

Name of Signer (Print)

Title of Signer

Date

PEACH COUNTY CONTRACT CONDITIONS

NON-COLLUSION AFFIDAVIT OF PRIME CONTRACTOR

State of _____), County of _____)

_____, being first duly sworn, deposes and says that:

1. He/She is _____ (Owner, Partner, Officer, Representative, or Agent) of the **Contractor** that has submitted the attached **Bid**;
2. He/She is fully informed respecting the preparation and contents of the attached **Bid** and of all pertinent circumstances respecting such **bid**;
3. Such **Bid** is genuine and is not a collusive or sham **Bid**;
4. Neither the said **Contractor** nor any of its officers, partners, owners, agents, representatives, employees, or parties in interest, including this affiant, has in any way colluded, conspired, connived, or agreed, directly or indirectly, with any other **Contractor**, firm or person to submit a collusive or sham **Bid** in connection with the Contract for which the attached **Bid** has been submitted to or refrain from Proposing in connection with such Contract, or has in any collusion or communication or conference with any other **Contractor**, firm or person to fix the price or prices in the attached **Bid** or of any other **Contractor**, or to fix any overhead, profit or cost element of the **Bid** price or the **Bid** price of any other **Contractor**, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against Peach County or any person interested in the proposed Contract; and,
5. The price or prices bid in the attached **Bid** are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the **Contractor** or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed) _____

Name _____ (Print)

Title _____ (Print)

Subscribed and sworn to before me

This _____ day of _____ 20__

_____ (SEAL)

Title

CONFLICT OF INTEREST CERTIFICATION

By signing and submitting this Bid I hereby certify that employees of this company or employees of any company supplying material or subcontracting to do **Work** on this Contract will not engage in business ventures with employees of Peach County or Peach County Consultants nor shall they provide gifts, gratuities, favors, entertainment, loans, or other items of value to employees of Peach County.

Also, by signing and submitting this Contract, I hereby certify that I will notify Peach County through its Director of Public Works of any business ventures entered into between employees of this company or employees of any company supplying material or subcontracting to do **Work** on this Contract with a family member of Peach County employees.

Contractor

(Signature)

Name of Signer

Title of Signer

Date

VENDOR INFORMATION

COMPANY NAME: _____

CONTACT PERSON: _____ TITLE: _____

BUSINESS ADDRESS: _____

PHONE: _____ FAX: _____

EMAIL: _____

TYPE OF BUSINESS: (CIRCLE ONE) CORPORATION PARTNERSHIP SOLE PROPRIETOR

Have you done business with Peach County in the past? (circle one) YES NO

Do you participate in the E-Verify Program? (circle one) YES NO

Do you have a Federal Tax ID number? (circle one) YES NO

The information contained in this document is true to the best of my knowledge and I understand that giving false, misleading or deceptive information is considered unlawful and may be punishable by penalties of prosecution based on Georgia law.

Signature

Date

PEACH COUNTY CONTRACT CONDITIONS

GEORGIA SECURITY AND IMMIGRATION COMPLIANCE ACT (OCGA 13-10-91)

CONTRACTOR E-VERIFY AFFIDAVIT

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 which is engaged in the physical performance of services on behalf of PEACH COUNTY BOARD OF COMMISSIONERS has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in OCGA § 13-10-91. Furthermore, the undersigned contractor will continue to use E-Verify throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by OCGA § 13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification Number
(4-6 digit number can be found on MOU)

Date of Authorization

Name of Contractor

Name of Project

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, _____, 201__ in _____ (city), _____ (state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE ____ DAY OF _____, 201__.

NOTARY PUBLIC
My Commission Expires:

PEACH COUNTY CONTRACT CONDITIONS

GEORGIA SECURITY AND IMMIGRATION COMPLIANCE ACT (OCGA 13-10-91)

SUBCONTRACTOR E-VERIFY AFFIDAVIT

SUBCONTRACTOR'S NAME: _____

CONTRACTOR'S NAME: _____

By executing this affidavit, the undersigned Subcontractor verifies its compliance with OCGA § 13-10-91, stating affirmatively that the Subcontractor which is engaged in the physical performance of services under a contract with the Contractor identified above on behalf of PEACH COUNTY BOARD OF COMMISSIONERS has registered with and is participating in the E-Verify program in accordance with the applicability provisions and deadlines established in OCGA 13-10-91.

Federal Work Authorization User Identification Number
(4 6 digit number can be found on MOU)

Date of Authorization

Name of Project

I hereby declare under penalty of perjury that the foregoing is true and correct.
Executed on _____, _____, 201__ in _____ (city), _____ (state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE ____ DAY OF _____, 201__.

NOTARY PUBLIC
My Commission Expires: _____

PEACH COUNTY CONTRACT CONDITIONS



SOLE PROPRIETOR EXEMPTION AFFIDAVIT

The undersigned sole proprietor of _____ verifies that they are exempt from compliance with O.C.G.A. § 36-60-6, stating affirmatively that the individual, firm, or corporation has no employees other than themselves and is not required to register with and/or utilize the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions.

In making this representation under oath, I understand that any person who knowingly and willfully makes a false, fictitious or fraudulent statement or representation in an affidavit shall be guilty of a violation of Code Section 16-10-20 of the Official Code of Georgia.

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, _____, 201__ in _____ (city), _____ (state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

Type of secure and verifiable document provided
(Attach copy i.e., driver's license, passport, etc.)

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF _____, 201__

NOTARY PUBLIC
My Commission Expires:

PEACH COUNTY CONTRACT CONDITIONS

Private Employer Exemption Affidavit Pursuant To O.C.G.A. § 36-60-6(d)

By executing this affidavit, the undersigned private employer verifies that it is exempt from compliance with O.C.G.A. § 36-60-6, stating affirmatively that the individual, firm, or corporation has NO employees that you are the sole proprietor of _____ and are not required to register with and/or utilize the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 36-60-6.

I hereby declare under penalty of perjury that the foregoing is true and correct.
Executed on _____, 201__ in _____ (city), _____ (state).

Printed Name of Exempt Private Employer

Signature of Exempt Private Employer or
Authorized Officer or Agent

Printed Name and Title of Person Executing Affidavit

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF _____, 201__.

NOTARY PUBLIC
My Commission Expires:

* This affidavit is for submissions made on or after to July 1, 2013.

Secure and Verifiable Documents Under O.C.G.A. § 50-36-2

Issued August 1, 2012 by the Office of the Attorney General, Georgia

The Illegal Immigration Reform and Enforcement Act of 2011 ("IIRA") provides that "[n]ot later than August 1, 2011, the Attorney General shall provide and make public on the Department of Law's website a list of acceptable secure and verifiable documents. The list shall be reviewed and updated annually by the Attorney General." O.C.G.A. § 50-36-2(f). The Attorney General may modify this list on a more frequent basis, if necessary.

Any secure and verifiable document presented must not be expired. If expiration occurs during contract/benefit period, a current document must be presented to maintain compliance.

The following list of secure and verifiable documents, published under the authority of O.C.G.A. § 50-36-2, contains documents that are verifiable for identification purposes, and documents on this list may not necessarily be indicative of residency or immigration status.

- A United States passport or passport card [O.C.G.A. § 50-36-2(b)(3); 8 CFR § 274a.2]
- A United States military identification card [O.C.G.A. § 50-36-2(b)(3); 8 CFR § 274a.2]
- A driver's license issued by one of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, the Commonwealth of the Northern Mariana Islands, the United States Virgin Islands, American Samoa, or the Swain Islands, provided that it contains a photograph of the bearer or lists sufficient identifying information regarding the bearer, such as name, date of birth, gender, height, eye color, and address to enable the identification of the bearer [O.C.G.A. § 50-36-2(b)(3); 8 CFR § 274a.2]
- An identification card issued by one of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, the Commonwealth of the Northern Mariana Islands, the United States Virgin Islands, American Samoa, or the Swain Islands, provided that it contains a photograph of the bearer or lists sufficient identifying information regarding the bearer, such as name, date of birth, gender, height, eye color, and address to enable the identification of the bearer [O.C.G.A. § 50-36-2(b)(3); 8 CFR § 274a.2]
- A tribal identification card of a federally recognized Native American tribe, provided that it contains a photograph of the bearer or lists sufficient identifying information regarding the bearer, such as name, date of birth, gender, height, eye color, and address to enable the identification of the bearer. A listing of federally recognized Native American tribes may be found at <http://www.bia.gov/WhoWeAre/BIA/OIS/TribalGovernmentServices/TribalDirectory/index.htm> [O.C.G.A. § 50-36-2(b)(3); 8 CFR § 274a.2]
- A United States Permanent Resident Card or Alien Registration Receipt Card [O.C.G.A. § 50-36-2(b)(3); 8 CFR § 274a.2]
- An Employment Authorization Document that contains a photograph of the bearer [O.C.G.A. § 50-36-2(b)(3); 8 CFR § 274a.2]
- A passport issued by a foreign government [O.C.G.A. § 50-36-2(b)(3); 8 CFR § 274a.2]
- A Merchant Mariner Document or Merchant Mariner Credential issued by the United States Coast Guard [O.C.G.A. § 50-36-2(b)(3); 8 CFR § 274a.2]
- A Free and Secure Trade (FAST) card [O.C.G.A. § 50-36-2(b)(3); 22 CFR § 41.2]
- A NEXUS card [O.C.G.A. § 50-36-2(b)(3); 22 CFR § 41.2]
- A Secure Electronic Network for Travelers Rapid Inspection (SENTRI) card [O.C.G.A. § 50-36-2(b)(3); 22 CFR § 41.2]
- A driver's license issued by a Canadian government authority [O.C.G.A. § 50-36-2(b)(3); 8 CFR § 274a.2]
- A Certificate of Citizenship issued by the United States Department of Citizenship and Immigration Services (USCIS) (Form N-560 or Form N-561) [O.C.G.A. § 50-36-2(b)(3); 6 CFR § 37.11]
- A Certificate of Naturalization issued by the United States Department of Citizenship and Immigration Services (USCIS) (Form N-550 or Form N-570) [O.C.G.A. § 50-36-2(b)(3); 6 CFR § 37.11]
- Certification of Report of Birth issued by the United States Department of State (Form DS-1350) [O.C.G.A. § 50-36-2(b)(3); 6 CFR § 37.11]
- Certification of Birth Abroad issued by the United States Department of State (Form FS-545) [O.C.G.A. § 50-36-2(b)(3); 6 CFR § 37.11]
- Consular Report of Birth Abroad issued by the United States Department of State (Form FS-240) [O.C.G.A. § 50-36-2(b)(3); 6 CFR § 37.11]
- An original or certified copy of a birth certificate issued by a State, county, municipal authority, or territory of the United States bearing an official seal [O.C.G.A. § 50-36-2(b)(3); 6 CFR § 37.11]

In addition to the documents listed herein, if, in administering a public benefit or program, an agency is required by federal law to accept a document or other form of identification for proof of or documentation of identity, that document or other form of identification will be deemed a secure and verifiable document solely for that particular program or administration of that particular public benefit. [O.C.G.A. § 50-36-2(c)]

LIST OF SUBCONTRACTORS

The CONTRACTOR expressly agrees that:

1. If awarded the contract as a result of the proposal, the subcontractors used in the prosecution of the work will be those listed below.
2. The following list includes all subcontractors who will perform work on this project.
3. The subcontractors listed below are financially responsible and are qualified to do the work required.
4. Use of any of the subcontractors is subject to the approval of the County and Engineer.

CATEGORY	NAME OF SUBCONTRACTOR	ADDRESS

(Signed) _____

Name _____ (Print)

Title _____ (Print)

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 labor, equipment, tools and materials, which are not furnished by the Owner 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. Final payment quantities shall be determined from the record drawings or measured distance. The record lengths, dimensions, quantities, etc. shall be determined from the records and/or drawings after the completion of all required work.
- 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 item of which it is a part.
- E. Payment will be made for actual work completed. Such price and payment shall constitute full compensation to the Contractor for furnishing all labor, equipment, tools and materials not furnished by the Owner 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.
- F. "Products" shall mean materials or equipment permanently incorporated into the work.

1.03 CASH ALLOWANCES**A. General**

1. The Contractor shall include in the Bid Total all allowances stated in the Contract Documents. These allowances shall cover the net cost of the services provided by a firm selected by the Owner. The Contractor's handling costs, labor, overhead, profit and other expenses contemplated for the original allowance shall be included in the items to which they pertain and not in allowances.
2. No payment will be made for nonproductive time on the part of testing personnel due to the Contractor's failure to properly coordinate testing activities with the work schedule or the Contractor's problems with maintaining equipment in good working condition. The Contractor shall make all necessary excavations and shall supply any samples of materials necessary for conducting compaction and density tests.
3. No payment shall be provided for services which fail to verify required results.

- B.** Should the net cost be more or less than the specified amount of the allowance, the Contract will be adjusted accordingly by change order. The amount of change order will not recognize any changes in handling costs at the site, labor, overhead, profit and other expenses caused by the adjustment to the allowance.

C. Documentation

1. Submit copies of the invoices with each periodic payment request from the firm providing the services.
2. Submit results of services provided which verify required results.

D. Schedule of Cash Allowances

1. Soils and Concrete Testing:
 - a. Allow the amount provided in the Bid for the services of a geotechnical engineering firm and testing laboratory to verify soils conditions including trench excavation and backfill, and similar issues and for the testing of concrete cylinders for poured in place concrete.
 - b. This allowance is solely for the use of the Engineer for verification of the Contractor's installed work. The presence of this cash allowance in no way relieves the Contractor of the responsibility of meeting the requirements of the contract documents or verifying that the work has been performed accurately.

1.04 CLEARING AND GRUBBING

- A. No separate payment will be made for clearing and grubbing.
- B. The cost for moving and reestablishing landscape features, including labor and materials, shall be included in the unit price bid for the item to which it pertains.

1.05 EROSION AND SEDIMENTATION CONTROL

- A. General
 - 1. No separate payment shall be made for temporary and/or permanent erosion and sedimentation controls. All temporary and/or permanent erosion and sedimentation control costs shall be included in the unit price bid for the item to which it pertains.
 - 2. No payment will be made for any portion of the Project for which temporary erosion and sedimentation controls are not properly maintained.
 - 3. Quantities for payment shall be based upon actual quantity constructed and authorized by the engineer
- B. Silt Fence: All costs for silt fence, including installation, maintenance, repair replacement, and removal, shall be included in the unit price bid for silt fence.
- C. Inlet Filters: All costs for inlet filters, including installation, maintenance, repair replacement, and removal, shall be included in the unit price bid for inlet filters.

1.06 TRENCH EXCAVATION AND BACKFILL

- A. No separate or additional payment will be made for any special or unique method, means, techniques or equipment necessary for the Contractor's compliance with these Specifications, regulatory requirements, permits, laws or regulations which govern this Project.
- B. Trench Excavation: No separate payment will be made for trench excavation. All costs shall be included in the unit price bid for the item to which it pertains at the appropriate depth.
- C. Sheet piling, Bracing and Shoring: No separate payment will be made for providing any sheet piling, bracing and shoring.
- D. Rock Excavation: No separate payment will be made for rock excavation, the cost of rock work and all associated costs shall be included in the unit price for the item to which it pertains.

- E. Dewatering Excavations: All costs of equipment, labor and materials required for dewatering shall be included in the price bid for the item to which it pertains.
- F. Trench Foundation and Stabilization: No separate payment will be made for providing any trench foundation and/or stabilization.
- G. Initial Backfill
1. No separate payment shall be made for initial backfill.
 2. No separate payment shall be made for drying out the initial backfill material in order to meet the compaction requirements.
 3. No separate payment shall be made for the adding of moisture to the initial backfill materials in order to meet the compaction requirements.
 4. Payment for providing select material for backfilling will be made only if ordered by the Engineer. Select backfill will be ordered by the Engineer only if the insitu material does not meet the requirements for initial backfill for reasons other than moisture content, i.e., the backfill material contains rock larger than that specified, organics, cinders, stumps, limbs, frozen earth or mud, man-made wastes or other unsuitable materials. No payment will be made for select backfill acquired from the Project site. Payment will be made only for Select Backfill which is imported to the Project site.
- H. Final Backfilling
1. No additional payment will be made for additional material when excavated materials are used.
 2. No separate payment shall be made for drying out the final backfill material in order to meet the compaction requirements.
 3. No separate payment shall be made for the adding of moisture to the final backfill materials in order to meet the compaction requirements.
 4. Payment for providing select material for backfilling will be made only if ordered by the Engineer. Select backfill will be ordered by the Engineer only if the insitu material does not meet the requirements for final backfill for reasons other than moisture content, i.e., the backfill material contains rock larger than that specified, organics, cinders, stumps, limbs, frozen earth or mud, man-made wastes or other unsuitable materials. No payment will be made for select backfill acquired from the Project site. Payment will be made only for Select Backfill which is imported to the Project site.
- I. Additional Material: No separate payment will be made for additional earth or fill

materials imported to the Project site unless approved by the Engineer.

1.07 JACK AND BORE OR OPEN CUT CASINGS – NOT USED

1.08 FREE BORE DRIVEWAY INSTALLATION – NOT USED

1.09 REMOVING AND REPLACING PAVEMENT

- A. All costs for removing or replacing pavement or driveways shall be included in the bid item including providing select fill or crushed stone if necessary.
- B. Payment shall be made only for that area for which is required to accomplish the construction of the item.
- C. Payment for soils testing shall be made by the Contractor and shall be included in the cost for the bid item.
- D. No additional payment will be made for removing and replacing damaged adjacent pavement.

1.10 REMOVING AND REPLACING CURB

- A. All costs for removing or replacing curb and gutter shall be included in the bid item including providing select fill or crushed stone if necessary.
- B. No payment will be made for the replacement of damaged adjacent curb.

1.11 SEWERS AND ACCESSORIES

- A. All costs for removing or replacing storm and sanitary sewers and accessories shall be included in the bid item including providing bedding material if necessary.
- B. All costs for connections to the storm sewer shall be included in the bid item, and shall include connecting to the existing pipe, penetrating the new or existing structure wall, and sealing the connection.
- C. All costs for storm drain structures shall be included in the bid item, including costs associated with pipe and installation, base sections, riser sections, transitions, slabs, frame and covers, grates, connection of pipes to the structure and construction of the invert.

1.12 CLEANUP

- A. No additional payment will be made for the cleanup of the area.

END OF SECTION

SECTION 01720

PROJECT 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. Drawings;
 - 2. Specifications;
 - 3. Change Orders and other modifications to the Contract;
 - 4. Engineer Field Orders or written instructions, including Requests for Information (RFI) and Clarification Memorandums;
 - 5. Reviewed Shop Drawings, product data and samples;
 - 6. 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, apart from documents used for construction.
 - 2. Provide files and racks for storage of documents.
 - 3. Provide locked cabinet or secure storage space for storage of samples.
- 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 one copy of all Record Documents.
- D. Make documents and samples available at all times for inspection by Engineer.
- 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.
- C. The Contractor shall employ a currently registered surveyor to prepare the Record Drawings from a post-construction, field run survey. The Record Drawings shall provide elevations to the nearest 0.01 foot for all manhole inverts, manhole frames and other pertinent items constructed by the Contractor. The Record Drawings shall provide dimensions, distances, and coordinates to the nearest 0.01 foot and horizontal angles to the nearest 10 seconds.

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. Contractor shall provide two sets of neat, clean, legible Redline Drawings to the Owner.
- B. Legibly mark and revise 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. Details not on original Drawings.
 - d. Two sets of approved shop drawings.
 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 back of curb 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. All sewer mains (type, size) and appurtenances such as manholes, laterals, cleanouts, pump stations, etc. shall be located and tied into the state plane coordinates. Also show the distance between manholes, invert and rim elevations, angles and sewer profiles.

3. Structures

- a. Depths of various elements of foundation in relation to finish first floor datum or top of wall.
- b. Location of internal and buried utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.

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 actually 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 02200

CLEARING & GRUBBING

PART 1 GENERAL

- 1.01 Scope - This section describes materials and equipment to be utilized and requirements for their use in clearing, grubbing, and preparing the work for construction. The Contractor shall furnish all materials, equipment and labor necessary to complete the work.
- 1.02 REFERENCES - Georgia Manual for Erosion & Sedimentation Control, Current Edition.
- 1.03 QUALITY ASSURANCE
- A. Comply with applicable codes, ordinances, rules, regulations and laws of local, municipal, state or federal authorities having jurisdiction.
 - B. Layout work shall be done under supervision of a Civil Engineer or Registered Land Surveyor, registered in Georgia.
 - C. Total stations, levels, and other survey measuring devices shall be calibrated to layout site and construction work.
- 1.04 SITE CONDITIONS
- A. The area to be cleared and grubbed is shown schematically on the Drawings or specified below. Only permanent easements shall be clear and grubbed.
 - B. The area to be cleared and grubbed shall be a minimum 20' wide strip centered on the proposed storm sewer line. Additional clearing and grubbing may be necessary around deep trenches. Temporary easements are shown only if required during the construction process. Additional clearing and grubbing, including areas shown in temporary easements, shall be at no additional cost to Owner.
 - C. Coordinate and execute activities so as to not interfere with other contracts.
- 1.05 EQUIPMENT - Furnish equipment of the type normally used in clearing and grubbing operations including but not limited to tractors, trucks, loaders, root rakes and burning equipment.
- 1.06 PREPARATION:
- A. Protect and maintain all benchmarks, monuments and reference points. Replace if disturbed or destroyed stakes or flagging where possible. If control points are found at variance with the Drawings, notify the Engineer before proceeding with layout work.

RFB 16-021

- B. Install erosion and sedimentation control structures as shown on the Drawings and any other unmarked places which will allow the Contractor to stay within the guidelines of the Georgia Manual for Sedimentation and Erosion Control. In any areas where a variance occurs between the drawings and the Erosion Control Manual, the manual will take precedence.
- C. Protect all utilities and buildings during all phases of the construction process.

1.07 CLEARING AND GRUBBING:

- A. Top soil and/or organic matter shall be removed and stockpiled to be re-spread for seeding preparation.
- B. Within the limits shown on the Drawings, the site will be cleared and grubbed to prepare for construction.
- C. Materials to be cleared, grubbed and removed from the project site include, but are not limited to, all trees, stumps, roots, brush, trash, organic matter.
- D. Grubbing shall consist of completely removing stumps, trash and other debris from all graded areas so that topsoil is free from roots and debris. Topsoil is to be left sufficiently clean so that further picking and raking will not be required.
- E. All stumps, roots, foundation and planking embedded in the ground shall be removed and disposed of. Piling and butts of utility poles shall be removed to a minimum depth of two feet below the limits of excavation for structures, trenches and roadways for two feet below finish grade, whichever is lower.
- F. Surface rocks and boulders shall be grubbed from the soil and removed from the site if not suitable as rip rap.
- G. Grub construction areas with heavy tractors with root rakes. Raking shall proceed along the contours of the site rather than up and down slopes to inhibit soil erosion.
- H. Trees shall be taken down in sections to eliminate the possibility of damage to any utility wires or ground structures.
- I. Any work pertaining to utility poles shall comply with the requirements of the appropriate utility.
- J. Stumps and roots shall be grubbed and removed to a depth not less than two feet below grade. All holes or cavities which extend below the sub-grade elevation of the proposed work shall be filled with crushed rock or other suitable material and compacted to same density as the surrounding material.
- K. The Contractor shall be responsible for all damages to existing improvements resulting from the Contractor's operation.

1.08 DISPOSAL OF DEBRIS

- A. The debris resulting from the clearing and grubbing operation shall be hauled to a disposal site secured by the Contractor and shall be disposed of in accordance with the requirements of federal, state, county and municipal regulations. No debris of any kind shall be deposited in any stream or body of water, or in any street or alley. No debris shall be disposed upon any private property except with written consent of the property owner. In no case shall any material or debris be left on the Project, shoved onto abutting private properties or buried on the Project.

- B. When approved in writing by the Engineer and when authorized by the proper authorities, the Contractor may dispose of any such debris by burning on the Project site provided all requirements set forth by the governing authorities are met. The authorization to burn shall not relieve the Contractor in any way from damages which result from the Contractor's operations. On easements through private property, the Contractor shall not burn on the site unless written consent is also secured from the property owner, in addition to authorization from the proper authorities.

END OF SECTION

SECTION 02240

DEWATERING

PART 1 GENERAL

1.01 SUMMARY

- A. This section shall apply to all excavation, except trench excavation.
- B. Construct all permanent work in areas free from water. Design, construct and maintain all dikes, levees, cofferdams and diversion and drainage channels as necessary to maintain the areas free from water and to protect the areas to be occupied by permanent work from water damage. Remove temporary works after completion of the project.
- C. The Contractor shall be responsible for the stability of all temporary and permanent slopes, grades, foundations, materials and structure during the course of the Contract. Repair, replace, restore all slopes, grades, foundations, materials and structures damaged by water, both surface and subsurface, to the lines, grades and conditions existing prior to the damage, at no additional cost to the Owner.

PART 2 PRODUCTS

2.01 PRODUCTS SUPPLIED BY CONTRACTOR

- A. Furnish well points, pumps, tile drains or other approved methods of the type normally used in dewatering operations.

PART 3 EXECUTION

3.01 CARE OF WATER

- A. Except where the excavated materials are designated as materials for permanent work, material from required excavation may be used for dikes, levees, cofferdams and other temporary backfill provided the material meets suitability requirements for these structures.
- B. Furnish, install, maintain and operate necessary pumping and other equipment for dewatering the various parts of the work and for maintaining the foundation and other parts free from water as required for constructing each part of the work.
- C. Install all drainage ditches, sumps and pumps to control excessive seepage on excavated slopes to drain isolated zones with perched water tables and to drain impervious surfaces at final excavation elevation.
- D. Dewater by means which will insure dry excavations, preserve final lines and grades, do not disturb or displace adjacent soil.
- E. All pumping and drainage shall be done with no damage to property or structures and without interference with the rights of the public or owners of private property.

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- F. Do not overload or obstruct existing drainage facilities.
- G. When temporary works will not adversely affect any item of permanent work or the planned usage of the Project, the Contractor may be permitted to leave such temporary works in place. In such instances, breaching of dikes, levees and cofferdams may be required.

3.02 DEWATERING

- A. Contractor shall provide a dewatering plan to the Engineer prior to commencing work.
- B. By the use of well points, pumps, tile drains or other approved methods, the Contractor shall prevent the accumulation of water in excavated areas. Should water accumulate, it shall be promptly removed.
- C. Excavations shall be continuously dewatered to maintain a ground water level no higher than three to four feet below the lowest point in the excavation. Dewatering shall be accomplished well enough in advance of excavation to ensure that groundwater is already lowered prior to completing the final excavation to finish sub-grade.
- D. All destabilized sub-grade conditions caused by inadequate or untimely dewatering operations shall be undercut and backfilled with suitable backfill material at no additional cost to the Owner.
- E. Where the presence of fine grained subsurface materials and a high groundwater table may cause the upward flow of water into the excavation with a resulting quick or unstable condition, the Contractor shall install and operate a well point system to prevent the upward flow of water during construction. Water pumped or drained from excavations, or any sewers, drains or water coursed encountered in the work, shall be disposed of in a suitable manner without injury to adjacent property, the work under construction, or to pavements, roads, drives, and water courses. No water shall be discharged to sanitary sewers. Sanitary sewage shall be pumped to sanitary sewers or shall be disposed of by an approved method.

END OF SECTION

SECTION 02300

EARTHWORK

PART 1 GENERAL

1.01 SUMMARY

- A. 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 sub-grades, surfacing and grading, and any other similar, incidental, or appurtenant earthwork operations which may be necessary to properly complete the work.

1.02 RELATED SECTIONS

- A. Section 02200, Clearing & Grubbing
- B. Section 02240, Dewatering
- C. Section 02324, Trench Excavation & Backfill

1.03 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. This material shall be used after reaching near optimum moisture content as topsoil for final dressing.
- 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.

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2. Class II Fill in 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.
- 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 removed from the site by the Contractor as directed by the Engineer at no addition cost to the Owner.
- H. Elevations shown on the Drawings as existing are taken from the best known 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. The Contractor shall comply with all local regulations and with the "Manual of Accident Prevention in Construction" of the Associated General Contractors of America, Inc.
- 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 upon completion unless not required by the Engineer.
- L. Protection: Protect trees, shrubs, lawns, and other features remaining as portion of final landscaping. Protect benchmarks, R/W markers, monuments, iron pins, property corner markers, etc. If such markers are disturbed or destroyed, Contractor shall provide services of a registered land surveyor to replaced the markers at no expense to the owner.

PART 2 PRODUCTS

2.01 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.

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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 D2487-85 "Standard Methods for Classification of Soils for Engineering Purposes". Earth Fill shall also conform to the following:

1. Liquid Limit = 50 maximum
2. Plasticity Index = 25 maximum
3. Dry Unit Weight = 100 pcf minimum maximum density

C. Pervious Fill: Material shall consist of crushed stone or gravel. Size and gradation shall be #7 size as defined by ASTM C33-86, "Standard Specification for Concrete Aggregates" (Nominal size 2" to #4 Sieves).

D. Total Percent Passing Sieve (By Weight)

1. Square
 - a. Sieve 12 1 3/4 2 3/8 #4 #8
2. Size # 7
 - a. (2") 100 100 100 90-100 40-70 0-15 0-5

2.02 UNSUITABLE SITE FILL MATERIAL

A. Material which does not conform to the above classifications (soil classification MH, OH, OL and PT) may be used as Site Fill material identified on the drawings as "spoil areas" and under topsoil to establish site grades.

2.03 TOPSOIL

A. Dark organic weed free loam which is free of muck.

PART 3 EXECUTION

3.01 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. Any yielding, pumping or soft areas should be cut out and replaced with fill compacted as described herein.
- C. Finish grading outside of building, where not shown otherwise, shall be given uniform slopes between points for which finished grades are shown, or between points and existing established grade.
- D. 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 width of 6-feet and minimum depth of 3-inches with a minimum

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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.

3.02 RAINWATER, SURFACE WATER, AND BACKUP

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

3.03 UNDERCUTTING

- A. During construction, soils classified MH, OH, OL and PT shall be undercut to a depth as shown on the drawings and replaced with compacted structural fill.
- B. Stockpile material by Fill Material classification in on site locations where it will not interfere with construction operations. Materials stockpiled shall be placed in a manner to afford drainage. Protect against erosion.

3.04 PREDENSIFICATION

- A. After undercutting and prior to filling, the newly exposed sub-grade enclosed by a line drawn 5' – 0" outside the building area shall be scarified and pre-densified by rolling the surface with compaction equipment. This shall be performed in the presence of an Owner's representative.
- B. Rolling shall consist of a minimum of eight (8) overlapping coverages in each of two perpendicular directions and shall be continued until density tests at a depth of 6-inches below the surface indicate the attainment of 98% of the Standard Proctor Maximum Dry Density (ASTM D698)
- C. Sub-grades where footings for structures and paving that will bear on expansive soils should not be allowed to dry or to become excessively wet prior to the placement of fill and final build out of the structure. The filling shall begin on the same day excavations are made.

3.05 INSPECTION OF SUBGRADE

- A. During pre-densification, the Designated Testing Laboratory shall inspect the newly exposed sub-grade to detect soft, loose, or unstable zones.
- B. Replace soft, loose, or unstable zones with Class I Fill.

3.06 INSTALLATION OF CLASS I FILL

- A. Class I Fill shall be Earth Fill material.
- B. Compact within +3 percent of optimum moisture content in 4-inch to 8-inch loose layers to not less than 98 percent of the Standard Proctor maximum density (ASTM D698).

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3.07 INSTALLATION OF CLASS II FILL:

- A. Class II Fill shall be Earth Fill materials except that fill immediately behind walls and under floor slabs be Sand Fill or Pervious Fill material as indicated on drawings.
- B. Compact within +3 percent of optimum moisture content in 4-inch to 8-inch loose layers to not less than 95 percent of the Standard Proctor maximum density (ASTM D698).

3.08 INSTALLATION OF CLASS III FILL

- A. Compact fill in utility trenches not under buildings or paved areas to not less than 90 percent of the Standard Proctor maximum density (ASTM D698). See Sections 02324 and 02732 for additional information on trench backfilling procedures.

3.09 INSTALLATION OF BACKFILL

- A. Shore wall slabs which are to be tied into bottom slabs prior to installation of Backfill and until slabs have been in place sufficient time to achieve strength and provide structural stability against overturning.
- B. Where Backfill is required on both sides of walls it shall be brought up in even lifts so as not to provide an unequal lateral load.
- C. Install Backfill against wall slabs only when directed by the Engineer and elsewhere as construction progress permits.

3.10 EXCAVATION

- A. Excavate to elevations and dimensions, plus space to permit erection of forms and for waterproofing and installation of drains. All bottoms shall be clean cut, true, level, and sound. Any water softened soils in foundation excavations shall be removed prior to steel and concrete placement.

3.11 GROUNDWATER CONTROL

- A. Maintain water table not less than 3-feet below sub-grades during operations which require heavy wheeled or roller equipment and below excavation level during placement of structural fill or crushed aggregate sub-grade stabilization as directed by the Engineer. See Section 02240, Dewatering.
- B. Provide temporary ditches as necessary during construction to control seepage from springs and direct the water away from the fill areas.
- C. Install storm sewers as shown on the drawings.

3.12 EXCAVATION STABILIZATION

- A. Where Groundwater Control cannot be accomplished, stabilize bottom of excavation with the installation of 1-foot of crushed aggregate Size #57 (1" to #4) prior to placement of compacted fill.

- B. After stabilization of excavation bottom, initial 1-foot “bridge-lift” of fill may be granular (SP, SW, GP OR GW) fill followed by placement of Controlled Fill.

3.13 COMPACTION TESTING

- A. Field density tests shall be made by a fully insured testing laboratory selected by the Contractor, approved by the Owner, and paid by the Contractor.
- B. Class I Fills: One field density test for each 2000 SF of area after each one-foot lift or one test per 2,000 linear feet of trench or roadway per one and one half-foot lift.
- C. Class II Fills: One field density test for each 2000 SF of area after each two-foot lift or one test per 300 linear feet of trench or roadway per two-foot lift.
- D. Class III Fill: One field density test per 300 lineal feet of trench at a depth two feet below finish grade.
- E. Exact locations of tests shall be as directed by the Engineer. Two copies of all test results shall be submitted to the Engineer. The Contractor shall be responsible for maintaining a copy of all test results on file at the jobsite.
- F. The Contractor shall be responsible for:
 - 1. Notifying the laboratory on conditions requiring testing.
 - 2. Coordinating the laboratory for field testing.
 - 3. Providing representative fill soils samples to the laboratory for testing purposes. Provide 50 pound samples for each fill soil.
 - 4. Payment for all testing.

END OF SECTION

SECTION 02324

TRENCH EXCAVATION & BACKFILL

PART 1 - GENERAL

1.01 SUMMARY

- A. The work under this section consists of furnishing all labor, equipment, and materials and performing all operations in connection with the trench and excavation and backfill required to install the site utilities, including all pipelines, electrical conduits and duct banks shown on the Drawings and as specified.
- B. Excavations shall include the removal of any trees, stumps, brush, debris or other obstacles which remain after the clearing and grubbing operations, which may obstruct the Work, and the excavation and removal of all earth, rock or other materials to the extent necessary to install the utility and appurtenances in conformance with the lines and grades shown on the Drawings and as specified.
- C. Backfill shall include the refilling and compaction of the fill in the trenches and excavations up to the surrounding ground surface or road grade at crossing.

1.02 DEFINITIONS

- A. Foundation: The area beneath the bedding, sometimes also referred to as trench stabilization.
- B. Bedding: The area above the trench bottom (or foundation) and below the bottom of the utility.
- C. Haunching: The area above the bottom of the barrel of the pipe up to a specified height above the bottom of the barrel of the pipe.
- D. Initial Backfill: The area above the haunching material and below a plane 18-inches above the top of the barrel of the pipe or the top of duct bank.
- E. Final Backfill: The area above a plane 18-inches above the top of the utility.

1.03 REFERENCES

- A. Perform all trench excavation and backfilling activities in accordance with the Occupational Safety and Health Act of 1970 (PL 91-596), as amended. The Contractor shall pay particular attention to the Safety and Health Regulations Part 1926, Subpart P "Excavation, Trenching & Shoring" as described in OSHA publication 2226.
- B. ASTM D 698
- C. ASTM D 4253, Maximum Index Density of Soils Using a Vibratory Table.
- D. ASTM D 1556, Density of Soil in Place by the Sand Care Method.

- E. ASTM D 2837, Density of Soil in Place by the Drive-Cylinder Method.
- F. ASTM D 2922, Density of Soil and Soil Aggregate in Place by Nuclear Methods (Shallow Depth).

1.04 QUALITY ASSURANCE

- A. Density: Tests for compaction and density shall be conducted by an independent testing laboratory selected in accordance with these Specifications & paid for by the Contractor.
- B. The soils testing laboratory is responsible for the following:
 - a. Field compaction testing shall be based on using the maximum dry density determined by the Standard Proctor Compaction Test in accordance with ASTM D 698.
 - b. Maximum dry density for non-cohesive materials shall mean the maximum index density as determined by ASTM D 4253.
 - c. Determination of in-place backfill density shall be done in accordance with ASTM D 1556, ASTM D 2937, or ASTM D 2922.
 - d. Inspecting and testing stripped site, sub-grades and proposed fill materials.
- C. Contractor's duties relative to testing include:
 - a. Notifying laboratory of field conditions.
 - b. Coordinating with laboratory for field testing.
 - c. Providing representative fill soil samples to the laboratory for test purposes. Provide 50 pound samples of each fill soil.
 - d. **No separate payment will be made for soils testing. Soils testing shall be included in the unit price bid associated with work performed.**
- D. Testing Frequency:
 - a. Testing of materials to certify conformance with the Specifications shall be performed in accordance with Section 02300 of these Specifications.
 - b. For utility/trench work, field density tests for each two feet lift, one test for each 800 feet of pipe installed or more frequently if ordered by the Engineer.

PART 2 PRODUCTS

2.01 TRENCH FOUNDATION MATERIALS:

- A. Crushed stone shall be utilized for trench foundation (trench stabilization).
- B. Crushed stone shall conform to Georgia DOT Standard Specifications for size No. 57 (1" to #4)

2.02 BEDDING AND HAUNCHING MATERIAL

- A. Earth materials utilized for bedding and haunching shall be suitable materials selected from materials excavated from the trench. Suitable materials shall be clean and free of rock, organics, cinders, stumps, limbs, frozen earth or mud, man-made wastes and other suitable materials.

- B. Sewer: All bedding materials shall be crushed stone unless shown or specified otherwise. Crushed stone bedding materials shall meet the requirements of Georgia Department of Transportation Specification 800.01 for No. 78 stone for PVC pipe and No. 57 stone for ductile iron pipe.
- C. Sewer Laterals: The bedding requirement for the laterals from the main sewer to the edge of the road right-of-way or easement shall be the same as applicable to the main sewer.
- D. Manholes: All bedding materials shall be crushed stone unless shown or specified otherwise. Crushed stone bedding materials shall meet the requirements of Georgia Department of Transportation Specification 800.01 for No. 57 stone.

2.03 INITIAL BACKFILL

- A. Initial backfill material shall be crushed stone or earth materials as specified for bedding and haunching materials.
- B. Earth materials utilized for initial backfill shall be suitable materials selected from materials excavated from the trench. Suitable materials shall be clean and free of rock for at least one foot above the top of the pipe, organics, cinders, stumps, limbs, frozen earth or mud, manmade wastes and other unsuitable materials. No stone larger than one and two (2) inches in its greatest dimension shall be used for backfill. Should the material excavated from the trench be saturated, the saturated material may be used as earth material, provided it is allowed to dry properly and it is capable of meeting the specified compaction requirements. When necessary, initial backfill materials shall be moistened to facilitate compaction by tamping. If materials excavated from the trench are not suitable for use as initial backfill material, provide select material conforming to the requirements of this Section.

2.04 FINAL BACKFILL

Final backfill material shall be general excavated earth materials, shall no contain rock larger than 8-inches at its greatest diameter, cinders, stumps, limbs, man-made wastes and other unsuitable materials. If materials excavated from the trench are not suitable for use as final backfill material, provide select material conforming to the requirements of this Section.

2.05 SELECT BACKFILL

Select backfill shall be material which meets the requirements as specified for bedding, haunching, initial backfill or final backfill materials, including compaction requirements.

2.06 CONCRETE

Concrete for bedding, haunching, initial backfill or encasement shall be 3,000 psi concrete.

2.07 DETECTION TAPE

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Furnish a metalized tape, "Tera Tape" Type D for water as manufactured by Griffolyn Co., Inc. or approved equal where shown.

2.08 PREPARATION

Topsoil and grass shall be removed in accordance with the requirements of Section 02200.

PART 3 EXECUTION

3.01 PREPARATION

Clearing and grubbing topsoil and grass shall be removed in accordance with Sections 02200 and 02300.

3.02 TRENCH EXCAVATION

- A. Description: The trench shall be dug to the alignment and grade required. The trench shall be braced if necessary and drained in order that workmen therein may work safely and efficiently. It is essential that the discharge from any pumps be led to natural drainage channels or to drains.
- B. Width: Minimum width of trench shall be six (6) inches from the outside of barrel of pipe on each side of pipe. Maximum width of trench shall be nine (9) inches from the outside of barrel of pipe on each side of pipe. Sides of trench shall be dug and maintained substantially vertical except Contractor shall adhere to all applicable requirement of OSHA for trench safety.
- C. Correcting Faulty Grade: Any part of the trench excavated below grade shall be corrected with approved material thoroughly compacted.
- D. Bell Holes, Required: Bell holes of ample dimensions shall be dug in trenches at each joint to permit the joint to be made properly.
- E. Braced and Sheeted Trenches: Wherever necessary to prevent caving, excavations shall be adequately sheeted and braced. Where sheeting and bracing are used, the trench width shall be increased accordingly. Trench sheeting shall remain in place until the pipe has been laid, tested for defects, and repaired if necessary, and the earth around it compacted to a depth of two feet over the top of the pipe.
- F. Trench Stabilization: Wherever the material at the bottom of the trench is unsuitable for the proper installation of the pipe, the Engineer or his representative will direct the removal and replacement of the unsuitable material.
- G. When so directed, undercut the trench and backfill with No. 57 stone meeting the requirements of Georgia D.O.T. Specification (1" to #4) Place and compact this material to bring the trench to the required grade.
- H. Pipe Alignment and Grade: The pipe shall be laid in the trench so that the interior surface of pipe shall conform accurately to the grades and alignments fixed and shown on the plans.

- I. Rock Excavation:
 - 1. Definition of Rock: Any material which cannot be excavated with a backhoe having a bucket curling force rated at not less than 18,300 pounds (Caterpillar Model 215 D-LC w/ 42" bucket or equal) and occupying an original volume of at least one-half cubic yard.
 - 2. Excavation: Where rock is encountered in trenches, excavate to the minimum depth which will provide clearance below the pipe barrel of 4 inches plus required bedding depth for pipe and manholes. Remove boulders and stones to provide a minimum of 6 inches clearance between the rock and any part of the pipe or manhole.
 - 3. Blasting: Provide experienced workmen to perform blasting. Conduct blasting operations in accordance with all existing ordinance and regulations. Protect all structures from the effects of the blast. Repair any resulting damage.
 - 4. If the Contractor persistently used excessive blasting charges or blasts in an unsafe or improper manner, the Engineer or his representative may direct the Contractor to employ an independent blasting consultant to supervise the preparation for each blast and approve the quantity of each charge.
 - 5. Removal of Rock: Do not use excavated rock as backfill material. Dispose of rock which is surplus or not suitable for use as rip rap.

- J. Haunching: Haunch pipelines in accordance with detail drawing and the following specifications. Haunching will be required for all gravity sewers. Haunching material shall be No. 57 stone.

- K. Bedding: Compact stone bedding material by tamping or slicing with a flat blade shovel. Prepare the trench bottom to support the pipe uniformly throughout its length. Provide bell holes to relieve pipe bells of all loads. If the trench is excavated to excessive width or depth, provide the next better class of bedding. In rock trenches, bed pipe in at least six inches of bedding material.

- L. Gravity Sewers and Accessories: Lay PVC pipe with minimum Class "B" bedding, unless shown or specified otherwise.

- M. Bedding Classifications: All gravity sewer installation shall conform to the following bedding classifications in accordance with ASTM C12.
 - 1. Class "A" (Bedding Factor- 2.8): Excavate the bottom of the trench flat a minimum depth as shown on the Drawings, below the bottom of the pipe barrel. Lay pipe to line and grade on concrete block. Place concrete to the full width of the trench and to a height of one-fourth of the outside diameter of the pipe above the inlet.
 - 2. Class "B" (Bedding Factor)- 1.9): Excavate the bottom of the trench flat at a minimum depth as shown on the Drawings, below the bottom of the pipe barrel. Place and compact bedding material to the proper grade. Haunching material shall then be carefully placed by hand and compacted to provide full support under and up to the centerline of the pipe.
 - 3. Class "C" (Bedding Factor- 1.5): Excavate the bottom of the trench flat at a minimum depth as shown on the Drawings, below the bottom of the pipe barrel. Place and compact bedding materials to the proper grade. Haunching material shall then be carefully placed by hand and

compacted to provide full support under and up to a height of one-fourth the outside diameter of the pipe above the bottom of the pipe barrel.

- N. Manholes: Excavate to a minimum of 12 inches below the planned elevation of the base of the manhole. Place and compact stone bedding material to the required grade before constructing the manhole.
- O. Compaction: Bedding under pipe and manholes shall be compacted to a minimum of 90 percent of the maximum dry density as determined by the Standard Proctor Compaction Test, STM D 698.
- P. Care of Surface Material for Reuse: If local conditions permit their reuse, all surface materials suitable for reuse in restoring the surface shall be kept separate from the general excavation material.
- Q. Manner of Piling Excavated Materials: All excavated materials shall be piled so that it will not endanger the Work and so that it will avoid obstructing roads and driveways. Drainage channels shall be kept clear of other satisfactory provisions made for drainage.
- R. Trenching by Machine or by Hand: The use of trench digging machinery will be permitted except in places where operation of same will cause damage to existing structures above or below the ground; in which case, hand methods shall be employed.

3.03 INITIAL BACKFILL

- A. As soon as practicable after the completion of laying and jointing of the pipe, the trench shall be backfilled, and at no time shall the completed backfilled trench be more than 200 feet behind the pipe laying. Initial backfill shall be placed to anchor pipe, protect the pipe from damage by subsequent backfill and ensure the uniform distribution of the loads over the top of the pipe.
- B. Place initial backfill material carefully around the pipe in uniform layers to a depth of at least 18-inches above the pipe or duct bank. Layer depths shall be a maximum of 6-inches for pipe 18-inches in diameter and smaller and a maximum of 12-inches for pipe larger than 18-inches in diameter.
- C. Backfill on both sides of the pipe simultaneously to prevent side pressures.
- D. Compact each layer thoroughly with suitable hand tools or tamping equipment.
- E. Initial backfill shall be compacted to a minimum 90 percent of the maximum dry density, unless shown or specified otherwise.
- F. For PVC Gravity Sewer, crushed stone shall be used for initial backfill up to 6-inches above the pipe barrel.

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- G. For electrical duct banks, place the first 12-inches of initial backfill materials as specified in this Section. Place in 6-inch layers, compact with suitable hand tools or tamping equipment.
- H. If materials excavated from the trench are not suitable for use as backfill materials, provide select backfill material conforming to the requirements of this Section.

3.04 CONCRETE ENCASEMENT FOR PIPELINES

Where concrete encasement is shown on the Drawings for pipelines, excavate the trench to provide a minimum of 6-inches clearance from the bell of the pipe. Lay the pipe to line and grade on concrete blocks. In lieu of bedding, haunching and initial backfill, place concrete to the full width of the trench and to a height of not less than 6-inches.

3.05 FINAL BACKFILL

- A. After initial backfill materials have been placed and compacted, backfill with final backfill material. Place backfill material in uniform layers, compacting each layer thoroughly as follows:
 - 1. In 6-inch layers, if using light power tamping equipment, such as a “jumping jack.”
 - 2. In 12-inch layers, if using heavy tamping equipment, such as a hammer with tamping feet.
 - 3. In 24-inch layers, if using a hydra-hammer.
- B. Final backfill shall be compacted to a minimum 85 percent of the maximum dry density, unless specified otherwise.
- C. Backfill carefully to provide a finished grade at the elevations shown on the Drawings.
- D. The top 6-inches shall be topsoil obtained as specified in Section 02200 of these Specifications.
- E. If materials excavated from the trench are not suitable for use as backfill materials, provide select backfill material conforming to the requirements of this Section.
- F. Settlement: If trench settles, re-fill and grade the surface to conform to the adjacent surfaces.
- G. Remove and dispose of excess or unsuitable materials in accordance with the requirements of Section 02200 of these Specifications.

3.06 FILL MATERIAL

- A. When final grades above the pre-construction grades are required to maintain minimum cover, additional fill material will be shown on the Drawings. Utilize excess material excavated from the trench, if the material is suitable. If excess excavated materials are not suitable, or if the quantity available is not sufficient, provide additional suitable fill material.

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- B. All fill shall be placed in layers not deeper than six (6) inches after compaction. Layers under all areas, including paving areas shall be compacted to at least 95% of the maximum density as determined by the Standard Procter Test.
 - 1. Insufficient Fill Material: In the event quantity of grading and excavation material is insufficient, Contractor shall furnish and place material approved by the Engineer.
 - 2. Excess Material: In the event quantity of graded and excavated material is in excess of quantities necessary to acquire fill grades shown, any excess shall be removed from the site.
 - 3. Unsatisfactory Material: In the event conditions are encountered indicating the graded and excavated materials are unsatisfactory for fill under earth bearing slabs or paved areas, the furnishing of extra fill shall be provided by the Contractor.

3.07 BACKFILL UNDER ROADS AND SIDEWALKS

Compact backfill underlying pavement and sidewalks and backfill under dirt and gravel roads to a minimum 95 percent of the maximum dry density (Standard Proctor). The top 12-inches shall be compacted to a minimum of 98 percent of the maximum dry density.

3.08 BACKFILL ALONG RESTRAINED JOINT PIPE

- A. Backfill along restrained joint pipe shall be compacted to a minimum 90 percent of the maximum dry density.

3.09 DETECTION TAPE

- A. Where required, detection tape shall be buried 4 to 10 inches beneath the ground surface directly over the top of the utility. Should detection tape need to be installed deeper, the Contractor shall provide 3-inch wide tape. In no case shall detection tape be buried greater than 20-inches from the finished grade surface.

END OF SECTION

SECTION 02338

SUBGRADE MODIFICATION

PART 1 GENERAL

1.01 SUMMARY

- A. The work described in this section includes furnishing all labor and equipment necessary for the construction and preparation of part or all of the road bed to receive the immediate construction of a base or pavement thereon.

1.02 INSPECTION AND TESTING

- A. Sub-grade testing will be performed by an independent testing laboratory selected by the Owner.
- B. The testing agency shall test in-place sub-grade for compliance with specified compaction requirements.
- C. Compaction
 - 1. Sub-grade: Minimum acceptable density shall be 95 percent of maximum dry density in accordance with ASSHTO T-99. Conduct one test for each 2,500 square yards of in place material, but in no case less than one daily.
- D. Contractor's Duties Relative to Testing
 - 1. Notifying laboratory of conditions requiring testing.
 - 2. Coordinating with laboratory for field testing.
 - 3. Paying costs for all testing performed and for re-testing where initial test reveal non-conformance with specified requirements.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTIONS

3.01 EQUIPMENT

- A. All equipment necessary and required for the construction of the sub-grade must be on the Project, proven to be first-class working order and approved by the Engineer before construction will be permitted to begin. This shall consist of at least one motor grader with scarifier and one pneumatic tired roller meeting the requirements of the Georgia Department of Transportation Standard Specifications for Road and Bridge Construction.

3.02 SUBGRADE PREPARATION

- A. Road and drainage excavation and embankment construction shall be performed in accordance with the provisions of Section 02300 of these Specifications.

- B. The sub-grade shall be prepared to the lines and grades staked by the Engineer and to correspond to the cross section of the bottom of the pavement as indicated on the Drawings or as directed.
- C. Where excavation is necessary to prepare the sub-grade, the material removed shall be carefully stored or placed for use in completing the roadbed. Unsuitable material shall be wasted as directed by the Engineer.
- D. Where the roadbed is below grade, the Contractor shall prepare the sub-grade by hauling and spreading satisfactory material excavated in channeling, or otherwise. The material shall be spread in layers not to exceed 6-inches in thickness and thoroughly compacted by rolling, using water if directed. Each layer shall have been completed before the succeeding layer is started.
- E. Where it is intended or required to use steel forms in the construction of the base of pavement, the sub-grade shall be constructed at least 12-inches wider, on each side, than the net width of the base of pavement. For bases or pavements using wooden forms, the sub-grade shall be constructed at least 6-inches wider, on each side, than the width of the base of pavement, as indicated on the Drawings or as directed.
- E. Where sub-bases are to be constructed on the sub-grade, the limits of the sub-grade preparation shall extend across the entire section upon which any sub-base course is to be applied, including the shoulders.

3.03 SUBGRADE COMPACTION

- A. After the sub-grade has been appropriately prepared and shaped, it shall be loosened in its entirety by disking, harrowing or other approved methods to a depth of not less than 6-inches prior to its being compacted to the approved density. The sub-grade shall then be thoroughly compacted with the 10 ton roller or pneumatic tired roller. The density shall be 98 percent of AASHTO density when tested by the standard Specifications for Compaction and Density of Soils, AASHTO Serial Designation T 99 (latest revision). The limits of the sub-grade compaction shall extend across the entire section upon which any base or sub-base course is to be applied, including the shoulders. Prior to re-working and compacting the sub-grade, all vegetation within the limits as set out above shall be removed and properly disposed of as directed by the Engineer.
- B. All soft, yielding material, which will not compact readily under the roller, shall be removed as directed. All holes or depression caused by the removal of material, as described above, shall be backfilled with satisfactory material and the entire surface thoroughly compacted with the roller where possible, or otherwise when directed by the Engineer.
- C. The sub-grade shall be checked after rolling and adjusted so as to conform to the grade and cross section, as indicated or directed.

3.04 SCOPE OF SUBGRADE

- A. The sub-grade shall be true to lines, grades and cross section, must be free from dust or other loose material, must have a uniform bearing power, and shall be prepared and maintained at least 500 feet in advance of the placing of any materials thereon, except between November 1 and April 1 the distance may be reduced to 200 feet if permitted by the Engineer.

3.05 DRAINAGE

- A. Grading of the sub-grade shall be performed in such a manner that there will not remain on the roadbed, at anytime, berms of earth or other material which will interfere with the immediate drainage of water from the sub-grade of the side ditches. All side ditches and drains shall be maintained to provide for proper drainage during the construction.
- B. All ditches and drains shall be completed so as to drain the roadbed effectively before the placing of any construction materials will be permitted.

3.06 PROTECTION OF SUBGRADE

- A. In handling materials, equipment, tools, etc., the Contractor shall take all precaution necessary to protect the sub-grade from damage. Only hauling necessary for the purpose of construction will be permitted on the sub-grade after it has been completed.
- B. If ruts of 2-inches or more in depth are formed in the sub-grade, all construction materials, whether stored or in place, within the range of such ruts, shall be removed and the sub-grade shall be re-shaped and rolled. All ruts or rough places developing in a completed sub-grade shall be smoothed and the sub-grade re-rolled.

3.07 SUBGRADE CHECKING

- A. The sub-grade must conform to the lines, grades and cross sections, indicated or directed, before it will be permitted to construct base or pavement hereon, and shall be subject to test just prior to construction.
- B. All excess material shall be removed until the sub-grade is at true elevation. Low sub-grade shall be built up to the proper form and elevation when practical to roll, or if not practical to roll, it shall be filled as an integral part of the base or pavement at the Contractor's expense.

3.08 CLEANING

- A. The disposal of excess or unsuitable material shall be performed in accordance with the requirement of Sections 02200 and 02300 of these Specifications and final clean up shall be performed to the Engineer's satisfaction.

END OF SECTION

SECTION 02370

EROSION AND SEDIMENTATION CONTROL

PART 1 – GENERAL

1.01 SCOPE

- A. Erosion control shall be employed during the construction period and shall include all measures required to prevent soil erosion from the site until permanent erosion control measures are installed. Work shall be accomplished through, but not limited to, the use of berms, dikes, sediment barriers, sediment traps, sediment basins, silt fences, temporary grasses, check dams, mulching, construction exits and slope drains.
- B. Erosion control measures described herein shall be continued until such time as permanent planting and restoration of natural areas is effectively in control of erosion from the project site.
- C. Failure to install and maintain temporary erosion control measures throughout the construction period may be cause to halt construction by governing authorities until such measures are correctly installed and operational. Activity covered in this contract is regulated by the State's Erosion and Sediment Control act and NPDES General Permit for Construction Activity.

1.02 RELATED WORK

- A. Section 02200 – Clearing & Grubbing
- B. Section 02300 - Earthwork
- C. Section 02921 – Seeding
- D. Construction Drawings

1.03 REFERENCES

- A. American Society for Testing and Materials (ASTM)
- B. Contractor shall comply with applicable codes, rules, ordinances, regulations, and laws of local, municipal, state or federal authorities having jurisdiction over the project.
- C. Contractor shall comply with the State's Erosion and Sedimentation Control Act (latest amendment) and NPDES General Permit for Construction Activity (GAR100002).
- D. "Manual for Erosion and Sediment Control in Georgia" published by the State Soil and Water Conservation Committee of Georgia.

1.04 REGULATORY REQUIREMENTS

- A. Obtain required permits and licenses in accordance with requirements of Federal Clean Water Act (CWA) and Water Quality Act (WQA). Land disturbance activity shall not commence until a Land Disturbance Permit has been issued and a Notice of Intent has been filed for. The Contractor shall be considered a Secondary Permittee; however, the Contractor shall be responsible for all inspections and reporting.
- B. Where work on this project will disturb 1 or more acres, do not start work without obtaining a "National Pollution Discharge Elimination System (NPDES) permit governing discharge of storm water from project site for duration of Contract.
- C. The Contractor shall be responsible for providing all qualified labor, materials, inspections, and reporting to be in compliance with the NPDES Permit for Construction Activities - GAR100002. Reports shall be kept on file as required. Copies shall be provided to the Owner upon request.
- D. These inspections must be conducted until a Notice of Termination is submitted.

PART 2 - MATERIALS

A. SILT FENCE

Filter fabric for silt fences shall be pervious synthetic polymer filaments forming a stable network so that fibers retain their relative positions. Filter fabrics shall be or the type recommended by its manufacturer for the intended applications. The filter fabric shall meet the following requirements:

- a. Minimum Grab Strength 150 lbs. (by ASTM D 1682)
- b. Elongation 25%
- c. Retention Efficiency 75%

B. HAY BALES

Hay bales shall be well compacted straw, standard size, wire bound.

- C. RIP-RAP AND CHECK DAMS: All stone for rip-rap shall be sound, durable coarse aggregate and shall be resistant to the action of air and water, and in all other respects suitable for use as rip-rap. Materials not meeting these requirements shall not be used unless approved by petrographic analysis. Flat, slabby and shaley pieces are not acceptable. Stone for rip-rap shall meet one of the following as called for on the Plans:

All rip-rap Type 3, unless otherwise shown, and shall meet the specifications described in Section 805.2.01 GA D.O.T. Standard Specifications, latest revision. This material shall be as described in the referenced section and as shown in the detail drawings. The stone filter blanket shall meet the specifications described

in Section 805.2.01 or 800.2.01 GA D.O.T. Standard Specifications, latest revision.

D. CONSTRUCTION EXITS

1. Aggregate Size
Stone will be in accordance with National Stone Association R-2 (1.5 to 3.5 inch stone)

2. Geotextile

The geotextile underliner must be placed the full length and width of the entrance. Geotextile selection shall be based on AASHTO M288-98 specification:

- a. For subgrades with a CBR greater than or equal to 3 or shear strength greater than 90 kPa, geotextile must meet requirements of Section AASHTO M288-96 Section 7.3, Separation Requirements.
- b. For subgrades with a CBR between 1 and 3 or sheet strength between 30 and 90 kPa, geotextile must meet requirements of Section AASHTO M288-96 Section 7.4, Stabilization Requirements.

PART 3 – EXECUTION

3.01 GENERAL

- A. All disturbed soil areas except those to support paving shall be graded and protected from erosion by grassing. Storm water conveyance systems shall have sediment barriers installed at all entrances, intersection, change in direction and discharge points.
- B. Erosion control shall be directed toward and have the purpose of controlling soil erosion at its potential source. Downstream sediment entrapment measures shall be employed, but only as a backup to primary control at the source.
- C. A continuing program of installation and maintenance of sediment control measures shall be employed during the construction period.
- D. Erosion Control Schedule:
 1. Prior to the pre-construction conference, Contractor shall submit to the Engineer his proposed erosion control plan for the project in accordance with requirements of this section. The schedule shall be based on an analysis of the project conditions and shall be in written form. This schedule shall specifically indicate the sequence of clearing and grubbing, earthwork operations, including trenching and backfilling, construction of permanent erosion control features and the proposed uses of temporary erosion control features. Schedule shall also include

- proposed methods to prevent pollution of streams, lakes and rivers and other water sources.
2. Contractor shall outline his proposed methods of controlling erosion and preventing pollution on public and construction access roads, staging areas and waste disposal areas.
 3. No work shall be started until the aforementioned plans and schedules have been accepted by the Engineer. Contractor will be responsible for accomplishment of work in accordance with accepted plans and schedules. Engineer may approve changes made necessary by unforeseen circumstances that are beyond the control of the Contractor.
 4. Engineer has the authority to limit the surface area of erodible earth materials exposed by clearing and grubbing, the surface area of erodible earth exposed by excavation and backfill operations and to direct the
 5. Contractor to provide immediate permanent or temporary erosion and pollution control measures to prevent contamination of adjacent streams or other water courses.
 6. Clearing and grubbing operations shall be so scheduled and performed that grading operations and permanent erosion control features can immediately follow thereafter, if the project conditions permit, otherwise temporary erosion control measures will be required between successive construction stages.
 7. Engineer will require Contractor to limit the area of excavation, trenching and pipe laying operations in progress commensurate with Contractor's capability and progress in keeping finish grading, mulching, seeding and other permanent and/or temporary measures current with accepted schedule.

3.02. SILT FENCE

- A. Silt fence shall be constructed in accordance with details shown on Drawings or may be a prefabricated proprietary type subject to approval by the Engineer.
- B. Temporary silt fences shall be located at all points where surface water can leave the construction area.
- C. Silt fences shall be constructed to remove sediments from flowing water through filtration and sedimentation. Silt fences shall be constructed in accordance with the details shown on drawings.
- D. Silt fences shall be arranged to create ponding behind them. Provision shall be made for removing accumulated sediments and maintaining ponding capacity.
- E. Silt fences shall be removed and the area restored when permanent erosion control is effective.

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3.03. HAY BALE BARRIERS

Hay bales may be used as an alternate to silt fence if approved by the Engineer.

3.04. GRASS

- A. Permanent Grassing: See Section 02921 – Seeding
- B. For additional information regarding temporary grassing and mulching, see Chapter 6, Section III of the “Manual for Erosion and Sediment Control in Georgia”.

3.05 CONSTRUCTION EXITS

Locate construction exits at any points where vehicles will be leaving the project onto a public roadway. Install construction exits at locations shown in the plans and in accordance with plan details.

3.06 FERTILIZER

See Section 02921 – Seeding

3.07 MULCH

- A. Dry straw of hay of good quality, free of weed seed- spread at a rate of 2-1/2 tons per acre.
- B. Wood waste, chips, sawdust or bark spread 2 to 3 inches deep (about 6 to 9 tons per acre).
- C. Erosion control matting or netting, such as excelsior, jute, textile and plastic matting, and netting applied in accordance with manufacturer’s recommendations.

3.08. TEMPORARY GRASSING AND MULCHING

- A. Where staged construction or other conditions not controlled by the Contractor prohibit the completion of work in a continuous manner; Engineer may order Contractor to apply temporary seeding or temporary mulch to an erodible area.
- B. Temporary grass shall consist of sowing a quick growing species of grass suitable to the area and season. Seeding rates shall be in accordance with Schedule shown on the Drawings. Ground preparation will be limited to blading the area to the amount deemed practical by the Engineer for a seeded and the elimination of water pockets. Fertilizer shall be applied at a rate of 14 pounds per 1,000 square feet.
- C. Areas to be mulched need not be to finished grade. The mulched areas may be placed on slopes as steep as 2:1 using a tractor to imbed the mulch into the slope.

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- D. Spread wood waste uniformly on slopes that are 3:1 and flatter. No anchoring is needed
- E. Commercial matting and netting. Follow manufacturer's specifications included with the material.

3.09 SEDIMENT TRAPS

- A. Sediment traps shall be installed by the Contractor in accordance with details shown on the drawings.
- B. Sediment traps shall be maintained until other erosion control methods can be substituted for them.
- C. Sediment traps shall be cleaned out when they are ½ filled with silt.
- D. Sediment traps shall be removed from the construction area when their use is no longer required.

3.10 GRADING OPERATIONS

- A. Grading operations shall be scheduled so that ground surface will be disturbed for the shortest possible time before permanent construction is installed. Large areas shall be maintained as flat as possible to minimize soil transport through surface flow.
- B. Wherever steeper slopes or abrupt changes in grade are required, a diversion or berm shall be constructed at the top of slope to cause surface water to flow along the diversion to a control point to be transported down slope in a slope drain. In no case shall surface water be allowed to flow uncontrolled down slopes.

3.11 CONSTRUCTION IN STREAM BEDS

Unless otherwise approved in writing by the Engineer, construction operations in rivers, streams and impoundments shall be restricted to those areas that must be entered for the construction of temporary or permanent structures. As soon as conditions permit, rivers, streams and impoundments shall be promptly cleared of all false-work, sheeting or piling which are to be removed, debris and other obstructions. Frequent fording of live streams with construction equipment will not be permitted; therefore, temporary bridges or other structures shall be used whenever an appreciable number of stream crossings are necessary. Unless otherwise approved in writing by the Engineer, mechanized equipment shall not be operated in live streams except as may be required to construct channel changes and temporary or permanent structures, and to remove temporary structures.

3.12 RUN-OFF EROSION AND SEDIMENTATION CONTROLS

- A. During construction, route run-off through sedimentation barriers and check dams as practical.

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- B. Contractor shall maintain sedimentation devices in functional condition. Sedimentation barriers and check dams shall be cleaned out when these devices are at least 60 percent of their capacity. Defective materials in barriers and check dams shall be replaced.
- C. Contractor shall establish sedimentation barriers at the top of slopes under construction. These barriers may be relocated and reused after permanent slope stabilization becomes established. As they are relocated, any defective materials shall be replaced. In addition, all debris and silt at previous location will be removed.
- D. A 6-inch minimum thickness of crushed stone construction exit pad shall be located at all access points to site from public streets in accordance with details shown on drawings. All construction vehicles leaving the construction site shall have mud cleaned from their tires at these points to protect public streets from the transportation of sediment from the site.

3.13 DUST CONTROL

- A. Dust will be controlled by keeping areas damp by sprinkling with water, or other approved means. There shall be no separate payment to the Contractor for dust control measures. Any costs connected thereto shall be a subsidiary responsibility to the Contractor.

3.14 CLEANUP AND REMOVAL

- A. At the time, that permanent erosion control is effective, temporary devices and their accumulated sediments shall be removed.
- B. Silts and deposits removed from control barriers shall be placed in eroded areas and shall be replanted.

END OF SECTION

SECTION 02705

PAVEMENT REMOVAL FOR TRENCHING

PART I GENERAL

1.01 SUMMARY

- A. This item shall govern the removal of existing pavement materials and the salvage or disposal of these materials. Removal shall be done with the intention of replacement of pavement to equal or better condition.

1.02 SITE CONDITIONS

- A. Types of Pavement to be Removed
 - 1. Concrete Pavement to include: streets, driveways, athletic courts, and sidewalks, but excluding curb and gutter.
 - 2. Light-duty asphalt for streets, driveways and athletic courts.

1.03 UNIT PRICES- MEASUREMENT AND PAYMENT

- A. Pricing for removal of pavement shall be included with the price bid for replacing pavement removed.
- B. Removal units shall be the same as replacement units for payment purposes.

PART 2 REMOVING PAVEMENT

2.01 MARKING

Prior to removal of any pavement, mark the pavement neatly about the perimeter of the area to be removed. Removal perimeter shall be limited to four sides where possible. All marking shall be done on pavement to be removed.

2.02 SAW CUTTING

- A. All cutting shall be done by a pavement saw using the appropriate disk for the pavement being cut.

2.03 MACHINE PULLING

- A. Pavement is not to be mechanically pulled until completely broken and separated from the pavement to remain.

2.04 DAMAGE TO ADJACENT PAVEMENT

- A. Pavement adjacent to the area to be removed shall not be disturbed, damaged, or defaced. If the adjacent pavement is disturbed or damaged during the course of work, the damaged affected area shall be removed and replaced at the Contractor's expense.

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2.05 EXCESS MATERIAL DISPOSAL

- A. Disposal of excess or waste material shall be the responsibility of the Contractor.
- B. Material shall be disposed to a site approved by the Owner and at no cost to the Owner.

2.06 ENVIRONMENTAL

- A. During all removal phases, contractor shall take necessary steps to minimize dust in the surrounding area.

2.07 PAVEMENT REPLACEMENT

- A. Removed pavement shall be replaced according to the appropriate section in this document.

END OF SECTION

SECTION 02741

BITUMINOUS CONCRETE PAVING

GENERAL

1.01 SUMMARY

- A. The Contractor shall furnish all labor and equipment, incidental required to construct asphalt concrete pavements to the grades and cross-sections shown on the Drawings and as specified herein.

1.02 QUALITY ASSURANCE

- A. Use only materials which are furnished by a bulk asphalt concrete producer regularly engaged in production of hot-mix, hot-laid asphalt concrete.
- B. Comply with applicable requirements of Georgia Department of Transportation, Standard Specifications for Construction of Roads and Bridges.

1.03 SUBMITTALS

- A. Certificates: Provide certificates stating that materials supplied comply with Specifications. Certificates shall be signed by the asphalt producer and the Contractor
- B. Mix Design: Submit mix design for each course to the Engineer for acceptance.
- C. Asphalt spreader equipment shall be approved by the Engineer. Submit design and operational data.
- D. Traffic paint manufacturer's application instructions and a description and other data relative to the Contractor's application equipment and methods shall be submitted to the Engineer for approval.

1.04 CONDITIONS

- A. Weather limitations
 - 1. Apply bituminous prime and tack coats only when the ambient temperature in the shade has been at least 40 degrees F.
 - 2. Do not conduct paving operations when surface is wet, frozen or contains excess of moisture which would prevent uniform distribution and required penetration.
 - 3. Construct asphaltic courses only when atmospheric temperature in the shade is above 35 degrees F, when the underlying base is dry and when weather is not rainy.
 - 4. Place base course when air temperature is above 35 degrees F and rising. No base course shall be placed on a frozen or muddy sub-grade.
- B. Grade Control: Establish and maintain the required lines and grades for each course during construction operations.

1.05 INSPECTION AND TESTING

- A. Pavement testing will be performed by an independent testing laboratory approved by the Owner and paid for by the Contractor.
- B. The testing agency shall test in-place courses for compliance with specified compaction, thickness and surface smoothness requirements.
- C. The testing agency shall take one 4-inch diameter core per 1,500 square yards of paved surface at locations selected by the Engineer for density and thickness test. Contractor shall repair holes resulting from coring to match existing paving.
- D. Compaction
 - 1. Asphaltic Concrete: Compare density of in-place material against laboratory specimen of same mixture. Minimum acceptable density on in-place material shall be 94 percent of the calculated voidless density based upon the effective specific of the aggregate used. It is intended that acceptable density testing will be accomplished while the bituminous mixture is hot enough to permit further densification if such is shown to be necessary. If the density does not conform to the requirements stated herein above, the Contractor shall continue compactive effort until the required density is obtained.
- E. Pavement Thickness: Inspect the cores of the base and surface course to determine the average thickness of the course. If the average thickness exceeds the allowable variation below, additional cores shall be made at the Contractor's expense to determine the area of deficient thickness. The deficient area shall be corrected by overlay with the same type mix to the limits as determined by the Engineer.
 - 1. Base Course: + ½ -inch.
 - 2. Surface Course: + ¼- inch.
- F. Surface Smoothness: Test finished surface of each asphalt course for smoothness using a 10 foot straightedge. Intervals of tests shall be as directed by the Engineer. Surfaces will not be acceptable if exceeding the following:
 - 1. Base Course: ¼ -inch in 10 feet.
 - 2. Surface Course: 1/8- inch in 10 feet
- G. Contractor's Duties Relative to Testing
 - 1. Notifying laboratory of conditions requiring testing.
 - 2. Coordinating with laboratory for field testing.
 - 3. Paying all costs for test required and for re-testing where initial tests reveal non-conformance with specified requirements.
 - 4. Paying the cost of overlays or pavement removal and replacement which does not comply with the specified testing limits.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Graded Aggregate Base Course: Graded aggregate base course shall be of uniform quality throughout and shall meet the requirements of Section 815.01 of the Georgia Department of Transportation Standard Specifications.
- B. Binder Course: Binder course shall be of uniform quality throughout and shall conform to the requirements of Section 828, Type B Modified of the Georgia Department of Transportation Standard Specifications.
- C. Surface Course: Surface course shall be of uniform quality throughout and shall conform to the requirements of Section 828, Type E of the Georgia Department of Transportation Standard Specifications.
- D. Prime Coat: Prime coat shall conform to the requirements of Section 412 of the Georgia Department of Transportation Standard Specifications.
- E. Tack coat shall conform to the requirements of Section 413 of the Georgia Department of Transportation Standard Specifications.

PART 3 EXECUTION

3.01 SURFACE PREPARATION

- A. Graded Aggregate Base Course
 - 1. Check sub-grade for conformity with elevations and section immediately before placing aggregate base material.
 - 2. Place aggregate base material in compacted layers not more than 6-inches thick, unless continuing tests indicate that the required results are being contained with thick layers.
 - 3. In no case shall more than 8-inches of compacted base be placed in one lift.
 - 4. Spread, shape, and compact all aggregate base material deposited on the sub-grade during the same day.
 - 5. The compacted base shall have sufficient stability to support construction traffic without pumping.
 - 6. If compacted base becomes unstable as a result of too much moisture, the base material and underlying sub-grade, if necessary, shall be dried and re-worked to a moisture content that can be re-compacted.
- B. Loose and Foreign Material
 - 1. Remove loose and foreign material from surface immediately before application of paving.
 - 2. Use power brooms or blowers, and hand brooming as required.
 - 3. Do not displace surface material.
- C. Prime Coat
 - 1. Uniformly apply at a rate of 0.20 to 0.50 gallon per square yard over compacted and cleaned sub-base surface.

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2. Apply enough material to penetrate and seal, but not flood the surface.
3. Allow to cure and dry as long as required to attain penetration and evaporation of volatiles, and in no case less than 24 hours unless otherwise acceptable to the Engineer.
4. Blot excess asphalt with just enough sand to prevent pick-up under traffic.
5. Remove loose sand before paving.

D. Tack Coat

1. Dilute material with equal parts of water and apply to contact surfaces of previously constructed asphalt concrete or Portland cement concrete and similar surfaces.
2. Apply at a rate of 0.05 to 0.15 gallon per square yard of surface.
3. Apply tack coat by brush to contact surfaces of curbs, gutters, manholes, and other structures projecting into or abutting asphalt concrete pavement.
4. Allow surfaces to dry until material is at condition of tackiness to receive pavement.

3.02 EQUIPMENT

- A. Provide size and quantity of equipment to complete the work specified within the Project time schedule.
- B. Bituminous pavers shall be self-propelled, steel-wheeled and pneumatic-tired rollers that can reverse direction without backlash.
- C. Rolling equipment shall be self-propelled, steel-wheeled and pneumatic-tired rollers that can reverse direction without backlash.
- D. Provide rakes, lutes, shovels, tampers, smoothing irons, pavement cutters, portable heaters, and other miscellaneous small tools to complete the work specified.

3.03 ASPHALTIC CONCRETE PLACEMENT

- A. Place asphalt concrete mix on prepared surface, spread and strike-off using paving machine.
- B. Spread mixture at a minimum temperature of 225 degrees F.
- C. Inaccessible and small areas may be placed by hand.
- D. Place each course at a thickness such that when compacted it will conform to the indicated grade, cross section, finish thickness, and density indicated.
- E. Paver Placing
 1. Unless otherwise directed, begin placing along centerline of areas to be paved on crowned section, and at high side of sections on one way slope, and direction of traffic flow.
 2. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips.
 3. Complete base courses for a section before placing surface courses.
 4. Place mixture in as continuous an operation as practical.

F. Hand Placing

1. Spread, tamp, and finish mixture using hand tools in areas where machine spreading is not possible, as acceptable to Engineer.
2. Place mixture at a rate that will ensure handling and compaction before mixture becomes cooler than acceptable working temperature.

G. Joints

1. Carefully make joints between old and new pavements, or between successive days work, to ensure a continuous bond between adjoining work.
2. Construct joints to have same texture, density and smoothness as adjacent sections of asphalt concrete course.
3. Clean contact surfaces free of sand, dirt, or other objectionable material and apply tack coat.
4. Offset transverse joints in succeeding courses not less than 24-inches.
5. Cut back edge of previously placed course to expose an even, vertical surface for full course thickness.
6. Offset longitudinal joints in succeeding courses not less than 6-inches.

3.04 ASPHALTIC CONCRETE COMPACTION

- A. Provide sufficient rollers to obtain the required pavement density.
- B. Begin rolling operations as soon after placing as the mixture will bear weight of roller without excessive displacement.
- C. Do not permit heavy equipment, including rollers to stand on finished surface before it has thoroughly cooled or set.
- D. Compact mixture with hot hand tampers or vibrating plate compactors in areas inaccessible to rollers.
- E. Start rolling longitudinally at extreme lower side of sections and proceed toward center of pavement. Roll to slightly different lengths on alternate roller runs.
- F. Do not roll centers of sections first under any circumstances.
- G. Breakdown Rolling
 1. Accomplish breakdown or initial rolling immediately following rolling of transverse and longitudinal joints and outside edge.
 2. Operate rollers as close as possible to paver without causing pavement displacement.
 3. Check crown, grade, and smoothness after breakdown rolling.
- H. Second Rolling
 1. Follow breakdown rolling as soon as possible, while mixture is hot and in condition for compaction.
 2. Continue second rolling until mixture has been thoroughly compacted.

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- I. Finish Rolling
 - 1. Perform finish rolling while mixture is still warm enough for removal of roller marks.
 - 2. Continue rolling until roller marks are eliminated and course has attained specified density.

- J. Patching
 - 1. Remove and replace defective areas.
 - 2. Cut-out and fill with fresh, hot asphalt concrete.
 - 3. Compact by rolling to specified surface density and smoothness.
 - 4. Remove deficient areas for full depth of course.
 - 5. Cut sides perpendicular and parallel to direction of traffic with edges vertical.
 - 6. Apply tack coat to exposed surfaces before placing new asphalt concrete mixture.

3.05 CLEANING AND PROTECTION

- A. Cleaning: After completion of paving operations, clean surfaces of excess or spilled asphalt materials to the satisfaction of the Engineer.

- B. Protection
 - 1. After final rolling, do not permit vehicular traffic on asphalt concrete pavement until it has cooled and hardened, and in no case no sooner than six hours.
 - 2. Provide barricades and warning devices as required to protect pavement and the general public.

- C. Maintenance: The Contractor shall maintain the surfaces of pavements until the acceptance of the Project. Maintenance shall include replacement, overlay, milling and re-shaping as necessary to prevent raveling of the road material, the preservation of smooth surfaces and the repair of damaged or unsatisfactory surfaces, to the satisfaction of the Engineer.

3.06 SUPERVISION AND APPROVAL

- A. Pavement shall meet the requirements of the regulatory agency responsible for the maintenance of pavement. Obtain agency approval of pavement before requesting final payment.

- B. Failure of Pavement: Should any pavement restoration or repairs fail or settle during the life of the contract, including the bonded period, promptly restore or repair defects.

END OF SECTION

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DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

SUPPLEMENTAL SPECIFICATION

Section 412—Bituminous Prime

Delete Section 412 and substitute the following:

412.1 General Description

This work includes preparing and treating an existing surface with bituminous material and blotter material, if required. Treat the surface according to these Specifications and conform to the lines shown on the Plans or established by the Engineer.

412.1.01 Definitions

General Provisions 101 through 150.

412.1.02 Related References

A. Standard Specifications

[Section 424—Bituminous Surface Treatment](#)

[Section 821—Cutback Asphalt](#)

B. Referenced Documents

General Provisions 101 through 150.

412.1.03 Submittals

General Provisions 101 through 150.

412.2 Materials

Unless otherwise specified, select the types of bituminous materials. The Engineer will determine the grade of materials to be used. The Specifications for the bituminous materials include:

Material	Section
Cutback Asphalt, RC-30, RC-70, RC-250 or MC-250, MC-30, or MC-70	821.2.01
Blotter Material (Sand)	412.3.05.G.3

412.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

412.3 Construction Requirements

412.3.01 Personnel

General Provisions 101 through 150.

412.3.02 Equipment

Provide equipment that is in good repair, including at least the following units that meet the requirements of [Subsection 424.3.02, “Equipment.”](#)

EXHIBIT 1 (CON'T)

- Pressure distributor
- Power broom and blower
- Aggregate spreader (if required)
- Pneumatic-tired roller

412.3.03 Preparation

See [Subsection 412.3.05.B, "Condition of Surface."](#)

412.3.04 Fabrication

General Provisions 101 through 150.

412.3.05 Construction

Prime the following bases and other areas:

- Cement or lime stabilized bases or sub-bases, regardless of pavement thickness
- Soil or aggregate bases or sub-bases on which bituminous surface treatment will be placed
- Soil or aggregate bases or sub-bases on which less than 5 in (125 mm) total thickness of hot mix asphaltic concrete will be placed

Prime is not required on driveway construction and paved shoulders.

A. Weather Limitations

Do not apply bituminous prime under any of these conditions:

- Surface is wet.
- Air temperature is below 40 °F (4 °C) in the shade.
- Rain is imminent.
- Weather conditions may prevent proper prime coat construction.

B. Condition of Surface

Ensure that the surface to which the prime is to be applied has been finished to the line, grade, and cross section specified.

Ensure that the surface is uniformly compacted and bonded. Correct surface irregularities according to the Specifications for the construction being primed.

C. Cleaning

Remove from the road loose material, dust, caked clay, and other material that may prevent bonding of the prime with the surface. Use power sweepers or blowers the full width of the prime and 2 ft (600 mm) more on each side. Where necessary, sweep by hand.

D. Moisture

Ensure that the surface is only slightly damp. If the surface is too wet, allow it to dry. If it is too dry, the Engineer may require that it be sprinkled lightly just before priming.

E. Temperature and Surface Texture

The surface texture and condition of the surface determine the bituminous material grades to be used.

The following table shows the bituminous material grades and application temperatures as they are applied to various surface textures.

Base Texture	Tight	Average	Open
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Materials and grade	MC-30	RC-70 or MC-70	RC-250 or MC-250
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	RC-30		
Application temperature °F (°C)	80–120 (27–49)	105–180 (41–82)	145–220 (63–104)

EXHIBIT 1 (CON'T)

The Engineer will determine the temperature for applying bituminous prime within the limits shown above.

Heat and apply bituminous materials as specified in [Subsection 424.3.05.D, “Heating Bituminous Material”](#) and [Subsection 424.3.05.E, “Applying Bituminous Material.”](#)

F. Amount and Extent of Prime

The Engineer will determine the exact amount of bituminous material to be used within minimum and maximum rates of 0.15 to 0.30 gal/yd² (0.7 to 1.4 liters/m²). Apply the specified amount as follows:

1. Apply the determined amount uniformly and accurately. Ensure that the amount applied to any 0.5-mile (800 m) section is within 5 percent of the amount specified.
2. Apply the prime the full width of the proposed wearing surface that will be superimposed plus 6 in (150 mm) more on each side.

G. Protection, Curing, and Maintenance Do

the following after priming the surface:

1. Close to Traffic
Do not allow traffic on the primed surface. Leave the surface undisturbed until the prime thoroughly cures and does not pick up under traffic.
2. Roll
If the surface becomes soft after it is primed, roll the surface longitudinally with a pneumatic-tired roller at no more than 6 mph (10 kph) until the surface is firmly set.
3. Blot
If necessary to prevent the prime from being picked up, spread clean, dry, sharp sand over the surface by hand or mechanically. Apply sand only to places that are tacky and use the least amount needed to prevent pick up. No extra payment for this work or material will be made.
4. Open to Traffic
After rolling and sanding (if required), open the primed surface to ordinary traffic subject to the conditions in [Subsection 412.3.05.G.1, “Close to Traffic.”](#)
5. Curing and Maintenance
The primed surface is properly cured when it has penetrated the base sufficiently to not be picked up or displaced by traffic. Temperature and weather conditions may increase curing time. Insure the primed surface has cured to the satisfaction of the Engineer prior to its being covered by other construction.
Maintain the prime coat and the primed surface course until it is covered by other construction. Repair potholes, scabs, and soft spots prior to covering with other construction. Remove excess bituminous material.

412.3.06 Quality Acceptance

General Provisions 101 through 150.

412.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

412.4 Measurement

Bituminous material for prime is not measured for separate payment.

412.4.01 Limits

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General Provisions 101 through 150.

EXHIBIT 1 (CON'T)

412.5 Payment

Bituminous material for prime is not paid for separately. The cost to clean the surface, furnish, haul and apply materials including water and sand, roll, and perform repairs and maintenance is included in the Unit Price bid for each individual Base Item.

412.5.01 Adjustments

General Provisions 101 through 150.

EXHIBIT 2

First Use Date: June 20, 2008
 Revised: January 28, 2009
 Revised: April 25, 2009
 Revised April 20, 2010

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
SUPPLEMENTAL SPECIFICATION

Section 424—Bituminous Surface Treatment

Delete Section 424 and substitute the following:

424.1 General Description

This work includes placing one or more applications of bituminous material and aggregate on a previously prepared base or pavement.

424.1.01 Definitions

Single Surface Treatment: One application of bituminous material that is covered with aggregate.

Double Surface Treatment: A bituminous material application that is covered with aggregate of the size specified in the proposal followed by a second bituminous material application that is covered with a second specified size aggregate.

Triple Surface Treatment: A bituminous material application that is covered with a specified size aggregate followed by subsequent applications of bituminous material that are covered with successively smaller size nominal aggregates.

424.1.02 Related References

A. Standard Specifications

[Section 105—Control of Work](#)

[Section 800—Coarse Aggregate](#)

[Section 802—Aggregates for Asphaltic Concrete](#)

[Section 820—Asphalt Cement](#)

[Section 824—Cationic Asphalt Emulsion](#)

B. Referenced Documents

[QPL 65](#)

424.1.03 Submittals

General Provisions 101 through 150.

424.2 Materials

A. Bituminous Material

Select the bituminous material from any type and grade listed in the materials table below. Notify the Engineer at least 10 days before ordering the bituminous material. The Engineer must approve the bituminous material choice.

For a list of latex sources, see [QPL 65](#).

Ensure that materials meet the requirements of the following Specifications:

Material	Section
Asphalt Cement, Performance Grade PG 58-22 or PG 64-22*	820.2.01
Cationic Asphalt Emulsion, Grade CRS-2h or CRS-3*	824.2.01

Latex-Modified Cationic Asphalt Emulsion, Grade CRS-2L	824.2.02
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EXHIBIT 2 (CON'T)

* Use PG 64-22 or CRS-3 only at the Engineer's direction. (See [Subsection 424.3.05.B.](#))

B. Aggregates

The size and group of aggregates used in the surface treatment are specified in the Proposal under the appropriate Line Item.

Do not use unconsolidated limerock unless provided for in the Plans or Proposal.

Use Class B aggregates only where the surface treatment is used for shoulder construction or where it is to be overlaid with asphaltic concrete.

Material	Section
Coarse Aggregate, Class A Crushed Stone or Crushed Slag, Group I or II	800.2.01
Fine Aggregate for Asphaltic Concrete*	802.2.01
*For sand seal application, use WA 10 washed screenings made from Group II aggregates.	

424.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

424.3 Construction Requirements

424.3.01 Personnel

General Provisions 101 through 150.

424.3.02 Equipment

Have the Engineer approve equipment types and quantities before using equipment on the Project.

Ensure that the equipment used to construct the surface treatment:

Produces work that complies with the standards in this section

Is on the Project and in proper working order before construction begins and during construction.

A. Aggregate Spreader

The Department will inspect annually the aggregate spreader before it is used in the work. If the spreader is approved, the Department will attach an equipment certification sticker to the spreader.

Use a self-propelled aggregate spreader that can apply aggregate at the desired rate uniformly and accurately without corrugation, overlaps, or excess deficient areas.

Ensure that the spreader can spread courses to the required widths. Provide spreaders to promptly cover the full width of the asphalt application.

B. Pressure Distributor

The Department will inspect annually the pressure distributor before it is used in the work. If the distributor is approved, the Department will attach an equipment certification sticker to the distributor. The pressure distributor should be equipped as follows:

1. Mount the pressure distributor on pneumatic tires wide enough to prevent damage to the road surface.
2. Design, equip, maintain, and operate the distributor so that the bituminous material will be heated and applied evenly throughout the length of the spray bars. Ensure that it maintains a constant, uniform pressure on the nozzles.
3. Install screens between the tank and the nozzles and clean them frequently to prevent clogging.
4. Use an adjustable distributor that can deliver controlled amounts of bituminous material from 0.04 to 1.0 gal/yd², ± 0.02 gal/yd² (0.18 to 4.53 L/m², ± 0.10 L/m²) up to 24 ft (7.2 m) wide without atomization, streaking, or pulsation in the flow.
5. Use a distributor equipped with the following:

A tachometer and thermometers to indicate the application rate and the temperature of the tank contents

Measuring devices to accurately indicate the amount of bituminous material, in gallons (liters), in the distributor before and after each application

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Full circulating spray bars that can be adjusted laterally to conform to a stringline and capable of vertical and horizontal adjustment.

EXHIBIT 2 (CON'T)

A positive shut-off control to prevent dripping bituminous material on the roadway

A distributor tank equipped with a sample valve in a safe and convenient location to obtain bituminous material samples

C. Heating Equipment

Ensure that heating equipment will heat and maintain the bituminous material uniformly at the temperature required. Provide an accurate thermometer.

D. Steel-Wheeled Rollers

Use self-propelled, tandem-type steel-wheeled rollers. The rollers shall weigh from 3 to 8 tons (3 to 7 Mg). Ensure that the roller weights within these limits can properly seat the aggregate without fracturing the aggregate particles. Equip the roller drums with scrapers to prevent pick up of material. Combination rollers with pneumatic-tired wheels that can be alternated with a steel drum are permitted as a substitute for steel-wheeled rollers.

E. Pneumatic-Tired Rollers

Use self-propelled, two axles, pneumatic-tired rollers with smooth-tread rubber tires aligned such that gaps between the tires on one axle are covered by the tires of the other axle. Equip the roller tires with scrapers and scrubbers to prevent pick up of material. Ensure that all tires are of the same size and ply rating and inflated to a minimum of 60 psi (415 kPa). Maintain tire pressure such that the difference in pressure between any two tires does not exceed 5 psi (35 kPa). Provide ballast as directed by the Engineer.

F. Power Broom and Power Blower

Provide at least one power broom and one power blower, or a combination power broom and blower that can remove dust or loose materials from the road surface.

424.3.03 Preparation

Firmly compact, finish, and prime new bases. Ensure that the bases conform to the lines, grades, and cross sections within the tolerances specified.

A. Removing Foreign Material

Use power brooms, power blowers, hand brooms, or other means to remove loose material, dust, dirt, clay, and other materials that prevent bituminous materials from adhering to the base.

Take special care to clean the outer edges thoroughly. Where necessary, use a motor grader blade to remove excess material off the paving edge.

B. Condition of Prime

Check the condition of prime as follows:

1. Ensure the prime is cured before placing the mat course.
2. Repair the prime if it is loose, soft, unbonded, removed, or damaged.
3. Remove concentrations of excess prime.
4. Perform additional rolling with a pneumatic-tired roller before surface treatment when directed by the Engineer.

424.3.04 Fabrication

General Provisions 101 through 150.

424.3.05 Construction

A. Observing Seasonal and Weather Limitations

Apply bituminous surface treatment only between April 15 and October 15 and only when:

Ambient temperature has not been less than 45 °F (7 °C) for 48 hours immediately prior to application.

No forecast of ambient temperature less than 45 °F (7 °C) for 48 hours immediately following application.

Ambient temperature and road surface temperature is at least 60 °F (16 °C) and stable at the time of application.

No exceptions are permitted except as authorized by the Engineer.

Do not apply asphalt cement to a wet surface.

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NOTE 1: When the relative humidity exceeds 80%, the ambient temperature exceeds 95 °F (35 °C), the pavement temperature exceeds 125 °F (52 °C) or the weather is windy or overcast, application of bituminous surface treatment will be at the discretion of the Engineer.

EXHIBIT 2 (CON'T)

NOTE 2: If hot mix asphaltic concrete will be applied over the surface treatment, the Engineer may waive the seasonal limitations providing that traffic is not permitted on the surface treatment until it is covered with hot mix asphaltic concrete.

B. Using PG 64-22 or CRS-3

Only use PG 64-22 or CRS-3 when directed by the Engineer due to a problem with excessive aggregate pickup during high ambient temperature.

C. Observing Sequence of Operations and Quantities of Materials

The sequence of operations and quantities of materials are shown in [Table 1](#), [Table 2](#) and [Table 3 \(Table 1a—metric, Table 2a—metric and Table 3a—metric\)](#).

The Engineer will determine the material quantities to be used during construction and may change the minimum or maximum application rate of any course during construction if the total quantities are within the amounts shown in the Tables. Any deviation, or minus from the table quantities, will require a negotiated adjustment of the Contract price, which will be authorized by an approved Supplemental Agreement.

When a single application of bituminous surface treatment is used as a Crack-Relief Interlayer, use the quantities of materials shown in [Table 2 \(Table 2a—Metric\)](#).

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When a sand seal application is Specified, use the quantities of materials shown in [Table 3 \(Table 3a—Metric\)](#).

EXHIBIT 2 (CON'T)
Section 424—Bituminous Surface Treatment – Table 1

Application		Type Construction									
		Single			Double			Triple			
Stone Sizes	1st appl.		#89	#7	#6		#7	#6		#6	#5
	2nd appl.						#89	#7		#7	#7
	3rd appl.									# 89	# 89
		Control Tolerance				Control Tolerance			Control Tolerance		
1st Application Bituminous Materials (gal/yd ²) PG58-22 or PG64-22		± .02	.17—.19	.18—.25	.22—.30	± .02	.20—.27	.26—.34	± .02	.20—.30	.24—.34
CRS-2h, CRS-3		± .02	.20—.22	.21—.29	.25—.35	± .02	.23—.32	.30—.40	± .02	.23—.35	.28—.40
1st Application Stone (ft ³ /yd ²)		± .03	.14—.18	.18—.26	.30—.42	± .03	.18—.26	.30—.42	± .03	.30—.42	.41—.53
2nd Application Bituminous Materials (gal/yd ²) PG58-22 or PG64-22						± .02	.18—.24	.24—.31	± .02	.20—.27	.20—.27
CRS-2h, CRS-3						± .02	.21—.28	.28—.36	± .02	.23—.32	.23—.32
2nd Application Stone (ft ³ /yd ²)						± .03	.14—.18	.18—.26	± .03	.18—.26	.18—.26
3rd Application Bituminous Materials (gal/yd ²) PG58-22 or PG64-22									± .02	.18—.24	.18—.24
CRS-2h, CRS-3									± .02	.21—.28	.21—.28
3rd Application Stone (ft ³ /yd ²)									± .03	.14—.18	.14—.18
Total Bituminous Materials (gal/yd ²) PG58-22 or PG64-22		± .02	.17—.19	.18—.25	.22—.30	± .03	.38—.51	.50—.65	± .04	.58—.81	.62—.85
CRS-2h, CRS-3		± .02	.20—.22	.21—.29	.25—.35	± .03	.44—.60	.58—.76	± .04	.67—.95	.72—1.0
Total Stone (ft ³ /yd ²)		± .03	.14—.18	.18—.26	.30—.42	± .04	.32—.44	.48—.68	± .05	.62—.86	.73—.97

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Notes:

The bituminous material and stone for each application may be varied by the Engineer, at no increase in cost, outside of the minimum or maximum shown in the table provided the total of the materials is within the limits of the total minimum and total maximum of all courses.

Maintain the control tolerances shown above or stop the work until the necessary corrections are made.

Apply at least one seal coat to the mat course on the same day when multiple applications are specified.

EXHIBIT 2 (CON'T)

Section 424—Bituminous Surface Treatment, Crack-Relief Interlayer – Table 2

Bituminous Material Application (gal/yd²)	Application Rate		Control Tolerance
PG 58-22 or PG 64-22	.20	.25	.02
CRS-2h, CRS-2L or CRS 3	.25	.29	.02
Aggregate Application (ft³/yd²)	Application Rate		Control Tolerance
#7	.22	.26	.02
<p>Notes:</p> <p>Target application rates for bituminous material and cover aggregate will be established by the Engineer within the limits shown in Table 2.</p> <p>Maintain the control tolerances shown above or stop the work until the necessary corrections are made.</p> <p>Cover the single surface treatment Crack-Relief Interlayer with HMA Leveling on the same day.</p>			

Section 424—Bituminous Surface Treatment, Sand Seal – Table 3

Bituminous Material Application (gal/yd²)	Application Rate		Control Tolerance
PG 58-22 or PG 64-22	.18	.22	.02
CRS-2h, CRS-2L or CRS 3	.20	.26	.02
Aggregate Application (ft³/yd²)	Application Rate		Control Tolerance
WA 10 Washed Screenings	.10	.14	.02

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Notes:

Target application rates for bituminous material and seal sand will be established by the Engineer within the limits shown in Table

3. Maintain the control tolerances shown above or stop the work until the necessary corrections are made.

Cover the coarse aggregate seal stone with seal sand on the same day.

EXHIBIT 2 (CON'T)
Section 424—Bituminous Surface Treatment – Table 1a (Metric)

Application		Type Construction									
		Single			Double			Triple			
Stone Sizes	1st appl.		#89	#7	#6		#7	#6		#6	#5
	2nd appl.						#89	#7		#7	#7
	3rd appl.									#89	#89
	Control Tolerance				Control Tolerance			Control Tolerance			
1st Application Bituminous Materials (L/m ²) PG58-22 or PG64-22		± .09	.77-.86	.82-1.13	1.00-1.36	± .09	.91-1.22	1.18-1.54	± .09	.91-1.36	1.09-1.54
CRS-2h, CRS-3		± .09	.91-1.00	.95-1.31	1.13-1.58	± .09	1.04-1.45	1.36-1.81	± .09	1.04-1.58	1.27-1.81
1st Application Stone (m ³ /m ²)		± .001	.005-.006	.006-.009	.01-.014	± .001	.006-.009	.01-.015	± .001	.01-.014	.014-.018
2nd Application Bituminous Materials (L/m ²) PG58-22 or PG64-22						± .09	.82-1.09	1.09-1.40	± .09	.91-1.22	.91-1.22
CRS-2h, CRS-3						± .09	.95-1.26	1.27-1.63	± .09	1.04-1.45	1.04-1.45
2nd Application Stone (m ³ /m ²)						± .001	.005-.006	.006-.009	± .001	.006-.009	.006-.009
3rd Application Bituminous Materials (L/m ²) PG58-22 or PG64-22									± .09	.82-1.09	.82-1.09
CRS-2h, CRS-3									± .09	.95-1.27	.95-1.27
3rd Application Stone (m ³ /m ²)									± .001	.005-.006	.005-.006
Total Bituminous Materials (L/m ²) PG58-22 or PG64-22		± .09	.77-.86	.82-1.13	1.00-1.36	± .14	1.72-2.31	2.26-2.94	± .18	2.63-3.67	2.81-4.53
CRS-2h, CRS-3		± .09	.91-1.00	.95-1.31	1.13-1.58	± .14	1.99-2.72	2.63-3.44	± .18	3.04-4.30	3.26-4.53
Total Stone (m ³ /m ²)		± .001	.005-.006	.006-.009	.01-.014	± .0013	.011-.015	.016-.024	± .0016	.021-.029	.025-.033

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Notes:

The bituminous material and stone for each application may be varied by the Engineer, at no increase in cost, outside of the minimum or maximum shown in the table provided the total of the materials is within the limits of the total minimum and total maximum of all courses.

Maintain the control tolerances shown above or stop the work until the necessary corrections are made.

Apply at least one seal coat to the mat course on the same day when multiple applications are specified.

EXHIBIT 2 (CON'T)

Section 424—Bituminous Surface Treatment, Crack-Relief Interlayer - Table 2a (Metric)

Bituminous Material Application (L/m ²)	Application Rate		Control Tolerance
PG 58-22 or PG 64-22	.91	1.13	.09
CRS-2h, CRS-2L or CRS 3	1.13	1.31	.09
Aggregate Application (m ³ /m ²)	Application Rate		Control Tolerance
#7	.007	.009	.0007

Notes:
 Target application rates for bituminous material and cover aggregate will be established by the Engineer within the limits shown in Table 2a (Metric).
 Maintain the control tolerances shown above or stop the work until the necessary corrections are made.
 Cover the single surface treatment Crack-Relief Interlayer with HMA Leveling on the same day.

Section 424—Bituminous Surface Treatment, Sand Seal - Table 3a (Metric)

Bituminous Material Application (L/m ²)	Application Rate		Control Tolerance
PG 58-22 or PG 64-22	.81	1.00	.09
CRS-2h, CRS-2L or CRS 3	.90	1.18	.09
Aggregate Application (m ³ /m ²)	Application Rate		Control Tolerance
WA 10 Washed Screenings	.003	.005	.0007

Notes:
 Target application rates for bituminous material and seal sand will be established by the Engineer within the limits shown in Table 3. Maintain the control tolerances shown above or stop the work until the necessary corrections are made.
 Cover the coarse aggregate seal stone with seal sand on the same day.

D. Heating Bituminous Material

Evenly heat the entire mass of bituminous material for each application under positive control. While the material is being applied, maintain it within the specified temperature range.

E. Applying Bituminous Material

The following are temperatures at which bituminous material shall be applied.

Bituminous Material	Asphalt Cement	CRS-2h	CRS-3	CRS-2L
Application temperature °F (°C)	275-350 (135-177)	140-180 (60-82)	140-180 (60-82)	140-180 (60-82)

NOTE 1: Do not store emulsified asphalts at temperatures exceeding 150 °F (65 °C) for any extended time.

NOTE 2: Do not place bituminous surface treatment on fresh asphaltic concrete, except for paved shoulders, until the asphaltic concrete has been in place at least 30 days.

The Engineer will designate the maximum area to which bituminous material may be applied at one time. Apply the material as follows:

1. After applying the bituminous material to the section, immediately cover it with the correct application rate of aggregate before beginning the next section.

Do not apply the bituminous material to the full width of the pavement unless the aggregate spreader can immediately cover the full width of the applied material.

NOTE: Never allow bituminous material to chill, set up, dry, or reach a condition that impairs the retention of cover aggregate before the aggregate is applied.

2. When a longitudinal joint is necessary:

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Do not overlap the applications more than 4 in (100 mm).

EXHIBIT 2 (CON'T)

Do not leave any area uncovered.

Never allow excess quantities of bituminous materials to build up.

3. On curves that require widening:
 - a. Shoot the extra width on the outside first.
 - b. Shoot the normal width with the distributor and follow the inside paving edge.
4. Ensure that the spray of bituminous material is uniform at all times. If the spray is not uniform:
 - a. Stop the work.
 - b. Change equipment, personnel, or methods to attain the required uniformity.
 - c. Apply bituminous material at one-half the width of the roadway, if necessary.
5. If streaking develops:
 - a. Stop the distributor and correct the problem before proceeding.
 - b. Use a hand hose or a hand pouring pot to cover the streaked areas at approximately the same application rate of bituminous material.
6. If a part of the work cannot be reached by the distributor, treat it by hand hoses with nozzles.
7. Protect curbs, gutters, handrails, and other structures from discoloration by the bituminous material. Remove bituminous material that is sprayed or spilled on these structures.
8. Ensure that the bituminous material joins neatly in place by beginning and ending the asphalt application from a heavy paper or tight trough that is longer than the width of the treatment being applied. Place it to catch and hold the surplus material.
9. When cleaning and emptying the distributor, empty it where the bituminous material can be covered with dirt and completely disposed of without damaging the Rights-of-Way.

F. Spreading Aggregates

Spread the aggregates as follows:

1. Ensure that aggregates do not contain free moisture when spread.
2. Apply aggregate immediately after applying bituminous materials.
3. Uniformly spread the aggregate at the specified rate without corrugations, overlaps, excess, or deficient areas.
4. Move the spreader at a uniform speed, regardless of the grade.
5. Ensure that the distance that the aggregate free falls remains constant during spreading.
6. Remove corrugations. Operate the spreader to prevent overlap of aggregates. If overlap occurs, remove the excess aggregate before rolling.
7. Ensure a uniform aggregate spread by hand spotting and brooming as necessary.

G. Rolling

Observe the following guidelines for rolling bituminous surface treatment:

1. Synchronize the speed of the distributor and aggregate spreader with that of the rolling operation.
2. Use a minimum of two (2) individual rollers, one of which must be a pneumatic-tired roller meeting the requirements of Subsection 424.3.02.E.
3. If a steel-wheeled roller will fracture the aggregate, use pneumatic-tired rollers only.
4. Begin rolling within one minute after spreading the aggregate.
5. Operate rollers at speeds not exceeding 5 mph.
6. Proceed in a longitudinal direction, beginning at the outside edge of the aggregate application.
7. A roller pass is defined as one trip in a single direction.
8. Overlap each roller pass by approximately 1/2 the roller width.
9. Provide a minimum of three (3) roller passes per roller for each layer of aggregate to properly embed the aggregate particles.

Note: Unless a sufficient number of rollers are in operation to complete the above requirements, do not make subsequent applications of bituminous material until rolling of the previous application is completed.

EXHIBIT 2 (CON'T)**H. Brooming**

Use a revolving broom as necessary, supplemented by hand brooming, to remove or redistribute excess stone. Sweep the completed surface treatment within the first three hours of the next available workday following placement. Take care not to unseat bonded stone when sweeping.

I. Controlling Traffic

Do not allow traffic on the surface treatment until the bituminous material has cured sufficiently to ensure that the aggregate will not be loosened, dislodged, or whipped off by slow moving traffic.

Control traffic to speeds not exceeding 25 mph for a minimum of two hours after application of the seal stone and until the Engineer permits the road to be opened to normal traffic speeds.

Use pilot vehicles to control traffic speeds.

424.3.06 Quality

Acceptance General

Provisions 101 through 150.

424.3.07 Contractor Warranty and Maintenance

Maintain and protect the surface course as specified in [Section 105](#) until the Project has been accepted. Make repairs as the Engineer directs. The cost of maintenance, protection, and repair is included in the Unit Prices Bid for the Item for which they apply.

424.4 Measurement

The area to be measured is the number of square yards (meters) of each type surface treatment completed and accepted. **424.4.01 Limits**

The length is measured along the surface. The width is specified on the Plans, plus or minus any authorized changes. Irregular areas are measured by the surface square yard (meter) within the lines shown on the Plans or authorized changes.

424.5 Payment

The accepted area of surface treatment will be paid for at the Contract Unit Price per square yard (meter) complete for each type and stone size specified.

Payment will be made under:

Item No. 424	Single surface treatment stone size __ group__	Per square yard (meter)
Item No. 424	Double surface treatment stone size __ and __ group __	Per square yard (meter)
Item No. 424	Double surface treatment stone size __ and __ group __ with Seal Sand __ and Latex-Modified Emulsion	Per square yard (meter)
Item No. 424	Double surface treatment stone size __ and __ group __ with Seal Sand____	Per square yard (meter)
Item No. 424	Triple surface treatment stone sizes __, __ and __, group __	Per square yard (meter)

END OF SECTION

SECTION 02921

SEEDING

PART 1 GENERAL

1.01 SCOPE

- A. This item shall consist of ground preparation, seeding, fertilizing, and mulching of all areas designated for grassing and producing a satisfactory growth and coverage of grass.

1.02 GENERAL

All areas disturbed by construction shall be restored to a condition equal to that before the work began. Sod which can not be removed and reused shall be replaced by the Contractor. Sod and grassing shall match the existing vegetation.

- A. All areas disturbed by construction which are not covered in above paragraph shall be grassed with hulled common bermuda at the rate of 10 lbs/acre. Weeping love grass shall be applied at the rate of 4 lbs/acre as temporary vegetation. Prior to seeding the seedbed shall be prepared to a minimum depth of 4" and a commercial grade fertilizer with an analysis of 6-12-12 should be applied at the rate of 1500 lbs. per/acre. Work fertilizer into the top 2" of the prepared seed bed. After sowing the seed, the entire area shall be lightly dragged or raked to cover seed to a maximum depth of ¼". All seeded areas should be lightly mulched with 2 bales of dry straw mulch per 1000 square feet. After mulching, soak the seedbed to a minimum depth of 6" without washing away seed or soil. Keep lawn area moist until grass is established.

If construction is completed between October 15th and May 1st, a temporary vegetative cover will also be required. This shall be performed in the same manner as outlined above for permanent grassing. Before permanent grassing is begun, the Contractor shall restore and prepare ground surface as specified above.

Contractor shall be responsible for plant growth until a thick stand of permanent vegetation with 95% coverage and 85% thickness is well established.

END OF SECTION

PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections apply to this Section.

1.2 Summary:

- A. This Section includes markings of pavement and curbs, including parking bay striping, lane divider stripes, directional arrows, fire lanes, handicapped parking, and any other information markings required for a certificate of occupancy.
- B. Refer to SECTION 02740 – Asphalt Paving

1.3 Submittals:

- A. Product Data: Manufacturer's specifications and technical data.

1.4 Job Conditions:

- A. Inspection:
 - 1. Examine areas for conditions under which work is to be performed. Report in writing to Owner all conditions contrary to those shown on the drawings or specified herein and all other conditions that will affect satisfactory execution of work such as improperly constructed substrates or adjoining work. Do not proceed with work until unsatisfactory conditions have been corrected.
 - 2. Starting work constitutes acceptance of the conditions under which work is to be performed. After such acceptance this contractor shall, at his expense, be responsible for correcting all unsatisfactory and defective work resulting from such unsatisfactory conditions.

PART 2 - PRODUCTS

2.1 Materials:

- A. Paint: Colors conforming to specifications and standards of the MUTCD, including following referenced standard.
 - 1. Georgia Department of Transportation and the Fort Valley Utility Commission.

RFB 16-021

- B. Paint type for cured concrete surfaces, rubber based type:
 - 1. Traffic Marking Paint is based on products manufactured by ENNIS PAINT CO., Ennis, TX.
 - 2. Product information is listed for reference purposes to establish material characteristics, quality, and finish. Alternate manufacturer's products shall meet or exceed the listed products. Other acceptable manufacturers include:
 - a. STIMSONITE CORP., Atlanta, GA
 - b. CROWN TECHNOLOGY, INC., LaGrange, GA
- C. ARK-LA-LINE type asphaltic concrete surface paint or equal (meeting Ga. Dept. of Transportation Standards).
 - 1. Product information is listed for reference purposes to establish material characteristics, quality, and finish. Acceptable manufacturers include:
 - a. ENNIS PAINT CO., Ennis, TX
 - b. STIMSONITE CORP., Atlanta, GA
 - c. CROWN TECHNOLOGY, INC., LaGrange, GA

PART 3 - EXECUTION

3.1 Preparation:

- A. Remove all dirt, oil, grease and other foreign material from areas of pavement to be marked.
- B. Apply paint only on thoroughly dry surfaces, when atmospheric temperature is above 40 degrees Fahrenheit and when weather is favorable.

3.2 Installation:

- A. Apply respective markings in colors in accordance with the MUTCD, including following referenced: Standards and Specifications of the Fort Valley Utility Commission and the Georgia Department of Transportation.
- B. Apply with a coverage rate of 100 to 110 square feet per gallon with 0.015 inch film thickness.
- C. Do not permit traffic on pavement until markings are thoroughly dry.

END OF SECTION

STORM DRAINAGE UTILITIES**PART 1 – GENERAL****1.1 Related Documents:**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections apply to this Section.

1.2 Summary:

- A. Handling and Storage: Handle, transport to the job, unload, store and place pipe in trenches to prevent their being damaged. Any damaged material will be rejected.
- B. Submittals: The Contractor shall furnish to the Engineer, five (5) copies of the manufacturer's certification of materials.
- C. Related Section: Section 02324, Trench Excavation & Backfill.

PART 2 - PRODUCTS

- A. Materials: Refer to the Drawings for areas that a specific type of pipe is required. As shown on the Drawings, the Contractor shall install either reinforced concrete pipe or reinforced concrete arch pipe.
 - 1. Reinforced Concrete Pipe: Reinforced concrete pipe (RCP) shall meet the requirements of ASTM Designation C-76, Class III and the latest revisions thereof. Pipe joints shall be either tongue and groove with mortar joint or "O" ring type joints. Pipe shall meet GA D.O.T. Specifications and shall be stamped by D.O.T.
 - 2. Polypropylene Pipe: Polypropylene pipe shall meet the requirements of ASTM Designation F2881 and AASHTO Designation M330 and the latest revisions thereof.
 - 3. Cast-in-place concrete shall have minimum compressive strength of 3000 psi at 28 days. Slump shall be 3" ± 1".
 - 4. Brick: Brick for manholes and catch basins shall be first quality, sound, hard burned, perfect shaped brick, presenting a smooth regular shape. Brick shall not absorb more than 16 percent of water by weight when submerged in water for 24 hours, having been in a thoroughly dry state prior to placing in water.
 - 5. Mortar: All cement used in mortar shall conform to ASTM Designation C-150, and the latest revision thereof. All mortar used shall be composed of

one part Portland Cement and two parts of fine sand.

6. Cast Iron: Cast iron for manhole frames and covers and catch basin frames and grates, and manhole steps shall conform to the shape and dimensions shown on the Plans, and shall be clean and perfect free from sand and blow holes or other defects. Cast iron shall conform to ASTM Designation A-48-74 for Class No. 20 gray cast iron.
7. Precast Concrete Structures: Precast concrete storm drainage structures shall conform to the requirements of ASTM C-478. Dimensions and reinforcement steel shall be as shown on the details.

PART 3 - EXECUTION

- A. Trenching: Excavate trenches to the line and grade shown on the plans. The minimum width of the trench shall be 12" plus the outside diameter of the pipe. The maximum width shall be 24" plus the outside diameter of the pipe. Machine trenching may be carried to within four inches of the flow line elevation and the remainder of the trench bottom removed by hand. Undercutting will not be permitted except to obtain a stable bottom. Do not open more trench in advance of pipe laying than is possible to use in laying pipe for that day. Backfill all trenches at the end of each day. Protect laid pipe from crushing. If needed, add additional fill soil over the pipe, if necessary, during the construction work.

Shape the bottom of the trench to the lower 1/3 of the pipe for a firm bed, or lay the pipe on a flat trench bottom and backfill immediately to 1/4 its diameter and tamp in 4" layers against and under the pipe.

- B. Pipe Laying: Lay pipe to line and grade by the use of batter boards or laser. Set batter boards at intervals of 25 feet or less. Begin pipe laying at the lowest flow line elevation and continue toward the highest flow line elevation.
- C. Backfilling: As soon as practicable after the completion of laying and jointing of the pipe, the trench shall be backfilled, and at no time shall be the completed backfilling of the trench be more than 300 feet behind the pipe laying.
- D. Suitable Earth Materials: Soil materials free of roots 1" in diameter and larger, deleterious matter, debris and rocks over 6" in greatest dimension, and with not more than 15% of the rocks or lumps greater than 2-3/8" in their greatest dimension.

Where it becomes necessary to excavate beyond the limits of normal excavation lines in order to remove boulders or other interfering objects, backfill the voids remaining after removal of the objects.

When the void is below the subgrade for the storm sewer bedding, use suitable earth materials and compact to at least 95% maximum dry density as determined by the Modified Proctor.

When the void is in the side of the storm sewer trench or open cut, use suitable earth materials and compact to at least 95% maximum dry density as determined by the Modified Proctor.

E. Lower portion of trenches:

Deposit backfill and bedding material as shown on the plans in layers of 4" maximum thickness, and compact with suitable tampers to the density of the adjacent soil, or grade as specified herein, until there is a cover of not less than 24" over sewers.

Do not damage pipe and pipe coatings in backfilling and bedding operations.

Backfill trenches to the ground surface with selected material approved by the engineer.

Reopen trenches which have been improperly backfilled, refill and compact as specified.

F. Structures: Construct area drains, manholes catch basins, junction boxes, and headwalls to conform to the details shown on the plans. Precast structures shall conform to ASTM C-478 standards and specifications.

After the masonry work and/or concrete work have been completed to elevation, the cast iron frames shall be set in a full bed of mortar and adjusted to the elevation shown on the plans.

G. Handling and Assembly: Shall be in accordance with RCP manufacturer's recommendations.

H. Installation shall be in accordance with AASHTO Standard Specifications for Highway Bridges, Section 26, Division II or ASTM A 798 and in conformance with the project plans and specifications. If there are any inconsistencies or conflicts, the contractor must bring them to the attention of the Engineer.

I. It is always the contractor's responsibility to follow OSHA guidelines for safe practices.

J. Construction loads may be higher than final loads. Follow the pipe manufacturer's or RCP association's guidelines.

END OF SECTION