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FULTON COUNTY

CONTRACT

25ITB0911K-NJH
STANDBY MISCELLANEOUS CONSTRUCTION, WATER SYSTEM SERVICES

FOR
DEPARTMENT OF PUBLIC WORKS

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

OWNER - CONTRACTOR AGREEMENT

25ITB0911K-NJH, Standby Miscellaneous Construction, Water System Services

CONTRACTOR	Wade Coots Company, Inc
ADDRESS	174 Duncan Circle Hiram, GA 30141
CONTACT	Mark Sutton
PROJECT NUMBER	25ITB0911K-NJH
TELEPHONE	(770) 206-0784
EMAIL	mark.sutton@wadecootscompany.com

THIS AGREEMENT is effective as of the 1st day of April, 2026, by and between Fulton County, a political subdivision of the State of Georgia (hereinafter called the “County”), and the above named CONTRACTOR in accordance with all provisions of this Construction Agreement (“Contract”), which consists of the following: Owner-Contractor Agreement, Owner's invitation for bid, instructions to bidders, bid form, performance bond, payment bond, acknowledgments, general conditions, special conditions, scope of work and specifications, plans, drawings, exhibits, addenda, Purchasing forms, Office of Contract Compliance Forms, Risk Management insurance provisions forms and written change orders.

The specific Exhibits of this Contract are as follows:

Exhibit A: General Conditions
Exhibit B: Special Conditions
Exhibit C: Addenda
Exhibit D: Bid Form
Exhibit E: Bonds (Bid, Payment & Performance)
Exhibit F: Scope of Work and Technical Specifications
Exhibit G: Drawings
Exhibit H: Purchasing Forms
Exhibit I: Office of Contract Compliance Forms
Exhibit J: Risk Management Insurance Provisions Forms

WITNESSETH: That the said Contractor has agreed, and by these present does agree with the said County, for and in consideration of a Contract Price of $1,500,000.00, (One Million Five Hundred Thousand Dollars and No Cents), and other good and valuable consideration, and under the penalty expressed on Bonds hereto attached, to furnish all equipment, tools, materials, skill, and labor of every description necessary to carry out and complete in good, firm, and workmanlike manner, the Work specified, in strict conformity with the Drawings and the Specifications hereinafter set forth, which Drawings and Specifications together with the bid submittals made by the Contractor, General Conditions, Special Provisions, Detailed Specifications, Exhibits, and this Construction Agreement, shall all form essential parts of this Contract. The Work covered by this Contract includes all Work indicated on Plans and Specifications and listed in the Bid entitled:

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Standby Miscellaneous Construction, Water System Services

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The Contractor, providing services as an Independent Contractor, shall commence the Work with adequate force and equipment within 10 days from receipt of Notice to Proceed ("NTP") from the County, and shall complete the work effective April 1, 2026 through December 31, 2026 with two (2) one (1) year renewal options from the Notice to Proceed or the date work begins, whichever comes first. The Contractor shall remain responsible for performing, in accordance with the terms of the Contract, all work assigned prior to the expiration of the said calendar days allowed for completion of the work even if the work is not completed until after the expiration of such days. The Contractor shall agree that in the performance of this Contract he will comply with all lawful agreements, if any, which the contractor has made with any association, union or other entity, with respect to wages, salaries and working conditions, so as to cause inconvenience, picketing or work stoppage.

For each calendar day that any work remains uncompleted after the time allowed for completion of the work, the Contractor shall pay the County the sum of $ 1500.00 not as a penalty but as liquidated damages, which liquidated damages the County may deduct from any money due the contractor. At the County's convenience and not to its prejudice the County may provide written notice of the commencement of the assessment of liquidated damages.

As full compensation for the faithful performance of this Contract, the County shall pay the Contractor in accordance with the General Conditions and the prices stipulated in the Bid, hereto attached.

It is further mutually agreed between the parties hereto that if, at any time after the execution of this Agreement and the Surety Bonds hereto attached for its faithful performance, the County shall deem the surety or sureties upon such bonds to be unsatisfactory, or, if, for any reason, such bonds cease to be adequate to cover the performance of the Work, the Contractor shall, at his expense, within five days after receipt of notice from the County so to do, furnish an additional bond or bonds in such form and amount, and with such surety or sureties as shall be satisfactory to the County. In such event no further payment to the Contractor shall be deemed to be due under this Agreement until such new or additional security for the faithful performance of the Work shall be furnished in manner and form satisfactory to the County.

The Contractor hereby assumes the entire responsibility and liability for any and all injury to or death of any and all persons, including the Contractor's agents, servants, and employees, and in addition thereto, for any and all damages to property caused by or resulting from or arising out of any act or omission in connection with this contract or the prosecution of work hereunder, whether caused by the Contractor or the Contractor's agents, Servants, or employees, or by any of the Contractor's subcontractors or suppliers, and the Contractor shall indemnify and hold harmless the County, the Construction Manager, County's Commissioners, officers, employees, successors, assigns and agents, or any of their subcontractors from and against any and all loss and/or expense which they or any of them may suffer or pay as a result of claims or suits due to, because of, or arising out of any and all such injuries, deaths and/or damage, irrespective of County or Construction Manager negligence (except that no party shall be indemnified for their own sole negligence). The Contractor, if requested, shall assume and defend at the Contractor's own expense, any suit, action or other legal proceedings arising there from, and the Contractor hereby agrees to satisfy, pay, and cause to be discharged of record any judgment which may be rendered against the County and the Construction Manager arising there from.

In the event of any such loss, expense, damage, or injury, or if any claim or demand for damages as heretofore set forth is made against the County or the Construction Manager, the County may withhold from any payment due or thereafter to become due to the Contractor under the terms of

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this Contract, an amount sufficient in its judgment to protect and indemnify it and the Construction Manager, County's Commissioners, officers, employees, successors, assigns and agents from any and all claims, expense, loss, damages, or injury; and the County, in its discretion, may require the Contractor to furnish a surety bond satisfactory to the County providing for such protection and indemnity, which bond shall be furnished by the Contractor within five (5) days after written demand has been made therefore. The expense of said Bond shall be borne by the Contractor. **[See General Conditions for similar provision]**

This Contract constitutes the full agreement between the parties, and the Contractor shall not sublet, assign, transfer, pledge, convey, sell or otherwise dispose of the whole or any part of this Contract or his right, title, or interest therein to any person, firm or corporation without the previous consent of the County in writing. Subject to applicable provisions of law, this Contract shall be in full force and effect as a Contract, from the date on which a fully executed and approved counterpart hereof is delivered to the Contractor and shall remain and continue in full force and effect until after the expiration of any guarantee period and the Contractor and his sureties are finally released by the County.

This agreement was approved by the Fulton County Board of Commissioner on March 18, 2026, and 26-0167(B).

[SIGNATURES NEXT PAGE]

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IN WITNESS THEREOF, the Parties hereto have caused this Contract to be executed by their duly authorized representatives as attested and witnessed and their corporate seals to be hereunto affixed as of the day and year date first above written.

OWNER:

FULTON COUNTY, GEORGIA

Robert L. Pitts

Robert L. Pitts, Chairman
Fulton County Board of Commissioners

ATTEST:

Tonya R. Grier
Clerk to the Commission

(Affix Seal)

APPROVED AS TO FORM:

Kaye Burwell

Office of the County Attorney

APPROVED AS TO CONTENT:

David Clark

David E. Clark, P.E., Director
Public Works

CONTRACTOR:

Wade Coots Company, Inc.

W. Greg Coots

W. Greg Coots
Vice President

ITEM#:_____ **RM:**_____ **REGULAR MEETING**	**ITEM#:** 26-0167B **2ND RM:** 03/18/2026 **SECOND REGULAR MEETING**

END OF SECTION

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EXHIBIT A
GENERAL CONDITIONS

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00700-1 FAMILIARITY WITH SITE

Execution of this agreement by the Contractor is a representation that the Contractor has visited the site, has become familiar with the local conditions under which the work is to be performed, and has correlated personal observations with the requirements of this agreement.

00700-2 CONTRACT DOCUMENTS

This agreement consists of Owner's invitation for bid, instructions to bidders, bid form, performance bond, payment bond, acknowledgments, the contract, general conditions, special conditions, specifications, plans, drawings, exhibits, addenda, and written change orders.

A. Notice of Award of Contract:

B. Execution of Contract Documents

Upon notification of Award of Contract, the Owner shall furnish the Contractor the conformed copies of Contract Documents for execution by the Contractor and the Contractor's surety.

Within ten (10) days after receipt the Contractor shall return all the documents properly executed by the Contractor and the Contractor's surety. Attached to each document shall be an original power-of-attorney for the person executing the bonds for the surety and certificates of insurance for the required insurance coverage.

After receipt of the documents executed by the Contractor and his surety with the power-of-attorney and certificates of insurance, the Owner shall complete the execution of the documents. Distribution of the completed documents will be made upon completion.

Should the Contractor and/or Surety fail to execute the documents within the time specified; the Owner shall have the right to proceed on the Bid Bond accompanying the bid.

If the Owner fails to execute the documents within the time limit specified, the Contractor shall have the right to withdraw the Contractor's bid without penalty.

Drawings and Specifications:

The Drawings, Specifications, Contract Documents, and all supplemental documents, are considered essential parts of the Contract, and requirements occurring in one are as binding as though occurring in all. They are intended to define, describe and provide for all Work necessary to complete the Project in an acceptable manner, ready for use, occupancy, or operation by the Owner.

In case of conflict between the Drawings and Specifications, the Specifications shall govern. Figure dimensions on Drawings shall govern over scale dimensions, and detailed Drawings shall govern over general Drawings.

In cases where products or quantities are omitted from the Specifications, the description and quantities shown on the Drawings shall govern.

Any ambiguities or need for clarification of the Drawings or Specifications shall be immediately reported to the Construction Manager in writing. Any such ambiguity or need for clarification shall be handled by the Construction Manager in writing. No clarification of the Drawings and Specifications hereunder by the Construction Manager shall entitle the Contractor to any additional monies unless a Change Order has been processed as provided by "Changes in the Contract" hereof.

Any work done by the Contractor following a discovery of such differing site condition or ambiguity or need for clarification in the Contract Drawings and Specifications prior to a written report to the Construction Manager shall not entitle the Contractor to additional monies and shall be done at the Contractor's risk.

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The Construction Manager will furnish the Contractor five (5) copies of the Contract Drawings and the Specifications, one copy of which the Contractor shall have available at all times on the Project site.

00700-3 DEFINITIONS

The following terms as used in this agreement are defined as follows to the extent the definitions herein differ or conflict with those in the Instructions for Bidders, Section 00100, the definitions herein shall control.

Alternate bids – the amount stated in the bid or proposal to be added to or deducted from the amount of the base bid or base proposal if the corresponding change in project scope or alternate materials or methods of construction is accepted.

Base bid – the amount of money stated in the bid or proposal as the sum for which the bidder or proposer offers to perform the work.

Change Order - an alteration, addition, or deduction from the original scope of work as defined by the contract documents to address changes or unforeseen conditions necessary for project completion. A written order to the Contractor issued by the County pursuant to Fulton County Code Section 102-420 for changes in the work within the general scope of the contract documents, adjustment of the contract price, extension of the contract time, or reservation of determination of a time extension.

Construction Manager - shall mean the individual designated in writing, by the [Insert Department name] Department as the Construction Manager.

Contractor - shall mean the party of the second part to the Contract Agreement or the authorized and legal representative of such party.

Contract Documents- include the Contract Agreement, Contractor's Bid (including all documentation accompanying the Bid and any post-Bid documentation required by the County prior to the Notice of Award), Bonds, all Special Conditions, General Conditions, Supplementary Conditions, Specifications, Drawings and addenda, together with written amendments, change orders, field orders and the Construction Manager's written interpretations and clarifications issued in accordance with the General Conditions on or after the date of the Contract Agreement.

Shop drawing submittals reviewed in accordance with the General Conditions, geotechnical investigations and soils report and drawings of physical conditions in or relating to existing surface structures at or contiguous to the site are not Contract Documents.

Contract Price - The sum specified in the Agreement to be paid to the Contractor in consideration of the Work.

Contract Time - shall mean the number of consecutive calendar days as provided in the Contract Agreement for completion of the Work, to be computed from the date of Notice to Proceed.

Owner or County - shall mean Fulton County Government, party of the first part to the Contract Agreement, or its authorized and legal representatives.

Day - A calendar day of twenty-four hours lasting from midnight of one day to midnight the next day.

Director - Director of the Department of Public Works of Fulton County, Georgia or the designee thereof.

Final Completion - shall mean the completion of all work as required in accordance with the terms and conditions of the contract documents.

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Liquidated Damages - shall mean the amount, stated in the Contract Agreement, which the Contractor agrees to pay to the Owner for each consecutive calendar day beyond the Contract time required to complete the Project or for failing to comply with associated milestones. Liquidated Damages will end upon written notification from the Owner of Final Acceptance of the Project or upon written notification of from the Owner of completion of the milestone.

Notice to Proceed - A written communication issued by the County to the Contractor authorizing it to proceed with the work, establishing the date of commencement and completion of the work, and providing other direction to the Contractor.

Products - shall mean materials or equipment permanently incorporated into the work.

Project Manual - The Contract Documents.

Provide - shall mean to furnish and install.

Substantial Completion - The date certified by the Construction Manager when all or a part of the work, as established pursuant to General Condition 0700-81, is sufficiently completed in accordance with the requirements of the contract documents so that the identified portion of the work can be utilized for the purposes for which it is intended.

Work or Project - All of the services specified, indicated, shown or contemplated by the contract documents, and furnishing by the Contractor of all materials, equipment, labor, methods, processes, construction and manufacturing materials and equipment, tools, plans, supplies, power, water, transportation and other things necessary to complete such services in accordance with the contract documents to insure a functional and complete facility.

00700-4 CODES

All codes, specifications, and standards referenced in the contract documents shall be the latest editions, amendments and revisions of such referenced standards in effect as of the date of the request for proposals for this contract.

00700-5 REVIEW OF CONTRACT DOCUMENTS

Before making its proposal to the County, and continuously after the execution of the agreement, the Contractor shall carefully study and compare the contract documents and shall at once report to the Construction Manager any error, ambiguity, inconsistency or omission that may be discovered, including any requirement which may be contrary to any law, ordinance, rule, or regulation of any public authority bearing on the performance of the work. By submitting its proposal, the Contractor agrees that the contract documents, along with any supplementary written instructions issued by or through the Construction Manager that have become a part of the contract documents, appear accurate, consistent and complete insofar as can be reasonably determined. If the Contractor has timely reported in writing any error, inconsistency, or omission to the Construction Manager, has properly stopped the affected work until instructed to proceed, and has otherwise followed the instructions of the Construction Manager, the Contractor shall not be liable to the County for any damage resulting from any such error, inconsistency, or omission in the contract documents. The Contractor shall not perform any portion of the work without the contract documents, approved plans, specifications, products and data, or samples for such portion of the work. For purposes of this section “timely” is defined as the time period in which the contractor discovers, or should have discovered, the error, inconsistency, or omission, with the exercise of reasonable diligence.

00700-6 STRICT COMPLIANCE

No observation, inspection, test or approval of the County or Construction Manager shall relieve the Contractor from its obligation to perform the work in strict conformity with the contract documents except as provided in General Condition 00700-48.

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00700-7 APPLICABLE LAW

All applicable State laws, County ordinances, codes, and rules and regulations of all authorities having jurisdiction over the construction of the project shall apply to this agreement. The Contractor shall comply with the requirements of any Fulton County program concerning non-discrimination in contracting. All work performed within the right of way of the Georgia Department of Transportation and any railroad crossing shall be in accordance with Georgia Department of Transportation regulations, policies and procedures and, where applicable, those of any affected railroad. The Contractor shall comply with all laws, ordinances, codes, rules and regulations bearing on the conduct of the work as specified and the Contractor agrees to indemnify and hold harmless the County, its officers, agents and employees, as well as the Construction Manager and the Program Manager against any claim or liability arising from or based on the violation of any law, ordinance, regulation, order or decree affecting the conduct of the work, whether occasioned by the Contractor, his agents or employees.

00700-8 PERMITS, LICENSES AND BONDS

All permits and licenses necessary for the work shall be secured and paid for by the Contractor. If any permit, license or certificate expires or is revoked, terminated, or suspended as a result of any action on the part of the Contractor, the Contractor shall not be entitled to additional compensation or time. The Contractor shall obtain and keep in force at all times performance and payment bonds payable to Fulton County in penal amounts equal to 100% of the Contract price.

00700-9 TAXES

A. The Contractor shall pay all sales, retail, occupational, service, excise, old age benefit and unemployment compensation taxes, consumer, use and other similar taxes, as well as any other taxes or duties on the materials, equipment, and labor for the work provided by the Contractor which are legally enacted by any municipal, county, state or federal authority, department or agency at the time bids are received, whether or not yet effective. The Contractor shall maintain records pertaining to such taxes and levies as well as payment thereof and shall make the same available to the County at all reasonable times for inspection and copying. The Contractor shall apply for any and all tax exemptions which may be applicable and shall timely request from the County such documents and information as may be necessary to obtain such tax exemptions. The County shall have no liability to the Contractor for payment of any tax from which it is exempt.

B. The Contractor is obligated to comply with all local and State Sales and Use Tax laws. The Contractor shall provide the Owner with documentation to assist the Owner in obtaining sales and/or use tax refunds for eligible machinery and equipment used for the primary purpose of reducing or eliminating air or water pollution as provided for in Chapter 48-8-3 (36) and (37) of the Official Code of Georgia. All taxes shall be paid by the Contractor. All refunds will accrue to the Owner.

Acceptance of the project as complete and final payment will not be made by the Owner until the Contractor has fully complied with this requirement.

00700-10 DELINQUENT CONTRACTORS

The County shall not pay any claim, debt, demand or account whatsoever to any person firm or corporation who is in arrears to the County for taxes. The County shall be entitled to a counterclaim, back charge, and offset for any such debt in the amount of taxes in arrears, and no assignment or transfer of such debt after the taxes become due shall affect the right of the County to offset any taxes owed against said debt.

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00700-11 LIEN WAIVERS

The Contractor shall furnish the County with evidence that all persons who have performed work or furnished materials pursuant to this agreement have been paid in full prior to submitting its demand for final payment pursuant to this agreement. A final affidavit, Exhibit A, must be completed, and submitted to comply with requirements of 00700-11. In the event that such evidence is not furnished, the County may retain sufficient sums necessary to meet all lawful claims of such laborers and materialmen. The County assumes no obligation nor in any way undertakes to pay such lawful claims from any funds due or that may become due to the Contractor.

00700-12 MEASUREMENT

All items of work to be paid for per unit of measurement shall be subject to inspection, measurement, and confirmation by the Construction Manager.

00700-13 ASSIGNMENT

The Contractor shall not assign any portion of this agreement or moneys due there from (include factoring of receivables) without the prior written consent of the County. The Contractor shall retain personal control and shall provide personal attention to the fulfillment of its obligations pursuant to this agreement. Any assignment without the express written consent of the County shall render this contract voidable at the sole option of the County.

00700-14 FOREIGN CONTRACTORS

In the event that the Contractor is a foreign corporation, partnership, or sole proprietorship, the Contractor hereby irrevocably appoints the Secretary of State of Georgia as its agent for service of all legal process for the purpose of this contract only.

00700-15 INDEMNIFICATION

The Contractor hereby assumes the entire responsibility and liability for any and all injury to or death of any and all persons, including the Contractor's agents, servants, and employees, and in addition thereto, for any and all damages to property caused by or resulting from or arising out of any act or omission in connection with this contract or the prosecution of work hereunder, whether caused by the Contractor or the Contractor's agents, Servants, or employees, or by any of the Contractor's subcontractors or suppliers, and the Contractor shall indemnify and hold harmless the County, the Construction Manager, County's Commissioners, officers, employees, successors, assigns and agents, or any of their subcontractors from and against any and all loss and/or expense which they or any of them may suffer or pay as a result of claims or suits due to, because of, or arising out of any and all such injuries, deaths and/or damage, irrespective of County or Construction Manager negligence (except that no party shall be indemnified for their own sole negligence). The Contractor, if requested, shall assume and defend at the Contractor's own expense, any suit, action or other legal proceedings arising there from, and the Contractor hereby agrees to satisfy, pay, and cause to be discharged of record any judgment which may be rendered against the County and the Construction Manager arising there from.

In the event of any such loss, expense, damage, or injury, or if any claim or demand for damages as heretofore set forth is made against the County or the Construction Manager, the County may withhold from any payment due or thereafter to become due to the Contractor under the terms of this Contract, an amount sufficient in its judgment to protect and indemnify it and the Construction Manager, County's Commissioners, officers, employees, successors, assigns and agents from any and all claims, expense, loss, damages, or injury; and the County, in its discretion, may require the Contractor to furnish a surety bond satisfactory to the County providing for such protection and indemnity, which bond shall be furnished by the Contractor within five (5) days

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after written demand has been made therefore. The expense of said Bond shall be borne by the Contractor.

00700-16 SUPERVISION OF WORK AND COORDINATION WITH OTHERS

The Contractor shall supervise and direct the work using the Contractor's best skill and attention. The Contractor shall be solely responsible for all construction methods and procedures and shall coordinate all portions of the work pursuant to the contract subject to the overall coordination of the Construction Manager. All work pursuant to this agreement shall be performed in a skillful and workmanlike manner.

The County reserves the right to perform work related to the Project with the County's own forces and to award separate contracts in connection with other portions of the project, other work on the site under these or similar conditions of the contract, or work which has been extracted from the Contractor's work by the County.

When separate contracts are awarded for different portions of the project or other work on the site, the term "separate contractor" in the Contract Documents in each case shall mean the contractor who executes each separate County Agreement.

The Contractor shall cooperate with the County and separate contractors in arranging the introduction and storage of materials and equipment and execution of their work, and shall cooperate in coordinating connection of its work with theirs as required by the Contract Documents.

If any part of the Contractor's Work depends for proper execution or results upon the work of the County or any separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Construction Manager any apparent discrepancies or defects in such other work that render it unsuitable for such proper execution and results **within fourteen (14) days** of discovery of such discrepancy or defect. Failure of the Contractor to so report in writing shall constitute an acceptance of the County's or separate contractor's work as fit and proper to receive the Work, except as to any defects which may subsequently become apparent in such work by others.

Any costs caused by defective or untimely work shall be borne by the party responsible therefore.

Should the Contractor wrongfully cause damage to the work or property of the County or to other work or property on the site, including the work of separate contractors, the Contractor shall promptly remedy such damage at the Contractor's expense.

Should the Contractor be caused damage by any other contractor on the Project, by reason of such other contractor's failure to perform properly his contract with the County, no action shall lie against the County or the Construction Manager inasmuch as the parties to this agreement are the only beneficiaries hereof and there are no third party beneficiaries and neither the County nor the Construction Manager shall have liabilities therefore, but the Contractor may assert his claim for damages solely against such other contractor. The Contractor shall not be excused from performance of the contract by reason of any dispute as to damages with any other contractor or third party.

Where the Work of this Contract shall be performed concurrently in the same areas as other construction work, the Contractor shall coordinate with the Construction Manager and the separate contractors in establishing mutually acceptable schedules and procedures that shall permit all jobs to proceed with minimum interference.

If a dispute arises between the Contractor and separate contractors as to their responsibility for cleaning up, the County may clean up and charge the cost thereof to the Contractor or contractors responsible therefore as the County shall determine to be just.

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00700-17 ADMINISTRATION OF CONTRACT

The Program Manager and the Construction Manager shall provide administration services as hereinafter described.

For the administration of this Contract, the Construction Manager shall serve as the County's primary representative during design and construction and until final payment to the Contractor is due. The Construction Manager shall advise and consult with the County and the Program Manager. The primary point of contact for the Contractor shall be the Construction Manager. All correspondence from the Contractor to the County shall be forwarded through the Construction Manager. Likewise, all correspondence and instructions to the Contractor shall be forwarded through the Construction Manager.

The Construction Manager will determine in general that the construction is being performed in accordance with design and engineering requirements, and will endeavor to guard the County against defects and deficiencies in the Work.

The Construction Manager will not be responsible for or have control or charge of construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work, nor will it be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Construction Manager will not be responsible for or have control or charge over the acts or omissions of the Contractor, its engineers, consultants, subcontractors, or any of their agents or employees, or any other persons performing the Work.

Based on the Construction Manager's observations regarding the Contractor's Applications for Payment, the Construction Manager shall determine the amounts owing to the Contractor, in accordance with the payment terms of the Contract, and shall issue Certificates for Payment in such amount to the County.

The Construction Manager shall render interpretations necessary for the proper execution or progress of the Work. Either party to the Contract may make written requests to the Construction Manager for such interpretations.

Claims, disputes and other matters in question between the Contractor and the County relating to the progress of the Work or the interpretation of the Contract Documents shall be referred to the Construction Manager for interpretation.

All interpretations of the Construction Manager shall be consistent with the intent of and reasonably inferable from the Contract Documents and shall be in writing or in graphic form.

Except as otherwise provided in this Contract, the Construction Manager shall issue a decision on any disagreement concerning a question of fact arising under this Contract. The Construction Manager shall reduce the decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the Construction Manager shall be final and conclusive unless, within thirty (30) days from the date of receipt of such copy, the Contractor files a written appeal with the Director of Public Works and mails or otherwise furnishes the Construction Manager a copy of such appeal. The decision of the Director of Public Works or the Director's duly authorized representative for the determination of such appeals shall be final and conclusive. Such final decision shall not be pleaded in any suit involving a question of fact arising under this Contract, provided such is not fraudulent, capricious, arbitrary, so grossly erroneous as necessarily implying bad faith, or is not supported by substantial evidence. In connection with any appeal proceeding under this Article, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of Contractor's appeal. Pending any final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the Contract as directed by the Construction Manager.

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The Construction Manager shall have authority to reject Work which does not conform to the Contract Documents. Whenever, in the Construction Manager's opinion, it is considered necessary or advisable for the implementation of the intent of the Contract Documents, the County shall have authority to require special inspection or testing of the Work whether or not such Work be then fabricated, installed or completed. The Contractor shall pay for such special inspection or testing if the Work so inspected or tested is found not to comply with the requirements of the contract; the County shall pay for special inspection and testing if the Work is found to comply with the contract. Neither the Construction Manager's authority to act under this Subparagraph, nor any decision made by the Construction Manager in good faith either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of the Construction Manager to the Contractor, any subcontractor, any of their agents or employees, or any other person performing any of the Work.

The Contractor shall provide such shop drawings, product data, and samples as may be required by the Construction Manager and/or as required by these Contract Documents.

The Construction Manager shall conduct inspections to determine Substantial Completion and Final Completion, and shall receive and forward to the County for review written warranties and related documents required by the Contract Documents and assembled by the Contractor. The Construction Manager shall approve and issue Certificates for Payment upon compliance with Substantial and Final Completion requirements indicated in General Conditions 00700-81, 00700-82, 00700-84 and 00700-85 of this Agreement.

Except as provided in General Condition 00700-48*,* the Contractor shall not be relieved from the Contractor's obligations to perform the work in accordance with the contract documents by the activities or duties of the County or any of its officers, employees, or agents, including inspections, tests or approvals, required or performed pursuant to this agreement.

00700-18 RESPONSIBILITY FOR ACTS OF EMPLOYEES

The Contractor shall employ only competent and skilled personnel. The Contractor shall, upon demand from the Construction Manager, immediately remove any superintendent, foreman or workman whom the Construction Manager may consider incompetent or undesirable.

The Contractor shall be responsible to the County for the acts and omissions of the Contractor's employees, subcontractors, and agents as well as any other persons performing work pursuant to this agreement for the Contractor.

00700-19 LABOR, MATERIALS, SUPPLIES, AND EQUIPMENT

Unless otherwise provided in this agreement, the Contractor shall make all arrangements with necessary support agencies and utility companies provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the execution and completion of the work.

00700-20 DISCIPLINE ON WORK SITE

The Contractor shall enforce strict discipline and good order among its employees and subcontractors at all times during the performance of the work, to include compliance with the Fulton County Drug Free Work Place Policy. The Contractor shall not employ any subcontractor who is not skilled in the task assigned to it. The Construction Manager may, by written notice, require the Contractor to remove from the work any subcontractor or employee deemed by the Construction Manager to be incompetent.

00700-21 HOURS OF OPERATION

All work at the construction site shall be performed during regular business hours of the Fulton County government, except upon the Construction Manager's prior written consent to other work

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hours. It is further understood that the Contractor's construction schedule is based on a normal 40 hours, five day work week, less Fulton County-recognized holidays. Contractors work schedule shall not violate Fulton County Noise Ordinance by working hours inconsistent with the Fulton County Noise Ordinance. The County's current noise ordinance or other applicable ordinance shall govern. If the Contractor desires to work in excess of this limit, the Contractor shall submit a written request to the Construction Manager, a minimum of five days prior to the desired work date. The Contractor shall be responsible for any additional expenses incurred by the Owner as a result of the extended work hours, including resident inspection overtime. The cost associated with resident inspector overtime shall be deducted from the Contractor monthly payment request.

00700-22 FAMILIARITY WITH WORK CONDITIONS

The Contractor shall take all steps necessary to ascertain the nature and location of the work and the general and local conditions which may affect the work or the cost thereof. The Contractor's failure to fully acquaint itself with the conditions which may affect the work, including, but not limited to conditions relating to transportation, handling, storage of materials, availability of utilities, labor, water, roads, weather, topographic and subsurface conditions, other separate contracts to be entered into by the County relating to the project which may affect the work of the Contractor, applicable provisions of law, and the character and availability of equipment and facilities necessary prior to and during the performance of the work shall not relieve the Contractor of its responsibilities pursuant to this agreement and shall not constitute a basis for an equitable adjustment of the contract terms. The County reserves the right to perform with its own forces or to contract with other entities for other portions of the project work, in which case the Contractor's responsibility to assure its familiarity with work conditions hereunder shall include all coordination with such other contractors and the County necessary to insure that there is no interference between contractors as will delay or hinder any contractor in its prosecution of work on the project. The County assumes no responsibility for any understandings or representations concerning conditions of the work made by any of its officers, agents, or employees prior to the execution of this agreement.

00700-23 RIGHT OF ENTRY

The County reserves the right to enter the site of the work by such agent, including the Construction Manager, as it may elect for the purpose of inspecting the work or installing such collateral work as the County may desire. The Contractor shall provide safe facilities for such access so that the County and its agents may perform their functions.

00700-24 NOTICES

Any notice, order, instruction, claim or other written communication required pursuant to this agreement shall be deemed to have been delivered or received as follows:

Upon personal delivery to the Contractor, its authorized representative, or the Construction Manager on behalf of the County. Personal delivery may be accomplished by in-person hand delivery or bona fide overnight express service.

Three days after depositing in the United States mail a certified letter addressed to the Contractor or the Construction Manager for the County. For purposes of mailed notices, the County's mailing address shall be 141 Pryor Street, 6th Floor, Atlanta, Georgia 30303, or as the County shall have otherwise notified the Contractor. The Contractor's mailing address shall be the address stated in its proposal or as it shall have most recently notified the Construction Manager in writing.

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00700-25 SAFETY

A. SAFETY, HEALTH AND LOSS PREVENTION

The Contractor shall be responsible for implementing a comprehensive project-specific safety, health and loss prevention program and employee substance abuse program for this project. All Sub-Contractors must either implement their own program or follow the Contractor's safety, health and loss prevention program and employee substance abuse program.

The Contractor's safety, health and loss prevention program and employee substance abuse program must meet or exceed all governmental regulations (OSHA, EPA, DOT, State, local), and any other specific Fulton County requirements

B. COUNTY'S SAFETY, HEALTH, AND LOSS PREVENTION PROCESS GUIDELINES AND REQUIREMENTS

The County and its agents reserve the right, but assume no duty, to establish and enforce safety, health, and loss prevention guidelines and to make the appropriate changes in the guidelines, for the protection of persons and property and to review the efficiency of all protective measures taken by the Contractor. The Contractor shall comply with all safety, health, and loss prevention process guidelines and requirements and changes made by the County or its agent(s). The issuance of any such guidelines or changes by the County or its agent(s) shall not relieve the Contractor of its duties and responsibilities under this Agreement, and the County or its agent(s) shall not thereby assume, nor be deemed to have assumed, any such duties or responsibilities of the Contractor.

C. COMPLIANCE OF WORK, EQUIPMENT, AND PROCEDURES WITH ALL APPLICABLE LAWS and REGULATIONS

All Work, whether performed by the Contractor or its Sub-Contractors of any tier, or anyone directly or indirectly employed by any of them, and all equipment, appliances, machinery, materials, tools and like items incorporated or used in the Work, shall be in compliance with and conform to:

1. All applicable laws, ordinances, rules, regulations and orders of any public, quasi-public or other governmental authority relating to the safety of persons and their protection against injury, specifically including, but in no event limited to, the Federal Occupational Safety and Health Act of 1970, as amended, and all rules and regulations now or hereafter in effect pursuant to said Act.

2. All rules, regulations, and requirements of the County or its agent(s) and its insurance carriers relating there to. In the event of a conflict or differing requirements the more stringent shall govern.

D. PROTECTION OF THE WORK

1. The Contractor shall, throughout the performance of the Work, maintain adequate and continuous protection of all Work and temporary facilities against loss or damage from whatever cause, shall protect the property of the County and third parties from loss or damage from whatever cause arising out of the performance of the Work, and shall comply with the requirements of the County or its agent(s) and its insurance carriers, and with all applicable laws, codes, rules and regulations, (as same may be amended) with respect to the prevention of loss or damage to property as a result of fire or other hazards.

2. The County or its agent(s) may, but shall not be required to, make periodic inspections of the Project work area. In such event, however, the Contractor shall

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not be relieved of its aforesaid responsibilities and the County or its agent(s) shall not assume, nor shall it be deemed to have assumed, any responsibility otherwise imposed upon the assurance of Contractor by this Agreement.

E. SAFETY EQUIPMENT

1. The Contractor shall provide to each worker on the Project work area the proper safety equipment for the duties being performed by that worker and will not permit any worker on the Project work area who fails or refuses to use the same. The County or its agent shall have the right, but not the obligation, to order the removal of a worker from the Project work site for his/her failure to comply with safe practices or substance abuse policies.

F. EMERGENCIES

1. In any emergency affecting the safety of persons or property, or in the event of a claimed violation of any federal or state safety or health law or regulation, arising out of or in any way connected with the Work or its performance, the Contractor shall act immediately to prevent threatened damage, injury or loss and to remedy said violation. Failing such action the County or its agent(s) may immediately take whatever steps it deems necessary including, but not limited to, suspending the Work as provided in this Agreement.

2. The County or its agent(s) may offset any and all costs or expenses of whatever nature, including attorneys' fees, paid or incurred by the County or its agent(s) (whether such fees are for in-house counsel or counsel retained by the County or its agent), in taking the steps authorized by Section 00700-25(G) (1) above against any sums then or thereafter due to the Contractor. The Contractor shall defend, indemnify and hold the County, its officers, agents, and employees harmless against any and all costs or expenses caused by or arising from the exercise by the County of its authority to act in an emergency as set out herein. If the Contractor shall be entitled to any additional compensation or extension of time change order on account of emergency work not due to the fault or neglect of the Contractor or its Sub-Contractors, such additional compensation or extension of time shall be determined in accordance with General Condition 00700-52 and General Condition 00700-87 of this Agreement.

G. SUSPENSION OF THE WORK

1. Should, in the judgment of the County or its agent(s), the Contractor or any Sub-Contractor fail to provide a safe and healthy work place, the County or its agent shall have the right, but not the obligation, to suspend work in the unsafe areas until deficiencies are corrected. All costs of any nature (including, without limitation, overtime pay, liquidated damages or other costs arising out of delays) resulting from the suspension, by whomsoever incurred, shall be borne by the Contractor.

2. Should the Contractor or any Sub-Contractor fail to provide a safe and healthy work place after being formally notified in writing by the County or its agents of such non-compliance, the contract may be terminated following the termination provision of the contract.

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H. CONTRACTOR'S INDEMNITY OF THE COUNTY FOR CONTRACTOR'S NON-COMPLIANCE WITH SAFETY PROGRAM

1. The Contractor recognizes that it has sole responsibility to assure its Safety Program is implemented and to assure its construction services are safely provided. The Contractor shall indemnify, defend and hold the County and its agents harmless, from and against any and all liability (whether public or private), penalties (contractual or otherwise), losses, damages, costs, attorneys' fees, expenses, causes of action, claims or judgments resulting, either in whole or in part, from any failure of the Contractor, its Sub-Contractors of any tier or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, to comply with the safety requirements of the contract. The Contractor shall not be relieved of its responsibilities under the safety requirements of the Contract should the County or its agent(s) act or fail to act pursuant to its rights hereunder.

2. The Contractor shall not raise as a defense to its obligation to indemnify under this Subparagraph I any failure of those indemnified hereunder to assure Contractor operates safely, it being understood and agreed that no such failure shall relieve the Contractor from its obligation to assure safe operations or from its obligation to so indemnify. The Contractor also hereby waives any rights it may have to seek contribution, either directly or indirectly, from those indemnified hereunder.

3. In any and all claims against those indemnified hereunder by any employee of the Contractor, any Sub-Contractor of any tier or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Subparagraph I shall not be limited in any way as to the amount or type of damages, compensation or benefits payable by or for the Contractor or any Sub-Contractor of any tier under any workers' compensation act, disability benefit or other employee benefit acts.

00700-26 BLASTING AND EXCAVATION

The Contractor acknowledges that it is fully aware of the contents and requirements of O.C.G.A. § 25-9-1 through 25-9-12 concerning blasting and excavation near underground gas pipes and facilities and shall fully comply therewith.

00700-27 HIGH VOLTAGE LINES

The Contractor acknowledges that it is fully aware of the contents and requirements O.C.G.A. § 46-3-30 through 46-3-39 concerning safeguards against contact with high voltage lines, and the Contractor shall fully comply with said provisions.

00700-28 SCAFFOLDING AND STAGING

The Contractor acknowledges that it is the person responsible for employing and directing others to perform labor within the meaning of O.C.G.A. § 34-1-1 and agrees to comply with said provisions.

00700-29 CLEAN-UP

The Contractor shall clean up all refuse, rubbish, scrap materials, and debris caused by its operations to the end that the site of the work shall present a neat, orderly and workmanlike appearance at all times.

00700-30 PROTECTION OF WORK

The Contractor shall be responsible for maintenance and protection of the work, which shall include any County-furnished supplies, material, equipment, until final completion of this

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agreement and acceptance of the work as defined herein. Any portion of the work suffering injury, damage or loss shall be considered defective and shall be corrected or replaced by the Contractor without additional cost to the County.

00700-31 REJECTED WORK

The Contractor shall promptly remove from the project all work rejected by the Construction Manager for failure to comply with the contract documents and the Contractor shall promptly replace and re-execute the work in accordance with the contract documents and without expense to the County. The Contractor shall also bear the expense of making good all work of other Contractors destroyed or damaged by such removal or replacement.

00700-32 DEFECTIVE WORK

If the Contractor defaults or neglects to carry out any portion of the work in accordance with the contract documents, and fails within three days after receipt of written notice from the Construction Manager to commence and continue correction of such default or neglect with diligence and promptness, the County may, after three days following receipt by the Contractor of an additional written notice and without prejudice to any other remedy the County may have, make good such deficiencies and complete all or any portion of any work through such means as the County may select, including the use of a separate Contractor. In such case, an appropriate change order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies. In the event the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the County on demand.

The County may, at its option, accept defective or nonconforming work instead of requiring its removal or correction. In such case, a change order shall be issued reducing the price due the contractor to the extent appropriate and equitable. Such contract price adjustment shall be effected whether or not final payment has been made.

00700-33 WARRANTY OF NEW MATERIALS

The Contractor warrants to the County that all materials and equipment furnished under this contract will be new unless otherwise specified, and the Contractor further warrants that all work will be of good quality, free from faults and defects, and in conformance with the contract documents. The warranty set forth in this paragraph shall survive final acceptance of the work.

00700-34 CONTRACTOR'S WARRANTY OF THE WORK

If within one year after the date of issuance of the certificate of final payment pursuant to General Condition 84, or within such longer period of time as may be prescribed by law or by the term of any applicable special warranty required by the contract documents, any of the work is found to be defective or not in accordance with the contract documents, the Contractor shall correct such work promptly after receipt of written notice from the Construction Manager to do so. This obligation shall survive both final payment for the work and termination of the contract.

00700-35 ASSIGNMENT OF MANUFACTURERS' WARRANTIES

Without limiting the responsibility or liability of the Contractor pursuant to this agreement, all warranties given by manufacturers on materials or equipment incorporated in the work are hereby assigned by the Contractor to the County. If requested, the Contractor shall execute formal assignments of said manufacturer's warranties to the County. All such warranties shall be directly enforceable by the County.

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00700-36 WARRANTIES IMPLIED BY LAW

The warranties contained in this agreement, as well as those warranties implied by law, shall be deemed cumulative and shall not be deemed alternative or exclusive. No one or more of the warranties contained herein shall be deemed to alter or limit any other.

00700-37 STOP WORK ORDERS

In the event that the Contractor fails to correct defective work as required by the contract documents or fails to carry out the work in accordance with contract documents, the Construction Manager, in writing, may order the Contractor to stop work until the cause for such order has been eliminated. This right of the County to stop work shall not give rise to any duty on the part of the County or the Construction Manager to execute this right for the benefit of the Contractor or for any other person or entity.

00700-38 TERMINATION FOR CAUSE

If the Contractor is adjudged bankrupt, makes a general assignment for the benefit of creditors, suffers the appointment of a receiver on account of its insolvency, fails to supply sufficient properly skilled workers or materials, fails to make prompt payment to subcontractors or materialmen, disregards laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction, fails to diligently prosecute the work, or is otherwise guilty of a material violation of this agreement and fails within seven days after receipt of written notice to commence and continue correction of such default, neglect, or violation with diligence and promptness, the County may, after seven days following receipt by the Contractor of an additional written notice and without prejudice to any other remedy the County may have, terminate the employment of the Contractor and take possession of the site as well as all materials, equipment, tools, construction equipment and machinery thereon. The County may finish the work by whatever methods the County deems expedient. In such case, the Contractor shall not be entitled to receive any further payment until the work is completed.

Upon completion of the work, the County shall determine in its sole discretion whether the Contractor is due any compensation for those services the Contractor performed prior to the termination to the satisfaction of the County (“Unpaid Satisfactory Work”), and shall compensate Contractor for the same. The County shall further determine in its sole discretion whether the County’s completion of the work was made more costly as a result of failures, acts, or omissions of the Contractor, and if so, shall deduct such amounts (“Overages”) from any amounts that may be due to the Contractor. In the event that the Overages exceed the Unpaid Satisfactory Work, the Contractor shall immediately pay the difference to the County on demand. These obligations for payment shall survive the termination of the contract. Termination of this agreement pursuant to this paragraph may result in disqualification of the Contractor from bidding on future County contracts.

00700-39 TERMINATION FOR CONVENIENCE

The County may, at any time upon written notice to the Contractor, terminate the whole or any portion of the work for the convenience of the County. The effective date of the termination shall be provided in the written notice. Said termination shall be without prejudice to any right or remedy of the County provided herein. In addition, in the event this agreement has been terminated by the County through the Termination for Cause provisions due to a claim of default by the Contractor, and it is later determined that the Contractor was not in default pursuant to the provisions of this agreement at the time of termination, then such termination shall be considered a Termination for Convenience pursuant to this paragraph and administered according to the provisions related to Termination for Convenience set out in this Contract.

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00700-40 TERMINATION FOR CONVENIENCE - PAYMENT

If the Contract is terminated for convenience by the Owner as provided in this article, Contractor will be paid compensation for those services actually performed as approved by the Owner or his representative. Partially completed tasks will be compensated for based on a signed statement of completion prepared by the Project Manager and submitted to the Contractor which shall itemize each task element and briefly state what work has been completed and what work remains to be done. Contractor shall also be paid for reasonable costs for the orderly filing and closing of the project.

00700-41 TERMINATION FOR CONVENIENCE - PAYMENT LIMITATIONS

Except for normal spoilage, and except to the extent that the County shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor the fair value, as determined by the Construction Manager, of property which is destroyed, lost, stolen or damaged so as to become undeliverable to the County or to another buyer.

00700-42 COST TO CURE

If the County terminates for cause the whole or any part of the work pursuant to this agreement, then the County may procure upon such terms and in such manner as the Construction Manager may deem appropriate, supplies or services similar to those so terminated, for the purpose of completing the work for which the Contractor was contractually engaged, and the Contractor shall be liable to the County for any excess costs for such similar supplies or services. The Contractor shall continue the performance of this agreement to the extent not terminated hereunder.

00700-43 ATTORNEY'S FEES

Should the Contractor default pursuant to any of the provisions of this agreement, the Contractor and its surety shall pay to the County such reasonable attorney's fees as the County may expend as a result thereof and all costs, expenses, and filing fees incidental thereto.

00700-44 CONTRACTOR'S RESPONSIBILITIES UPON TERMINATION

After receipt of a notice of termination from the County, and except as otherwise directed by the Construction Manager, the Contractor shall:

1. Stop work under the contract on the date and to the extent specified in the notice of termination;
2. Place no further orders or subcontracts for materials, services or facilities, except as may be necessary for completion of such portion of the work under the agreement as is not terminated;
3. Unless otherwise directed by the Construction Manager, terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the notice of termination;
4. Assign to the County in the manner, at the times, and to the extent directed by the Construction Manager, all of the rights, title and interest of the Contractor under the orders and subcontracts so terminated, in which case the County shall have the right, at its discretion, to settle or pay any and all claims arising out of the termination of such orders or subcontracts;
5. Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts with the approval or ratification of the Construction Manager, to the extent the Construction Manager may require, which approval or ratification shall be final for all purposes;

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6. Transfer title and deliver to the entity or entities designated by the Construction Manager, in the manner, at the times, and to the extent, if any, directed by the Construction Manager, and to the extent specifically produced or specifically acquired by the Contractor for the performance of such portion of the work as has been terminated:

    a. The fabricated or un-fabricated parts, work, and progress, partially completed supplies, and equipment, materials, parts, tools, dyes, jigs, and other fixtures, completed work, supplies, and other material produced as a part of or acquired in connection with the performance of the work terminated by the notice of termination; and

    b. The completed or partially completed plans, drawings, information, and other property to the work.

7. Use its best efforts to sell in the manner, at the times, to the extent, and at the prices directed or authorized by the Construction Manager, any property described in Section 6 of this paragraph, provided, however, that the Contractor shall not be required to extend credit to any buyer and further provided that the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the County to the Contractor pursuant to this agreement.

8. Complete performance of such part of the work as shall not have been terminated by the notice of termination; and

9. Take such action as may be necessary, or as the Construction Manager may direct, for the protection and preservation of the property related to the agreement which is in the possession of the Contractor and in which the County has or may acquire an interest.

00700-45 RECORDS

The Contractor shall preserve and make available to the County all of its records, books, documents and other evidence bearing on the costs and expenses of the Contractor and any subcontractor pursuant to this agreement upon three days advance notice to the Contractor.

00700-46 DEDUCTIONS

In arriving at any amount due the Contractor pursuant to the terms of this agreement, there shall be deducted all liquidated damages, advance payments made to the Contractor applicable to the termination portion of the contract, the amount of any claim which the County may have against the Contractor, the amount determined by the Construction Manager to be necessary to protect the County against loss due to outstanding potential liens or claims, and the agreed price of any materials acquired or sold by the Contractor and not otherwise recovered by or credited to the County.

00700-47 REIMBURSEMENT OF THE COUNTY

In the event of termination for cause or convenience, the Contractor shall refund to the County any amount paid by the County to the Contractor in excess of the costs properly reimbursable to the Contractor.

00700-48 SUSPENSION, INTERRUPTION, DELAY, DAMAGES

The Contractor shall be entitled to only those damages and that relief from termination by the County as specifically set forth in this agreement. The Construction Manager may issue a written order requiring the Contractor to suspend, delay or interrupt all or any part of the work for such period of time as the County may determine to be appropriate for the convenience of the County. If the performance of the work is interrupted for an unreasonable period of time by an act of the

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County or any of its officers, agents, employees, contractors, or consultants in the administration of this agreement, an equitable adjustment shall be made for any increase in the Contractor's costs of performance and any increase in the time required for performance of the work necessarily caused by the unreasonable suspension, delay, or interruption. Any equitable adjustment shall be reduced to writing and shall constitute a modification to this agreement. In no event, however, shall an equitable adjustment be made to the extent that performance of this agreement would have been suspended, delayed or interrupted by any other cause, including the fault or negligence of the Contractor. No claim for an equitable adjustment pursuant to this paragraph shall be permitted before the Contractor shall have notified the Construction Manager in writing of the act or failure to act involved, and no claim shall be allowed unless asserted in writing to the Construction Manager within ten days after the termination of such suspension, delay or interruption.

00700-49 COMMENCEMENT AND DURATION OF WORK

The County may issue a Notice to Proceed at any time within 120 days following execution of the contract by the County. The Contractor shall commence work pursuant to this agreement within ten days of mailing or delivery of written notice to proceed. The Contractor shall diligently conduct the work to completion within the time specified therefore in the Agreement. The capacity of the Contractor's construction and manufacturing equipment and plan, sequence and method of operation and forces employed, including management and supervisory personnel, shall be such as to insure completion of the work within the time specified in the Agreement. The Contractor and County hereby agree that the contract time for completion of the work is reasonable taking into consideration the average climatic conditions prevailing in the locality of the work and anticipated work schedules of other contractors whose activities are in conjunction with or may affect the work under this contract.

00700-50 TIME OF THE ESSENCE

All time limits stated in this agreement are of the essence of this contract.

00700-51 IMPACT DAMAGES

Except as specifically provided pursuant to a stop work order or change order, the Contractor shall not be entitled to payment or compensation of any kind from the County for direct or indirect or impact damages including, but not limited to, costs of acceleration arising because of delay, disruption, interference or hindrance from any cause whatsoever whether such delay, disruption, interference or hindrance is reasonable or unreasonable, foreseeable or unforeseeable, or avoidable, provided, however, that this provision shall not preclude the recovery of damages by the Contractor for hindrances or delays due solely to fraud or bad faith on the part of the County, its agents, or employees. The Contractor shall be entitled only to extensions in the time required for performance of the work as specifically provided in the contract.

00700-52 DELAY

The Contractor may be entitled to an extension of the contract time, but not an increase in the contract price or damages, for delays arising from unforeseeable causes beyond the control and without the fault or negligence of the Contractor or its subcontractors for labor strikes, acts of God, acts of the public enemy, acts of the state, federal or local government in its sovereign capacity, by acts of another separate contractor, or by an act or neglect of the County.

00700-53 INCLEMENT WEATHER

The Contractor shall not be entitled to an extension of the contract time due to normal inclement weather. Unless the Contractor can substantiate to the satisfaction of the Construction Manager that there was greater than normal inclement weather and that such greater than normal inclement weather actually delayed the work, the Contractor shall not be entitled to an extension

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of time therefore. The following shall be considered the normal inclement weather days for each month listed, and extensions of time shall be granted in increments of not less than one half day only for inclement weather in excess of the days set out.

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

00700-54 DELAY - NOTICE AND CLAIM

The Contractor shall not receive an extension of time unless a Notice of Delay is filed with the Construction Manager within ten days of the first instance of such delay, disruption, interference or hindrance and a written Statement of the Claim is filed with the Construction Manager within 20 days of the first such instance. In the event that the Contractor fails to comply with this provision, it waives any claim which it may have for an extension of time pursuant to this agreement.

00700-55 STATEMENT OF CLAIM - CONTENTS

The Statement of Claim referenced in Article 00700-54 shall include specific information concerning the nature of the delay, the date of commencement of the delay, the construction activities affected by the delay, the person or organization responsible for the delay, the anticipated extent of the delay, and any recommended action to avoid or minimize the delay.

00700-56 WORK BEHIND SCHEDULE, REMEDY BY CONTRACTOR

If the work actually in place falls behind the currently updated and approved schedule, and it becomes apparent from the current schedule that work will not be completed within the contract time, the Contractor agrees that it will, as necessary, or as directed by the Construction Manager, take action at no additional cost to the County to improve the progress of the work, including increasing manpower, increasing the number of working hours per shift or shifts per working day, increasing the amount of equipment at the site, and any other measure reasonably required to complete the work in a timely fashion.

00700-57 DILIGENCE

The Contractor's failure to substantially comply with the requirements of the preceding paragraph may be grounds for determination by the County that the Contractor is failing to prosecute the work with such diligence as will insure its completion within the time specified. In such event, the County shall have the right to furnish, from its own forces or by contract, such additional labor and materials as may be required to comply with the schedule after 48 hours written notice to the Contractor, and the Contractor shall be liable for such costs incurred by the County.

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00700-58 SET-OFFS

Any monies due to the Contractor pursuant to the preceding paragraph of this agreement may be deducted by the County against monies due from the County to the Contractor.

00700-59 REMEDIES CUMULATIVE

The remedies of the County under Articles 00700-56, 00700-57, and 00700-58 are in addition to and without prejudice to all of the rights and remedies of the County at law, in equity, or contained in this agreement.

00700-60 TITLE TO MATERIALS

No materials or supplies shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sales contract or other agreement by which any interest is retained by the seller. The Contractor hereby warrants that it has good and marketable title to all materials and supplies used by it in the work, and the Contractor further warrants that all materials and supplies shall be free from all liens, claims, or encumbrances at the time of incorporation in the work.

00700-61 INSPECTION OF MATERIALS

All materials and equipment used in the construction of the project shall be subject to adequate inspection and testing in accordance with accepted standards and in accordance with the requirements of the contract documents. Additional tests performed after the rejection of materials or equipment shall be at the Contractor's expense.

00700-62 CONSTRUCTION MANAGER'S PRESENCE DURING TESTING

All tests performed by the Contractor shall be witnessed by the Construction Manager unless the requirement therefore is waived in writing. The Construction Manager may perform additional tests on materials previously tested by the Contractor, and the Contractor shall furnish samples for this purpose as requested.

00700-63 MATERIALS INCORPORATED IN WORK

The Contractor shall furnish all materials and equipment to be incorporated in the work. All such materials or equipment shall be new and of the highest quality available. Manufactured materials and equipment shall be obtained from sources which are currently manufacturing such materials, except as otherwise specifically approved by the Construction Manager.

00700-64 STORAGE OF MATERIALS

Materials and equipment to be incorporated in the work shall be stored in such a manner as to preserve their quality and fitness for the work and to facilitate inspection.

00700-65 PAYROLL REPORTS

The Contractor may be required to furnish payroll reports to the Construction Manager as required by the Owner Controlled Insurance Program.

00700-66 CONTRACTORS' REPRESENTATIVE

Before beginning work, the Contractor shall notify the Construction Manager in writing of one person within its organization who shall have complete authority to supervise the work, receive orders from the Construction Manager, and represent the Contractor in all matters arising pursuant to this agreement. The Contractor shall not remove its representative without first designating in writing a new representative. The Contractor's representative shall normally be present at or about the site of work while the work is in progress. When neither the Contractor nor its representative is present at the work site, the superintendent, foreman, or other of the

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Contractor' employee in charge of the work shall be an authorized representative of the Contractor.

00700-67 SPECIALTY SUB-CONTRACTORS

The Contractor may utilize the services of specialty subcontractors on those parts of the project which, under normal contracting practices, are performed by specialty subcontractors. The Contractor shall not award more than seventy-five percent of the work to subcontractors.

00700-68 INSPECTION BY THE CONSTRUCTION MANAGER

All work pursuant to this agreement shall be subject to inspection by the Construction Manager for conformity with contract drawings and specifications. The Contractor shall give the Construction Manager reasonable advance notice of operations requiring special inspection of a portion of the work.

00700-69 WORK COVERED PRIOR TO CONSTRUCTION MANAGER'S INSPECTION

In the event that work is covered or completed without the approval of the Construction Manager, and such approval is required by the specifications or required in advance by the Construction Manager, the Contractor shall bear all costs involved in inspection notwithstanding conformance of such portion of the work to the contract drawings and specifications.

00700-70 SCHEDULING OF THE WORK

The work of this contract shall be planned, scheduled, executed, and reported as required by the Contract Documents.

00700-71 PROGRESS ESTIMATES

The Contractor shall prepare a written report for the Construction Manager's approval, on County forms, of the total value of work performed and materials and equipment obtained to the date of submission. Such a report must accompany each request for a progress payment and is subject to review and approval by the Construction Manager. Approval of a progress estimate or tendering of a progress payment shall not be considered an approval or acceptance of any work performed, and all estimates and payments shall be subject to correction in subsequent estimates. Progress payments shall be made for all completed activities and for materials suitably stored on-site.

00700-72 PROGRESS PAYMENTS

Upon approval of each monthly estimate of work performed and materials furnished, the Construction Manager shall approve payment to the Contractor for the estimated value of such work, materials, and equipment, less the amount of all prior payments and any liquidated damages. The Contractor will be paid 100 percent, less retainage, of the cost of materials received and properly stored on-site but not incorporated into the work. Payments for materials or equipment stored on the site shall be conditioned upon submission by the Contractor of bills of sale to establish the County's title to such materials or equipment. The Contractor's request for payment shall provide sufficient detail as to the work completed or materials purchased for which payment is requested to permit meaningful review by the Construction Manager.

00700-73 TIME OF PAYMENT

The Contractor will be paid within 45 days following receipt of an approved Progress Estimate. The Contractor expressly agrees that the payment provisions within this Contract shall supersede the rates of interest, payment periods, and contract and subcontract terms provided for under the Georgia Prompt Pay Act, O.C.G.A. §13-11-1 et seq., and that the rates of interest, payment periods, and contract and subcontract terms provided for under the Prompt Pay Act shall have no application to this Contract. The County shall not be liable for any late payment interest or penalty.

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Submittal of Invoices: Invoices shall be submitted as follows:

Via Mail:
Fulton County Government
141 Pryor Street, SW
Suite 7001
Atlanta, Georgia 30303
Attn: Finance Department – Accounts Payable

OR

Via Email:
Email: Accounts.Payable@fultoncountyga.gov

At minimum, original invoices must reference all of the following information:

1) Vendor Information
   a. Vendor Name
   b. Vendor Address
   c. Vendor Code
   d. Vendor Contact Information
   e. Remittance Address

2) Invoice Details
   a. Invoice Date
   b. Invoice Number (uniquely numbered, no duplicates)
   c. Purchase Order Reference Number
   d. Date(s) of Services Performed
   e. A written report of the total value of work performed and materials and equipment obtained to the date of submission

3) Fulton County Department Information (needed for invoice approval)
   a. Department Name
   b. Department Representative Name

00700-74 RETAINAGE

The County shall retain from each progress payment five (5) percent of the estimated value of the work performed. At the substantial completion of the work or as otherwise provided in the contract documents, if the County's authorized contract representative determines that the work is reasonably satisfactory, the County will pay the retainage to the contractor within thirty (30) days of being invoiced and after any other documentation required by the contract documents is provided. If there are any remaining incomplete items at that time, an amount equal to two hundred (200) percent of the value of each item shall be withheld until such items are completed. The retainage of each subcontractor may be released separately as the subcontractor completes his or her work, at the discretion of the owner and with the approval of the contractor.

00700-75 PAYMENT OF SUBCONTRACTORS

The Contractor shall promptly pay each subcontractor upon the receipt of payment from the County. Such payment shall be made from the amount paid to the Contractor pursuant to the subcontractor's work. The Contractor shall also maintain the records of the percentage retained

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from payments to the Contractor pursuant to such subcontractor's work. The Contractor shall procure agreements from each subcontractor requiring each subcontractor to pay their subcontractors, agents and employees in a similar manner. The County reserves the right to inquire of any subcontractor, supplier, materialmen, or subconsultant, the status of any indebtedness of the Contractor. The County further reserves the right to require the Contractor to designate on each instrument of payment exceeding $400.00 to subcontractors, suppliers, materialmen, and subconsultants that such payment is on account of the work under this Contract.

00700-76 COUNTY'S RESPONSIBILITIES TO SUBCONTRACTORS

Neither the County nor the Construction Manager shall have any obligation to pay any subcontractor except as otherwise required by law.

00700-77 PROGRESS PAYMENTS - ACCEPTANCE OF WORK

Certification of progress payments, as well as the actual payment thereof, shall not constitute the County’s acceptance of work performed pursuant to this agreement.

00700-78 PAYMENTS IN TRUST

All sums paid to the Contractor pursuant to this agreement are hereby declared to constitute trust funds in the hands of the contractor to be applied first to the payment of claims of subcontractors, laborers, and suppliers arising out of the work, to claims for utilities furnished and taxes imposed, and to the payment of premiums on surety and other bonds and on insurance for any other application.

00700-79 JOINT PAYMENTS

The County reserves the right to issue any progress payment or final payment by check jointly to the Contractor and any subcontractor or supplier.

00700-80 RIGHT TO WITHHOLD PAYMENT

The Construction Manager may decline to approve payment and may withhold payment in whole or in part to the extent reasonable and necessary to protect the County against loss due to defective work, probable or actual third party claims, the Contractor's failure to pay subcontractors or materialmen, reasonable evidence that the work will not be completed within the contract time or contract price or damage to the County or any other contractor on the project.

00700-81 CERTIFICATE OF SUBSTANTIAL COMPLETION

Upon the Contractor's submission of a request for a certificate of Substantial Completion, the Construction Manager shall inspect the work and determine whether the work is Substantially Complete. If the work is Substantially Complete, the Construction Manager shall issue a certificate of Substantial Completion of the work which shall establish the date of Substantial Completion, shall state the responsibilities of the County and the Contractor for security, maintenance, heat, utilities, damage to the work and insurance, and shall fix the time within which the Contractor shall complete the items submitted by the Contractor as requiring correction or further work. The certificate of substantial completion of the work shall be submitted to the County and the Contractor for their written acceptance of the responsibilities assigned to them pursuant to such certificate.

If in the sole opinion of the Construction Manager, the work is not substantially complete, the Construction Manager shall notify the Contractor of such, in writing, and outline requirements to be met to achieve Substantial Completion.

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00700-82 PAYMENT UPON SUBSTANTIAL COMPLETION

Upon Substantial Completion of the work and upon application by the Contractor and approval by the Construction Manager, the County shall make payment reflecting 100% work completed, less value of work remaining as determined by Construction Manager and any authorized retainage.

00700-83 COMMENCEMENT OF WARRANTIES

Warranties required by this agreement shall commence on the date of final completion of the project as determined under Article 00700-84 unless otherwise provided in the certificate of Substantial Completion.

00700-84 FINAL PAYMENT - WAIVER OF CLAIMS, DISPUTE OF FINAL PAYMENT

The acceptance of the Substantial Completion payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of application for payment at Substantial Completion and except for the retainage sums due at final acceptance. Following the Construction Manager's issuance of the certificate of Substantial Completion and the Contractor's completion of the work pursuant to this agreement, the Contractor shall forward to the Construction Manager a written notice that the work is ready for final inspection and acceptance. If after inspection the Construction Manager certifies that the work is complete and issues written notification of such to the Contractor, the Contractor shall forward to the Construction Manager a final application for payment. The Construction Manager shall issue a certificate for payment, which shall approve final payment to the Contractor and shall establish the date of final completion.

In the event the Contractor timely disputes the amount of the final payment, the amount due the Contractor shall be deemed by the Contractor and the County to be an unliquidated sum and no interest shall accrue or be payable on the sum finally determined to be due to the Contractor for any period prior to final determination of such sum, whether such determination be by agreement of the Contractor and the County or by final judgment of the proper court in the event of litigation between the County and the Contractor. The Contractor specifically waives and renounces any and all rights it may have under O.C.G.A. §13-6-13 and agrees that in the event suit is brought by the Contractor against the County for any sum claimed by the Contractor under the Contract or for any extra or additional work, no interest shall be awarded on any sum found to be due from the County to the Contractor in the final judgment entered in such suit. All final judgments shall draw interest at the legal rate, as specified by law.

00700-85 DOCUMENTATION OF COMPLETION OF WORK

Neither the final payment nor the remaining retainage shall become due until the Contractor submits the following documents to the Construction Manager:

a. An affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the work have been paid other otherwise satisfied;

b. The surety's consent to final payment; and

c. Any other data reasonably required by the County or Construction Manager establishing payment or satisfaction of all such obligations, including releases, waivers of liens, and documents of satisfaction of debts.

In the event that a subcontractor refuses to furnish a release or waiver as required by the County or Construction Manager, the Contractor may furnish a bond satisfactory to the County to indemnify the County against such loss. In the event that any lien or indebtedness remains unsatisfied after all payments are made, the contractor shall refund to the County all moneys that the County may become compelled to pay in discharging such lien or other indebtedness, including all costs and reasonable attorney's fees.

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00700-86 GOVERNING LAW

Each and every provision of this agreement shall be construed in accordance with and governed by Georgia law. The parties acknowledge that this contract is executed in Fulton County, Georgia and that the contract is to be performed in Fulton County, Georgia. Each party hereby consents to the Fulton Superior Court's sole jurisdiction over any dispute which arises as a result of the execution or performance of this agreement, and each party hereby waives any and all objections to venue in the Fulton Superior Court.

00700-87 CHANGES IN THE WORK

A. CHANGE ORDERS

1. A Change Order is a written order to the Contractor signed to show the approval and the authorization of the County, issued after execution of the Contract, authorizing a change in the Work and/or an adjustment in the Contract Sum or the Contract Time. Change Orders shall be written using forms designated by the County with Contractor providing supporting documentation as required by the Construction Manager. The Contract Sum and the Contract Time may be changed only by approved Change Order pursuant to Fulton County Code Section 102-420. The amount payable by the Change Order is payment in full for all direct and indirect costs incurred and related to the work under said Change Order, including but not limited to delays, imports, acceleration, disruption and extended overhead. A Change Order signed by the Contractor indicates the Contractor’s agreement therewith, including the adjustment in either or both of the Contract Sum or the Contract Time.

2. The County, without invalidating the Contract, may order changes in the Work within the general scope of the Contract as defined herein. The time allowed for performance of the work and the contract price to be paid to the Contractor may be adjusted accordingly.

3. The cost or credit to the County resulting from a change in the Work shall be determined in one or more of the following ways:

    a. By mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;

    b. By unit prices stated in the Contract Documents or subsequently agreed upon;

    c. By cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or

    d. By the method provided in Subparagraph A4 below.

4. If none of the methods set forth in Subparagraphs 3a, 3b, or 3c above is agreed upon, the Contractor, provided a written order signed by the Construction Manager is received, shall promptly proceed with the Work involved. The cost of such Work shall then be determined by the Construction Manager on basis of the reasonable expenditures and savings of those performing the Work attributable to the change. The cost of the change shall include only the items listed in Subparagraph 5a below, and in the case of either a decrease or an increase in the Contract Sum, an allowance for overhead and profit in accordance with the schedules set forth in Subparagraphs 5b and 6 below shall be applied to the cost or credit.

    a. In such case, and also under Subparagraph 3a above, the Contractor shall keep and present, in such form as the Construction Manager may

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prescribe, an itemized accounting of all actual costs expended, together with appropriate supporting data for inclusion in a Change Order.

b. All hourly rate charges shall be submitted to the Construction Manager for prior review and approval. All hourly rate charges shall be properly supported as required by the Construction Manager with certified payrolls, or their acceptable equivalent. When authorized to proceed for a given change and actual expenditures have been made prior to execution of a Change Order for the entire change, such actual expenditures may be summarized monthly, and if approved, incorporated into a Change Order. When both additions and credits covering related Work or substitutions are involved in any one change, the allowance for overhead and profit shall be figured on the basis of the net increase or decrease, if any, with respect to that change.

5. In Subparagraphs 3 and 4 above, the items included in "Cost and "Overhead" shall be based on the following schedule:

a. Unless otherwise provided in the Contract Documents, "Cost" shall be limited to the following: cost of materials incorporated into the Work, including sales tax and cost of delivery; cost of direct labor (labor cost may include a pro rata share of foreman's account of the change) including social security, old age and unemployment insurance, and fringe benefits required by agreement or custom; workers' or workmen's compensation insurance; rental value of equipment and machinery; costs for preparing Shop Drawings.

b. Unless otherwise provided in the Contract Documents, "Overhead" shall include the following: bond and insurance premiums including increase and decreases from change in the Work, supervision, superintendence, construction parking, wages of timekeepers, watchmen and clerks, small tools, consumable supplies, expendables, incidentals, general office expense, the cost of additional reproduction for the Contractor's subcontractors beyond that agreed upon in the Contract Documents, construction parking, any additional costs of craft supervision by the Contractor's or subcontractors' superintendents, and overhead charges which would be customary and expended regardless of the change in the Work due to other overlapping activities which are included as part of the original Contract, and all other expenses not included in "Cost" above.

c. In the event that a change is issued by the County which would require the expenditure of substantial amounts of special supervision (beyond the foreman level) by the Contractor, the Contractor may, at the sole direction of the Construction Manager, be allowed to incorporate these charges into the agreement cost for the change.

6. In Subparagraphs 3 and 4 above, the allowance for overhead and profit combined, included in the total cost or credit to the County, shall be based on the following schedule:

a. For the Contractor, for any work performed by the Contractor's own forces, ten (10) percent of the cost.

b. For the Contractor, for any work performed by a Contractor's subcontractor, five (5) percent of the amount due the subcontractor.

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c. For each subcontractor or sub-subcontractor involved, for any work performed by that subcontractor's or sub-subcontractor's own forces, ten (10) percent of the cost.

d. For each subcontractor, for work performed by a sub-subcontractor, five (5) percent of the amount due to the sub-subcontractor.

e. Cost to which overhead and profit is to be applied shall be determined in accordance with Subparagraph 5 above unless modified otherwise.

7. In order to facilitate checking of quotations for extras or credits, all proposals or bids, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs, including labor cost, materials and subcontracts. Labor and materials shall be itemized in the manner defined in Subparagraph 4 above. Where major cost items are subcontracts, they shall be itemized also. In no case shall a change be approved without such itemization.

8. No payment shall be made for any changes to the contract that are not included in a fully executed Change Order.

B. CONCEALED, UNKNOWN AND DIFFERING CONDITIONS

1. Should concealed conditions be encountered in the performance of the Work below the surface of the ground, or should concealed or unknown conditions in an existing structure be at variance with the conditions indicated by the Contract Documents, or should unknown physical conditions below the surface of the ground or concealed or unknown conditions in an existing structure of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract, be encountered, the Contract Sum and Contract Time shall be equitably adjusted by Change Order upon request by either party made **within twenty (20) days after the first observance** of the conditions. No such request for equitable adjustment shall be valid unless the Contractor complies with this (20) days' notice and Subparagraph C.1. below.

2. The Contractor shall promptly, and before such conditions are disturbed, notify the Construction Manager in writing of any claim of concealed, unknown or differing conditions pursuant to this paragraph. The Construction Manager shall authorize the Engineer to investigate the conditions, and if it is found that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the Work under this Contract, whether or not changed as a result of such conditions, an equitable adjustment shall be recommended to the Construction Manager.

3. No claim of the Contractor under this clause shall be allowed unless the Contractor has given the notice required in (a) above, prior to disturbing the condition.

4. No claim by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this Contract.

5. Any materially differing site condition as between what is shown on the Drawings and Specifications and actually found on site shall be immediately reported to the Construction Manager in writing prior to the commencement of Work at the site. Failure of the Contractor to notify the Construction Manager in writing of the differing site condition prior to performance of Work at the site shall constitute a waiver of any claim for additional monies. Any Change Order necessitated by the

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differing site condition shall be processed as provided under "Changes in the Contract".

C. REQUESTS FOR ADDITIONAL COST

1. If the Contractor wishes to request an increase in the Contract Sum, the Contractor shall give the Construction Manager written notice thereof within twenty (20) days after the occurrence of the event, or identification of the conditions, giving rise to such request. This notice shall be given by the Contractor before proceeding to execute the Work, except in an emergency endangering life or property in which case the Contractor shall proceed in accordance with Article 00700-25 and Subparagraph A.4 above. No such request shall be valid unless so made within the twenty (20) days specified above. If the County and the Contractor cannot agree on the amount of the adjustment in the Contract Sum, it shall be determined by the Construction Manager. Any change in the Contract Sum resulting from such claim shall be documented by Change Order.

2. If the Contractor claims that addition cost is involved because of, but not limited to (1) any written interpretation pursuant to General Condition 00700-17 of this Agreement, (2) any order by the County to stop the Work pursuant to Articles 00700-25 and 00700-37 of this Agreement where the Contractor was not at fault, or any such order by the Construction Manager as the County's agent, or (3) any written order for a minor change in the Work issued pursuant to Paragraph D below, the Contractor shall submit a request for an increase in the Contract Sum as provided in Subparagraph C.1 above. No such claim shall be valid unless the Contractor complies with Subparagraph C.1 above and approved by the County pursuant to Fulton County Code Section 102-420.

D. MINOR CHANGES IN THE WORK

The Construction Manager may order minor changes in the Work not involving an adjustment in the Contract Price, extension of the time allowed for performance of the work and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by a written Change Directive issued by the Construction Manager, and shall be binding on the County and the Contractor. The Contractor shall carry out such written orders promptly.

E. BONDS

If any change order results in an increase in the contract price, the contractor shall increase the penal sum of the performance and payment bonds to equal the increased price.

00700-88 DISAGREEMENT WITH ORDERS FOR CHANGE

Contractor's written acceptance of a Change Order or other order for changes shall constitute his final and binding agreement to the provisions thereof and a waiver of all claims in connection therewith, whether direct or consequential in nature. Should Contractor disagree with any order for changes, he may submit a notice of potential claim to the Construction Manager, at such time as the order is set forth in the form of a Change Order. Disagreement with the provisions of an order for changes shall not relieve Contractor of his obligation under Article 00700-87 of this Agreement.

00700-89 NO WAIVER OF REMEDIES

Exercise by the County of any remedy is not exclusive of any other remedy available to County and shall not constitute a waiver of any such other remedies. Failure of the County to exercise any remedy, including breach of contract remedies, shall not preclude the County from exercising such remedies in similar circumstances in the future.

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00700-90 LAND AND RIGHTS-OF-WAY

The owner will provide, as indicated in the Contract Documents and prior to Notice to Proceed, the lands upon which the work is to be done, right-of-way for access thereto, and such other lands which are designated for the use of the Contractor. The Contractor shall confine the Contractor's work and all associated activities to the easements and other areas designated for the Contractor's use. The Contractor shall comply with any limits on construction methods and practices which may be required by easement agreements. If, due to some unforeseen reason, the necessary easements are not obtained, the Contractor shall receive an equitable extension of contract time dependent upon the effect on the critical path of the project schedule or the County may terminate the Contract for its convenience.

00700-91 COORDINATION WITH STATE DEPARTMENT OF TRANSPORTATION

No clearing or grading shall be completed by Contractor within the State Department of Transportation (DOT) area under construction. The Contractor must coordinate his construction scheduling with DOT.

If the Contractor begins work before DOT's completion date, he must obtain the approval of DOT before starting work in the area. The state DOT has the right to stop the Contractor's work the DOT area.

The Contractor shall receive no additional compensation or damages resulting from delay or work stoppage from DOT actions or scheduling.

Contractor shall obtain DOT drawings of the DOT, project area for verification of road geometry, storm drains, etc. from Georgia Department of Transportation or Fulton County. The Contractor is responsible for obtaining any pertinent DOT revisions.

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I N D E X

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EXHIBIT A

FINAL AFFIDAVIT

TO FULTON COUNTY, GEORGIA

I, W GREG COOTS, hereby certify that all suppliers of materials, equipment and service, subcontractors, mechanic, and laborers employed by WADE COOTS COMPANY, INC or any of his subcontractors in connection with the design and/or construction of 25ITB0911K-NJH at Fulton County have been paid and satisfied in full as of FEB 17, 2026, and that there are no outstanding obligations or claims of any kind for the payment of which Fulton County on the above-named project might be liable, or subject to, in any lawful proceeding at law or in equity.

W. G

Signature

VICE-PRESIDENT

Title

Personally appeared before me this 17th day of FEBRUARY, 2026.

W. GREG COOTS, who under Oath deposes and says that he is VICE-PRESIDENT of the firm of WADE COOTS COMPANY, INC that he has read the above statement and that to the best of his knowledge and belief same is an exact true statement.

Mark

Notary Public

4-2-29

My Commission expires

MARK SHAWN SUTTON
COMMISSION # W-0059573
NOTARY PUBLIC
EXPIRES 04-02-2029
FLOYD COUNTY, GEORGIA

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EXHIBIT B
SPECIAL CONDITIONS

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8. The Contractor's Workman's Compensation Ratings (EMR-Experience Modification Rate) must not exceed an average of 1.0 over the last three (3) years.

Year	Experience Modification Rate (EMR)
2024	0.86
2023	0.88
2022	0.86
Average	0.867

9. The Contractor's OSHA Incidence Rates must not exceed the Industry Standard for Construction, published by the U.S. Department of Labor (2012) for Heavy and Civil

Engineering Construction, all industries, (i.e.-Recordable Incidence Rates of 3.2 and Days Away from Work Incidence Rates of 1.7 per OSHA definition and calculation) for the last three (3) years.

Year	Total Recordable Incidents	Total Hours Worked	OSHA Incidence Rate*
2024	-0-	50K +/-	N/A
2023	-0-	50K +/-	N/A
2022	-0-	50K +/-	N/A
Average	-0-	50K +/-	N/A

Year	Total Days Away from Work	Incidents Total Hours Worked	OSHA Incidence Rate*
2024	-0-	50K +/-	
2023	-0-	50K +/-	
2022	-0-	50K +/-	
Average	-0-	50K +/-	0

* Use your OSHA Form No. 200 and the formula:

(Total Incidents x 200,000 hours) ÷ (Number of hours worked) = Incidence Rate

10. If there have been any fatalities during the last five (5) years on any projects performed by the Contractor and the Contractor was cited by OSHA for "Willful", in performing the work in which the fatality occurred, the Contractor will be disqualified based on the County's review. The Contractor may also be disqualified in the event that a Recordable Incident occurred due to the same condition that existed when a

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previous fatality occurred and resulted in an OSHA citation for failure to implement a corrective action plan.

a. Fatalities during the last five years where Contractor was cited by OSHA for "Willful" Violation

-0-

b. Fatalities during the last five years where the proposed Project Manager was cited by OSHA for "Willful" Violation

-0-

The previous statements and attachments are true, correct, and complete to the best of my knowledge.

Date: 2-17-26

Firm Name: WADE COATS COMPANY, INC.

By: [signature]

Title: VICE-PRESIDENT

Sworn to and subscribed before me

this 17th day of FEB, 2026

Notary Public [signature]

MARK SHAWN SUTTON
COMMISSION # W.0069973
NOTARY PUBLIC
EXPIRES 04-02-2029
FLOYD COUNTY, GEORGIA

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CONTRACTOR SAFETY RECORD FORM

I. General Information

Name of Firm: WADE COOTS COMPANY, INC

Business Address: 174 DUNCAN CIRCLE

HIRAM, GA 30141

Telephone: 770-943-0601 Fax: 770-943-0601

Prepared by/Title: MARK SUTTON PM

Date prepared: 2-16-26

II. Experience Modification Rates

List your firm's Workers Compensation Experience Modification Rates (EMR) for the last three years.

Year	Experience Modification Rate (EMR)
2024	0.86
2023	0.88
2022	0.86

SEE ATTACHED

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WORKERS COMPENSATION EXPERIENCE RATING

Risk Name: WADE COOTS CO INC **Risk ID:** 100790475

Rating Effective Date: 07/01/2022 **Production Date:** 02/08/2022 **State:** GEORGIA

State	Wt	Exp Excess Losses	Expected Losses	Exp Prim Losses	Act Exc Losses	Ballast	Act Inc Losses	Act Prim Losses
GA-A	.08	23,306	30,240	6,934	0	33,500	0	0

(A) Wt	(B)	(C) Exp Excess Losses (D - E)	(D) Expected Losses	(E) Exp Prim Losses	(F) Act Exc Losses (H - I)	(G) Ballast	(H) Act Inc Losses	(I) Act Prim Losses
.08		23,306	30,240	6,934	0	33,500	0	0

	Primary Losses	Stabilizing Value	Ratable Excess	Totals
	(I)	C * (1 - A) + G	(A) * (F)	(J)
Actual	0	54,942	0	54,942
	(E)	C * (1 - A) + G	(A) * (C)	(K)
Expected	6,934	54,942	1,864	63,740

	ARAP	FLARAP	SARAP	MAARAP	Exp Mod
Factors					(J) / (K) .86

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WORKERS COMPENSATION EXPERIENCE RATING

Risk Name: WADE COOTS CO INC **Risk ID:** 100790475

Rating Effective Date: 07/01/2022 **Production Date:** 02/08/2022 **State:** GEORGIA

10-GEORGIA **Firm ID:** A **Firm Name:** WADE COOTS CO INC CO

Carrier: 14893 **Policy No.** 026WC18A73852 **Eff Date:** 07/01/2018 **Exp Date:** 06/30/2019

Code	ELR	D-Ratio	Payroll	Expected Losses	Exp Prim Losses	Claim Data	IJ	OF	Act Inc Losses	Act Prim Losses
5606	.35	.22	225,400	789	174					
6306	2.05	.27	48,600	996	269					
6319	1.52	.22	600,004	9,120	2,006					
8227	1.70	.27	5,022	85	23					
8810	.05	.37	83,200	42	16					
9664	DEDUCTIBLE REPORTI			0	0					
9812	EMPLOYERS LIABILIT			0	0					
Policy Total:			**962,226**	**Subject Premium:**	**77,878**	**Total Act Inc Losses:**			**0**	

10-GEORGIA **Firm ID:** A **Firm Name:** WADE COOTS CO INC CO

Carrier: 14893 **Policy No.** 026WC19A73852 **Eff Date:** 07/01/2019 **Exp Date:** 06/30/2020

Code	ELR	D-Ratio	Payroll	Expected Losses	Exp Prim Losses	Claim Data	IJ	OF	Act Inc Losses	Act Prim Losses
5606	.35	.22	158,800	556	122					
6306	2.05	.27	38,658	792	214					
6319	1.52	.22	466,385	7,089	1,560					
8227	1.70	.27	36,140	614	166					
8810	.05	.37	130,880	65	24					
9664	DEDUCTIBLE REPORTI			0	0					
9812	EMPLOYERS LIABILIT			0	0					
Policy Total:			**830,863**	**Subject Premium:**	**64,243**	**Total Act Inc Losses:**			**0**	

10-GEORGIA **Firm ID:** A **Firm Name:** WADE COOTS CO INC CO

Carrier: 14893 **Policy No.** WC0100058632 **Eff Date:** 07/01/2020 **Exp Date:** 07/01/2021

Code	ELR	D-Ratio	Payroll	Expected Losses	Exp Prim Losses	Claim Data	IJ	OF	Act Inc Losses	Act Prim Losses
0930	WAIVER OF SUBROGAT			0	0					
5606	.35	.22	325,300	1,139	251					
6306	2.05	.27	84,895	1,740	470					
6319	1.52	.22	423,878	6,443	1,417					
8227	1.70	.27	37,044	630	170					
8810	.05	.37	279,080	140	52					
9664	DEDUCTIBLE REPORTI			0	0					
9812	EMPLOYERS LIABILIT			0	0					
Policy Total:			**1,150,197**	**Subject Premium:**	**50,874**	**Total Act Inc Losses:**			**0**	

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C Catastrophic Loss E Employers Liability Loss # Limited Loss

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

WORKERS COMPENSATION EXPERIENCE RATING

Risk Name: WADE COOTS CO INC **Risk ID:** 100790475

Rating Effective Date: 07/01/2023 **Production Date:** 02/09/2023 **State:** GEORGIA

State	Wt	Exp Excess Losses	Expected Losses	Exp Prim Losses	Act Exc Losses	Ballast	Act Inc Losses	Act Prim Losses
GA-A	.07	20,429	26,634	6,205	0	35,250	0	0

(A) Wt	(B)	(C) Exp Excess Losses (D - E)	(D) Expected Losses	(E) Exp Prim Losses	(F) Act Exc Losses (H - I)	(G) Ballast	(H) Act Inc Losses	(I) Act Prim Losses
.07		20,429	26,634	6,205	0	35,250	0	0

	Primary Losses	Stabilizing Value	Ratable Excess	Totals
	(I)	C * (1 - A) + G	(A) * (F)	(J)
Actual	0	54,249	0	54,249
	(E)	C * (1 - A) + G	(A) * (C)	(K)
Expected	6,205	54,249	1,430	61,884

	ARAP	FLARAP	SARAP	MAARAP	Exp Mod
Factors					(J) / (K) .88

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WORKERS COMPENSATION EXPERIENCE RATING

Risk Name: WADE COOTS CO INC **Risk ID:** 100790475

Rating Effective Date: 07/01/2023 **Production Date:** 02/09/2023 **State:** GEORGIA

10-GEORGIA **Firm ID:** A **Firm Name:** WADE COOTS CO INC CO

Carrier: 14893 **Policy No.** 026WC19A73852 **Eff Date:** 07/01/2019 **Exp Date:** 06/30/2020

Code	ELR	D-Ratio	Payroll	Expected Losses	Exp Prim Losses	Claim Data	IJ	OF	Act Inc Losses	Act Prim Losses
5606	.34	.22	158,800	540	119					
6306	1.93	.27	38,658	746	201					
6319	1.34	.22	466,385	6,250	1,375					
8227	1.57	.27	36,140	567	153					
8810	.05	.37	130,880	65	24					
9664	DEDUCTIBLE REPORTI			0	0					
9812	EMPLOYERS LIABILIT			0	0					
Policy Total:			**830,863**	**Subject Premium:**	**64,243**	**Total Act Inc Losses:**			**0**	

10-GEORGIA **Firm ID:** A **Firm Name:** WADE COOTS CO INC CO

Carrier: 14893 **Policy No.** WC0100058632 **Eff Date:** 07/01/2020 **Exp Date:** 07/01/2021

Code	ELR	D-Ratio	Payroll	Expected Losses	Exp Prim Losses	Claim Data	IJ	OF	Act Inc Losses	Act Prim Losses
0930	WAIVER OF SUBROGAT			0	0					
5606	.34	.22	325,300	1,106	243					
6306	1.93	.27	84,895	1,638	442					
6319	1.34	.22	423,878	5,680	1,250					
8227	1.57	.27	37,044	582	157					
8810	.05	.37	279,080	140	52					
9664	DEDUCTIBLE REPORTI			0	0					
9812	EMPLOYERS LIABILIT			0	0					
Policy Total:			**1,150,197**	**Subject Premium:**	**50,874**	**Total Act Inc Losses:**			**0**	

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C Catastrophic Loss E Employers Liability Loss # Limited Loss

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WORKERS COMPENSATION EXPERIENCE RATING

Risk Name: WADE COOTS CO INC **Risk ID:** 100790475

Rating Effective Date: 07/01/2023 **Production Date:** 02/09/2023 **State:** GEORGIA

10-GEORGIA **Firm ID:** A **Firm Name:** WADE COOTS CO INC CO

Carrier: 14893 **Policy No.** WC0100058632 **Eff Date:** 07/01/2021 **Exp Date:** 07/01/2022

Code	ELR	D-Ratio	Payroll	Expected Losses	Exp Prim Losses	Claim Data	IJ	OF	Act Inc Losses	Act Prim Losses
0930	WAIVER OF SUBROGAT			0	0					
5606	.34	.22	155,800	530	117					
6306	1.93	.27	102,715	1,982	535					
6319	1.34	.22	459,102	6,152	1,353					
8227	1.57	.27	37,353	586	158					
8810	.05	.37	139,380	70	26					
9664	DEDUCTIBLE REPORTI			0	0					
9812	EMPLOYERS LIABILIT			0	0					
Policy Total:			**894,350**	**Subject Premium:**	**46,466**	**Total Act Inc Losses:**			**0**	

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Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

WORKERS COMPENSATION EXPERIENCE RATING

Risk Name: WADE COOTS CO INC **Risk ID:** 100790475

Rating Effective Date: 07/01/2024 **Production Date:** 02/07/2024 **State:** GEORGIA

State	Wt	Exp Excess Losses	Expected Losses	Exp Prim Losses	Act Exc Losses	Ballast	Act Inc Losses	Act Prim Losses
GA-A	.15	18,326	26,352	8,026	0	52,440	0	0

(A) Wt	(B)	(C) Exp Excess Losses (D - E)	(D) Expected Losses	(E) Exp Prim Losses	(F) Act Exc Losses (H - I)	(G) Ballast	(H) Act Inc Losses	(I) Act Prim Losses
.15		18,326	26,352	8,026	0	52,440	0	0

	Primary Losses	Stabilizing Value	Ratable Excess	Totals
	(I)	C * (1 - A) + G	(A) * (F)	(J)
Actual	0	68,017	0	68,017
	(E)	C * (1 - A) + G	(A) * (C)	(K)
Expected	8,026	68,017	2,749	78,792

	ARAP	FLARAP	SARAP	MAARAP	Exp Mod
					(J) / (K)
Factors					.86

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WORKERS COMPENSATION EXPERIENCE RATING

Risk Name: WADE COOTS CO INC **Risk ID:** 100790475

Rating Effective Date: 07/01/2024 **Production Date:** 02/07/2024 **State:** GEORGIA

10-GEORGIA **Firm ID:** A **Firm Name:** WADE COOTS CO INC CO

Carrier: 14893 **Policy No.** WC0100058632 **Eff Date:** 07/01/2020 **Exp Date:** 07/01/2021

Code	ELR	D-Ratio	Payroll	Expected Losses	Exp Prim Losses	Claim Data	IJ	OF	Act Inc Losses	Act Prim Losses
0930	WAIVER OF SUBROGAT			0	0					
5606	.28	.29	325,300	911	264					
6306	1.73	.34	84,895	1,469	499					
6319	1.06	.29	423,878	4,493	1,303					
8227	1.36	.34	37,044	504	171					
8810	.05	.43	279,080	140	60					
9664	DEDUCTIBLE REPORTI			0	0					
9812	EMPLOYERS LIABILIT			0	0					
Policy Total:			**1,150,197**	**Subject Premium:**	**50,874**	**Total Act Inc Losses:**			**0**	

10-GEORGIA **Firm ID:** A **Firm Name:** WADE COOTS CO INC CO

Carrier: 14893 **Policy No.** WC0100058632 **Eff Date:** 07/01/2021 **Exp Date:** 07/01/2022

Code	ELR	D-Ratio	Payroll	Expected Losses	Exp Prim Losses	Claim Data	IJ	OF	Act Inc Losses	Act Prim Losses
0930	WAIVER OF SUBROGAT			0	0					
5606	.28	.29	155,800	436	126					
6306	1.73	.34	102,715	1,777	604					
6319	1.06	.29	459,102	4,866	1,411					
8227	1.36	.34	37,353	508	173					
8810	.05	.43	139,380	70	30					
9664	DEDUCTIBLE REPORTI			0	0					
9812	EMPLOYERS LIABILIT			0	0					
Policy Total:			**894,350**	**Subject Premium:**	**46,466**	**Total Act Inc Losses:**			**0**	

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C Catastrophic Loss E Employers Liability Loss # Limited Loss

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WORKERS COMPENSATION EXPERIENCE RATING

Risk Name: WADE COOTS CO INC **Risk ID:** 100790475

Rating Effective Date: 07/01/2024 **Production Date:** 02/07/2024 **State:** GEORGIA

10-GEORGIA **Firm ID:** A **Firm Name:** WADE COOTS CO INC CO

Carrier: 14893 **Policy No.** WC0100058632 **Eff Date:** 07/01/2022 **Exp Date:** 07/01/2023

Code	ELR	D-Ratio	Payroll	Expected Losses	Exp Prim Losses	Claim Data	IJ	OF	Act Inc Losses	Act Prim Losses
0930	WAIVER OF SUBROGAT			0	0					
5606	.28	.29	324,700	909	264					
6306	1.73	.34	128,108	2,216	753					
6319	1.06	.29	713,733	7,566	2,194					
8227	1.36	.34	29,023	395	134					
8810	.05	.43	183,070	92	40					
9664	DEDUCTIBLE REPORTI			0	0					
9812	EMPLOYERS LIABILIT			0	0					
Policy Total:			**1,378,634**	**Subject Premium:**	**61,726**	**Total Act Inc Losses:**			**0**	

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C Catastrophic Loss E Employers Liability Loss # Limited Loss

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

III. OSHA Incidence Rates

A. List your firm's Occupational Safety Health Administration (OSHA) incidence rates for the last three years.

Year	Total Recordable Incidents	Total Hours Worked	OSHA Incidence Rate*
2024	0	50k +/-	0.86
2023	0	50k +/-	0.88
2022	0	50k +/-	0.86

* Use your OSHA Form No. 200 and the formula:

(Total Incidents x 200,000 hours) ÷ (Number of hours worked) = Incidence Rate

B. Provide your incidence rates over the last three years for the following categories:

Incidence Rate by Year*			
Category	Year 2024	Year 2023	Year 2022
Fatalities	0	0	0
Injuries and Illnesses with Loss Work Days	0	0	0
Injuries and Illnesses with Restricted Work Days	N/A	N/A	N/A.

* Use your OSHA Form No. 200 and the formula:

(Total Incidents x 200,000 hours) ÷ (Number of hours worked) = Incidence Rate

C. Does your firm have any upheld OSHA citations in the past five years?

Yes No (If yes, attach explanation)

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IV. Safety Program Information

A. Do you have a written safety program?

Yes No (If yes, attach outline)

B. Which of the following does your safety program contain:

1. Does your company require health and safety training of its subcontractors?

Yes No

2. Is documentation of health and safety training required?

Yes No

3. Do you have a Hazard Communication Program (29 CFR 1910.1200, CCR Title 8 Section 5194)?

Yes No

4. Do you have a Confined Space Entry and Rescue Program (29 CFR 1910.146, CCR Title 8 Section 5156-5159)?

Yes No (If yes, attach explanation)

5. Do you have a "Hot Work" permit program (29 CFR 1910.146, CCR Title 8 5156-5159)?

Yes No (If yes, attach explanation)

6. Do you have a "Lock-Out/Tag-Out" program (29 CFR 1910.417)?

Yes No (If yes, attach explanation)

C. Do you have an Equipment Maintenance Program for the following:

1. Miscellaneous construction tools and equipment? Yes No

2. Ladders? Yes No

3. Scaffolds? Yes No

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4. Heavy Equipment? Yes No

5. Vehicles? Yes No

D. Do you have a new employee safety orientation program?

Yes No

1. If yes, does it include instruction in the following:

(a) Company Safety Policy Yes No

(b) Company Safety Rules Yes No

(c) Safety Meeting Attendance Yes No

(d) Company Safety Record Yes No

(e) Hazard Recognition Yes No

(f) Hazard Reporting Yes No

(g) Injury Reporting Yes No

(h) Non-Injury Accident Reporting Yes No

(i) Personal Protective Equipment Yes No

(j) Respiratory Protection Yes No

(k) Fire Protection Yes No

(l) Housekeeping Yes No

(m) Toxic Substance Yes No

(n) Electrical Safety Yes No

(o) Fall Protection Yes No

(p) First-Aid/CPR Yes No

(q) Driving Safety Yes No

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(r) Hearing Conservation Yes No

(s) Lock-Out/Tag-Out Yes No

(t) Bloodborne Pathogens Yes No

(u) Asbestos Yes No

(v) Confined Spaces Yes No

(w) Hazard Communication Yes No

(x) Covid-19 Yes No

E. Do you conduct safety meetings for your employees? Yes No

1. If yes, how often:

Daily Weekly Bi-weekly Monthly As Needed

F. Do you conduct health and safety audits of work in progress?

Yes No

1. If yes, who conducts the audits?

SUPERINTENDANT DANNY PHILLIPS

2. How often are the audits conducted?

WEEKLY

G. Do you notify all employees of accidents and precautions related to accidents and near misses?

Yes No

1. If yes, how is this notification accomplished?

(a) Safety meetings Yes No

(b) Post notification in office Yes No

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(c) Post notification at the site where the incident occurred

Yes No

(d) Other

_____

H. Is safety a criteria in evaluating the performance of:

1. Employees Yes No
2. Supervisors Yes No
3. Management Yes No

I. Does your firm hold "tailgate" safety meetings?

Yes No

1. If yes, how often:

Daily Weekly Bi-weekly Monthly As Needed

J. Does your company have a drug and alcohol testing policy?

Yes No

K. Does your company require that subcontractors participate in a drug surveillance/testing program?

Yes No

L. Does your company have a method of disseminating safety information?

Yes No

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

EXHIBIT C
ADDENDA

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

FULTON COUNTY

Date: January 7, 2026

Project Number: 25ITB0911K-NJH

Project Title: Standby Miscellaneous Construction, Water System Services

This Addendum forms a part of the contract documents and **modifies** the original ITB documents as noted below:

ADDENDUM NO. 1

Page 4 - Replace "[insert brief project scope]" with "Standby Miscellaneous Construction, Water System Services".

Page 12, 4. ADDENDA AND INTERPRETATIONS - To be given consideration, questions must be received no later than 2:00 PM, FEBRUARY 4, 2026.

Page 81 - Replace "[insert Department name]" with "Fulton County Public Works".

Exhibit 1, Page 343, Section 40 05 19 2.02.A. - Replace Class 50 with Class 51 on 16-inch and smaller pipes.

The undersigned Bidder acknowledges receipt of this Addendum by uploading this form with the Bid submittal package as outlined in Section 1, Instructions to Bidders #3 of the ITB by Tuesday, February 17, 2026, by 11:00 A.M.

This is to acknowledge receipt of Addendum No.1, 17th day of FEBRUARY, 2026.

WADE COOTS COMPANY INC.
Legal Name of Bidder/Proposer

Signature of Authorized Representative

PROJECT MANAGER
Title

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

FULTON COUNTY

Date: February 4, 2026

Project Number: 25ITB0911K-NJH

Project Title: Standby Miscellaneous Construction, Water System Services

This Addendum forms a part of the contract documents and **modifies** the original ITB documents as noted below:

ADDENDUM NO. 2

The deadline for questions is **extended** from February 4, 2026, at 2:00 p.m. to **February 5, 2026, at 2:00 p.m.**

The undersigned Bidder acknowledges receipt of this Addendum by uploading this form with the Bid submittal package as outlined in Section 1, Instructions to Bidders #3 of the ITB by Tuesday, February 17, 2026, by 11:00 A.M.

This is to acknowledge receipt of Addendum No.2, 17th day of FEB., 2026.

WADE COOTS COMPANY, Inc.
Legal Name of Bidder/Proposer

Signature of Authorized Representative

P.M.
Title

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

FULTON COUNTY

Date: February 10, 2026

Project Number: 25ITB0911K-NJH

Project Title: Standby Miscellaneous Construction, Water System Services

This Addendum forms a part of the contract documents and **modifies** the original ITB documents as noted below:

ADDENDUM NO. 3

1. Modify **Section 1, Item 3, RECEIPT AND OPENING OF BIDS** to include:

Date: February 17, 2026
Time: 11:05 a.m.
Web Conference Link: https://zoom.us/j/96205274528

2. **Responses to questions 1 – 9.**

3. **Revised Bid Form attached with revision date of February 9, 2026.**

4. **Section 9 attached with revision date of February 9, 2026.**

The undersigned Bidder acknowledges receipt of this Addendum by uploading this form with the Bid submittal package as outlined in Section 1, Instructions to Bidders #3 of the ITB by Tuesday, February 17, 2026, by 11:00 A.M.

This is to acknowledge receipt of Addendum No.3, 10th day of FEB, 2026.

WADE Coats Company, Inc.
Legal Name of Bidder/Proposer

Signature of Authorized Representative

Title

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

EXHIBIT D
BID FORM

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

COMPENSATION

The County agrees to compensate the Contractor as follows:

County agrees to compensate Contractor for all services performed under this Agreement in an amount not to exceed $1,500,000.00 (One Million Five Hundred Thousand Dollars and No Cents), which is full payment for a complete scope of work. The detailed costs are provided on the next pages.

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

BID FORM

Submitted To: Fulton County Government

Submitted By: WADE COUTS COMPANY, INC.

For: **25ITB0911K-NJH**
Standby Miscellaneous Construction, Water System Services

Submitted on FEBRUARY, 2025

The undersigned, as Bidder, hereby declares that the only person or persons interested in the Bid as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this Bid or in the Contract to be entered into; that this Bid is made without connection with any other person, company or parties making a Bid; and that it is in all respects fair and in good faith without collusion or fraud.

The Bidder further declares that he has examined the site of the work and informed himself fully in regard to all conditions pertaining to the place where the work is to be done; that he has examined the Drawings and Specifications for the work and contractual documents relative thereto, and has read all instructions to Bidders and General Conditions furnished prior to the openings of bids; that he has satisfied himself relative to the work to be performed.

The Bidder proposes and agrees, if this Bid is accepted, to contract with the Board of Commissioners of Fulton County, Atlanta, Georgia, in the form of contact specified, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary, and to complete the construction of the work in full and complete accordance with the shown, noted, and reasonably intended requirements of the Specifications and Contract Documents to the full and entire satisfaction of the Board of Commissioners of Fulton County, Atlanta, Georgia, with a definite understanding that no money will be allowed for extra work except as set forth in the attached General Conditions and Contract Documents for the following prices.

THE BASE BID IS THE AMOUNT UPON WHICH THE BIDDER WILL BE FORMALLY EVALUATED AND WHICH WILL BE USED TO DETERMINE THE LOWEST RESPONSIBLE BIDDER.

The base bid may not be withdrawn or modified for a period of sixty (60) days following the receipt of bids.

BASE BID AMOUNT

$ 6,961,270.00
(Dollar Amount in Numbers)

SIX MILLION, NINE-HUNDRED + SIXTY-ONE THOUSAND, TWO-HUNDRED and SEVENTY-DOLLARS & NO CENTS
(Dollar Amount in Words)

The Bidder agrees hereby to commence work under this Contract, with adequate personnel and equipment, on a date to be specified in a written "Notice to Proceed" from the County.

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

The Bidder declares that he understands that the quantities shown for the unit prices 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 anticipated profits for any decrease in quantities; and that actual quantities will be determined upon completion of work, at which time adjustments will be made to the contract amount by direct increase or decrease.

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

BASE BID AMOUNT

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL PRICE
	WATER MAIN				
1.	6-inch DIP Water Main; 0.0 – 8.0 foot depth	1500	L.F.	$85.00	$127,500.00
2.	Additional Unit Cost for 6-inch DIP Water Main; 8.1 – 16.0 foot depth	200	L.F	$95.00	$19,000.00
3.	Additional Unit Cost for 6-inch RJ DIP Water Main	500	L.F.	$45.00	$22,500.00
4.	6-inch RJ DIP Water Main; Installed in 12-inch Steel Casing	60	L.F.	$240.00	$14,400.00
5.	8-inch DIP Water Main; 0.0 – 8.0 foot depth	1500	L.F.	$90.00	$135,000.00
6.	Additional Unit Cost for 8-inch DIP Water Main; 8.1 – 16.0 foot depth	200	L.F	$100.00	$20,000.00
7.	Additional Unit Cost for 8-inch RJ DIP Water Main	500	L.F.	$60.00	$30,000.00
8.	8-inch RJ DIP Water Main; Installed in 16-inch Steel Casing	60	L.F.	$265.00	$15,900.00
9.	10-inch DIP Water Main; 0.0 – 8.0 foot depth	1500	L.F.	$130.00	$195,000.00
10.	Additional Unit Cost for 10-inch DIP Water Main; 8.1 – 16.0 foot depth	200	L.F	$140.00	$28,000.00
11.	Additional Unit Cost for 10-inch RJ DIP Water Main	500	L.F.	$65.00	$32,500.00
12.	10-inch RJ DIP Water Main; Installed in 18-inch Steel Casing	60	L.F.	$300.00	$18,000.00
13.	12-inch DIP Water Main; 0.0 – 8.0 foot depth	1500	L.F.	$160.00	$240,000.00
14.	Additional Unit Cost for 12-inch DIP Water Main; 8.1 – 16.0 foot depth	200	L.F	$170.00	$34,000.00
15.	Additional Unit Cost for12-inch RJ DIP Water Main	500	L.F.	$80.00	$40,000.00
16.	12-inch RJ DIP Water Main; Installed in 20-inch Steel Casing	60	L.F.	$385.00	$23,100.00
17.	16-inch DIP Water Main; 0.0 – 8.0 foot depth	600	L.F.	$185.00	$111,000.00
18.	Additional Unit Cost for 16-inch DIP Water Main; 8.1 – 16.0 foot depth	100	L.F	$195.00	$19,500.00
19.	Additional Unit Cost for 16-inch RJ DIP Water Main	200	L.F.	$90.00	$18,000.00

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL PRICE
20.	16-inch RJ DIP Water Main; Installed in 24-inch Steel Casing	60	L.F.	$500.00	$30,000.00
	FITTINGS				
21.	Fittings	30	Tons	$17,500.00	$525,000.00
	FIRE HYDRANTS				
22.	Fire Hydrant Assembly, Complete with thrust blocks, stone, fittings, anchor rodding, valve and hydrant tee, etc.	40	Each	$7800.00	$312,000.00
23.	Hydrant Extension	20	L.F.	$1,000.00	$20,000.00
24.	Salvage Existing Hydrant	6	Each	$500.00	$3,000.00
25.	Fire iHydrant Assembly, Complete with thrust blocks, stone, fittings, anchor rodding, valve and hydrant tee, etc.	10	Each	$10,000.00	$100,000.00
26.	iHydrant Extension	20	L.F.	$1200.00	$24,000.00
	VALVES				
27.	6-inch Gate Valve	10	Each	$3000.00	$30,000.00
28.	8-inch Gate Valve	15	Each	$3900.00	$58,500.00
29.	10-inch Gate Valve	5	Each	$5300.00	$26,500.00
30.	12-inch Gate Valve	15	Each	$6500.00	$97,500.00
31.	16-inch Butterfly Valve	2	Each	$11,000.00	$22,000.00
32.	Valve Adjustments in Pavement (0-5')	25	Each	$1400.00	$35,000.00
33.	Valve Adjustments in Pavement (Greater than 5')	15	Each	$2000.00	$30,000.00
34.	Valve Adjustments out of Pavement (0-5')	25	Each	$850.00	$21,250.00
35.	Valve Adjustments out of Pavement (Greater than 5')	15	Each	$1200.00	$18,000.00
	CONNECTIONS TO EXISTING WATER LINES				
36.	6 x 6 Tapping Sleeves & Valve	2	Each	$7500.00	$15,000.00
37.	8 x 6 Tapping Sleeves & Valve	5	Each	$8000.00	$40,000.00
38.	8 x 8 Tapping Sleeves & Valve	5	Each	$9400.00	$47,000.00
39.	10 x 6 Tapping Sleeves & Valve	1	Each	$11,000.00	$11,000.00
40.	10 x 8 Tapping Sleeves & Valve	1	Each	$12,500.00	$12,500.00
41.	10 x 10 Tapping Sleeves & Valve	1	Each	$14,500.00	$14,500.00
42.	12 x 6 Tapping Sleeves & Valve	1	Each	$11,000.00	$11,000.00
43.	12 x 8 Tapping Sleeves & Valve	1	Each	$12,500.00	$12,500.00
44.	12 x 10 Tapping Sleeves & Valve	1	Each	$15,000.00	$15,000.00
45.	12 x 12 Tapping Sleeves & Valve	1	Each	$17,500.00	$17,500.00

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ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL PRICE
46.	16 x 6 Tapping Sleeves & Valve	1	Each	฿20,000	฿20,000
47.	16 x 8 Tapping Sleeves & Valve	1	Each	฿21,000	฿21,000
48.	16 x 10 Tapping Sleeves & Valve	1	Each	฿24,000	฿24,000
49.	16 x 12 Tapping Sleeves & Valve	1	Each	฿27,000	฿27,000
50.	16 x 16 Tapping Sleeves & Valve	1	Each	฿39,000	฿39,000
51.	Cut in Connection on 6-inch Line	2	Each	฿2300	฿4600
52.	Cut in Connection on 8-inch Line	5	Each	฿2500	฿12,500
53.	Cut in Connection on 10-inch Line	5	Each	฿3000	฿15,000
54.	Cut in Connection on 12-inch Line	2	Each	฿4000	฿8,000
55.	Cut in Connection on 16-inch Line	1	Each	฿6000	฿6000
56.	Straight Connection on 6-inch Line	2	Each	฿2000	฿4600
57.	Straight Connection on 8-inch Line	5	Each	฿2300	฿11,500
58.	Straight Connection on 10-inch Line	5	Each	฿2500	฿12,500
59.	Straight Connection on 12-inch Line	2	Each	฿3000	฿6,000
60.	Straight Connection on 16-inch Line	1	Each	฿5000	฿5,000
ABANDON EXISTING WATER MAIN					
61.	Abandon Existing Water Main – Cut and Plug / Deadman Restraint 1-1/2 to 6-inch Line	5	Each	฿3750	฿18,750
62.	Abandon Existing Water Main – Cut and Plug / Deadman Restraint 8 to12-in Line	10	Each	฿4800	฿48,000
63.	Abandon Existing Water Main – Cut and Plug / Deadman Restraint 16-inch Line	1	Each	฿6200	฿6200
WATER SERVICE CONNECTIONS					
64.	Water Service Connection New Service Setup – DFW Meter Box Model 1219-18-1MKF Deep – 5/8-inch to 1-inch	20	Each	฿1200	฿24,000
65.	Water Service Connection New Service Setup – DFW Meter Box Model 1219-18-1MKF Deep – 1-1/2-inch	5	Each	฿2000	฿10,000

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ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL PRICE
66.	Water Service Connection New Service Setup – Ford Double Gulf Box – 5/8-inch to 1-inch	5	Each	$1800.00	$9000.00
67.	Water Service Connection New Service Setup – 2-inch	5	Each	$2800.00	$14,000.00
68.	Water Service Connection New 1-inch Service Line	250	L.F.	$30.00	$7,500.00
69.	Water Service Connection New 1-1/2 inch Service Line	40	L.F.	$40.00	$1600.00
70.	Water Service Connection New 2-inch Service Line	40	L.F.	$60.00	$2400.00
WATER SERVICE CHANGEOVERS					
71.	Water Service Changeovers – Changeover Setup – 5/8-inch to 2-inch Services	50	Each	$900.00	$45,000.00
72.	Water Service Changeovers – Replace Existing with 1-inch Service Line	120	L.F.	$30.00	$3600.00
73.	Water Service Changeovers – Replace Existing with 1-1/2-inch Service Line	40	L.F.	$40.00	$1600.00
74.	Water Service Changeovers – Replace Existing with 2-inch Service Line	40	L.F.	$60.00	$2400.00
75.	Water Service Changeovers – Water Meter Relocation – 5/8-inch to 2-inch Services	10	Each	$750.00	$7500.00
4- OR 6-FOOT DIAMETER PRECAST VALVE VAULT OR MANHOLE					
76.	4-foot Diameter Precast Valve Vault or Manhole – 0.0 – 8.0 foot Depth	30	V.F.	$1250.00	$37,500.00
77.	Additional Unit Cost for Greater than 8.0 foot Depth	10	V.F.	$1650.00	$16,500.00
78.	Additional Unit Cost for 6-foot Diameter Precast Valve Vault or Manhole	20	V.F.	$1400.00	$28,000.00
79.	Standard Ductile Iron Ring and Cover – Traffic Rated	3	Each	$850.00	$2,550.00
80.	Hinged (Pamrex or equivalent) Ductile Iron Ring and Cover	3	Each	$1600.00	$4800.00
BORE AND JACK CASING					
81.	Bore and Jack Casings – 12-inch Steel Casing with 6-inch RJ Carrier Pipe	60	L.F.	$450.00	$27000.00
82.	Bore and Jack Casings – 16-inch Steel Casing with 8-inch RJ Carrier Pipe	60	L.F.	$650.00	$39000.00
83.	Bore and Jack Casings – 18-inch Steel Casing with 10-inch RJ Carrier Pipe	60	L.F.	$900.00	$54000.00

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ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL PRICE
84.	Bore and Jack Casings – 20-inch Steel Casing with 12-inch RJ Carrier Pipe	60	L.F.	$950.00	$57,000.00
85.	Bore and Jack Casings – 24-inch Steel Casing with 16-inch RJ Carrier Pipe	60	L.F.	$1200.00	$72,000.00
86.	Free bore 6-inch RJ DIP Water Main with Flowable Fill Slurry Grout	60	L.F.	$140.00	$8400.00
87.	Free bore 8-inch RJ DIP Water Main with Flowable Fill Slurry Grout	60	L.F.	$160.00	$9600.00
88.	Free bore 10-inch RJ DIP Water Main with Flowable Fill Slurry Grout	60	L.F.	$180.00	$10,800.00
89.	Free bore 12-inch RJ DIP Water Main with Flowable Fill Slurry Grout	60	L.F.	$200.00	$12,000.00
STORM DRAIN PIPE					
90.	Storm Drain Pipe – 12-inch RCP	20	L.F.	$80.00	$1600.00
91.	Storm Drain Pipe – 12-inch CMP	20	L.F.	$65.00	$1300.00
92.	Storm Drain Pipe – 15-inch RCP	20	L.F.	$90.00	$1800.00
93.	Storm Drain Pipe – 15-inch CMP	20	L.F.	$70.00	$1400.00
94.	Storm Drain Pipe – 18-inch RCP	20	L.F.	$100.00	$2000.00
95.	Storm Drain Pipe – 18-inch CMP	20	L.F.	$85.00	$1700.00
96.	Storm Drain Pipe – 24-inch RCP	20	L.F.	$140.00	$2800.00
97.	Storm Drain Pipe – 24-inch CMP	20	L.F.	$120.00	$2400.00
98.	Storm Drain Pipe – 30-inch RCP	20	L.F.	$180.00	$3600.00
99.	Storm Drain Pipe – 30-inch CMP	20	L.F.	$160.00	$3200.00
100.	15-inch to 30-inch Precast Concrete Headwall	2	Each	$2000.00	$4000.00
101.	Remove and Reset Existing 15-inch to 30-inch Storm Drain Pipe	20	L.F.	$160.00	$3200.00
102.	Remove and Reset Existing 15-inch to 30-inch Headwall	2	Each	$1000.00	$2000.00
EROSION AND SEDIMENT CONTROL					
103.	Construction Exits	5	Each	$2000.00	$10,000.00
104.	Reinforced Silt Fence (Type S)	1,000	L.F.	$5.00	$5000.00
105.	Hay Bale Check Dams	300	Each	$40.00	$12,000.00
106.	Stone Check Dams	20	Each	$750.00	$15,000.00

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ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL PRICE
107.	Inlet Sediment Traps	20	Each	$275.00	$5,500.00
108.	Pigs – in – Blanket	20	Each	$20.00	$406.00
109.	Type 1 Rip Rap with Filter Fabric Underlay	50	S.Y.	$150	$7500.00
110.	Type 3 Rip Rap with Filter Fabric Underlay	50	S.Y.	$140.00	$7000.00
111.	Box Gabbon (Surge Stone Fill with Filter Fabric Underlay) 3' x 3' x 6' Baskets	1	Each	$1500	$1500.00
112.	Tree Protection Fence	1,000	L.F.	$2.50	$2500.00
113.	Temporary Seeding (All Types)	3,000	S.Y.	$2.50	$7500
114.	Permanent Seeding (All Types)	3,000	S.Y.	$5.00	$15,000
115.	Sod Grassing (All Types)	1,000	S.Y.	$27	$27,000
116.	Hyrdoseeding	1,000	S.Y.	$18	$18,000
117.	Temporary Stream Crossing – for Contractor Access – Up to 15-feet from Top of Bank to Top of Bank	1	Each	$4000	$4000
118.	Temporary Stream Crossing – for Contractor Access – 15 to 25-feet from Top of Bank to Top of Bank	1	Each	$5000	$5000
119.	Temporary Stream Crossing – for Contractor Access – 25 to 40-feet from Top of Bank to Top of Bank	1	Each	$8500	$8500
120.	Temporary Stream Crossing – for Contractor Access – Over 40-feet from Top of Bank to Top of Bank	1	Each	$20,000	$20,000
121.	Trench Excavation and Stabilization – as Ordered by the Construction Manager – Trench Stabilization with Suitable Earth Materials	100	C.Y.	$30	$3000
122.	Trench Excavation and Stabilization – as Ordered by the Construction Manager – Trench Stabilization with Crusher Run	200	C.Y.	$90	$18,000
123.	Trench Excavation and Stabilization – as Ordered by the Construction Manager – Trench Stabilization with Crushed Stone (#57)	200	C.Y.	$90	$18,000
124.	Trench Excavation and Stabilization – as Ordered by the Construction Manager – Trench Stabilization with M-10 Sand	50	C.Y.	$90	$450

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ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL PRICE
125.	Trench Excavation and Stabilization – as Ordered by the Construction Manager – Trench Rock Excavation and Removal – Base Cost	250	C.Y.	$70.00	$17,500.00
126.	Trench Excavation and Stabilization – as Ordered by the Construction Manager – Trench Rock Excavation and Removal – Premium Cost	250	C.Y.	$70.00	$17,500.00
127.	Suitable Earth Backfill for areas requiring fill	100	C.Y.	$30.00	$3,000.00
	EASEMENT CLEARING AND GRUBBING				
128.	Easement Clearing and Grubbing – Clear 20-foot Wide Easement - Light	200	L.F.	$7.00	$1400.00
129.	Easement Clearing and Grubbing – Clear 20-foot Wide Easement – Medium	200	L.F.	$16.00	$3200.00
130.	Easement Clearing and Grubbing – Clear 20-foot Wide Easement - Heavy	100	L.F.	$25.00	$2500.00
	DRIVEWAY AND ROAD REPAIR AND REPLACEMENT				
131.	Driveway and Road Repair and Replacement – Gravel Driveway Replacement	50	S.Y.	$20.00	$1,000.00
132.	Driveway and Road Repair and Replacement – Asphalt Driveway Replacement	60	S.Y.	$50.00	$3,000.00
133.	Driveway and Road Repair and Replacement – Concrete Driveway Replacement – Residential	100	S.Y.	$75.00	$7500.00
134.	Driveway and Road Repair and Replacement – Gravel Driveway Replacement - Commercial	100	S.Y.	$90.00	$9000.00
135.	Driveway and Road Repair and Replacement – Concrete Sidewalk	400	S.Y.	$75.00	$30,000.00
136.	Driveway and Road Repair and Replacement – Concrete Curb and Gutter	200	L.F.	$65.00	$13,000.00
137.	Driveway and Road Repair and Replacement – Granite Curb	100	L.F.	$100.00	$10,000.00
138.	Driveway and Road Repair and Replacement – Asphalt Pavement Removal and Replacement (Type A Cut Repair)	200	S.Y.	$65.00	$13,000.00

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ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL PRICE
139.	Driveway and Road Repair and Replacement – Complete Fulton County Standard Utility Cut of Asphalt Pavement (Type C Cut Repair)	1,000	S.Y.	$150.00	$150,000.00
140.	Driveway and Road Repair and Replacement – Road Surface Milling	3,000	S.Y.	$70.00	$210,000.00
141.	Driveway and Road Repair and Replacement – Road Surface Overlay	3,000	S.Y.	$70.00	$210,000.00
142.	Pavement Marking and Striping – 4- or 5-inch Std. DOT Striping - Thermoplastic	10	L.F.	$20.00	$200.00
143.	Pavement Marking and Striping – 4- or 5-inch Std. DOT Striping – Paint	10	L.F.	$12.00	$120.00
144.	Pavement Marking and Striping – Std. DOT Stop Bar - Thermoplastic	10	L.F.	$250.00	$2500.00
145.	Pavement Marking and Striping – Std. DOT Stop Bar - Paint	10	L.F.	$95.00	$950.00
	TRAFFIC CONTROL				
146.	Traffic Control – Std. DOT Barrier	100	L,F.	$20.00	$2,000.00
147.	Traffic Control – MUTCD Std. Safety Barrel	20	Each/ Day	$10.00	$200.00
148.	Traffic Control – Police Cruiser	80	Hrs.	$110.00	$8,800.00
149.	Traffic Control – Certified Flagman	80	Hrs.	$95.00	$6,800.00
150.	Traffic Control – Light Plant	80	Hrs.	$75.00	$6,000.00
151.	Traffic Control – Electronic Message Board	10	Days	$850.00	$8500.00
	REMOVE AND REPLACE EXISTING FENCE				
152.	Remove and Replace Existing Fence – 4-foot High Chain Link Fence	20	L,F.	$30.00	$600.00
153.	Remove and Replace Existing Fence – 6-foot High Chain Link Fence	20	L,F.	$40.00	$800.00
154.	Remove and Replace Existing Fence – 6-foot High Wood Fence	20	L,F.	$50.00	$1000.00
	CAST IN PLACE CONCRETE				
155.	Cast-in-Place Concrete – Structural Concrete	40	C.Y.	$550.00	$22,000.00
156.	Cast-in-Place Concrete – Concrete Thrust Collars on 6- to 12-inch Pipe	40	C.Y.	$700.00	$28,000.00

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ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL PRICE
157.	Cast-in-Place Concrete – Concrete Thrust Collars on 16- to 24-inch Pipe	40	C.Y.	$900.00	$36,000.00
158.	Cast-in-Place Concrete – Concrete Thrust Blocking and / or Encasement	80	C.Y.	$350.00	$28,000.00
159.	Cast-in-Place Concrete – Reinforcing Steel	1	Ton	$5000.00	$5000.00
	PROGRAMMABLE ELECTRONIC MARKING DEVICES				
160.	Programmable Electronic Marking Devices – Line Marker Balls – 3M™ Ball Marker 1403-XR, EMS 6 ft Extended Range, Water,	300	Each	$30.00	$9000.00
161.	3M™ Electronic Marking System (EMS) Warning Tape 7903-XT, Blue, 6 in, Water,	300	L.F.	$10.00	$3,000.00
	UTILITY LOCATION – EXCAVATION AND BACKFILL				
162.	Utility Location – Excavation and Backfill – Soft Dig Hydro Excavation	60	Hrs.	$650.00	$39,000.00
163.	Utility Location – Excavation and Backfill – Exploratory Excavation	200	C.Y.	$150.00	$30,000.00
164.	Excavation for Insert-A-Valve	30	C.Y.	$1000.00	$30,000.00
	WATER LINE MAINTENANCE SIGN				
165.	Water Line Maintenance Sign	10	Each	$275.00	$2750.00
	BACKFLOW PREVENTER				
166.	5/8-inch and 3/4-inch Double Check Assembly Backflow Preventer	10	Each	$550.00	$5,500.00
167.	1-inch Double Check Assembly Backflow Preventer	10	Each	$750.00	$7500.00
168.	1-1/2-inch Double Check Assembly Backflow Preventer	10	Each	$1500.00	$15,000.00
169.	2-inch Double Check Assembly Backflow Preventer	10	Each	$1900.00	$19,000.00
170.	3-inch Double Check Assembly Backflow Preventer	10	Each	$15,500.00	$155,000.00
171.	4-inch Double Check Assembly Backflow Preventer	10	Each	$15,500.00	$155,000.00
172.	6-inch Double Check Assembly Backflow Preventer	10	Each	$24,000.00	$240,000.00
173.	8-inch Double Check Assembly Backflow Preventer	10	Each	$34,000.00	$340,000.00
174.	5/8-inch and 3/4-inch Reduced Pressure Zone Assembly Backflow Preventer	10	Each	$750.00	$7500.00
175.	1-inch Reduced Pressure Zone Assembly Backflow Preventer	10	Each	$900.00	$9000.00

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL PRICE
176.	1-1/2-inch Reduced Pressure Zone Assembly Backflow Preventer	10	Each	$3200.=	$32,000.=
177.	2-inch Reduced Pressure Zone Assembly Backflow Preventer	10	Each	$3900.=	$39,000.=
178.	3-inch Reduced Pressure Zone Assembly Backflow Preventer	10	Each	$17,500.=	$175,000.=
179.	4-inch Reduced Pressure Zone Assembly Backflow Preventer	10	Each	$19,500.=	$195,000.=
180.	6-inch Reduced Pressure Zone Assembly Backflow Preventer	10	Each	$26,000.=	$260,000.=
181.	8-inch Reduced Pressure Zone Assembly Backflow Preventer	10	Each	$35,000.=	$350,000.=
EMERGENY SERVICES – AS DIRECTED BY CONSTRUCTION MANAGER The following labor and equipment are included for when the County needs manpower or additional equipment to assist in making emergency repairs other than those specified above as unit price items. Hourly rate items below shall NOT apply when work is performed under non-emergency conditions. The Notice to Proceed for each project will indicate emergency or non-emergency project status. On emergency projects the contractor shall have a representative on site within 2 hours of notification to assess the work to be performed and have emergency work crews on site with the proper equipment within 4 hours of the original notification.					
182.	Water Superintendent with Pickup Truck	80	Hrs.	$100.=	$8,000.=
183.	Water Crew Truck - Fully Equipped with tools and repair parts including but not limited to pipe saw, wacker-packer, chain saw, and miscellaneous hand tools, including water foreman and three laborers.	80	Hrs.	$500.=	$40,000.=
184.	Rubber Tired or Rubber Tracked Front End Loader With Trailer and Operator	80	Hrs.	$225.=	$18,000.=
185.	Rubber Tired or Rubber Track Backhoe With Trailer and Operator	80	Hrs.	$200.=	$16,000.=
186.	Excavator With Trailer and Operator	80	Hrs.	$250.=	$20,000.=
187.	Trench Compactor With Operator	80	Hrs.	$125.=	$10,000.=

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL PRICE
188.	Mobile Air Compressor With Hoses and Air Tools with Operator (Jackhammer, Pavement Breaker, Clay Spade, etc.)	80	Hrs.	$125.=	$10,000.=
189.	10 CY Dump Truck with Operator	80	Hrs.	$140.=	$11,200.=
	CONTRACTOR MOBILIZATION / DEMOBILIZATION				
190.	Contractor Mobilization / Demobilization for each Project less than $25,000	5	Each	$1,000	$5,000.00
191.	Contractor Mobilization / Demobilization for each Project $25,000 to $75,000	10	Each	$2,000	$20,000.00
192.	Contractor Mobilization / Demobilization for each Project more than $75,000	7	Each	$3,000	$21,000.00
	OWNER CONTROLLED CONTINGENCY				
193.	Owner Controlled Contingency – Soils, Concrete, Asphalt, Materials, and Water Quality Testing; Utility Conflict Resolution; Large Tree Removal (18-inch Diameter and Above; Preblast Survey / Inspection and Blast Monitoring	1	L.S.	$80,000	$80,000.00
	TOTAL BASE BID AMOUNT (lines 1-193)				$6,961,270.00

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The Bidder furthermore agrees that, in the case of a failure on his part to execute the Contract Agreement and Bonds within ten days after receipt of conformed contract documents for execution, the Bid Bond accompanying his bid and the monies payable thereon shall be paid into the funds of the Owner as liquidated damages for such failure.

Enclosed is a Bid Bond in the approved form, in the sum of: 5% of PRINCIPAL'S BID

THREE HUNDRED FORTY-EIGHT THOUSAND SIXTY-THREE & 50/100 Dollars

($ 348,063.50) according to the conditions of "Instructions to Bidders" and provisions thereof.

The undersigned acknowledges receipt of the following addenda (list by the number and date appearing on each addendum) and thereby affirms that its Bid considers and incorporates any modifications to the originally issued Bidding Documents included therein.

ADDENDUM #	1	DATED	1-7-26
ADDENDUM #	2	DATED	2-4-26
ADDENDUM #	3	DATED	2-10-26
ADDENDUM #		DATED	

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EXHIBIT E
BONDS
(Bid, Payment and Performance)

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WCC
BID BOND.

BID BOND
25ITB0911K-NJH
STANDBY MISCELLANEOUS CONSTRUCTION – WATER SYSTEM SERVICES

STATE OF GEORGIA
COUNTY OF FULTON

KNOW ALL MEN BY THESE PRESENTS, THAT WE Wade Coots Company, Inc.

hereinafter called the PRINCIPAL, and Swiss Re Corporate Solutions America Insurance Corporation

hereinafter call the SURETY, a corporation chartered and existing under the laws of the State of Missouri and duly authorized to transact Surety business in the State of Georgia, are held and firmly bound unto the Fulton County Government (COUNTY), in the penal sum of Five Percent of the Bid Amount Dollars and Cents ($_____) good and lawful money of the United States of America, to be paid upon demand of the COUNTY, to which payment well and truly to be made we bind ourselves, our heirs, executors, and administrators and assigns, jointly and severally and firmly by these presents.

WHEREAS the PRINCIPAL has submitted to the COUNTY, for **25ITB0911K-NJH, Standby Miscellaneous Construction – Water System Services**, a Bid;

WHEREAS the PRINCIPAL desires to file this Bond in accordance with law:

NOW THEREFORE: The conditions of this obligation are such that if the Bid be accepted, the PRINCIPAL shall within ten (10) calendar days after receipt of written notification from the COUNTY of the award of the Contract execute the Contract in accordance with the Bid and upon the terms, conditions and prices set forth therein, in the form and manner required by the COUNTY, and execute sufficient and satisfactory Performance and Payments Bonds payable to the COUNTY, each in the amount of one hundred percent (100%) of the total contract price, in form and with security satisfactory to said COUNTY, then this obligation to be void; otherwise, to be and remain in full force and virtue in law; and the SURETY shall upon failure of the PRINCIPAL to comply with any or all of the foregoing requirements within the time specified above immediately pay to the COUNTY, upon demand the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

In the event suit is brought upon this Bond by the COUNTY and judgment is recovered, the SURETY shall pay all costs incurred by the COUNTY in such suit, including attorney's fees to be fixed by the Court.

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IN TESTIMONY THEREOF, the PRINCIPAL and SURETY have caused these presents to be duly signed and sealed this 17th day of February, 2026.

ATTEST:

Wade Coots Company, Inc.
PRINCIPAL

W. GREG COOTS BY

(SEAL)

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, MARGARET A. COOTS, certify that I am the Secretary of the Corporation named as principal in the within bond; that W. GREG COOTS, who signed the said bond of said corporation; that I know this signature, and his/her signature thereto is genuine; and that said bond was duly signed, sealed and attested for in behalf of said Corporation by authority of its governing body.

Margaret A. Coots
SECRETARY

(CORPORATE SEAL)

Swiss Re Corporate Solutions America Insurance Corporation
SURETY

Jenna Jones BY
(SEAL) Jenna Jones, Witness Sean Tidwell, Attorney in Fact

END OF SECTION

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

SWISS RE CORPORATE SOLUTIONS

SWISS RE CORPORATE SOLUTIONS AMERICA INSURANCE CORPORATION ("SRCSAIC")
SWISS RE CORPORATE SOLUTIONS PREMIER INSURANCE CORPORATION ("SRCSPIC")
WESTPORT INSURANCE CORPORATION ("WIC")

GENERAL POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, THAT SRCSAIC, a corporation duly organized and existing under laws of the State of Missouri, and having its principal office in the City of Kansas City, Missouri, and SRCSPIC, a corporation organized and existing under the laws of the State of Missouri and having its principal office in the City of Kansas City, Missouri, and WIC, organized under the laws of the State of Missouri, and having its principal office in the City of Kansas City, Missouri, each does hereby make, constitute and appoint:

P.D. YATES III, DANIEL YATES, KEVIN M. NEIDERT, SEAN TIDWELL, SANDRA LAWRENCE,
JENNA JONES, LISA LEE, CHARLES THOMPSON and ELIZABETH WHITE
JOINTLY OR SEVERALLY

Its true and lawful Attorney(s)-in-Fact, to make, execute, seal and deliver, for and on its behalf and as its act and deed, bonds or other writings obligatory in the nature of a bond on behalf of each of said Companies, as surety, on contracts of suretyship as are or may be required or permitted by law, regulation, contract or otherwise, provided that no bond or undertaking or contract or suretyship executed under this authority shall exceed the amount of:

TWO HUNDRED MILLION ($200,000,000.00) DOLLARS

This Power of Attorney is granted and is signed by facsimile under and by the authority of the following Resolutions adopted by the Boards of Directors of both SRCSAIC and SRCSPIC at meetings duly called and held on the 18th of November 2021 and WIC by written consent of its Executive Committee dated July 18, 2011.

"RESOLVED, that any two of the President, any Managing Director, any Senior Vice President, any Vice President, the Secretary or any Assistant Secretary be, and each or any of them hereby is, authorized to execute a Power of Attorney qualifying the attorney named in the given Power of Attorney to execute on behalf of the Corporation bonds, undertakings and all contracts of surety, and that each or any of them hereby is authorized to attest to the execution of any such Power of Attorney and to attach therein the seal of the Corporation; and it is

FURTHER RESOLVED, that the signature of such officers and the seal of the Corporation may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be binding upon the Corporation when so affixed and in the future with regard to any bond, undertaking or contract of surety to which it is attached."

SWISS RE CORPORATE SOLUTIONS AMERICA INSURANCE CORPORATION CORPORATE SEAL 1973 MISSOURI

SWISS RE CORPORATE SOLUTIONS PREMIER INSURANCE CORPORATION CORPORATE SEAL MISSOURI

By _____
Erik Janssens, Senior Vice President of SRCSAIC & Senior Vice President of SRCSPIC & Senior Vice President of WIC

By _____
Gerald Jagrowski, Vice President of SRCSAIC & Vice President of SRCSPIC & Vice President of WIC

WESTPORT INSURANCE CORPORATION CORPORATE SEAL MISSOURI

IN WITNESS WHEREOF, SRCSAIC, SRCSPIC, and WIC have caused their official seals to be hereunto affixed, and these presents to be signed by their authorized officers

this 9th day of MAY, 20 24

Swiss Re Corporate Solutions America Insurance Corporation
Swiss Re Corporate Solutions Premier Insurance Corporation
Westport Insurance Corporation

State of Illinois
County of Cook ss

On this 9th day of MAY, 20 24, before me, a Notary Public personally appeared Erik Janssens, Senior Vice President of SRCSAIC and Senior Vice President of SRCSPIC and Senior Vice President of WIC and Gerald Jagrowski, Vice President of SRCSAIC and Vice President of SPCSPIC and Vice President of WIC, personally known to me, who being by me duly sworn, acknowledged that they signed the above Power of Attorney as officers of and acknowledged said instrument to be the voluntary act and deed of their respective companies.

OFFICIAL SEAL
CHRISTINA MANISCO
NOTARY PUBLIC, STATE OF ILLINOIS
My Commission Expires March 28, 2026

Christina Manisco, Notary

I, Jeffrey Goldberg, the duly elected Senior Vice President and Assistant Secretary of SRCSAIC and SRCSPIC and WIC, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney given by said SRCSAIC and SRCSPIC and WIC, which is still in full force and effect.
IN WITNESS WHEREOF, I have set my hand and affixed the seals of the Companies this 17th day of February, 20 26.

_____
Jeffrey Goldberg, Senior Vice President & Assistant Secretary of SRCSAIC and SRCSPIC and WIC

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PAYMENT BOND Bond No. 2379007

"County:" means Fulton County Government; a political subdivision of the State of Georgia (hereinafter called the "Owner").

"Project:" means **25ITB0911K-NJH - Standby Miscellaneous Construction Wastewater System Services**

"Principal:" (Legal Name and Business Address), (hereinafter called the [Insert Name of Contractor "Principal"]

Wade Coots Company, Inc.

174 Duncan Circle, Hiram, GA 30141

Type of Organization ("X" one):

_____ Individual
_____ Partnership
_____ Joint Venture
_X_ Corporation

"Surety:" (Name and Business Address)

Swiss Re Corporate Solutions America Insurance Corporation

1200 Main St., Suite 800, Kansas City, MO 64105

duly authorized by the Commissioner of Insurance of the State of Georgia to transact surety business in the State of Georgia.

"Contract:" Agreement between Principal and Owner, dated 23rd day of April, 2026, regarding performance of Work relative to the Project.

"Penal Sum:" One Million Five Hundred Thousand and 00/100 Dollars ($1,500,000.00)

KNOW ALL MEN BY THESE PRESENTS, that we, the Principal and Surety hereto, as named above, are held and firmly bound to the Owner in the above Penal Sum for the payment of which well and truly to be made we bind ourselves, executors, administrators, successors and assigns, jointly and severally.

WHEREAS, the Principal and the Owner entered into a certain written Contract identified above, which is incorporated herein by reference in its entirety (hereinafter called the "Contract"), for construction-type services for the Project identified above;

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NOW, THEREFORE, the conditions of this obligation are such that if the Principal shall promptly make payment of all persons working on or supplying labor or materials or equipment for the performance of said work, this obligation shall be void; otherwise of full force and effect.

1. A "Claimant' shall be defined herein as any subcontractor, person, party, partnership, corporation or the entity furnishing labor, services or materials used, or reasonably required for use, in the performance of the Contract, without regard to whether such labor, services or materials were sold, leased or rented, and without regard to whether such Claimant is or is not in privity of contract with the Principal or any subcontractor performing work on the Project, including, but not limited to, the following labor, services, or materials: water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.

2. In the event a Claimant files a lien against the property of the Owner, and the Principal fails or refuses to satisfy or remove it promptly, the Surety shall satisfy or remove the lien promptly upon written notice from the Owner, either by bond or as otherwise provided in the Contract.

3. The Surety hereby waives notice of any and all modifications, omissions, additions, changes, alterations, extensions of time, changes in the payment terms, and any other amendments in or about the Contract and agrees that the obligations undertaken by this Bond shall not be impaired in any manner by reason of any such modifications, omissions, additions, changes, alterations, extensions of time, changes in payment terms, and amendments.

4. The Surety hereby agrees that this Bond shall be deemed amended automatically and immediately, without formal or separate amendments hereto, upon any amendment or modifications to the Contract, so as to bind the Principal and Surety, jointly and severally, to the full payment of any Claimant under the Contract, as amended or modified, provided only that the Surety shall not be liable for more than the penal sum of the Bond, as specified in the first paragraph hereof.

5. This Bond is made for the use and benefit of all persons, firms, and corporations who or which may furnish any materials or perform any labor for or on account of the construction-type services to be performed or supplied under the Contract, and any amendments thereto, and they and each of them may sue hereon.

6. No action may be maintained on this Bond after one (1) year from the date the last services, labor, or materials were provided under the Contract by the Claimant prosecuting said action.

7. This Bond is intended to comply with O.C.G.A. Section 13-10-1 and shall be interpreted so as to comply with the minimum requirements thereof. However, in the event the express language of this Bond extends protection to the Owner beyond that contemplated by O.C.G.A. Section 13-10-1 and 36-91-1, *et seq.*, or any other statutory law applicable to this Project, then the additional protection shall be enforced in favor of the Owner, whether or not such protection is found in the applicable statutes.

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IN WITNESS WHEREOF, the Principal and Surety have hereunto affixed their corporate seals and caused this obligation to be signed by their duly authorized representatives this 23rd day of April, 2026.

PRINCIPAL: Wade Coots Company, Inc.

President/Vice President (Sign)

W. GREG COOTS VICE-PRESIDENT

President/Vice President (Type or Print)

Attested to by:

Margaret A. Coots

Secretary/Assistant Secretary (Seal)

SURETY: Swiss Re Corporate Solutions America Insurance Corporation

By:

Attorney-in-Fact (Sign)

Sean Tidwell

Attorney-in-Fact (Type or Print)

Witness (Seal) Andrew Bland

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

PERFORMANCE BOND

Bond No. 2379007

"County:" means Fulton County Government; a political subdivision of the State of Georgia (hereinafter called the "Owner").

"Project:" means **25ITB0911K-NJH - Standby Miscellaneous Construction Wastewater System Services**

"Principal:" (Legal Name and Business Address), [Insert Name of Contractor (hereinafter called the "Principal"]

Wade Coots Company, Inc.

174 Duncan Circle, Hiram, GA 30141

Type of Organization ("X" one):

_____ Individual
_____ Partnership
_____ Joint Venture
__X__ Corporation

"Surety:" (Name and Business Address)

Swiss Re Corporate Solutions America Insurance Corporation

1200 Main St., Suite 800, Kansas City, MO 64105

duly authorized by the Commissioner of Insurance of the State of Georgia to transact surety business in the State of Georgia.

"Contract:" Agreement between Principal and Owner, dated 23rd day of April, 2026, regarding performance of Work relative to the Project.

"Penal Sum:" One Million Five Hundred Thousand and 00/100 Dollars ($1,500,000.00).

KNOW ALL MEN BY THESE PRESENTS, that we, the Principal and Surety hereto, as named above, are held and firmly bound to the Owner in the above Penal Sum for the payment of which well and truly to be made we bind ourselves, our executors, administrators, successors and assigns, jointly and severally.

WHEREAS, the Principal and the Owner entered into a certain written Contract identified above, which is incorporated herein by reference in its entirety (hereinafter called the "Contract"), for construction-type services for the Project identified above;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal shall faithfully and fully comply with, perform and fulfill all of the undertakings, covenants, conditions and all other of the terms and conditions of said Contract, including any and all duly authorized modifications of such Contract, within the

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

original term of such Contract and any extensions thereof, which shall include, but not be limited to any obligations created by way of warranties and/or guarantees for workmanship and materials which warranty and/or guarantee may extend for a period of time of one year beyond completion of said Contract, this obligation shall be void; otherwise, of full force and effect.

Whenever the Principal shall be, and declared by the Owner to be, in default under the Construction-Type Contract, the Surety shall promptly remedy the default as follows:

1. Complete the Contract in accordance with its terms and conditions; or, at the sole option of the Owner,

2. Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by the Surety and the Owner of the lowest responsible bidder, arrange for a contract between such bidder and Owner and make available as the work progresses (even though there should be a default or succession of defaults under the Contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the penal sum set forth in the first paragraph hereof, as may be adjusted, and the Surety shall make available and pay to the Owner the funds required by this Paragraph prior to the payment of the Owner of the balance of the contract price, or any portion thereof. The term "balance of the contract price," as used in this paragraph, shall mean the total amount payable by the Owner to the Contractor under the Contract, and any amendments thereto, less the amount paid by the Owner to the Contractor; or, at the sole option of the Owner,

3. Allow Owner to complete the work and reimburse the Owner for all reasonable costs incurred in completing the work.

In addition to performing as required in the above paragraphs, the Surety shall indemnify and hold harmless the Owner from any and all losses, liability and damages, claims, judgments, liens, costs and fees of every description, including reasonable attorney's fees, litigation costs and expert witness fees, which the Owner may incur, sustain or suffer by reason of the failure or default on the part of the Principal in the performance of any or all of the terms, provisions, and requirements of the Contract, including any and all amendments and modifications thereto, or incurred by the Owner in making good any such failure of performance on the part of the Principal.

The Surety shall commence performance of its obligations and undertakings under this Bond promptly and without delay, after written notice from the Owner to the Surety.

The Surety hereby waives notice of any and all modifications, omissions, additions, changes, alterations, extensions of time, changes in payment terms, and any other amendments in or about the Contract, and agrees that the obligations undertaken by this Bond shall not be impaired in any manner by reason of any such modifications, omissions, additions, changes, alterations, extensions of time, change in payment terms, and amendments.

The Surety hereby agrees that this Bond shall be deemed amended automatically and immediately, without formal or separate amendments hereto, upon any amendment to the Contract, so as to bind the Principal and the Surety to the full and faithful performance of the Contract as so amended or modified, and so as to increase the penal sum to the adjusted Contract Price of the Contract.

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No right of action shall accrue on this Bond to or for the use of any person, entity or corporation other than the Owner and any other obligee named herein, or their executors, administrators, successors or assigns.

This Bond is intended to comply with O.C.G.A. Section 36-91-1 et seq and shall be interpreted so; as to comply with; the minimum requirements thereof. However, in the event the express language of this Bond extends protection to; the Owner beyond that contemplated by O.C.G.A. Section 36-91-1 et seq. and O.C.G.A. Section 13-10-1, as amended, or any other statutory law applicable to this Project, then the additional protection shall be enforced in favor of the Owner, whether or not such protection is found in the applicable statutes.

IN WITNESS WHEREOF, the Principal and the Surety have caused these presents to be duly signed and sealed this 23rd day of April, 2026.

PRINCIPAL: Wade Coots Company, Inc.

President/Vice President (Sign)

W. GREG COOTS VICE-PRESIDENT

President/Vice President (Type or Print)

Attested to by:

Margaret A. Coots

Secretary/Assistant Secretary (Seal)

SURETY: Swiss Re Corporate Solutions America Insurance Corporation

By:

Attorney-in-Fact (Sign)

Sean Tidwell

Attorney-in-Fact (Type or Print)

Witness (Seal) Andrew Bland

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

SWISS RE CORPORATE SOLUTIONS

SWISS RE CORPORATE SOLUTIONS AMERICA INSURANCE CORPORATION ("SRCSAIC")
SWISS RE CORPORATE SOLUTIONS PREMIER INSURANCE CORPORATION ("SRCSPIC")
WESTPORT INSURANCE CORPORATION ("WIC")

GENERAL POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, THAT SRCSAIC, a corporation duly organized and existing under laws of the State of Missouri, and having its principal office in the City of Kansas City, Missouri, and SRCSPIC, a corporation organized and existing under the laws of the State of Missouri and having its principal office in the City of Kansas City, Missouri, and WIC, organized under the laws of the State of Missouri, and having its principal office in the City of Kansas City, Missouri, each does hereby make, constitute and appoint:

P.D. YATES III, DANIEL YATES, KEVIN M. NEIDERT, SEAN TIDWELL, SANDRA LAWRENCE,
JENNA JONES, LISA LEE, CHARLES THOMPSON and ELIZABETH WHITE
JOINTLY OR SEVERALLY

Its true and lawful Attorney(s)-in-Fact, to make, execute, seal and deliver, for and on its behalf and as its act and deed, bonds or other writings obligatory in the nature of a bond on behalf of each of said Companies, as surety, on contracts of suretyship as are or may be required or permitted by law, regulation, contract or otherwise, provided that no bond or undertaking or contract or suretyship executed under this authority shall exceed the amount of:

TWO HUNDRED MILLION ($200,000,000.00) DOLLARS

This Power of Attorney is granted and is signed by facsimile under and by the authority of the following Resolutions adopted by the Boards of Directors of both SRCSAIC and SRCSPIC at meetings duly called and held on the 18th of November 2021 and WIC by written consent of its Executive Committee dated July 18, 2011.

"RESOLVED, that any two of the President, any Managing Director, any Senior Vice President, any Vice President, the Secretary or any Assistant Secretary be, and each or any of them hereby is, authorized to execute a Power of Attorney qualifying the attorney named in the given Power of Attorney to execute on behalf of the Corporation bonds, undertakings and all contracts of surety, and that each or any of them hereby is authorized to attest to the execution of any such Power of Attorney and to attach therein the seal of the Corporation; and it is

FURTHER RESOLVED, that the signature of such officers and the seal of the Corporation may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be binding upon the Corporation when so affixed and in the future with regard to any bond, undertaking or contract of surety to which it is attached."

SWISS RE CORPORATE SOLUTIONS AMERICA INSURANCE CORPORATION CORPORATE SEAL 1973 MISSOURI

SWISS RE CORPORATE SOLUTIONS PREMIER INSURANCE CORPORATION CORPORATE SEAL MISSOURI

By _____
Erik Janssens, Senior Vice President of SRCSAIC & Senior Vice President of SRCSPIC & Senior Vice President of WIC

By _____
Gerald Jagrowski, Vice President of SRCSAIC & Vice President of SRCSPIC & Vice President of WIC

WESTPORT INSURANCE CORPORATION CORPORATE SEAL MISSOURI

IN WITNESS WHEREOF, SRCSAIC, SRCSPIC, and WIC have caused their official seals to be hereunto affixed, and these presents to be signed by their authorized officers
this 9th day of MAY, 20 24

Swiss Re Corporate Solutions America Insurance Corporation
Swiss Re Corporate Solutions Premier Insurance Corporation
Westport Insurance Corporation

State of Illinois
County of Cook ss

On this 9th day of MAY, 20 24, before me, a Notary Public personally appeared Erik Janssens, Senior Vice President of SRCSAIC and Senior Vice President of SRCSPIC and Senior Vice President of WIC and Gerald Jagrowski, Vice President of SRCSAIC and Vice President of SPCSPIC and Vice President of WIC, personally known to me, who being by me duly sworn, acknowledged that they signed the above Power of Attorney as officers of and acknowledged said instrument to be the voluntary act and deed of their respective companies.

OFFICIAL SEAL
CHRISTINA MANISCO
NOTARY PUBLIC, STATE OF ILLINOIS
My Commission Expires March 28, 2026

Christina Manisco, Notary

I, Jeffrey Goldberg, the duly elected Senior Vice President and Assistant Secretary of SRCSAIC and SRCSPIC and WIC, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney given by said SRCSAIC and SRCSPIC and WIC, which is still in full force and effect.
IN WITNESS WHEREOF, I have set my hand and affixed the seals of the Companies this ____ day of _____, 20____.

_____
Jeffrey Goldberg, Senior Vice President & Assistant Secretary of SRCSAIC and SRCSPIC and WIC

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EXHIBIT F

SCOPE OF WORK
&
TECHNICAL SPECIFICATIONS

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TECHNICAL SPECIFICATIONS

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SECTION 01 11 00

SUMMARY OF WORK

PART 1 – GENERAL

1.01. PROJECT INFORMATION

A. Project Identification: Standby Miscellaneous Construction, Water System Services

1. Project Location: Various locations throughout Fulton County, GA.

B. Owner: Fulton County

1. Owner's Representative: <Insert Contact and Info for PM>

C. Engineer: <Insert Engineer Contact Info>

1.03. WORK COVERED BY CONTRACT DOCUMENTS

A. The work of the Project is defined by the Contact Documents and consists of the following:

1. The work for this project shall include, but not be limited to, furnishing all labor, material, incidentals, supervision and equipment to perform the water main installation and testing, provide erosion and sedimentation control, traffic control, and all associated work in accordance with the Contract Documents.

2. <Insert additional scope of work.>

3. All work shall be in conformance with the Contract Documents, Contract Drawings and Fulton County Standards and Specifications.

1.04. CONTRACTS

A. The Owner shall award the contract for this Work to a single Prime Contractor. The Contractor shall be solely responsible for the timely completion of the Work and successful startup of the facility.

1.05. PROTECTION OF WORK, PROPERTY AND PERSONS

A. The Contractor shall be responsible for the care of all Work until its completion and final acceptance; and the Contractor shall, at its own expense, replace damaged or lost material and repair damaged parts of the Work, or the same may be done by the Owner, and the Contractor and its sureties shall be liable therefore.

B. The Contractor shall make its own provisions for properly storing and protecting all materials and equipment against theft, injury, or damage from any and all causes. Damaged materials and equipment shall not be used in the Work.

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C. The Contractor shall take all risks from floods and casualties or for delays from such causes. The Contractor may, however, be allowed a reasonable extension of time on account of such delays, subject to the conditions herein before specified.

D. The Contractor shall remove from the vicinity of the completed Work all plant, buildings, rubbish, unused material, concrete forms, sheeting or equipment belonging to the Contractor or used under its discretion during construction. In the event of the Contractor's failure to do so, the same may be removed by the Owner at the expense of the Contractor, and the Contractor and its sureties shall be liable therefore.

E. The Contractor shall adopt all practical means to minimize interference to traffic and inconvenience, discomfort, or damage. The Contractor shall maintain local access, school buses, emergency vehicles, etc.

F. The Contractor shall protect against damage, any piling, duct or structures crossing trenching or encountered in the Work and shall be responsible for any damage done to such structures or damage therefrom. The Contractor shall support or replace any such structures without delay and without any additional compensation, to the entire satisfaction of the Owner.

G. The Contractor shall be responsible for all damage to persons and property directly or indirectly caused by its operations, and under all circumstances the Contractor shall comply with the regulations of the Owner, and the laws and regulations of the State of Georgia, relative to safety of persons and property and the interruption of traffic and the convenience of the public within the respective jurisdiction, and the Contractor shall be solely responsible for any damages caused by failure to provide proper safety.

H. The Contractor will be held responsible for and be required to make restitution, at its own expense, for all damage to persons or property caused by the Contractor or subcontractor, or the agents, or employees of either during the progress of the Work and until its final acceptance.

1.06. NOISE CRITERIA

A. Unless otherwise specified, noise levels for all operating equipment shall not exceed the local noise ordinance and all work shall be performed within the working hours as required by authorized government, City, and the County.

B. Noise criteria shall be met without the use of special external barriers or enclosures

1.07. WORK BY OWNER

A. General: Cooperate fully with Owner so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by Owner. Coordinate the Work of this Contract with work performed by Owner.

1. <Insert description or “None.”>

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B. Preceding Work: Owner will perform the following construction operations at Project site. Those operations are scheduled to be substantially complete before work under this Contract begins.

1. <Insert description or "None.">

C. Concurrent Work: Owner will perform the following construction operations at Project site. Those operations will be conducted simultaneously with work under this Contract.

1. <Insert description or "None.">

D. Subsequent Work: Owner will perform the following additional work at site after Substantial Completion. Completion of that work will depend on successful completion of preparatory work under this Contract.

1. <Insert description or "None.">

1.08. FUTURE WORK

A. The Contract Documents include requirements that will allow Owner to carry out future work following completion of this Project; provide for the following future work:

1. <Insert description or "None.">

1.09. PURCHASE CONTRACTS

A. General: Owner has negotiated purchase contracts with suppliers of material and equipment to be incorporated into the Work. Owner will assign these purchase contracts to Contractor. Include costs for purchasing, receiving, handling, storage if required, and installation of material and equipment in the Contract Sum, unless otherwise noted.

B. Purchase Contracts Information:

1. <Insert description or "None.">

1.10. OWNER-FURNISHED PRODUCTS

A. Owner will furnish products indicated. The Work includes receiving, unloading, handling, storing, protecting, and installing Owner-furnished products.

B. Owner-Furnished Products:

1. <Insert description or "None.">

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1.11. CONTRACTOR-FURNISHED, OWNER-INSTALLED PRODUCTS

A. Contractor shall furnish products indicated. The Work includes unloading, handling, storing, and protecting Contractor-furnished products as directed and turning over to Owner at Project closeout.

B. Contractor-Furnished, Owner-Installed Products:

1. <Insert description or “None.”>

1.12. ACCESS TO SITE

A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

1. Driveways, Walkways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

a. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.13. COORDINATION WITH OCCUPANTS

A. Partial Owner Occupancy: Owner will occupy the premises during entire construction period, with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations. Maintain existing exits unless otherwise indicated.

1. Provide not less than 48 hours' notice to Owner of activities that will affect Owner's operations.

1.14. WORK RESTRICTIONS

A. General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Limit work in existing buildings to normal business working hours of <Insert time> a.m. to <Insert time> p.m., Monday through Friday, except as otherwise indicated.

1. Weekend Hours: <Insert restrictions on times permitted for weekend work>

2. Hours for Utility Shutdowns: <Insert Owner's restrictions>

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C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

1. Notify Fulton County not less than two days in advance of proposed utility interruptions.

D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.

E. Controlled Substances: Use of alcohol, tobacco products and other controlled substances on the Project site is not permitted.

1.15. COORDINATION WITH THIRD PARTIES

A. The Contractor shall coordinate the Work with third parties (such as power, natural gas, or telephone companies) in areas where such parties may have rights to underground property or facilities.

B. The Contractor shall request from involved third parties maps or other descriptive information as to the nature and location of such underground facilities or property. The Contractor shall make all necessary investigations to determine the existence and location of underground utilities.

C. The Contractor will be held responsible for any damage to and for maintenance and protection of existing utilities and structures whether or not the utility has been located by its owner. The Contractor shall contact the utility owners and the individual property owners for the location of the utilities within the area of Work.

D. The Contractor shall coordinate the Work with owners of private and public property where access is required for the performance of the Work. Legal access will be acquired and provided by the Owner.

1.16. SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

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3. Whenever the term “Construction Manager” or “Engineer” is used in the documents, it shall be taken to mean “Owner’s designated representative” or “Fulton County Engineer”.

B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

C. Drawing Coordination: Requirements for materials and products identified on the Drawings are described in detail in the Specifications. One or more of the following are used on the Drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.

2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.

3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

1.17. ALTERATION OF QUANTITIES

A. The Owner reserves the right to alter the quantities of work to be performed or to extend or shorten the improvements at any time when and as found necessary, and the Contractor shall perform the work as altered, increased or decreased.

1. Payment for such increased or decreased quantity will be made in accordance with the Instructions to Bidders.

2. No allowance will be made for any change in anticipated profits nor shall such changes be considered as waiving or invalidating any conditions or provisions of the Contract and Bond.

PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 11 10

GEOTECHNICAL INFORMATION

PART 1 – GENERAL

1.01. SCOPE

A. The following geotechnical report document is available for review in the appendix of these Contract Documents:

Report of Subsurface Exploration and Geotechnical Engineering Evaluation
<Insert Project Title>

Prepared by:
<Insert Geotechnical Consultant Contact Info>

Interpretations, evaluations, and conclusions as to the nature of the geotechnical materials, the difficulties of making and maintaining the required excavations, and the difficulties of doing other work affected by geotechnical conditions shall be the sole responsibility of the Contractor. At no additional cost to the Owner, the Contractor may conduct, with Owner's approval, other investigations and tests it deems appropriate.

PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 11 55

CONSTRUCTION STAKING

PART 1 – GENERAL

1.01 SCOPE

A. Construction staking shall include all of the surveying work required to layout the Work and control the location of the finished Project. The Contractor shall have the full responsibility for constructing the Project to the correct horizontal and vertical alignment, as shown on the Drawings, as specified, or as ordered by the Construction Manager. The Contractor shall assume all costs associated with rectifying work constructed in the wrong location.

B. From the information shown on the Drawings and the information to be provided as indicated under Project Conditions below, the Contractor shall:

1. Be responsible for setting reference points and/or offsets, establishment of baselines, and all other layout, staking, and all other surveying required for the construction of the Project.

2. Safeguard all reference points, stakes, grade marks, horizontal and vertical control points, and shall bear the cost of re-establishing same if disturbed.

3. Stake out the permanent and temporary easements or the limits of construction to ensure that the Work is not deviating from the indicated limits.

4. Be responsible for all damage done to reference points, baselines, center lines and temporary bench marks, and shall be responsible for the cost of re-establishment of reference points, baselines, center lines and temporary bench marks as a result of the operations.

C. Baselines shall be defined as the line to which the location of the Work is referenced including, but not limited to, edge of pavement, road centerline, property line, right of way or survey line.

D. Record Drawing surveys shall be performed in accordance with Section 01 78 39 of these Specifications.

1.02 PROJECT CONDITIONS

A. The Drawings provide the location and/or coordinates of principal components of the Project. The alignment of some components of the Project may be indicated in the Specifications. The Construction Manager may order changes to the location of some of the components of the Project or provide clarification to questions regarding the correct alignment.

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B. The survey points, control points, and baseline to be provided to the Contractor shall be limited to only that information which can be found on the Project site by the Contractor.

C. A topographic survey is included on the Drawings.

1.03 QUALITY ASSURANCE

A. The Contractor shall furnish documentation, prepared by a surveyor currently registered in the State of Georgia, confirming that staking is being done to the horizontal and vertical alignment shown in the Contract Documents. This requires that the Contractor hire, at the Contractor's own expense, a currently registered surveyor, acceptable to the Owner, to provide ongoing construction staking or confirmation of such.

B. Any deviations from the Drawings shall be confirmed by the Construction Manager prior to construction of that portion of the Project.

C. Quantities for payments measured under this Contract shall be certified by the registered surveyor.

D. Construction Verification Surveying Cash Allowance

1. This cash allowance is solely for the use of the Construction Manager for verification of the Contractor's reference points, centerlines and work performed and is not to be used by the Contractor to provide cut sheets.

2. The presence of this cash allowance in no way relieves the Contractor of the responsibility of installing reference points, centerlines, temporary bench marks, verifying that the work has been performed accurately, and all other work covered by this Section.

1.04 WATER MAINS

A. Staking Precision: The precision of construction staking required shall be that which the correct location of the water main and sanitary sewer can be established for construction and verified by the Construction Manager. Where the location of components of the water main such as fittings, valves, road crossings and are not dimensioned, the establishment of the location of these components shall be based upon scaling these locations from the Drawings with relation to readily identifiable land mark such as survey reference points, power poles, manholes, etc.

B. Reference Points

1. Reference points shall be placed, at or no more than three feet, from the outside of the construction easement or right of way. The location of the reference points shall be recorded in a log with a copy provided to the Construction Manager for use, prior to verifying reference point locations.

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2. Distances shall be accurately measured to 0.01 foot.

3. The Contractor shall give the Construction Manager reasonable notice that reference points are set. The reference point locations must be verified by the Construction Manager prior to commencing clearing and grubbing operations.

PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 11 80

ENVIRONMENTAL CONDITIONS

PART 2 – GENERAL

1.01 ENVIRONMENTAL CONDITIONS

A. This section describes the environmental conditions which have been observed at the site of the Work and which may reasonably be anticipated throughout the life of the project.

1.02 CLIMATE CONDITIONS

A. The site of the Work is at an elevation of approximately 860 feet to 1,200 feet above mean sea level.

B. Climate conditions are described as follows:

Description	Range of Conditions
Winter	Cool and damp
Summer	Hot and humid
Relative humidity, percent	
Indoors	20 to 90
Average outdoors	20 to 100
Air temperature, degrees F	
Outdoors	15 to 105
Indoors	30 to 105
Barometric pressure, inches, mercury	29.1 to 31.0

1.03 ADDITIONAL CONDITIONS

A. Additional conditions which may be applicable are specified in other sections.

PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 14 13

INSPECTION OF WORK

PART 1 – GENERAL

1.01 SCOPE

A. The work covered by this Section includes the Construction Manager's and Contractor's responsibilities and obligations regarding inspection of the work performed.

1.02 CONSTRUCTION MANAGER'S INSPECTION

A. The Construction Manager shall have the right of access to and inspection of the Work at all times. Materials, equipment and products shall be subject to the Construction Manager's review as specified herein.

B. The Construction Manager is responsible for general surveillance of the work on behalf of the Owner. The Construction Manager is not responsible for construction means, methods, sequences, or procedures or for safety precautions and programs in connection with the Work. The Construction Manager is not responsible for supervision of the Work and shall not give instruction to the Contractor's personnel as to methods of execution of the Work. The Construction Manager is not responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents.

1.03 CONTRACTOR'S DUTIES

A. The Contractor is responsible for all materials, equipment, methods, and procedures in execution of the Work.

B. The Contractor shall correct to the satisfaction of the Construction Manager any work or material found to be defective or of deficient quality. Such corrections shall be made by the Contractor at no additional expense to the Owner.

1.04 RIGHT OF ENTRY

A. Representatives of Fulton County, the Environmental Protection Division of the Georgia Department of Natural Resources, and the U.S. Department of Agriculture, Soil Conservation Services and others as may be identified by the Owner shall have access to the Work wherever it is in preparation or progress.

B. The Contractor shall provide proper facilities for such access and inspection.

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PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 14 16

OCCUPANCY

PART 1 – GENERAL

1.01 PARTIAL OCCUPANCY BY OWNER

A. Whenever, in the opinion of the Construction Manager, any section or portion of the Work or any structure is in suitable condition, it may be put into use upon the written order of the Construction Manager and such usage will not be held in any way as an acceptance of said Work or structure, or any part thereof, or as a waiver of any of the provisions of these Specifications and the Contract.

B. Pending final completion and acceptance of the Work, all necessary repairs and replacements, due to defective materials or workmanship or operations of the Contractor, for any section of the Work so put into use shall be performed by the Contractor at Contractor's own expense.

PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 22 00

MEARUREMENT 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. The Project Manager will clarify all contradictions.

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 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. Work performed for items not included in the Bid shall be paid in accordance with Section 8, 00700-87.

B. Final payment shall be based on the actual work or service performed, calculated, and field measured, using the unit prices set forth in the Contract Document.

C. Final quantities to be paid for items not shown on the Project Drawings, shall be based on the Bid Unit Price, and quantity approved by the Owner or Construction Manager.

C. Payment for an item of work includes all necessary and incidental related work required to complete the Work, whether specified or not.

E. Unless otherwise stated in individual sections of the Specifications or in the Bid, or as approved in writing by the Owner prior to beginning the work, 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.

1. The costs for all such items required shall be included in the price bid for item of which it is a part.

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2. In the event that the Owner requests Work that is agreed by both the Owner and the Contractor as not included in the Bid, that item of work will be paid for in accordance with Section 8, 00700-87.

F. Payment will be made by extending unit prices multiplied by quantities provided and then summing the extended prices to reflect actual work.

1. Such price and payment shall constitute full compensation to the Contractor for furnishing all plant, 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 and Specifications.

G. “Products” shall mean materials or equipment permanently incorporated into the work.

H. “Provide” shall mean furnish and install.

1.03 NON PAYMENTS

A. No separate payment shall be made for the restoration of developed property and the repair of damaged properties, due to the Contractor’s work execution. The cost shall be included in the Bid Unit Prices, for the execution of the work, and each particular item of work, unless specifically noted otherwise.

B. No separate payment shall be made for pipe, pipe appurtenances, excavation, disposal of rubbish and debris, pipe bedding, backfill, dewatering of trench, repair of damaged properties unless otherwise stated. All testing required for the execution of the work shall be done as part of the price for the item of work involved.

C. No separate payment shall be made for any traffic control, work area protection, recording, safety measures, set-up of equipment and set-up of staging area except as indicated below. Payment for these items shall be part of the unit price bid for each particular item of work.

D. No separate payment shall be made for providing detail field survey needed for construction.

1. Survey work to be performed by Contractor in the establishment of reference points includes construction staking to establish and/or confirm the location of reference points, temporary and permanent bench marks, proposed water main center line or baseline, right–of–way, and easements limits.

2. The Contractor shall be responsible for all the costs of re-establishing the existing bench marks, reference points and stakes.

3. The Contractor shall be responsible in providing further survey necessary to complete the Work.

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4. The Contractor shall carefully preserve the established points, and in case of willful or careless destruction, the Contractor shall be responsible for the costs of re-establishing the bench marks, reference points and stakes.

E. No separate payment shall be made for delay or extra cost encountered by the Contractor due to protection, avoidance or relocation of existing utilities, mains, or services shown or not shown on the Project Construction Drawings.

F. No separate payment shall be made for glands, lock ring or harnessing. The cost shall be included in the Bid Unit Price for each particular item of work.

G. No separate payment shall be made for thrust collars and blocks unless listed separately in the Bid. All cost shall be included in the Bid Unit Price for each particular item of work, and as shown on the Project Construction Drawings.

H. No separate payment shall be made for abandoning and/or removal of any existing materials from the project area or work site. The cost of such work and materials shall be included in the Bid Unit Price for each particular item.

I. No separate payments shall be made for existing pavement removal and replacement associated with the construction of the Project unless listed separately in the Bid. The cost of such work and materials shall be included in the Bid Unit Price for each particular item.

J. Not separate payments shall be made for saw cutting existing pavement, any cutting activities necessary to install the proposed work, and including beveling of pipes.

K. No separate payments shall be made for the installation of electronic markers unless listed separately in the Bid. The cost of such work and materials shall be included in the Bid Unit Price for each particular item.

L. No separate payments shall be made for temporary and/or permanent Erosion and Sedimentation Controls unless listed separately in the Bid, or except as noted on the Project Drawings or as directed and approved by the Owner.

M. No separate payments shall be made for any portion of the Project for which temporary Erosion and Sedimentation controls are not property maintained.

N. No separate or additional payments shall be made for the Project area where the Contractor need to reseed for the following causes:

1. Inadequate watering and maintenance.
2. Loss of seeds caused by site erosion, e.g. wind and rain.
3. Inadequate germination of seeds.
4. Inadequate coverage and/or density.
5. Providing permanent species at the appropriate season, after temporary grassing has been performed.

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O. No separate or additional payments shall be made for providing temporary species of grass, where the seasonal limitations does not allow for the proper germination of a permanent species of grass. The cost for sowing or planting temporary species shall be included in the Unit Price Bid for the item it pertains.

P. No separate or additional payments shall be made for following reasons:

1. Materials that were not installed,
2. The replacement of defective materials.
3. Any section of the Project activity which does not pass the applicable tests.
4. If the area has not been clean up to the satisfaction of the Construction Manager.

Q. No separate or additional payments shall be made for maintaining traffic flow, on and/or near or through the Project's area detour, roadways, streets, driveways, and work segment impacted by the construction activities unless listed separately in the Bid.

R. No separate or additional payments shall be made for existing rock or pipe line soil excavation, for the Project's construction. The cost shall be included in the particular work item Bid Unit Price.

S. No separate or additional payment shall be made for removing and replacing the damaged pre-construction area condition adjacent to the Project's site, damaged curb and gutter, driveway areas and pavements, caused by Contractor working on the Project.

T. No payments shall be made for restoration and the regrading of easements. The cost shall be included in the particular work item Bid Unit Price.

U. No payment shall be made for fittings provided, due to the Contractor's sequence of construction, layout problems or repairs, except for those shown on the Project Drawings or as specified.

V. No separate payment shall be made for the support of existing pipe, when installing new water mains over or under existing utilities. All costs for support shall be included in the Bid Unit Price for the water main.

W. No separate or additional payments shall be made for temporary measures required or necessary to make the road passable and drivable, including backing to the top of the trench temporarily with crusher run or granular material or placing a temporary asphalt topping surface.

X. No separate or additional payments for trench excavation, backfill and trench stabilization, shall be made for any special or unique method, means, techniques or equipment necessary for the Contractor's compliance with Specifications, regulatory requirements, permits, and laws or regulations, applicable to the Project.

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Y. No separate payments shall be made for trench excavation and backfill. All costs shall be included in the Bid Unit Price for the item to which pertains.

Z. No separate payments shall be made for providing any sheeting, bracing, and shoring. All costs shall be included in the Bid Unit price for item to which it pertains.

1.04 CONTRACTOR MOBILIZATION/DEMOBILIZATION

A. All costs associated with mobilization and demobilization of all required resources, a one-time cost for each non-emergency and emergency project assigned by the Owner shall be included in the Unit Price Bid for CONTRACTOR MOBILIZATION/DEMOBILIZATION, based on the project sizes listed in the Bid.

1.05 WATER MAINS AND ACCESSORIES

A. Existing Utilities and Obstructions

1. Horizontal Conflict: Payments for conflicts with existing utilities shall be made only where additional fittings and/or additional lengths of pipe are approved by the Construction Manager.

a. The said payment shall be made at the Bid Unit Price, given in the Bid Document.

b. No other payment will be made for any delay or extra cost encountered by the Contractor due to protection, avoidance or relocation of existing utilities, mains or services or changing the horizontal alignment of the water main.

c. No separate payments shall be made for changing the horizontal alignment of the water main to avoid a horizontal conflict, with existing utilities, except for additional fittings and/or additional lengths of pipe, as approved by the Construction Manager.

2. Vertical Conflict: Where authorized by the Construction Manager, payment for additional depth of cut required to avoid vertical conflicts shall be made at the unit prices bid for water main. No payment will be made for relocation of existing utilities except as authorized by the Construction Manager.

a. Payments for additional fittings, concrete encasement or steel casing, as required and approved by the Construction Manager. shall be made at the Bid Unit Price for which it pertains.

B. Location and Grade: No separate payment shall be made for survey work performed by or for the Contractor in the establishment of reference points, bench marks, cut sheets, limits of right of way or easement, including their restoration, as well as centerline or baseline points.

1. The Construction Verification Surveying cash allowance is solely for the use of the Construction Manager, for the verification of Contractor’s reference points, centerlines, and work performed.

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2. This cash allowance, in no way relieves the Contractor of the responsibility of, including but not limited to, installing the required Project reference points, centerlines, temporary and permanent bench marks, or verifying that their work has been performed accurately.

C. Construction Along Highways, Streets and Roadways: No separate payment shall be made for traffic control or maintaining highways, streets, roadways and driveways, unless listed separately in the Bid and as authorized by the Construction Manager.

1. The Bid Unit Price shall include the cost of erecting and maintaining barriers, Signs, lights, traffic control measures and channelization devices, flagmen, and whatever is necessary to provide a safe work zone, and to protect the public safety, in accordance with the Traffic control Plan, and the current Manual on Uniform Traffic Control Devices for Streets and Highways.

D. Ductile Iron Pipe Water Main

1. Payment for water main shall be made at the unit price bid for WATER MAIN, for the quantity and type provided at the appropriate depth. Payment will be made at the one unit price for the actual depth of the water line.

2. Measurement for payment at the unit price for WATER MAIN:

   a. Length shall be made along the centerline of the pipe, through valves and fittings.

   b. Depth of cut shall be measured from pipe invert to ground level at the pipe centerline.

   c. Cut sheets prepared by the Contractor and approved by the Construction Manager shall be the basis for payment.

3. The unit price bid for WATER MAIN shall, unless specified otherwise, include all costs for installation of the water line as required including, but not limited to, materials, labor, excavation, dewatering, shoring, bedding, haunching, backfill, compaction, clean-up, testing, and all other related items not listed as separate items in the Bid.

4. The unit price bid for LABOR COST TO INSTALL COUNTY PROVIDED DIP WATER MAIN shall include all costs for installation of the water line and appurtenances (valves, valve boxes, fittings and hydrants) with County provided pipe materials as required including, but not limited to, labor, excavation, dewatering, shoring, bedding, haunching, backfill, compaction, clean-up, testing, and all other related items not listed as separate items in the Bid.

5. Payment for pipe INSTALLED IN STEEL CASING will be made in addition to payment for water main installed at the appropriate depth.

   a. The unit price bid for pipe INSTALLED IN STEEL CASING shall include all additional costs associated with providing the appropriate size steel casing pipe, spacers, grout, brick, as required

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for the complete installation of pipe in casing via open-cut installation.

b. All costs associated with installation of the water line, including excavation, dewatering, etc. shall be included in the unit price bid for WATER MAIN.

c. Pipe installed inside a casing shall be RESTRAINED JOINT.

6. No payment shall be made for sections of pipe which are not installed.

7. No additional payment shall be made for replacement of defective materials.

8. No payment shall be made for sections of pipe which have not passed the required tests, or if the area has not been cleaned up to the satisfaction of the Construction Manager.

9. No separate payment will be made for cutting and beveling pipe.

10. Thrust Restraint: No separate payment will be made for retainer glands or harnessing.

11. Payment for concrete thrust collars shall be made at the unit price bid for CONCRETE THRUST COLLARS.

E. Fittings

1. The unit price bid for FITTINGS shall include the costs of fittings and all joint accessories and, unless specified otherwise, the cost of all related blocking. The weight of fittings used for payment shall be as follows:

a. AWWA C110 standard weight for C110 fittings.

b. AWWA C153 standard weight for C153 fittings.

c. The weight of bolts, glands, or cement lining shall not be included.

2. Weight of fittings for payment for diameters 24 inches and larger shall be manufacturer's standard weight and shall not include weight of bolts, glands or cement lining.

3. Anchor couplings not included in a fire hydrant assembly will be paid for at the unit price bid for FITTINGS and shall not be included in the quantities measured for water main.

a. Weight for payment of anchor couplings will be determined from the manufacturer's standard weight, including the coupling and rotating split gland.

4. Hydrant tees not included in a fire hydrant assembly will be paid for at the unit price bid for FITTINGS.

a. Weight for payment of anchor couplings will be determined from the manufacturer's standard weight.

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F. Fire Hydrants

1. Unless specified otherwise, payment for fire hydrants shall be made for the actual quantity installed at the unit price bid for FIRE HYDRANT ASSEMBLY- complete.
    a. The unit price bid for fire hydrant assembly shall include all costs associated with providing a complete fire hydrant assembly which shall include the following:
        1) 4.5 foot depth of bury fire hydrant,
        2) 6-inch gate valve,
        3) Valve box,
        4) Related blocking,
        5) Gravel drain,
        6) Grade-lock fitting,
        7) Anchor couplings,
        8) Hydrant tee, and
        8) All associated labor and materials.
    b. Exception: All FITTINGS will be paid for separately at the Unit Price Bid for FITTINGS
2. Payment for hydrant lead piping and blow off piping will be made at the unit price bid for 6-inch WATER MAIN, except when anchor couplings are used.
3. Fittings for blow off and air release hydrant leads will be paid for at the unit price bid for FITTINGS.
4. Payment for hydrant extension sections where the depth of bury of fire hydrants is greater than 4.5 feet shall be made to the nearest half foot at the unit price Bid for HYDRANT EXTENSION.
    a. No distinction shall be made between the additional barrel lengths provided by measuring and ordering the proper depth of bury for the hydrants and the additional barrel length provided by adding extension kits after the hydrant is ordered.
    b. The unit price bid for HYDRANT EXTENSION shall include the cost of valve extension stems.
5. Salvage Existing Hydrant:
    a. Measurement for payment for removal and salvaging or disposal of existing fire hydrants shall be based on the actual quantity at the unit price bid per each hydrant removed.
    b. The unit price bid shall include all costs associated with removal of the hydrant assembly, plugging the existing main, restoration of the area, transportation of the salvaged hydrant assembly to the County’s facility located at 11575 Maxwell Road, Alpharetta, GA, or disposal of the assembly if directed by the Construction Manager.

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G. Valves:

1. The unit price bid for VALVES shall include the cost of providing the valve, extension stem, valve box, valve marker, all joint accessories and all other related items.

2. For valves in a vault, unless specified otherwise, the vault, and associate piping, equipment, structures, etc. will be included in the VALVE VAULT Bid item Unit Price.

H. Valve Adjustments in Pavement

1. The unit price bid for VALVE ADJUSTMENTS IN PAVEMENT (0’ to 5’) shall include the cost of providing the new valve box and lid or 6 inch ductile iron pipe, excavation, backfill, concrete pad, pavement repair and all other related items.

2. The unit price bid for VALVE ADJUSTMENTS IN PAVEMENT (greater than 5’) shall include the cost of providing the new valve box and lid or 6 inch ductile iron pipe, valve extension, excavation, backfill, concrete pad, pavement repair and all other related items.

I. Valve Adjustments out of Pavement

1. The unit price bid for VALVE ADJUSTMENTS IN PAVEMENT (0’ to 5’) shall include the cost of providing the new valve box and lid or 6 inch ductile iron pipe, manufactured concrete pad, excavation, backfill, and all other related items.

2.. The unit price bid for VALVE ADJUSTMENTS IN PAVEMENT (greater than 5’) shall include the cost of providing the new valve box and lid or 6 inch ductile iron pipe, valve extension, manufactured concrete pad, excavation, backfill, and all other related items.

J. Solid Sleeves:

1. Payment for solid sleeves shall be made at the unit price bid for FITTINGS.

2. No payment shall be made for fittings provided due to the Contractor's sequence of construction, layout problems or repairs, except for those shown on the Drawings or specified.

1.06 CONNECTIONS TO EXISTING WATER LINES

A. The unit price bid for TAPPING SLEEVES AND VALVES shall include the cost of locating the existing line, providing the sleeve, valve, extension stem, valve box, valve marker, all joint accessories, related support blocking and accessories, and all labor, materials, and tools required for a complete installation, including wet tapping the existing line.

1. Payment for required thrust blocking will be paid for at the unit price bid for CONCRETE THRUST BLOCKING.

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B. The unit price bid for CUT IN CONNECTION shall include the cost of locating and cutting the existing line and making the connection of the new line to the existing line, including all labor, materials, and tools required for a complete installation.

1. All required fittings, valves, ductile iron water main, and thrust blocking will be paid for at the unit price bid for the item to which it pertains.

C. The unit price bid for STRAIGHT CONNECTION OR CONNECTING TO EXISTING LINE, shall include the cost of locating the existing line, removing existing plugs or other fittings, cutting the existing line, making connection of the new line to the existing line, including all labor, materials and tools required for a complete installation.

1. All required fittings, valves, ductile iron water main, and thrust blocking will be paid for at the unit price bid for the item to which it pertains.

1.07 ABANDON EXISTING WATER MAIN

A. Cut and Plug/Deadman Restraint:

1. The unit price bid for CUT AND PLUG/DEADMAN RESTRAINT shall include all costs associated with cutting and plugging an existing water line.
2. Work shall include locating the existing line, excavation, dewatering, cutting the line as necessary to remove the existing pipe and as directed by the Construction Manager, plugging openings where the cuts were made, providing all anchors, rods, straps, and all other related items.
3. Payment will be made for the quantity installed at the unit price bid for the appropriate size water line.

B. Payment for plugs will be made at the unit price bid for FITTINGS.

C. Payment for concrete thrust blocking or thrust collars will be made at the unit price bid for the appropriate item.

1. The quantities shall be determined from the dimensions shown on the Project Drawings for each size and type of fitting for which the blocking is installed.
2. The Contractor shall bear the costs for quantities in excess of the scheduled amount, as may be required, due to over excavation or other reasons.

1.08 CLEAN-UP, TESTING, AND DISINFECTION

A. No separate payment will be made for clean-up, pressure testing, and disinfection. All costs associated with clean up, pressure testing and disinfection of water main shall be included in the unit price bid for WATER MAIN.

B. Laboratory fees will be paid for through the TESTING cash allowance.

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C. No payment shall be made for tests that fail to verify required results.

1.09 WATER SERVICE CONNECTIONS

A. The unit price bid for NEW SERVICE SETUP shall include fixed labor and materials associated with installation of a new water service connection.

1. Cost items shall include direct tap, corporation stop, meter box of the appropriate type, curb stop, associated fittings required for a complete installation, but not including the copper service line itself.

2. Measurement for payment will be made on the number of new services installed, at the unit price bid for each setup.

3. The Owner will supply the meter and the Contractor will have to pick up the meter from 11575 Maxwell Road, Alpharetta, Georgia.

B. The unit price bid for NEW 1-INCH SERVICE LINE shall include all variable labor and materials associated with installation of a new water service line including 1-inch copper tubing from the water main to the water meter.

1. Items included in NEW SERVICE SETUP above shall not be included.

2. Measurement for payment will be made from the tap to the water meter, per linear foot actually installed.

C. The unit price bid for NEW 1-1/2-INCH SERVICE LINE shall include all variable labor and materials associated with installation of a new water service line, including 1-1/2-inch copper tubing from the water main to the water meter.

1. Items included in NEW SERVICE SETUP above shall not be included.

2. Measurement for payment will be made from the tap to the water meter, per linear foot actually installed.

D. The unit price bid for NEW 2-INCH SERVICE LINE shall include all variable labor and materials associated with installation of a new water service line.

1. Items included in NEW SERVICE SETUP above shall not be included.

2. Measurement for payment will be made from the tap to the water meter, per linear foot actually installed.

1.10 WATER SERVICE CHANGEOVERS

A. The unit price bid for CHANGEOVER SETUP shall include fixed labor and materials associated with replacement of an existing water service connection.

1. The unit price bid for CHANGEOVER SETUP shall include:

a. Locating the existing service, abandoning the existing service line, any necessary boring and any associated pavement removal and replacement necessary to accomplish the work.

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b. Direct tap, corporation stop, curb stop, associated fittings required for a complete installation, but not including the copper service line itself.

c. It is assumed that the meter and meter box will remain in place and will be reused.

d. Measurement for payment will be made on the number of service changeovers installed, at the unit price bid for each setup.

B. The unit price bid for REPLACE EXISTING WITH 1-INCH SERVICE LINE shall include all variable labor and materials associated with replacement of an existing water service line, including 1-inch copper tubing from the water main to the water meter.

1. Items included in CHANGEOVER SETUP above shall not be included.

2. Measurement for payment will be made from the tap to the water meter, per linear foot actually installed.

C. The unit price bid for REPLACE EXISTING WITH 1-1/2-INCH SERVICE LINE shall include all variable labor and materials associated with replacement of an existing water service line, including 1-1/2-inch copper tubing from the water main to the water meter.

1. Items included in CHANGEOVER SETUP above shall not be included.

2. Measurement for payment will be made from the tap to the water meter, per linear foot actually installed.

D. The unit price bid for REPLACE EXISTING WITH 2-INCH SERVICE LINE shall include all variable labor and materials associated with replacement of an existing water service line, including 2-inch copper tubing from the water main to the water meter.

1. Items included in CHANGEOVER SETUP above shall not be included.

2. Measurement for payment will be made from the tap to the water meter, per linear foot actually installed.

E. Payment for WATER METER RELOCATION will be made only as ordered by the Construction Manager, in addition to payment for service changeovers as appropriate.

1. The unit price bid for WATER METER RELOCATION shall include all additional work required beyond the fixed cost for changeover setup plus the linear foot cost for replacing an existing service line.

2. The unit price bid shall include disconnecting the existing meter and pressure reducing valve, moving the meter, meter box and pressure reducing valve to the new location, reconnecting the meter and pressure reducing valve to the existing house service line including up to 10 linear feet of house side copper tubing, reinstalling the meter box for the meter in accordance with the Drawings and providing a new valve box for the pressure reducing valve.

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1.11 PRECAST VALVE VAULT

A. Precast valve vault shall include either rectangular precast box of circular manholes

B. Measurement for PRECAST VALVE VAULT shall be at the Unit Price Bid. All the cost to completely install a PRECAST VALVE VAULT shall be included in Unit Price Bid.

C. Payments for the construction of PRECAST VALVE VAULT at the station indicated on the Project Drawings, shall include concrete vault, hatch, and/or manhole cover, sump, ladder, miscellaneous fittings, and other work necessary to complete the vault, as specified, and shown on the Project Drawings. The actual vault shall be paid for under the associated item.

D. The unit price bid for 4 OR 5-FOOT DIAMETER PRECAST VALVE VAULT, at the depths listed in the Bid, shall include all costs associated with construction of a complete valve vault or manhole on a new water line, including excavation, shoring, dewatering, backfilling, compaction, crushed stone bedding, grouting, and all incidental items required to complete the installation.

E. Measurement for payment at the unit price for PRECAST VALVE VAULT shall be made from the outside bottom of the vault or manhole to the top of the top section. Payment will be made at the one unit price for the actual depth of the vault or manhole.

F. If specified to be bid separately, the unit price bid for VALVE VAULT RING AND COVER shall include the cost of providing the appropriate type ring and cover on a new valve vault or manhole or new riser section including materials, labor, grouting, brick and mortar, minor grade adjustments (up to three inches either way vertically) and all incidental items required to complete the installation.

1.12 AIR RELEASE VALVES

A. Measures for AIR RELEASE VALVES shall be the Unit Price Bid. All the cost to provide and install the air release valve, at stations indicated on the Project Drawings, shall be included in the Unit Price Bid.

B. Payment for AIR RELEASE VALVES shall be at the Unit Price provided in the Bid under AIR RELEASE VALVES, at stations indicated on the Project Drawings.

C. The Unit Price for AIR RELEASE VALVE shall include full payment for the air release valve, piping, tapping, fittings, manhole, frame and cover, stone and all related items, as called for on the Project Drawings and Specifications.

1.13 BORE AND JACK CASINGS

A. The unit price bid for BORE AND JACK CASING shall include all costs associated with furnishing and installation of the casing and carrier pipe, including but not limited to excavation, shoring, dewatering, backfilling, compaction, steel casing

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pipe, ductile iron carrier pipe, spacers, end seals, grout, and other accessories, for installing the pipe complete in place.

1. The unit price bid shall assume that all bore and jack casing installations exceed 60 feet in length.

B. Payment for casing shall be made only at the completion of all work specified for the casing installation. No partial payment shall be made for the construction of the casing without carrier pipe.

C. Measurement for payment shall be made along the centerline of the pipe line to the limits of bore and jack as ordered by the Construction Manager.

D. Casing pipe may be included in Partial Payment Requests as stored materials, if the casing pipe is stored at the Project site. Casing pipe which has been properly installed, but has not yet been paid for as installed casing, may also be included as stored materials.

E. Payment for the carrier pipe in the casing shall be made only at the completion of all work specified for the pipe installation. Payment for carrier pipe in the casing shall be made only at the one unit price bid for the BORE AND JACK CASING.

F. In the event that rock is encountered during the installation of the pipe casing, and the installation penetration pressure exceed 6,000 psi, which in the opinion of the Construction Manager cannot be removed through the casing, then the Construction Manager may authorize the Contractor to complete the crossing by another method via a change directive. Payment for rock shall be compensated for under the item to which it pertain

G. No additional payment shall be made for rock excavation through the casing.

1.14 STORM DRAIN PIPE INSTALLATION

A. The unit price bid for STORM DRAIN PIPE shall include all costs associated with the installation or replacement of the appropriate size and type of storm drain piping associated with construction of a water line, where directed by the Construction Manager. Costs for excavation, shoring, dewatering, backfilling, compaction, and bedding shall also be included in the unit price bid for STORM DRAIN PIPE.

B. Measurement for payment will be made along the centerline of the storm drain pipe installed.

C. No separate payment will be made for support of existing pipe when installing new water line over or under existing storm water piping. All costs for support shall be included in the unit price bid for WATER MAIN.

D. Costs for removing and replacing existing storm water pipe for ease of construction when installing new water line shall be included in the unit price bid for WATER

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MAIN. Payment for storm drain pipe will only be made where removal or replacement is approved or ordered by the Construction Manager prior to removal.

E. The unit price bid for PRECAST CONCRETE HEADWALL shall include all cost associated with the installation or replacement of the appropriate size and type of precast concrete headwall associated with construction of a water line, where directed by the Construction Manager. Costs for excavation, shoring, dewatering, backfilling, compaction, and bedding shall be included in the unit price bid for PRECAST CONCRETE HEADWALL.

1.15 EROSION AND SEDIMENTATION CONTROL

A. General

1. No separate payment shall be made for erosion and sedimentation controls, except as noted below. All other 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 of erosion and sedimentation controls devices, if bid separately, shall be based upon actual quantity constructed by the Contractor.

B. Construction Exits

1. All costs for construction exits, including installation, maintenance, repair, and removal, shall be included in the unit price bid for CONSTRUCTION EXITS.
2. The unit price bid shall include geotextile underliner, stone, and all incidental costs associated with maintaining a construction exit to Fulton County standards.
3. If the action of the construction vehicles traveling over the gravel pad does not sufficiently remove mud and debris, the vehicle tires shall be washed prior to allowing vehicles to enter public right-of-way. No additional payment will be made for the cost of washing tires.
4. No payment will be made for construction exits that are improperly constructed or use materials that are not approved.

C. Reinforced Silt Fence: All costs for Type S silt fence, where ordered by the Construction Manager, including installation, maintenance, repair, replacement, and removal, shall be included in the unit price bid for REINFORCED SILT FENCE.

D. Hay Bale Check Dams: All costs for hay bale check dams, including hay bales, necessary earthwork, staking, periodic maintenance and repair, and removal of sediment and hay bales following establishment of permanent erosion control measures shall be included in the unit price bid for HAY BALE CHECK DAMS.

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E. Stone Check Dams: All costs for stone check dams, including stone, geotextile underliner, necessary earthwork, periodic maintenance and repair, and removal of sediment and stone following establishment of permanent erosion control measures shall be included in the unit price bid for STONE CHECK DAM. Measurement for payment will be made to the limits allowed in accordance with the Standard Details and Specifications.

F. Curb Inlet Filter and Protection: All costs for temporary fabric, blocks, wires, and the furnishing of all labor, material, equipment and tools for installation, maintenance, repair and removal, shall be included in the Unit Price Bid for CURB INLET FILTER. Payment shall be based on the actual field quantity installed.

G. Inlet Sediment Traps: All costs for temporary inlet sediment traps (silt box), including installation, maintenance, repair and removal, shall be included in the unit price bid for INLET SEDIMENT TRAPS. Payment shall be based on the actual field quantity installed.

H. Pigs-in-a-Blanket: All costs for pigs in a blanket, including installation, maintenance, repair and removal, shall be included in the unit price bid for PIGS-IN-A-BLANKET. The unit price will be per structure rather than individual pigs-in-a-blanket. Payment shall be based on the actual field quantity installed.

I. Rip Rap With Filter Fabric Underlay: All costs for rip rap, including filter fabric, installation, maintenance, repair and removal, as required by the Standard Details and Specifications, or as directed by the Construction Manager, shall be included in the unit price bid for RIP RAP WITH FILTER FABRIC UNDERLAY.

J. Rip Rap: All costs for rip rap, excluding RIP RAP WITH FILTER FABRIC UNDERLAY, installation, maintenance, repair and removal, as required by the Standard Details and Specifications, or as directed by the Construction Manager, shall be included in the unit price bid for Rip Rap.

K. Box Gabion – 3’x3’x6’ Baskets: All costs for box gabions, including stone, wire mesh, stakes, anchors, filter fabric, assembly of box gabion, placement, excavation, backfill, compaction, and all incidental costs shall be included in the unit price bid for BOX GABION.

L. Tree Protection Fence: All costs for either passive or active tree protection fence, also known as orange mesh safety fence, including installation, maintenance, repair and removal, shall be included in the unit price bid for TREE PROTECTION FENCE.

1.16 VEGETATION RESTORATION

A. Temporary Seeding: Temporary seeding and mulching shall be applied to all disturbed area to be left exposed for a period greater than 14 days, or as ordered by the Construction Manager.

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1. The unit price bid for TEMPORARY SEEDING shall include all costs associated with spreading fast growing seed, mulching, watering, maintenance and repair until permanent grassing is established.

B. Permanent Seeding: All costs for permanent seeding, including fine grading, raking, soil preparation (removal of rocks and other objectionable materials), sewing the appropriate type of grass seed, fertilizing, mulching, watering, temporary protective measures, maintenance and repair until permanent grassing is established, shall be included in the unit price bid for PERMANENT SEEDING.

1. Permanent seed will be applied only after final grading and dress-up of disturbed area have been completed to the satisfaction of the Construction Manager.

C. Sod Grassing: Where ordered by the Construction Manager, sod shall be provided at the unit price bid for SOD GRASSING for any type.

1. All costs for proper installation, including preparation of surface, installation, rolling, compacting, watering, maintenance, repair, and any temporary measures required to protect the sod until establishment, shall be included in the unit price bid for SOD GRASSING.

D. Hydroseeding: All costs for hydroseeding, including preparation of surface, maintenance, repair, and any temporary measures required to protect the area until establishment, shall be included in the unit price bid for HYDROSEEDING.

E. In no case shall any one area be paid more than once for temporary grassing or for permanent grassing.

F. If an area is temporarily grassed and as directed by the Construction Manager to leave the area that way permanently, no additional payment will be made for permanent grassing.

G. Measurement for payment will be made by square yard, along the water line centerline, to the widths allowed by the Standard Details and Specifications.

1.17 TEMPORARY STREAM CROSSING

A. Temporary Stream Crossing: All costs for constructing temporary stream crossings, whether for Contractor access to the work or for work crossing streams, shall be included in the unit price bid for TEMPORARY STREAM CROSSING.

1. All labor and materials including temporary culverts, stone, filter fabric underlay, check dams, bypassing, necessary earthwork, periodic maintenance and repair, and removal of sediment and all materials placed by the Contractor following the end of the usefulness of the temporary crossing, shall be included in the unit prices bid for TEMPORARY STREAM CROSSING.

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B. Stream Crossings shall be constructed as shown in the Standard Details and Specifications, limited to 10 feet upstream and 10 feet downstream from top of trench excavation and from five feet beyond top of bank, across stream or ditch bank and bottom, to five feet beyond top of bank. Any other areas at streams or ditches disturbed by the Contractor, which may require rip rap, shall be rip rapped at no additional cost to the Owner.

1.18 TRENCH EXCAVATION AND STABILIZATION

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 the 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. Sheeting, Bracing and Shoring: No separate payment will be made for providing any sheeting, bracing and shoring. All costs shall be included in the unit price bid for the item to which it pertains at the appropriate depth.

D. 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.

E. Trench Foundation and Stabilization

1. No payment for trench stabilization shall be authorized until after the trench has been dewatered.

    a. If the pipe is installed in an inadequately prepared trench bottom, the Construction Manager will notify the Contractor in writing of the deficiency and will not authorize payment for that portion of that length of pipe which was improperly installed.

2. Payment for trench stabilization shall be made on the basis of the amount authorized and the unit price bid for TRENCH STABILIZATION.

    a. Payment shall include all costs for the removal and disposal of the unsuitable material and replacement with the materials listed in the Bid including filter fabric.

    b. No additional payment will be made for material required for specified bedding.

F. Bedding and Haunching

1. The unit price bid for pipe for WATER MAIN shall include excavation of the trench to the depth below the pipe necessary to provide specified bedding and to lay the water line to grade. Measurements for payment will be made only to the pipe invert.

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2. No separate payment will be made for material used to provide specified bedding. The cost of all bedding materials shall be included in the unit price bid for the item to which it relates, except for trench stabilization.

3. No additional payment will be made for improved bedding required to compensate for over excavation of the trench.

G. Trench Rock Excavation

1. Rock excavation shall be paid for in addition to payment for normal pipe excavation accounted for in the unit price bid for WATER MAIN.

   a. Payment will be made for the measured quantity of rock excavated, at the sum of the unit prices for Trench Rock Base Cost and Trench Rock Premium Cost if applicable.

2. The unit price for Trench Rock Base Cost is for the normally anticipated cost of rock excavation, the cost of additional bedding and backfill material as specified and all costs incidental thereto.

3. The unit price bid for Trench Rock Premium Cost shall be for all additional costs for rock excavation which, in the opinion of the Contractor, are in excess of the Base Cost:

   a. Including but not limited to extra blasting protection, closer grouping of blasting holes, more detonator caps, more caution, etc.

   b. The Contractor shall not bid less than zero (bid a deduct) for the Trench Rock Premium Cost. Any Bids containing a deduct will be declared non-responsive and rejected by the Owner.

4. The maximum allowable volume of rock excavation for payment shall be based on a trench width equal to the outside diameter of the pipe barrel plus 18 inches, but not less than 36 inches, and depth of rock on the pipe centerline, from the top of the rock to the bottom of the rock or the specified bottom of the trench, whichever has the higher elevation.

5. The Construction Manager must be given reasonable notice to measure all rock. Payment will not be made for excavated rock that was not measured and approved by the Construction Manager prior to removal.

6. No allowance shall be made for excavating to extra widths for construction of manholes or other appurtenances, for excavating to sloping sides, or for excavations made necessary by the physical limitations of the Contractor's equipment. Cost of such additional rock excavation shall be included in the unit price bid for the item to which it pertains.

7. Payment for blasting monitoring shall be made from the BLASTING MONITORING cash allowance.

   a. A fee must be agreed upon by the Construction Manager prior to the Contractor employing an independent, qualified specialty subcontractor to monitor the blasting.

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b. If the Contractor employs the specialty subcontractor prior to the Construction Manager's approval of the fee, all such costs are subject to non-reimbursement.

H. 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. No separate payment shall be made for providing select material if the insitu material cannot meet the compaction requirements.

I. Concrete Encasement: Payment for concrete encasement shall be at the unit price bid for CONCRETE ENCASEMENT.

J. 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. No additional payment will be made for providing select material if the insitu material cannot meet the compaction requirements.

K. Backfill Density testing for compacted Trench material placed, shall be included in the Unit Price Bid item BACKFILL DENSITY TEST.

1. The Unit Price shall include, but not limited to, labor, equipment, lab cost, cost incidentals and/or related items, and the relevant specification.
2. Field measurement cost shall be based on a density test per 500 linear feet interval, along installed pipe length, and the Contractor and sub-contractor are responsible to provide documentation and/or daily record of the actual number of field tests, as approved by The Construction Manager.

L. Additional Material: No separate payment will be made for additional earth or fill materials imported to the Project site.

1.19 EASEMENT CLEARING AND GRUBBING

A. The unit price bid for EASEMENT CLEARING AND GRUBBING shall include all costs associated with clearing a 20-foot wide easement of the specified type, as approved by the Construction Manager prior to clearing, including but not limited

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to removal and disposal of trees, stumps, roots, undergrowth, debris, or other objectionable matter.

B. LIGHT CLEARING shall be defined by an easement that is dense with shrubs, brush, and trees up to one foot in diameter.

C. MEDIUM CLEARING shall be defined by an easement that is dense with shrubs, brush, and trees averaging one to two feet in diameter.

D. HEAVY CLEARING shall be defined by an easement that is dense with shrubs, brush, and trees averaging over two feet in diameter, including specimen trees.

E. The cost of moving and re-establishing landscape features, including labor and materials, shall be included in the unit price bid for the item to which it pertains.

F. No payment will be made for clearing and grubbing in grassed areas and in areas with non-established vegetation. The costs associated with such clearing shall be included in the unit price bid for the item to which it pertains.

1.20 REMOVE, REPAIR AND REPLACE DRIVEWAY, CURB AND GUTTER, AND SIDEWALK

A. General:

1. Payment for removing and replacing driveway shall be made based on the actual field measured quantity replaced for the type pavement, at the Unit Price Bid, for REMOVE AND REPLACE PAVEMENT.
2. The Unit Price Bid shall include all costs associated with the following:
    a. Cutting, removing and disposing of existing materials
    b. Replacing and compacting materials for base, subbase,
    c. All related items as required for a complete driveway repair, including:
        1) Providing select backfill if necessary,
        2) All traffic control and temporary measures for maintaining traffic, and access, in accordance with the Project Drawings Standard Details and Specifications and/or per the applicable jurisdiction Standard Details and Specifications.
3. Payment shall be made only for that length for which the pipeline is constructed underneath or within four feet of the edge of the pavement to a width as shown in the Standard Details and Specifications.
4. Payment for driveway soils testing shall be made from the SOILS, CONCRETE, ASPHALT, AND MATERIALS TESTING cash allowance.
5. No payment shall be made for tests that fail to verify required results.
6. No additional payment will be made for removing and replacing damaged adjacent pavement.
7. No additional payment will be made for saw cutting of driveways or curbs.

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B. Payment for removing, repairing and replacing Concrete Driveway

1. Shall be made based on the actual field measured quantity replaced, at the Unit Price Bid, for CONCRETE DRIVEWAY - RESIDENTIAL.
2. The Unit Price Bid shall include all costs associated with the following:
    a. Cutting, removing, and disposing of existing materials,
    b. Replacing and compacting materials for base, subbase, and
    c. All related items as required for a complete driveway repair, including:
        1) Providing select backfill if necessary,
        2) All traffic control and temporary measures for maintaining traffic, and access, in accordance with the Project Drawings Standard Details and Specifications and/or per the applicable jurisdiction Standard Details and Specifications.
3. Payment will be made for the length for which the pipeline is constructed underneath the driveway and for the width to the nearest construction joint on either side of the new pipe line.

C. Payment for removing and replacing Gravel Driveways will be made based on the actual measured quantity replaced at the unit price Bid for GRAVEL DRIVEWAY.

1. The unit price bid shall include all costs associated with removing, replacing, and compacting a minimum of four-inches of GAB or #57 stone, and all related items as required for a complete driveway repair, including:
    a. All traffic control and temporary measures for maintaining traffic and access in accordance with the Project Drawing Standard Detail and Specifications and/or per the applicable jurisdiction Specifications.
2. Payment will be made for the length for which the pipeline is constructed underneath the driveway and for the width as limited by the Standard Details and Specifications.

.D. Payment for removing and replacing Asphalt Driveways

1. Shall be made based on the actual measured quantity replaced at the unit price Bid for ASPHALT DRIVEWAY- RESIDENTIAL.
2. The unit price bid shall include all costs associated with the following:
    a. Cutting, removing existing pavement, disposing of removed materials,
    b. Replacing and compacting materials for base, subbase, and
    c. Compacting and placing a minimum of four inches of GAB and 1-1/2 inches of 9.5 mm Superpave asphalt.
    d. All related items as required for a complete driveway repair, including:

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1) Providing select backfill if necessary

2) All traffic control and temporary measures for maintaining access in accordance with the Project Drawing Standard Detail and Specifications and/or per the applicable jurisdiction Specifications.

3. Payment will be made for the length for which the pipeline is constructed underneath the driveway and for the width as limited by the Standard Details and Specifications.

E. Payment for removing and replacing Commercial Concrete Driveways

1. Shall be made based on the field measured quantity replaced at the unit price Bid for CONCRETE DRIVEWAY - COMMERCIAL.

2. The Unit Price Bid shall include all costs associated with the following:

a. Cutting, removing, and disposing of existing materials.

b. Replacing and compacting materials for base, subbase.

c. Placing a minimum of six inches concrete with reinforcing steel.

d. All related items as required, including:

1) Providing select backfill if necessary.

2). All traffic control and temporary measures for maintaining traffic, and access, in accordance with the Project Drawings Standard Details and Specifications and/or per the applicable jurisdiction Standard Details and Specifications.

3. Payment will be made for the length for which the pipeline is constructed underneath the driveway and for the width to the nearest construction joint on either side of the new pipeline.

F. Payment for removing and replacing Concrete Sidewalk shall be made based on the field measured quantity replaced, at the Unit Price Bid for SIDEWALK.

1. The Unit Price Bid shall include all costs associated with cutting, removing existing sidewalk, removing, replacing, displacing existing materials, and compacting placement material, and all other items as required for completing the sidewalk repair, including all traffic control measures, and temporary measures for maintaining sidewalk capability, in accordance with the Project Drawings Sidewalk Standard Details and Specifications, and/or per the applicable jurisdiction specification.

2. No payment for sidewalk shall be made where the centerline of the new pipe is more than 5-feet from the closest edge of the sidewalk.

3 The Unit Price Bid for removing, disposal and replacing existing Sidewalk, shall include, but not limited to base, bricks, concrete, forms, curing, finishing, labor, materials, tools, and appliances, and all related items necessary to complete the work, and/or per the applicable jurisdiction Standard Detail and Specification.

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It is anticipated that existing Curb inlets and storm sewer Catch Basins can be avoided during construction. However, if the Contractor encounters a situation where the proposed pipeline cannot be installed without the removal of an existing Curb Inlet or Catch Basin, or their affected parts, then the Construction Manager shall be notified. If approved by the Construction Manager, the removal and replacement of the Curb Inlet and/or Catch Basin or the affected parts shall be paid for from the Utility Relocation or Utility Conflict resolution cash allowance.

G. Payment for removal and replacement of curb and gutter shall be made based on the actual field measured quantity replaced, and the Standard Details and Specifications, at the unit prices bid for CONCRETE CURB AND GUTTER or for GRANITE CURB as appropriate.

1. The Unit Price Bid shall include all costs associated with cutting, removing, replacing, and displacing existing materials, and all related items as required, including all traffic control measures.

2. No payment for curb and gutter shall be made where the centerline of the new pipe is more than 5-feet from the closest edge of the curb and gutter.

1.21 ASPHALT PAVEMENT REMOVAL AND REPLACEMENT

A. Payment for removing and replacing pavement shall be based on the field verifiable measured quantity replaced, at the Unit Price Bid for ASPHALT PAVEMENT REPLACEMENT.

1. The Unit Price Bid shall include all costs associated with the following:

a. Trench cutting, existing asphalt pavement saw cut, labor. materials, tools and equipment.

b. Removing, and disposing of existing materials.

c. Replacing and compacting materials for base, subbase.

d. All related items as required, including:

1) Providing select backfill if necessary, as required by and approved by Construction Project Manager.

2) All traffic control and temporary measures for maintaining traffic, and access, in accordance with the Project Drawings Standard Details and Specifications and/or per the applicable jurisdiction Standard Details and Specifications.

B. Payment for removal and replacement of asphalt pavement (Type A Cut Repair), where the Fulton County Standard Utility Cut (Type C Cut Repair) is not required, shall be made at the unit price bid for ASPHALT PAVEMENT REMOVAL AND REPLACEMENT.

1. The unit price bid shall include all costs associated with a Type A Cut Repair, including:

a. Cutting, removing existing pavement, disposing of removed materials.

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b. Compacting and placing a minimum of six inches of crusher run and 1-1/2 inches of 9.5 mm Superpave asphalt.

c. All related items as required for a complete repair, including road plates and all traffic control and temporary measures as specified above.

2. Payment will be made for the length for which the pipeline is constructed underneath the roadway and for the width as limited by the Standard Details and Specifications, or as approved by the Construction Manager.

C. Payment for Fulton County Standard Utility Cut (Type C Cut Repair) shall be made at the unit price bid for COMPLETE FULTON COUNTY STANDARD UTILITY CUT.

1. The unit price bid shall include all costs associated with a Type C Cut Repair, including:

a. cutting, removing existing pavement.

b. disposing of removed materials.

c. eight inch concrete cap, bituminous tack coat, and 1-1/2 inches of 9.5 mm Superpave asphalt.

d. All related items as required for a complete repair, including road plates and all traffic control and temporary measures as specified above.

2. Payment will be made for the length for which the pipeline is constructed underneath the roadway and for the width as limited by the Standard Details and Specifications, or as approved by the Construction Manager.

D. No separate or additional payment shall be made for temporary measures required to make the road or driveway surface passable, including backfilling the top of the trench temporarily with crusher run or granular material or placing a temporary asphalt topping.

E. Payment for milling shall be made at the unit price bid for ROAD SURFACE MILLING.

1. The Unit Price shall include all costs associated with the milling activity, such as:

a. Lowering of existing water valves or manholes.

b. Milling the existing pavement to the required thickness.

c. Disposing all waste materials.

d. All related items, including:

1) All traffic control and temporary measures as specified above.

2) As required by the Municipality Standard Detail and Specification, and/or the Construction Project Manager.

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2. Payment shall be made for the actual field measured road surface area length and width milled, as approved by the Construction Project Manager.

F. Payment for overlay shall be made at the unit price bid for ROAD SURFACE OVERLAY.

1. The unit price bid shall include all costs associated with overlaying a road surface with a bituminous tack coat and a minimum of 1-1/2 inches of 9.5 mm Superpave asphalt, and all related items as required including all traffic control and temporary measures as specified above.

2. Measurement shall be made based on actual area overlaid, as approved by the Construction Manager.

G. Payment for road resurfacing shall be made at the Unit Price Bid for ROAD RESURFACING.

1. The limits eligible for payment shall be based on actual field measured area width and length, relevant Municipality Standard and Specification, Project Drawings, as approved by Construction Manager.

2. The Unit Price Bid shall include all costs associated with road resurfacing:

a. Labor, materials, tools, equipment.

b. Bituminous tack coat.

c. Replacing existing stripping and traffic devices.

c. Raising existing water valves, or manholes.

d. Potholes repair.

e Replacing items affected by the resurfacing activity, and restoring the road to its pre-construction condition.

f. All related items as required including all traffic control and temporary measures as specified above.

1.22 PAVEMENT MARKING AND STRIPING

A. The unit price bid for PAVEMENT MARKING AND STRIPING shall include all costs associated with applying standard DOT striping and paint as listed in the Bid and as ordered by the Construction Manager. All required materials, labor, tools, equipment and traffic control shall be included in the unit price bid.

1.23 TRAFFIC CONTROL

A. All costs for providing traffic control in compliance with the Manual on Uniform Traffic Control Devices (MUTCD) and Georgia Department of Transportation (GDOT) specifications shall be included in the unit price bid for the item to which it pertains. No additional payment will be made for complying with MUTCD or GDOT requirements.

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B. Payment for TRAFFIC CONTROL as indicated in the Bid will be made only for additional traffic control devices beyond the requirements of the MUTCD and / or GDOT as ordered by the Construction Manager.

C. The unit price bid for STANDARD DOT BARRIER shall include all costs for providing, installing and removing a standard DOT barrier, as directed by the Construction Manager.

1. No excavation in or near roadways will be left open overnight. Therefore, all concrete barriers will be required to be removed from the roadway and moved to a location where vehicular and pedestrian traffic are not obstructed. The cost of moving the barriers as such shall be included in the unit price bid.

2. Measurement for payment shall be made based on the actual linear footage of barrier installed, per day, approved by the Construction Manager and serving the purpose for which it was intended. Payment will not be made for excess barriers stored by the Contractor in any location.

D. The unit price bid for MUTCD STANDARD SAFETY BARREL shall include all costs for providing, installing and removing a standard MUTCD safety barrel, as directed by the Construction Manager. Only safety barrels directed by the Construction Manager, in addition to those required by the MUTCD and GDOT, shall be paid for separately.

E. The unit price bid for POLICE CRUISER shall include all costs for providing a police cruiser for additional traffic control.

1. Payment will be made for hours spent on site, which may be a portion of a standard work day.

2. Payment will be made only for hours documented by the Contractor and approved by the Construction Manager.

F. The unit price bid for CERTIFIED FLAGMAN shall include all costs for providing a flagman for additional traffic control, as directed by the Construction Manager, in addition to the requirements of MUTCD and GDOT.

1. The flagman shall be certified and dedicated to maintaining and directing traffic flow.

   a. An individual who works part time as a flagman and part time as a laborer or acts in dual capacity will not be approved for payment under this item.

   b. Proof of certification may be required by the Construction Manager prior to acceptance for payment.

2. Payment will be made for hours spent on site performing dedicated flagman duties, which may be a portion of a standard work day.

3. Payment will be made only for hours documented by the Contractor and approved by the Construction Manager.

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G. The unit price bid for LIGHT PLANT shall include all costs for providing a light plant, including generator and lighting system, for night work, as directed by the Construction Manager.

H. The unit price bid for ELECTRONIC MESSAGE BOARD shall include all costs for providing an electronic message board, as directed and approved by the Construction Manager.

1.24 REMOVE AND REPLACE EXISTING FENCE

A. The unit price bid for REMOVE AND REPLACE EXISTING FENCE shall include all costs associated with removing and replacing an existing fence of the type and material listed in the Bid, including disposing of waste materials, restoration of site to original condition, and all other associated work for a complete installation.

1.25 CAST IN PLACE CONCRETE

A. Structural Concrete: The unit price bid for STRUCTURAL CONCRETE shall include all costs associated with placing concrete as directed by the Construction Manager including excavation, dewatering, formwork, placing of concrete, and all associated labor, tools, and materials. This item will not be utilized for concrete piers for stream crossings.

B. Reinforcing Steel: The unit price bid for REINFORCING STEEL shall include all costs associated with providing reinforcing steel for structural concrete, including providing steel as directed by the Construction Manager and all labor, tools, and materials required.

C. The unit price bid for REINFORCED CONCRETE PLACEMENT shall include all costs of placing reinforced concrete as directed by the Construction Manager. Reinforced concrete placement shall only be used for concrete requiring the installation of rebar reinforcement in addition to items listed elsewhere in the Bid.

C. Concrete Thrust Collars: The unit price bid for CONCRETE THRUST COLLARS shall include all associated costs including high early strength concrete, reinforcing, forming and weld on collar or split retainer gland as directed by the Construction Manager. Measurement for payment shall be made at the unit price in the Bid for the quantity of installed concrete for the appropriate size pipe.

D. Concrete Thrust Blocking: The unit price bid for CONCRETE THRUST BLOCKING AND ENCASEMENT shall include all associated costs including high early strength concrete, reinforcing, forming, and all related items.

1. Limits shall be determined from dimensions shown on the Drawings for each size and type of fitting for which blocking is installed, or as directed by the Construction Manager.

2. Payment for concrete thrust blocking and encasement shall be made at the unit price bid for the measured quantity installed.

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3. The Contractor shall bear all costs for quantities in excess of the scheduled amount, as may be required due to over excavation or other reasons.

E. The unit price bid for concrete – FLOWABLE FILL shall include all costs of filling abandoned pipes with concrete as directed by the Construction Manager. Flowable fill shall only be used for concrete in addition to items listed elsewhere in the Bid.

F. The cost of services of the consulting soil and foundation engineer will be paid by the Contractor from the SOILS, CONCRETE, ASPHALT, AND MATERIALS TESTING cash allowance.

1.26 PROGRAMMABLE ELECTRONIC MARKING DEVICES

A. The unit price bid for PROGRAMMABLE ELECTRONIC MARKING DEVICES shall include the cost of providing the marking devices including:

1. Programmer/locator as specified.
2. Programming the devices and placing them along the water line.
3. The cost of excavation shall be included in the unit price bid for WATER MAIN or UTILITY LOCATION.
4. Measurement for payment will be based on the quantity installed as directed by the Construction Manager.

1.27 UTILITY LOCATION – EXCAVATION AND BACKFILL

A. Soft Dig Hydro Excavation:

1. The unit price bid for SOFT DIG HYDRO EXCAVATION shall include all costs associated with the following:
   a. Locating the assigned utility.
   b. Excavating to directly above the pipe.
   c. Measuring the depth, diameter and type of the pipe.
   d Backfilling and compacting the hole up to two feet from existing grade with soil.
   e Encoding a 3M ID marker device and installing the marker above the pipe at a depth of two feet.
   f. Backfilling with soil and dressing the disturbed area with like surrounding materials.
2. Measurement for payment shall be based on the actual field number of locations, only when directed and approved by the Construction Manager prior to any soft dig excavation.

B. Where utility location is performed in roadways or sidewalks, other materials may be required for backfill.

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1. Select materials will be paid for at the unit prices bid for TRENCH STABILIZATION.
2. Measurement for payment will be made on the actual quantity of material used for backfill of the hole where the marker ball is installed.

C. Exploratory Excavation:

1. The unit price bid for EXPLORATORY EXCAVATION shall include all costs associated with excavation of an area by machine and by hand where necessary with the intent of locating an existing utility as ordered by the Construction Manager, including all equipment, tools, and labor.
2. The costs associated with removal and replacement of roadway, driveway, sidewalk, or curb and gutter shall be included under the appropriate pay item.
3. Measurement for payment will be based on the actual hours required to locate the utility, only when ordered by the Construction Manager prior to any excavation.
4. This item shall not be used for standard locating of utilities as required to perform the work.

D. No payment will be made for excavation that does not locate the assigned utility, or where the marker ball is not installed directly above the pipe.

E. 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.

1.28 INSERTAVALVE INSTALLATION.

A. The unit price bid for INSERTAVALVE installation shall include all costs associated with the excavation of an area by machine and by hand where necessary with the intent of installing an INSERTAVALVE by others as ordered by the Construction Manager, including all equipment, tools, and labor.

1. The costs associated with removal and replacement of roadway, driveway, sidewalk, or curb and gutter shall be included under the appropriate pay item.
2. Measurement for payment will be based on the actual amount of excavation required to expose the Fulton County water line.
3. The soil from the excavation may be required to be removed by the project and replaced with GAB or #57 Stone under the pavement.

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1.29 WATER LINE MAINTENANCE SIGN

A. The unit price bid for WATER LINE MAINTENANCE SIGN shall include all costs associated with providing a water line maintenance sign as Specified and directed by the Construction Manager, including placing and removal of the sign.

1.30 BACKFLOW PREVENTER

A. The unit price bid for BACKFLOW PREVENTER shall include fixed labor and materials associated with installation of a new backflow preventer, including vault or meter box of the appropriate type, associated fittings required for a complete installation, but not including the service line itself.

B. Measurement for payment will be made on the number of new services installed, at the unit price bid for each setup.

C. Unit price bid shall also include testing and calibration of the backflow preventer.

D. The Owner will provide the backflow preventers for all 5/8-, 3/4-, and 1-inch service connections. The Contractor will provide all larger Backflow Preventers. All Detector Check Valves will be provided by the Contractor.

1.31 CASH ALLOWANCES

A. General

1. The Contractor shall include in the Bid Total all allowances stated in the Contract Documents.

    a. These allowances shall cover the net cost of the services provided by a firm selected by the Owner.

    b. 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.

3. The Contractor shall make all necessary excavations and shall supply any samples of materials necessary for conducting compaction and density tests.

4. No payment shall be provided for services that 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.

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C. Documentation

1. Submit copies of the invoices by the Contractor with each periodic payment request from the firm providing the services.

2. Submit, by the Contractor, results of services provided which verify required results.

D. Schedule of Cash Allowances

1. Unforeseen Conditions: Allow the amount specified in the Bid to resolve unforeseen project situations and/or site conditions during construction, to be pre–approved and approved by Construction Manager, prior to the start of work activity.

   a. Utility Conflicts: Allow the amount specified in the Bid to resolve any unforeseen utility conflicts, which may accrue during the Project's construction, including its relocation and/or replacement, as directed and approved by the Construction Manager.

      1) Known on site located utility which was not shown or accurately field marked by Fulton County water locators, but is necessary to be relocated to accommodate the installation of the proposed pipeline.

      2). Unknown on site located utility which was not marked by Fulton County water locators, but requires significant relocation work, prior to the start of the proposed pipeline installation.

2. Soils, Concrete, Asphalt, Materials, and Water Quality Testing: Allow the amount provided in the Bid for the services of a Geotechnical Engineering firm or testing laboratory to verify soils conditions including trench excavation and backfill, asphalt coring and density tests, testing of concrete cylinders for poured in place concrete, pipe materials, water quality and similar issues as directed by the Construction Manager.

   a. Services will be reimbursed at direct cost with no markup,

   b. Contractor must provide invoices for Owner approval.

   c. This allowance amount specified in the Bid, is for additional testing services not included in the Unit Price Bid for the item to which it relates, and for services not specifically required in the applicable authorized Specifications but is requested or directed and for approval by the Construction Manager, prior to the start of work activity.

3. Large Tree Removal: Allow the amount specified in the Bid for the services of a tree removal specialist to remove individual trees, for additional tree removal, not included in the Unit Price Bid under EASEMENT CLEARING AND GRUBBING, as directed and approved by the Construction Manager.

   a. Services will be reimbursed at direct cost plus 10%.

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b. The Contractor must provide an estimate invoice from the tree removal specialist to the Construction Project Manager for approval, prior to the start of work.

c. Contractor must provide invoices for approval of payment by Owner.

d. No payment will be made for trees removed as part of clearing and grubbing.

4. Preblast Survey/Inspection and Blasting Monitoring: Allow the amount provided in the Bid for the services of an independent, qualified specialty subcontractor to monitor the blasting, as directed and approved by the Construction Project Manager.

   a. The services will be reimbursed at direct cost with no mark–up.

   b. The Contractor must provide an estimated invoice for services or activities to be performed, for approval by the Construction Manager, prior to the start of work.

   c. Contractor must provide invoices for approval of payment by Owner.

5. Additional Landscaping, not shown on the Project Drawings: Allow for the amount specified in the Bid for additional existing or current landscaping replacement, not shown on the Project Drawings, or specified, but is affected by the Project construction.

   a. The Contractor must provide an estimate invoice for activities to be performed, for approval by the Construction Project Manager, prior to the start of work activity.

   b. Contractor must provide invoices for approval of payment by Owner.

6. Construction Verification Surveying:

   a. Allow the amount provided in the Bid for Project construction field staking surveying of the proposed pipeline horizontal centerline alignment, depth of cover checks throughout installation of pipeline, and as-built verification and accuracy of pipe line, if deemed necessary by the Construction Manager.

   b. The Construction Manager shall pre-approve the independent surveying firm selection by the Contractor.

   c. The Contractor must provide an estimate invoice from the approved selected survey firm to perform the work activity, prior to the start of work.

   d. This allowance shall only be utilized by the Owner or Construction Manager, for field verification of the Contractor’s reference points, proposed pipeline centerline, and project activities performed by the Contractor.

   e. This cash allowance does not in any way relieves the Contractor of their responsibilities, for installing the necessary project reference

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points, field staking the proposed pipeline horizontal centerline, field checking, or verifying the installed pipeline required minimum depth of cover, installing temporary and permanent bench marks, and field verifying the accuracy of the Contractor's work activities performed, including as-built drawings.

7. Exploratory Excavation: Allow the amount provided in Bid for subsurface investigation to field locate and identify existing water lines size, depth, pipe type, within the Project's pipeline installation limit, where there is no as-built or record drawings.

   a. The Construction Manager shall pre–approve and approve all exploratory excavation locations, the number of locations, and exploratory excavation request by Contractor, including estimated cost, prior to the start of work.

1.32 EMERGENCY SERVICES

A. The following labor and equipment are included in the Bid for when the County needs manpower or additional equipment to assist in making emergency repairs other than those specified above as unit price items. Hourly rate items below shall NOT apply when work is performed under non-emergency conditions. The Notice to Proceed for each project will indicate emergency or non-emergency project status. On emergency projects, the Contractor shall have a representative on site within 2 hours of notification to assess the work to be performed and have emergency work crews on site with the proper equipment within 4 hours of the original notification. Once an emergency is declared contained by the Construction Manager, the project will go forward as non-emergency utilizing line items and a notice to proceed will be issued for the remainder of the work.

B. The unit price bid for the following items shall include all costs for providing the specified personnel on an hourly basis as required by the Owner. Payment may be made for partial work days where applicable. All overhead and direct costs, including all costs for providing the labor, equipment, tools, supplies associated shall be included. Separate payments for items not included shall be agreed to prior to providing such items. No payment will be made for additional services provided without proper written notification to the Owner that the services being requested are additional.

   1. Water Superintendent with Pickup Truck
   2. Water Crew Truck - Fully equipped with tools and repair parts including but not limited to pipe saw, wacker-packer, chain saw, and miscellaneous hand tools, including water foreman and three laborers.
   3. Rubber tired front end loader with trailer and operator.
   4. Rubber tired backhoe with trailer and operator.
   5. Excavator with trailer and operator.
   6. Trench compactor with operator.

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7. Mobile air compressor with hoses and air tools (jackhammer, pavement breaker, clay spade, etc.) with operator.
8. 10 CY dump truck with operator.

PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 23 00

ALTERNATES

PART 1 – GENERAL

1.01. RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02. SUMMARY

A. This Section includes administrative and procedural requirements for alternates.

1.03. DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

B. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work.

C. No other adjustments are made to the Contract Sum.

1.04. PROCEDURES

A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

B. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

C. Notification by Owner: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

D. Execute accepted alternates under the same conditions as other work of the Contract.

1.05. SCHEDULE OF ALTERNATES

A. <To be developed for each Project>

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PART 2– MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USE)

END OF SECTION

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SECTION 01 25 00

SUBSTITUTIONS AND OPTIONS

PART 1 – GENERAL

1.01 SCOPE

A. This Section outlines the restrictions and requirements for substitutions, product and manufacturer options, and construction method options.

1.02 DEFINITIONS

A. For the purposes of these Contract Documents, a “substitute item” shall be defined as one of the following:

1. A product or manufacturer offered as a replacement to a specified product or manufacturer.
2. A product or manufacturer offered in addition to a specified product or manufacturer.

B. For the purposes of these Contract Documents, a “substitute construction method” shall be defined as one of the following:

1. A mean, method, technique, sequence or procedure of construction offered as a replacement for a specified mean, method, technique, sequence or procedure of construction.
2. A mean, method, technique, sequence or procedure of construction offered in addition to a specified mean, method, technique, sequence or procedure of construction.

1.03 GENERAL

A. An item or construction method, which is offered where no specific product, manufacturer, mean, method, technique, sequence or procedure of construction is specified or shown on the Drawings, shall not be considered a substitute and shall be at the option of the Contractor, subject to the provisions in the Contract Documents for that item or construction method.

B. For products specified only by a referenced standard, the Contractor may select any product by any manufacturer, which meets the requirements of the Specifications, unless indicated otherwise in the Contract Documents.

C. If the manufacturer is named on the Drawings or in the Specifications as an acceptable manufacturer, products of that manufacturer meeting all requirements of the Specifications and Drawings are acceptable.

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D. Whenever the Engineer's design is based on a specific product of a particular manufacturer, that manufacturer will be shown on the Drawings and/or listed first in the list of approved manufacturers in the Specifications. Any Bidder intending to furnish products of other than the first listed manufacturer, or furnish substitute items, shall:

1. Verify that the item being furnished will fit in the space allowed, perform the same functions and have the same capabilities as the item specified.
2. Include in its Bid the cost of all accessory items which may be required by the other listed substitute product,
3. Include the cost of any architectural, structural, mechanical, piping, electrical or other modifications required, and
4. Include the cost of required additional work by the Construction Manager, if any, to accommodate the item.

E. Whenever a product is identified on the Drawings or in the Specifications by reference to manufacturers or vendors names, trade names, catalog numbers, etc., it is intended only to denote the quality standard of product desired and that they do not restrict Bidders to a specific brand, make, manufacturer or specific name. These listings and citations are used only to set forth and convey to Bidders the general style, type, character and quality of product desired. Equivalent products will be acceptable, subject to the substitution provisions of this Section.

1.04 APPROVALS

A. Approval, of a substitution as an acceptable manufacturer, of the Construction Manager is dependent on determination that the product offered is essentially equal in function, performance, quality of manufacture, ease of maintenance, reliability, service life and other criteria to that on which the design is based; and will require no major modifications to structures, electrical systems, control systems or piping systems.

1.05 SUBSTITUTIONS AND OPTIONS

A. No substitutions will be considered for the manufacturers listed in the Bid Form.

B. After Notice to Proceed

1. Substitute items will be considered only if the term “equal to” precedes the names of acceptable manufacturers in the Specification.
2. Where items are specified by referenced standard or specified as indicated in Article 1.03 above, such items shall be submitted to the Construction Manager for review.
3. The Contractor shall submit shop drawings on the substitute item for the Construction Manager's review in accordance with the Section 01 33 23.

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C. Prior to Opening of Bids

1. No consideration or approvals will be made for products specified by a referenced standard, or specified as indicated in Article 1.03 above. Such consideration may occur only after the Notice to Proceed.

2. No consideration or approvals will be made for products being offered where the term “equal to” precedes the name of an approved product. Such substitution consideration may occur only after the Notice to Proceed.

PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 31 19

PROJECT MEETINGS

PART 1 – GENERAL

1.01 SCOPE

A. Work under this Section includes all scheduling and administering of pre-construction and progress meetings as herein specified and necessary for the proper and complete performance of this Work.

B. Scheduling and Administration by Construction Manager:

1. Prepare agenda.
2. Make physical arrangements for the meetings.
3. Preside at meetings.
4. Record minutes and include significant proceedings and decisions.
5. Distribute copies of the minutes to participants.

1.02 PRECONSTRUCTION CONFERENCE

A. The Construction Manager shall schedule the preconstruction conference prior to the issuance of the Notice to Proceed.

B. Representatives of the following parties are to be in attendance at the meeting:

1. Owner
2. Design Engineer.
3. Construction Manager
4. Project Manager
5. Contractor and superintendent
6. Major subcontractors
7. Representatives of governmental or regulatory agencies when appropriate.

C. The agenda for the preconstruction conference shall consist of the following as a minimum:

1. The Work – including, but not limited to:
    a. Adequacy of distribution of Contract Documents.
    b. Scheduling and phasing requirements.
    c. Schedule and submittal of shop drawings, product data and samples.
    d. Major equipment deliveries and priorities.

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e. Critical work sequencing.

f. Use of premises, including office and storage areas and Owner's requirements.

g. Special conditions and coordination.

h. Security.

i. Work hours.

2. Distribution and discussion of major subcontractors and tentative construction schedule, and project phasing requirements.

3. Communications – including, but not limited to:

   a. Designation of responsible personnel and emergency telephone numbers.

   b. Change and persons authorized to direct changes.

   c. Requests for Information (RFI), field decisions, and clarifications.

   d. Processing of field decisions and change orders.

   e. Non-Conformance Reports.

   f. Hazard communication.

   g. Project meetings.

4. Contractor’s Site Specific Safety Plan and first aid procedures.

5. Administrative and procedural requirements including, but not limited to:

   a. Contract modification.

   b. Progress payment.

   c. Pay request format, submittal cutoff date, pay date and retainage.

   d. Submittals - including Contractor’s Construction Progress Schedule.

   e. Electronic Communications.

   f. Apprentice and Journey Level Worker Utilization Reporting, if required.

6. Owner testing and inspection.

7. Contractor Quality Control.

8. Procedures for maintaining record documents.

9. Temporary Facilities and Controls including, but not limited to:

   a. Deliveries and storage.

   b. Temporary utilities and enclosures.

   c. Security procedures.

   d. Noise and vibration control.

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e. Cutting, patching, and field engineering.

f. Utility shutdowns.

g. Contractor parking.

h. Housekeeping and waste management.

10. Closeout Procedures – including Project Record documents.

D. Contractor shall conduct a like meeting, covering the same body of information, with each Subcontractor's project manager and foreman supervising the Work prior to the performance of any work on site by that Subcontractor.

1. Provide Construction Manager with copies of meeting minutes prepared by the Contractor with each Subcontractor, when requested by Construction Manager.

1.03 PROJECT COORDINATION MEETINGS

A. Project Coordination Meetings may be requested at any time at the discretion of the Owner, Construction Manager or Contractor. The party requesting a meeting shall provide the other two parties with as much notice as possible, as well as a written agenda for such meeting.

B. Schedule regular monthly or bi-weekly meetings as directed by the Construction Manager.

C. Hold called meetings as the progress of the work dictates.

D. The meetings shall be held at the location indicated by the Construction Manager.

E. Representatives of the following parties are to be in attendance at the meetings:

1. Construction Manager
2. Design Engineer
3. Project Manager
4. Contractor and superintendent
5. Major subcontractors as pertinent to the agenda
6. Owner's representative as appropriate
7. Representatives of governmental or other regulatory agencies as appropriate.

F. Contractor shall:

1. Administer the meetings.
2. Provide schedules, logs and other construction activity data in support of the issues discussed and recorded in meeting minutes.
3. Record and distribute copies of minutes prior to the next meeting.

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G. Construction Manager will:

Will review meeting minutes and ascertain that the Work is in accordance with the Construction Documents and the Construction Progress Schedule.

H. The minimum agenda for progress meetings shall consist of the following:

1. Review and approve minutes of previous meetings.
2. Review work progress since last meeting.
3. Review plans for progress during subsequent work period.
   Identify pending meetings.
   Discuss safety activities and Job Hazards Analysis.
4. Discuss field observations, problems, and conflicts.
   a. Identify problems impeding the Construction Progress Schedule.
5. Identify problems which impede planned progress.
6. Review Quality Control.
   a. Non-conformance reports - discuss corrective Work actions.
7. Review off-site fabrication, delivery schedules and problems.
8. Review Contractor's corrective measures and procedures to regain plan schedule.
9. Review Contractor's revision to the construction schedule as outlined in the Supplementary Conditions.
10. Review submittal schedule and RFIs; - present methods to expedite as required to maintain schedule.
11. Maintenance of quality and work standards.
12. Review proposed changes in the Work and substitution requests for:
    a. Timely processing.
    b. Effect on Construction Progress Schedule and on completion date.
    c. Effect on any other contracts of the Project.
13. Identify and track action items for all parties. The intent is to maintain a running list of action items with specific designation for parties responsible and expected completion dates.
14. Complete other current business.

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PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 32 16

CONSTRUCTION SCHEDULES

PART 1 – GENERAL

1.01 SCOPE

A. The work under this Section includes preparing, furnishing, distributing, and periodic updating of the construction schedules as specified herein.

B. The purpose of the schedule is to demonstrate that the Contractor can complete the overall Project within the Contract Time and meet all required interim milestones.

C. The schedule also provides a basis for determining the progress status of each phase and the Project relative to specific dates and completion time.

1.02 DESCRIPTION

A. The Contractor shall provide a graphic construction schedule prepared by the critical path method of analysis. The critical path schedule shall be prepared from estimates of the required duration and sequence for each item of work and function to be performed.

B. A general guide for preparing such a schedule is contained in "The Use of CPM in Construction, A Manual for Contractors," published by the Associated General Contractors of America.

C. Tabulation and analysis of the work schedule shall be performed by computer using a commercially available critical path software program. In addition to the capability to produce tabular reports, the computer software shall plot the construction schedule after the Contractor has produced it in draft form as required by paragraph 1.03 Submittals.

D. The schedule shall depict all significant construction activities and all items of work listed in the breakdown of contract prices submitted by the Contractor in accordance with the General Conditions of the Contract Documents. The dependencies between activities shall be indicated so that it may be established what effect the progress of any one activity has on the schedule.

E. No activity on the schedule shall have a duration longer than 21 days or assigned value greater than $100,000, except activities comprising only fabrication, and delivery may extend for more than 21 days. Activities which exceed these limits shall be divided into more detailed components. The schedule duration of each activity shall be based on the work being performed during the normal 40-hour workweek with allowances made for legal holidays and normal weather conditions.

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1.03 SUBMITTALS

A. Overall Project Schedule (OPS)

1. Submit the schedule within 10 days after date of the Notice to Proceed.
2. The OPS schedule shall identify various critical project milestones, in order to address the public and activities within the project's area.
3. The Construction Manager will review the schedule and return it within 10 days after receipt.
4. If required, resubmit within 10 days after receipt of a returned copy.

B. Near Term Schedule (NTS)

1. Submit the first Near Term Schedule within 10 days of the Notice to Proceed.
2. The Construction Manager will review the schedule and return it within 10 days after receipt.

C. Submit an update of the OPS and NTS with each progress payment request.

D. Submit the number of copies required by the Contractor, plus four copies to be retained by the Construction Manager.

1.04 APPROVAL

A. Approval of the Contractor's detailed construction program and revisions thereto shall in no way relieve the Contractor of any of Contractor's duties and obligations under the Contract.

B. Approval is limited to the format of the schedule and does not in any way indicate approval of, or concurrence with, the Contractor's means, methods and ability to carry out the work.

1.05 OVERALL PROJECT SCHEDULE (OPS)

A. The Contractor shall submit to the Construction Manager for approval a detailed Overall Project Schedule of the Contractor's proposed operations for the duration of the Project. The OPS shall be in the form of a Gantt/bar chart. Primavera P6 shall be used to produce this Gantt/bar chart.

B. Gantt/Bar Chart Schedule

1. Each activity with a duration of five or more days shall be identified by a separate bar. Activities with a duration of more than 21 days shall be sub-divided into separate activities.
2. The schedule shall include activities for shop drawing preparation and review, fabrication, delivery, and installation of major or critical path materials and equipment items. .

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3. The schedule shall show the proposed start and completion date for each activity. A separate listing of activity start and stop dates and working day requirements shall be provided unless the information is shown in text form on the Gantt/bar chart.

4. The schedule shall identify the Notice to Proceed date, the Contract Completion date, major milestone dates, and a critical path.

5. The schedule shall be printed on a maximum 11 x 17-inch size paper. If the OPS needs to be shown on multiple sheets, a simplified, one page, summary bar chart showing the entire Project shall be provided.

6. The schedule shall have a horizontal time scale based on calendar days and shall identify the Monday of each week.

7. The schedule shall show the precedence relationship for each activity.

1.06 NEAR TERM SCHEDULE (NTS)

A. The Contractor shall develop and refine a detailed Near Term Schedule showing the day to day activities with committed completion dates which must be performed during the upcoming 30 day period. The detailed schedule shall represent the Contractor's best approach to the Work which must be accomplished to maintain progress consistent with the Overall Project Schedule.

B. The Near Term Schedule shall be in the form of Gantt/bar chart and shall include a written narrative description of all activities to be performed and describe corrective action to be taken for items that are behind schedule.

1.07 SCHEDULE REVISIONS

A. Revisions to the accepted critical path construction schedule may be made only with written approval of the Contractor and Owner.

B. Changes in timing for activities which are not on the critical path may be modified with written agreement of the Contractor and Construction Manager.

C. A change affecting the contract value of any activity, the timing of any activity on the critical path, the completion time and specific dates as specified in the Contract Documents, and work sequencing may be made only in accordance with applicable provisions of the General Conditions of the Contract Documents.

1.08 UPDATING

A. Project status review and update shall be provided each month as specified in the General Conditions of the Contract Documents.

B. Show all changes occurring since previous submission of the updated schedule.

C. Indicate progress of each activity and show actual completion dates.

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D. The Contractor shall be prepared to provide a narrative report at the Project Coordination Meetings. The report shall include the following:

1. A description of the overall Project status and comparison to the OPS.
2. Identify activities which are behind schedule and describe corrective action to be taken.
3. A description of changes or revisions to the Project and their effect on the OPS.
4. A description of the Near Term Schedule of the activities to be completed during the next 30 days. The report shall include a description of all activities requiring participation by the Construction Manager and/or Owner.

PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 32 33

CONSTRUCTION VIDEOS AND PHOTOGRAPHS

PART 1 – GENERAL

1.01 SCOPE

A. The Contractor shall furnish all equipment and labor materials required to provide the Owner with digital construction videos and photographs of the Project.

B. Videos and photographs shall be provided on a flash drive.

C. Photograph and video files shall become the property of the Owner and none of the photographs herein shall be published without express permission of the Owner.

1.02 PRE-CONSTRUCTION VIDEOS AND PHOTOGRAPHS

A. The Contractor shall provide preconstruction photographs and videos prior to commencement of work on the site. The documentation shall be digital and shall indicate the date, name of project, direction in which the images were taken and the location where the images were taken.

B. A minimum of 50 photographs shall be taken prior to construction including a video of the entire route.

C. Before construction may start, digital copies of the documentation shall be delivered on a flash drive to the Construction Manager.

D. The Contractor shall document the entire area of proposed construction and site entries and access roads from multiple perspectives.

E. All conditions which might later be subject to disagreement shall be shown in sufficient detail to provide a basis for decisions.

F. The pre-construction photographs shall be submitted to the Construction Manager within 28 calendar days after the date of receipt by the Contractor of Notice to Proceed.

1.03 PROGRESS PHOTOGRAPHS AND SUBMITTALS

A. The Contractor shall provide digital construction images showing the progress of the work on a monthly basis.

B. Starting immediately after the date of the preconstruction documentation and continuing as long as the work is in progress, construction photographs shall be taken.

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C. Photographs shall be taken to document completely the ongoing work, points of site entry and access roads.

D. A minimum of 20 photographs shall be taken each month including a video of the route.

E. Additional photographs shall be taken and be of such subjects as may be directed by the Construction Manager.

F. All photographs shall indicate the date, job title and brief description of the image(s), including the location and direction the image was taken.

G. A final set of aerial photographs shall be taken once all grassing has been established.

H. Photographs should be provided on a flash drive with each payment application. In addition, one hard copy of each photograph shall be submitted. Failure to include photographs may be cause for rejection of the payment request.

I. If software is used to organize, store and describe the photos, a copy of the software and all relevant updates shall be supplied to both the Owner and the Construction Manager by the Contractor, at no additional cost to Owner.

J. Progress photograph and video files shall be provided on flash drive as well as hard copies for photographs.

K. The file name of each photograph shall at a minimum contain the date the photograph was taken. All photographs shall be labeled to indicate date, time taken, and description of work shown.

1.04 COMPLETION DIGITAL PHOTOGRAPHS AND VIDEO

A. Following completion of the work, photographs and videos shall be made showing the same areas and features as in the pre-construction photographs.

B. The Contractor shall provide one (1) set of completion photographs after Substantial Completion has been achieved.

C. The photographs shall be digital, and shall indicate the date, name of project, direction in which the photograph was taken and the location where the photograph was taken.

D. A minimum of 50 photographs shall be taken at project completion including a video of the entire pipeline route.

E. Before Final Completion and acceptance of the project, digital copies of the photographs shall be delivered on a flash drive to the Construction Manager.

F. The Contractor shall photograph all of the constructed work, the entire area of construction and all site entries and access roads from multiple perspectives.

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G. Post construction photographs and videos shall be provided prior to final acceptance of the Project.

PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.01 SUBMITTALS

A. Submittals covered by these requirements include manufacturers' information, shop drawings, test procedures, test results, samples, requests for substitutions, and miscellaneous work-related submittals.

B. Submittals shall also include, but not be limited to, all mechanical, electrical and electronic equipment and systems, materials, reinforcing steel, fabricated items, and piping and conduit details.

C. The Contractor shall furnish all drawings, specifications, descriptive data, certificates, samples, tests, methods, schedules, and manufacturer's installation and other instructions as specifically required in the contract documents to demonstrate fully that the materials and equipment to be furnished and the methods of work comply with the provisions and intent of the contract documents.

1.02 CONTRACTOR'S RESPONSIBILITIES

A. General:

1. The Contractor shall be responsible for the accuracy and completeness of the information contained in each submittal and shall assure that the material, equipment or method of work shall be as described in the submittal.

   a. The Contractor shall verify that all features of all products conform to the specified requirements. Submittal documents shall be clearly edited to indicate only those items, models, or series of equipment, which are being submitted for review.

   b. All extraneous materials shall be crossed out or otherwise obliterated. The Contractor shall ensure that there is no conflict with other submittals and notify the Construction Manager in each case where his submittal may affect the work of another contractor or the Owner.

   c. The Contractor shall coordinate submittals among his subcontractors and suppliers.

2. The Contractor shall coordinate submittals with the Work so that work will not be delayed. He shall coordinate and schedule different categories of submittals, so that one will not be delayed for lack of coordination with another.

   a. No extension of time will be allowed because of failure to properly schedule submittals.

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b. The Contractor shall not proceed with work related to a submittal until the submittal process is complete. This requires that submittals for review and comment shall be returned to the Contractor stamped "No Exceptions Taken" or "Make Corrections Noted."

3. The Contractor shall certify on each submittal document that he has reviewed the submittal, verified field conditions, and complied with the contract documents.

4. The Contractor may authorize in writing a material or equipment supplier to deal directly with the Construction Manager or the Owner with regard to a submittal. These dealings shall be limited to contract interpretations to clarify and expedite the Work.

1.03 CATEGORIES OF SUBMITTALS

A. General:

1. Submittals fall into two general categories: submittals for review and comment, and submittals which are primarily for information only. Submittals which are for information only are generally specified as Product Data in Part 2 of applicable specification sections.

B. Submittals for review and comment:

1. All submittals except where specified to be submitted as product data for information only shall be submitted by the Contractor to the Construction Manager for review and comment.

C. Submittals (product data) for information only:

1. Where specified, the Contractor shall furnish submittals (product data) to the Construction Manager for Information only. Submittal requirements for operation and maintenance manuals, which are included in this category, are specified in Section 01 78 23.

1.04 TRANSMITTAL PROCEDURE

A. General:

1. Unless otherwise specified, submittals regarding material and equipment shall be accompanied by Transmittal Form 01 33 00-A specified in Section 01 99 90.

2. Submittals for operation and maintenance manuals, information and data shall be accompanied by Transmittal Form 01 78 23-A specified in Section 01 99 90.

3. A separate form shall be used for each specific item, class of material, equipment, and items specified in separate, discrete sections, for which the submittal is required. Submittal documents common to more than one piece of equipment shall be identified with all the appropriate equipment numbers.

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4. Submittals for various items shall be made with a single form when the items taken together constitute a manufacturer's package or are so functionally related that expediency indicates checking or review of the group or package as a whole.

5. A unique number, sequentially assigned, shall be noted on the transmittal form accompanying each item submitted.

    a. Original submittal numbers shall have the following format: XX XX XX.XX.YY, where 'X' denotes the applicable specification section and 'Y' denotes the individual submittal number for that particular specification section, beginning with 01.

    b. The initial submittal shall be identified as "Revision" 000.

    c. Subsequent resubmittals shall be identified 001, 002, etc. Packages shall be identified as follows: XXXXXXXXAA; where 'X' denotes the applicable specification.

B. Deviation from contract:

1. If the Contractor proposes to provide material, equipment, or method of work which deviates from the project manual, he shall indicate so under "deviations" on the transmittal form accompanying the submittal copies.

C. Submittal completeness:

1. Submittals which do not have all the information required to be submitted, including deviations, are not acceptable and will be returned without review.

D. Submittal schedule and log:

1. Contractor shall prepare and maintain a submittal log/schedule that includes all specified submittals for the project.

    a. Copies of the submittal log shall be provided to the Owner and Construction Manager for review within 15 days of the notice to proceed.

    b. No progress payments will be made by the Owner until the submittal log/schedule is accepted and approved by the Construction Manager.

2. The schedule shall clearly delineate submittals for review and comment and product data (submittals) for information only.

3. Submittal schedule information shall be updated monthly with the Contractor's updated project schedule.

4. The Contractor shall identify as an activity in the project schedule specified in Section 01 32 16, all major equipment submittals as well as those involving complex reviews and long lead deliveries.

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1.05 REVIEW PROCEDURE

A. General:

1. Submittals are specified for those features and characteristics of materials, equipment, and methods of operation which can be selected based on the Contractor's judgment of their conformance to the specified requirements.

2. Other features and characteristics are specified in a manner which enables the Contractor to determine acceptable options without submittals.

3. The review procedure is based on the Contractor's guarantee that all features and characteristics not requiring submittals conform as specified.

   a. Review shall not extend to means, methods, techniques, sequences or procedures of construction, or to verifying quantities, dimensions, weights or gages, or fabrication processes (except where specifically indicated or required by the project manual) or to safety precautions or programs incident thereto.

   b. Review of a separate item, as such, will not indicate approval of the assembly in which the item functions.

4. When the contract documents require a submittal, the Contractor shall submit the specified information as follows:

   a. Three (3) hard copies of all submitted information plus one digital pdf copy of all information shall be transmitted with submittals for review and comment.

   b. Unless otherwise specified, 3 copies of all sample data shall be transmitted with submittals (Product Data) for information only.

B. Submittals for review and comment:

1. Unless otherwise specified, within 30 calendar days after receipt of a submittal for review and comment, the Construction Manager shall review the submittal and return 1 copy of the marked-up copy. The marked-up copy/returned submittal will be retained by the Construction Manager. The returned submittal shall indicate one of the following actions:

   a. If the review indicates that the material, equipment or work method complies with the project manual, submittal copies will be marked "NO EXCEPTIONS TAKEN." In this event, the Contractor may begin to implement the work method or incorporate the material or equipment covered by the submittal.

   b. If the review indicates limited corrections are required, copies will be marked "MAKE CORRECTIONS NOTED." The Contractor may begin implementing the work method or incorporating the material and equipment covered by the submittal in accordance with the noted corrections. Where submittal information will be incorporated in O&M data, a corrected copy shall be provided.

   c. If the review reveals that the submittal is insufficient or contains incorrect data, copies will be marked "AMEND AND RESUBMIT."

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Except at his own risk, the Contractor shall not undertake work covered by this submittal until it has been revised, resubmitted and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED."

d. If the review indicates that the material, equipment, or work method does not comply with the project manual, copies of the submittal will be marked "REJECTED - SEE REMARKS." Submittals with deviations which have not been identified clearly may be rejected. Except at his own risk, the Contractor shall not undertake the work covered by such submittals until a new submittal is made and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED."

C. Submittals (product data) for information only:

1. Such information is not subject to submittal review procedures and shall be provided as part of the work under this contract and its acceptability determined under normal inspection procedures.

1.06 EFFECT OF REVIEW OF CONTRACTOR'S SUBMITTALS

A. General:

1. Review of contract drawings, methods of work, or information regarding materials or equipment the Contractor proposes to provide, shall not relieve the Contractor of his responsibility for errors therein and shall not be regarded as an assumption of risks or liability by the Construction Manager or the Owner, or by any officer or employee thereof, and the Contractor shall have no claim under the Contract on account of the failure, or partial failure, of the method of work, material, or equipment so reviewed.

2. A mark of "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED" shall mean that the Owner has no objection to the Contractor, upon his own responsibility, using the plan or method of work proposed, or providing the materials or equipment proposed.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 33 23

SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

PART 1 – GENERAL

1.01 SCOPE

A. Work under this Section includes submittal to the Construction Manager of shop drawings, product data and samples required by the various sections of these Specifications.

B. Submittal Contents: The submittal contents required are specified in each section.

C. Definitions: Submittals are categorized as follows:

1. Shop Drawings

a. Shop drawings shall include technical data, drawings, diagrams, procedure and methodology, performance curves, schedules, templates, patterns, test reports, calculations, instructions, measurements and similar information as applicable to the specific item for which the shop drawing is prepared.

b. Provide newly prepared information, on reproducible sheets, with graphic information at accurate scale (except as otherwise indicated) or appropriate number of prints hereof, with name or preparer (firm name) indicated.

c. The Contract Drawings shall not be traced or reproduced by any method for use as or in lieu of detail shop drawings.

d. Show dimensions and note dimensions that are based on field measurement.

e. Identify materials and products in the work shown. Indicate compliance with standards and special coordination requirements.

f. Do not allow shop drawings to be used in connection with the Work without appropriate final “Action” markings by the Construction Manager.

g. Drawings shall be presented in a clear and thorough manner. Details shall be identified by reference to sheet and detail, specification section, schedule or room numbers shown on the Contract Drawings.

h. Minimum assembly drawings sheet size shall be 22 x 34 inches.

i. Minimum detail sheet size shall be 8 1/2 x 11 inches.

j. Minimum Scale:

1) Assembly Drawings Sheet, Scale: 1 inch = 30 feet.

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2) Detail Sheet, Scale: 1/4 inch = 1 foot.

2. Product Data

   a. Product data includes standard printed information on materials, products and systems, not specially prepared for this Project, other than the designation of selections from among available choices printed therein.

   b. Collect required data into one submittal for each unit of work or system, and mark each copy to show which choices and options are applicable to the Project.

   c. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked and special coordination requirements.

3. Samples

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

   b. Provide units identical with final condition of proposed materials or products for the work.

      1) Include “range” samples, not less than three units, where unavoidable variations must be expected, and describe or identify variations between units of each set.

      2) Provide full set of optional samples where the Construction Manager's selection is required.

      3) Prepare samples to match the Construction Manager's sample where indicated.

      4) Information with each sample to show generic description, source or product name and manufacturer, limitations and compliance with standards.

      5) Samples are submitted for review and confirmation of color, pattern, texture and “kind” by the Construction Manager.

      7) Construction Manager will note “test” samples, except as otherwise indicated, for other requirements, which are the exclusive responsibility of the Contractor.

4. Miscellaneous submittals related directly to the Work (non-administrative) warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, statements of applicability, quality testing and certifying reports, copies of industry standards, record drawings, field measurement data, operating and maintenance materials, overrun stock, security/protection/safety keys and

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similar information, devices and materials applicable to the Work but not processed as shop drawings, product data or samples.

1.02 SPECIFIC CATEGORY REQUIREMENTS

A. General: Except as otherwise indicated in the individual work sections, comply with general requirements specified herein for each indicated category of submittal. Submittals shall contain:

1. The date of submittal and the dates of any previous submittals.
2. The Project title.
3. Numerical submittal numbers, starting with 1.0, 2.0, etc. Revisions to be numbered 1.1, 1.2, etc.
4. The Names of:
   a. Contractor
   b. Supplier
   c. Manufacturer
5. Identification of the product, with the Specification section number, permanent equipment tag numbers and applicable Drawing Number.
6. Field dimensions, clearly identified as such.
7. Relation to adjacent or critical features of the Work or materials.
8. Applicable standards, such as ASTM or Federal Specification numbers.
9. Notification to the Construction Manager in writing, at time of submissions, of any deviations on the submittals from requirements of the Contract Documents.
10. Identification of revisions on resubmittals.
11. An 8 x 3 inch blank space for Contractor and Construction Manager stamps.
12. Contractor's stamp, initialed or signed, certifying to review of submittal, verification of products, field measurements and field construction criteria and coordination of the information within the submittal with requirements of the Work and of Contract Documents.
13. Submittal sheets or drawings showing more than the particular item under consideration shall have all but the pertinent description of the item for which review is requested crossed out.

1.03 ROUTING OF SUBMITTALS

A. Submittals and routine correspondence shall be routed as follows:

1. Supplier to Contractor (through representative if applicable)
2. Contractor to Construction Manager

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3. Construction Manager to Contractor and Owner
4. Contractor to Supplier

PART 2 – PRODUCTS

2.01 SHOP DRAWINGS

A. Unless otherwise specifically directed by the Construction Manager, make all shop drawings accurately to a scale sufficiently large to show all pertinent features of the item and its method of connection to the Work.

B. Submit all shop drawings in the form of six hard copies and one pdf file.

C. One reproducible for all submittals larger than 11 x 17 inches and no more than three prints of other submittals will be returned to the Contractor.

2.02 MANUFACTURER'S LITERATURE

A. Where content of submitted literature from manufacturers includes data not pertinent to this submittal, clearly indicate which portion of the contents is being submitted for the Construction Manager's review.

B. Submit the number of copies which are required to be returned (not to exceed three) plus three copies which will be retained by the Construction Manager.

2.03 SAMPLES

A. Samples shall illustrate materials, equipment or workmanship and established standards by which completed work is judged.

B. Unless otherwise specifically directed by the Construction Manager, all samples shall be of the precise article proposed to be furnished.

C. Submit all samples in the quantity which is required to be returned plus one sample which will be retained by the Construction Manager.

2.04 COLORS

A. Unless the precise color and pattern is specifically described in the Contract Documents, wherever a choice of color or pattern is available in a specified product, submit accurate color charts and pattern charts to the Construction Manager for review and selection.

B. Unless all available colors and patterns have identical costs and identical wearing capabilities, and are identically suited to the installation, completely describe the relative costs and capabilities of each.

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PART 3 – EXECUTION

3.01 CONTRACTOR'S COORDINATION OF SUBMITTALS

A. Prior to submittal for the Construction Manager's review, the Contractor shall use all means necessary to fully coordinate all material, including the following procedures:

1. Determine and verify all field dimensions and conditions, catalog numbers and similar data.
2. Coordinate as required with all trades and all public agencies involved.
3. Submit a written statement of review and compliance with the requirements of all applicable technical Specifications as well as the requirements of this Section.
4. Clearly indicate in a letter or memorandum on the manufacturer's or fabricator's letterhead, all deviations from the Contract Documents.

B. Each and every copy of the shop drawings and data shall bear the Contractor's stamp showing that they have been so checked. Shop drawings submitted to the Construction Manager without the Contractor's stamp will be returned to the Contractor for conformance with this requirement.

C. The Owner may back charge the Contractor for costs associated with having to review a particular shop drawing, product data or sample more than two times to receive a “No Exceptions Taken” mark.

D. GROUPING OF SUBMITTALS

1. Unless otherwise specifically permitted by the Construction Manager, make all submittals in groups containing all associated items.
2. No review will be given to partial submittals of shop drawings for items which interconnect and/or are interdependent.
    a. It is the Contractor's responsibility to assemble the shop drawings for all such interconnecting and/or interdependent items, check them and then make one submittal to the Construction Manager along with Contractor's comments as to compliance, non-compliance or features requiring special attention.

E. SCHEDULE OF SUBMITTALS

1. Within 30 days of Contract award and prior to any shop drawing submittal, the Contractor shall submit a schedule showing the estimated date of submittal and the desired approval date for each shop drawing anticipated.
2. A reasonable period shall be scheduled for review and comments.
3. Time lost due to unacceptable submittals shall be the Contractor's responsibility and some time allowance for resubmittal shall be provided.

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The schedule shall provide for submittal of items which relate to one another to be submitted concurrently.

3.02 TIMING OF SUBMITTALS

A. Make all submittals far enough in advance of scheduled dates for installation to provide all required time for reviews, for securing necessary approvals, for possible revision and resubmittal, and for placing orders and securing delivery.

B. In scheduling, allow sufficient time for the Construction Manager's review following the receipt of the submittal.

3.03 REVIEWED SHOP DRAWINGS

A. CONSTRUCTION MANAGER REVIEW

1. Allow a minimum of 30 days for the Construction Manager's initial processing of each submittal requiring review and response, except allow longer periods where processing must be delayed for coordination with subsequent submittals.

   a. The Construction Manager will advise the Contractor promptly when it is determined that a submittal being processed must be delayed for coordination.

   b. Allow a minimum of two weeks for reprocessing each submittal.

   c. Advise the Construction Manager on each submittal as to whether processing time is critical to progress of the Work, and therefore the Work would be expedited if processing time could be foreshortened.

2. Acceptable submittals will be marked “No Exceptions Taken”. A minimum of three copies will be retained by the Construction Manager for Construction Manager's and the Owner's use and the remaining copies will be returned to the Contractor.

3. Submittals requiring minor corrections before the product is acceptable will be marked “Make Corrections Noted”. The Contractor may order, fabricate and ship the items included in the submittals, provided the indicated corrections are made. Drawings must be resubmitted for review and marked “No Exceptions Taken” prior to installation or use of products.

4. Submittals marked “Amend and Resubmit” must be revised to reflect required changes and the initial review procedure repeated.

5. The “Rejected See Remarks” notation is used to indicate products which are not acceptable. Upon return of a submittal so marked, the Contractor shall repeat the initial review procedure utilizing acceptable products.

6. Only two copies of items marked “Amend and Resubmit” and “Rejected See Remarks” will be reviewed and marked. One copy will be retained by the Construction Manager and the other copy with all remaining unmarked copies will be returned to the Contractor for resubmittal.

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B. No work or products shall be installed without a drawing or submittal bearing the "No Exceptions Taken" notation. The Contractor shall maintain at the job site a complete set of shop drawings bearing the Construction Manager's stamp.

C. Substitutions: In the event the Contractor obtains the Construction Manager's approval for the use of products other than those which are listed first in the Contract Documents, the Contractor shall, at the Contractor's own expense and using methods approved by the Construction Manager, make any changes to structures, piping and electrical work that may be necessary to accommodate these products.

D. Use of the "No Exceptions Taken" notation on shop drawings or other submittals is general and shall not relieve the Contractor of the responsibility of furnishing products of the proper dimension, size, quality, quantity, materials and all performance characteristics, to efficiently perform the requirements and intent of the Contract Documents.

1. The Construction Manager's review shall not relieve the Contractor of responsibility for errors of any kind on the shop drawings.
2. Review is intended only to assure conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site.
3. The Contractor is also responsible for information that pertains solely to the fabrication processes or to the technique of construction and for the coordination of the work of all trades.

3.04 RESUBMISSION REQUIREMENTS

A. SHOP DRAWINGS

1. Revise initial drawings as required and resubmit as specified for initial submittal, with the resubmittal number shown.
2. Indicate on drawings all changes which have been made other than those requested by the Construction Manager.

B. Project Data and Samples: Resubmit new data and samples as specified for initial submittal, with the resubmittal number shown.

END OF SECTION

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SECTION 01 35 00

UNIQUE REQUIREMENTS

PART 1 – GENERAL

1.01 SCOPE

A. The scope of this Section is to convey to the Contractor unique and unusual stipulations and requirements which have been established for this Project.

1. Some of the stipulations and requirements are a result of negotiations with various entities and organizations which have an interest in this Project.

2. Some requirements are based on technical aspects of the Project which are not otherwise conveyed to the Contractor.

B. The provisions of this Section shall not supersede the Bidding Requirements, Contract Forms or Conditions of the Contract.

1.02 MILESTONE DATES

A. The Contractor shall be required to complete the following activities by the indicated date or days after the Notice to Proceed:

Consecutive Calendar Days after Notice to Proceed	Milestone Liquidated Damages per Calendar Day
30 Days	Completion of Administrative Period
210 Days	Substantial Completion of All Work $1,000
240 Days	Final Completion of All Work $250

Revise per specific contract term

B. Substantial Completion, for the purposes of assessing liquidated damages, shall be defined as the time at which the work (or a specified part thereof) has progressed to the point where, in the opinion of Construction Manager, 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.

C. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof. At minimum, Substantial Completion shall be defined as:

1. That degree of completion of the Project’s operating facilities or systems sufficient to provide the Owner full time, uninterrupted, continuous operation of the work; and

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2. All required functional, performance, and operational or startup testing has been successfully demonstrated for all components, devices, equipment, systems, including instrumentation and controls to the satisfaction of the Construction Manager in accordance with the requirements of the Specifications; and
3. All inspections required have been completed. Specific items of work that must be completed prior to the Construction Manager's issuance of a certificate of Substantial Completion include, but are not limited to, the following:
    a. Correcting deficient work items listed by any regulatory agencies.
    b. All submittals must be received and approved by the Construction Manager, including, but not necessarily limited to, the following:
        1) Record documents.
        2) Factory test reports.
        3) Equipment and structure test reports.
        4) Manufacturer's Certificate of Proper Installation.
        5) Operating and Maintenance information, instructions, manuals, documents, drawings, diagrams, and records.
        6) Spare parts lists.
    c. All additional warranty or insurance coverage requirements have been provided.

1.03 STANDARDS

A. Existing pavement, sidewalks and curb and gutter, driveways or storm sewer, if affected by the construction, shall be replaced, in accordance with the relevant City and/or the Georgia Department of Transportation specifications and standards to match existing conditions at a minimum.

1.04 SUBMITTALS

A. Sequence Submittal

1. Submit a proposed sequence in accordance with Section 01 32 16 with appropriate times of starting and completion of tasks to Construction Manager for review.
2. The Contractor may propose alternatives to the sequencing constraints to that shown in this Section in an attempt to reduce the disruption of the operation of the existing facility or streamline the tasks of this Contract.
3. The Owner and Construction Manager are not obligated to accept any of these alternatives.

B. All requested submittals must be approved by the Owner or Construction Manager, prior to any on site work.

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1. This includes, but is not limited to the construction sequencing schedule, Erosion and Sedimentation Control Plan, Tree Protection Plan, Traffic Management Plan, product shop drawings, and health and safety and loss prevention programs.

1.05 EXISTING FACILITY OPERATIONS

A. All existing services and continuity of water service must be maintained during the time construction activities are in progress.

B. Facilities may NOT be taken out of service between and May 15 and September 15 of any year.

C. For water tank projects, only one tank may be taken out of service at any time.

D. The Contractor shall coordinate all work with the Construction Manager, so that the construction will not restrain or hinder the operation of the existing services.

1. If, at any time, any portion of the existing service will be interrupted, the Contractor must obtain approval from the Construction Manager, five (5) days in advance, as to the date, time and length of time that portion of the services will be interrupted, until the services are restored.

E. Connections to the existing facilities or alteration of existing facilities will be made at times when the facility involved is not in use or at times, established by the Owner, when the use of the facility can be conveniently interrupted for the period of time needed to make the connection or alteration.

F. After having coordinated the work with the Owner, the Contractor shall prepare a submittal in accordance with Section 01 33 23 to include the time, time limits and methods of each connection or alteration and have the approval of the Construction Manager before any work is undertaken on the connections or alterations.

G. The Contractor shall comply with the stipulations contained in permits obtained from the relevant or applicable government entity, pertaining to work hours, lane closures, noise pollution, traffic detours, and road closures.

H. Before driveways are interrupted, the Contractor is responsible to coordinate their work activities with the property residence, so that construction will not hinder excess to the property.

I. Before any roadway or facilities are blocked off, the Owner's approval shall be obtained to coordinate operations for the Work.

J. The Contractor shall not open or close valves or take any other such actions concerning the operation of existing systems.

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1.06 SEQUENCING

A. General

1. The Contractor is responsible for all construction activities sequencing, unless adjustment to any construction activity sequencing, is due to the Project's constraint, and/or requested by Construction Manager.
2. The completion of specific preliminary sequencing tasks will be required, prior to any construction activities.
3. The Contractor is responsible to verify the project's existing topography, prior to the procurement and delivery of pipe materials.
4. The Contractor is responsible to keep the road fully operational and functional, during the execution of the Project, unless approval is given by the relevant governing authority.

B. The Contractor shall notify the Construction Project Manager in writing at least 72 hours, prior to starting work that will require taking existing facilities out of service.

C. The Contractor may utilize multiple crews to construct the pipeline concurrently at various locations with the approval of the Construction Manager, in order to maintain the Project's completion schedule, or as required by the Construction Manager.

D. The Contractor is responsible to make their own assessment and determination of requirements that affect or may affect the work progress and sequencing.

E. Prior to the procurement of the proposed water line materials, the Contractor is responsible to field locate the starting and ending, tie-in points and connections locations of existing water pipe line. Field stake the horizontal center line of the proposed pipe line, in order to better procure the total amount of proposed water line linear footage.

F. The Contractor is responsible to provide, as an attachment to their Progress Payment Request Submittals, the applicable to date As-Built progress drawing of the installed water line that will support linear footage water main, to be approved for payment.

1.07 SEQUENCING CONSTRAINTS

A. The following construction sequencing constraints are to emphasize critical tasks of the work in this Contract. It is not a complete list of all work to be completed.

1. <add constraints>

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1.08 SITE PHYSICAL CONDITIONS

A. The Contractor shall field verify the locations of existing subsurface structures, utilities, services, and depth of underground facilities, prior to the start of excavation and construction.

B. The Contractor is responsible to identify, locate, and make the necessary exploratory excavations where existing underground utilities, services, and structures may potentially conflict with propose construction.

C. All exploratory excavations shall be conducted sufficiently ahead to avoid possible delays to the Contractor's proposed water main installation schedule, and project's Contract Time.

D. The Contractor is responsible to field locate accurately and document, prior to start of work, the existing site condition of all landscaping features, walls, sidewalk, and curb and gutter alignment, including any existing features that may be impacted

1.09 TRAFFIC CONTROL

A. The Contractor is responsible to furnish the necessary traffic flagmen and/or escorts to direct traffic in the roadway areas affected by their construction operations, whenever and wherever, in the opinion of the Construction Manager traffic is sufficiently congested or public safety is endangered.

B. Under the Contract Terms, the employment or presence of traffic flagmen or escort, shall not in way relieve the Contractor of their responsible and/or liability.

1.10 CONSTRUCTION STAKING

A. The Project Construction Drawings show the alignment of the water main, and the location of valves, washouts, and other appurtenances.

B. The base line shall be defined as the centerline to which the location of the water line is referenced, or survey line. The Contractor shall be responsible for performing all survey work required for constructing the water main, including the establishment of its base line and/or centerline, and any details surveys needed for the water main installation and construction.

C. This work shall include the staking out of permanent and temporary easements, to ensure that the Contractor is not deviating from the designated easements.

D. The water main level of detail of survey shall be that the correct location, as described on the Construction Drawings or as laid out in the field can be established for construction and can be verified in the field by the Construction Project Manager.

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1.11 REFERENCE POINTS

A. The Contractor shall take all precautions necessary, which includes, but not limited to, installing reference points, in order to protect and preserve the centerline or baseline established.

B. Reference points shall be placed at or no more than three (3) from the outside of the construction easement or right-of-way.

C. The location of the reference points shall be recorded in a log with a copy provided to the Construction Project Manager, prior to reference point locations verification.

D. The distances between reference points and the water main centerline shall be accurately measured to 0.01 foot.

E. The Contractor shall give the Construction Project Manager reasonable notice to field verify the set reference points.

1.12 ADMINISTRATION PERIOD

A. During the Administration Period the Contractor shall be limited in site access to only the following:

1. Nondestructive field verification of existing conditions.
2. Construction of Contractor's temporary field offices.

B. During the Administration Period the Contractor shall complete, as a minimum, the following:

1. Issuance of contracts, subcontracts, and purchase orders for all major products and systems.
2. Complete all submittals, release for manufacture, and schedule delivery for the products or systems referenced above.
3. Prepare and submit approvable documents required by Section 01 32 16, including OPS and the Schedule of Values.
4. Install Contractor's temporary field offices complete with all required utilities, internet, network, supplies, and furnishings required.
5. Complete and submit all preconstruction photos, videos, and initial aerial photographs.

C. The duration of the Administration Period is 30 consecutive calendar days, after which time the Construction Period shall automatically begin.

D. Construction Period may begin prior to the 30 days, provided all requirements of the Administration Period have been completed, submitted, and approved by the Construction Manager.

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PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 35 29

HEALTH, SAFETY AND EMERGENCY RESPONSE PROCEDURES

PART 1 – GENERAL

1.01. CONTRACTOR'S RESPONSIBILITY FOR SAFETY

A. The Contractor shall determine the safety hazards involved in prosecuting the Work and the precautions necessary to conduct the Work safely.

1. If the Contractor is unsure as to any special hazards which may be unique to the various processes and facilities involved in water conveyance and treatment, it shall be Contractor's responsibility to determine such information prior to beginning the Work.

B. The Contractor shall conduct its operations and perform all work safely and perform all work necessary to ensure the safety of its personnel and others and shall be solely and completely responsible for the conditions on the jobsite, including the safety of all persons and property, both public and private, during the Contract period.

C. This protection shall be provided for all persons including but not limited to his employees, employees of other contractors or subcontractors, members of the general public, Owner's employees including the Construction Manager, Engineer's employees, and regulatory agencies' personnel that may be on or about the work. Protection of public and private property including but not limited to utilities, pipes, equipment, motor vehicles, and structures.

D. The Contractor's responsibility for protection is described in Article 25 of the General Conditions.

E. These requirements shall apply continuously and not be limited to normal working hours.

F. The Contractor shall bear all risks associated with performing the Work and shall fully indemnify and hold harmless the Owner, the Construction Manager and Engineer.

PART 2 – SAFETY AND HEALTH REGULATIONS

2.01. GENERAL

A. Safety provisions shall conform to the Federal and State Departments of Labor Occupational Safety and Health Act (OSHA), and all other applicable federal, state, county, and local laws, ordinances, codes, the requirements set forth herein, and any regulations that may be specified elsewhere in these Contract Documents.

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B. Where any of these are in conflict, the more stringent requirement shall be followed. The Contractor's failure to thoroughly familiarize himself with the aforementioned safety provisions shall not relieve him from compliance with the obligations or relieve him of the penalties set forth therein.

C. All construction shall be conducted in accordance with the latest applicable requirements of the following:

1. Part 1926 - Safety and Health Regulations for Construction of the Occupational Safety and Health Act.
2. Section 107 of the Contract Work Hours and Safety Standards Act.
3. Any other local, state or federal safety codes, laws, regulations and standards that apply.

D. Copies of these regulations may be obtained from Labor Building, 14th and Constitution Avenue N.W., Washington, DC 20013.

PART 3 – EXECUTION

3.01. SAFE ACCESS TO THE WORK

A. The Contractor shall at all times provide proper facilities for safe access to the work by the Owner, the Construction Manager, their authorized representatives and by all authorized government officials.

3.02. CONSTRUCTION SAFETY PROGRAM

A. Contractor shall develop a written job safety program specifically suited for this project.

B. The Contractor shall appoint for the duration of this Contract a qualified supervisory employee to develop and supervise the Contractor's job safety program that will effectively implement the required safety provisions.

C. Neither the Owner nor the Construction Manager shall be responsible for safety precautions and programs in connection with the construction work.

D. The Contractor shall provide the Owner and Construction Manager with two copies of the Contractor's safety program within 15 working days after the Notice to Proceed.

3.03. EXCAVATION PLANS

A. In accordance with the governing state and federal requirements, the Contractor shall submit a detailed excavation plan to the Construction Manager before excavation, showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground during the excavation of any trench or trenches five feet or more in depth.

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B. The excavation plan shall be prepared, sealed and signed by a licensed engineer registered in the state of Georgia.

C. This submittal is for record purposes only and shall not be reviewed and approved by the Owner or Construction Manager.

D. The plan is the complete responsibility of the Contractor and submitting it to the Owner and Construction Manager shall not relieve the Contractor for overall responsibility and liability for the work.

E. It shall be understood that the above stipulated requirements are considered to be the minimum to be provided. It shall be the Contractor's responsibility to provide the additional strength required to support the side of the excavation against loads which may exceed those employed to derive the criteria set forth in the Industrial Safety Orders.

F. The Contractor shall be solely responsible for any and all liabilities which may arise from his failure to provide adequate shoring, bracing, or sheeting as necessary to support the excavation under any or all of the conditions of loading which may exist, or which may arise during the construction of the project.

3.04. SAFETY EQUIPMENT

A. The Contractor shall maintain at the jobsite safety equipment applicable to the Work as prescribed by the governing safety authorities and all articles necessary for giving first aid to the injured and shall establish the procedure for the immediate removal to a hospital or a doctor's care of persons who may be injured on the jobsite.

B. The performance of all work and all construction, particularly with respect to ladders, platforms, structure opening, scaffolding, shoring, lagging, and machinery guards, shall be in accordance with the requirements of applicable governing safety authorities.

3.05. ACCIDENT REPORTS

A. If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to the Owner. In addition, the Contractor must promptly report in writing to the Owner all accidents in connection with work, giving full details, names, and statements of witnesses.

B. If a claim is made by anyone against the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the Owner, giving full details of the claim.

3.06. TRAFFIC SAFETY AND ACCESS TO PROPERTY

A. Comply with all rules and regulations of the City, State, and County authorities regarding closing or restricting the use of public street or highways.

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B. No public or private road shall be closed, except by express permission of the Owner.

C. Conduct the work so as to assure the least possible obstructions within traveled roadways by installing approved signs, barricades, and lights where necessary for the safety of the public.

D. The convenience of the general public and residents adjacent to the project, and the protection of the persons and property are of prime importance and shall be provided for in an adequate and satisfactory manner.

3.07. FIRE PREVENTION AND PROTECTION

A. The Contractor shall execute all work in a fire-safe manner and shall supply and maintain on the site adequate fire-fighting equipment capable of extinguishing incipient fires.

B. The Contractor shall comply with applicable federal, local, and state fire prevention regulations.

C. Where these regulations do not apply, applicable parts of the National Fire Prevention Standards for Safeguarding Building Construction Operations, (NFPA No. 241) shall be followed.

D. Sufficient number of fire extinguishers of the type and capacity required to protect the Work and ancillary facilities, shall be provided and maintained by the Contractor in readily accessible locations.

3.08. Prior to entering or commencing work in a hazardous area, the Contractor shall ensure that all safety and emergency equipment is in place and in satisfactory operating condition.

3.09. Prior to commencing Work on existing facilities and equipment, the Contractor shall notify the system/facility superintendent and shall ensure that the source of electrical energy to all affected equipment is shut off and locked out at the appropriate motor control center. Local switches and pushbutton stations, where provided, shall be locked in the “off” position.

3.10. EMERGENCY PHONE NUMBERS

A. Emergency phone numbers (fire, medical, police) shall be posted at all telephone locations at the Site of the Work and their locations made known to all.

END OF SECTION

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SECTION 01 35 43

ENVIRONMENTAL PROCEDURES

PART 1 – GENERAL

1.01 SITE MAINTENANCE

A. The Contractor shall keep the work site clean and free from rubbish and debris. Materials and equipment shall be removed from the site when they are no longer necessary.

B. Upon completion of the Work and before final acceptance, the work site shall be cleared of equipment, unused materials, and rubbish to present a clean and neat appearance.

1.02 TEMPORARY DAMS

A. Except in time of emergency, earth dams are not acceptable at catch basin openings, local depressions, or elsewhere.

B. Temporary dams of sand bags, asphaltic concrete, or other acceptable material will be permitted when necessary to protect the Work, provided their use does not create a hazard or nuisance to the public.

C. Such dams shall be removed from the site as soon as they are no longer necessary.

1.03 AIR POLLUTION CONTROL

A. The Contractor shall not discharge smoke, dust, and other contaminants, into the atmosphere that violate the regulations of any legally constituted authority.

B. The Contractor shall also abate dust nuisance by cleaning, sweeping, and sprinkling with water, or other means as necessary. The use of water, in amounts that result in mud on public streets, is not acceptable as a substitute for sweeping or other methods.

C. The Contractor shall provide dust control at no additional cost to the Owner.

1.04 NOISE CONTROL

A. Noise from Contractor's operations shall not exceed limits established by applicable laws or regulations and local noise ordinances.

1.05 SEDIMENTATION AND EROSION CONTROL

A. Contractor shall employ best management practices in accordance with Local, State and Federal guidelines and regulations for erosion and sedimentation

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control. Unless otherwise noted, Contractor shall obtain related permits or approvals and pay applicable fees.

1.06 STATE OR FEDERAL WATERS

A. State or Federal Waters, wetlands or other environmental features shall not be disturbed without proper approvals, permits or notifications, which are the responsibility of the Contractor.

1.07 HAZARDOUS MATERIALS STORAGE

A. The Contractor shall submit Material Safety Data Sheets (MSDSs) for all hazardous chemicals contained onsite to the Construction Manager.

B. The Contractor shall also maintain a copy of all applicable MSDSs onsite at all times.

C. The Contractor shall notify the Owner and the Construction Manager upon receipt of any hazardous chemicals onsite.

D. All hazardous chemicals onsite must be placed in approved containment with an appropriate leak detection system. Flammable materials such as paints, thinners, solvents, etc. must be stored in approved fire storage cabinets.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 41 00

REGULATORY REQUIREMENTS

PART 1 – GENERAL

1.01 SCOPE

A. Permits and Responsibilities: The Contractor shall, without additional expense to the Owner, be responsible for obtaining all necessary licenses and permits, including building permits, and for complying with any applicable federal, state, county and municipal laws, codes and regulations, in connection with the prosecution of the Work. In addition, City Work Permits,

B. Right of Way Encroachment permits, plumbing permits and similar type permits, and all appropriate licenses are the responsibility of the Contractor.

C. If land disturbance permits, DOT permits, or easements are required, they will be obtained by the County as part of the design process.

D. The Contractor shall take proper safety and health precautions to protect the Work, the workers, the Owner and his representatives, the Engineer and his representatives, the public and the property of others.

E. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the Work, except for any completed unit of construction thereof which may heretofore have been accepted.

PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 42 00

CODES AND STANDARDS

PART 1 – GENERAL

1.01 DESCRIPTION

A. Whenever reference is made to conforming to the standards of any technical society, organization, body, code or standard, it shall be construed to mean the latest standard, code, specification or tentative specification adopted and published at the time of advertisement for Bids. This shall include the furnishing of materials, testing of materials, fabrication and installation practices. In those cases where the Contractor's quality standards establish more stringent quality requirements, the more stringent requirement shall prevail. Such standards are made a part hereof to the extent which is indicated or intended.

B. The inclusion of an organization under one category does not preclude that organization' standards from applying to another category.

C. In addition, all work shall comply with the applicable requirements of local codes, utilities and other authorities having jurisdiction.

D. All material and equipment, for which a UL Standard, an AGA or NSF approval or an ASME requirement is established, shall be so approved and labeled or stamped. The label or stamp shall be conspicuous and not covered, painted, or otherwise obscured from visual inspection.

E. The standards which apply to this Project are not necessarily restricted to those organizations which are listed in Article 1.02.

1.02 STANDARD ORGANIZATIONS

A. PIPING AND VALVES

ACPA	American Concrete Pipe Association
ANSI	American National Standards Institute
API	American Petroleum Institute
ASME	American Society of Mechanical Engineers
AWWA	American Water Works Association
CISPI	Cast Iron Soil Pipe Institute
DIPRA	Ductile Iron Pipe Research Association
FCI	Fluid Controls Institute
MSS	Manufacturers Standardization Society
NCPI	National Clay Pipe Institute
NSF	National Sanitation Foundation
PPI	Plastic Pipe Institute
Uni Bell	PVC Pipe Association

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B. MATERIALS

AASHTO	American Association of State Highway and Transportation Officials
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials

C. PAINTING AND SURFACE PREPARATION

NACE	National Association of Corrosion Engineers
SSPC	Steel Structures Painting Council

D. ELECTRICAL AND INSTRUMENTATION

AEIC	Association of Edison Illuminating Companies
AIEE	American Institute of Electrical Engineers
EIA	Electronic Industries Association
ICEA	Insulated Cable Engineers Association
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronic Engineers
IES	Illuminating Engineering Society
IPC	Institute of Printed Circuits
IPCEA	Insulated Power Cable Engineers Association
ISA	The Instrumentation, Systems, and Automation Society
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
REA	Rural Electrification Administration
TIA	Telecommunications Industries Association
UL	Underwriter's Laboratories
VRCI	Variable Resistive Components Institute

E. ALUMINUM

AA	Aluminum Association
AAMA	American Architectural Manufacturers Association

F. STEEL AND CONCRETE

ACI	American Concrete Institute
AISC	American Institute of Steel Construction, Inc.
AISI	American Iron and Steel Institute
CRSI	Concrete Reinforcing Steel Institute
NRMA	National Ready Mix Association
PCA	Portland Cement Association
PCI	Prestressed Concrete Institute

G. WELDING

ASME	American Society of Mechanical Engineers
AWS	American Welding Society

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H. GOVERNMENT AND TECHNICAL ORGANIZATIONS

AIA	American Institute of Architects
APHA	American Public Health Association
APWA	American Public Works Association
ASA	American Standards Association
ASAE	American Society of Agricultural Engineers
ASCE	American Society of Civil Engineers
ASQC	American Society of Quality Control
ASSE	American Society of Sanitary Engineers
CFR	Code of Federal Regulations
CSI	Construction Specifications Institute
EDA	Economic Development Administration
EPA	Environmental Protection Agency
FCC	Federal Communications Commission
FmHA	Farmers Home Administration
FS	Federal Specifications
IAI	International Association of Identification
ISEA	Industrial Safety Equipment Association
ISO	International Organization for Standardization
ITE	Institute of Traffic Engineers
NBFU	National Board of Fire Underwriters
(NFPA)	National Fluid Power Association
NBS	National Bureau of Standards
NISO	National Information Standards Organization
OSHA	Occupational Safety and Health Administration
SI	Salt Institute
SPI	The Society of the Plastics Industry, Inc.
USDC	United States Department of Commerce
WEF	Water Environment Federation

I. GENERAL BUILDING CONSTRUCTION

AHA	American Hardboard Association
AHAM	Association of Home Appliance Manufacturers
AITC	American Institute of Timber Construction
APA	American Parquet Association, Inc.
APA	American Plywood Association
BHMA	Builders Hardware Manufacturers Association
BIFMA	Business and Institutional Furniture Manufacturers Association
DHI	Door and Hardware Institute
FM	Factory Mutual Fire Insurance Company
HPMA	Hardwood Plywood Manufacturers Association
HTI	Hand Tools Institute
IME	Institute of Makers of Explosives
ISANTA	International Staple, Nail and Tool Association
ISDSI	Insulated Steel Door Systems Institute
IWS	Insect Screening Weavers Association
MBMA	Metal Building Manufacturers Association
NAAMM	National Association of Architectural Metal Manufacturers

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NAGDM	National Association of Garage Door Manufacturers
NCCLS	National Committee for Clinical Laboratory Standards
NFPA	National Fire Protection Association
NFSA	National Fertilizer Solutions Association
NKCA	National Kitchen Cabinet Association
NWMA	National Woodwork Manufacturers Association
NWWDA	National Wood Window and Door Association
RMA	Rubber Manufacturers Association
SBC	SBCC Standard Building Code
SDI	Steel Door Institute
SIA	Scaffold Industry Association
SMA	Screen Manufacturers Association
SPRI	Single Ply Roofing Institute
TCA	Tile Council of America
UBC	Uniform Building Code

J. ROADWAYS

AREA	American Railway Engineering Association
DOT	Department of Transportation
SSRBC	Standard Specifications for Construction of Transportation Systems, Georgia Department of Transportation

K. PLUMBING

AGA	American Gas Association
NSF	National Sanitation Foundation
PDI	Plumbing Drainage Institute
SPC	SBCC Standard Plumbing Code

L. REFRIGERATION, HEATING, AND AIR CONDITIONING

AMCA	Air Movement and Control Association
ARI	American Refrigeration Institute
ASHRAE	American Society of Heating, Refrigeration, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
CGA	Compressed Gas Association
CTI	Cooling Tower Institute
HEI	Heat Exchange Institute
IIAR	International Institute of Ammonia Refrigeration
NB	National Board of Boilers and Pressure Vessel Inspectors
PFMA	Power Fan Manufacturers Association
SAE	Society of Automotive Engineers
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SMC	SBCC Standard Mechanical Code
TEMA	Tubular Exchangers Manufacturers Association

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M. EQUIPMENT

AFBMA	Anti Friction Bearing Manufacturers Association, Inc.
AGMA	American Gear Manufacturers Association
ALI	Automotive Lift Institute
CEMA	Conveyor Equipment Manufacturers Association
CMAA	Crane Manufacturers Association of America
DEMA	Diesel Engine Manufacturers Association
MMA	Monorail Manufacturers Association
OPEI	Outdoor Power Equipment Institute, Inc.
PTI	Power Tool Institute, Inc.
RIA	Robotic Industries Association
SAMA	Scientific Apparatus Makers Association

1.03 SYMBOLS

A. Symbols and material legends shall be as scheduled on the Drawings.

PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 45 29

TESTING LABORATORY SERVICES

PART 1 – GENERAL

1.01 SCOPE

A. This Section includes testing which the Owner may require, beyond that testing required of the manufacturer, to determine if materials provided for the Project meet the requirements of these Specifications.

B. This work also includes all testing required by the Owner to verify work performed by the Contractor is in accordance with the requirements of these Specifications, such as concrete strength and slump testing, soil compaction, etc.

C. This work does not include materials testing required in various sections of these Specifications to be performed by the manufacturer, such as testing of pipes.

D. The testing laboratory or laboratories will be selected by the Owner. The testing laboratory or laboratories will work for the Owner.

1.02 PAYMENT FOR TESTING SERVICES

A. The cost of testing services required by the Contract to be provided by the Contractor shall be paid for by the Owner through the CASH ALLOWANCE, e.g., concrete testing, soil compaction, asphalt testing, etc.

B. The cost of additional testing services not specifically required in the Specifications, but requested by the Owner or Construction Manager, shall be paid for by the Owner through the CASH ALLOWANCE.

C. The cost of material testing described in various sections of these Specifications or as required in referenced standards to be provided by a material manufacturer, shall be included in the price bid for that item and shall not be paid for by the Owner.

D. The cost of retesting any item that fails to meet the requirements of these Specifications shall be paid for by the Contractor. Retesting shall be performed by the testing laboratory working for the Owner.

1.03 LABORATORY DUTIES

A. Cooperate with the Owner, Construction Manager and Contractor.

B. Provide qualified personnel promptly on notice.

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C. Perform specified inspections, sampling and testing of materials.

1. Comply with specified standards, ASTM, other recognized authorities, and as specified.
2. Ascertain compliance with requirements of the Contract Documents.

D. Promptly notify the Construction Manager and Contractor of irregularity or deficiency of work which are observed during performance of services.

E. Promptly submit one copy of inspection and/or test reports to the Construction Manager and Contractor with the following information included:

1. Date issued
2. Project title and number
3. Testing laboratory name and address
4. Name and signature of inspector
5. Date of inspection or sampling
6. Record of temperature and weather
7. Date of test
8. Identification of product and Specification section
9. Location of Project
10. Type of inspection or test
11. Results of test
12. Observations regarding compliance with the Contract Documents

F. Perform additional services as required.

G. The laboratory is not authorized to release, revoke, alter or enlarge requirements of the Contract Documents, or approve or accept any portion of the Work.

1.04 CONTRACTOR RESPONSIBILITIES

A. Cooperate with laboratory personnel; provide access to Work and/or manufacturer's requirements.

B. Provide to the laboratory, representative samples and in required quantities, of materials to be tested.

C. Furnish copies of test reports.

D. Furnish required labor and facilities to:

1. Provide access to Work to be tested.
2. Obtain and handle samples at the site.

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3. Facilitate inspections and tests.
4. Build or furnish a holding box for concrete cylinders or other samples as required by the laboratory.

E. Notify the laboratory sufficiently in advance of operation to allow for the assignment of personnel and schedules of tests.

F. Laboratory Tests: Where such inspection and testing are to be conducted by an independent laboratory agency, the sample(s) shall be selected by such laboratory or agency, or the Construction Manager, and shipped to the laboratory by the Contractor at Contractor's expense.

G. Copies of all correspondence between the Contractor and testing agencies shall be provided to the Construction Manager.

1.05 QUALITY ASSURANCE

A. Testing shall be in accordance with all pertinent codes and regulations and with procedures and requirements of the American Society for Testing and Materials (ASTM).

1.06 PRODUCT HANDLING

A. Promptly process and distribute all required copies of test reports and related instructions to insure all necessary retesting or replacement of materials with the least possible delay in the progress of the Work.

1.07 FURNISHING MATERIALS

A. The Contractor shall be responsible for furnishing all materials necessary for testing.

1.08 CODE COMPLIANCE TESTING

A. Inspections and tests required by codes or ordinances or by a plan approval authority, and made by a legally constituted authority, shall be the responsibility of, and shall be paid for by the Contractor, unless otherwise provided in the Contract Documents.

1.09 CONTRACTOR’S CONVENIENCE TESTING

A. Inspection or testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor.

1.10 SCHEDULES FOR TESTING

A. ESTABLISHING SCHEDULE

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1. The Contractor shall, by advance discussion with the testing laboratory selected by the Owner, determine the time required for the laboratory to perform its tests and to issue each of its findings, and make all arrangements for the testing laboratory to be on site to provide the required testing.
2. Provide all required time within the construction schedule.

B. When changes of construction schedule are necessary during construction, coordinate all such changes of schedule with the testing laboratory as required.

C. When the testing laboratory is ready to test according to the determined schedule, but is prevented from testing or taking specimens due to incompleteness of the Work, all extra costs for testing attributable to the delay will be back charged to the Contractor and shall not be borne by the Owner.

1.11 TAKING SPECIMENS

A. Unless otherwise provided in the Contract Documents, all specimens and samples for tests will be taken by the testing laboratory or the Construction Manager.

1.12 TRANSPORTING SAMPLES

A. The Contractor shall be responsible for transporting all samples, except those taken by testing laboratory personnel, to the testing laboratory.

PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 50 10

TEMPORARY FACILITIES

PART 1 – GENERAL

1.01 SCOPE

A. Contractor shall provide temporary facilities required for this Work include, but are not necessarily limited to:

1. Temporary utilities such as water and electricity.
2. First aid facilities.
3. Sanitary facilities.
4. Potable water.
5. Temporary enclosures and construction facilities.

1.02 GENERAL

A. Contractor shall provide first aid facilities, sanitary facilities and potable water. These shall be available on the Project site on the first day that any activities are conducted on site. The other facilities shall be provided as the schedule of the Project warrants.

B. Maintenance: Contractor shall use all means necessary to maintain temporary facilities in proper and safe condition throughout progress of the Work. In the event of loss or damage, immediately make all repairs and replacements necessary, at no additional cost to the Owner.

C. Removal: Contractor shall remove all such temporary facilities and controls as rapidly as progress of the Work will permit.

1.03 STAGING AREAS

A. The Contractor shall establish a staging area for construction as required.

B. Allowable staging areas shall be within site property, road right of way, temporary easements, or permanent easements where approved by the Owner.

C. Any required grading within the staging areas shall be the responsibility of the Contractor and shall be approved by Owner and Construction Manager.

D. The Contractor shall be solely responsible for damages to equipment or materials due to heavy rains or flooding.

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1.04 TEMPORARY UTILITIES

A. General

1. Contractor shall provide and pay all costs for all water, electricity and other utilities required for the performance of the Work.
2. Contractor shall pay all costs for temporary utilities until Project completion.
3. Contractor shall pay all costs for temporary utilities and shall include all power, water and the like necessary for testing equipment as required by the Contract Documents.

B. Temporary Water:

1. The Contractor shall coordinate with the Owner in providing metered water suitable for flushing and testing the mains, and for any other construction purposes.
2. The Contractor shall be responsible for providing an Owner approved backflow and metering device.
3. The Contractor shall provide all necessary temporary piping and, upon completion of the Work, remove all such temporary piping.
4. The Contractor is responsible for paying service charges for water used.

C. Temporary Power and Lighting:

1. Provide all necessary wiring for the Contractor's use.
2. The Contractor shall make arrangements with the electrical utility and with the Owner for power takeoff points from the existing service, voltage and phasing requirements, transformers and metering and shall pay the costs and fees arising therefrom.
3. The Contractor shall provide the special connections required for his work.
4. Furnish, locate and install area distribution boxes such that the individual trades may use, their own construction type extension cords to obtain adequate power, and artificial lighting at all points where required by inspectors and for safety.
5. The Contractor shall provide sufficient electrical lighting so that all work may be done in an efficient manner when there is not sufficient daylight.
6. The Contractor shall remove all temporary lighting when such light is no longer necessary.

D. Telephone

1. The Contractor shall provide telephone service for all construction site offices.
2. Cell phones are an acceptable substitute.

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1.05 FIRST AID FACILITIES

A. The Contractor shall provide a suitable first aid station, equipped with all facilities and medical supplies necessary to administer emergency first aid treatment.

B. The Contractor shall have standing arrangements for the removal and hospital treatment of any injured person.

C. All first aid facilities and emergency ambulance service shall be made available by the Contractor to the Owner and the Construction Manager's personnel.

1.06 SANITARY FACILITIES

A. Prior to starting the Work, the Contractor shall furnish, for use of Contractor's personnel on the job, all necessary toilet facilities which shall be secluded from public observation. These facilities shall be either chemical toilets or shall be connected to the Owner's sanitary sewer system.

B. All facilities, regardless of type, shall be kept in a clean and sanitary condition and shall comply with the requirements and regulations of the area in which the Work is performed.

C. Adequacy of these facilities will be subject to the Construction Manager's review and maintenance of same must be satisfactory to the Construction Manager at all times.

1.07 POTABLE WATER

A. The Contractor shall be responsible for furnishing a supply of potable drinking water for employees, subcontractors, inspectors, Construction Manager and the Owner who are associated with the Work.

1.08 ENCLOSURES AND CONSTRUCTION FACILITIES

A. The Contractor shall furnish, install and maintain for the duration of construction, all required storage, scaffolds, tarpaulins, canopies, steps, bridges, platforms and other temporary construction necessary for proper completion of the Work in compliance with all pertinent safety and other regulations.

1.09 PARKING FACILITIES

A. Parking facilities for the Contractor's and Contractor's subcontractors' personnel shall be the Contractor's responsibility.

B. The storage and work facilities provided by the Owner shall not be used for parking by the Contractor's or subcontractor's personnel.

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PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 56 16

DUST CONTROL

PART 1 – GENERAL

1.01 SCOPE

A. The Contractor shall limit blowing dust caused by construction operations by applying water or employing other appropriate means or methods to maintain dust control, subject to the approval of the Construction Manager.

B. As a minimum, this may require the use of a water wagon twice a day to suppress dusty conditions.

1.02 PROTECTION OF ADJACENT PROPERTY

A. The Contractor shall visit the site and note the buildings, landscaping, roads, parking areas and other facilities near the Work site that may be damaged by their operations.

B. The Contractor shall make adequate provision to fully protect the surrounding area and will be held fully responsible for all damages resulting from Contractor's operations.

C. The Contractor shall protect all existing facilities (indoors or out) from damage by dust, fumes, spray or spills (indoors or out).

D. Protect motors, bearings, electrical gear, instrumentation and building or other surfaces from dirt, dust, welding fumes, paint spray, spills or droppings causing wear, corrosion, malfunction, failure or defacement by enclosure, sprinkling or other dust palliatives, masking and covering, exhausting or containment.

PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 56 33

JOB SITE SECURITY

PART 1 – GENERAL

1.01 BARRICADES, LIGHTS AND SIGNALS

A. The Contractor shall furnish and erect such barricades, fences, lights and danger signals and shall provide such other precautionary measures for the protection of persons or property and of the Work as necessary.

B. Barricades shall be painted in a color that will be visible at night. From sunset to sunrise, the Contractor shall furnish and maintain at least one light at each barricade and sufficient numbers of barricades shall be erected to keep vehicles from being driven on or into any Work under construction.

C. The Contractor will be held responsible for all damage to the Work due to failure of barricades, signs and lights and whenever evidence is found of such damage, the Contractor shall immediately remove the damaged portion and replace it at Contractor's cost and expense.

D. The Contractor's responsibility for the maintenance of barricades, signs and lights shall not cease until the Project has been accepted by the Owner.

PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 58 00

PROJECT IDENTIFICATION AND SIGNS

PART 1 – GENERAL

1.01 SCOPE

A. The work under this Section shall include the furnishing of a minimum of two painted signs for each Division of work of not less than 32 square feet in area, with painted graphic content that includes:

1. Project title.
2. Owner's name.
3. Names of governmental units participating in the Project.
4. Names and titles of other parties to be directed by the Construction Manager.
5. Logos.

1.02 DESIGN

A. The Contractor shall provide a scale drawing showing the graphic design, style of lettering and colors to the Construction Manager for approval.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Structure and framing: May be new or used, wood or metal in sound condition, structurally adequate to work and suitable for specified finish.

B. Sign Surfaces: Exterior soft wood plywood with medium density overlay, standard large sizes to minimize joints.

C. Thickness: As required by standards to span framing members, to provide even, smooth surface without waves or buckles.

D. Rough Hardware: Galvanized.

E. Paint: Exterior quality, as specified in the section entitled "Painting" of these Specifications.

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PART 3 – EXECUTION

3.01 ERECTION

A. Erect the sign on the site in a high visibility location, adjacent to the Project as approved by the Construction Manager.

3.02 MAINTENANCE

A. Contractor shall maintain the Project Sign in good condition during the Contract period.

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END OF SECTION

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SECTION 01 65 00

TRANSPORTATION AND HANDLING

PART 1 – GENERAL

1.01 SCOPE

A. The Contractor shall provide transportation of all equipment, materials and products furnished under these Contract Documents to the work site.

B. The Contractor shall provide preparation for shipment, loading, unloading, handling and preparation for installation and all other work and incidental items necessary or convenient to the Contractor for the satisfactory prosecution and completion of the work.

C. All equipment, materials and products damaged during transportation or handling shall be repaired or replaced by the Contractor at no additional cost to the Owner prior to being incorporated into the work.

D. The Contractor shall maintain and keep in good repair the Work covered by these Drawings and Specifications until acceptance by the Owner.

1.02 TRANSPORTATION

A. All equipment shall be suitably boxed, crated or otherwise protected during transportation.

B. Where equipment will be installed using existing cranes or hoisting equipment, the Contractor shall ensure that the weights of the assembled sections do not exceed the capacity of the cranes or hoisting equipment.

C. Small items and appurtenances such as gauges, valves, switches, instruments and probes which could be damaged during shipment shall be removed from the equipment prior to shipment, packaged and shipped separately.

D. All openings shall be plugged or sealed to prevent the entrance of water or dirt.

1.03 HANDLING

A. All equipment, materials and products shall be carefully handled to prevent damage or excessive deflections during unloading or transportation.

B. Lifting and handling drawings and instructions furnished by the manufacturer or supplier shall be strictly followed.

1. Eyebolts or lifting lugs furnished on the equipment shall be used in handling the equipment.

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2. Shafts and operating mechanisms shall not be used as lifting points.
3. Spreader bars or lifting beams shall be used when the distance between lifting points exceeds that permitted by standard industry practice.

C. Under no circumstances shall equipment or products such as pipe, structural steel, castings, reinforcement, lumber, piles, poles, etc., be thrown or rolled off of trucks onto the ground.

D. Slings and chains shall be padded as required to prevent damage to protective coatings and finishes.

PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 66 00

STORAGE AND PROTECTION

PART 1 – GENERAL

1.01 SCOPE

A. The work under this Section includes, but is not necessarily limited to, the furnishing of all labor, tools and materials necessary to properly store and protect all materials, equipment, products and the like, as necessary for the proper and complete performance of the Work.

1.02 PIPE

A. Pipe and appurtenances shall be handled, stored, and installed as recommended by the manufacturer. Pipes with paint, tape coatings, linings or the like shall be stored to protect the coating or lining from physical damage or other deterioration. Pipes shipped with interior bracing shall have the bracing removed only when recommended by the pipe manufacturer.

1.03 STORAGE

A. During the interval between the delivery of equipment to the site and installation, all equipment, unless otherwise specified, shall be stored in an enclosed space affording protection from weather, dust and mechanical damage and providing favorable temperature, humidity and ventilation conditions to ensure against equipment deterioration. Manufacturer's recommendations shall be adhered to in addition to these requirements.

B. Equipment and materials to be located outdoors may be stored outdoors if protected against moisture condensation. Equipment shall be stored at least 6 inches above ground. Temporary power shall be provided to energize space heaters or other heat sources for control of moisture condensation. Space heaters or other heat sources shall be energized without disturbing the sealed enclosure.

C. Should the Contractor choose to store material or equipment or use for assembly property which is not owned by the Fulton County or the Contractor, a letter of permission signed by the legal owner of the property shall be obtained by the Contractor and submitted to the Construction Manager a minimum of 24 hours prior to delivery. All material and equipment stored at any facility other than the site shall be tagged with the Owner’s name and the project number. Payment shall not be made for “Stored Materials” for any material stored at locations or in any manner not suitable to the Owner.

D. Equipment and products stored outdoors shall be supported above the ground on suitable wooden blocks or braces arranged to prevent excessive deflection or

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bending between supports. Items such as pipe, structural steel and sheet construction products shall be stored with one end elevated to facilitate drainage.

E. Unless otherwise permitted in writing by the Construction Manager, building products and materials such as cement, grout, plaster, gypsum board, particleboard, resilient flooring, acoustical tile, paneling, finish lumber, insulation, wiring, etc., shall be stored indoors in a dry location.

F. Building products such as rough lumber, plywood, concrete block and structural tile may be stored outdoors under a properly secured waterproof covering.

G. Tarps and other coverings shall be supported above the stored equipment or materials on wooden strips to provide ventilation under the cover and minimize condensation. Tarps and covers shall be arranged to prevent ponding of water.

H. All materials shall meet the requirements of these Specifications at the time that they are used in the work.

I. Store products in accordance with manufacturer's instructions.

1.04 PROTECTION

A. Use all means necessary to protect the materials, equipment and products of every section before, during and after installation and to protect the installed work and materials of all other trades.

B. All materials shall be delivered, stored and handled to prevent the inclusion of foreign materials and damage by water, breakage, vandalism or other causes.

C. Substantially constructed weathertight storage sheds, with raised floors, shall be provided and maintained as may be required to adequately protect those materials and products stored on the site which may require protection from damage by the elements.

1.05 DAMAGE

A. Equipment, products and materials shall be shipped, handled, stored, and installed in ways which will prevent damage to the items. Damaged items will not be permitted as part of the work except in cases of minor damage that have been satisfactorily repaired.

B. In the event of damage, immediately make all repairs and replacements necessary for the approval of the Construction Manager and at no additional cost to the Owner.

C. Damage shall be corrected to conform to the requirements of the Contract before the assembly is incorporated into the Work.

D. All property damaged by reason of storing of material shall be properly replaced at no additional cost to the Owner.

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1.06 EXTENDED STORAGE

A. In the event that certain items of major equipment, such as large diameter valves, have to be stored for an extended period of time, the Contractor shall provide satisfactory long-term storage facilities which are acceptable to the Construction Manager.

B. The Contractor shall provide all special packaging, protective coverings, protective coatings, power, nitrogen purge, desiccants, lubricants and exercising necessary or recommended by the manufacturer to properly maintain and protect the equipment during the period of extended storage.

C. All equipment, materials and products shall be carefully handled to prevent damage or excessive deflections during unloading or transportation.

1.07 PACKAGE AND MARKING

A. All equipment shall be protected against damage from moisture, dust, handling, or other cause during transport from manufacturer's premises to site. Each item or package shall be marked with the number unique to the specification reference covering the item.

B. Stiffeners shall be used where necessary to maintain shapes and to give rigidity. Parts of equipment shall be delivered in assembled or sub-assembled units where possible

1.08 IDENTIFICATION

A. Each item of equipment and valve shall have permanently affixed to it a label or tag with its equipment or valve number designated in this contract. Marker shall be of stainless steel. Location of label will be easily visible.

PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 71 33

PROTECTION AND MAINTENANCE OF PROPERTY AND WORK

PART 1 – GENERAL

1.01. SUMMARY

A. This Section specifies protection and maintenance of underground and above ground utilities, structures, fences, parking strips, sidewalks, driveways, streets, and other improvements which may be affected by the Work.

1.02. SUBMITTALS

A. Procedures: Section 01 33 00.

B. Action submittal items:

1. Listing and schedule of all potholing.
2. Listing of all utilities/facilities to be physically protected and relocated.

C. Informational submittal items for this section:

1. Shoring for all affected structures and utilities.
2. Submit detail drawings of proposed methods to support, protect, and buttress utilities and structures where the depth of the excavation is greater than the horizontal distance from the structure or utility.

1.03. LOCATION OF EXISTING UNDERGROUND FACILITIES

A. The Drawings indicate the existence of underground facilities known to the Owner.

1. Utilities are shown schematically on the plans and are not necessarily accurate in location as to plan or elevation.
2. Determine the location of all utilities that may be impacted during construction.
3. The Contractor shall familiarize himself with and comply with the provisions of O.C.G.A. Section 25-9-1 et. seq.

B. The Contractor shall call, by law, the Utilities Protection Center, d/b/a Georgia 811 at “811” or 1-800-282-7411 and shall request that all owners of utilities, including, but not limited to, gas companies, electric companies, telephone companies, cable companies and governmental units, prior to starting any excavation of the Project, locate and mark their respective facilities.

C. Locate existing underground utilities. Review with the Owner the locations of existing utilities in relation to the new construction and evaluate areas of conflict.

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D. Excavate and expose all major and minor existing utilities prior to new construction to determine utility elevations in relation to the new facilities.

E. Examine and repair all pipelines prior to pipelines being buried.

1.04. EXISTING UTILITIES AND FACILITIES

A. Protect, modify, and/or relocate all existing utilities required to complete the Work.

B. The locations of existing major utilities, whether above ground or underground, are indicated on the Drawings.

1. This information has been obtained from utility maps and field surveys.
2. The Owner does not guarantee the accuracy or completeness of this information, and it is to be understood that other above ground or underground facilities not shown on the Drawings may be encountered during the course of the Work.

C. Contractor shall be responsible for damages resulting from any failure to contact utility owners for location, routing, and marking of a specific utility and its subsequent effects.

D. The Drawings may show underground utilities which are to be relocated. Contractor shall be responsible for all these relocations prior to commencing work in the area.

E. Protect, modify, or relocate existing utilities and facilities required to accommodate Contractor’s means and methods.

1. Specific means and methods to be utilized by the Contractor are not known to the Owner. Therefore, the Owner will not be liable for utility protection, modification, and relocation not shown on the Drawings that are required by the Contractor due to its means and methods.
2. It is the Contractor’s responsibility to determine the Work required by the Construction Documents and make provision for protection, modification, and relocation required.
3. Coordinate all protection, modification, and relocation work through the affected utility.
4. Complete Work to the utility owner's requirements and standards.

F. Underground Utilities:

1. For the purpose of this Section an underground utility will be defined as a transmission, collection, or distribution line where it would be customary to expect that drawings would exist for the line and the utility owner would be aware of the line.
2. An existing underground utility is considered to be in conflict if it crosses or projects into the specified excavation at an elevation between the top and

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bottom of the new facility or when parallel to the new facility, and projects into the specified excavation.

3. Contractor shall be responsible for all protection, affects, and damage on utilities not in conflict with the new construction, whether or not the utilities are shown on the Drawings.
4. When not shown on the Drawings and in conflict with the new construction, meet and agree with the Owner on how to proceed.
5. When not shown on the Drawings and no conflict with the new facility exists, no additional payment will be considered.
6. When in a substantially different location and not in conflict with the new construction, no additional payment will be considered.
7. When in a substantially different location and in conflict with the new construction, reimbursement for additional work per the General Conditions.

G. Abandoned pipelines shown on the Drawings shall be removed and plugged per the local agency requirements when encountered.

H. Locate existing underground utilities with the field staking. Review with the Owner the locations of existing utilities in relation to the new construction and evaluate areas of conflict

I. Storm and Sanitary Sewers:

1. Existing live sewers shall remain in service. Adequate provision shall be made for disposal of existing sewage flow.
    a. Immediately repair construction damage to the existing sewer system and manholes to a condition equal to or better than that existing prior to the damage.
    b. Repair all damage which results from the disturbance of the existing sewer.
2. Remove water accumulating during construction from the new sewers and prevent it from entering existing lines.

J. Aboveground Electrical, Cable, and Communication Facilities:

1. Attention is called to all overhead items including, but not limited to, power, communication and telephone lines, temporary traffic signals, traffic signal mast arms, overhead sign bridges, sign support span wires, signs, and street lights.
2. Observe the location of these overhead facilities and plan and conduct work operations, accordingly.
3. Take precautions to protect and avoid damage to all overhead facilities.
4. Relocate facilities as required to meet the means and methods to be utilized.

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5. Observe and investigate the presence of facilities that may be affected by the Work.
    a. Consult with and rely on the information given by utility owners and operators to determine the extent of any hazards and measures required.
    b. Determine the extent of any hazard created by facilities in all areas and follow approved safety procedures during the work.
6. Support poles at risk of being undermined by the Work.
7. Follow the requirements of the local power company for all energized primary conductors.
    a. For 50 kV lines and less, at no time shall personnel or equipment approach closer than 10 feet to any energized primary conductors.
    b. For greater than 50 kV, meet the requirements of the local power company.

K. Underground Electrical, Cable, and Communication Facilities:

1. Determine the protection necessary to proceed safely to protect these underground facilities.

L. Gas:

1. As required by the appropriate utility owner, protect, maintain, support in place, or relocate all gas mains crossing the pipeline trenches.
2. Provide a minimum of 12 inches of clearance, measured from edge to edge, between gas mains or gas service lines and new facilities
    a. If relocating either utility is not practical, a protective wrap shall be provided for the entire distance where less than 12 inches of vertical clearance and less than 6 inches of horizontal clearance are provided.
    b. Wrapping material shall consist of either a split polyvinyl chloride (PVC) pipe or PVC wrapping of at least 0.04 inch in thickness, and shall be applied to either one of the pipes.
3. All abandoned gas mains encountered in the trench area shall be removed.
4. All temporary gas service slack lines shall be protected and maintained during pipeline installation.
5. Notify the Owner and the utility at least two business days (minimum of 48 hours) in advance of any excavation in the vicinity of any gas piping.
6. The utility may require one of its inspectors to be onsite anytime work is conduct near gas lines.

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M. Water:

1. As required by the appropriate utility, protect, maintain, support in place, or relocate all water pipelines affected by the Work.
2. Maintain water service along the alignment of work at all times.
3. Thrust blocks may not be shown on the Drawings and shall be assumed to be present at all water line deflections of 11-1/4 degrees or greater.
4. Notify the Owner in writing immediately of any damage. Begin repairs immediately, and work continuously until water service is restored.

N. Roadways:

1. Take adequate precautions to protect existing sidewalks, curbs, pavements, utilities, adjoining property, and structures, and avoid damage.
2. Traffic signage, paint striping, and channelization shall be protected and replaced if damaged.
3. Maintain the existing illumination pattern for signs and roads at all times.
4. Install temporary roadway lighting as necessary.
5. Access for emergency equipment shall be maintained at all times.

1.05. SHORING AND BRACING

A. Shore up, brace, under-pin, and protect as necessary, the foundations and other parts of existing structures adjoining the site of the Work that may be affected by the Work.

B. Contractor is responsible for any damages because of settlements or the loss of lateral or subjacent support of adjoining property and from all loss and damages to adjoining and adjacent structures and their premises.

C. Fully comply with the requirements of the authority having jurisdiction (AHJ) and the State of Georgia, as applicable.

1.06. EMERGENCIES

A. Whenever work endangers the safety of life or property, including adjoining property or property in the immediate proximity of the Work, take all reasonable and prudent actions to prevent threatened loss or injury.

PART 2 – MATERIALS

(NOT USED)

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PART 3 – EXECUTION

3.01. GENERAL

A. Contact the Owner and the affected utilities prior to an excavation per the General Conditions.

B. Pothole to locate and expose all utility locations to be affected by the Work prior to new construction in the area of the utility.

C. Adjust work when location of utility is different than shown on the Drawings and materially impacts construction.

D. If the utility requires relocation not shown on the Drawings and the Contractor incurs additional cost, the Owner will consider additional costs.

E. Relocation of minor utilities such as irrigation lines less than 4 inches, water service lines, building drainage pipes will be considered incidental and will not be considered for additional costs.

F. If damage to a utility occurs, repair damage to the requirements of the utility owner prior to backfilling said utility.

END OF SECTION

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SECTION 01 74 00

CLEANING AND WASTE MANAGEMENT

PART 1 – GENERAL

1.01 SCOPE

A. This Section covers the general cleaning which the Contractor shall be required to perform both during construction and before final acceptance of the Project unless otherwise shown on the Drawings or specified elsewhere in these Specifications.

1.02 QUALITY ASSURANCE

A. Daily, and more often if necessary, conduct inspections verifying that requirements of cleanliness are being met.

B. In addition to the standards described in this Section, comply with all pertinent requirements of governmental agencies having jurisdiction.

1.03 HAZARDOUS MATERIAL AND WASTE

A. The Contractor shall handle hazardous waste and materials in accordance with applicable local, state, and federal regulations. Waste shall also be disposed of in approved landfills as applicable.

B. The Contractor shall prevent accumulation of wastes which create hazardous conditions.

C. Burning or burying rubbish and waste materials on the site shall not be allowed.

D. Disposal of hazardous wastes or materials into sanitary or storm sewers shall not be allowed.

PART 2 – PRODUCTS

2.01 CLEANING MATERIALS AND EQUIPMENT

A. Provide all required personnel, equipment and materials needed to maintain the specified standard of cleanliness.

2.02 COMPATIBILITY

A. Use only the cleaning materials, methods and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material or as approved by the Construction Manager.

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PART 3 – EXECUTION

3.01 PROGRESS CLEANING

A. General

1. Do not allow the accumulation of scrap, debris, waste material and other items not required for construction of this Work.
2. At least each week and more often if necessary, completely removes all scrap, debris and waste material from the job site.
3. Provide adequate storage for all items awaiting removal from the job site, observing all requirements for fire protection and protection of the environment.

B. Site

1. Daily, and more often if necessary, inspect the site and pick up all scrap, debris and waste material. Remove all such items to the place designated for their storage.
2. Restack materials stored on site weekly.
3. At all times maintain the site in a neat and orderly condition which meets the approval of the Construction Manager.

C. Structures

1. Weekly, and more often if necessary, inspect the structures and pick up all scrap, debris and waste material. Remove all such items to the place designated for their storage.
2. Weekly, and more often if necessary, sweep all interior spaces clean. “Clean”, for the purpose of this subparagraph, shall be interpreted as meaning free from dust and other material capable of being removed by using a hand-held broom.
3. As required preparatory to installation of successive materials, clean the structures or pertinent portions as recommended by the manufacturer of the successive material.
4. Following the installation of finish floor materials, clean the finish floor daily. “Clean”, for the purpose of this Paragraph, shall be interpreted as meaning free from all foreign material which, in the opinion of the Construction Manager, may be injurious to the finish floor material.
5. Schedule cleaning operation so that dust and other contaminants resulting from cleaning operations will not fall on wet, recently painted surfaces.

3.02 FINAL CLEANING

A. Definitions: Unless otherwise specifically specified, “clean” for the purpose of this Article shall be interpreted as the level of cleanliness generally provided by

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commercial building maintenance subcontractors using commercial quality building maintenance equipment and materials.

B. General: Prior to completion of the Work, remove from the job site all tools, surplus materials, equipment, scrap, debris and waste. Conduct final progress cleaning as described in 3.01 above.

C. Site: Unless otherwise specifically directed by the Construction Manager, hose down all paved areas on the site and all public sidewalks directly adjacent to the site; rake clean other surfaces of the grounds. Completely remove all resultant debris.

D. Structures

1. Remove all traces of soil, waste material, splashed material, and other foreign matter to provide a uniform degree of exterior cleanliness.
    a. Visually inspect all exterior surfaces and remove all traces of soil, waste material, and other foreign matter.
    b. Remove all traces of splashed materials from adjacent surfaces.
    c. If necessary to achieve a uniform degree of exterior cleanliness, hose down the exterior of the structure.
    d. In the event of stubborn stains not removable with water, the Construction Manager may require light sandblasting or other cleaning at no additional cost to the Owner.
2. Visually inspect all interior surfaces and remove all traces of soil, waste material, smudges and other foreign matter. Remove all paint droppings, spots, stains and dirt from finished surfaces.
3. Clean all glass inside and outside.
4. Polish all surfaces requiring the routine application of buffed polish. Provide and apply polish as recommended by the manufacturer of the material being polished.

E. Post Construction Cleanup: All evidence of temporary construction facilities, haul roads, work areas, structures, foundations of temporary structures, stockpiles of excess or waste materials, or any other evidence of construction, as directed by the Construction Manager.

F. Restoration of Landscape Damage: Any landscape feature damaged by the Contractor shall be restored as nearly as possible to its original condition at the Contractor's expense. The Construction Manager will decide what method of restoration shall be used.

G. Timing: Schedule final cleaning as approved by the Construction Manager to enable the Owner to accept the Project.

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3.03 CLEANING DURING OWNER'S OCCUPANCY

A. Should the Owner occupy the Work or any portion thereof prior to its completion by the Contractor and acceptance by the Owner, responsibilities for interim and final cleaning of the occupied spaces shall be as determined by the Construction Manager in accordance with the Supplementary Conditions of the Contract Documents.

3.04 DISPOSAL OF WASTE

A. The definitions contained in Georgia Environmental Protection Division Rules 391-3-4-.01 shall be applicable to this Project. The term waste shall include excess and surplus materials, and shall include liquid and solid wastes.

B. Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

C. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.

D. Remove and transport waste in a manner that will prevent spillage on adjacent surfaces and areas.

E. Burning: Do not burn waste materials on site.

F. Waste removed from the Project site shall be disposed of in sites permitted by the Georgia Environmental Protection Division for the acceptance of type of waste being disposed. The acceptable types of permitted disposal facilities are as follows:

1. Inert Waste Landfills
2. Municipal Solid Waste Landfills
3. Municipal Solid Waste Landfills permitted to receive only construction and demolition wastes.

G. Exceptions to Paragraph F are as follows:

1. Hazardous waste shall be disposed of in accordance with Georgia Environmental Protection Division Rules 391-3-11.
2. Asbestos-containing waste shall also be handled and disposed of in accordance with Georgia Environmental Protection Division Rules 391-3-14.

H. No waste shall be placed at a transfer station facility.

I. The Contractor shall maintain records related to all waste removed from the Project site so as to allow the Owner or the Construction Manager to readily determine the following:

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1. Date waste removed from Project site.
2. Name of hauler (company and driver) transporting such waste.
3. General description of waste transported.
4. “Truck tickets” indicating the waste disposal site and amount of waste disposed therein.

END OF SECTION

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SECTION 01 77 00

CLOSEOUT PROCEDURES

PART 1 – GENERAL

1.01. REQUIREMENTS INCLUDED

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

1.02. REQUIREMENTS

A. Conditions of the contract. Fiscal provisions, legal submittals and additional administrative requirements.

B. Section 01 78 39: Record Documents.

C. The respective sections of Specifications: Closeout Submittals Required of Trades.

1.03. SUBSTANTIAL COMPLETION

A. When Contractor considers the Work is substantially complete, he shall submit the following to the Construction Manager:

1. A written notice that the Work, or designated portion thereof, is substantially complete.
2. A list of items to be completed or corrected.

B. Within a reasonable time after receipt of such notice, the Construction Manager will make an inspection to determine the statue of completion.

C. Should the Construction Manager determine that the work is not substantially complete:

1. Construction Manager will promptly notify the Contractor in writing, giving the reasons therefore.
2. Contractor shall remedy the deficiencies in the Work, and send second written notice of substantial completion to the Construction Manager.
3. Construction Manager will reinspect the work.

D. When the Construction Manager finds that the work is substantially complete, he will:

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1. Prepare and deliver to the Owner a tentative Certificate of Substantial Completion, with a tentative list of items to be completed or corrected before final payment.
2. After consideration of any objections made by the Owner as provided in Conditions of the Contract, and when the Construction Manager considers the Work substantially complete, he will execute and deliver to the Owner and the Contractor a definite Certificate of Substantial Completion with a revised tentative list of items to be completed or corrected.

E. Substantial Completion: The Certificate will identify the date of Substantial Completion and list any incomplete Work.

1.04. FINAL COMPLETION

A. Prior to Final Completion: Final Completion is achieved when all Work is fully complete in accordance with the Construction Documents.

B. Tasks to complete include, but are not limited to, the following:

1. All Work is complete and correct to the satisfaction of the Owner.
2. All temporary facilities and controls removed.
3. All final cleaning complete per Cleaning Specification.
4. Final Operation and Maintenance Manuals provision per Section 01 78 23.
5. Warranties and Bond Manual submission per Section 01 78 36.
6. Submittal of the Project Record Documents per Section 01 78 39.
7. Spare parts delivery and acceptance.
8. Landscaping complete.
9. All final permits submitted, including Certificates of Occupancy.
10. All Change Orders are approved and signed by both parties.
11. Draft Final Application for Payment submitted.

C. FINAL INSPECTION

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1. When Contractor considers the work is complete, he shall submit written certification that:
    a. Documents have been reviewed.
    b. Work has been inspected for compliance with Contract Documents.
    c. Work has been completed in accordance with Contract Documents.
    d. Equipment and systems have been tested in the presence of the Owner's representative and are operational.
    e. Work is completed and ready for final inspection
2. Construction Manager will make the final inspection to verify the status of completion with reasonable promptness after receipt of such certification.
3. Should the Construction Manager consider that the work is incomplete or defective:
    a. Construction Manager will promptly notify the Contractor in writing, listing the incomplete or defective work.
    b. Contractor shall take immediate steps to remedy the stated deficiencies and send a second written certification to the Construction Manager that the work is complete.
    c. Construction Manager will reinspect the work.
4. When the Construction Manager finds that the work is acceptable under the Contract Documents, he shall request the Contractor to make closeout submittals.

1.05. REISNPECTION FEES

A. When the Construction Manager performs reinspections due to failure of the work to comply with the claims of status of completion made by the Contractor:
    1. Contractor shall compensate the Owner for expenses incurred by the Construction Manager for such additional services.
    2. Owner will deduct the amount of such compensation from the final payment to the Contractor.

1.06. CLOSEOUT SUBMITTALS TO CONSTRUCTION MANAGER

A. Evidence of compliance with requirements of governing authorities.

B. Record Documents: To requirements of Section 01 78 39.

C. Evidence of payments and Release of Liens: To requirements of General and Supplementary Conditions.

D. Certificate of Insurance for Products and Completed Operations.

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1.07. FINAL ADJUSTMENT OF ACCOUNTS

A. Submit a final statement of accounting to Construction Manager.

B. Statement shall reflect all adjustments to the Contract Sum:

1. The original Contract Sum.
2. Additions and deductions resulting from:
    a. Previous Change Orders.
    b. Allowances.
    c. Unit Prices.
    d. Deductions for uncorrected work.
    e. Penalties and Bonuses.
    f. Deductions for liquidated damages.
    g. Deductions for re-inspection payments.
    h. Other adjustables.
3. Total Contract Sum as adjusted.
4. Previous payments.
5. Sum remaining due.

C. Construction Manager will prepare a final Change Order reflecting approved adjustments to the Contract Sum which were not made by previous Change Orders.

1.08. APPLICATION FOR PAYMENT

A. Contractor shall submit the final Application for Payment in accordance with procedures.

1.09. FINAL ACCEPTANCE

A. Final Application for Payment approved and payment made to Contractor.

B. The Owner will establish the date of Final Acceptance and issue the Letter of Final Acceptance after the Contractor completes all Construction Document requirements.

PART 2 – MATERIALS

(NOT USED)

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PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 78 23

OPERATION AND MAINTENANCE DATA

PART 1 – GENERAL

1.01 SCOPE

A. Operation and maintenance (O&M) instructions shall be provided in accordance with this section and as required in the technical sections of this project manual. O&M information shall be provided for each maintainable piece of equipment, equipment assembly or subassembly, and material provided or modified under this contract.

B. O&M instructions must be submitted and accepted before on-site training may start.

1.02 TYPES OF INFORMATION REQUIRED

A. General:

1. O&M information shall contain the names, addresses, and telephone numbers of the manufacturer, the nearest representative of the manufacturer, and the nearest supplier of the manufacturer's equipment and parts. In addition, one or more of the following items of information shall be provided as applicable.

B. Operating Instructions:

1. Specific instructions, procedures, and illustrations shall be provided for the following phases of operations:

a. Safety Precautions: List personnel hazards for equipment and list safety precautions for all operating conditions.

b. Operator Prestart: Provide requirements to set up and prepare each system for use.

c. Start-Up, Shutdown, and Post-shutdown Procedures: Provide a control sequence for each of these operations.

d. Normal Operations: Provide control diagrams with data to explain operation and control of systems and specific equipment.

e. Emergency Operations: Provide emergency procedures for equipment malfunctions to permit a short period of continued operation or to shut down the equipment to prevent further damage to systems and equipment. Include emergency shutdown instructions for fire, explosion, spills, or other foreseeable contingencies. Provide guidance on emergency operations of all utility systems including valve locations and portions of systems controlled.

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f. Operator Service Requirements: Provide instructions for services to be performed by the operator such as lubrication, adjustments, and inspection.

g. Environmental Conditions: Provide a list of environmental conditions (temperature, humidity, and other relevant data) which are best suited for each product or piece of equipment and describe conditions under which equipment should not be allowed to run.

C. Preventive Maintenance:

1. The following information shall be provided for preventive and scheduled maintenance to minimize corrective maintenance and repair:

a. Lubrication Data: Provide lubrication data, other than instructions for lubrication in accordance with paragraph 1.02 Operator Service Requirements.

1) A table showing recommended lubricants for specific temperature ranges and applications;

2) Charts with a schematic diagram of the equipment showing lubrication points, recommended types and grades of lubricants, and capacities; and

3) A lubrication schedule showing service interval frequency.

b. Preventive Maintenance Plan And Schedule: Provide manufacturer's schedule for routine preventive maintenance, inspections, tests, and adjustments required to ensure proper and economical operation and to minimize corrective maintenance and repair. Provide manufacturer's projection of preventive maintenance man-hours on a daily, weekly, monthly, and annual basis including craft requirements by type of craft.

D. Corrective Maintenance:

1. Manufacturer's recommendations shall be provided on procedures and instructions for correcting problems and making repairs.

a. Troubleshooting Guides And Diagnostic Techniques: Provide step-by-step procedures to promptly isolate the cause of typical malfunctions. Describe clearly why the checkout is performed and what conditions are to be sought. Identify tests or inspections and test equipment required to determine whether parts and equipment may be reused or require replacement.

b. Wiring Diagrams And Control Diagrams: Wiring diagrams and control diagrams shall be point-to-point drawings of wiring and control circuits including factory-field interfaces. Provide a complete and accurate depiction of the actual job-specific wiring and control work. On diagrams, number electrical and electronic wiring and pneumatic control tubing and the terminals for each type identically to actual installation numbering.

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c. Maintenance And Repair Procedures: Provide instructions and list tools required to restore product or equipment to proper condition or operating standards.

d. Removal And Replacement Instructions: Provide step-by-step procedures and list required tools and supplies for removal, replacement, disassembly, and assembly of components, assemblies, subassemblies, accessories, and attachments. Provide tolerances, dimensions, settings, and adjustments required. Instructions shall include a combination of test and illustrations.

e. Spare Parts And Supply Lists: Provide lists of spare parts and supplies required for maintenance and repair to ensure continued service or operation without unreasonably delays. Special consideration is required for facilities at remote locations. List spare parts and supplies that have a long lead time to obtain.

f. Corrective Maintenance Man-hours: Provide manufacturer's projection of corrective maintenance man-hours including craft requirements by type of craft. Corrective maintenance that requires participation of the equipment manufacturer shall be identified and tabulated separately.

E. Appendices:

1. The following information shall be provided; include information not specified in the preceding paragraphs but pertinent to the maintenance or operation of the product or equipment.

a. Parts Identification: Provide identification and coverage for all parts of each component, assembly, subassembly, and accessory of the end items subject to replacement. Include special hardware requirements, such as requirement to use high-strength bolts and nuts. Identify parts by make, model, serial number, and source of supply to allow reordering without further identification. Provide clear and legible illustrations, drawings, and exploded views to enable easy identification of the items. When illustrations omit the part numbers and description, both the illustrations and separate listing shall show the index, reference, or key number which will cross-reference the illustrated part to the listed part. Parts shown in the listings shall be grouped by components, assemblies, and subassemblies.

b. Warranty Information: List and explain the various warranties and include the servicing and technical precautions prescribed by the manufacturers or contract documents to keep warranties in force.

c. Personnel Training Requirements: Provide information available from the manufacturers to use in training designated personnel to operate and maintain the equipment and systems properly.

d. Testing Equipment and Special Tool Information: Provide information on test equipment required to perform specified tests

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and on special tools needed for the operation, maintenance, and repair of components.

1.03 TRANSMITTAL PROCEDURE

A. Unless otherwise specified, O&M manuals, information, and data shall be transmitted in accordance with Section 01 33 00 accompanied by Transmittal Form 01 78 23-A and Equipment Record Forms 01 78 23-B and/or 01 78 23-C, as appropriate, all as specified in Section 01 99 90. The transmittal form shall be used as a checklist to ensure the manual is complete. Only complete sets of O&M instructions will be reviewed for acceptance.

B. One (1) electronic and six (6) hard copies of the specified O&M information in final format, with all prior comments addressed to the satisfaction of the Construction Manager, shall be provided following preliminary review and pre-final review of the O&M information.

1. Electronic copies of O&M manuals also shall be provided per Section 01 33 00. For electronic copies, files shall be proved on flash drive in an indexed PDF file format.

2. For ease of identification, each manufacturer's brochure and manual shall be appropriately labeled with the equipment name and equipment number as it appears in the project manual.

3. The information shall be organized in the binders in numerical order by the equipment numbers assigned in the project manual.

4. The binders shall be provided with a table of contents and tab sheets to permit easy location of desired information.

5. Binders shall be heavy-duty, d-ring.

C. If manufacturers' standard brochures and manuals are used to describe O&M procedures, such brochures and manuals shall be modified to reflect only the model or series of equipment used on this project. Extraneous material shall be crossed out neatly or otherwise annotated or eliminated.

1.04 PAYMENT

A. Acceptable O&M information for the project must be delivered to the Construction Manager prior to the project being 65 percent complete. Progress payments for work in excess of 65 percent completion will not be made until the specified acceptable O&M information has been delivered to the Construction Manager.

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1.05 FIELD CHANGES

A. Following the acceptable installation and operation of an equipment item, the item's instructions and procedures shall be modified and supplemented by the Contractor to reflect any field changes or information requiring field data.

PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 78 36

WARRANTIES AND BONDS

PART 1 – GENERAL

1.01 SUMMARY

A. This Section specifies general administrative and procedural requirements for warranties required by the Construction Documents, including manufacturer's Standard Product Warranties and Special Warranties.

B. Refer to the General Conditions for terms of the Contractor's Warranty of Construction.

C. If there is any discrepancy in the Construction Documents regarding the warranty period or its date of commencement, the passage granting the Owner the longest warranty period ending on the latest date shall govern.

D. Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and Subcontractors that are required to countersign Special Warranties with the Contractor.

1.02 DEFINITIONS

A. Standard Product Warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.

B. Special Warranties are written warranties required by, or incorporated in, the Construction Documents, either to extend time limits provided by Standard Product Warranties or to provide greater rights to the Owner. Refer to individual sections of the Specifications for Special Warranty requirements.

1.03 PROJECT MAINTENANCE AND WARRANTY

A. The Contractor shall maintain and keep in good repair the Work covered by these Drawings and Specifications until acceptance by the Owner.

B. The Contractor shall warrant for a period of two years, except where specified otherwise, from the date of Owner's written acceptance of certain segments of the Work and/or Owner's written final acceptance of the Project, as defined in the Contract Documents that the completed Work is free from all defects due to faulty products or workmanship and the Contractor shall promptly make such corrections as may be necessary by reason of such defects.

1. The Owner will give notice of observed defects with reasonable promptness.

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2. In the event that the Contractor should fail to make such repairs, adjustments or other work that may be made necessary by such defects, the Owner may do so and charge the Contractor the cost thereby incurred.

3. The Performance Bond shall remain in full force and effect throughout the warranty period.

C. The Contractor shall not be obligated to make replacements which become necessary because of the following:

1. Ordinary wear and tear.

2. As a result of improper operation or maintenance.

3. As a result of improper work or damage by another Contractor or the Owner.

4. Any work performed by personnel other than a maintenance crew during operation.

D. In the event of multiple failures of major consequences prior to the expiration of the two year warranty described above, the affected unit shall be disassembled, inspected and modified or replaced as necessary to prevent further occurrences.

1. All related components which may have been damaged or rendered non serviceable as a consequence of the failure shall be replaced.

2. A new 24 month, except where specified otherwise, warranty against defective or deficient design, workmanship, and materials shall commence on the day that the item is reassembled and placed back into operation.

3. As used herein, multiple failure shall be interpreted to mean two or more successive failures of the same kind in the same item or failures of the same kind in two or more items.

4. Major failures may include, but are not limited to, cracked or broken housings, piping, or vessels, excessive deflections, bent or broken shafts, broken or chipped gear teeth, premature bearing failure, excessive wear or excessive leakage around seals.

5. Failures which are directly and clearly traceable to operator abuse, such as operations in conflict with published operating procedures or improper maintenance, such as substitution of unauthorized replacement parts, use of incorrect lubricants or chemicals, flagrant over or under lubrication and using maintenance procedures not conforming with published maintenance instructions, shall be exempted from the scope of the one year warranty.

6. Should multiple failures occur in a given item, all products of the same size and type shall be disassembled, inspected, modified or replaced as necessary and re-warranted for two years.

E. The Contractor shall, at Contractor's own expense, furnish all labor, materials, tools and equipment required and shall make such repairs and removals and shall perform such work or reconstruction as may be made necessary by any structural

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or functional defect or failure resulting from neglect, faulty workmanship or faulty materials, in any part of the Work performed by the Contractor.

1. Such repair shall also include refilling of trenches, excavations or embankments which show settlement or erosion after backfilling or placement.

F. Except as noted on the Drawings or as specified, all structures such as embankments and fences shall be returned to their original condition prior to the completion of the Contract.

1. Any and all damage to any facility not designated for removal, resulting from the Contractor's operations, shall be promptly repaired by the Contractor at no cost to the Owner.

G. The Contractor shall be responsible for all road and entrance reconstruction and repairs and maintenance of same for a period of one year from the date of final acceptance. In the event the repairs and maintenance are not made immediately and it becomes necessary for the owner of the road to make such repairs, the Contractor shall reimburse the owner of the road for the cost of such repairs.

H. In the event the Contractor fails to proceed to remedy the defects upon notification within 15 days of the date of such notice, the Owner reserves the right to cause the required materials to be procured and the work to be done, as described in the Drawings and Specifications, and to hold the Contractor and the sureties on Contractor's bond liable for the cost and expense thereof.

I. Notice to Contractor for repairs and reconstruction will be made in the form of a registered letter addressed to the Contractor at Contractor's home office.

J. Neither the foregoing paragraphs nor any provision in the Contract Documents, nor any special guarantee time limit implies any limitation of the Contractor's liability within the law of the place of construction.

K. Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, right and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.

L. The Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Construction Documents.

M. The Owner reserves the right to refuse to accept Work for the Project where a Special Warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

N. Owner acceptance of warranties does not relieve the Contractor of the warranty requirements specified in the General Conditions.

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O. Ensure all Standard Product Warranties and Special Warranties are transferrable to Owner.

1.04 SUBMITTALS

A. Procedures: Section 01 33 00.

B. Warranties and Bonds Manual: Assemble executed licenses, certificates, warranties, bonds, and any required service and maintenance contracts from the respective manufacturers, suppliers, and Subcontractors. Provide two (2) preliminary review copies, identified “Preliminary.” Provide four (4) final signed copies of the Warranties and Bonds Manual following review and acceptance of the preliminary manual by the Owner.

1. Out of the four final signed copies, one (1) shall be an original.
2. Provide one (1) flash drive with scanned Adobe Acrobat (.pdf) files, including an index with hyperlinks to the individual sections.

C. Include complete information for each of the following:

1. Neatly typed Table of Contents, in a complete and orderly sequence.
2. Product or work item, including applicable specification section number(s) per the Construction Documents.
3. Firm, with name of principal, address, telephone number, email address, and web site address.
4. Scope of warranty.
5. Start date of warranty or service and maintenance contract.
6. Duration of warranty or service and maintenance contract.
7. Proper procedure in case of failure.
8. Instances which might affect validity of warranty or bond.
9. Contractor, name or responsible principal, address, and telephone number.
10. For Special Warranties, prepare a written document containing all pertinent information and ready for execution by the required parties.

D. Copies shall be bound in slant-D, 3 ring view binders with an insert accepting clear vinyl overlay on the front cover and spine.

1. Provide cover slip sheet typed with "WARRANTIES AND BONDS", Project name, Project number, Contractor, and blank field for the date. Label volumes consecutively.
2. Each copy shall have a typewritten index and tabbed dividers between equipment categories or specification sections.
3. The contents of the manual shall be printed on white 8-1/2” x 11” acid free, recycled copy paper and shall not exceed 75% capacity of the binder.

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PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01 78 39

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 refer to those documents maintained and annotated by the Contractor during construction and are defined as:

1. A neatly and legibly marked set of contract drawings showing the final location of piping, equipment, structures, electrical conduits, outlet boxes and cables.
2. Specifications annotated with addenda and change order items, by section.
3. Change orders and other modifications to the Contract.
4. Construction Manager field orders or written instructions, including Requests for Information (RFI) and Clarification Memorandums.
5. Reviewed shop drawings, product data and samples.
6. Daily work reports.
7. Field test data.
8. Additional documents such as schedules, lists, drawings, and electrical and instrumentation diagrams included in the Specifications

C. The Contractor shall maintain on the Project site throughout the Contract Time an up to date set of Record Drawings.

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1.02 GENERAL REQUIREMENTS

A. Unless otherwise specified, record drawings shall be full size and maintained in a clean, dry, and legible condition.

B. Record documents shall not be used for construction purposes and shall be available for review by the Owner and Construction Manager during normal working hours.

C. At the completion of the Work, prior to final payment, all record drawings and any CAD files shall be submitted to the Construction Manager.

D. The record documents shall be maintained continuously.

E. Prior to each request for partial progress payment, Construction Manager will review record drawings with Contractor.

F. Progress payment requests will not be processed unless record drawings are current.

1.03 MAINTENANCE OF DOCUMENTS AND SAMPLES

A. Storage

1. The Contractor shall store documents and samples in the Contractor's field office, apart from documents used for construction.
2. The Contractor shall provide files and racks for storage of documents.
3. The Contractor shall provide locked cabinet or secure storage space for storage of samples.

B. The Contractor shall file documents and samples in accordance with format of these Specifications.

C. Maintenance

1. The Contractor shall maintain documents in a clean, dry, legible condition and in good order.
2. Do not use record documents for construction purposes.
3. The Contractor shall maintain at the site for the Owner one copy of all record documents.

D. Failure to maintain the Record Documents in a satisfactory manner may be cause for withholding of a certificate for payment.

1.04 QUALITY ASSURANCE

A. Furnish qualified and experienced person, whose duty and responsibility shall be to maintain Record Documents.

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B. Accuracy of Records:

1. Unless noted otherwise, Record Drawings shall provide dimensions, distances and coordinates to the nearest 0.1 foot.
2. Unless noted otherwise, Record Drawings shall provide elevations to the nearest 0.01 foot for all pertinent items constructed by the Contractor.
3. Coordinate changes within Record Documents, making legible and accurate entries on each sheet of Drawings and other documents where such entry is required to show change.
4. Purpose of Project Record Documents is to document factual information regarding aspects of Work, both concealed and visible, to enable future modification of Work to proceed without lengthy and expensive site measurement

C. Make entries within 24 hours after receipt of information that a change in Work has occurred.

D. Prior to submitting each request for progress payment, request Construction Manager's review and approval of current status of Record Documents. Failure to properly maintain, update, and submit Record Documents may result in a deferral by Owner to recommend the whole or any part of the Contractor's Application for Payment, either partial or final.

1.05 CONTRACTOR MARK-UPS AND DATA ENTRY REQUIREMENTS

A. The Contractor shall provide one set of the Contract drawings, with all changes recorded in that one set.

B. Marking of the drawings shall be kept current and shall be done at the time the material and equipment are installed.

C. Annotations to the record drawings shall be made with an erasable colored pencil conforming to the following color code:

1. Additions – Red
2. Deletions – Green
3. Comments – Blue
4. Dimensions – Graphite

D. Legibly mark drawings to record actual construction, including:

1. Changes of dimension and detail.
2. Changes made by Requests for Information (RFI), field order, work change directives, clarification memorandums or by change order.
3. Details not on original Drawings.

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E. Legibly mark to record actual depths, horizontal and vertical location of underground facilities, piping, taps, fitting, valves, underground structures, equipment, raceways, cables, and appurtenances referenced to permanent surface improvements. The horizontal locations shall be referenced to at least two easily identifiable, permanent landmarks (e.g., power poles, valve markers, etc.) or benchmarks.

F. 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.

G. Location of and dimensions of roadways and parking areas, providing dimensions to back of curb when present.

H. Provide elevation of piping through vaults / structures, invert elevation of all pipes entering manholes, junction boxes, valves, clean outs, etc. Provide center of manholes, and corners of facilities or structures with northing, easting and bottom / top elevations.

I. The Contractor shall provide offset staking for the centerline of the water main every 50 feet along the pipe (including all fittings and bends) – as installation of the pipeline progresses. The staking shall identify the distance to the centerline of the pipe and the depth of cover to the top of pipe. At the completion of construction, the Contractor shall provide coordinates for the centerline of the pipe, include depth of bury, based on staked offsets.

J. The Contractor shall obtain a set of signed/sealed as-built drawings from the Georgia registered surveyor and submit to the Owner. Survey shall accurately reflect installed location, depth, pipe size and other pertinent details.

K. Record Drawings shall be prepared using a survey that ties the site and improvements horizontally and vertically to the following state plane coordinate system or as amended by the Owner.

1. Horizontal Control: North American Datum 83 (NAD83) (HARN) 1994
2. Vertical Control: North American Vertical Datum of 1988 (NAVD88).
3. Grid Zone: Georgia West 1002 (US Survey feet)

L. As-built drawings shall include GPS coordinates for valves, fittings and other above grade appurtenances and elevation of top of water main at least every 100 feet or as directed by the Construction Manager.

M Label each document “Project Record” in neat, large printed letters.

N. Specifications

1. Legibly mark each section to record:

a. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.

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b. Changes made by Requests for Information (RFI), field order, clarification memorandums, or by change order.

1.06 SUBMITTAL

A. At contract closeout, deliver Record Documents to the Construction Manager for the Owner.

B. Accompany submittal with transmittal letter 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

C. Cad Files

1. All as-built plans submitted to the Fulton County Department of Public Works must be provided in electronic computer aided design (CAD) format. CAD files to be submitted in accordance with Appendix A – “Fulton County As-Built CAD Standards”.

PART 2 – MATERIALS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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APPENDIX A

Fulton County As-Built CAD Standards
Effective Date: JANUARY 01, 2010
Version 0.2

Revised: 20 Feb 2009

As of *01 JANUARY 2010*, all water and wastewater as-built plans submitted to the Fulton County Department of Public Works must be provided in electronic computer aided design (CAD) format. The following standards must be followed for all plans. Construction will not be approved until these standards are met.

Template (or seed) drawing file available at http://www.fultoncountyga.gov/county/dpw under Developer Information on the left side-bar.

Table of contents

1) General Requirements
2) Layers
3) Drawing
4) Table Specifications
5) Symbolization
6) Annotation
7) File Names and Revisions
8) Deliverable Formats

1) General Requirements

a) All as-built drawings must be georeferenced to the US State Plane coordinate system, NAD 83, GA West Zone, US Survey Feet. All drawings must contain two reference pins (i.e. property corners), which are labeled and tied to the Fulton County (FULCO) GPS monument network (please identify referenced GPS monuments with the monument number and coordinates). Reference pins must be able to be field verified using GPS and must be easily accessible (i.e., must not be in a creek). The survey method (GPS or conventional) used to place the reference pins should be identified in the HORIZONTAL_AND_VERTICAL_TEXT layer. Information on the FULCO GPS survey monuments can be found using the FULCO Monument Locator map application web site at: http://wms.co.fulton.ga.us/ms/gps/ or may be obtained in person at the

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Fulton County Government Center, Department of Public Works.

b) All features depicted in the as-built drawings must be surveyed ***after*** construction. FULCO will spot check all coordinates to ensure accuracy. Table 1 specifies the features that must be surveyed. Water system features must be surveyed at a horizontal accuracy of ≤ 0.3 ft and vertical accuracy of ≤ 0.5 ft. Sewer system features must be surveyed at a horizontal accuracy of ≤ 0.5 ft and a vertical accuracy of ≤ 0.1 ft.

c) The following feature geometry types must be shot directly using the survey instrument and tied to the FULCO GPS monument network:

1) All point features (hydrants, valves, sewer manholes, etc.),
2) All line features at all endpoints, bends, and turns (pipes, etc.),
3) All polygon features at all corners and bends (project boundaries, lots, right-of- ways, etc.)

d) The following feature types are acceptable: Lines, Polylines, Text, Insert/Blocks. The Leaders as feature types must not be used. Where there is a need for Leaders they shall be drawn using *Line* features and must be put on a text layer. For example, the leader for the diameter of a water pipe should be on the WATER_LINE_TEXT layer, not the WATER_LINE layer.

e) A template (or seed) drawing file, file containing the required FULCO blocks and AutoCAD tool pilot will be provided through the Department of Public Works website http://www.fultoncountyga.gov/county/dpw.

f) The project boundary must be labeled on the PROJECT_BOUNDARY_TEXT layer, and the label must be within the extent of the project boundary.

2) Layers:

a) Layer names for required layers must appear exactly as in Table 1.

b) All required layers listed in FULCO CAD layers must contain only the features that are described for that layer. For example, the BOUNDARY_LINE layer must only contain the boundary line and not such features as north arrows or parcels.

c) All required layers must be present in the drawing except for features that do not pertain to a particular project. For example, some commercial projects or apartment complexes may not contain sewer taps as part of the construction and should not be included in the drawing.

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d) All layers must be clearly differentiated from each other.

1) Two layers having the names "WATER_LINE" and "WATER_LINES" should not exist in the same drawing.

e) SEWER_LINE_TEXT and SEWER_TEXT should not exist in the same drawing. All text must appear on separate layers from the layers they annotate. For example, text describing a sewer line must be on the SEWERLINE_TEXT layer, not the SEWER_LINE layer.

3) Drawing

a) All layers must conform to the proper geometry type (insert/block, line, polygon, text) as indicated in Table 1 below.

Table 1: Layer Names and Geometry Types

Layer Name	***Type***	***Layer Contents***	***Surveyed***
ADDRESS_TEXT	Text	Street postal address number	No
BLOCK_LETTER_TEXT	Text	Indicates the block letter of a subdivision	No
CITY_BOUNDARY	Line	City boundary line	No
CITY_BOUNDARY_TEXT	Text	City names associated with the CITY_BOUNDARY	No
COUNTY_BOUNDARY	Line	County boundary lines	No
COUNTY_BOUNDARY_TEXT	Text	County Names for the COUNTY_BOUNDARY layer	No
CONTOUR	Line	Topological delineation information	
CONTOUR_TEXT	Text	Description info for contour layer	
CORNER_POINTS	Point	Establishing Reference points	
FIRE_HYDRANT	Insert	Fire Hydrants	Yes
FIRE_HYDRANT_TEXT	Text	Text Associated with FIRE_HYDRANT layer	No
FLOODPLAIN_100YR	Line	Existing floodplain delineation	
FLOODPLAIN_100YR_FUTURE	Line	Proposed floodplain delineation	
FLOODPLAIN_100YR_FUTURE_TEXT	Text	Text for proposed floodplain delineation	
FLOODPLAIN_100YR_TEXT	Text	Text for existing floodplain delineation	
FLOW_ARROW	Insert	Sewer line flow arrows	No
GABION_WALL	block	Any retaining type wall construction	
GREASE_TRAPS	block	Grease traps	
HORIZONTAL_AND_VERTICAL_CONTROL_POINT	Point	Survey control points (rebar or monuments) with x,y,z	Yes
HORIZONTAL_AND_VERTICAL_TEXT	Text	Corresponding text (coordinate values, monument number, Survey method etc.).	No
LAND_LOT_LINE	Line	Layer Contents	
LAND_LOT_LINE_TEXT	Text	Land lot numbers and other text.	No

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Table 1: Layer Names and Geometry Types			
LOT_NUMBER_TEXT	Text	Individual lot numbers	No
PROJECT_BOUNDARY	Poly	The boundary line of the subdivision or property.	Yes
PROJECT_BOUNDARY _TEXT	Text	Project (Development) Name	No
PROPERTY_ID_TEXT	Text	Property Information	
PROPERTY_LINE	Poly	Property Lines (parcel lines)	Yes
PUMP_STATION	Point	Represents the centermost point of a pump station	Yes
PUMP_STATION_TEXT	Text	Text associated with PUMP_STATION	No
RAILROAD_LINE	Line	Railroad Lines	Yes
RAILROAD_TEXT	Text	Text Associated with RAILROAD	No
ROAD_EDGE_OF_PAVEMENT	Poly	Street Edge of Pavement (not back of curb); this layer should not include parking lots or curbing	Yes
ROAD_TEXT	Text	Road Names	No
ROAD_RIGHT-OF-WAY	Poly	Road Right-of-Way	Yes
ROAD_RIGHT-OF-WAY_TEXT	Text	Text relating to the road right of way layer	No
SEWER_END-OF-LINE	Insert	End of sewer line.	Yes
SEWER_END-OF-LINE_TEXT	Text	Text associated with SEWER_END-OF-LINE	No
SEWER_EXISTING	Line	Sewer lines present before the subdivision/project	Yes
SEWER_EXISTING_TEXT	Text	Text associated with the SEWER_EXISTING layer	No
SEWER_MANHOLE_EXISTING	Block	Existing Sewer Manholes	Yes
SEWER_MANHOLE_ EXISTING_TEXT	Text	Text for the SEWER_MANHOLE EXISTING layer	No
SEWER_FORCE_MAIN	Line	Sewer force mains	Yes
SEWER_FORCE_MAIN_TEXT	Text	Text associated with SEWER_FORCE_MAIN	No
SEWER_LINE	Line	Sewer lines built as part of the subdivision/project.	Yes
SEWER_LINE_TEXT	Text	Text associated with the SEWER_LINE layer.	No
SEWER_MANHOLE	Block	Sewer Manholes	Yes
SEWER_MANHOLE_TEXT	Text	Text associated with the SEWER_MANHOLE layer	No
SEWER_SEPTIC_TANK	Line	Septic tank	
SEWER_TAP	Line	Sewer taps	Yes
SEWER_TAP_TEXT	Text	Distance between taps in feet	Yes
SEWER_TUNNEL	Line	Subsurface Sewer tunnel construction	
STORM_BMP	Poly	Engineered structures designed to improve management of Stormwater system (see section e-I)	
STORM_BMP_TEXT	Text	Label showing the BMP_ID (see section e-II)	No
STORM_BMP_EXISTING	Poly	Engineered structures designed to improve management of Stormwater system (see section e-I)	No
STORM_BMP_EXISTING_TEXT	Text	Text associated with the STORM_BMP_EXISTING	No
STORM_CULVERT	Poly	A polygon representing the extent of pipe culvert or box Culvert structure (see section e-III)	Yes
STORM_CULVERT_TEXT	Text	Label for the features ID (see section e-III)	No

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Table 1: Layer Names and Geometry Types			
STORM_CULVERT_EXISTING	Poly	A polygon representing the extent of a culvert structure (see section e-III), prior to construction	Yes
STORM_CULVERT_EXISTING_TEXT	Text	Label for the features (see section e-III)	No
STORM_CULVERT_CHART	n/a	Describes the required parameters (e-III)	n/a
STORM_DROPINLET	Block	Stormwater drop inlet. (see section e-IV)	Yes
STORM_DROPINLET_TEXT	Text	Text describing layer (i.e. Invert Elevation)	No
STORM_DROPINLET_EXISTING	Block	Stormwater drop inlet (see section e-IV) that existed prior to construction	Yes
STORM_DROPINLET_EXISTING_TEXT	Text	Text describing layer	No
STORM_FLUME	Line	The centerline drawn in flow direction (see section V)	Yes
STORM_FLUME_TEXT	Text	Text for: material (lining), slope (see section e-VI)	No
STORM_FLUME_EXISTING	Line	The centerline that existed prior to construction Must be drawn in flow direction (see section V).	Yes
STORM_FLUME_EXISTING_TEXT	Text	Text associated with layer (see section e-VI)	No
STORM_HEADWALL	Block	Proposed new placement point of construction	
STORM_HEADWALL_TEXT	Text	Text associated with new headwall	
STORM_HEADWALL_EXISTING	Block	Headwall which existed prior to construction	
STORM_HEADWALL_EXISTING_TEXT	Text	Text associated which existed prior to construction	
STORM_JUNCTION_BOX	Insert	Block in the location of a Stormwater Junction Box	Yes
STORM_JUNCTION_BOX_TEXT	Text	Text for layer that must at least show: Rim Elevation, Invert Elevation, and Junction Box material.	No
STORM_JUNCTION_BOX_EXISTING	Insert	Pre-existing block for the Storm Junction Box	Yes
STORM_JUNCTION_BOX_EXISTING_TEXT	Text	Text for layer that must at least show: Rim Elevation, material, Invert Elevation, and Junction Box	No
STORM_LINE	Line	Pipe (i.e. Pipe line or driveway pipe) (see section e-VII)	Yes
STORM_LINE_TEXT	Text	Text for layer (i.e. slope, diameter, material)	No
STORM_LINE_EXISTING	Line	Pre-existing stormwater line (pipe line or driveway pipe) drawn in the direction of flow (see section e-VII)	Yes
STORM_LINE_ EXISTING_ TEXT	Text	Text associated with layer (i.e. slope, diameter, material)	No
STORM_OPEN_CHANNEL	Line	Centerline drawn in the direction of flow (see section e-V)	Yes
STORM_OPEN_CHANNEL_TEXT	Text	Text layer: material (lining), slope (see section e-VI)	No
STORM_OPEN_CHANNEL_EXISTING	Line	Centerline of structure. Must be drawn in the direction of flow (see section e-V)	Yes
STORM_OPEN_CHANNEL_EXISTING_ TEXT	Text	Text associated with layer (see section e-VI)	No
STORM_LINE_END	Insert	The structure at the Line End or a node representing the bare end of pipe (see section e-VIII)	Yes
STORM_LINE_END_TEXT	Text	Text layer (i.e. slope, diameter, material)	No
STORM_LINE_END_EXISTING	Insert	The structure at the Line End or a node representing the	Yes
		bare end of pipe (see section e-VIII)	
STORM_LINE_END_EXISTING_TEXT	Text	Text associated with layer	No
STRUCTURE	Line	Above ground construction (Buildings, apartments, etc.)	

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Table 1: Layer Names and Geometry Types			
STRUCTURE_TEXT	Text	Name, or other information associated with the structure	
TANK_PROPOSED	Line	Any proposed tank construction	
TRASH_RACKS	Block	Trash Racks	
UTILITY_EASEMENT	Poly	Utility line easements	Yes
UTILITY_EASEMENT_TEXT	Text	Text Associated with Utility Easements	No
WATER_CAP	Insert	Cap at the end of water line.	Yes
WATER_CAP_TEXT	Text	Text associated with WATER_CAP_TEXT	No
WATER_EXISTING	Line	Water lines before the subdivision/project was built	Yes
WATER_EXISTING_TEXT	Text	Text associated with WATER_EXISTING	No
WATER_LINE	Line	Water lines built as part of the subdivision/project.	Yes
WATER_LINE_TEXT	Text	Text associated with WATER_LINE	No
WATER_METER	Insert	Customer water meters	Yes
WATER_METER_TEXT	Text	Text associated with WATER_METER	No
WATER_REDUCER	Insert	Water line reducer	Yes
WATER_REDUCER_TEXT	Text	Text associated with WATER_REDUCER	No
WATER_SERVICE	Line	Water service lines	Yes
WATER_SERVICE_TEXT	Text	Text associated with WATER_SERVICE	No
WATER_STORAGE_SYSTEM	Block	Water Storage System construction	
WATER_STORAGE_SYSTEM_TEXT	Text	Text for Water Storage System construction	
WATER_VALVE_EXISTING	Insert	Existing water valves	Yes
WATER_VALVE_EXISTING_TEXT	Text	Text associated with WATER_VALVE_EXISTING	No
WATER_VALVE	Insert	Water valves	Yes
WATER_VALVE_TEXT	Text	Text associated with WATER_VALVE	No
WATER_VAULT	Insert	Large meter or fire connection vault	Yes
WATER_VAULT_TEXT	Text	Text associated with WATER_VAULT	No
WETLAND	Line	Wetland area	
WETLAND_TEXT	Text	Text associated with the Wetland	

b) All Polygon type features must be completely closed. Lines may need to be duplicated on more than one layer.

1) Subdivision/project parcels must to be closed figures on their layer (not closed with the subdivision/project boundary).

2) Road edge-of-pavement and road right-of-way must be drawn as closed polygons.

3) Where a polygon feature extends beyond the edge of the plan, the property boundary (repeated on the polygon feature's layer) will be

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used to close the polygon.

4) All edges on polygon features must be snapped together at the vertices. Gaps in polygon boundaries will not be accepted.

c) Sewer Features

1) Sewer Lines and Sewer Taps need to be digitized with proper directionality: lines must be drawn from the uphill node to the downhill node or flipped after the lines have been digitized.

2) All tangents between sewer manholes need to be drawn with a single line. Lines must not continue for more than one tangent.

3) All tangents must be snapped at endpoints intersecting at the exact center of the manhole. No gaps should exist between tangents.

4) Manholes need to be symbolized consistently with an insert centered and snapped on the tangent endpoints.

5) Sewer tap locations must be snapped to the sewer tangent and accurately placed. Placement shall be based on the televising reports. FULCO will verify tap placement against the televising report. The as-built engineer is responsible for obtaining the televising report.

d) Water Features

1) Water lines must be digitized with all straight-line pipes consisting of only two end points. Straight-line pipes will begin and end at the following features (nodes): hydrants, valves, meters, pumps, tees, crosses, and valves. Polylines should be used wherever a water line contains elbows or bends (i.e., when the line does make a straight run from node to node).

2) Curves may be digitized with enough vertices to capture the curve geometry, but they must be single, continuous lines. Curves or arcs may also be used to designate curved pipe.

3) Hydrants must be shown in their true, surveyed location, and must be connected to the water main via a valved fire hydrant line.

4) All water lines must be continuous, with pipe endpoints snapped to each other at endpoints (nodes).

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5) End-of-line caps must be drawn to differentiate end-of-lines from lines that extend beyond the extent of the drawing. Caps should be drawn for lines that are to be permanently capped when the project is complete, not for lines that are temporarily capped pending inspection.

e) Stormwater F**eatures**

1) The entire BMP must be represented on the Storm_BMP layer using a polygon. The following are the examples of BMPs: Enhanced Swale, Stormwater Pond, Stormwater Wetland, Sand Filter, Bioretention Cell, Infiltration Trench, Filter Strip, Gravity Oil-Grit Separator, Proprietary Structural Control, Underground Detention, Porous Concrete, Modular Porous Paver System. Please consult with the FULCO water resources engineer for a list of currently accepted BMPs.

2) A BMP_ID is going to be assigned to each STORM_BMP feature by the FULCO engineer during the plan review process. The contractor must clearly mark every BMP feature with the assigned BMP_ID in the STORM_BMP_TEXT layer of the asbuilt.

3) In the STORM_CULVERT and STORM_CULVERT_EXISTING layers, the structures must be drawn as polygons to show their length, width, location, and orientation. All the corners of the culvert extents must be surveyed. All culverts must be labeled in the corresponding STORM_CULVERT_TEXT or STORM_CULVERT_EXISTING_TEXT layer with the number matching the culvert chart shown on the asbuilt. The storm culvert chart shall be put in the STORM_CULVERT_CHART layer. For Culvert Chart contents see the Stormwater Development Guidelines.

4) In the STORM_DROPINLET and STORM_DROPINLET_EXISTING layers, the structures shall be drawn with different inserts (blocks) according to the type of the Drop Inlet: Single Wing Catch Basin, Double Wing Catch Basin, Square Catch Basin, Rectangular Catch Basin, Grate Cover Inlet, Catch Basin with Grate, Curb Inlet, Circular Weir Inlet, Rectangular Weir Inlet. The contractor must only use the blocks provided by FULCO for these features..

5) In the STORM_OPEN_CHANNEL, STORM_OPEN_CHANNEL-EXISTING, STORM_FLUME and STORM_FLUME_EXISTING layers, the feature shall be represented by a line reflecting the centerline of the structure and must be drawn in the direction of flow. The lines shall be broken at any point where the slope percent

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changes. All endpoints (including the points of slope changes) shall be surveyed.

6) STORM_OPEN_CHANNEL_TEXT, STORM_OPEN_CHANNEL_EXISTING_TEXT, STORM_FLUME_TEXT and STORM_FLUME_EXISTING TEXT layers shall contain a label indicating the percent slope and a type of material (lining) of the corresponding open channel or flume.

7) In the STORM_LINE or STORM_LINE_EXISTING layers, the features must be drawn in the direction of flow. This feature must be digitized with all straight-line pipes consisting of only two end points. Straight-line pipes will begin and/or end at the following features: STORM_LINE_END, STORM_JUNCTION_BOX, STORM_DROP_INLET.

8) In the STORM_LINE_END and STORM_LINE_END_EXISTING layers, the structures must be drawn with different inserts (blocks) according to the type: Straight Headwall, U-type Headwall, Tapered Headwall, L-Type Headwall, Flared- End Section, Straight Wingwall, Angled Wingwall, Bare End and BMP Outlet. STORM_LINE_END and STORM_LINE_END_EXISTING features must be snapped to the ends of the STORM_LINE or STORM_LINE _EXISTING or the centers of STORM_CULVERT or STORM_CULVERT_EXISTING openings. The contractor must only use the blocks provided by FULCO for these features (see section 4) Symbolization)

4) Table Specifications

a) A table with the following attribute data for each **sewer line**

1) Unique identifier matching the identifier in the as-built drawing

2) Unique identifier matching upstream manhole identifier in the as-built drawing

3) Upstream Measure Down - Distance from the upstream manhole lid top to invert of pipe as measured in feet

4) Upstream Invert – Elevation (z) of the invert of the upstream end of the pipe

5) Unique identifier matching downstream manhole identifier in the as-built drawing

6) Downstream Measure Down - Distance from downstream manhole lid top to invert of pipe as measured in feet

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7) Downstream Invert – Elevation (z) of the invert of the downstream end of the pipe

8) Pipe diameter measured in inches

9) Pipe Material (CI, DI, PVC, VC, RCP, UNK, IRON, TRAN, PE, TR)

10) Pipe Length measured in feet

Example Table: Sewer Line

Pipe ID	Upstr MH ID	Upstr Measure Down	Upstr Invert	Downstr MH ID	Downstr Measure Down	Downstr Invert	Pipe Diameter	Pipe Material	Pipe Length
Pipe#1	SSMH#1	6.1	906.78	Pump Station	10.2	905.06	8	PVC	291
Pipe#2	SSMH#2	7.1	908.33	SSMH#1	6.05	906.83	8	PVC	238
Pipe#3	SSMH#3	8	908.76	SSMH#2	7.1	908.03	8	PVC	64

b) A table with the following attribute data for each **water line**

1) Unique identifier matching the identifier in the as-built drawing

2) Pipe diameter measured in inches

3) Pipe Material (CI, PVC, DI, GV, PB, CO, UNK, TRAN,CP, SC.)

4) Pipe Length measured in feet

5) End1 ID (Valve, Meter, Reducer, etc.)

6) End2 ID (Valve, Meter, Reducer, etc.)

Example Table: Water Line

Pipe ID	Pipe Diameter	Pipe Material	Pipe Length	End1 ID	End2 ID
WL #1	8	PVC	291	WV #2	FH #23
WL #2	8	PVC	238	WM #43	WV #2
WL #3	8	PVC	64	WV #2	WV #54

c) A table with the following attribute data for each **storm line**

1) Unique identifier matching the identifier in the as-built drawing

2) Unique identifier matching upstream structure identifier in the as-built drawing

3) Upstream Measure Down - Distance from the upstream structure elevation to invert of pipe measured in feet

4) Upstream Invert – Elevation (z) of the invert of the upstream end of the pipe

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5) Unique identifier matching downstream structure identifier in the as-built drawing

6) Downstream Measure Down - Distance from downstream structure elevation to invert of pipe measured in feet

7) Downstream Invert – Elevation (z) of the invert of the downstream end of the pipe

8) Pipe Shape (Box, Elliptical, Circular, etc.)

9) Pipe height measured in inches

10) Pipe width measured in inches

11) Pipe Material (BCCMP, RCP, HDPE, CMP.)

12) Pipe Length measured in feet

Example Table: Storm Line

Pipe ID	Upstr-ID	Upstr Measure Down	Upstr Invert	Downstr-ID	Downstr Measure Down	Downstr Invert	Pipe Shape	Pipe Height	Pipe Width	Pipe Material	Pipe Length
Pipe #1	DI #1	6.1	906.78	JB #3	10.2	905.06	Circular	24	24	BCCMP	291
Pipe #2	CB #2	7.1	908.33	FES #1	6.05	906.83	Ellipse	38	24	BCCMP	238
Pipe #3	HW #1	0	908.76	HW #2	0	908.33	Box	60	84	RCP	64

5) Symbolization

a) Symbols must be standardized according to examples provided in the FULCO template file. The following “point” features must be symbolized using standard FULCO CAD symbols and drawn as inserts:

1) Vault

2) Valve

3) Hydrant

4) Manhole

5) Meter

6) End of Line/Cap

7) Reducer

8) Junction Box

9) Grease Traps

10) Trash Racks

11) Water Cap

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b) All blocks used in the STORM layers must be drawn as inserts. The blocks must be standard and symbolized using only FULCO CAD blocks provided on the FULCO CAD Digital Data Submission Standards template available through the Department of Public Works website http://www.fultoncountyga.gov/county/dpw.

1) Single Wing Catch Basin
2) Double Wing Catch Basin
3) Square Catch Basin
4) Rectangular Catch Basin
5) Grate Cover Inlet
6) Catch Basin with Grate
7) Curb Inlet
8) Circular Weir Inlet
9) Rectangular Weir Inlet
10) Straight Headwall
11) U-type Headwall
12) Tapered Headwall
13) L-type Headwall
14) Flared-End Section
15) Straight Wingwall
16) Angled Wingwall
17) Bare End
18) BMP Outlet
19) Junction Box
20) Rectangular Weir Inlet

6) Annotations

a) Any non-standard water and sewer lines must be annotated as such. Line diameter, material, ownership, etc. that does not conform to standard practice should be noted in the corresponding annotation layer. For example, standard subdivision sewer lines are 8” in diameter. Any other diameter must be annotated on the SEWER_LINE_TEXT layer.

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b) All addresses and lot numbers must be number data type (that is no text or symbols: #, -, ft, _, “, ‘, etc.). If the lot does not have a number, this layer should be blank.

c) All required text must be single line text. Project (Development) name shall be on one line.

d) All annotation for polyline (polygon) features must be bounded by the polyline it annotates. For example, the project name must be within the project boundary, and not extend beyond it.

7) File naming and revisions

a) File names should correspond exactly to the subdivision or project name and should be consistent from one version to the next. The file name should contain the drawing revision date (in YYMMDD format) as part of the name. There should be no blanks spaces in the name, only underscores. An example file name for the May 12, 2008 revision for the third phase of the Peaceful Valley subdivision is: “Peaceful_Valley_3_080512”. If a development name changes from that of indicated in the originally approved plans, the original name shall also be provided with the submittal of the as-built.

b) File revision dates should only be updated by the contractor/developer and not by FULCO or Fulton County.

8) Deliverable Format

a) All files shall be delivered in AutoCAD (release 14 or higher), DXF or DWG format (for projects created in Microstation) in a single flash drive. Files should not be spanned over more than one drive.

b) All deliverables will be labeled with the file name, company name, contact name, and phone number. A transmission letter restating this information along with a statement requesting as-built review will also accompany the disk.

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SECTION 01 99 90

REFERENCE FORMS

PART 1 – FORMS

1.01 DESCRIPTION

A. The forms listed below and included in this section are referenced from other sections of the project manual:

Form No.	Title
01 33 00-A	Submittal Transmittal Form
01 78 23-A	Operation and Maintenance Transmittal Form
01 78 23-B	Equipment Record Form
01 78 23-C	Equipment Record Form
43 05 11-A	Manufacturer's Installation Certification Form

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01 33 00-A. SUBMITTAL TRANSMITTAL FORM

Submittal Transmittal

Submittal Description:	Submittal No:[1]	Spec Section:

	Routing	Sent	Received
Owner:	Contractor/CM		
Project:	CM/Engineer		
	Engineer/CM		
Contractor:	CM/Contractor		

We are sending you:
☐ Attached
☐ Under separate cover via _____
☐ Submittals for review and comment
☐ Product data for information only

Remarks: _____

Item	Copies	Date	Section No.	Description	Review action[a]	Reviewer initials	Review comments attached

[a]*Note: NET = No exceptions taken; MCN = Make corrections noted; A&R = Amend and resubmit; R = Rejected*
Attach additional sheets if necessary.

Contractor

Certify either a or b:

a. ☐ We have verified that the material or equipment contained in this submittal meets all the requirements, including coordination with all related work, specified (no exceptions).

b. ☐ We have verified that the material or equipment contained in this submittal meets all the requirements specified except for the attached deviations.

No.	Deviation

[1]See *Section 01 33 00-1.04. A, Transmittal Procedure.*

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Certified by:

Contractor's Signature:

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01 78 23-A. OPERATION AND MAINTENANCE TRANSMITTAL FORM

Date:	Submittal No:[2]
To:	Contract No:
	Spec. Section:
	Submittal Description:
Attention:	From:

Checklist	Contractor		Construction Manager	
	Satisfactory	N/A	Accept	Deficient
1. Table of contents				
2. Equipment record forms				
3. Manufacturer information				
4. Vendor information				
5. Safety precautions				
6. Operator prestart				
7. Start-up, shutdown, and post-shutdown procedures				
8. Normal operations				
9. Emergency operations				
10. Operator service requirements				
11. Environmental conditions				
12. Lubrication data				
13. Preventive maintenance plan and schedule				
14. Troubleshooting guides and diagnostic techniques				
15. Wiring diagrams and control diagrams				
16. Maintenance and repair procedures				
17. Removal and replacement instructions				
18. Spare parts and supply list				
19. Corrective maintenance man-hours				
20. Parts identification				
21. Warranty information				
22. Personnel training requirements				
23. Testing equipment and special tool information				

[2] *See Section 01 33 00-1.04.A, Transmittal Procedure*.

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Remarks:

Contractor's Signature :

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01 78 23-B. EQUIPMENT RECORD FORM

Equip Description		Equip Location	
Equip No.	Shop Dwg No.	Date Inst	Cost
Mfr		Mfr Contact	
Mfr Address			Phone
Vendor		Vendor Contact	
Vendor Address			Phone

Maintenance Requirements	D	W	M	Q	S	A	Hours

Lubricants: Recommended:

Alternative:

Misc. Notes:

Recommended Spare Parts			
Part No	Quan	Part Name	Cost

Electrical Nameplate Data			
Equip			
Make			
Serial No.		Id No.	
Model No.		Frame No.	
Hp	V	Amp	Hz
Ph	Rpm	Sf	Duty
Code	Insl. Cl	Des	Type
Nema Des	C Amb	Temp Rise	Rating
Misc.			

Mechanical Nameplate Data			
Equip			
Make			
Serial No.		Id No.	
Model No.		Frame No.	
Hp	Rpm	Cap	Size
Tdh	Imp Sz	Belt No.	Cfm
Psi	Assy No.	Case No.	
Misc			

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01 78 23-C. EQUIPMENT RECORD FORM

Equip Description		Equip Location	
Equip No.	Shop Dwg No.	Date Inst	Cost
Mfr		Mfr Contact	
Mfr Address			Phone
Vendor		Vendor Contact	
Vendor Address			Phone

Maintenance Requirements	D	W	M	Q	S	A	Hours

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43 05 11-A. MANUFACTURER'S INSTALLATION CERTIFICATION FORM

Contract No: Specification section:

Equipment name:

Contractor:

Manufacturer of equipment item:

The undersigned manufacturer of the equipment item described above hereby certifies that he has checked the installation of the equipment and that the equipment, as specified in the project manual, has been provided in accordance with the manufacturer's recommendations, and that the trial operation of the equipment item has been satisfactory.

Comments:

Manufacturer	Contractor
Signature of Authorized Representative	Signature of Authorized Representative
Date	Date

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SECTION 02 41 13.33

PAVING REMOVAL

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes

1. Equipment
2. Trench paving removal
3. Milling Operations

1.02 REFERENCES

A. Drawings and general provisions of the Contract, including general and supplementary conditions and Division 1 Specification Sections, apply to this section.

B. Georgia Department of Transportation Standard Specifications.

1.03 WORK INCLUDED

A. The Contractor shall furnish all labor, equipment, tools and materials necessary to remove asphalt and/or concrete paving as required for the installation of proposed water mains or sewer mains and related appurtenances under the Contract and as directed by Owner.

1.04 SUBMITTALS

A. The Contractor shall submit for approval to Owner, County DOT and Georgia DOT when work is within a state road right-of-way, all working drawings and schedules of materials and methods proposed to follow in the execution of the Work under this item.

B. The Contractor shall submit photographs or videotape, sufficiently detailed, of existing conditions of project site. These shall be used to evaluate project areas that might be misconstrued as damage, caused by debris, or construction material removal.

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PART 2 – PRODUCTS

2.01 EQUIPMENT

A. Milling Equipment:

1. Use power-driven, self-propelled milling equipment that is the size and shape that allows traffic to pass safely through areas adjacent to the work. Also use equipment that is:

   a. Designed to mill and remove specified depth of existing asphalt and/or concrete paving

   b. Equipped with grade slope controls operating from a string line or ski and based on mechanical or sonic operation

   c. Capable of removing pavement to an accuracy of 1/8 in.

   d. Furnished with lighting system for night work, as necessary

   e. Provided with conveyors capable of side, rear, or front loading to transfer the milled material from the roadway to a truck.

B. Dust Control

1. Provide power brooms, vacuum sweepers, power blowers, or other means to remove loose debris or dust. Do not allow dust control to restrict visibility of passing traffic or to disrupt adjacent property owners.

PART 3 – EXECUTION

3.01 TRENCH PAVING REMOVAL

A. Where trench excavation within a paved surface is required, the Contractor shall saw cut in a straight line, vertical joints for the entire depth of pavement. The saw cut joints shall extend for the entire length of trench on both sides of the trench. Ragged edges shall be trimmed so as to provide a substantially straight line juncture between the old and new surfaces.

B. The removal of existing pavement shall be performed in accordance with the requirements of the authority within whose jurisdiction such pavement is located.

C. The saw cut joints shall be a minimum of 12 inches outside of the maximum width of excavated trench.

D. Whenever the removal of pavements (other than gravel types) is required, the Contractor shall outline the area to be removed by making straight saw cuts, providing vertical kerfs in straight lines in order to permit removal in a straight line.

E. Should pavement breakage occur beyond the original saw cut, the Contractor shall be required to make a new saw cut beyond the farthest point of breakage.

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F. Pavement shall be removed, hauled off site and disposed of in a proper legal manner. Contractor shall be careful not to disturb or damage any pavement that is to remain.

3.02 MILLING OPERATION

A. Follow the Plans to mill the designated areas and depths, as required. Ensure the following requirements are met:

1. Schedule the construction operation. Use milling methods that will produce a uniform finished surface and maintain a constant cross slope between extremities in each lane.
2. Provide positive drainage to prevent water accumulation on the milled pavement, as shown on the Plans or directed by the Construction Manager.
3. Bevel back the longitudinal vertical edges greater than 2 inches that are produced by the removal process and left exposed to traffic. Bevel them back at least 3 inches for each 2 inches of material removed. Use an attached mold board or other approved method.
4. When removing material at ramp areas and ends of milled sections, taper the transverse edges 10 ft to avoid creating a traffic hazard and to produce a smooth surface.
5. Protect with a temporary asphaltic concrete tie-in (paper joint) vertical edges at other areas such as bridge approach slabs, drainage structures, and utility appurtenances greater than ½-inch that are left open to trans versing vehicles. Place the temporary tie-in at taper rate of at least 6 to 1 horizontal to vertical distance.
6. Remove dust, residue, and loose milled material from the milled surface. Do not allow traffic on the milled surface and do not place asphaltic concrete on the milled surface until removal is complete.

B. The reclaimed asphaltic and/or concrete pavement becomes the Contractor's property unless otherwise specified.

END OF SECTION

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SECTION 02 42 11

REMOVAL OF CONSTRUCTION MATERIALS

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes:

1. Workmanship

1.02 REFERENCES

A. Drawings and general provisions of the Contract, including general and supplementary conditions and Division 1 Specification Sections, apply to this section.

1.03 WORK INCLUDED

A. The Contractor shall furnish all labor, equipment, and materials necessary to remove all unwanted construction material and debris, as directed by Owner and/or Construction Manager.

1.04 SUBMITTALS

A. The Contractor shall submit for approval to Owner and Fulton County DOT, all working drawings and schedules of materials and methods proposed to follow in the execution of the Work under this item.

B. The Contractor shall supply identification and license of company hauling/transporting material from the site.

C. The Contractor shall submit photographs and/or videotape, sufficiently detailed, of existing conditions of project site. These shall be used to evaluate project areas that might be misconstrued as damage, caused by debris, or construction material removal.

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PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

3.01 WORKMANSHIP

A. The Contractor shall follow all federal, state, and local regulations related to removal, hauling, and disposal of trash and debris.

B. The Contractor shall comply with any ordinances / regulations for hauling and disposal of all solid waste removed from the site for the duration of the Work.

C. The Contractor shall load, haul away, and dispose of debris, trash, structures, automobiles, etc., that may be pre-existing on the Worksite, to a legally permitted location.

D. The Contractor shall load, haul away, and dispose of construction material that is generated in execution of the Work, to a legally permitted location; including, but not limited to any debris, trash, structures, piping, etc.

E. The Contractor shall remove and dispose of all unused construction materials prior to Final Acceptance of the Work by Owner and the Engineer.

F. No additional payment shall be made for excavation or disposal of excavated material required for placement or removal of backfill placed above the foundation of the pavement; or for preparation of subgrade. The cost thereof shall be considered included in the pavement unit prices bid.

END OF SECTION

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SECTION 03 30 00

CAST IN PLACE CONCRETE

PART 1 – GENERAL

1.01 SUMMARY

A. This Section specifies cast in place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures and finishes.

1.02 SUBMITTALS

A. In accordance with specification Section 01 33 23 and in addition to the requirements of that section, the following submittals shall be provided.

B. Design Mixtures: For each concrete mixture.

C. Shop Drawings: For steel reinforcement. Material test reports.

1.03 QUALITY ASSURANCE

A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94/C 94M requirements for production facilities and equipment.

B. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:

1. ACI 301, "Specification for Structural Concrete," Sections 1 through 5.
2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

PART 2 – PRODUCTS

2.01 FORM-FACING MATERIALS

A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

2.02 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A615/A 615M, Grade 60, deformed.

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B. Plain-Steel Welded Wire Reinforcement: ASTM A185, plain, fabricated from as-drawn steel wire into flat sheets.

C. Deformed-Steel Welded Wire Reinforcement: ASTM A497, flat sheet.

D. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place.

1. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice."

2.03 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:

1. Portland Cement: ASTM C150, Type I/II. Supplement with the following:

a. Fly Ash: ASTM C 618, Class C.

B. Normal-Weight Aggregates: ASTM C33, graded, 1-inch (25-mm) nominal maximum coarse-aggregate size.

1. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

C. Water: ASTM C94/C 94M and potable.

D. Air-Entraining Admixture: ASTM C260.

2.04 VAPOR RETARDERS

A. Plastic Vapor Retarder: ASTM E1745, Class A. Include manufacturer's recommended adhesive or pressure-sensitive tape.

2.05 RELATED MATERIALS

A. Expansion- and Isolation- Joint-Filler Strips: ASTM D1751, asphalt-saturated cellulosic fiber or ASTM D1752, cork or self-expanding cork.

2.06 CONCRETE MIXTURES

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

B. Cementitious Materials: Use fly ash and silica fume as needed to reduce the total amount of portland cement, which would otherwise be used, by not less than 40 percent.

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C. Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: 4000 psi at 28 days.
2. Maximum Water-Cementitious Materials Ratio: 0.45.
3. Slump Limit: 4 inches, plus or minus 1 inch.
4. Air Content: 5-1/2 percent, plus or minus 1.5 percent at point of delivery for 1-1/2-inch nominal maximum aggregate size.

2.07 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.08 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.

1. When air temperature is between 85° F and 90° F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes.
2. When air temperature is above 90° F, reduce mixing and delivery time to 60 minutes.

PART 3 – EXECUTION

3.01 FORMWORK

A. Design, erect, shore, brace, and maintain formwork according to ACI 301 to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

C. Chamfer exterior corners and edges of permanently exposed concrete.

3.02 EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded

3.03 VAPOR RETARDERS

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A. Plastic Vapor Retarders: Place, protect, and repair vapor retarders according to ASTM E1643 and manufacturer's written instructions.

1. Lap joints 6 inches (150 mm) and seal with manufacturer's recommended tape.

3.04 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

3.05 JOINTS

A General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.

C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:

1. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8 inch wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

3.06 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

B. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.

C. Cold-Weather Placement: Comply with ACI 306.1.

D. Hot-Weather Placement: Comply with ACI 301.

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3.07 FINISHING FORMED SURFACES

A. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities. Revise locations in subparagraph below to suit Project. Retain rubbed finish option if additional finishing is required.

1. Apply to concrete surfaces exposed to public view.

B. Rubbed Finish: Apply the following to smooth-formed finished as-cast concrete where indicated:

1. Smooth-Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture.

2. Do not apply cement grout other than that created by the rubbing process

C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.08 FINISHING FLOORS AND SLABS

A. General: Comply with ACI 302.1R recommendations for screeding, re-straightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and re-straighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.

1. Apply a trowel finish to surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.

2. Finish and measure surface so gap at any point between concrete surface and an unleveled, freestanding, 10-foot- (3.05-m-) long straightedge resting on 2 high spots and placed anywhere on the surface does not exceed 1/4 inch (6 mm).

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3.09 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Cure concrete according to ACI 308.1, by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

    a. After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer. Retain subparagraph below if requiring removal of curing compounds that may interfere with adhesion of floor coverings. Curing and sealing compound in subparagraph below is usually for floors and slabs and may act as a permanent surface finish.

4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.10 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by Construction Manager. Remove and replace concrete that cannot be repaired and patched to Construction Manager's approval.

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3.11 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports. Testing Services: Tests shall be performed according to ACI 301.

END OF SECTION

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SECTION 03 40 00`

PRECAST CONCRETE

PART 1 – GENERAL

1.01 DESCRIPTION

A. Scope

1. This section specifies the materials and labor required for the manufacture and erection of precast concrete structures.

B. Type

1. Precast concrete includes precast boxes, manholes and precast structural concrete.

1.02 QUALITY ASSURANCE

A. General

1. The Contractor shall provide certification from the precast concrete manufacturer that the materials and manufacture of precast work supplied conforms to these specifications. The certification shall be signed by an officer of the manufacturer's corporation.
2. The responsibility for furnishing and installing precast concrete conforming to the specifications is solely that of the Contractor.

B. Testing Laboratory

1. All testing shall be performed by recognized independent laboratories specializing in the particular test to be performed, and conforming to the requirements of the National Bureau of Standards and ASTM E329.

C. Reference Standards

1. The appropriate reference standards are specified in the following documents. They are part of this Section as specified and modified. In case of conflict between the requirements of this Section and those of the listed documents, the requirements of this Section shall prevail.

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Reference	Title
ACI 318	Building Code Requirements for Reinforced Concrete
AWS D1.1	Structural Welding Code - Steel
AASHTO	Standard Specification for Highway Bridges
MNL-116	Prestressed Concrete Institute's Manual for Quality Control for Plants and Production of Precast and Prestressed Concrete Products, third edition

1.03 SUBMITTALS

A. In accordance with specification Section 01 33 23 and in addition to the requirements of that section, the following submittals shall be provided:

B. Concrete Mix

1. Prior to casting any precast elements, concrete mix design shall be submitted to the Construction Manager for acceptance.

C. Shop Drawings

1. Three copies of shop drawings shall be provided showing product location, fabrication details, number identification marks, reinforcement, connection details including field installed anchor sizes and locations, if required, openings, loose or embedded items and inserts, dimensions and relationship to adjacent materials in sufficient detail to cover manufacture, handling, and erection.

2. Shop drawings shall be accompanied by a letter signed by the manufacturer, certifying that, the shop drawings submitted represent construction which meets or exceeds the requirements of the Contract Documents and the requirements of codes and agencies having jurisdiction over the Work.

1.04 LABELING

A. Each precast unit shall have an identification mark indicating its location in the structure as shown on the placing diagrams and date of casting.

1.05 HANDLING AND STORAGE

A. Unless specified otherwise herein, fabrication, handling and erection of precast elements shall be in accordance with the recommendations made by ACI 318 and ACI Committee 533.

B. Precast elements shall be properly supported off the ground to avoid damage during curing, storage, handling and hauling.

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C. Lateral support shall be sufficient to prevent bowing, warping, or permanent set due to creep.

D. Edges of the units shall be adequately protected by padding or other means to prevent staining, chipping or spalling of concrete.

E. Lifting devices shall have a minimum safety factor of 4.

PART 2 – PRODUCTS

2.01 PERFORMANCE AND DESIGN REQUIREMENTS

A. Concrete mix design and compressive strength shall meet 4000 psi at 28 days.

B. Design live loads shall be AASHTO H-20.

2.02 PRECAST CONCRETE MATERIALS

A. Cement

1. Concrete in contact with soil or liquids shall be formulated using Type II portland cement conforming to ASTM C150.
2. Concrete not in contact with soil or liquids may be formulated using Type I or Type III portland cement.
3. Cement shall contain less than 0.60 percent alkalies and shall be from one source throughout the entire project.

B. Aggregates

1. Aggregates for normal weight concrete shall conform to ASTM C33 with a maximum size of 3/4 inch.

C. Water

1. Water shall be clean, potable, and free from injurious amounts of oil, alkalies, organic materials and other deleterious substances.

D. Admixture

1. Admixture shall be Pozzolith 300 R manufactured by Master Builders, Plastiment manufactured by Sika Chemical Corp. or equal.
2. Admixture shall be used in strict accordance with manufacturer's recommendations.
3. Calcium chloride or any admixture containing calcium chloride shall not be used.

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E. Reinforcing Steel

1. Reinforcing steel shall conform to ASTM A615, including supplementary requirements, and shall be Grade 60 except that bars to be welded shall be Grade 40 or ASTM A706.

F. Embedded Items and Anchorage Devices

1. All embedded items, inserts, and anchorage devices exposed to view, moisture or weather shall be hot dipped galvanized steel.
2. Anchorage devices shall be fabricated from ASTM A36 steel.

G. Penetrations

1. All required penetrations and openings larger than 6 inches in diameter or 6 inches square shall be formed in place at the time of casting.
2. Additional reinforcing shall be added where required to meet loading requirements.
3. Openings and penetrations smaller than 6 inches may be core drilled.

H. Molds

1. Material from which molds are to be fabricated shall be steel, concrete, fiberglass, reinforced plastic or wood.
2. The selection of materials for molds shall be at the manufacturer's option, except that wood shall not be used without the express approval of the Construction Manager.
3. All elements shall be cast in molds of rigid construction, accurate in detail with precise corners and arises, and designed to provide a close control of dimensions and details as indicated on the drawings.
4. Prior to casting of precast elements, molds shall have all surface joints, radii, corners, etc., filled, ground, filed, straightened or otherwise removed to provide a finished concrete surface that is smooth and dense, free of honeycombing, large air pockets, offsets, sinkages or other irregularities.

I. Parting Compound

1. All molds shall be coated with parting compound to facilitate removal of elements from molds.
2. Parting compound shall be non-petroleum, nonstaining and shall be of a nature and composition not deleterious to concrete.

J. Manhole Steps

1. Manhole steps shall be the cast aluminum type or extruded aluminum type.
2. Manhole steps are only allowed where specifically required.

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PART 3 – EXECUTION

3.01 INSTALLATION

A. Casting

1. Casting shall be accomplished by methods and equipment that are in conformance with generally acceptable systems for this type of work.
2. All precast concrete shall be manufactured by a plant thoroughly experienced in this type of work.
3. The manufacturer shall meet all production schedules.
4. Surfaces on which units are cast shall be level and free from any imperfections detrimental to the surface appearance of the finished units.
5. Parting compound shall be applied evenly as per manufacturer's recommendations.
6. Concrete shall be so handled as to prevent segregation of materials and shall be continuously vibrated during casting, either internally or externally, to achieve proper compaction, finish and distribution of concrete.
    a. All precautions must be taken to keep the reinforcing steel in the proper location during placing and consolidation of the concrete.
    b. Unless shown otherwise and except at concrete faces exposed to soil or liquids, all reinforcing steel shall have a minimum cover of 3/4 inch.
    c. At concrete faces exposed to soil or liquids, cover shall be 1-1/2 inches minimum.
    d. Embedded items shall be accurately placed and maintained in their proper location during the casting operation.
    e. Special inserts or other devices for handling of the units for the convenience of the manufacturer shall not be exposed to view after members are erected.
    f. Embedded anchors, inserts, plates, angles and other cast in items shall have sufficient anchorage and embedment for design requirements.
7. Precast sections shall be manufactured to contain wall and roof openings of the minimum size to receive the ends of the pipes and such openings being accurately set to conform to line and grade of the pipelines.
    a. Subsequent cutting or tampering in the field, for the purpose of creating new openings or altering existing openings, will not be permitted except as directed by the Construction Manager.
8. No more than four lift holes may be cast or drilled in each section.
9. Casting, bowing, warpage and dimensional tolerances shall be in accordance with MNL 116, current edition.

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B. Curing

1. All precast units shall be steam cured for a period of at least 12 hours. Fog spraying may be used when reviewed by the Construction Manager

2 Precast elements shall not be removed from molds for a minimum period of 12 hours after casting, or until concrete has attained a minimum compressive strength of 3500 pounds per square inch, whichever governs.

3. After removal from the forms, curing by steam or fog spraying shall be continued until concrete has attained specified strength and confirmed by standard tests.

4. Curing procedures shall be consistent and uniform throughout the entire project.

C. Welding

1. The quality of material and fabrication of all welded connections shall conform to the latest AISC "Specification for the Design, Fabrication and Erection of Structural Steel for Buildings."

2. All weldments shall be made in accordance with the applicable provisions of AWS.

   a. All welding, other than tacks, shall be done by certified welders. All units shall be protected from damage by field welding or cutting operations.

   b. Noncombustible shields shall be provided as necessary for this purpose.

D. Joints and Joint Sealants

1. In all instances, the edges of precast concrete units and of adjacent material shall be sound, smooth, clean and free of all contaminants prior to joint treatment.

2. Sealant and primer shall be supplied by the same manufacturer and the primer, when required, shall be as recommended for the particular sealant used.

3. All sealant compounds shall be delivered to the job in the manufacturer's original sealed containers with labels intact and shall be applied in strict accordance with the manufacturer's recommendations.

E. Miscellaneous

1. All exterior surfaces of the concrete units shall be given a minimum of one shop coat of bituminous damp-proofing.

2. Gasket materials shall be top grade (100% solids, vulcanized) butyl rubber and shall meet or exceed AASHTO M 198.

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3.02 ERECTION

A. Any errors or misalignment in the structure which would prevent the proper setting of the elements shall be corrected by the Contractor before the erection is commenced.

B. Erection shall be supervised and performed by workmen skilled in this type of Work.

C. Each element shall be set in the proper position, carefully plumbed and anchored securely to the structural frame.

D. Adjustments or changes in connections which could involve additional stresses in the products or connections shall not be permitted without approval of the Construction Manager.

E. All bearing surfaces shall be true to line and grade.

F. Erection tolerances shall be in accordance with MNL 116.

G. All joints shall be uniform and straight.

3.03 CLEANING AND REPAIRING

A. After installation, precast elements shall be protected from all damage until final acceptance by the Owner.

B. Precast units with cracks, spalls, and other defects shall be subject to rejection. Units reviewed for repair shall be repaired to the satisfaction of the Construction Manager.

3.04 ALTERNATIVE DESIGN

A. The Contractor may offer an alternative design for any precast element.

B. Such design shall be comparable in terms of strength, deflection, finish and all other design criteria indicated.

C. Complete drawings prepared and sealed by a Structural engineer registered in the State of Georgia where applicable shall be submitted to the Construction Manager for his review in accordance with specification Section 01 33 23 of these Contract Documents.

D. No alternative design will be permitted unless it has been specifically accepted in writing by the Construction Manager.

E. If an alternative design is accepted, all expenses resulting therefrom shall be borne by the Contractor.

END OF SECTION

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SECTION 08 31 00

ACCESS DOORS AND FRAMES

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes access doors and frames.

B. Unless indicated otherwise, provide access doors as follows:

1. Type I access doors over spaces intended to be dry such as pipe galleries and pump rooms.
2. Type II access doors over spaces intended to be wet such as wet wells and liquid holding basins.
3. Type III access doors where doors are subject to vehicular traffic.

1.02 REFERENCES

A. This section contains references to the following documents.

1. They are a part of this Section as specified and modified. Where a referenced document contains references to other standards, those documents are included as references under this section as if referenced directly.
2. In the event of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

Reference	Title
ASTM A666	Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate and Flat Bar
ASTM B308	Aluminum-Alloy 6061-T6 Standard Structural Profiles
ASTM C578	Rigid, Cellular Polystyrene Thermal Insulation

1.03 SUBMITTALS

A. Action Submittals:

1. Procedures: Section 01 33 00.
2. A copy of this Specification Section with addendum updates included, and all referenced and applicable sections with addendum updates included with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements.
   a. Check-marks (✓) shall denote full compliance with a paragraph as a whole.

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b. If deviations from the specifications are indicated and, therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph.

c. The remaining portions of the paragraph not underlined will signify compliance on the part of the Contractor with the specifications.

d. The submittal shall be accompanied by a detailed, written justification for each deviation.

e. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.

3. Shop Drawings including profiles, accessories, location, adjacent construction interface and dimensions.

B. Informational Submittals:

1. Procedures: Section 01 33 00
2. Manufacturer's product data.
3. Warranty.

1.04 DELIVERY, STORAGE AND HANDLING

A. Procedures: Sections 01 65 00 and 01 66 00

1.05 SPECIAL WARRANTY

A. Special Warranty: manufacturer shall warrant access doors and frames against defects in materials and workmanship for 5 years.

PART 2 – MATERIALS

2.01. MANUFACTURERS

A. Manufacturers: Candidate manufacturers are listed below. The manufacturer's standard product may require modification to conform to specified requirements:

1. Bilco
2. Halliday
3. Approved Equal

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2.02. GENERAL

A. Door leaf(s) shall withstand a live load of 300 pounds per square foot.

B. Where access doors are subject to vehicular traffic, Door leaf(s) shall withstand an AASHTO H-20 wheel load with a maximum deflection of 1/150th of the span.

C. All aluminum plate and structural shapes shall conform to ASTM B308, Type 6061-T6.

D. Hardware shall be ASTM A666 Type 316 stainless steel.

E. Aluminum in direct contact with concrete shall receive a protective coating on all surfaces that will be in contact with concrete.

F. The door shall open to 90 degrees and lock automatically in that position.

2.03. ACCESS FOOR LEAF

A. Door leaf(s) shall be minimum 1/4 inch thick aluminum diamond pattern plate stiffened with aluminum members as required. Finish of door leaf(s) and frame shall be mill.

B. Door leaf hinges shall be forged stainless steel with stainless steel pins.

1. Door leaf hinges shall be through bolted to the door leaf with tamperproof stainless steel lock bolts and to the frame with stainless steel bolts and locknuts.

2. Stainless steel hinges shall be bolted to the underside and pivot on torsion bars that counterbalance the door for easy operation.

C. Door leaf latches shall be stainless steel slam lock with fixed interior handle and removable exterior turn/lift handle. Latch release shall be protected by a flush, gasketed, removable screw plug.

D. Double leaf access doors shall have a stainless steel chain on both sides of the door opening for personnel protection.

E. Door leaf(s) shall have compression spring lifting operators enclosed in telescopic tubes and automatic hold-open arm with release handle to automatically lock the door leaf(s) in the open (90 degree) position.

F. Door leaf(s) over spaces intended for human occupancy shall be insulated with 2 inches preformed, cellular polystyrene thermal insulation, Type X or Type IV, conforming to ASTM C578.

1. Insulation shall be fully enclosed within door leaf with minimum 1/8 inch aluminum plate.

G. A vinyl grip handle shall be provided to release the cover for closing.

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H. Door shall be equipped with a snap lock and removable handle.

I. Where specifically indicated on the drawings, provide a recessed padlock hasp lock with a flush hinged lid and fully welded receptacle designed to receive a standard padlock.

2.04. SAFETY GRATE

A. All access doors shall have a safety grate directly under the door leaf(s).

1. Safety grate shall be located directly under the door leaf(s), of aluminum or fiberglass construction and shall be lockable independent of the door leaf.

2. Safety grate shall hinged to match the access door leaf(s): one piece for single access doors and two-piece for double access doors.

3. The spacing of the grid shall be no greater than five inches square.

4. The safety grate shall be designed to withstand a live load of 150 pounds per square foot.

2.05. ACCESS DOOR FRAME

A. The frame shall be ¼ inch extruded aluminum alloy 6063 T6, with built in neoprene cushion.

B. Door frame shall be on all four sides of the openings, of aluminum construction, with anchor tabs around the perimeter.

C. Where specifically indicated on the drawings, provide an EPDM gasket system that will provide an air infiltration rate of less than 1 cubic foot per minute per linear foot of cover perimeter

D. Door frame shall have a channel profile to capture water. A 1 1/2-inch drainage coupling shall be provided in at least one corner of the frame.

PART 3 – EXECUTION

3.01. INSTALLATION

A. Install in strict accordance with manufacturer's instructions and approved submittals.

B. Access doors and frames shall be level, plumb and square. Adjust as necessary for proper operation. Repair damaged finishes to like new appearance.

C. Frames with drainage coupling shall be piped with PVC pipe to location as indicated on the drawings or prescribed by the Owner.

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3.02. CLEANING

A. Clean exposed surfaces using methods acceptable to the manufacturer.

END OF SECTION

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SECTION 31 10 00

SITE PREPARATION

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 DEFINITIONS

A. Subsoil:

1. All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

B. Surface Soil:

1. Soil that is present at the top layer of the existing soil profile at the Project site.
    a. In undisturbed areas, the surface soil is typically topsoil.
    b. In disturbed areas such as urban environments, the surface soil can be subsoil.

C. Topsoil:

1. Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil and is the zone where plant roots grow.
2. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches (50 mm) in diameter; and free of subsoil and weeds, roots, toxic materials, or other nonsoil materials.

D. Plant-Protection Zone:

1. Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction, and indicated on Drawings.

E. Tree-Protection Zone:

1. Area surrounding individual trees or groups of trees to be protected during construction, and defined by a circle concentric with each tree with a radius 1.5 times the diameter of the drip line unless otherwise indicated.

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F. Vegetation:

1. Trees, shrubs, groundcovers, grass, and other plants.

1.03 MATERIAL OWNERSHIP

A. Except for stripped topsoil and other materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.04 SUBMITTALS

A. Existing Conditions:

1. Documentation of existing trees and plantings, adjoining construction, and site improvements that establish preconstruction conditions that might be misconstrued as damage caused by site clearing.

a. Use sufficiently detailed photographs and/or videotape.

b. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.

B. Record Drawings:

1. Identifying and accurately showing locations of capped utilities and other structural, electrical, and mechanical conditions.

1.05 QUALITY ASSURANCE

A. Pre-installation Conference:

1. Conduct conference at Project site.

1.06 PROJECT CONDITIONS

A. Traffic:

1. Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.

a. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from the Construction Manager and authorities having jurisdiction.

b. Provide alternate routes around closed or obstructed traffic ways if required by Construction Manager or authorities having jurisdiction.

B. Salvable Improvements:

1. Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.

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C. Utility Locator Service:

1. Utilize a utility locator service for area where Project is located before site clearing.
2. Do not commence site clearing operations until temporary erosion and sedimentation control and plant-protection measures are in place.

D. Protection Zones

1. The following practices are prohibited within protection zones:
   a. Storage of construction materials, debris, or excavated material.
   b. Parking vehicles or equipment.
   c. Foot traffic.
   d. Erection of sheds or structures.
   e. Impoundment of water.
   f. Excavation or other digging unless otherwise indicated.
   g. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
2. Do not direct vehicle or equipment exhaust towards protection zones.
3. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.

E Soil Stripping, Handling, And Stockpiling:

1. Perform only when the topsoil is dry or slightly moist.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Satisfactory Soil Material:

1. Requirements for satisfactory soil material are specified in Section 31 23 00 – Trench Excavation and Fill.
2. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

B. Antirust Coating:

1. Fast-curing, lead- and chromate-free, self-curing, universal modified-alkyd primer complying with MPI #79, Alkyd Anticorrosive Metal Primer or SSPC-Paint 20 or SSPC-Paint 29 zinc-rich coating.

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PART 3 – EXECUTION

3.01 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance during construction.

B. Locate and clearly identify trees, shrubs, and other vegetation to remain.

C. Protect existing site improvements to remain from damage during construction.

1. Restore damaged improvements to their original condition, as acceptable to the Construction Manager.

3.02 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion and sedimentation control Drawings and requirements of authorities having jurisdiction.

B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

C. Inspect, maintain, and repair erosion and sedimentation control measures during construction until permanent vegetation has been established.

D. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.03 TREE AND PLANT PROTECTION

A. General:

1. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by the Construction Manager.

3.04 EXISTING UTILITIES

A. Owner will arrange for disconnecting and sealing indicated utilities that serve existing structures before site clearing, when requested by Contractor.

1. Verify that utilities have been disconnected and capped before proceeding with site clearing.

B. Locate, identify, disconnect, and seal or cap utilities indicated to be removed.

1. Arrange with utility companies to shut off indicated utilities.

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2. Owner will arrange to shut off indicated utilities when requested by Contractor.

C. Locate, identify, and disconnect utilities indicated to be abandoned in place.

D. Interrupting Existing Utilities:

1. Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

a. Notify Owner and Construction Manager not less than two days in advance of proposed utility interruptions.

b. Do not proceed with utility interruptions without Owner or Construction Manager's written permission.

2. Excavate for and remove underground utilities indicated to be removed.

3. Removal of underground utilities as included on the drawings.

3.05 CLEARING AND GRUBBING

A. The sites of all excavation and grading shall be first cleared of all paving, trees, stumps, roots, brush, organic matter, crops, paving, structures, fences, sidewalks, rubbish, debris, etc., which shall be removed or disposed of in a satisfactory manner in a legally permitted location.

B. Refer to Section 31 11 10 for detailed Clearing and Grubbing requirements.

3.06 TIMBER

A. Salvage all timber within cleared area having a marketable value.

B. The timber within the cleared area shall become the property of the Contractor and the Contractor shall be responsible for selling and/or disposing the timber.

3.07 DISPOSAL OF CLEARED AND GRUBBED MATERIALS

A. Dispose of the cleared and grubbed materials by burning or chipping. Burning shall be permitted during approved burning seasons only. During non-burning season periods, use chipping for debris disposal. Remove chipped material from the site or disposed of in areas approved by Owner.

B. If burning is allowed, do not allow a fire to be unattended. The Contractor is responsible for damage caused by such fires. Do not bury burned and nonflammable materials.

1. All Contractors should be aware that the Georgia Environmental Protection Division has issued a burning ban for thirteen (13) Metro Atlanta Counties. The ban went into effect in 1996 and shall continue each year from May 1 through September 30. This ban should be considered when bidding

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projects that require clearing and debris removal. It is the Contractor's responsibility to remove all construction debris from the jobsite. Any costs incurred as a result of the burning ban are the sole responsibility of the Contractor.

C. Disposal of materials in streams will not be permitted. Do not pile materials in stream channels or along the banks where it might be washed away by flood.

D. Remove all fence material within the areas to be cleared from the job site. Fence materials become the property of the Contractor.

3.08 DISCING

A. After grubbing is complete, discing of the entire area is required. Perform discing in two directions at approximate right angles. Generally, perform the second discing along the contour.

B. The construction area is to be left free-draining with a finished agricultural appearance.

3.09 TOPSOIL STRIPPING

A. Remove sod and grass before stripping topsoil.

B. Strip topsoil to a depth of 6 inches in a manner to prevent intermingling with underlying subsoil or other waste materials.

1. Remove subsoil and nonsoil materials from topsoil, including clay lumps, gravel, other objects more than 2 inches in diameter, trash, debris, weeds, roots, and other waste materials.

C. Stockpile topsoil away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.

1. Limit height of topsoil stockpiles to 72 inches.
2. Do not stockpile topsoil within protection zones.
3. Dispose of surplus topsoil. Surplus topsoil is that which exceeds quantity indicated to be stockpiled or reused.
4. Stockpile surplus topsoil to allow for re-spreading deeper topsoil.

3.10 SITE IMPROVEMENTS

A. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.

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B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.

1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.

2. Paint cut ends of steel reinforcement in concrete to remain with two coats of antirust coating, following coating manufacturer's written instructions. Keep paint off surfaces that will remain exposed.

3.11 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property and/or Project site.

B. Separate recyclable materials produced during site clearing from other non-recyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities. Do not interfere with other Project work.

END OF SECTION

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SECTION 31 11 00

CLEARING AND GRUBBING

PART 1 – GENERAL

1.01 SCOPE

A. Clearing and grubbing includes, but is not limited to, removing from the Project site, trees, stumps, roots, brush, structures, abandoned utilities, trash, debris and all other materials found on or near the surface of the ground in the construction area and understood by generally accepted engineering practice not to be suitable for construction of the type contemplated.

B. Precautionary measures that prevent damage to existing features including trees, to remain are part of the Work.

C. The sites of all excavation and grading shall first be cleared of all paving, trees, walls, fences, sidewalks, stumps, brush, rubbish, and crops, which shall be removed and disposed of in a satisfactory manner.

D. On all lawns and other improved grass areas, the sod shall be carefully removed, kept alive when possible, and replaced after the backfilling is completed.

E. The Contractor shall also remove all spoil from such areas as quickly as possible after the excavation is backfilled, and shall leave the premises in as good a condition as before undertaking the work.

F. Fences which have been removed, damaged, or broken down shall be replaced at or before completion of the work to pre-construction quality or better.

G. Clearing and grubbing operations shall be coordinated with temporary and permanent erosion and sedimentation control procedures.

1.02 QUALITY ASSURANCE

A. The Contractor shall comply with applicable codes, ordinances, rules, regulations and laws of local, municipal, state or federal authorities having jurisdiction over the Project. All required permits of a temporary nature shall be obtained for construction operations by the Contractor.

B. Open burning, if allowed, shall first be permitted by the local authority having jurisdiction. The Contractor shall notify the local fire department and abide by fire department restrictions.

C. All Contractors should be aware that the Georgia Environmental Protection Division has issued a burning ban for thirteen (13) Metro Atlanta Counties. The ban went into effect in 1996 and shall continue each year from May 1 through September 30. This ban should be considered when bidding projects that require

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clearing and debris removal. It is the Contractor's responsibility to remove all construction debris from the jobsite. Any costs incurred as a result of the burning ban are the sole responsibility of the Contractor.

1.03 JOB CONDITIONS

A. Location of the Work: The area to be cleared and grubbed is shown schematically on the Drawings or specified below. It includes all areas designated for pipeline construction.

PART 2 – PRODUCTS

2.01 EQUIPMENT

A. The Contractor shall furnish equipment of the type normally used in clearing and grubbing operations including, but not limited to, tractors, trucks, loaders and root rakes.

PART 3 – EXECUTION

3.01 SCHEDULING OF CLEARING

A. The Contractor shall clear at each construction site only that length of the right-of-way, permanent or construction easement which would be the equivalent of two week's pipe laying. This length shall be determined from the Contractor's Progress Schedule.

B. The Construction Manager may permit clearing for additional lengths of the pipe line provided that temporary erosion and sedimentation controls are in place and a satisfactory stand of temporary grass is established. Should a satisfactory stand of grass not be possible, no additional clearing shall be permitted beyond that specified above.

C. A satisfactory stand of grass shall have no bare spots larger than one square yard. Bare spots shall be scattered and the bare area shall not comprise more than one percent of any given area.

3.02 CLEARING AND GRUBBING

A. Clear and grub no more than 3 feet on each side of the pipeline before excavating. Remove all trees, growth, debris, stumps and other objectionable matter. Clear the construction easement or road right-of-way only if necessary.

B. 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, paving, miscellaneous structures, houses, debris and abandoned utilities.

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C. Grub, stockpile, and/or place in embankments surface rocks and boulders from the soil in accordance with the Specifications.

D. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.

E. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.

1. When it is necessary to cut tree roots on the surface of the ground, the ends shall be cut off smooth, without splitting or shattering and scars greater than one inch in diameter shall be sealed with an approved asphalt sealant tree paint.
2. The trunks of the trees shall be carefully protected from damage, and if unavoidable damage occurs, the injured portions shall be neatly trimmed and covered with an application of an approved asphalt sealant tree paint.
3. Excavating machinery, cranes, etc., shall be handled with care to prevent damage to trees, particularly to overhanging branches, and branches shall not be cut off except by permission of Owner.

F. Grubbing shall consist of completely removing roots, stumps, trash and other debris from all graded areas so that topsoil is free of roots and debris. Topsoil is to be left sufficiently clean so that further picking and raking will not be required.

G. All stumps, roots, foundations 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 or two feet below finish grade, whichever is lower.

H. Grind down stumps and remove roots, obstructions, and debris to a depth of 24 inches below exposed subgrade.

I. Use only hand methods for grubbing within protection zones.

J. Chip removed tree branches and stockpile in approved areas or dispose of offsite, as directed by Owner.

K. Landscaping features shall include, but are not necessarily limited to, fences, cultivated trees, cultivated shrubbery, property corners, man-made improvements, subdivision and other signs within the right-of-way and easement. The Contractor shall take extreme care in moving landscape features and promptly re-establishing these features.

L. Surface rocks and boulders shall be grubbed from the soil and removed from the site if not suitable as rip rap.

M. Where the tree limbs interfere with utility wires, or where the trees to be felled are in close proximity to utility wires, the tree shall be taken down in sections to eliminate the possibility of damage to the utility.

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N. Any work pertaining to utility poles shall comply with the requirements of the appropriate utility.

O. All fences adjoining any excavation or embankment that, in the Contractor's opinion, may be damaged or buried, shall be carefully removed, stored and replaced. Any fencing that, in the Construction Manager's opinion, is significantly damaged shall be replaced with new fence material.

P. The Contractor shall exercise special precautions for the protection and preservation of trees, cultivated shrubs, sod, fences, etc. situated within the limits of the construction area but not directly within excavation and/or fill limits. The Contractor shall be held liable for any damage the Contractor's operations have inflicted on such property.

Q. The Contractor shall be responsible for repairs and/or replacement of all damage to existing improvements resulting from Contractor's operations.

R. Fill depressions caused by clearing and grubbing operations with proper backfill soil material, unless further excavation or earthwork is indicated by the Drawings or directed by Owner.

1. Place fill material in horizontal layers or lifts, not exceeding a loose depth of eight (8) inches, and compact each layer to 85% of maximum dry density – Standard Proctor (ASTM D698).

3.03 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 all requirements of federal, state, county and municipal regulations.

B. No debris of any kind shall be deposited in any stream or body of water, or in any street or alley.

C. No debris shall be deposited 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.

END OF SECTION

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SECTION 31 23 00

TRENCH EXCAVATION AND BACKFILL

PART 1 – GENERAL

1.01 SUMMARY

A. Scope

1. The work under this Section consists of furnishing all labor, equipment and materials and performing all operations in connection with the trench excavation and backfill required to install the pipelines as shown on the Drawings and as specified.

B. All excavation shall be by open cut unless otherwise indicated on the Drawings or directed by the Construction Manager.

1. In general, topsoil may be removed by machine method.
2. Excavation below topsoil may also be performed by machine, but shall be supplemented by such hand dressing or leveling as may be required to conform to lines and grades as directed by the Construction Manager.
3. Material so removed shall be used in backfill, making embankments, filling low areas, or as otherwise directed.
4. Hand tool excavation shall be used where necessary to protect existing utilities and structures.

C. Excavation 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, removal, and disposal of all earth, rock or other materials including the existing pipe if any to the extent necessary to install the new pipelines and appurtenances in conformance with the lines and grades shown on the Drawings and as specified.

D. 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.

E. The trench is divided into five specific areas:

1. Foundation: The area beneath the bedding, sometimes also referenced to as trench stabilization.
2. Bedding: The area above the trench bottom (or foundation) and below the bottom of the barrel of the pipe.
3. 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.
4. Initial Backfill: The area above the haunching material and below a plane 18 inches above the top of the barrel of the pipe.

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5. Final Backfill: The area above a plane 18-inches above the top of the barrel of the pipe.

F. The choice of method, means, techniques and equipment rests with the Contractor.

1. The Contractor shall select the method and equipment for trench excavation and backfill depending upon the type of material to be excavated and backfilled, the depth of excavation, the amount of space available for operation of equipment, storage of excavated material, proximity of man-made improvements to be protected, available easement or right-of-way and the prevailing practice in the area.

1.02 QUALITY ASSURANCE

A. Density:

1. All references to “maximum dry density” shall mean the maximum dry density defined by the “Maximum Density-Optimum Moisture Test”, ASTM D 698,
2. Except that for non-cohesive materials “maximum dry density” shall mean the maximum index density as determined by the “Maximum Index Density of Soils Using a Vibratory Table”, ASTM D 4253.

B. Determination of the density of foundation, bedding, haunching, or backfill materials in place shall meet with the requirements of:

1. ASTM D 1556, “Density of Soil In Place by the Sand Cone Method”.
2. STM D 2937, “Density of Soil In Place by the Drive-Cylinder Method”.
3. ASTM D 2922, “Density of Soil and Soil-Aggregate In Place by Nuclear Methods (Shallow Depth)”.

C. Sources and Evaluation Testing: Testing of materials to certify conformance with the Specifications shall be performed by an independent testing laboratory in accordance with Section 01 45 29 of these Specifications. All imported fill materials shall meet the requirements of on-site fill materials.

1.03 SAFETY

A. Perform all trench excavation and backfilling activities in accordance with the Occupational Safety and Health Act of 1970 (PL 91-596), as amended.

B. 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.

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PART 2 – PRODUCTS

2.01 RENCH FOUNDATION MATERIALS

A. Crushed stone shall be utilized for trench foundation (trench stabilization) and shall meet the requirements of the Georgia Department of Transportation Specification 800.2.01, Group I (limestone, marble or dolomite) or Group II (quartzite, granite or gneiss). Stone size shall be between No. 57 and No. 4, inclusive.

2.02 BEDDING AND HAUNCHING MATERIALS

A. Bedding requirements specified herein shall apply to water and sanitary sewer lines only. These requirements are to be considered minimum bedding requirements and as such, do not relieve the engineer/Contractor of the responsibility to provide any additional bedding necessary for proper support of the sewer and construction

B. Unless specified otherwise, bedding and haunching materials shall be crushed stone as specified below.

C. Crushed stone utilized for bedding and haunching shall meet the requirements of the Georgia Department of Transportation Specification 800.2.01, Group I (limestone, marble or dolomite) or Group II (quartzite, granite or gneiss). Stone size shall be between No. 57 and No. 4, inclusive.

D. Earth materials utilized for bedding and haunching shall be suitable materials selected from materials excavated from the trench.

1. Suitable materials shall be clean and free of rock larger than 2-inches at its largest dimension, organics, cinders, stumps, limbs, frozen earth or mud, man-made wastes and other unsuitable materials.
2. 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.
3. When necessary, earth bedding and haunching materials shall be moistened to facilitate compaction by tamping.
4. If materials excavated from the trench are not suitable for use as bedding or haunching material, provide select material conforming to the requirements of this Section at no additional cost to the Owner.

E. Filter Fabric Woven Type

1. Filter fabric associated with bedding shall be a polypropylene woven fabric.
2. The fabric shall be a high modulus type with good separation capabilities.
3. The fabric shall be inert to biological degradation and naturally occurring chemicals, alkalies and acids.

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4. The fabric shall have an equivalent opening size EOS of 20 to 45.

5. The fabric shall also conform to the minimum property values listed in the following table:

Fabric Property	Unit	Test Method	Minimum Value
Grab Tensile Strength	lbs.	ASTM D 4632	200
Grab Tensile Elongation	%	ASTM D 4632	15
CBR Puncture Strength	lbs.	ASTM D 6241	700
Trapezoid Tear Strength	lbs.	ASTM D 4533	75
Permittivity	Sec^{-1}	ASTM D 4491	0.05
Water Flow rate	gpm/ft^2	ASTM D 4491	5
UV Resistance @ 500 Hours	%	ASTM D 4355	70

6. If ordered by the Construction Manager, the filter fabric manufacturer shall furnish the services of a competent factory representative to supervise and/or inspect the installation of pipe.

7. This service will be furnished for a minimum of 10 days during initial pipe installation.

8. Filter fabric shall be Mirafi 500X, Amoco 2002 or Exxon GTF-200.

2.03 BACKFILLING – GENERAL

A. Materials used for backfilling shall be free from all perishable and objectionable materials; no stones larger than two (2) inches in the longest dimension shall be placed directly above the pipe. All larger stones must be placed to the sides of the ditch such that the pipe can be excavated for repair without digging through them.

B. Select compactable material shall be used in pipe trenches under roadways and other paved areas. When required on the plans or required by the Owner, graded aggregate base shall be used in pipe trenches under roadways.

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2.04 BACKFILLING – INITIAL BACKFILL

A. Initial backfill material shall be crushed stone or earth materials as specified for bedding and haunching materials.

B. 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 at no additional cost to the owner.

2.05 BACKFILLING – FINAL BACKFILL

A. Final backfill material shall be general excavated earth materials, shall not contain rock larger than 2-inches at its greatest dimension, cinders, stumps, limbs, man-made wastes and other unsuitable materials.

B. 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.

2.06 SELECT BACKFILL

A. Select backfill shall be materials which meet the requirements as specified for bedding, haunching or initial backfill materials, including compaction requirements.

2.07 CONCRETE

A. Concrete for bedding, haunching, initial backfill or encasement shall have a compressive strength of not less than 3,000 psi, with not less than 5.5 bags of cement per cubic yard and a slump between 3 and 5-inches.

B. Ready-mixed concrete shall be mixed and transported in accordance with ASTM C 94.

C. Reinforcing steel shall conform to the requirements of ASTM A 615, Grade 60.

2.08 FLOWABLE FILL

A. Low strength flowable fill concrete shall meet the requirements of Section 600 of the Georgia Department of Transportation specifications.

2.09 GRANULAR MATERIAL

A. Granular material, where required for trench backfill, shall be sand, river sand, crushed stone or aggregate, pond screenings, crusher run, recycled concrete, or other angular material.

B. Granular material shall meet gradation requirements for Size No. 57 or finer.

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PART 3 – EXECUTION

3.01 TRENCH EXCAVATION

A. Topsoil and grass shall be stripped a minimum of 6-inches over the trench excavation site and stockpiled separately for replacement over the finished grading areas.

B. Topsoil shall be removed to its entire depth from all areas to be excavated or graded.

1. The topsoil shall be piled in designated or approved locations where it will not interfere with construction operations.
2. Topsoil as stored shall be reasonably free of subsoil, debris, and stones larger than two (2) inches in diameter.
3. The stored topsoil shall be left in piles to be used for finished grading.

C. Trenches shall be excavated to the lines and grades shown on the Drawings with the centerlines of the trenches on the centerlines of the pipes and to the dimensions which provide the proper support and protection of the pipe and other structures and accessories.

D. All excavations shall be adequately shored to ensure worker safety. All pipe laying operations shall comply with OSHA requirements for trench safety.

E. Trench Width for Pipelines

1. The sides of all trenches shall be vertical to a minimum of one foot above the top of the pipe.
2. Unless otherwise indicated on the Drawings, the maximum trench width shall be equal to the sum of the outside diameter of the pipe plus two feet.
3. In order to limit loads on the pipe, the maximum width of the trench shall not be more than 36 inches wider than the outside diameter of the pipe. This trench width restriction applies to that portion of the trench 4 inches below the bottom of the pipe to 12 inches above the top of the pipe.
4. The minimum trench width shall be that which allows the proper consolidation of the haunching and initial backfill material.
5. Excavation of pipe trenches with sides sloping to the trench bottom will not be permitted.
6. Excavate the top portion of the trench to any width within the construction easement or right-of-way which will not cause unnecessary damage to adjoining structures, roadways, pavement, utilities, trees or private property. Where necessary to accomplish this, provide sheeting and shoring.
7. Where rock is encountered in trenches, excavate to remove boulders and stones to provide a minimum of 9-inches clearance between the rock and any part of the pipe barrel.

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8. Wherever the prescribed maximum trench width is exceeded, the Contractor shall use the next higher Class or Type of bedding and haunching as shown on the Drawings for the full trench width as actually cut.

9. The excessive trench width may be due to unstable trench walls, inadequate or improperly placed bracing and sheeting which caused sloughing, accidental over-excavation, intentional over-excavation necessitated by the size of the Contractor's tamping and compaction equipment, intentional over-excavation due to the size of the Contractor's excavation equipment, or other reasons beyond the control of the Construction Manager or Owner.

F. Depth

1. The trenches shall be excavated to the required depth or elevation which allow for the placement of the pipe and bedding to the dimensions shown on the Drawings.

2. Where rock is encountered in trenches for pipelines, excavate to the minimum depth which will provide clearance below the pipe barrel of 8-inches for pipe 21-inches in diameter and smaller and 12-inches for larger pipe and valves.

G. Length of Trench to Be Opened

1. The length of trench to be opened, or the areas of the surface to be disturbed or unrestored at any one time, shall be limited with regard both to expeditious construction, and to the convenience, safety, and comfort of citizens directly or indirectly affected by the Work.

2. New trenches will not be permitted to be excavated if there are previously excavated trenches that require backfilling, or surface areas that require restoration.

3. In any event, no additional work of any kind will be permitted if there are existing streets or roadways that require attention to return them to a safe and proper condition.

4. IN GENERAL, NO TRENCH SHALL BE OPEN MORE THAN 500 FEET AHEAD OF PIPE LAYING AND BACKFILLING.

H. Excavated Materials

1. Excavated materials shall be placed adjacent to the work to be used for backfilling as required.

2. Top soil shall be carefully separated and lastly placed in its original location.

3. Excavated material shall be placed sufficiently back from the edge of the excavation to prevent caving of the trench wall, to permit safe access along the trench and not cause any drainage problems.

4. Excavated material shall be placed so as not to damage existing landscape features or man-made improvements.

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I. Storage of Materials:

1. All salvageable materials which may be removed from the site, together with all materials taken from the trenches, shall be stored in an approved, suitable place, or as directed by the Owner.

2. The Contractor shall be responsible for any loss of, or damage to, salvageable materials through careless removal or neglectful or wasteful storage of such materials.

3. In the storing of excavated material, which is to be used as backfill, the Contractor shall exercise care so as to avoid inconveniencing the public.

   a. If, in the opinion of the Construction Manager, it is necessary to remove this excavated material from the streets or lots, the Contractor shall be required to do so.

3.02 SHEETING, BRACING AND SHORING

A. The Contractor shall be responsible for supporting and maintaining required excavations including sheeting and shoring the sides and ends of excavations with timber or other supports.

1. The requirement of sheeting or shoring, or the addition of supports, shall not relieve the Contractor of his responsibility of their sufficiency.

B. The need and adequacy of sheeting, shoring, bracing, or other provisions to protect workmen and equipment in a trench or other excavation, and to meet local and OSHA safety requirements, shall be the sole and exclusive responsibility of the Contractor.

C. Sheeting, bracing and shoring shall be installed in the following instances:

1. Where sloping of the trench walls do not adequately protect persons within the trench from slides or cave-ins.

2. In caving ground.

3. In wet, saturated, flowing or otherwise unstable materials.

4. Where necessary to prevent damage to adjoining buildings, structures, roadways, pavement, utilities, trees or private properties which are required to remain.

5. Where necessary to maintain the top of the trench within the available construction easement or right-of-way.

D. In all cases, excavation protection shall strictly conform to the requirements of the Occupational Safety and Health Act of 1970, as amended.

E. Timber: Timber for shoring, sheeting, or bracing shall be sound and free of large or loose knots and in good, serviceable condition. Size and spacing shall be in accordance with OSHA regulations.

F. Steel Sheeting and Sheet Piling

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1. Steel sheet piling shall be the continuous interlock type.
2. The weight, depth and section modulus of the sheet piling shall be sufficient to restrain the loads of earth pressure and surcharge from existing foundations and live loads.
3. Procedure for installation and bracing shall be so scheduled and coordinated with the removal of the earth that the ground under existing structures shall be protected against lateral movement at all times.
4. The Contractor shall provide closure and sealing between sheet piling and existing facilities.

G. Trench Shield

1. A trench shield or box may be used to support the trench walls. The use of a trench shield does not necessarily preclude the additional use of bracing and sheeting.
2. When trench shields are used, care must be taken to avoid disturbing the alignment and grade of the pipe or disrupting the haunching of the pipe as the shield is moved.
3. When the bottom of the trench shield extends below the top of the pipe, the trench shield will be raised in 6-inch increments with specified backfilling occurring simultaneously.
4. At no time shall the trench shield be “dragged” with the bottom of the shield extending below the top of the pipe or utility.

H. Remove bracing and sheeting in units when backfill reaches the point necessary to protect the pipe and adjacent property.

1. Leave sheeting in place when, in the opinion of the Construction Manager, it cannot be safely removed or is within three feet of an existing structure, utility, or pipeline.
2. Cut off any sheeting left in place at least two feet below the surface.

I. Sheet piling within three feet of an existing structure or pipeline shall remain in place, unless otherwise directed by the Construction Manager.

3.03 ROCK EXCAVATION

A. Definition of Rock: Solid mineral material in beds, ledges, unstratified masses, conglomerate deposits, and boulders of rock material that exceed 3/4 cubic yard for footing, trench, and pit excavation that cannot be removed by rock excavating equipment equivalent to the following in size and performance ratings, without systematic drilling, ram hammering, ripping, or blasting, when permitted:

1. Late-model, track-mounted hydraulic excavator equipped with a 42-inch wide, maximum, short-tip-radius rock bucket.

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a. Rated at not less than 138-hp flywheel power with bucket-curling force of not less than 28,700 lbf and stick-crowd force of not less than 18,400 lbf.

b. With extra-long reach boom measured according to SAE J-1179.

B. Unless otherwise directed by the Owner, rock shall be fully taken out at least twenty-five (25) feet in advance of pipe laying, at least 6" below the invert of the pipe, and to a trench width for the size of the pipe to be laid, as specified in Fulton County Standard Details.

C. All pipe installed within rock excavation shall be laid upon a minimum of six (6) inches of # 57 stone coarse aggregate.

D. Blasting may be allowed for removing rock for excavation when properly permitted.

1. Blasting will only be allowed with pre-approval from Fulton County.
2. Typically, blasting will not be approved.
3. When blasting, the Contractor must use all possible precautions against accidents or damages due to use or storage of explosives, and assumes all responsibility/liability associated with blasting activities.
4. ONLY **LICENSED** EMPLOYEES OR SUBCONTRACTORS WILL BE ALLOWED TO CONDUCT BLASTING ACTIVITIES – PROOF OF SUCH LICENSING **MUST BE** PROVIDED TO THE CONSTRUCTION MANAGER **PRIOR TO** ENGAGING IN ANY BLASTING ACTIVITIES.
5. Explosives shall be used, handled and stored as prescribed by the laws and regulations of the State of Georgia, and all applicable local laws and regulations pertaining to such.
6. All explosives shall be stored in a safe place at a sufficient distance from the work so that no damage will occur to any portion of the work should an accident occur relating to the stored explosives.
7. Conduct blasting operations in accordance with all existing ordinances and regulations. Protect all buildings and structures from the effects of the blast. Repair any resulting damage. If the Contractor repeatedly uses excessive blasting charges or blasts in an unsafe or improper manner, the Construction Manager may direct the Contractor to employ an independent blasting consultant to supervise the preparation for each blast and approve the quantity of each charge.
8. Removal of Rock: Dispose of rock off site that is surplus or not suitable for use as rip rap or backfill.
9. The Contractor shall notify the Construction Manager prior to any blasting. Additionally, the Contractor shall notify the Construction Manager and local fire department before any charge is set
10. Furnish all labor, equipment and materials required to drill, blast, loosen, excavate, and dispose material to complete the work shown on the Drawings and specified herein.

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11. The work includes, but is not be limited to:

    a. Blast round design.

    b. Planning and execution of appropriate site-specific safety measures to be employed during all blasting operations, and the safe handling and storage of high explosives and blasting agents.

    c. Drilling blast holes, loading blast holes with explosives, and wiring and safe detonation of blast rounds.

    d. Removal from the site of all excess excavated soil, debris, and rock as indicated in the contract Documents, or as directed, and disposal of excess materials at a permitted disposal site.

    e. Dewatering and maintenance of groundwater and surface water in all excavations.

    f. Performance of all surveys necessary to establish and verify the lines and grades and to determine the amount of material removed.

    g. Implementation of monitoring program to monitor condition of existing structures and utilities in vicinity of proposed blasting operations to insure existing features remain undamaged by blasting procedures.

12. Make all excavations in conformance with the lines, grades and cross sections on the Drawings or established by the Construction Manager. Where blasting is required, blasting should ensure removal of six inches (6”) of rock below proposed grade line.

13. All over-blast shall be removed and the resulting over-excavation backfilled and compacted with #57 gradation stone coarse aggregate.

14. Conduct all blasting operations, including transporting and storing of explosives in compliance with the Georgia State Fire Commissioner’s Rules and Regulations for Explosives and Blasting Agents, latest edition and all applicable local codes.

15. Blasting Submittals

    a. Submit the following in accordance with the procedures and requirements set forth in Section 01 33 00 Submittal Procedures, at least thirty (30) working days prior to beginning any blasting operations:

        1) Names, addresses, telephone numbers, and qualifications of the blasting subcontractor(s) and explosives supplier(s) that will be used, including the designated Blaster-In-Charge.

        2) Copies of Training Certificates for the designated Blaster-In-Charge, blasting foreman and any other key personnel that will be responsible for the work, showing that they have received specialized training in the proper handling of explosives.

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3) A Blasting Plan, indicating the methods, materials and equipment to be used. The Blasting Plan should indicate the types of explosives to be used, drilling patterns, and a general layout and schedule for executing the work in accordance with state regulations.

4) A ground vibration and air blast monitoring plan, indicating structures that will be monitored, monitoring equipment that will be used, and personnel that will perform the monitoring.

16. At least 24 hours before each blast round, submit a detailed blast round design plan to the Construction Manager's or Owner's on-site representative. The blasting plan submitted is for quality control and record keeping purposes. Review by the Construction Manager does not relieve the Contractor of his responsibilities as provided herein. Include the following in the blast round design submittals:

    a. Location (state, grid coordinates) and limits of the shot.

    b. Number, diameter, and depth of blast holes to be detonated in the round, and a plan showing the drill hole pattern, spacing and distance to the free face.

    c. Depth of overburden.

    d. Total weight of explosives in the round and the types of explosives to be used.

    e. Loading diagram showing the location of explosives, primers, and initiators; and location, depth, and type of stemming to be used in each hole.

    f. Initiation sequence, including delay timer and delay system, total weight of explosive to be detonated on each delay, and a list of the timing of the delays.

    g. Manufacturer's data sheet for all explosives, primers, and initiators to be used.

    h. Planned seismic monitoring positions, distances from the blast round, and seismograph types to be used to monitor vibrations and air blast overpressures.

    i. Type and amount of blasting mats and/or depth of soil cover to be used over the top surface of the shot.

    j. Any other information required by applicable state and federal regulations.

17. Within 24 hours after each blast round, submit a blasting report to the Construction Manager. Include the following in the blasting report:

    a. Date and time of shot.

    b. Foreman's name.

    c. Number and depth of holes detonated.

    d. Weather conditions at the time of detonation.

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e. Type of explosives and detonators used.

f. Peak particle velocity of ground motion and primary frequency for all ground vibration monitoring stations.

g. Peak air blast overpressure measured.

h. Distance from the blast round to each monitoring station for vibrations and air blast.

i. Amount of explosive used in each hole, and maximum weight of explosive detonated on any single delay in the blast round.

E. Pre-Blast Survey

1. Contractor shall have an approved vibration consultant conduct the pre-blast survey on the residences and facilities adjacent to the proposed rock blasting in accordance with the submitted survey and monitoring plan.

2. The survey shall include, but not be limited to the following:

a. A site plan or drawing of the structure to be examined showing the structure in relationship to the proposed rock blasting area and a full description of the structure including type of materials and construction.

b. Examination of the structure (interior and exterior surfaces) by experienced and qualified personnel, noting any visible structural and aesthetic flaws in or on the structure. Note existing cracks and flaws, with significant cracks measured, and all cracks and flaws photographed.

c. Upon completion of the examination, ask the structure's owner to review the report, note any corrections or omissions, and sign a statement that to the best of his knowledge, the examination report reflects the conditions of the structure prior to any rock blasting. If the structure’s owner refuses to sign said report, it should be noted in the report by the examiner.

d. Nothing contained herein shall relieve the Contractor of responsibility for claims arising from his construction operations. Failure to inspect any structure, whether or not required by these Contract Documents, or inadequacy of the inspections shall not relieve the Contractor of his responsibility. The Contractor shall indemnify the County from such claim.

e. In the event that any property owner denies access for the survey of structures and facilities, notify such property owner, by certified mail, stating that this is final notification. Submit to the Construction Manager, copies of all correspondence between the Contractor and the property owner(s). The Construction Manager, upon review of the submitted correspondence may waive requirements set forth above. However, the Contractor is fully responsible for claims and damage arising from his construction operations regardless of property location.

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f. Submit two (2) sets of copies of the examination reports to the Engineer for their records.

F. Use of Explosives

1. When the use of explosives is necessary for the prosecution of the Work, exercise the utmost care not to endanger life or property. Be responsible for any and all damage or injury to persons or property resulting from the use of explosives.
2. Store all explosives in a secure manner, in compliance with all laws, and clearly mark all such storage places "DANGEROUS EXPLOSIVES".
3. Notify any public utility company having facilities in close proximity to the site of the Work of the intention to use explosives.
   a. Provide this notice sufficiently in advance to enable the utility companies to take whatever steps they may consider necessary to protect their property from injury.
   b. Also give the Construction Manager, all occupants of adjacent property, and all other Contractors working in or near the Project, notice of the intention to use explosives.
4. Only non-electric type initiators maybe used.

G. Blasting Operations

1. Provide explosives of such quantity and power and use in such locations as will neither open seams nor otherwise disturb the material outside the prescribed limits of excavation.
2. As the excavation approaches its final limits, reduce the depth of holes for blasting and the amount of explosives used for each hole so that the underlying or adjacent rock will not be disturbed or shattered.
3. Do not perform blasting within 100 feet of newly placed concrete that has cured less than 7 days.
4. Do not perform blasting within 50 feet of any existing structure or any new structure in progress.

H. Blast Monitoring

1. Following review by the Construction Manager regarding the proximity of permanent buildings and structures to the blasting site, Construction Manager may direct the Contractor to employ an independent, qualified specialty sub- contractor, approved by the Construction Manager to:
   a. Monitor the blasting by use of seismograph,
   b. Identify the areas where light charges must be used,
   c. Conduct pre-blast and post-blast inspections of structures, including photographs or videos, and maintain a detailed written log.

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2. The Contractor shall exercise the utmost care not to damage property on-site and off-site.
    a. Notify each adjoining property owner within 5,000 feet of the site of the anticipated ground vibrations and noise which will occur due to the blasting operations.
    b. Provide this notice 30 days in advance to enable the adjacent property owners to take whatever precautions they may consider necessary.
    c. Limit operations to minimize any disturbance to the adjacent property owners.
    d. Notify motorists on adjacent roadways in accordance with state regulations.
    e. Take responsibility for any damage to any structure or utility line, pipes, etc., on-site and off-site as a result of his operations.
3. For each blast round, monitor and record noise and air blast overpressures at the site perimeter nearest the blast location and at the on-site or off-site structure located nearest to the round.
    a. Peak air blast overpressure shall not exceed 0.018 psi, measured at the site perimeter.
4. Sufficiently cover the site of every blast round with blasting mats or other devices to prevent any flying debris.
    a. The Contractor will be fully responsible for any damage caused by flying debris, both to on-site and off-site properties.
5. Whenever blasting is to be performed within 2,500 feet of any structure, measure the peak particle velocities of ground vibration resulting from each blast at the structure.
6. Monitor vibrations utilizing a seismograph capable of providing a record of particle velocity and frequency along three mutually perpendicular axes utilizing internal calibration.
7. Measured peak particle velocity of ground motion at the monitored structure shall not exceed the values shown in the following graph:

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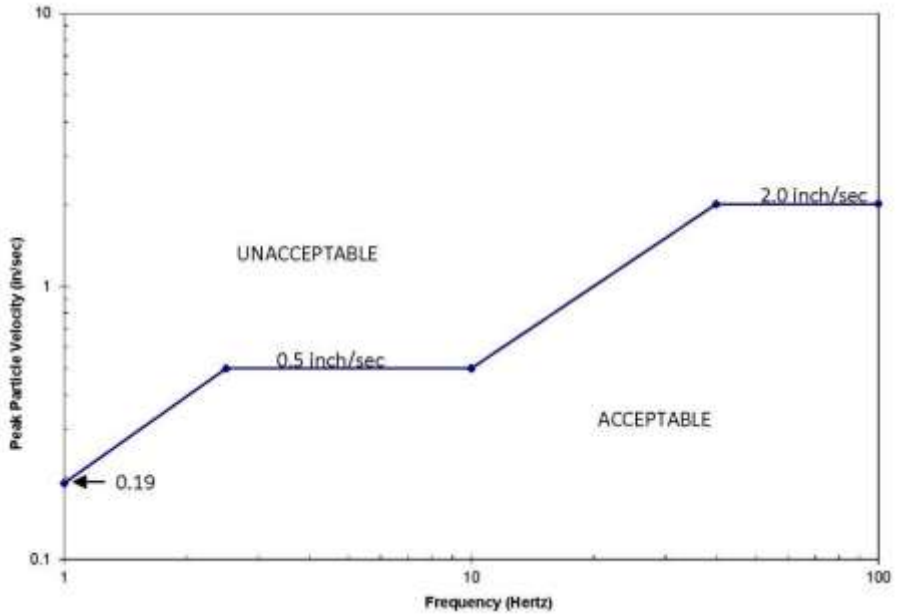

I. Blasting Notification

1. Give twenty-four (24) hour notice to Construction Manager and adjacent residences and/or businesses prior to each blast.

J. Complaints

1. Submit notice of blasting complaints to Owner in writing within twenty-four (24) hours of receipt thereof.

   a. Identify the origin of complaint in the notice and provide a brief description of alleged damage or other circumstances upon which the complaint is predicated.

   b. Assign a number to each complaint consecutively in the order of receipt.

   c. Assign each complaint a separate number and show in each letter complaint all previous complaint numbers registered by the same complainant.

   d. In addition, make a summary report each month to Owner. Indicate date, time and name of person investigating the complaint and amount of damages (or an estimate thereof), if any, in the summary report.

K. Post Blast Survey

1. Contractor shall have the same vibration consultant who performed the pre-blast survey conduct the post-blast survey.

2. The consultant shall examine all structures from which a complaint has originated after the blast. The survey shall include, but not be limited to the following:

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a. A full description of the alleged damage caused by the blast.

1) Where appropriate, provide a sketch to more fully describe the location and type of damage.

2) Measure cracks and compare to any original measurements which may have been taken in the Pre-Blast Survey.

b. Take colored photographs of any alleged damage.

c. Submit two (2) copies of the Post Blast Survey report to the Construction Manager. The report shall include the consultant's assessment of the alleged damage and an opinion as to its likely cause.

3.04 DEWATERING EXCAVATIONS

A. Dewater excavation continuously to maintain a water level two feet below the bottom of the trench.

B. The Contractor shall pump out, or otherwise remove and properly dispose of any water (including storm water), which may be found or may accumulate, as fast as it may collect in the excavation. The removal is required regardless of the source.

C. All necessary precautions shall be taken to prevent disturbance of, and to properly drain, any areas upon which concrete is to be poured or pipe is to be laid.

D. There shall be located at the work site at all times during construction, proper and approved equipment with such sufficient capacity for the removal of any water that accumulates in excavations and in such manner as not to withdraw sand or cement from any concrete.

1. Where the utility crosses natural drainage channels, the work shall be conducted in such a manner that unnecessary damage or delays in the prosecution of the work will be prevented.

2. Provision shall be made for the satisfactory disposal of surface water to prevent damage to public or private property.

E. Contractor is also to ensure that removal of any liquids will not interfere with the proper laying of masonry or pipe, or execution of any required work for the complete construction of the project.

F. The flow in storm drains, gutters, or water courses encountered during the construction shall be adequately provided for by the Contractor to ensure these flows do not interfere with the execution of the work, and are maintained in such a manner as to ensure continuity of flow at all times in accordance with the Fulton County Erosion and Sediment Control Ordinance.

G. Unless otherwise permitted, ground water encountered within the limits of excavation shall be depressed to an elevation not less than twelve (12) inches below the bottom of such excavation.

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1. This depression is to be performed before pipe laying or concrete work is started and shall be so maintained until concrete and joint materials have attained initial set.

H. Control drainage in the vicinity of excavation so the ground surface is properly pitched to prevent water running into the excavation.

I. In all cases, accumulated water in the trench shall be removed before placing bedding or haunching, laying pipe, placing concrete or backfilling.

J. Where dewatering is performed by pumping the water from a sump, crushed stone shall be used as the medium for conducting the water to the sump.

1. Sump depth shall be at least two feet below the bottom of the trench.
2. Pumping equipment shall be of sufficient quantity and/or capacity to maintain the water level in the sump two feet below the bottom of the trench.
3. Pumps shall be a type such that intermittent flows can be discharged.
4. A standby pump shall be required in the event the operating pump or pumps clog or otherwise stop operation.

K. Dewater by use of a well point system when pumping from sumps does not lower the water level two feet below the trench bottom.

1. Where soil conditions dictate, the Contractor shall construct well points cased in sand wicks.
2. The casing, 6 to 10-inches in diameter, shall be jetted into the ground, followed by the installation of the well point, filling casing with sand and withdrawing the casing.

L. Should sewage or any other odorous liquids be encountered during the work in the excavation, the Owner shall be immediately notified.

1. The Owner will then determine if actions by the Contractor have caused the source of the odorous liquids to leak and will promptly notify the appropriate regulatory agencies, if necessary.
2. In addition, the Owner will instruct the Contractor as to what actions, if any, the Contractor can and cannot perform prior to any directives which may be issued by the regulatory agencies.
3. Any sewage will be pumped and hauled to a manhole, pump station, or water reclamation facility, as directed
4. Any other liquids will be properly disposed of as directed by the Construction Manager and/or any regulatory agencies having jurisdiction.

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3.05 TRENCH FOUNDATION AND STABILIZATION

A. The bottom of the trench shall provide a foundation to support the pipe and its specified bedding. The trench bottom shall be graded to support the pipe and bedding uniformly throughout its length and width.

B. Where foundation conditions are such that proper bedding cannot be provided, the Contractor may be directed by the Construction Manager to provide foundation cushion, concrete cradles, or other special provisions as may be required for the proper support of the pipe.

C. If, after dewatering as specified above, the trench bottom is spongy, or if the trench bottom does not provide firm, stable footing and the material at the bottom of the trench will still not adequately support the pipe, the trench will be determined to be unsuitable and the Owner shall then authorize payment for trench stabilization.

D. Should the undisturbed material encountered at the trench bottom constitute, in the opinion of the Construction Manager, an unstable foundation for the pipe, the Contractor shall be required to remove such unstable material and fill the trench to the proper subgrade with crushed stone as directed by the Construction Manager.

E. Where the replacement of unsuitable material with crushed stone does not provide an adequate trench foundation, the trench bottom shall be excavated to a depth of at least two feet below the specified trench bottom.

1. Place filter fabric in the bottom of the trench and support the fabric along the trench walls until the trench stabilization, bedding, haunching and pipe have been placed at the proper grade.
2. The ends of the filter fabric shall be overlapped by one foot above the pipe.

F. Where trench stabilization is provided, the trench stabilization material shall be compacted to at least 90 percent of the maximum dry density, unless shown or specified otherwise.

3.06 BEDDING AND HAUNCHING

A. Prior to placement of bedding material, the trench bottom shall be free of any water, loose rocks, boulders or large dirt clods.

1. Bottoms of trenches in earth must be shaped or molded and compacted to the contour of the outside of the pipe, using bedding materials, as directed, or where indicated on the Drawings, to give full support to the lower segment of the pipe and so that the pipe is firmly supported in the excavation throughout its entire length.
2. This shall be performed in such a manner as to prevent any subsequent settlement of the pipe.
3. Boulders or loose rock which might bear against the pipe will not be permitted in the trench bottom, or in the initial backfill within twelve (12) inches above the top of the pipe.

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4. Bottoms of excavations which are of loose granular soils shall be compacted by vibratory compactor prior to laying of pipe.

B. Bedding material shall be placed to provide uniform support along the bottom of the pipe and to place and maintain the pipe at the proper elevation.

1. The initial layer of bedding placed to receive the pipe shall be brought to the grade and dimensions indicated on the Drawings.

2. Bedding shall be carefully placed along the full width of the trench so that the pipe is true to line and grade of the pipe barrel.

   a. As used herein “carefully placed” means material that has been spaded or shovel-sliced so that the material fills and supports the haunch area and encases pipe to the limits specified herein.

   b. Bedding material shall be carried up the sides of the pipe to the heights shown for the various classes of bedding.

3. The pipe shall be placed and brought to grade by tamping the bedding material or by removal of the excess amount of the bedding material under the pipe.

4. Adjustment to grade line shall be made by scraping away or filling with bedding material.

   a. Wedging or blocking up of pipe shall not be permitted.

   b. Applying pressure to the top of the pipe, such as with a backhoe bucket, to lower the pipe to the proper elevation or grade shall not be permitted.

5. Each pipe section shall have a uniform bearing on the bedding for the length of the pipe, except immediately at the joint.

C. At each joint, bell holes shall be provided in all classes of bedding.

1. Excavate bell holes of ample depth and width to permit the joint to be assembled properly but small enough to ensure that support is provided throughout the length of pipe barrel to relieve the pipe bell of any load.

D. After the pipe section is properly placed, add the haunching material to the specified depth.

1. The haunching material shall be shoveled, sliced, tamped, vigorously chinked or otherwise consolidated to provide uniform support for the pipe barrel and to fill completely the voids under the pipe, including the bell hole.

2. Prior to placement of the haunching material, the bedding shall be clean and free of any water, loose rocks, boulders or dirt clods.

E. Bedding

1. Class “A” (Bedding Factor - 2.8): Excavate the bottom of the trench flat at 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

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full width of the trench and to a height of one-fourth of the outside diameter of the pipe above the invert.

2. Class “B” (Bedding Factor - 1.9): Class ‘B’ Bedding shall be installed by first undercutting the trench an adequate amount to provide bedding underneath the pipe bell as indicated. The trench shall then be brought to grade with compacted #57 Stone Coarse Aggregate placed the full width of the trench, as excavated. Haunching material shall then be carefully placed by hand and compacted to provide full support under the pipe barrel up to Centerline. At a minimum, Class ‘B’ Bedding shall be used for PVC pipe.

3. Class “C” (Bedding Factor - 1.5): Class ‘C’ Bedding shall be installed by first undercutting the trench an adequate amount to provide bedding underneath the pipe bell as indicated. The trench shall then be brought to grade with compacted #57 Stone Coarse Aggregate placed the full width of the trench, as excavated. 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. At a minimum, Class ‘C’ Bedding shall be used for DIP.

4. Type 5: Type 5 Bedding shall be installed by first undercutting the trench an adequate amount to provide bedding underneath the pipe bell as indicated. The trench shall then be brought to grade with compacted #57 Stone Coarse Aggregate placed the full width of the trench, as excavated before installing pipe. Haunching material shall then be carefully placed by hand and compacted to provide full support under and up to the top of the pipe barrel.

5. Groundwater Flow Dams may be required under certain conditions.

   a. If there is a large volume of groundwater which might follow the crushed stone bedding downhill and due to the elevations involved, might build adequate pressure to create problems, flow dams will be required.

   b. Flow dams consist of red clay bedding typically about three feet long and spaced about 100 feet along pipeline.

F. Excessive Width and Depth

1. If the trench is excavated to excess width, provide the bedding class with the next higher bedding factor.

2. Crushed stone haunching and initial backfill may be used in lieu of Class “A” bedding, where Class “A” bedding is necessitated by excessive trench width.

3. If the trench is excavated to excessive depth, provide crushed stone to place the bedding at the proper elevation or grade.

G. Compaction: Bedding and haunching materials under pipe and accessories shall be compacted to a minimum of 90 percent of the maximum dry density, unless shown or specified otherwise.

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3.07 BACKFILLING – GENERAL

A. Backfilling shall include initial and final backfilling, re-grading of grounds, restoration of surface and sub-surface materials and structures, including resurfacing of paved areas damaged by the Contractor.

B. Backfilling shall not be performed in freezing weather (below 32 degrees F) except by permission of the Construction Manager and shall not be performed with frozen material or upon frozen materials.

C. All backfilling shall be left with smooth, even surfaces, free of rock on the surface, properly graded and shall be maintained in this condition until final completion and acceptance of the Work.

D. Where directed by the Construction Manager, the backfill shall be mounded slightly above the adjacent ground to allow for settlement.

E. Except as otherwise specified or directed, all forms, bracing, and lumber shall be removed before backfilling.

3.08 BACKFILLING – INITIAL BACKFILL

A. Initial backfill shall be placed to anchor the pipe, protect the pipe from damage by subsequent backfill and ensure the uniform distribution of the loads over the top of the pipe.

B. Initial backfilling must be performed properly and before any filling is deposited in large quantities from a machine bucket or other vehicle.

C. Initial backfill material over PVC pipe shall be free of rocks larger than two (2) inches in the largest dimension. Initial backfill material over DIP pipe shall be free of rocks larger than four (4) inches in the largest dimension.

D. During initial backfill, dumping from a bucket must not be allowed to fall from a height of more than one foot upon a pipe, and in all cases the bucket must be lowered so that the shock of the falling earth will not injure the pipe or structure.

E. Place initial backfill material carefully around the pipe in uniform layers to a depth of at least 18-inches above the pipe barrel.

1. 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.

F. Carefully and thoroughly consolidate initial backfill in trenches where pipe has been laid, by tamping simultaneously on both sides of the pipe to prevent side pressures.

1. Compact each layer thoroughly with suitable hand tools or tamping equipment.

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2. This backfilling and compacting must be performed before any backfill material is deposited directly from a machine bucket, loaders, trucks, or other mechanical equipment.

3. When utilizing a machine bucket for backfilling, the bucket must be lowered into the trench to deposit the material in such a manner as to avoid the shock of falling earth which could injure or damage the pipe or structure.

4. Under no circumstances should the material be allowed to fall from the machine or loader bucket directly onto the pipe in the trench.

G. Initial backfill shall be compacted to a minimum 90 percent of the maximum dry density, unless shown or specified otherwise.

H. Only after the initial backfill has been placed to a point 18 inches above the top of the pipe, may work proceed in placing the final backfill, which must be carefully placed and compacted by tamping.

3.09 BACKFILLING – FINAL BACKFILL

A. After initial backfill material has been placed and compacted, backfill with final backfill material. Place backfill material in uniform layers, compacting each layer thoroughly as follows:

In 6-inch layers, if using light power tamping equipment, such as a “jumping jack”.

In 12-inch layers, if using heavy tamping equipment, such as hammer with tamping feet.

In 24-inch layers, if using a hydra-hammer.

B. Backfill carefully to restore the ground surface to its original condition.

C. All precautions must be taken to avoid having any unincorporated material which may result in future settlement in these areas. Compaction shall be accomplished by approved mechanical tampers

D. The top 6-inches shall be topsoil obtained as specified in “Trench Excavation” of this Section.

E. Excavated material which is unsuitable for backfilling, and excess material, shall be disposed of, at no additional cost to the Owner, in a manner approved by the Construction Manager.

1. Surplus soil may be neatly distributed and spread over the site, if approved by the Construction Manager.

2. If such spreading is allowed, the site shall be left in a clean and sightly condition and shall not affect pre-construction drainage patterns.

3. Surplus rock from the trenching operations shall be removed from the site.

F. 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.

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G. Settlement: If trench settles, re-fill and grade the surface to conform to the adjacent surfaces.

H. Final backfill shall be compacted to a minimum 90 percent of the maximum dry density, unless specified otherwise.

I. All backfilling shall be left with smooth, even surfaces, properly graded, and shall be maintained in such condition until final completion and acceptance of the work, notwithstanding applicable warranty periods.

J. Where directed by Construction Manager, the Contractor shall mound the backfill slightly above the adjacent ground to allow for settlement.

3.10 CONCRETE ENCASEMENT FOR PIPELINES

A. 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.

B. Lay the pipe to line and grade on concrete blocks.

C. 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 12-inches above the pipe bell. Do not backfill the trench for a period of at least 24 hours after concrete is placed.

3.11 ADDITIONAL MATERIAL

A. Where final grades above the pre-construction grades are required to maintain minimum cover, additional fill material will be as shown on the Drawings.

1. Utilize excess material excavated from the trench, if the material is suitable.
2. If excess excavated materials are not suitable, or if the quantity available is not sufficient, provide additional suitable fill material at no cost to the Owner.

B. When acceptable excess material is not available from other parts of the Project for backfill, required fills, embankments, etc., the Contractor shall obtain the necessary “borrow” material at locations off the site of the work.

C, If the Construction Manager determines the original excavated material is unsuitable for use as backfill, such as perishable matter, refuse, building materials, wire, brush, stumps, ashes, large stones, mulch, or other soft materials, the Contractor shall properly dispose of the objectionable materials, and shall furnish, haul, and place borrow material suitable for proper backfill.

D. Locating such acceptable “borrow” sites shall be the sole responsibility of the Contractor. All materials to be used as borrow shall be approved by the Construction Manager.

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3.12 BACKFILL UNDER ROADS

A. Final backfill material under roadways and other paved areas shall be compacted to a density of not less than 95 percent of maximum dry density as determined by ASTM D 698 – Standard Proctor. The top 12-inches shall be compacted to a minimum of 98 percent of the maximum dry density.

B. Final backfill material under non-paved areas within the road right-of-way shall be compacted to not less than 90 percent of maximum dry density as determined by ASTM D 698.

C. Final backfill material in non-paved areas outside of road right-of-way shall be compacted to not less than 85 percent of maximum dry density as determined by ASTM D 698 or as directed by the Construction Manager.

3.13 BACKFILL WITHIN GEORGIA DOT RIGHT-OF-WAY

A. Backfill within the Georgia DOT right-of-way shall meet the requirements stipulated in the “Utility Accommodation Policy and Standards”, published by the Georgia Department of Transportation.

3.14 BACKFILL ALONG RESTRAINED JOINT PIPE

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

3.15 BACKFILLING STRUCTURES

A. Backfilling of structures shall proceed as various structures or parts of structures are completed.

1. The Contractor shall refill the space outside and around the wall with material excavated from the site and stored for this purpose.
2. Immediately adjacent to the structure, the backfill material shall be placed in eight inch layers and compacted to avoid future settlement.
3. This filling shall be carried to such height as will bring the finished grade to the required elevations.

3.16 FLOWABLE FILL

A. Where flowable fill is required, excavate the trench to provide a minimum of 6-inches clearance on either side of the pipe barrel.

B. Lay the pipe to line and grade on solid concrete blocks or bricks.

C. In lieu of bedding, haunching and initial backfill, place flowable fill to the full width and depth of the trench.

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D. Flowable fill shall be protected from freezing for a period of 36 hours after placement. Minimum temperature of flowable fill at point of delivery shall be 50 degrees F.

E. The Contractor shall provide steel plates over flowable fill in road locations.

3.17 COMPACTED GRANULAR MATERIAL

A. Where compacted granular material is required as initial and final backfill material, it shall be placed after bedding and haunching material specified elsewhere has been placed.

B. Compacted granular material shall be compacted to a minimum 95 percent of the maximum dry density.

3.18 TRENCH SURFACE FINISH

A. Trenches cut in pavement on public roads or in areas that will become under pavement in proposed public roads (such as typical subdivision developments) shall be compacted in accordance with Fulton County Standard Details as applicable.

1. Such compaction shall be verified by an independent soils laboratory. The number, depth and location of such compaction test shall be as required by the Construction Manager.

    a. Compaction tests will generally be required at approximately 400 foot intervals in existing roads and 800 foot intervals in proposed roads.

    b. Compaction tests shall be performed at the Contractors' expense.

2. Trenches located perpendicular within existing public roads shall require an 8 inch thick concrete base course poured over the compacted backfill.

    a. The concrete base course shall extend the full width of the trench cut plus a minimum of 12 inches on either side of the trench.

    b. The existing pavement shall be neatly sawed along both sides of the trench.

    c. The concrete used shall be a minimum 3,000 PSI high early strength concrete.

    d. Once the concrete base course has properly set, the concrete surface shall be cleaned and a minimum 1-½ inch thick bituminous concrete pavement (to match existing pavement), shall be laid matching the level of the adjacent pavement.

B. Trenches cut in driveways or private parking areas shall require a minimum 6 inch thick, fully compacted, graded aggregate base.

1. The existing pavement shall be neatly sawed along both sides of the ditch.

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2. Material of the same type and thickness shall be laid matching the level of the adjacent drive surface.
3. n restoring concrete drives, the base course shall be wetted prior to pouring new concrete.
4. Concrete used shall be 3,000 PSI high early strength.

C. Trenches cut through curbs and sidewalks shall be restored in such a manner as to conform in size, line, grade and materials with that adjoining.

1. In restoring curbs and sidewalks, entire slabs or squares shall be removed and replaced.
2. The subsoil and foundation material shall be well compacted.
3. The sub-base shall be thoroughly rolled or tamped and shall be wet just before the concrete is placed, but shall show no pools of water.

D. Should settlements, cracks, or other indications of failure appear in adjoining pavements, drives, curbs, or sidewalks, the adjoining surfaces shall be removed to the extent necessary to secure firm, undisturbed bearing and shall be re-laid in a satisfactory manner.

E. Trenches cut in non-paved areas shall be thoroughly compacted to a level 4 inches below ground surface.

1. All easements shall be adequately re-grassed to prevent soil erosion.
2. Natural topsoil at least 4 inches thick and of a good condition and tillable structure shall be placed atop the compacted trench backfill.
    a. Topsoil shall be free of large stones, plant stumps, large roots, objectionable litter, or other substances potentially harmful to plant growth.
3. Grass seed shall be of a properly proportioned mixture approved for use in Zone Two, as detailed in the Georgia Department of Transportation Standard Specifications.
4. Whenever possible, replace existing grassed areas with grass of similar characteristics and appearance, meeting at a minimum, the specification requirements included herein.
5. All seeded areas shall be uniformly mulched immediately after seeding and within 10 days of construction work completion.
6. Sediment control measures must remain in place and be maintained until a comprehensive vegetative cover is established.

3.19 TESTING AND INSPECTION

A. The Owner may direct tests to be made to determine the density of the compacted material. Cost of the testing laboratory, fieldwork, and analysis shall be paid for by the Contractor.

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B. When directed by the Owner, the Contractor shall arrange to have compaction tests conducted by an independent testing firm.

C. The soils testing laboratory is responsible for the following:

1. Compaction tests in accordance with Article 1.02 of this Section.
2. Field density tests for each two feet of lift, one test for each 1,000 feet of pipe installed or more frequently if ordered by the Construction Manager.
3. Inspecting and testing stripped site, subgrades and proposed fill materials.

D. The Contractor's duties relative to testing include:

1. Notifying laboratory of conditions requiring testing.
2. Coordinating with laboratory for field testing.
3. Paying costs for additional testing performed beyond the scope of that required and for re-testing where initial tests reveal non-conformance with specified requirements.
4. Providing excavation as necessary for laboratory personnel to conduct tests.

E. Inspection

1. Earthwork operations, acceptability of excavated materials for bedding or backfill, and placing and compaction of bedding and backfill is subject to inspection by the Construction Manager.

3.20 DISPOSAL OF MATERIAL

A. The Contractor shall be required to remove from the site of the work all earth in excess of that required to backfill the excavation or to create necessary fill.

B. This shall be performed immediately after the backfill is completed to the satisfaction of the Owner.

C. All material removed shall become the property of the Contractor and he shall make his own arrangements for its disposition.

D. All surplus material, shot rock, organics, clearing debris, stumps, and other such material deemed unfit for use as backfill, shall be disposed of by the Contractor, and shall be performed in such manner so as to give a minimum of inconvenience to the public.

E. Comply with applicable codes, ordinances, rules, regulations and laws of local, municipal, state or federal authorities having jurisdiction.

END OF SECTION

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SECTION 31 25 00

EROSION AND SEDIMENTATION CONTROL

PART 1 – GENERAL

1.01 SCOPE

A. The Work specified in this Section consists of providing and maintaining temporary and permanent erosion and sedimentation controls as shown on the Drawings. This Section also specifies the subsequent removal of temporary erosion and sedimentation controls.

B. Temporary and permanent erosion and sedimentation controls include grassing and mulching of disturbed areas and structural barriers at those locations which will ensure that erosion during construction will be maintained within acceptable limits.

C. Acceptable limits are as established by the Georgia Erosion and Sedimentation Control Act of 1975, as amended, Section 402 of the Federal Clean Water Act, and applicable codes, ordinances, rules, regulations, and laws of local, state, and municipal authorities having jurisdiction.

D. Land disturbance activity shall not commence until the Land Disturbance Permit has been issued.

1.02 SUBMITTALS

A. Submit product data in accordance with the requirements of Section 01 33 23 of these Specifications.

1.03 QUALITY ASSURANCE

A. The temporary and permanent erosion and sedimentation control measures shown on the Drawings are minimum suggested requirements. Any additional erosion and sedimentation control measures required by the Contractor's means, methods, techniques, and sequence of operation shall be installed by the Contractor at no additional cost to the Owner.

B. Perform all work under this Section in accordance with all pertinent rules and regulations including, but not necessarily limited to, those stated in these Specifications. Where provisions of pertinent rules and regulations conflict with these Specifications, the more stringent provisions shall govern.

C. Provide all materials and promptly take all actions necessary to achieve effective erosion and sedimentation control in accordance with the Georgia Erosion and Sedimentation Control Act of 1975 as amended (OCGA §12-7-1, et. seq.), local ordinances, other permits, local enforcing agency guidelines, and these Specifications.

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D. BASIC PRINCIPLES:

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

E. IMPLEMENTATION:

1. The Contractor is solely responsible for the control of erosion within the Project site and the prevention of sedimentation from leaving the Project site or entering waterways.
2. The Contractor shall install temporary and permanent erosion and sedimentation controls which will ensure that runoff from the disturbed area of the Project site shall pass through a filter system before exiting the Project site.
3. The Contractor shall provide temporary and permanent erosion and sedimentation control measures to prevent silt and sediment from entering the waterways and designated wetland areas. The Contractor shall maintain an undisturbed vegetative buffer a minimum of 25 feet from the top of the bank.
4. The Contractor shall limit land disturbance activity to those areas shown on the Drawings.
5. The Contractor shall maintain erosion and sedimentation control measures within disturbed areas on the entire site until the final acceptance of the Project at no additional cost to the Owner.
6. Maintenance shall include mulching, re-seeding, clean-out of sediment barriers and sediment ponds, replacement of washed-out or undermined rip rap and erosion control materials, to the satisfaction of the Owner and Construction Manager.
7. All fines imposed for improper erosion and sedimentation control shall be paid by the Contractor.

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PART 2 – PRODUCTS

2.01 SEDIMENT BARRIER

A. SILT FENCE:

1. Type NS silt fence shall meet the requirements of Section 171 of the Georgia Department of Transportation Standard Specifications, latest edition.
2. Type S Silt Fence is a combination of Type NS silt Fence with woven wire reinforcement. Type NS Silt Fence reinforcement shall meet the requirements of Section 171 of Georgia D.O.T. Specifications, latest edition.
3. Silt fence fabric shall be an approved product on the Georgia DOT Qualified Product List No. 36, latest edition.

B. Hay Bales: Hay bales shall be clean, seed-free cereal hay, rectangular in shape, and contain five cubic feet or more of material. Hay bales shall be bound with wire or nylon to securely contain the material.

1. Pine straw bales may be used in lieu of hay bales.
2. Bales shall be placed in a single row, lengthwise, on the contour and embedded in the soil to a depth of four (4) inches.
3. Bales must be securely anchored in place by stake or bars driven through the bales.

C. Concrete Blocks: Concrete blocks shall be hollow, non-load-bearing type.

2.02 CONSTRUCTION EXIT STONE

A. Use sound, tough, durable stone resistant to the action of air and water. Slabby or shaley pieces will not be acceptable.

B. Aggregate size shall be in accordance with the National Stone Association Size R-2 (1.5 to 3.5-inch stone) or Type 3 rip rap stone conforming to Section 805.01 of the Georgia Department of Transportation Standard Specifications.

2.03 RIP RAP

A. Stone Rip Rap: Use sound, tough, durable stones resistant to the action of air and unless noted otherwise, stone rip rap shall be Type 1.

1. Type 1 Rip Rap: Rip rap size and gradation shall conform to Section 805.01 of the Georgia Department of Transportation Standard Specification for Type 1 Stone Dumped Rip Rap.
2. Type 3 Rip Rap: Rip rap size and gradation shall conform to Section 805.01 of the Georgia Department of Transportation Standard Specifications for Type 3 Stone Dumped Rip Rap.

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B. Sand Cement Bag Rip Rap: Sand cement bag rip rap shall conform to the Georgia Department of Transportation Standard Specifications, Section 603.

2.04 GABIONS

A. Gabions shall be constructed of heavy galvanized steel wire mesh with a zinc coating of triple hexagon weave. The mesh wire diameter for the galvanized gabions shall be 2.2 mm (0.0866") + 2 1/2%; the mesh edge wire shall be not less than 2.7 mm – 2 1/2%. The lacing wire for binding the netting units together shall be 2.2 mm (0.0866") + 2 1/2%.

B. Geotextiles when used behind gabion structures shall be in accordance with AASHTO M288-96 Section 7.5, “Permanent Erosion Control Requirements.”

2.05 PLASTIC FILTER FABRIC

A. Plastic filter fabric shall conform to the Georgia Department of Transportation Standard Specifications, Section 881, for filter fabrics.

B. Plastic filter fabric shall be an approved product on the Georgia Department of Transportation Qualified Product List No. 28, latest edition.

C. Seams - Fabric may be sewn together with thread of a material having the same chemical requirements as the material forming the fabric or shall be bonded by cementing or by heat. The strength of the seams shall be equal to that of the unaged fabric. Fabrics to be used under riprap are allowed to be bonded or sewn together forming sections not less than 6 feet wide.

2.06 GRASSING

A. Grassing materials shall meet the requirements of the Georgia Department of Transportation Standard Specifications, latest edition; as shown in the table:

Material	Section No.
Topsoil	893.01
Seed and Sod	890
Fertilizer	891.01
Agricultural Lime	882.02
Mulch	893.02
Inoculants	893.04

B. Seed species shall be provided as shown on the Drawings.

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C. Mulch Binder: Mulch on slopes exceeding 3 (horizontal) to 1 (vertical) shall be held in place by the use of a mulch binder, as approved by the Construction Manager. The mulch binder shall be non-toxic to plant and animal life and shall be approved by the Construction Manager.

D. Water: Water shall be free of excess and harmful chemicals, organisms, and substances which may be harmful to plant growth or obnoxious to traffic. Salt or brackish water shall not be used. Water shall be furnished by the Contractor.

PART 3 – EXECUTION

3.01 GENERAL

A. The Contractor must utilize Best Management Practices to minimize siltation and erosion consistent with the Manual for Erosion and Sediment Control in Georgia.

B. Temporary and permanent erosion and sedimentation control measures shall prevent erosion and prevent sediment from exiting the site.

1. If, in the opinion of the Owner, Construction Manager, or state inspector, the Contractor's temporary erosion and sedimentation control measures are inadequate, the Contractor shall provide additional maintenance for existing measures or additional devices to control erosion and sedimentation on the site at no additional cost to the Owner.

C. All erosion and sedimentation control devices and structures shall be inspected by the Contractor at least once a week and immediately after each rainfall occurrence. Any device or structure found to be damaged shall be repaired or replaced by the end of the day.

D. All erosion and sedimentation control measures and devices shall be constructed and maintained as indicated on the Drawings or specified herein until adequate permanent disturbed area stabilization has been provided and accepted by the Construction Manager.

E. Once adequate permanent stabilization has been provided and accepted by the Construction Manager, all temporary erosion and sedimentation control structures and devices shall be removed.

3.02 SEDIMENT CONTROL

A. CONSTRUCTION EXIT:

1. Construction exit(s) shall be placed as shown on the Drawings and as directed by the Construction Manager.

a. A construction exit shall be located at any point traffic will be leaving a disturbed area to a public right-of-way, street, alley, sidewalk, or parking area.

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b. The construction exit shall consist of a minimum of six (6) inch thick pad of aggregate as specified above and of the necessary length to accomplish the task for which it is intended.

2. Placement of Construction Exit Material: The ground surface upon which the construction exit material is to be placed shall be prepared to a smooth condition free from obstructions, depressions or debris.

   a. Filter fabrics shall be required to keep the aggregate stone from becoming contaminated with subgrade soils and must be placed the full length and width of the entrance.

   b. The plastic filter fabric shall be placed to provide a minimum number of overlaps and a minimum width of one foot of overlap at each joint.

   c. The stone shall be placed with its top elevation conforming to the surrounding ground elevations. The stone shall be dropped from no more than a three feet height during construction.

3. Construction Exit Maintenance: The Contractor shall regularly maintain the exit with the top dressing of stone to prevent tracking or flow of soil onto public rights-of-way and paved surfaces as directed by the Construction Manager.

4. Construction Exit Removal: Construction exit(s) shall be removed and properly disposed of when the disturbed area has been properly stabilized, the tracking or flow of soil onto public rights-of-way or paved surfaces has ceased and as directed by the Construction Manager.

B. SEDIMENT BARRIERS:

1. Sediment barriers shall include, but are not necessarily limited to, silt fences, hay bales, and any device which prevents sediment from exiting the disturbed area.

2. Silt fences and hay bales shall not be used in any flowing stream, creek, or river.

3. Sediment barriers shall be installed as shown on the Drawings and as directed by the Owner or Construction Manager.

4. Sediment barriers shall be maintained to ensure the depth of impounded sediment is no more than one-half of the original height of the barrier or as directed by the Construction Manager.

5. Torn, damaged, destroyed, or washed-out barriers shall be repaired, reinforced, or replaced with new material and installed as shown on the Drawings and as directed by the Owner or Construction Manager.

6. Accumulated sediment shall be removed from the barrier and the barrier replaced and stabilized on-site as directed by the Owner or Construction Manager.

7. Sediment barrier shall be removed once the disturbed area has been stabilized with a permanent vegetative cover and the sediment barrier is no longer required as directed by the Construction Manager.

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8. All non-biodegradable parts of the barrier shall be disposed of properly.

9. The disturbed area created by barrier removal shall be permanently stabilized.

C. Sediment Boxes: All inlet grates shall be covered with sediment boxes during grading operations and shall remain so covered until all open areas are permanently stabilized against erosion.

D. Where construction dewatering pumps discharge, the water must be filtered to minimize stream siltation. As a minimum, filter fabrics or silting basins are required.

3.03 EROSION CONTROL

A. RIP RAP

1. Rip rap shall be placed as shown on the Drawings and as directed by the Construction Manager.
   a. Rip rap shall be placed at all points where natural vegetation is disturbed on the banks of active streams.
   b. Compact backfill and place rip rap to prevent subsequent settlement and erosion.
   c. This requirement applies equally to construction alongside a stream as well as crossing a stream or drainage ditch.
2. When trenching across a stream or drainage ditch, place rip rap over the entire disturbed area upstream and downstream of the trench excavation.
   a. Place rip rap across creek bottom, across creek banks, and extend rip rap placement five feet beyond the top of each creek bank.
3. Preparation of Foundations: The ground surface upon which the rip rap is to be placed shall be brought to the correct lines and grades before placement is commenced.
   a. Where filling of depressions is required, the new material shall be compacted with hand or mechanical tampers.
   b. Unless at creek banks or otherwise shown or specified, rip rap shall begin in a toe ditch constructed in original ground around the toe of the fill or the cut slope.
   c. The toe ditch shall be two feet deep in original ground, and the side next to the fill or cut shall have that same slope. After the rip rap is placed, the toe ditch shall be backfilled and the excess dirt spread neatly on the site.
4. Placement of Plastic Filter Fabric:
   a. Plastic filter fabric shall be placed under all rip rap unless shown or specified otherwise.
   b. Filter fabric shall not be placed under rip rap on stream or drainage ditch crossings.

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c. The surface to receive filter fabric shall be prepared to a smooth condition free from obstructions, depressions, and debris.

d. The filter fabric shall be installed with the long dimension running up the slope and shall be placed to provide a minimum number of overlaps.

e. The fabric shall be placed to provide a minimum width of one foot of overlap at each joint. The fabric shall be placed so that the upstream strip overlaps the downstream strip.

f. The fabric shall be anchored in place with securing pins of the type recommended by the fabric manufacturer. Pins shall be placed on or within 3-inches of the centerline of the overlap.

g. The fabric shall be placed loosely to avoid stretching and tearing during placement of the stone.

h. The fabric shall be protected at all times during construction from clogging due to clay, silts, chemicals, or other contaminants.

i. Contaminated fabric or fabric damaged during installation or during placement of rip rap shall be removed and replaced with uncontaminated and undamaged fabric at no additional cost to the Owner.

5. Placement of Rip Rap: Rip rap shall be placed on a 6-inch layer of soil, crushed stone or sand overlaying the filter fabric.

a. Rip rap shall be placed with its top elevation conforming to the finished grade or the natural existing slope of the stream bank and stream bottom.

b. The stone shall be dropped from no more than a three foot height during construction.

c. Stone rip rap shall be placed to provide a uniform surface to the thickness shown on the Drawings.

d. The thickness tolerance for the course shall be –3 inches and +6 inches.

B. Grassing:

1. Temporary Stabilization: Temporary stabilization shall be provided as shown on the Drawings and conforming to these Specifications to control erosion on the site.

a. Temporary stabilization shall be provided to any area that will not receive permanent stabilization within the next 14 calendar days.

b. Partial payment requests may be withheld for those portions of the Project not complying with this requirement.

2. Permanent Stabilization:

a. Permanent stabilization shall be provided as shown on the Drawings and conforming to these Specifications to control erosion

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on the site. Permanent stabilization shall be provided to all areas of land disturbance within seven calendar days of the completion of land disturbance for any area greater than 0.25 acre.

b. Where permanent stabilization cannot be immediately established because of an inappropriate season, the Contractor shall provide temporary stabilization.

c. The Contractor shall return to the site at the appropriate season to provide permanent stabilization in areas that received only temporary stabilization.

3. Grassing shall meet the requirements of Section 700 of the Georgia Department of Transportation Standard Specifications, latest edition, unless specified otherwise.

4. Seed rate, fertilization and other requirements shall be provided as shown on the Drawings.

3.04 CLEAN-UP

A. Dispose of all excess erosion and sedimentation control materials in a manner satisfactory to the Owner and Construction Manager.

B. Final clean-up shall be performed in accordance with the requirements of these Specifications and to the satisfaction of the Owner and Construction Manager.

END OF SECTION

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SECTION 32 12 16

REMOVING AND REPLACING PAVEMENT

PART 1 – GENERAL

1.01 SUMMARY

A. The work to be performed under this Section shall consist of removing and replacing existing pavement, sidewalks and curbs in paved areas where necessary for construction of utilities and all other water appurtenances and structures.

B. Existing pavement, sidewalks, and curbs shall be replaced to the current Fulton County standards or to match existing, whichever is more stringent.

1.02 SUBMITTALS

A. Certificates: Provide certificates stating that materials supplied comply with Specifications. Certificates shall be signed by the asphalt producer and the Contractor.

B. 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 Construction Manager for approval.

1.03 CONDITIONS

A. Weather Limitations

1. Apply bituminous prime and tack coats only when the ambient temperature has been at least 55 degrees F for 12 hours immediately prior to application.
2. Do not conduct paving operations when surface is wet 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 40 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.

B. Grade Control: Establish and maintain the required lines and grades for each course during construction operations.

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PART 2 – PRODUCTS

2.01 MATERIALS AND CONSTRUCTION

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. Black Base: Black base course shall be of uniform quality throughout and shall conform to the requirements of Section 828 of the Georgia Department of Transportation Standard Specifications.

C. Binder Course: The binder course of all paved roadways shall conform to the requirements of Section 400, 12.5 mm Superpave of the Georgia Department of Transportation Standard Specifications.

D. Surface Course: The surface course for all pavement, including prime or tack coat when required by the Construction Manager, shall conform to the requirements of Section 400, 9.5 mm Superpave of the Georgia Department of Transportation Standard Specifications

E. Concrete: Provide concrete and reinforcing for concrete pavement or base courses in accordance with the requirements of the Georgia Department of Transportation Standard Specifications, Section 430. Concrete shall be of the strength classifications shown on the Drawings.

F. Special Surfaces: Where driveways or roadways are disturbed or damaged which are constructed of specialty type surfaces, such as brick or stone, these driveways and roadways shall be restored utilizing similar, if not original, materials. Where the nature of these surfaces dictate, a specialty contractor shall be used to restore the surfaces to their previous or better condition. Special surfaces shall be removed and replaced to the limits to which they were disturbed.

2.02 TYPES OF PAVEMENTS

A. General:

1. All existing pavement removed, destroyed or damaged by construction shall be replaced with the same type and thickness of pavement as that existing prior to construction, unless otherwise directed by the Construction Manager.

2. Materials, equipment and construction methods used for paving work shall conform to the Georgia Department of Transportation specifications applicable to the particular type required for replacement, repair or new pavements.

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B. Aggregate Base:

1. Aggregate base shall be constructed in accordance with the requirements of Section 310 of the Georgia Department of Transportation Standard Specifications.
2. The maximum thickness to be laid in a single course shall be 6-inches compacted. If the design thickness of the base is more than 6-inches, it shall be constructed in two or more courses of approximate equal thickness.
3. After the material placed has been shaped to line, grade and cross-section, it shall be rolled until the course has been uniformly compacted to at least 100 percent of the maximum dry density when Group 2 aggregate is used, or to at least 98 percent of maximum dry density when Group 1 aggregate is used.

C. Concrete Pavement:

1. Concrete pavement or base courses shall be replaced with concrete.
2. The surface finish of the replaced concrete pavement shall conform to that of the existing pavement.
3. The surface of the replaced concrete base course shall be left rough.
4. The slab depth shall be equivalent to the existing concrete pavement or base course, but in no case less than 6-inches thick.
5. Transverse and longitudinal joints removed from concrete pavement shall be replaced at the same locations and to the same types and dimensions as those removed.
6. Concrete pavements or concrete base courses shall be reinforced.

D. Asphaltic Concrete Base, Binder and Surface Course:

1. Asphaltic concrete base, binder and surface course construction shall conform to Georgia Department of Transportation Standard Specifications, Section 400.
2. The pavement mixture shall not be spread until the designated surface has been previously cleaned and prepared, is intact, firm, properly cured, dry and the tack coat has been applied.
3. Apply and compact the base in maximum layer thickness by asphalt spreader equipment of design and operation approved by the Construction Manager.
4. After compaction, the black base shall be smooth and true to established profiles and sections.
5. Apply and compact binder and the surface course in a manner approved by the Construction Manager.

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6. Immediately correct any high, low or defective areas by cutting out the course, replacing with fresh hot mix, and immediately compacting to conform and thoroughly bond to the surrounding area.

E. Surface Treatment Pavement:

1. Bituminous penetration surface treatment pavement shall be replaced with a minimum thickness of 1-inch conforming to Section 424, Georgia Department of Transportation Standard Specifications.

F. Gravel Surfaces:

1. Existing gravel road, drive and parking area replacement shall meet the requirements of graded aggregate base course.

2. This surfacing may be authorized by the Construction Manager as a temporary surface for paved streets until replacement of hard surfaced pavement is authorized.

G. Temporary Measures:

1. During the time period between pavement removal and complete replacement of permanent pavement, maintain highways, streets and roadways by the use of steel running plates anchored to prevent movement.

2. The backfill above the pipe shall be compacted, as specified, up to the existing pavement surface to provide support for the steel running plates. All pavement shall be replaced within seven calendar days of its removal.

PART 3 – EXECUTION

3.01 LOCATIONS FOR PAVEMENT REPLACEMENT

A. Pavement shall be removed and replaced with similar type and thickness as the original pavement, for the entire length of pipe laying and up to required trench width as per details shown on drawings.

3.02 REMOVING PAVEMENT

A. General: Remove existing pavement as necessary for installing the pipe line and appurtenances.

B. Marking: Before removing any pavement, mark the pavement neatly paralleling pipe lines and existing street lines. Space the marks the width of the trench.

C. Breaking: Break asphalt pavement along the marks using pavement shearing equipment, jack hammers or other suitable tools. Break concrete pavement along the marks by scoring with a rotary saw and breaking below the score by the use of jack hammers or other suitable tools.

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D. Machine Pulling: Do not pull pavement with machines until the pavement is completely broken and separated from pavement to remain.

E. Damage to Adjacent Pavement: Do not disturb or damage the adjacent pavement. If the adjacent pavement is disturbed or damaged, remove and replace the damaged pavement.

F. Sidewalk: Remove and replace any sidewalks disturbed by construction for their full width and to the nearest undisturbed joint.

G. Curbs: Tunnel under or remove and replace any curb disturbed by construction to the nearest undisturbed joint.

H. Cutting: Before removing any existing pavement, saw cut the pavement in full thickness.

3.03 REPLACING PAVEMENT

A. Preparation of Subgrade: Upon completion of backfilling and compaction of the backfill, arrange to have the compaction tested by an independent testing laboratory approved by the Construction Manager. After compaction testing has been satisfactorily completed, replace all pavements, sidewalks and curbs removed.

1. The existing street pavement or surface shall be removed along the lines of the work for the allowable width specified for the trench or structure.

2. After the installation of the pipelines and after the backfill has been compacted suitably, the additional width of pavement to be removed, as shown on the Drawings, shall be done immediately prior to replacing the pavement.

3. Trench backfill shall be compacted for the full depth of the trench as specified in Section 31 23 00 of these Specifications.

4. Temporary trench backfill along streets and driveways shall include 6-inches of crushed stone or cherty clay as a temporary surfacing of the trenches.

    a. This temporary surface shall be maintained carefully at grade and dust-free by the Contractor until the backfill of the trench has thoroughly compacted in the opinion of the Construction Manager and permission is granted to replace the street pavement.

5. When temporary crushed stone or chert surface is considered by the Construction Manager to be sufficient surface for gravel pavement, the surface shall be graded smooth and to an elevation that will make the final permanent surfacing level with the adjacent surfacing that was undisturbed.

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B. Pavement Replacement

1. Prior to replacing pavement, make a final cut in concrete pavement 12-inches back from the edge of the damaged pavement with a concrete saw.
2. Remove asphalt pavement 12-inches back from the edge of the damaged pavement using pavement shearing equipment, jack hammers or other suitable tools.
    a. Pavement cuts shall be parallel or perpendicular to the road centerline as much as practical.
    b. On parallel installations the final cut shall be long and straight and consistent.
3. Replace all street and roadway pavement as shown on the Drawings. Replace driveways, sidewalks and curbs with the same material, to nearest existing undisturbed construction joint and to the same dimensions as those existing.
4. If the temporary crushed stone or chert surface is to be replaced, the top 6-inches shall be removed and the crushed stone surfacing for unpaved streets or the base for the bituminous surface shall be placed.
5. Following this preparation, the chert or crushed stone base shall be primed with a suitable bituminous material and surfaced with the proper type of bituminous surface treatment.
6. Where the paved surface is to be replaced with asphaltic concrete pavement, concrete pavement or with a concrete base and a surface course, the temporary chert or crushed stone surface and any necessary backfill material, additional existing paving and new excavation shall be removed to the depth and width shown on the Drawings.
    a. All edges of the existing pavement shall be cut to a straight, vertical edge.
    b. Care shall be used to get a smooth joint between the old and new pavement and to produce an even surface on the completed street.
    c. Concrete base slabs and crushed stone bases, if required, shall be placed and allowed to cure for three days before bituminous concrete surface courses are applied.
    d. Expansion joints, where applicable, shall be replaced in a manner equal to the original joint.
7. Where driveways or roadways, constructed of specialty type surfaces, such as brick or stone, are disturbed or damaged, these driveways and roadways shall be restored utilizing similar materials.
    a. Where the nature of these surfaces dictate, a specialty contractor shall be used to restore the surfaces to their previous or better condition.

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b. Special surfaces shall be removed and replaced to the limits to which they were disturbed.

C. Pavement Resurfacing:

1. Certain areas to be resurfaced are specified or noted on the Drawings.

a. After all pipe line installations are complete and existing pavement has been removed and the trench route has been repaired, mill entire area to be resurfaced 1-1/2 inches, then apply tack coat and 1-1/2 inches of 9.5 mm Superpave surface course as specified.

b. Where pavement to be resurfaced has been damaged with potholes, the Contractor shall remove all existing loose pavement material and fill the hole with black base, as specified, to the level of the existing pavement.

2. Resurfacing limits shall be perpendicular to the road centerline.

3. The limits of resurfacing shall be 10 feet beyond the edge of the pavement replacement on the main road being resurfaced, and to the point of tangency of the pavement on the side streets.

D. Pavement Striping:

1. Pavement striping removed or paved over shall be replaced with the same type, dimension and material as original unless directed otherwise by the Construction Manager.

3.04 SIDEWALK AND CURB REPLACEMENT

A. Construction

1. All concrete sidewalks and curbs shall be replaced with concrete.

2. The Contractor shall restore all curbs and combination curbs and gutters which have been removed or disturbed in the progress of the work. Curbing shall be made to conform accurately in size, line, grade, and materials with the adjoining curb.

3. The Contractor shall restore all sidewalks which have been removed or disturbed in the progress of the work.

a. Sidewalks shall be constructed to the same dimensions and materials as the adjoining sections.

b. Where necessary to cut a sidewalk, entire sections shall be removed and replaced unless otherwise directed by the Construction Manager.

4. Preformed joints shall be ½-inch thick, conforming to the latest edition of AASHTO M59 for sidewalks and AASHTO M 123 for curbs.

5. Forms for sidewalks shall be of wood or metal, shall be straight and free from warp, and shall be of sufficient strength, when in place, to hold the concrete true to line and grade without springing or distorting.

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6. Forms for curbs shall be metal and of an approved section.
    a. They shall be straight and free from distortions, showing no vertical variation greater than 1/8-inch in 10 feet and no lateral variation greater than ¼-inch in 10 feet from the true plain surface on the vertical face of the form.
    b. Forms shall be of the full depth of the structure and constructed such to permit the inside forms to be securely fastened to the outside forms.
7. Wood forms may be used on sharp turns and for special sections, as approved by the Construction Manager. Where wooden forms are used, they shall be free from warp and shall be the nominal depth of the structure.
8. All mortar and dirt shall be removed from forms and all forms shall be thoroughly oiled or wetted before any concrete is deposited.

B. When a section is removed, the existing sidewalk or curb shall be cut to a neat line, perpendicular to both the centerline and the surface of the concrete slab.

C. Existing concrete shall be cut along the nearest existing construction joints. If such joints do not exist, the cut shall be made at minimum distances shown on the Drawings.

D. Existing concrete sidewalks and curbs that have been cut and removed for construction purposes shall be replaced with the same width and surface as the portion removed.

E. Sidewalks shall have a minimum uniform thickness of 4-inches. The new work shall be neatly jointed to the existing concrete so that the surface of the new work shall form an even, unbroken plane with the existing surfaces.

F. The subgrade shall be formed by excavating to a depth equal to the thickness of the concrete, plus 2-inches.
1. Subgrade shall be of such width as to permit the proper installation and bracing of the forms.
2. Subgrades shall be compacted by hand tamping or rolling. Soft, yielding or unstable material shall be removed and backfilled with satisfactory material.
3. Place 2-inches of porous crushed stone under all sidewalks and curbs and compacted thoroughly, then finish to a smooth, unyielding surface at proper line, grade and cross section.

G. Joint for Curbs
1. Joints shall be constructed as indicated on the Drawings and as specified. Construct joints true to line with their faces perpendicular to the surface of the structure and within ¼-inch of their designated position.

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2. Thoroughly spade and compact the concrete at the faces of all joints filling all voids.

3. Install expansion joint materials at the point of curve at all street returns. Install expansion joint material behind the curb at abutment to sidewalks and adjacent structures.

4. Place contraction joints every 10 feet along the length of the curbs and gutters.

   a. Form contraction joints using steel templates or division plates which conform to the cross section of the structure.

   b. Leave the templates in place until the concrete has set sufficiently to hold its shape, but remove them while the forms are still in place.

   c. Contraction joint templates or plates shall not extend below the top of the steel reinforcement or they shall be notched to permit the reinforcement to be continuous through the joint.

   d. Contraction joints shall be a minimum of 1-1/2-inches deep.

H. Expansion joints shall be required to replace any removed expansion joints or in new construction wherever shown on the Drawings. Expansion joints shall be true and even, shall present a satisfactory appearance, and shall extend to within ½-inch of the top of finished concrete surface.

I. Finishing

1. Strike off the surface with a template and finish the surface with a wood float using heavy pressure, after which, contraction joints shall be made and the surface finished with a wood float or steel trowel.

2. Finish the face of the curbs at the top and bottom with an approved finishing tool of the radius indicated on the Drawings.

3. Finish edges with an approved finishing tool having a ¼-inch radius.

4. Provide a final broom finish by lightly combing with a stiff broom after troweling is complete.

5. The finished surface shall not vary more than 1/8-inch in 10 feet from the established grade.

3.05 RESTORING DRIVEWAY PAVEMENTS

A. The Contractor shall repair or replace all driveway sections disturbed by the process of the work.

1. Driveways shall be constructed of the same materials, and to the thickness of the adjoining wearing surface,

2. In restoring driveways, the subsoil and foundation material shall be well compacted so as to prevent any future settlement or cracking of the driveway pavement.

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3. Where necessary to cut a concrete driveway, the cuts shall be made with a masonry saw, providing a smooth, straight line completely across the driveway.

4. Partial cut-outs, crooked cuts, or cuts made by any other method other than masonry saw are not permitted. In general, where directed, concrete slab removal shall be made in entire pavement sections to the nearest existing expansion-joint.

B. Driveway and Sidewalk Ramp Openings

1. Provide driveway openings of the widths and at the locations indicated on the Drawings and as directed by the Construction Manager.

2. Provide sidewalk ramp openings as indicated on the Drawings, in conformance with the applicable regulations and as directed by the Construction Manager.

C. Concrete shall be suitably protected from freezing and excessive heat. It shall be kept covered with burlap or other suitable material and kept wet until cured. Provide necessary barricades to protect the work. All damage caused by people, vehicles, animals, rain, the Contractor's operations and the like shall be repaired by the Contractor, at no additional expense to the Owner.

3.06 MAINTENANCE

A. The Contractor shall maintain the surfaces of roadways built and pavements replaced until the acceptance of the Project.

1. Maintenance shall include replacement, scraping, reshaping, wetting and rerolling as necessary to prevent raveling of the road material, the preservation of reasonably smooth surfaces and the repair of damaged or unsatisfactory surfaces, to the satisfaction of the Construction Manager.

2. Maintenance shall include sprinkling as may be necessary to abate dust from the gravel surfaces.

3.07 SUPERVISION AND APPROVAL

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

B. Obtain the Construction Manager's approval of restoration of pavement, such as private roads and drives that are not the responsibility of a regulatory agency.

C. Complete pavement restoration as soon as possible after backfilling.

D. 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.

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3.08 CLEANING

A. The Contractor shall remove all surplus excavation materials and debris from the street surfaces and rights-of-way and shall restore street, roadway or sidewalk surfacing to its original condition. The right-of-way shall be restored to its original condition.

END OF SECTION

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SECTION 32 92 10

TREE REMOVAL AND PROTECTION

PART 1 – GENERAL

1.01 SCOPE

A. The work specified in this Section includes furnishing all labor, equipment and material required to locate, identify, verify condition and remove or protect existing trees as shown on the Drawings and/or as directed by the Construction Manager.

B. The Contractor shall install orange tree protection fencing (barrier) around each tree to be protected, as shown on the Drawings and as ordered by the Construction Manager.

C. No trees or vegetation shall be removed except as specifically exempted or approved by the Construction Manager.

1.02 REFERENCE

A. “Trenching and Tunneling near Trees,” by James R. Fazio. Published by the National Arbor Day Foundation.

B. “Tree Preservation Ordinance and Administrative Guide Lines,” Fulton County, latest edition.

1.03 QUALIFICATIONS

A. Contractor shall have on staff for the project at least one person with a minimum of 5 years’ experience as nurseryman in planting and protecting trees.

1.04 SUBMITTALS

A. Contractor shall walk the site with local City’s Arborist, to understand (in more detail than shown on the Drawings) the scope and requirements of tree protection for this Project.

B. Prepare a Tree Protection Work Plan describing how tree protection will be handled during installation of the water lines. The Work Plan shall include, but is not limited to:

1. Confirmation of identification of specimen trees (shown on the Drawings) and other trees to be protected.
2. Scope of general protection of trees within right-of-ways and along the water line trench alignment.

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3. Determination of drip line limits of protected trees and approximate free bore lengths.
4. Scope of general protection of trees outside right-of-ways but in close proximity to work areas.
5. Extent of approved or required tree limb cutting and trimming to make space for work area.
6. Extent of approved or required tree root cutting, if necessary within trench area.
7. Confirmation of the type of protective fencing, other protective measures as required, and installation details.

C. Contractor shall submit five copies of the Tree Protection Work Plan to the Construction Manager for approval. Contractor shall not begin any field activity prior to approval of this Work Plan by the Construction Manager and City Arborist.

PART 2 – PRODUCTS

2.01 PRODUCTS

A. Protective Fencing

1. Orange Safety Fencing: Minimum 4 feet in width and shall be made of high density polyethylene resin, extruded and stretched to provide a highly visible bright orange, non-fading fence.
   a. The fabric shall remain flexible from -60° F to 200° F and shall be inert to most chemicals and acids.
   b. The fabric pattern may vary from diamond to circular with a minimum unit weight of 0.4 lbs. and a maximum opening size of 2 inches.
   c. The fabric shall have minimum tensile yield strength (horizontal) of 2000 psi and ultimate tensile strength of 2680 psi.
2. The fencing material shall be supported by steel pipe tee posts or U posts, that are minimum 5 ½ feet in height and spaced no more than 8 feet on centers. The fabric shall be secured to post by bands or wire ties.

B. Warning Signs: A weather proof warning sign shall be prominently displayed on each tree protection fence at 20-foot intervals. The sign shall be minimum 8.5-inches X 11-inches and clearly state in half inch tall letters: “Warning – Tree Protection Zone”.

C. Silt Fence (Type S): Silt fence shall be installed 2-feet from the outside of the tree protection fence where required or directed by the Construction Manager and City Arborist.

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D. Trunk Protection: When directed by the City Arborist, the tree trunk protection shall be provided using either 2x4-inch or 2x6-inch planking or plastic strapping.

E. Tree Dressing: Dressing of any damaged areas shall be accomplished using any approved asphaltic tree wound paint immediately after damage occurs.

PART 3 – EXECUTION

3.01 EXECUTION

A. Protective Fencing:

1. All trees and shrubs in the proximity of the construction site shall be carefully checked for damage prior to initiation of any construction activity.
2. All individual trees, shrubs, and natural areas scheduled for preservation shall be protected during construction with temporary fencing as indicated on the Drawings or directed by the City Arborist.
3. Protective fences shall be installed prior to the start of any site preparation work (clearing, grubbing, or grading), and shall be maintained in functioning condition throughout all phases of the construction project.
4. Protective fence locations in close proximity to intersecting streets or drives shall adhere to the site distance requirements.

B. Protective fences shall be constructed around trees to be protected, at the locations (typically the outer limits of the Critical Root Zone) and with materials indicated on the Drawings to prevent the following:

1. Soil compaction in the root zone area resulting from vehicular traffic or storage of equipment or materials.
2. Root zone disturbances due to grade changes greater than 6-inch cut or fill or trenching not reviewed and authorized by the City Arborist or the Construction Manager.
3. Damage to exposed roots, trunks or limbs by mechanical equipment.
4. Other activities detrimental to trees such as chemical storage, concrete truck cleaning, and fires.

C. Exceptions to the installation of protective fences at the tree drip lines may be permitted in the following cases:

1. Where there is to be an approved grade change, impermeable paving surface, tree well, or other such site development, the fence shall be erected approximately 2 to 4 feet beyond the areas of disturbance.
2. When permeable paving is to be installed within a tree drip line, the fence shall be erected at the outer limits of the permeable paving area prior to any site grading so that this enclosed area is graded separately to minimize root damage.

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3. When trees are located close to a proposed building or other construction activity, the fence shall be erected to allow 6 to 10 feet work space between the fence and the structure and apply organic mulch to a depth of (4) to six (6) inches in the unprotected root zone area;
4. When there are street-side pedestrian walkways, fences shall be constructed in a manner that does not obstruct safe passage;
5. When there are severe space constraints due to tract size or other special requirements, the Contractor shall contact the Arborist or the Engineer to discuss alternatives.
6. When any of the exceptions listed above will result in a fence being located closer than five (5) feet to a tree trunk, the Contractor shall also protect the trunk with strapped-on planking to a height of 8 feet or to the limits of lower branching in addition to the reduced fencing required.

D. Repair of Damage:

1. Tree roots scarred by equipment shall be cut cleanly and covered with topsoil.
2. When tree roots are pruned, a comparable portion of selected branches shall be cut from the tree on the opposite side.
3. Limb pruning shall be made at the branch collar. All limbs greater than 1-inch in diameter shall be precut in accordance with ANSI 300 pruning methods to prevent splitting.
4. All cut limbs shall be treated with an approved tree dressing. Tools shall be disinfected with alcohol or 5 ppm chlorine solution between repairs to trees to prevent the transmission of diseases from one tree to another.
5. All trees damaged during construction shall receive an application of fertilizer within the drip line at the rate of 4 pounds per caliper inch.

E. Cutting and Filling around Trees:

1. When the depth of an excavation or embankment exceeds 6 inches of any tree with a diameter greater than 8 inches, a tree well shall be constructed to protect the tree.

F. Free Bore:

1. Where a pipe is to be installed within critical root zone (CRZ) and inside drip line area, installation of the pipe by free bore method is required to protect trees.
2. The length of free bore shall extend a minimum of five feet beyond drip line on both sides or as recommended length in the table provided on the Drawings, whichever is greater. The depth of free bore shall be such that there is a minimum of 4 feet of cover on top of pipe.
3. The location and procedures shall be approved by the Construction Manager and City Arborist.

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G. Paving Around Trees:

1. Where paving within the drip line of any tree greater than a 6 inch diameter is necessary, a permeable pavement and aeration system must be installed except for street construction.

H. Tree Removal:

1. Trees which directly interfere with construction may only be removed if approval of the Construction Project Manager and City Arborist has been obtained.
2. When a tree or shrub is scheduled for removal, it shall be cut to a depth of 12 inches below the surrounding ground line.
3. After removal, soil shall be placed in the hole to a depth matching the existing grade.
4. The tree shall be cut into sections that can be managed, removed from the site and disposed of.
5. All work shall be conducted in such a manner as to protect all facilities, improvements and vegetation in the work area. All damage resulting from tree removal or pruning shall be repaired at the Contractor's own expense.

I. Final cleanup:

1. All temporary tree and shrub preservation and protection measures shall be removed when the construction has been completed.

J. Roots larger than 2-inch diameter shall not be cut without written permission from the City Arborist.

END OF SECTION

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SECTION 32 92 19

SEEDING

PART 1 – GENERAL

1.01 SCOPE

A. The work covered by this Section consists of furnishing all labor, equipment and material required to place topsoil, seed, commercial fertilizer, agricultural limestone and mulch material, including seedbed preparation, harrowing, compacting and other placement operations on graded earthen areas as described herein and/or shown on the Drawings.

B. In general, seeding operations shall be conducted on all newly graded earthen areas not covered by structures, pavement or sidewalks; all cleared or grubbed areas which are to remain as finish grade surfaces; and on all existing turf areas which are disturbed by construction operations and which are to remain as finish grade surfaces.

C. Areas disturbed by borrow activities shall also be seeded according to these Specifications.

D. The work shall include temporary seeding operations to stabilize earthen surfaces during construction or inclement weather and to minimize stream siltation and erosion.

E. Temporary seeding shall be performed at the times and locations as directed by the Construction Manager.

F. All work shall in accordance with the Manual for Erosion and Sediment Control in Georgia, latest edition.

1.02 QUALITY ASSURANCE

A. Prior to seeding operations, the Contractor shall furnish to the Construction Manager labels or certified laboratory reports from an accredited commercial seed laboratory or a state seed laboratory showing the analysis and germination of the seed to be furnished.

B. Acceptance of the seed test reports shall not relieve the Contractor of any responsibility or liability for furnishing seed meeting the requirements of this Section.

C. Prior to topsoil operations, the Contractor shall obtain representative samples and furnish soil test certificates including textural, pH, and organic analysis from the State University Agricultural Extension Services or other certified testing laboratory.

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PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. All materials shall conform to the requirements and standards of this Section.

B. Wood-cellulose fiber mulch shall be manufactured by Weyerhaeuser Company or Conway Corporation.

2.02 TOPSOIL

A. Utilizing designated stockpiles or borrow areas on site, the Contractor shall place a minimum of 4-inches of topsoil over all graded earthen areas and over any other areas to be seeded.

1. Sources of topsoil shall be approved by the Construction Manager prior to disturbance.
2. Importing topsoil from offsite sources shall be at the discretion of the Construction Manager and shall be justification for additional compensation to the Contractor.
3. A change order properly authorized by the Owner shall be agreed upon prior to importing offsite topsoil. No additional compensation will be allowed for spreading of topsoil.

B. Topsoil shall be a friable loam containing a large amount of humus and shall be original surface soil of good, rich, uniform quality, free from any material such as hard clods, stiff clay, hardpan, partially disintegrated stone, pebbles larger than 1/2-inch in diameter, lime, cement, bricks, ashes, cinders, slag, concrete, bitumen or its residue, boards, sticks, chips or other undesirable material harmful or unnecessary to plant growth.

C. Topsoil shall be reasonably free from perennial weeds and shall not contain objectionable plant material, toxic amounts of either acid or alkaline elements or vegetable debris undesirable or harmful to plant life.

D. Topsoil shall be natural topsoil without admixture of subsoil material, and shall be classifiable as loam, silt loam, clay loam, sandy loam or a combination thereof. The pH shall range from 5.5 to 7.0.

E. Topsoil shall contain not less than five percent nor more than 20 percent, by weight, of organic matter as determined by loss on ignition of oven-dried samples to 65 degrees C.

2.03 SEED

A. Seed shall be delivered in new bags or bags that are sound and labeled in accordance with the U.S. Department of Agriculture Federal Seed Act.

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B. All seeds shall be from the last crop available at time of purchase and shall not be moldy, wet or otherwise damaged in transit or storage.

C. Seed shall bear the growers analysis testing to 98 percent for purity and 90 percent for germination. At the discretion of the Construction Manager, samples of seed may be taken for verification against the grower's analysis.

D. Species, rate of seeding, fertilization and other requirements are shown on Table 1.

2.04 FERTILIZER AND LIMING MATERIALS

A. Fertilizer and liming materials shall comply with applicable state, local and federal laws concerned with their production and use.

B. Commercial fertilizer shall be a ready mixed material equivalent to the grade or grades specified in Table 1. Container bags shall have the name and address of the manufacturer, the brand name, net weight and chemical composition.

C. Agricultural limestone shall be a pulverized dolomitic limestone having a calcium carbonate content of not less than 85 percent by weight. Agricultural limestone shall be crushed so that at least 85 percent of the material will pass a No. 10 mesh screen and 50 percent will pass a No. 40 mesh screen.

2.05 MULCH MATERIAL

A. All mulch materials shall be air dried and reasonably free of noxious weeds and weed seeds or other materials detrimental to plant growth.

B. Mulch shall be composed of wood cellulose fiber, straw or stalks, as specified herein. Mulch shall be suitable for spreading with standard mulch blowing equipment.

C. Straw mulch shall be partially decomposed stalks of wheat, rye, oats or other approved grain crops.

D. Stalks shall be the partially decomposed, shredded residue of corn, cane, sorghum or other approved standing field crops.

2.06 MULCH BINDER

A. Mulch on slopes exceeding 3 to 1 ratio shall be held in place by the use of an approved mulch binder. The mulch binder shall be non-toxic to plant life and shall be acceptable to the Construction Manager.

B. Emulsified asphalt binder shall be Grade SS-1, ASTM D 977. Cutback asphalt binder shall be Grade RC 70 or RC 250.

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2.07 LEGUMES

A. All leguminous seed shall be inoculated prior to seeding with a standard culture of nitrogen-fixing bacteria that is adapted to the particular seed involved.

2.08 WATER

A. Water shall be clean, clear water free from any objectionable or harmful chemical qualities or organisms and shall be furnished by the Contractor.

PART 3 – EXECUTION

3.01 SECURING AND PLACING TOPSOIL

A. Topsoil shall be secured from areas from which topsoil has not been previously removed, either by erosion or mechanical methods. Topsoil shall not be removed to a depth in excess of the depth approved by the Construction Manager.

B. The area or areas from which topsoil is secured shall possess such uniformity of soil depth, color, texture, drainage and other characteristics as to offer assurance that, when removed the product will be homogeneous in nature and will conform to the requirements of these Specifications.

C. All areas from which topsoil is to be secured, shall be cleaned of all sticks, boards, stones, cement, ashes, cinders, slag, concrete, bitumen or its residue and any other refuse which will hinder or prevent growth.

D. In securing topsoil from a designated pit, or elsewhere, should strata or seams of material occur which do not come under the requirements for topsoil, such material shall be removed from the topsoil or if required by the Construction Manager, the pit shall be abandoned.

E. Before placing or depositing topsoil upon any areas, all improvement within the area shall be completed, unless otherwise approved by the Construction Manager.

F. The areas in which topsoil is to be placed or incorporated shall be prepared before securing topsoil for use.

3.02 SEEDBED PREPARATION

A. Before fertilizing and seeding, the topsoil surfaces shall be trimmed and worked to true line from unsightly variation, bumps, ridges and depressions and all detrimental material, roots and stones larger than 3-inches in any dimension shall be removed from the soil.

B. No earlier than 24 hours before the seed is to be sown, the soil surface to be seeded shall be thoroughly cultivated to a depth of not less than 4-inches with a weighted disc, tiller, pulvimixer or other equipment, until the surface is smooth and in a condition acceptable to the Construction Manager.

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C. If the prepared surface becomes eroded as a result of rain or for any other reason, or becomes crusted before the seed is sown, the surface shall again be placed in a condition suitable for seeding.

D. Ground preparation operations shall be performed only when the ground is in a tillable and workable condition, as determined by the Construction Manager.

3.03 FERTILIZATION AND LIMING

A. Following seedbed preparation, fertilizer shall be applied to all areas to be seeded so as to achieve the application rates shown on Table 1.

B. Fertilizer shall be spread evenly over the seedbed and shall be lightly harrowed, raked, or otherwise incorporated into the soil for a depth of 1-inch.

C. Fertilizer need not be incorporated in the soil as specified above when mixed with seed in water and applied with power sprayer equipment. The seed shall not remain in water containing fertilizer for more than 30 minutes when a hydraulic seeder is used.

D. Agricultural limestone shall be thoroughly mixed into the soil according to the rates shown on Drawings.

1. The specified rate of application of limestone may be reduced by the Construction Manager if pH tests indicate this to be desirable.
2. It is the responsibility of the Contractor to obtain such tests and submit the results to the Construction Manager for adjustment in rates.

E. It is the responsibility of the Contractor to make one application of a maintenance fertilizer according to the recommendations listed in Table 1.

3.04 SEEDING

A. Seed of the specified group shall be sown as soon as preparation of the seedbed has been completed. No seed shall be sown during high winds, nor until the surface is suitable for working and is in a proper condition.

B. Seeding shall be performed during the dates shown in Table 1 unless otherwise approved by the Construction Manager. Seed mixtures may be sown together provided they are kept in a thoroughly mixed condition during the seeding operation.

C. Seed shall be uniformly sown by any approved mechanical method suitable for the slope and size of the areas to be seeded, preferably with a broadcast type seeder, windmill hand seeder or approved mechanical power drawn seed drills.

D. Hydro-seeding and hydro-mulching may be used on steep embankments, provided full coverage is obtained.

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E. Care shall be taken to adjust the seeder for seeding at the proper rate before seeding operations are started and to maintain their adjustment during seeding. Seed in hoppers shall be agitated to prevent segregation of the various seeds in a seeding mixture.

F. Immediately after sowing, the seeds shall be covered and compacted to a depth of 1/8 to 3/8-inch by a cultipacker or suitable roller.

G. Leguminous seeds shall be inoculated prior to seeding with an approved and compatible nitrogen-fixing inoculant in accordance with the manufacturer's mixing instructions.

3.05 MULCHING

A. All seeded areas shall be uniformly mulched in a continuous blanket immediately after seeding.

B. The mulch shall be applied evenly so as to permit sunlight to penetrate and the air to circulate and at the same time shade the ground, reduce erosion and conserve soil moisture.

1. Approximately 45 percent of the ground shall be visible through the mulch blanket.

C. One of the following mulches shall be spread evenly over the seeded areas at the following application rates:

1. Wood Cellulose Fiber: 1,400 pounds/acre.
2. Straw: 4,000 pounds/acre.
3. Stalks: 4,000 pounds/acre.
4. These rates may be adjusted at the discretion of the Construction Manager at no additional cost to the Owner, depending on the texture and condition of the mulch material and the characteristics of the seeded area.

D. Mulch on slopes greater than 3 to 1 ratio shall be held in place by the use of an approved mulch binder.

1. Binder shall be thoroughly mixed and applied with the mulch.
2. Emulsified asphalt or cutback asphalt shall be applied at the approximate rate of five gallons per 1,000 square feet as required to hold the mulch in place.

E. The Contractor shall cover structures, poles, fences and appurtenances if the mulch binder is applied in such a way that it would come in contact with or discolor the structures.

F. Mulch and binder shall be applied by suitable blowing equipment at closely controlled application rates in a manner acceptable to the Construction Manager.

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3.06 WATERING

A. The Contractor shall be responsible for maintaining the proper moisture content of the soil to insure adequate plant growth until a satisfactory stand is obtained. If necessary, watering shall be performed to maintain an adequate water content in the soil.

B. Watering shall be accomplished by hoses, tank truck or sprinklers in such a way to prevent erosion, excessive runoff and over-watered spots.

3.07 MAINTENANCE

A. Upon completion of seeding operations, the Contractor shall clear the area of all equipment, debris and excess material and the premises shall be left in a neat and orderly condition.

B. The Contractor shall maintain all seeded areas without additional payment until final acceptance of the work by the Owner, and any regrading, refertilizing, reliming, reseeding or remulching shall be done at Contractor's own expense. Seeding work shall be repeated on defective areas until a satisfactory uniform stand is accomplished.

C. Damage resulting from erosion, gulleys, washouts or other causes shall be repaired by filling with topsoil, compacting and repeating the seeding work at Contractor's expense.

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TABLE 1

SEEDING REQUIREMENTS

Sowing Season	Species	Rates per 1,000 Square Feet		
		Seed	Fertilizer	Lime
3/15 - 8/14	Common Bermuda (hulled) (Giant Bermuda Seed, including NK-37 is not acceptable) Annual Ryegrass	2lbs. 2 lbs.	35 lbs. 6-12-12	25 lbs.
	Total	4 lbs.		
8/15 - 3/14	Common Bermuda (unhulled) Annual Ryegrass	2lbs. 2 lbs.	45 lbs. 6-12-12	25 lbs.
	Total	4 lbs.		

END OF SECTION

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SECTION 32 92 23

SODDING

PART 1 – GENERAL

1.01 SCOPE

A. Sodding shall consist of establishing certain critical areas with sod as designated on the Drawings.

PART 2 – PRODUCTS

2.01 SOD

A. Sod shall consist of a live, dense, well-rooted growth of turf grass species as noted on the Drawings.

B. The sod shall be free from Johnson grass, nut grass and other obnoxious grasses and shall be of suitable character for the purpose intended and for the soil in which it is to be planted.

C. It shall be un-injured at the time of planting.

D. Sod shall be uniform in thickness, having not over 2-inches or less than 1-inch of soil.

E. Sod strips shall have a consistent width of 12 or 18-inches.

2.02 FERTILIZER

A. Fertilizer (10-10-10) used in connection with sodding, shall contain 10 percent nitrogen, 10 percent phosphoric acid and 10 percent potash. The fertilizer shall be furnished in standard containers with the name, weight and guaranteed analysis of the contents clearly marked.

B. The containers shall ensure proper protection in handling and transporting the fertilizer. All commercial fertilizer shall comply with local, state and federal fertilizer laws.

C. Ammonium nitrate shall be a standard commercial product, shall conform to the requirements for other commercial fertilizers as specified above, and shall have a minimum of 32-1/2 percent nitrogen.

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2.03 LIME

A. Agricultural limestone shall be dolomitic and contain not less than 85 percent of calcium carbonate and magnesium carbonate combined, and shall be crushed so that at least 85 percent will pass the No. 10 mesh sieve and 50 percent will pass a No. 40 mesh screen.

2.04 WEATHER LIMITATIONS

A. Sod shall be planted only when the soil is moist and favorable to growth. No planting shall be done between October 1 and April 1 unless weather and soil conditions are considered favorable and permission is granted by the Construction Manager.

PART 3 – EXECUTION

3.01 SODDING

A. The area to be sodded shall be constructed to the lines and grades indicated on the Drawings or as directed by the Construction Manager, and the surface loosened to a depth of not less than 3-inches with a rake or other device.

B. If necessary, it shall be sprinkled until saturated at least 1-inch in depth and kept moist until the sod is place thereon.

C. Immediately before placing the sod, the fertilizer shall be uniformly applied at the rate of 12 pounds of Grade 10-10-10, or equivalent, per 1,000 square feet. Agricultural limestone shall be applied at the rate of 50 pounds per 1,000 square feet.

D. The entire area shall be thoroughly covered with sod. The sod shall be placed on the prepared surface with the edges in close contact and, as far as possible, with staggered joints.

E. The sod shall be maintained moist from time of removal until reset but shall be placed as soon as practicable after removal from place where growing.

F. Immediately after placing it shall be rolled with a light-weight roller or hand tamped to the satisfaction of the Construction Manager.

G. Sod on slopes steeper than 3 to 1 shall be held in place by wooden pins about 1-inch square and 6-inches long, driven through the sod into the soil until they are flush with the top of the sod.

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3.02 WATERING AND MAINTENANCE

A. The sod shall be watered as directed by the Construction Manager for a period of two weeks after which ammonium nitrate shall be applied at the rate of three pounds per 1,000 square feet and the sod given a final watering.

B. The Contractor shall not allow any equipment or material to be placed on any planted area and shall erect suitable barricades and guards to prevent Contractor's equipment, labor or the public from traveling on or over any area planted with sod.

C. It shall be the obligation of the Contractor to secure a satisfactory growth of grass before final acceptance of the Project.

END OF SECTION

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SECTION 33 05 23

BORE AND JACK CASINGS

PART 1 – GENERAL

1.01. SUMMARY

A. The work covered by this Section includes furnishing all labor, materials and equipment required to bore and jack casings and to properly complete pipeline construction as described herein and/or shown on the Drawings.

B. Work shall include, but not limited to: bore and receiving pits excavation, sheeting, shoring, plating, and safety barriers for the protection of workers, traffic, and the general public.

1. In general, the work shall include carrier pipe, steel pipe casing, excavation, backfill, restoration of site, sheeting, grout, brickwork, earth augers, jacking machine, welder, and other accessories necessary for a complete installation as specified or directed.

C. Supply all materials and perform all work in accordance with applicable American Society for Testing and Materials (ASTM), American Water Works Association (AWWA), American National Standards Institute (ANSI) or other recognized standards.

1. Latest revisions of all standards are applicable.
2. If requested by the Construction Manager, submit evidence that manufacturer has consistently produced products of satisfactory quality and performance over a period of at least two years.

1.02. SUBMITTALS

A. Submit shop drawings, product data, and experience in accordance with the requirements of Section 01 33 23 of these Specifications.

B. Material Submittals: The Contractor shall provide shop drawings and other pertinent specifications and product data as follows:

1. Shop drawings for casing pipe showing sizes and connection details.
2. Design mixes for concrete and grout.
3. Casing Spacers.

C. Experience Submittals

1. Boring and jacking casings is deemed to be specialty contractor work.

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2. If the Contractor elects to perform the work, the Contractor shall provide evidence as required by the General Conditions.

    a. A minimum of five continuous years of experience in steel casing construction is required of the casing installer.

    b. Evidence of this experience must be provided with the shop drawings for review by the Construction Manager.

D. The Contractor shall submit for approval, all working drawings and schedules of procedure proposed to be followed in the execution of boring and jacking operations.

1. Schedules shall set forth the sequence of the various operations together with the time proposed to begin and complete the phases of the work.

1.03. STORAGE AND PROTECTION

A. All materials shall be stored and protected in accordance with the manufacturer's recommendations and as approved by the Construction Manager.

PART 2 – PRODUCTS

2.01. CASING PIPE

A. Steel Pipe:

1. Pipe shall be new and unused.
2. The casing shall be made from steel plate having a minimum yield strength of 35,000 psi.
3. The steel plate shall meet the chemical requirements of ASTM A139, Grade B.
4. The wall thickness of the steel casing pipe shall be designed to have sufficient strength to withstand superimposed loads and jacking stresses.
5. The thicknesses of casing shown in Table 1 below are minimum thicknesses.

    a. Actual thicknesses shall be determined by the casing installer, based on an evaluation of the required forces to be exerted on the casing when jacking.

    b. Any buckling of the casing due to jacking forces shall be repaired at no additional cost to the Owner.

6. The diameters of casing shown in Table 1 below and shown on the Drawings are minimum.

    a. Larger casings, with the Construction Manager's approval, may be provided at no additional cost to the Owner, for whatever reasons

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the Contractor may decide, whether they be casing size availability, line and grade tolerances, soil conditions, etc.

TABLE 1

Pipe Diameter, inches	Bell OD Inches	Casing Diameter, inches	Wall Thickness, inches	
			Under Highways	Under Railroads
6	9.19	16	0.250	0.250
8	11.33	18	0.250	0.375
10	13.56	20	0.250	0.375
12	15.74	22	0.375	0.375
14	21.43	28	0.375	0.375
16	23.70	30	0.375	0.406
18	25.82	32	0.375	0.406
20	29.88	36	0.375	0.469
24	34.34	42	0.500	0.469
30	38.30	48	0.500	0.500

2.02. CASING SPACERS

A. Shell

1. Material: Minimum 14 gauge T-304 stainless steel.
2. Surfaces to be treated to reduce chemical reactivity.

B. Risers

1. Material: Minimum 10 gauge T-304 stainless steel.
2. Height shall be such that the pipe does not float within the casing.

C. Fasteners

1. Material: T-304 Stainless steel.

D. Liner

1. Material: PVC.
2. Thickness: 0.09-inch.

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3. Hardness: 85-90 durometer.

E. Runners

1. Tensile Strength (ASTM D638): Minimum 3,500 psi.
2. Width: Minimum 2 in.
3. Runners shall be attached to stainless steel risers which shall be properly welded to the shell.
4. The height of the runners shall be such that the pipe does not float within the casing.

F. Casing spacers shall be as manufactured by:

1. Cascade Waterworks Manufacturing Company.
2. Pipeline Seal and Insulator, Inc.
3. Advance Products and Systems, Inc.
4. Approved equal.

2.03. CASING END SEALS

A. The ends of the casing shall be sealed with brick bulkheads using brick and mortar.

2.04. GROUT

A. Grout may be used for filling the void between the casing pipe and the carrier pipe.

B. Cement shall conform to ASTM C 150, Type I or Type II.

C. Grout shall have a minimum compressive strength of 100 psi attained within 24 hours.

2.05. CARRIER PIPE

A. Carrier pipes shall meet requirements as specified in Section 40 05 19 of these Specifications.

B. All pipes installed inside a casing shall be restrained joint pipe.

2.06. SURFACE SETTLEMENT MARKERS

A. Surface settlement markers within pavement areas shall be P.K. nails.

B. Surface settlement markers within non-paved areas shall be wooden hubs.

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2.07. EQUIPMENT

A. A cutting head shall be attached to a continuous auger mounted inside the casing pipe.

B. Jacks for forcing the casing pipe through the roadbed shall have a jacking head constructed in such a manner as to apply uniform pressure around the ring of the pipe.

C. The pipe to be jacked shall be set on guides, braced together to properly support the section of the pipe and direct it to the proper line and grade. In general roadbed material shall be excavated just ahead of the pipe.

D. On casing pipe for pipelines over 60 feet in length, the installation equipment shall include a steering head and a grade indicator.

E. The steering head shall be controlled manually from the bore pit.

F. The grade indicator shall consist of a water level attached to the casing which would indicate the elevation of the front end of the casing or some other means for grade indication approved by the Construction Manager.

PART 3 – EXECUTION

3.01. GENERAL

A. The Contractor shall proceed with the work in such a manner as will permit regular transaction of business by the roadway owner and/or property owner without delay or danger of life or property and shall place necessary barricades, warning signs, signal lights, and if necessary, watchmen for the protection of the public.

B. All excavated material will be placed near the top of the working pit and disposed of as required. Use of water or other fluids will be permitted only to the extent necessary for lubrication. Jetting will not be permitted.

C. Contractor shall jack a steel casing pipe as indicated on the approved design, using a special earth auger machine. The casing shall be jacked to the line and grade indicated on the approved design.

D. All jacking/augering operations must be performed in compliance with the rules and regulations of the Fulton County Department of Transportation, Georgia Department of Transportation, or other authorities having jurisdiction.

E. Any sheeting placed for the jacking/auguring operation must be completely removed by the Contractor prior to backfill.

F. When the bore pit excavation and/or jacking/auguring operation occurs along existing rights-of-way, care must be taken to ensure all work is performed within

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the right-of-way, or arrangements must be made with the owner of the affected private property to permit any encroachment on the private property.

G. All such arrangements shall be made in writing and a copy provided to the Construction Manager prior to beginning the excavation.

H. The Contractor shall be fully responsible for protecting against surface subsidence, damage or disturbance to adjacent property and facilities from his construction methods.

1. If loose material is encountered and cave-ins occur or are anticipated, all jacking/augering shall be suspended, shoring provided, and all voids filled or pressure grouted.
2. Supplemental measures and alternative methods must receive the Owner's approval before jacking/augering operation re-commences.
3. Any settlement or upheaval of the existing roadway pavements during the boring and jacking operation, and throughout the warranty period for the overall project, shall be repaired/restored by the Contractor immediately upon notification by the Owner of the pavement failure.

I. Interpretation of soil investigation reports and data, investigating the site and determination of the site soil conditions prior to bidding is the sole responsibility of the Contractor.

1. Any subsurface investigation by the Bidder or Contractor must be approved by the appropriate authority having jurisdiction over the site.
2. Rock and/or water, if encountered, shall not entitle the Contractor to additional compensation.

J. Casing construction shall be performed so as not to interfere with, interrupt or endanger roadway surface and activity thereon, and minimize subsidence of the surface, structures, and utilities above and in the vicinity of the casing.

1. Support the ground continuously in a manner that will prevent loss of ground and keep the perimeters and face of the casing, passages and shafts stable.
2. The Contractor shall be responsible for all settlement resulting from casing operations and shall repair and restore damaged property to its original or better condition at no cost to the Owner.

K. Face Protection: The face of the excavation shall be protected from the collapse of the soil into the casing.

L. Casing Design: Design of the bore pit and required bearing to resist jacking forces is the responsibility of the Contractor.

1. The excavation method selected shall be compatible with expected ground conditions.

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2. The lengths of the casing shown on the Drawings are the minimum lengths required.

3. The length of the casing may be extended for the convenience of the Contractor, at no additional cost to the Owner.

4. Due to restrictive right-of-way and construction easements, boring and jacking casing lengths less than the nominal 20 foot length may be necessary.

M. Roadway Crossings

1. The Contractor shall be held responsible and accountable for the coordinating and scheduling of all construction work within the roadway right-of-way.

2. Work along or across the roadway department rights-of-way shall be subject to inspection by such roadway department.

3. All installations shall be performed to leave free flows in drainage ditches, pipes, culverts or other surface drainage facilities of the roadway, street or its connections.

4. No excavated material or equipment shall be placed on the pavement or shoulders of the roadway without the express approval of the roadway department.

5. In no instance will the Contractor be permitted to leave equipment (trucks, backhoes, etc.) on the pavement or shoulder overnight.

6. Construction materials to be installed, which are placed on the right-of-way in advance of construction, shall be placed in such a manner as not to interfere with the safe operation of the roadway.

3.02. MAINTAINING TRAFFIC AND PUBLIC SAFETY

A. All working operations of the Contractor, his subcontractors, and/or their agents or employees must be subordinated to the free and unobstructed use of the highway, and structures encountered in the execution of jacking and boring operations.

B. The Contractor shall proceed with the work in such a manner as will permit regular transaction of business by commercial operations adjacent to the project site without delay or danger to persons or property, permit free access to and from private residences, and will allow the safe flow of traffic and pedestrians around the work site.

C. The Contractor shall employ the use of barricades, barriers, warning signs, signals, lights, and if necessary, watchmen, for the protection of the general public.

D. The Contractor, when directed by Construction Manager, shall suspend all operations relating to boring and jacking until necessary safety precautions have been met.

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3.03. GROUNDWATER CONTROL

A. The Contractor shall control the groundwater throughout the construction of the casing.

B. Methods of dewatering shall be at the option and responsibility of the Contractor. Maintain close observation to detect settlement or displacement of surface facilities due to dewatering.

1. Should settlement or displacement be detected, notify the Construction Manager immediately and take such action as necessary to maintain safe conditions and prevent damage.

C. When water is encountered, provide and maintain a dewatering system of sufficient capacity to remove water on a 24 hour basis keeping excavations free of water until the backfill operation is in progress.

1. Dewatering shall be performed in such a manner that removal of soil particles is held to a minimum.

2. Dewater into a sediment trap and comply with requirements specified in Section 31 25 00 of these Specifications.

3.04. SAFETY

A. Provide all necessary bracing, bulkheads and shields to ensure complete safety to all traffic, persons and property at all times during the work. Perform the work in such a manner as to not permanently damage the roadbed or interfere with normal traffic over it.

B. Observe all applicable requirements of the regulations of the authorities having jurisdiction over this site. Conduct the operations in such a manner that all work will be performed below the level of the roadbed.

C. Perform all activities in accordance with the Occupational Safety and Health Act of 1970 (PL-596), as amended, applicable regulations of the Federal Government, OSHA 29CFR 1926 and applicable criteria of ANSI A10.16-81, “Safety Requirements for Construction of Tunnel Shafts and Caissons”.

3.05. SURFACE SETTLEMENT MONITORING

A. Provide surface settlement markers, placed as specified and as directed by the Construction Manager.

1. The Contractor shall place settlement markers outside of pavement area, along the centerline of the casing at 20 foot intervals and offset 10 feet each way from the centerline.

2. Markers shall also be placed at each shoulder of the roadway, at each edge of pavement, at the centerline of the pavement and at 10 and 25 feet in each direction from the centerline of the casing.

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3. Tie settlement markers to bench marks and indices sufficiently removed as not to be affected by the casing operations.

B. Make observations of surface settlement markers, placed as required herein, at regular time intervals acceptable to the Construction Manager.

1. In the event settlement or heave on any marker exceeds 1-inch, the Contractor shall immediately cease work and using a method approved by the Construction Manager and the authority having jurisdiction over the project site, to take immediate action to restore surface elevations to that existing prior to start of casing operations.

C. Take readings and permanently record surface elevations prior to start of dewatering operations and/or shaft excavation.

1. The following schedule shall be used for obtaining and recording elevation readings:

a. All settlement markers, once a week;

b. All settlement markers within 50 feet of the casing heading, at the beginning of each day; more frequently at the Construction Manager's direction if settlement is identified.

c. Make all elevation measurements to the nearest 0.01 foot.

D. The Contractor shall cooperate fully with jurisdictional personnel. Any settlement shall be corrected by, and at the expense of, the Contractor.

E. Report any settlement and horizontal movement immediately to the Construction Manager and take immediate remedial action.

3.06. BORING AND JACKING

A. Shaft

1. Conduct boring and jacking operations from a shaft excavated at one end of the section to be bored.

a. Where conditions and accessibility are suitable, place the shaft on the downstream end of the bore.

2. The shaft shall be rectangular and excavated to a width and length required for ample working space.

a. If necessary, sheet and shore shaft properly on all sides. Shaft sheeting shall be timber or steel piling of ample strength to safely withstand all structural loadings of whatever nature due to site and soil conditions.

b. Keep preparations dry during all operations. Perform pumping operations as necessary.

3. The bottom of the shaft shall be firm and unyielding to form an adequate foundation upon which to work.

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a. In the event the shaft bottom is not stable, excavate to such additional depth as required and place a gravel sub-base or a concrete sub-base if directed by the Construction Manager due to soil conditions.

B. Jacking Rails and Frame

1. Whenever possible, the pipe shall be jacked from the low or downstream end. At each end of the casing pipe, the void between the carrier pipe and casing shall be sealed with brick and mortar.

2. Set jacking rails to proper line and grade within the shaft. Secure rails in place to prevent settlement or movement during operations. The jacking rails shall cradle and hold the casing pipe on true line and grade during the progress of installing the casing.

2. Place backing between the heels of jacking rails and the rear of the shaft. The backing shall be adequate to withstand all jacking forces and loads.

3. The jacking frame shall be of adequate design for the magnitude of the job. Apply thrust to the end of the pipe in such a manner to impart a uniformly balanced load to the pipe barrel without damaging the joint ends of the pipe.

C. Boring and jacking of casing pipes shall be accomplished by the dry auger boring method without jetting, sluicing or wet boring.

D. Auger the hole and jack the casing through the soil simultaneously.

E. Bored installations shall have a bored-hole diameter essentially the same as the outside diameter of the casing pipe to be installed. Any voids which develop during the installation operation shall be filled with pressure grout.

F. Execute boring ahead of the casing pipe with extreme care, commensurate with the rate of casing pipe penetration.

1. Boring may proceed slightly in advance of the penetrating pipe and shall be made in such a manner to prevent any voids in the earth around the outside perimeter of the pipe.

2. Make all investigations and determine if the soil conditions are such as to require the use of a shield.

G. As the casing is installed, check the horizontal and vertical alignment frequently. Make corrections prior to continuing operation.

H. Any casing pipe damaged in jacking operations shall be repaired, if approved by the Construction Manager, or removed and replaced at Contractor's own expense.

I. Lengths of casing pipe, as long as practical, shall be used except as restricted otherwise.

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1. Joints between casing pipe sections shall be butt joints with complete joint penetration, single groove welds, for the entire joint circumference, in accordance with AWS recommended procedures.
2. Prior to welding the joints, the Contractor shall ensure that both ends of the casing sections being welded are square.

J. The Contractor shall prepare a contingency plan which will allow the use of a casing lubricant, such as bentonite, in the event excessive frictional forces jeopardize the successful completion of the casing installation.

K. Once the jacking procedure has begun, it shall be continued without stopping until completed, subject to weather and conditions beyond the control of the Contractor.

L. Care shall be taken to ensure that casing pipe installed by boring and jacking method will be at the proper alignment and grade.

M. The Contractor shall maintain and operate pumps and other necessary drainage system equipment to keep work dewatered at all times.

N. Adequate sheeting, shoring and bracing for embankments, operating pits and other appurtenances shall be placed and maintained to ensure that work proceeds safely and expeditiously.

1. Upon completion of the required work, the sheeting, shoring and bracing shall be left in place, cut off or removed, as designated by the Construction Manager.

O. Trench excavation, all classes and type of excavation, the removal of rock, muck, debris, the excavation of all working pits and backfill requirements of Section 31 23 00 are included under this Section.

P. All surplus material shall be removed from the right-of-way and the excavation finished flush with the surrounding ground.

Q. Grout backfill shall be used for unused holes or abandoned pipes.

R. Any replacement of carrier pipe in an existing casing shall be considered a new installation, subject to the applicable requirements of these Specifications.

3.07. FREE BORING

A. Where permitted and directed by the Construction Manager, the Contractor shall use a special earth auger machine to install the pipe by the free bore method.

1. The allowed free bore method will be dry auger boring, without jetting, sluicing, or wet boring.

B. The diameter of the free bore shall not exceed the pipe bell outside diameter or the pipe barrel outside diameter plus 1 inch, whichever is greater.

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1. If the annular space between the earthen hole and the carrier pipe exceeds six inches, the Contractor shall fill such space either by pressure grouting or pumping in a flowable fill to eliminate possible settlement.

C. The Contractor shall be responsible for any settlement of the surface (roadway, driveway, or otherwise) caused by the free bore construction activities.

D. Where ordered to use the free bore method to install a segment of pipe, the Contractor may elect to install the pipe by the conventional bore and jack casing method instead.

E. If the Contractor elects to free bore and an acceptable installation does not result for any reason, the Contractor shall install a casing pipe by the bore and jack method at no additional cost to the Owner.

F. At no time shall free bores in excess of forty (40) feet and for pipe larger than 12-inch be permitted.

G. The Contractor may elect to free bore other portions of the project in lieu of open cut installation. However, no additional payment for free bore will be made if the Contractor exercises this option.

3.08. DIRECTIONAL DRILLING

A. Where ordered by the Construction Manager, the Contractor shall install the pipe by directional drilling.

B. The directional drilling method consists of drilling a small diameter pilot hole within the designated tolerances followed by enlargement of the hole to accommodate the ductile iron carrier pipe to be installed.

C. The Contractor shall provide all materials and equipment required, including but not limited to drilling equipment, water pumps, hoses, fittings, storage tanks, filters, hay bales, silt fences, drilling fluids including containment, collection, cleaning and disposal of, fuel and lubricants, bentonite and related mixing equipment, hydrostatic testing equipment and materials, side booms, cranes, backhoes, trucks, and other equipment or materials necessary to load and unload pipe, and to support and smoothly transition the pipe while being pulled into the reamed hole.

D. The Contractor shall submit to the Construction Manager a detailed installation plan including operational sequences, details of the guidance or grade and alignment control system, and a plan and profile of the bore path.

1. The bore path shall ensure that the pipe joints do not deflect more than 50 percent of the manufacturer’s recommended maximum deflection for the ductile iron pipe.

E. The drilling operation shall be conducted in a manner to eliminate the discharge of water, drilling mud, and cuttings to areas not involved in the construction process.

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1. The Contractor shall immediately contain and clean-up any inadvertent returns.
2. The Contractor shall also provide equipment and procedures to maximize the recirculation and reuse of drilling mud to minimize waste disposal.
3. Proper disposal of water, drilling fluids, drilling mud, cuttings and muck is the Contractor's responsibility.

F. Ductile iron pipe and fittings, inspection and testing shall be as specified in Section 40 05 19.

3.09. VENTILATION AND AIR QUALITY

A. Provide, operate and maintain for the duration of casing project a ventilation system to meet safety and OSHA requirements.

3.10. ROCK EXCAVATION

A. In the event that rock is encountered during the installation of the casing pipe which, in the opinion of the Construction Manager, cannot be removed through the casing, the Construction Manager may authorize the Contractor to complete the crossing by a method established in a change order.

B. At the Contractor's option, the Contractor may continue to install the casing and remove the rock through the casing at no additional cost to the Owner.

3.11. INSTALLATION OF PIPE

A. After construction of the casing is complete and has been accepted by the Construction Manager, install the carrier pipe in accordance with the Drawings and Specifications.

B. Care shall be exercised at all times to maintain tight, full seated joints in the carrier pipe. The carrier pipe shall be fully supported by pre-fabricated casing spacers when feasible.

C. Check the alignment and grade of the casing and prepare a plan to set the carrier pipe at proper alignment, grade and elevation, without any sags or high spots.

D. The carrier pipe shall be held in the casing pipe by one of the following methods:

1. The carrier pipe shall be held in the casing pipe by the use of hardwood blocks spaced radially around the pipe and secured together so that they remain firmly in place.
    a. The spacing of such blocks longitudinally in the casing pipe shall not be greater than 10 feet or as recommended by the pipe manufacturer.

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2. The pipe shall be supported within the casing by use of casing spacers sized to limit radial movement to a maximum of 1-inch.

    a. Provide a minimum of two casing spacers per nominal length of pipe. Casing spacers shall be attached to the pipe at maximum 9 to 10 foot intervals or as recommended by the pipe manufacturer.

E. Fill the void between the carrier pipe and casing pipe with grout. Measures shall be taken by the Contractor to prevent floatation and other movement of the pipe as the grout is filling the void.

F. At each end of the casing pipe, the void between the carrier pipe and casing shall be sealed with 4-inch brick and mortar.

3.12. SHEETING REMOVAL

A. Remove sheeting used for shoring from the shaft and off the job site. The removal of sheeting, shoring and bracing shall be done in such a manner as not to endanger or damage either new or existing structures, private or public properties and also to avoid cave-ins or sliding in the banks.

END OF SECTION

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SECTION 40 05 01

WATER MAINS AND ACCESSORIES

PART 1 – GENERAL

1.01 SCOPE

A. This Section describes products to be incorporated into the water mains and requirements for the installation and use of these items. Furnish all products and perform all labor necessary to fulfill the requirements of these Specifications.

B. Supply all products and perform all work in accordance with applicable American Society for Testing and Material (ASTM), American Water Works Association (AWWA), American National Standards Institute (ANSI), or other recognized standards. Latest revisions of all standards are applicable.

1.02 QUALIFICATIONS

A. If requested by the Construction Manager, submit evidence that manufacturers have consistently produced products of satisfactory quality and performance for a period of at least two years.

1.03 SUBMITTALS

A. Complete shop drawings, product data and engineering data for all products shall be submitted to the Construction Manager in accordance with the requirements of Section 01 33 23 of these Specifications.

B. When requested, the Contractor shall furnish the Construction Manager with lists, in duplicate, of all pieces of pipe and fittings received on the project, including copies of shipping documents from the manufacturer and/or supplier.

C. Said lists shall indicate the serial or mark number, weight, class, length, size, and description of each typical piece received.

D. The Contractor shall submit, in conjunction with the construction progress schedule, a schedule of deliveries for materials. The Contractor shall coordinate material shipments with the Owner and the material suppliers.

1.04 TRANSPORTATION AND HANDLING

A. The Contractor shall maintain communication with the material suppliers and the Owner as necessary, to keep informed as to scheduled shipment, and upon delivery of materials, the Contractor shall proceed without delay to unload such materials.

B. Unloading: Furnish equipment and facilities for unloading, handling, distributing and storing pipe, fittings, valves and accessories.

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1. Make equipment available at all times for use in unloading.
2. Take great care to prevent the coating and lining from being damaged.
3. Unload ductile iron pipe, fittings, and accessories from the transport vehicle with hoists or by skidding.
4. Do not skid or roll pipe handled on skidways against pipe already on the ground.
5. Do not drop or dump materials. Any materials dropped or dumped will be subject to rejection without additional justification.
6. Should any material be accidentally dropped, it shall be immediately set aside, and thoroughly inspected by the Construction Manager before any decision is made regarding its acceptability.
7. If there is any question regarding acceptability of said suspect materials by the Construction Manager, the Contractor shall remove and replace the questionable materials.

. C. Handling: Handle pipe, fittings, valves and accessories carefully to prevent shock or damage.

1. Handle pipe by rolling on skids, forklift, or front end loader.
2. Do not use material damaged in handling.
3. Slings, hooks or pipe tongs shall be padded and used in such a manner as to prevent damage to the exterior coatings or internal lining of the pipe.

1.05 STORAGE AND PROTECTION

A. Store all pipe which cannot be distributed along the route. Make arrangements for the use of suitable storage areas. Inform Owner and construction Manager of the location, street address, of the storage area.

B. Stored materials shall be kept safe from damage.

1. The interior of all pipe, fittings and other appurtenances shall be kept free from dirt or foreign matter at all times.
2. Valves and hydrants shall be drained and stored in a manner that will protect them from damage by freezing.

C. Pipe shall not be stacked higher than the limits recommended by the manufacturer.

1. The bottom tier shall be kept off the ground on timbers, rails or concrete. Pipe in tiers shall be alternated: bell, plain end; bell, plain end.
2. At least two rows of timbers shall be placed between tiers and chocks, affixed to each other in order to prevent movement. The timbers shall be large enough to prevent contact between the pipe in adjacent tiers.

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D. Stored mechanical and push-on joint gaskets shall be placed in a cool location out of direct sunlight. Gaskets shall not come in contact with petroleum products. Gaskets shall be used on a first-in, first-out basis.

E. Mechanical-joint bolts shall be handled and stored in such a manner that will ensure proper use with respect to types and sizes.

F. All tools, materials, machinery, and equipment required for the Work may be stored in a compact, neat, stock-piled manner adjacent to the work site, in a suitable location, and in such a manner as to cause the least inconvenience to the affected property owners, ensure traffic safety, and so as not to endanger the general public in any way.

G. All active, existing fire hydrants must be kept unobstructed and accessible at all times.

H. All water and gas valves, and underground power and telephone manholes must be left uncovered by such storing of materials.

1.06 QUALITY ASSURANCE

A. The manufacturer shall provide written certification to the Construction Manager that all products furnished comply with all applicable requirements of these Specifications.

1. All materials which fail to conform to these Specifications shall be rejected.

B. If ordered by the Construction Manager, each pipe manufacturer shall furnish the services of a competent factory representative to supervise and/or inspect the installation of pipe.

1. This service will be furnished for a minimum of five days during initial pipe installation.

C. After delivery to the site, any materials which have been damaged in transit or are unsuitable for use in the Work shall be rejected and removed from the site.

1.07 MATERIAL INSPECTION

A. Upon receipt of materials from the manufacturer, the Contractor shall make an inspection of such materials; check and certify the bill of lading, noting any discrepancies; obtain a proper memorandum signed by the agent of the carrier for any shortage in the shipment, or for any damaged materials received.

1. All bills of lading and any memorandum for shortage or damage of material in the shipment shall be promptly submitted to the Construction Manager.

B. All ductile iron pipe and fittings will be subject to the inspection and approval by the Construction Manager after delivery of the material to the site.

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1. Broken, cracked, misshapen, imperfectly coated, unsatisfactory, or otherwise damaged ductile iron pipe or fittings are not permitted to be used in the Work.

C. Such inspection by the Construction Manager does not relieve the Contractor of full responsibility for the materials installed.

D. FAILURE BY CONSTRUCTION MANAGER TO REJECT UNACCEPTABLE MATERIALS SHALL NOT CONSTITUTE AN ACCEPTANCE OF SAID MATERIALS.

E. The Contractor shall be responsible for distribution of all materials as required to complete the Work. Materials delivered to the Contractor shall be in the custody of the Contractor from the time of receipt by the Contractor of such materials from the carrier until final acceptance of the completed Work.

F. The Contractor shall be responsible for any loss or damage to materials.

PART 2 – PRODUCTS

2.01 DUCTILE IRON PIPE (DIP)

A. See Specification Section 40 05 19, Ductile Iron Pipe.

2.02 COPPER PIPE

A. Pipe shall be rolled copper tubing, ASTM B 88, Type K. Fittings shall be sweat type wrought copper, ANSI B16.22. All copper pipe shall be made in the U.S.A.

B. Where required, sweat to screw adapters shall be cast bronze ANSI B16.18, wrought solder joint ANSI B16.22. Unions shall be cast bronze or bronze with solder connections. Joints shall be made with 95/5 solder for Type K pipe.

2.03 STAINLESS STEEL PIPES

A. Stainless steel pipe and fittings shall be used for the air release lines.

B. Pipe shall be 304 ASTM A312 stainless steel and ANSI B36 Schedule 40.

C. Fittings shall be 304 ASTM A312 stainless steel with female NPT ends.

D. Fittings shall be Class 150 with rated working pressure of 300 psi.

E. Flanges shall be ANSI B16.5 Class 150.

F. Bolts shall be stainless steel machine bolts conforming to ASTM A 193, Grade B8M. Nuts shall be heavy hex, stainless steel conforming to ASTM A 194, Grad 8Mc.

G. Gaskets shall be full face type made of 1/8-inch thick, cloth reinforced rubber.

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2.04 VALVES

A. Gate Valves (GV): 12-Inches and smaller in Diameter

1. Gate valves shall be resilient wedge type conforming to the requirements of AWWA C509 or AWWA C515.
2. Valves shall have a minimum rated working pressure of 250 psi and be able to withstand a 300 psi pressure test without being damaged.
3. Valves less than 3-inches in diameter shall have threaded ends. Larger buried valves shall be mechanical joint unless shown otherwise on the Drawings.
4. Valves shall be provided with two O-ring stem seals with one O-ring located above and one O-ring below the stem collar.
    a. The area between the O-rings shall be filled with lubricant to provide lubrication to the thrust collar bearing surfaces each time the valve is operated.
    b. At least one anti-friction washer shall be utilized to further minimize operating torque.
    c. All seals between valve parts, such as body and bonnet, bonnet and bonnet cover, shall be flat gaskets or O-rings.
5. The valve gate shall be made of cast or ductile iron having a vulcanized, synthetic rubber coating, or a seat ring attached to the disc with retaining screws.
    a. Sliding of the rubber on the seating surfaces to compress the rubber will not be allowed.
    b. The design shall be such that compression-set of the rubber shall not affect the ability of the valve to seal when pressure is applied to either side of the gate.
    c. The sealing mechanism shall provide zero leakage at the water working pressure when installed with the line flow in either direction.
6. All internal ferrous surfaces shall be coated with epoxy to a minimum thickness of 4 mils. The epoxy shall be non-toxic, impart no taste to the water and shall conform to AWWA C550.
7. Valves shall be non-rising stem type with a 2-inch square wrench nut, except in meter vaults where hand wheels shall be installed, and shall open left.
    a. The manufacturer shall provide an affidavit of compliance with the applicable AWWA standards.
8. Gate valves shall be manufactured by American Flow Control, Mueller or M & H Valve in the U.S.A.

B. Butterfly Valves (BV) 16-Inches to 24-Inches in Diameter

1. See Specification Section 40 05 64, Butterfly Valves.

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C. Ball Valves

1. Ball valves shall be utilized for isolation valves on the air release lines as shown on plans.
2. Ball valves shall be of the two-piece body construction, full port with blowout-proof stem and FNPT end connections.
3. Valves shall be rated for 1000 psi non-shock cold working pressure.
4. Valves body and trims shall be of stainless steel as follows:
   a. Handle Nut: Stainless Steel ASTM A 276 Type 304.
   b. Stem: Stainless Steel ASTM A 276 Type 316.
   c. Spring Washer: Stainless Steel 304.
   d. Threaded Pack Gland: Stainless Steel ASTM A 276 Type 316.
   e. Thrust Washer: Carbon Filled PTFE.
   f. Gasket: PTFE.
   g. Body End Piece: Stainless Steel ASTM A 351 Type CF8M.
   h. Ball (Vented): Stainless Steel ASTM A 276 Type 316 or ASTM A 351 Type CF8M.
   i. Seat (2): Reinforced PTFE.
   j. Body: Stainless Steel ASTM A 351 Type CF8M.
   k. Stem Packing (2): Carbon Filled PTFE.
   l. Locking Handle: Stainless Steel ASTM A 240 Type 304.
5. Stainless steel ball valves shall be Model T-585-S6-R-66-LL as manufactures by NIBCO or approved equal.

2.05 FIRE HYDRANTS (FH)

A. Fire hydrants shall be manufactured in full compliance with the AWWA C502, Standard for Dry- Barrel Fire Hydrants and as herein amended.

1. All fire hydrants shall be the compression type, closing with line pressure.
2. The valve opening shall not be less than 5-1/4-inches.

B. Type

1. Three-way, post type, dry top traffic model with compression main valve opening against and closing in the direction of normal water flow.

C. Size

1. Internal main valve diameter shall be a minimum of 5 1/4".

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D, Identification

1. Each hydrant shall have the name of the manufacturer, the year when made, and the nominal valve size in legible, raised letters cast on the barrel or bonnet.

E. Dry Top Bonnet

1. Each hydrant shall be constructed with a moisture-proof lubricant chamber which encloses the operating threads and which provides automatic lubrication of the threads and bearing surfaces each time the hydrant is operated.
2. This assembly shall be comprised of a top “O” ring serving as a dirt and moisture barrier and a lower “O” ring which will serve as a pressure seal.

F. Operating Nut

1. The operating nut shall be of regular pentagon shape measuring 1 ½” point to flat (National Standard), and shall open by turning counter-clockwise (left).
2. Nozzle caps shall have the same cross-section as the operating nut, and shall come with heavy duty, non-kinking chains.
3. Chains shall be securely affixed to the hydrant barrel and permit free turning of the nozzle caps.

G. Traffic Design

1. The hydrant barrel sections shall be connected at the ground line in a manner that will prevent damage to the hydrant when struck by a vehicle.
    a. In the event of a traffic accident, the hydrant barrel shall break away from the standpipe at a point above grade and in a manner which will prevent damage to the barrel and stem, preclude opening of the valve, and permit rapid and inexpensive restoration without digging or cutting off the water.
    b. The main valve rod sections shall be connected at the ground line by a frangible coupling.
    c. The standpipe and ground line safety construction shall be such that the hydrant nozzles can be rotated to any desired position without disassembling or removing the top operating components and top section of the hydrant standpipe.

H. Main Valve

1. The main valve shall be made of synthetic rubber and formed to fit the valve seat accurately.

I. Hydrants shall be fully bronze mounted with all working parts of bronze. Valve seat ring shall be bronze and shall screw into a bronze retainer.

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1. Main Valve Seat – The main valve seat shall be of bronze and its assembly into the hydrant shall involve bronze to bronze thread engagement.
    a. Two “C” ring seals shall be provided as a positive pressure seal between the bronze set ring and the shoe.
    b. The valve assembly pressure seals shall be obtained without the employment of torque compressed gaskets.
2. The hydrants shall be designed to allow the removal of all operating parts through the hydrant barrel by means of a single disassembly wrench without excavating.

J. Hydrant shall be a non-freezing design and be provided with a simple, positive, and automatic drain which shall be fully closed whenever the main valve is opened.

K. Drain

1. The drain mechanism shall be designed to operate automatically with the operation of the main valve and shall allow momentary flushing of the drain ports.
2. A minimum of two internal and two external bronze lined drain ports shall be required in the main valve assembly to drain the hydrant barrel.

L. Inlet connection

1. The cast iron inlet elbow shall have a 6” mechanical joint connection complete with accessories.

M. Extensions

1. Barrel extension sections shall be available in 6” increments complete with rod, extension coupling, and the necessary flanges, gaskets, and bolts so that extending the hydrant can be accomplished without excavating.

N. Nozzles

1. No lead will be allowed in nozzle construction as a component of the metallic content.

O. Testing

1. All fire hydrants shall be tested in strict accordance with AWWA C502, latest edition, at the point of manufacture. Certificates of Compliance shall be provided to the Construction Manager upon request.

P. The means for attaching the barrel to the standpipe shall permit facing the hydrant a minimum of eight different directions.

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Q. All working parts, including the seat ring shall be removable through the top without disturbing the barrel of the hydrant.

R. The operating nut shall match those on the existing hydrants and shall open left. The operating threads shall be totally enclosed in an operating chamber, separated from the hydrant barrel by a rubber O-ring stem seal and lubricated by a grease or an oil reservoir.

S. Hose and pumper connections shall be breech-locked, pinned, or threaded and pinned to seal them into the hydrant barrel.

1. Each hydrant shall have two 2-1/2-inch hose connections and one 4-1/2-inch pumper connection, all with National Standard threads and each equipped with cap and non-kinking chain.

T Hydrants shall be furnished with a mechanical joint connection to the spigot of the 6-inch hydrant lead.

U. Minimum depth of bury shall be 4.5 feet. Provide extension section where necessary for proper vertical installation and in accordance with manufacturer's recommendations.

V. Hydrants shall be traffic model as manufactured by the following manufacturers in the U.S.A.

1. American Flow Control B-84-B
2. Mueller Super Centurion
3. M & H Valve 929
4. US Pipe Metropolitan 250 Model M94

W. Fire hydrants shall be furnished with locking security caps when required.

1. Locking caps shall be Captivater as provided by American Flow Control.
2. Caps shall be provided on each hose and pumper nozzle and incorporate a "free spinning" design that provides security against unauthorized intrusion into the fire hydrant, or water theft from the hydrant.
3. When secured, the cap spins freely until unlocked and removed through the use of a Captivater wrench.
4. When unlocked, the cap shall open in a manner similar to a standard cap.
5. Caps shall be similar in appearance to standard caps and shall use a center placed locking mechanism.
6. The locking mechanism shall be hardened stainless steel and shall be protected from the elements.
7. Caps using magnetic locks are unacceptable.
8. All Captivater wrenches shall have unique serial numbers. Wrenches shall ship direct to the Owner.

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X. Painting, Coating and Lubricating

1. All iron parts of the hydrant inside and outside shall be thoroughly cleaned and all surfaces below the ground line shall be factory-coated or painted with an asphalt or bituminous base paint or coating.
2. All outside surfaces of the barrel above grade shall be painted silver with Sherwin Williams KEM 400. The bonnet of hydrants installed on a 12 inch water main shall be painted Yellow; the bonnet of hydrants installed on water mains larger than 12 inch water mains shall be painted Green.
3. All bronze, threaded and contact moving parts shall be lubricated during shop assembly, and protected by a coating of rust proof compound to prevent damage in shipment and storage.

2.06 VALVE BOXES (VB) AND EXTENSION STEMS

A. All buried valves shall be equipped with valve boxes and covers.

1. The valve boxes shall be cast iron two-piece screw type with drop covers. Valve boxes shall have a 5.25-inch inside diameter.
2. Valve box covers shall weigh a minimum of 13 pounds.
3. The valve boxes shall be adjustable to 6-inches up or down from the nominal required cover over the pipe.
4. Valve boxes shall be of sufficient length that bottom flange of the lower belled portion of the box is below the valve operating nut.
5. Ductile or cast iron extensions shall be provided as necessary.
6. Covers shall have “WATER VALVE” or “WATER” cast into them.
7. Valve boxes shall be manufactured in the United States.

B. All valve boxes shall have a concrete collar, minimum 9-inches thick.

1. The collar shall be square or round and sized 24-inches square or 24-inches in diameter.
2. Precast collars may be used, provided that they are grouted in place to the valve box.
3. The box is to be flush with finished grade.
4. The edge of the valve box is to be ½-inch above the edge of the concrete collar.

C. Where the depth of cover is more than 5-feet, the Contractor shall provide suitable, permanently installed valve stem extensions and guides which have been approved by the Owner prior to fabrication and placement.

1. All valves shall be furnished with Type 316 stainless steel extension stems, as necessary, to bring the operating nut to within 24-inches of the top of the valve box.

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2. Connection to the valve shall be with a wrench nut coupling and a set screw to secure the coupling to the valve's operating nut.

3. The coupling and square wrench nut shall be welded or pinned to the extension stem and shall have a centering ring.

4. Extension stems shall be minimum 1-inch diameter.

5. Extension stems shall be equal to Trumbull Industries, M & H Valve, or Penn-Troy Manufacturing/Troy Valve.

2.07 VALVE MARKERS (VM)

A. The Contractor shall provide a concrete valve marker as detailed on the Drawings for each valve installed outside paved areas.

1. The markers shall be Class A concrete of DOT specifications, 4" square by 5-feet long, and shall be of the same construction as that of highway right-of-way markers.

2. The words "WATER VALVE" shall be cast vertically into the marker beginning 2" from the top of the marker.

2. There shall also be a 1-1/4" brass plug cast into the marker 1" below the letter "E" of the word "VALVE", which shall be stamped in the field by the Contractor, after installation, with the distance, in feet, from the valve marker to the valve box.

4. The markers shall be installed as close to the right-of-way line opposite the valve as is possible, with the brass plug facing the valve.

5. The marker shall be located so as to avoid damage by traffic.

6. The top of the marker shall generally be set 24 inches above finished grade. The marker may be somewhat lower in areas where it may be considered obtrusive, such as lawns, however, at no time shall the marker be installed at less than 18" above finished grade.

7. Valve markers shall be in accordance with County standards.

8. In addition to concrete valve marker where street curbs are installed a saw cut ½" deep "V" notch on top of curb adjacent to water valve location is required.

2.08 TAPPING SLEEVES AND VALVES (TS&V)

A. The Contractor shall furnish and install tapping sleeves and valves suitable for connection to the existing/new water mains at locations indicated on the Drawing, or as directed.

1. The Contractor shall provide the tapping machine and competent supervision for the making of taps.

2. It is the Contractor's responsibility to verify the type, size, O.D. and class of the existing pipe before ordering the tapping sleeve and valve.

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B. Tapping sleeves shall be cast or ductile iron of the split-sleeve, mechanical joint type and shall be capable of withstanding a working pressure of 250 psi.

C. Tapping valves shall conform to the requirements for gate valves herein before specified, except for any modifications necessary to permit the use of full size shell cutters.

1. Tapping valves shall be gate valves furnished with flanged connection to the tapping sleeve and mechanical joint connection to the branch pipe.
2. Resilient seated tapping valves 16” and larger may be supplied without the bypass.
3. When using resilient seated gate valves for making taps 16” and larger, it is the Contractor’s responsibility to determine the finished depth of cover that shall remain over the operating nut of the valve after installation.
4. If finished depth of cover in a standard vertical configuration is less than 2 feet, then the tapping valve shall be supplied in a horizontal configuration with differential operator.

D. The tapping sleeve shall be supplied by the valve manufacturer.

E. Tapping sleeves shall be equal to American Flow Control, Mueller H-615 or M & H Valve and manufactured in the U.S.A.

2.09 TAPPING SADDLES

A. Tapping saddles are not allowed except for service connections.

B. See Section 40 05 06, Water Service Connections.

2.10 CORPORATION COCKS AND CURB STOPS

A. Corporation cocks and curb stops shall be ball type, shall be made of bronze conforming to ASTM B 61 or B 62, and shall be suitable for the working pressure of the system. Ends shall be suitable for compression type joint.

B. Threaded ends for inlet and outlet of corporation cocks shall conform to AWWA C800. Coupling nut for connection to flared copper tubing shall conform to ANSI B16.26.

C. Corporation cocks shall be manufactured by Ford (FB1000-4-G) or equivalent.

D. Curb stops shall be manufactured by Ford (BA21-444W-Full Port) or equivalent in the U.S.A.

2.11 AIR VALVES FOR WATER SERVICE

A. Air release/vacuum relief valve (ARV) shall have compact single chamber tubular body consisting of a barrel and flanged ends secured by tie rods and fasteners sized to provide a passageway with a cross sectional area which exceeds that of the valve’s inlet and outlet connections for the unobstructed flow of air.

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B. ARV shall be certified to twice the valve's rated pressure.

C. ARV body shall be constructed with 6x safety factor.

D. ARV shall be certified per ANSI/NSF 61 and ANSI/NSF 372.

E. The ARV shall be designed for the following conditions:

1. Controlled air evacuation during filling of the water main.
2. High volume vacuum relief to prevent vacuum from developing during emptying of the water main from any causes.
3. Discharge of air from the water main while under pressure.
4. Surge abatement for high velocity start up conditions, column separation and fluid oscillation.
5. Operating pressure shall be 3 to 363 psi.

F. Connections

1. Upper connection shall be fitted with 02WTR-BS perforated screen guard and bias mechanism and 2-inch female NPT connection.
2. Lower connection shall be furnished with 2-inch streamlined toroidal base flange and 2-inch ANSI B16.5 Class 150 studded flange.
3. Breed port shall be 1/2-inch female NPT fitted with 1/2-inch NPT plug.

G. Anti Surge

1. 4 each at 4.5 mm. protected with 316 SS wear-resistant inserts.

H. Materials of construction

1. Except as specified below, all ARV parts shall be of 304L stainless steel.
2. Air release nozzle and protected orifice insert shall be 316L stainless steel.
3. Control float, nozzle float, anti-surge and screen lid shall be UHMW-PE.
4. Screen lid standoff shall be nylon.
5. Nozzle button shall be EDPM.
6. Fiber gaskets shall be Klingersil 4430.

I. Each ARV shall be provide with a 1/2-inch NPT test/bleed cock.

J. Each ARV shall be leak tested to minimum of 150% rated pressure.

K. Each ARV shall be provided with a baffle to minimize whistling noise.

L. An isolation valve between the water main and the ARV shall be installed in accordance with the Drawings.

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M. ARV and accessories shall be equal to Vent-Tech Water Combination Air Release Valve Model 02WTR25SBS and manufactured in the U.S.A.

2.12 PRECAST CONCRETE PRODUCTS

A. Precast Concrete Sections

1. Precast concrete sections shall meet the requirements of ASTM C 478 for round shaped and ASTM C 913 for rectangular shaped precast concrete products.
2. The minimum compressive strength of the concrete in precast sections shall be 4,000 psi. The minimum wall thickness shall be one-twelfth of the inside diameter of the base, riser or the largest cone diameter.
3. See Section 03 04 00, Precast Concrete for additional requirements.
4. Transition slabs which convert bases larger than four feet in diameter to four foot diameter risers shall be designed by the precast concrete manufacturer to carry the live and dead loads exerted on the slab.
5. Seal joints between precast sections by means of rubber O-ring gaskets or flexible butyl rubber sealant.
    a. Butyl rubber sealants shall meet the requirements of AASHTO M-198.
    b. Sealant shall be pre-formed type with a minimum nominal diameter of 1-inch.
    c. Butyl rubber sealant shall be equal to Kent Seal No. 2 or Concrete Sealants CS 202.

B. Brick and Mortar:

1. Brick shall be whole and hard burned, conforming to ASTM C 32, Grade MS. Mortar shall be made of one part Portland cement and two parts clean sharp sand.
2. Cement shall be Type 1 and shall conform to ASTM C 150. Sand shall meet ASTM C 144.

C. Iron Castings

1. Cast iron manhole frames, covers and steps shall meet the requirements of ASTM A 48 for Class 30 gray iron and all applicable local standards. All castings shall be tough, close grained, smooth and free from blow holes, blisters, shrinkage, strains, cracks, cold shots and other imperfections.
2. No casting will be accepted which weighs less than 95 percent of the design weight. Shop drawings must indicate the design weight and provide sufficient dimensions to permit checking. All castings shall be thoroughly cleaned in the shop and given two coats of approved bituminous paint before rusting begins.
3. Manhole frames and covers shall be equal to the following:

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Type	Design Weight	Manufacturer's Reference	
Bolt Down	400#	Neenah A-1916-F1	Vulcan V-2358

4. All frames and covers shall have machined horizontal bearing surfaces.

5. Bolt-down covers shall be equipped with four ½-inch stainless steel bolts and a 1/8-inch red rubber or rubber O-ring gasket. Covers shall be rotatable and interchangeable.

    a. Bolt holes shall be bored through so that debris entering the bolt hole will fall into the manhole.

    b. Bolt holes shall have the full 360 degree circle within the cover's radius when bored through the cover.

D. Plastic Steps: Manhole steps of polypropylene, molded around a steel rod, equal to products of M.A. Industries may be used.

E. Floor Door

1. Door shall be single or double leaf type as shown on the Drawings.

2. See Specification Section 08 31 00, Access Door and Frame.

3. The floor door shall be manufactured by The Bilco Company or Thompson Fabricating Company in the U.S.A.

F. Vents

1. Where vent pipes are shown on the Drawings, vents shall be of one-piece, welded steel construction.

2. Vent pipes shall equal air valve size, but no less than 4-inches. The vent pipe shall be grouted into a precast hole in the vault. The discharge of the vent pipe shall be provided with a 3/16-inch PVC coated mesh screen.

3. Where vent pipes are not shown on the Drawings, the frame and cover or floor door shall be provided with 1-inch holes to provide equivalent opening as in air valve, but not less than two. The quantity for each valve size is as follows:

    a. 2-inch - 4

    b. 3-inch - 9

    c. 4-inch -16

    d. 6-inch - 36

    e. 8-inch - 64

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G. Precast vaults and manholes located in areas subject to vehicular traffic shall be designed for H-20 wheel load on top slab, hatches, and surcharge loading at grade around all sides of the vault.

H. The empty structure shall be designed with adequate safety factor of 1.25 or greater to resist buoyancy force. Buoyancy forces shall be based on groundwater depth 1' below the ground surface.

I. Contractor shall submit design calculations, sealed by a Professional Engineer licensed in State of Georgia, indicating adequate strength to resist the vertical and lateral loadings including "H-20" wheel loadings, and buoyancy forces.

J. Vaults and manholes shall be keyed and gasketed appropriately to provide a water tight seal.

K. Apply bituminous damp-proofing on precast structure exterior.

2.13 RETAINER GLANDS

A. All restrained ductile iron pipe and fittings shall be manufactured restrained joint as specified in Section 40 05 19. Retainer glands shall only be installed on MJ valves and where allowed by Construction Manager.

B. Retainer glands shall be provided at all mechanical joints, including fittings, valves, hydrants and other locations as shown on the Drawings.

C. Anchorage: Where retainer glands are installed or allowed by Construction Manager, the valves, plugs, caps, tees and bends deflecting 11 ¼ degrees or more shall be provided with one of the following two forms of restraint:

1. Retainer glands plus concrete thrust blocking (3,000 psi concrete thrust block sized to withstand line pressures of 300 psi and soil bearing pressures of 2,000 psf)
2. Retainer glands plus rodding to concrete thrust collar (3,000 psi concrete collar and tie rods sized to withstand line pressures of 300 psi and soil bearing pressures of 2,000 psf)

D. Retainer glands for ductile iron pipe shall be manufactured in the U.S.A and equal to:

1. Megalug Series 1100, as manufactured by EBAA Iron,
2. Uni-Flange Series 1400, as manufactured by Ford Meter Box Company,
3. Stargrip Series 3000, as manufactured by Star Pipe Products, or
4. Sigma One LOK Series SLD as manufactured by Nappco-Sigma.

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2.14 DETECTION TAPE

A. Detection tape shall be composed of a solid aluminum foil encased in a protective plastic jacket.

B. Tapes shall be color coded in accordance with APWA color codes with the following legends: “CAUTION WATER MAIN BURIED BELOW”.

1. Color is blue for potable water mains and the color may be solid or striped.
2. Tape shall be permanently printed with no surface printing allowed.
3. Tape width shall be a minimum of 2-inches when buried less than 10-inches below the surface.
4. Tape width shall be a minimum of 3-inches when buried greater than 10-inches and less than 20-inches.

C. Detection tape shall be equal to Lineguard Type III Detectable or Allen Systems Detectatape.

2.15 HYDRANT TEES

A. Hydrant tees shall be equal to ACIPCO A10180 or U.S. Pipe U-592 made in the U.S.A.

2.16 ANCHOR COUPLINGS

A. Lengths and sizes shall be as shown on the Drawings. Anchor couplings shall be equal to ACIPCO A 10895 or U.S. Pipe U-591 made in the U.S.A..

2.17 HYDRANT CONNECTOR PIPE

A. The connector pipe shall be ductile iron meeting the requirements of AWWA C153 and shall be cement lined in accordance with AWWA C104.

B. The pipe shall have a 24-inch offset design so the hydrant can be adjusted to ensure placement at the proper grade and shall have an anchoring feature at both ends so that when used with mechanical joint split glands, a restrained joint is provided.

C. The connector pipe shall be Gradelok as manufactured by Assured Flow Sales, Inc., Sarasota, Florida made in the U.S.A.

2.18 CONCRETE

A. Concrete shall have a compressive strength of not less than 3,000 psi, with not less than 5.5 bags of cement per cubic yard and a slump between 3 and 5-inches.

B. For job mixed concrete, submit the concrete mix design for approval by the Construction Manager.

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C. Ready-mixed concrete shall be mixed and transported in accordance with ASTM C 94.

D. Reinforcing steel shall conform to the requirements of ASTM A 615, Grade 60. Concrete for thrust blocking and thrust collars shall be high early strength concrete.

E. See Section 03 30 00, Cast-In-Place Concrete

2.19 ELECTRONIC MARKERS

A. Electronic markers shall be buried with utilities to serve as a locating device.

1. Electronic markers shall be the active, programmable type.
2. Each marker shall be color coded in accordance with APWA standards and produce an industry specific frequency.
3. Each marker shall contain a passive antenna that requires no internal power source.
4. Markers shall be of water resistant polyethylene shells and impervious to minerals, chemicals, and underground temperature extremes.
5. Electronic markers shall be compatible with 3M Dynatel 1420 EMS-ID Marker Locator.
6. Contractor shall supply one Marker Locator for use during installation and shall turn over Locator to the County upon project completion.
7. Markers shall be 3M Dynatel 1423 XR/ID for water service or equivalent.

2.20 SPECIAL COATINGS

A. Applications

1. Below grade (buried) or where little to no surface preparation can be performed on piping or structural steel.

B. Coating Materials

1. Petrolatum based mastic or wax based wrapping tapes
2. Coating System Manufacturer
   a. Carboline
      1) First Coat - Carbowrap Priming Paste
      2) Finish Coat - Tape A, B, or C (temp. dependent)
   b. Denso
      1) First Coat - Denso Paste
      2) Finish Coat - Densyl Tape

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c. Trenton

1) First Coat - Waxtape Primer

2) #1 Wax Tape

PART 3 – EXECUTION

3.01 EXISTING UTILITIES AND OBSTRUCTIONS

A. The Drawings indicate utilities or obstructions that are known to exist according to the best information available to the County.

1. The Contractor shall call the Utilities Protection Center (UPC) (800-282-7411) as required by Georgia law (Code Section 25-9-1 through 25-9-13) and all utilities, agencies or departments that own and/or operate utilities in the vicinity of the construction work site at least 72 hours (three business days) prior to construction to verify the location of the existing utilities.

B. Existing Utility Location: The following steps shall be exercised to avoid interruption of existing utility service.

1. Provide the required notice to the utility owners and allow them to locate their facilities according to Georgia law.

2. Field utility locations are valid for only 10 days after original notice. The Contractor shall ensure at the time of any excavation that a valid utility location exists at the point of excavation.

3. Expose the facility, for a distance of at least 200 feet in advance of pipeline construction, to verify its true location and grade.

4. Repair, or have repaired, any damage to utilities resulting from locating or exposing their true location.

5. Avoid utility damage and interruption by protection with means or methods recommended by the utility owner.

6. Maintain a log identifying when phone calls were made, the person called, area for which utility relocation was requested and work order number issued, if any.

7. The Contractor shall provide the Construction Manager an updated copy of the log bi-weekly, or more frequently if required.

C. Conflict with Existing Utilities

1. Horizontal Conflict: Horizontal conflict shall be defined as when the actual horizontal separation between a utility, main, or service and the proposed water main does not permit safe installation of the water main by the use of sheeting, shoring, tying-back, supporting, or temporarily suspending service of the parallel or crossing facility.

a. The Contractor may change the proposed alignment of the water main to avoid horizontal conflicts if the new alignment remains

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within the available right-of-way or easement, complies with regulatory agency requirements and after a written request to and subsequent approval by the Construction Manager.

b. Where such relocation of the water main is denied by the Construction Manager, the Contractor shall arrange to have the utility, main, or service relocated.

2. Vertical Conflict: Vertical conflict shall be defined as when the actual vertical separation between a utility, main, or service and the proposed water main does not permit the crossing without immediate or potential future damage to the utility, main, service, or the water main.

a. The Contractor may change the proposed grade of the water main to avoid vertical conflicts if the changed grade maintains adequate cover and complies with regulatory agencies requirements after written request to and subsequent approval by the Construction Manager.

b. Where such relocation of the water main is denied by the Construction Manager, the Contractor shall arrange to have the utility, main, or service relocated.

D. Electronic Locator: Have available at all times an electronic pipe locator and a magnetic locator, in good working order, to aid in locating existing pipe lines or other obstructions.

E. Water and Sewer Separation

1. Water mains should maintain a minimum 10 foot edge-to-edge separation from sewer lines, whether gravity or pressure.

a. If the main cannot be installed in the prescribed easement or right-of-way and provide the 10 foot separation, the separation may be reduced, provided the bottom of the water main is a minimum of 18-inches above the top of the sewer.

b. Should neither of these two separation criteria be possible, the water main shall be installed below the sewer with a minimum vertical separation of 18-inches.

2. The water main, when installed below the sewer, shall be encased in concrete with a minimum 6-inch concrete depth to the first joint in each direction.

3. Where water mains cross the sewer, the pipe joint adjacent to the pipe crossing the sewer shall be cut to provide maximum separation of the pipe joints from the sewer.

4. No water main shall pass through, or come in contact with, any part of a sanitary sewer manhole.

3.02 CONSTRUCTION ALONG HIGHWAYS, STREETS AND ROADWAYS

A. Install pipe lines and appurtenances along highways, streets and roadways in accordance with the applicable regulations of, and permits issued by, the

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Department of Transportation and Fulton County with reference to construction operations, safety, traffic control, road maintenance and repair.

B. The Contractor shall prepare a Traffic Control Plan and submit the plan to the Construction Manager at least 14 days prior to on-site work.

1. The Traffic Control Plan shall include all anticipated lane closures, placement of traffic control devices, barricades, lights, flagmen etc. to clearly show how traffic flow and safety will be maintained throughout the project.

C. Traffic Control

1. The Contractor shall provide, erect and maintain all necessary barricades; suitable and sufficient lights and other traffic control devices; provide qualified flagmen where necessary to direct traffic; take all necessary precautions for the protection of the work and the safety of the public. Flagmen shall be certified by a Georgia DOT approved training program.
2. Construction traffic control devices and their installation shall be in accordance with the current Manual on Uniform Traffic Control Devices for Streets and Highways.
3. Placement and removal of construction traffic control devices shall be coordinated with the Georgia Department of Transportation and Fulton County a minimum of 48 hours in advance of the activity.
4. Placement of construction traffic control devices shall be scheduled ahead of associated construction activities.
    a. Construction time in street right-of-way shall be conducted to minimize the length of time traffic is disrupted.
    b. Construction traffic control devices shall be removed immediately following their useful purpose.
    c. Traffic control devices used intermittently, such as “Flagmen Ahead”, shall be removed and replaced when needed.
5. Existing traffic control devices within the construction work zone shall be protected from damage.
    a. Traffic control devices requiring temporary relocation shall be located as near as possible to their original vertical and horizontal locations.
    b. Original locations shall be measured from reference points and recorded in a log prior to relocation.
    c, Temporary locations shall provide the same visibility to affected traffic as the original location.
    d. Relocated traffic control devices shall be reinstalled in their original locations as soon as practical following construction.

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6. Construction traffic control devices shall be maintained in good repair and shall be clean and visible to affected traffic for daytime and nighttime operation. Traffic control devices affected by the construction work zone shall be inspected daily.

7. Construction warning signs shall be black legend on an orange background. Regulatory signs shall be black legend on a white background.

    a. Construction sign panels shall meet the minimum reflective requirements of the Georgia Department of Transportation and Fulton County.

    b. Sign panels shall be of durable materials capable of maintaining their color, reflective character and legibility during the period of construction.

8. Channelization devices shall be positioned preceding an obstruction at a taper length as required by the current Manual on Uniform Traffic Control Devices for Streets and Highways, as appropriate for the speed limit at that location.

    a. Channelization devices shall be patrolled to insure that they are maintained in the proper position throughout their period of use.

D. Construction Operations

1. Perform all work along highways, streets and roadways to minimize interference with traffic.

2. Stripping: Where the pipe line is laid along road right-of-way, strip and stockpile all sod, topsoil and other material suitable for right-of-way restoration.

3. Trenching, Laying and Backfilling: Do not open the trench any further ahead of pipe laying operations than is necessary. Backfill and remove excess material immediately behind laying operations. Complete excavation and backfill for any portion of the trench in the same day.

4. Shaping: Reshape damaged slopes, side ditches, and ditch lines immediately after completing backfilling operations. Replace topsoil, sod and any other materials removed from shoulders.

5. Construction operations shall be limited to 500 feet along areas, including clean-up and utility exploration.

E. Excavated Materials: Do not place excavated material along highways, streets and roadways in a manner which obstructs traffic. Sweep all scattered excavated material off of the pavement in a timely manner.

F. Drainage Structures: Keep all side ditches, culverts, cross drains, and other drainage structures clear of excavated material. Care shall be taken to provide positive drainage to avoid ponding or concentration of runoff.

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G. Landscaping Features: Landscaping features shall include, but are not necessarily limited to: fences; property corners; cultivated trees and shrubbery; manmade improvements; subdivision and other signs within the right-of-way and easement. The Contractor shall take extreme care in moving landscape features and promptly re-establishing these features.

H. Maintaining Highways, Streets, Roadways and Driveways

1. Maintain streets, highways, roadways and driveways in suitable condition for movement of traffic until completion and final acceptance of the Work.

2. During the time period between pavement removal and completing permanent pavement replacement, maintain highways, streets and roadways by the use of steel running plates.

   a. Running plate edges shall have asphalt placed around their periphery to minimize vehicular impact.

   b. The backfill above the pipe shall be compacted as specified elsewhere up to the existing pavement surface to provide support for the steel running plates.

3. Furnish a road grader or front-end loader for maintaining highways, streets, and roadways. The grader or front-end loader shall be available at all times.

4. Immediately repair all driveways that are cut or damaged. Maintain them in a suitable condition for use until completion and final acceptance of the Work.

3.03 PIPE DISTRIBUTION

A. Pipe shall be distributed and placed in such a manner that will not interfere with traffic.

B. Pipe may not be strung along the project within existing highway rights-of-way, unless specifically directed to do so by the Owner, and only then after receiving permission from the road authority which has jurisdiction.

C. No pipe shall be strung farther along the route than 1,000 feet beyond the area in which the Contractor is actually working without written permission from the County.

1. The County reserves the right to reduce this distance to a maximum distance of 200 feet in residential and commercial areas based on the effects of the distribution to the adjacent property owners.

D. No street or roadway may be closed for unloading of pipe without first obtaining permission from the proper authorities.

1. The Contractor shall furnish and maintain proper warning signs and obstruction lights for the protection of traffic along highways, streets and roadways upon which pipe is distributed.

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E. No distributed pipe shall be placed inside drainage ditches.

F. Distributed pipe shall be placed as far as possible from the roadway pavement, but no closer than five feet from the roadway pavement, as measured edge-to-edge.

3.04 LOCATION AND GRADE

A. The Drawings show the alignment and grade of the water main and the location of valves, hydrants and other appurtenances.

B. Prior to clearing and grubbing, construction staking shall be performed. The Construction Manager will provide a temporary bench mark along the water main route and at all other locations where the alignment of the water main changes significantly.

C. From the information on the Drawings and the survey points found on the Project site, the Contractor shall perform all surveys necessary for the establishment of the horizontal and vertical alignment of the water main.

D. Construction Staking

1. The base lines for locating the principal components of the Work are shown on the Drawings.

   a. Base lines shall be defined as the line to which the location of the water main is referenced, including but not limited to, edge of pavement, road centerline, property line, right-of-way or survey line.

   b. The Contractor shall be responsible for performing all survey work required for constructing the water main, including the establishment of base lines and any detail surveys needed for construction.

      1). This work shall include the staking out of permanent and temporary easements to insure that the Contractor is not deviating from the designated easements.

2. The level of detail of survey required shall be that which the correct location of the water main can be established for construction and verified by the Construction Manager.

   a. Where the location of components of the water main, e.g. tunnels and fittings, are not dimensioned, the establishment on the location of these components shall be based upon scaling these locations from the Drawings with relation to readily identifiable land marks such as survey reference points, power poles, manholes, etc.

E. Reference Points

1. The Contractor shall take all precautions necessary, which includes, but is not necessarily limited to, installing reference points, in order to protect and preserve the centerline or baseline established by the Construction Manager.

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2. Reference points shall be placed, at or no more than three feet, from the outside of the construction easement or right-of-way.

    a. The location of the reference points shall be recorded in a log with a copy provided to the Construction Manager for use, prior to verifying reference point locations.

    b. Distances between reference points and the water main centerlines shall be accurately measured to the nearest 0.01 foot.

3. The Contractor shall give the Construction Manager reasonable notice that reference points are set. The reference point locations must be verified by the Construction Manager prior to commencing clearing and grubbing operations.

F. After the Contractor locates and marks the water main centerline or baseline, the Contractor shall perform clearing and grubbing.

G. Construction shall begin at a connection location and proceed without interruption. Multiple construction sites shall not be permitted without written authorization from the Construction Manager for each site.

H. The Contractor shall be responsible for any damage done to reference points, base lines, center lines and temporary bench marks, and shall be responsible for the cost of re-establishment of reference points, base lines, center lines and temporary bench marks as a result of the operations.

I. Construction Verification Survey allowance: The Construction Verification Survey cash allowance is solely for the use of the Owner for verification of the Contractor's reference points, centerlines and work performed.

1. The presence of this cash allowance in no way relieves the Contractor of the responsibility of installing reference points, centerlines, temporary bench marks, providing as-built drawings, or verifying that the work has been performed accurately.

3.05 LAYING AND JOINTING PIPE AND ACCESSORIES

A. Water mains, valves, hydrants, and appurtenances shall be installed before the installation of the subbase course or paving or any other utilities except sanitary sewer lines.

B. Lay all pipe and fittings to accurately conform to the lines and grades established by the Construction Manager.

C. Pipe Installation

1. Proper implements, tools and facilities shall be provided for the safe performance of the Work.

    a. All pipe, fittings, valves and hydrants shall be lowered carefully into the trench by means of slings, ropes or other suitable tools or

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equipment in such a manner as to prevent damage to water main materials and protective coatings and linings.

b. Under no circumstances shall water main materials be dropped or dumped into the trench.

2. All pipe, fittings, valves, hydrants and other appurtenances shall be examined carefully for damage and other defects immediately before installation.

   a. Defective materials shall be marked and held for inspection by the Construction Manager, who may prescribe corrective repairs or reject the materials.

   b. In the event that defective pipe or fittings are discovered after having been laid, the Contractor shall remove and replace with sound pipe or fittings in a manner satisfactory to the Construction Manager.

3. All lumps, blisters and excess coating shall be removed from the socket and plain ends of each pipe, and the outside of the plain end and the inside of the bell shall be wiped clean and dry and free from dirt, sand, grit or any foreign materials before the pipe is laid.

   a. No pipe containing dirt shall be laid.

4. It is the Contractor's responsibility to maintain a clean work site and clean materials throughout the project.

   a. All pipe and fittings shall be kept free from mud, dirt, and debris while stored on site, and shall be thoroughly cleaned before being laid. No debris, tools, clothing or other materials shall be placed in the pipe at any time.

   b. During any breaks in the laying of pipe, and when ending construction for the day, the Contractor shall install a mechanical or fitted plug in the open end of the pipe to prevent contamination of the pipeline.

   c. Should any accidental contamination occur, the pipe shall be thoroughly cleaned and swabbed out, and inspected by the Construction Manager, before new or further pipe installation may commence.

5. As each length of pipe is placed in the trench, the joint shall be assembled and the pipe brought to correct line and grade. The pipe shall be secured in place with approved backfill material.

6. It is common practice to lay pipe with the bells facing the direction in which work is progressing; however, it is not mandatory.

7. Applying pressure to the top of the pipe, such as with a backhoe bucket, to lower the pipe to the proper elevation or grade, shall not be permitted.

8. Provide electronic marker for all water main.

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b. Electronic markers shall be installed in an interval of every 100 linear feet and as needed to establish a change in direction or as directed by the Construction Manager.

c. Electronic marker shall be equal to 3M Dynatel 1423 XR/ID and shall be compatible with 3M Dynatel 1420 EMS-ID Marker Locator System.

D. Alignment and Gradient

1. Lay pipe straight in alignment and gradient or follow true curves as nearly as practicable. Do not deflect any joint more than the maximum deflection recommended by the manufacturer.

2. Maintain a transit, level and accessories on the job to lay out angles and ensure that deflection allowances are not exceeded.

E. Expediting of Work:

1. Excavate, lay the pipe, and backfill as closely together as possible.

2. Do not leave unjointed pipe in the trench overnight. Backfill and compact the trench as soon as possible after laying and jointing is completed.

3. Cover the exposed end of the installed pipe each day at the close of work and at all other times when work is not in progress.

4. If necessary to backfill over the end of an uncompleted pipe or accessory, close the end with a suitable plug, either push-on, mechanical joint, restrained joint or as approved by the Construction Manager.

F. Joint Assembly

1. Push-on, mechanical, flange and restrained type joints shall be assembled in accordance with the manufacturer's recommendations.

2. The Contractor shall inspect each pipe joint within 1,000 feet on either side of main line valves to insure 100 percent seating of the pipe spigot, except as noted otherwise.

3. Each restrained joint shall be inspected by the Contractor to ensure that it has been “homed” 100 percent.

4. The Contractor shall internally inspect each pipe joint to insure proper assembly for pipe 24-inches in diameter and larger after the pipe has been brought to final alignment.

G. Cutting Pipe:

1. Whenever a pipe requires cutting to fit the line or bring it to the required location, the work shall be performed in a manner so as to leave a smooth end at right angles to the axis of the pipe. Jointing of a field cut pipe shall be made in accordance with the manufacturers’ instructions

2. Only push-on or mechanical joint pipe shall be cut.

3. Cut ductile iron pipe using an abrasive wheel saw.

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4. Remove all burrs and smooth the end before jointing.

5. The Contractor shall cut the pipe and bevel the end, as necessary, to provide the correct length of pipe necessary for installing the fittings, valves, accessories and closure pieces in the correct location.

H. Lining Repair: Repair cement linings and recoat spigot ends of cut pipe with cement lining and bituminous coating as herein before specified in of this Section and as specified below:

1. Remove all burrs and areas of loose lining materials by sanding or scraping to bare metal.

2. Remove oil and lubricants used during field cutting.

3. Lining shall be stripped back a minimum of 1-inch from the spigot end into well adhered lined areas.

4. Roughen 1 to 2-inches of good lining with a rough grade (40 grit) emery paper, rasp or small chisel, to allow an overlap between new and existing lining.

5. Apply lining repair material in the number of coats required to match the thickness requirements as herein before specified in this Section and in accordance with the manufacturer's recommendations.

I. Polyethylene Encasement: Installation shall be in accordance with AWWA C105 and the manufacturer’s instructions. All ends shall be securely closed with tape and all damaged areas shall be completely repaired to the satisfaction of the Construction Manager.

J. Valve and Fitting Installation

1. All valves shall be set accurately and carefully to the lines and grades given on the Drawings, or as directed, and shall be joined to the pipe utilizing such approved joints as herein before specified for ductile iron water mains.

2. Prior to installation, valves shall be inspected for direction of opening, number of turns to open, freedom of operation, tightness of pressure-containing bolting and test plugs, cleanliness of valve ports and especially seating surfaces, handling damage and cracks.

   a. Defective valves shall be corrected or held for inspection by the Construction Manager. Valves shall be closed before being installed.

3. Valves, fittings, plugs and caps shall be set and joined to the pipe in the manner specified in this Section for cleaning, laying and joining pipe, except that 12-inch and larger valves shall be provided with special support, such as treated timbers, crushed stone, concrete pads or a sufficiently tamped trench bottom so that the pipe will not be required to support the weight of the valve.

   a. Valves shall be installed in the closed position.

4. A valve box shall be provided on each underground valve.

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a. They shall be carefully set, centered exactly over the operating nut and truly plumbed.

b. The valve box shall not be in direct contact with the bonnet of the valve and shall be supported in such a manner as not to transmit shock, stress, or load directly to the valve.

c. The bottom flange of the lower belled portion of the box shall be placed below the valve operating nut.

d. This flange shall be set on brick, so arranged that the weight of the valve box and superimposed loads will bear on the base and not on the valve or pipe.

e. Extension stems shall be installed where depth of bury places the operating nut in excess of 24-inches beneath finished grade so as to set the top of the operating nut 24-inches below finished grade.

f. The valve box cover shall be flush with the surface of the finished area or such other level as directed by the Construction Manager.

5. In no case shall valves be used to bring misaligned pipe into alignment during installation. Pipe shall be supported in such a manner as to prevent stress on the valve.

6. A valve marker shall be provided for each underground valve.

a. Unless otherwise detailed on the Drawings or directed by the Construction Manager valve markers shall be installed 6-inches inside the right-of-way or easement, and buried to a depth of 30-inches.

b. In addition to a concrete valve marker where street curbs are installed, a saw cut ½" deep "V" notch on top of curb adjacent to the water valve location is required.

7. A precast concrete vault shall be installed for 24-inch valves and larger.

K. Hydrant Installation

1. Prior to installation, inspect all hydrants for direction of opening, nozzle threading, operating nut and cap nut dimensions, tightness of pressure-containing bolting, cleanliness of inlet elbow, handling damage and cracks. Defective hydrants shall be corrected or held for inspection by the Construction Manager.

2. All hydrants shall stand plumb and shall have their nozzles parallel with or at right angles to the roadway, with pumper nozzle facing the roadway, except that hydrants having two-hose nozzles 90 degrees apart shall be set with each nozzle facing the roadway at an angle of 45 degrees.

3. Hydrants shall be set to the established grade, with the centerline of the lowest nozzle at least 12-inches above the ground or as directed by the Construction Manager

4. Each hydrant shall be connected to the main with a 6-inch branch controlled by an independent 6-inch valve.

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5. When a hydrant is set in soil that is pervious, drainage shall be provided at the base of the hydrant by placing coarse gravel or crushed stone mixed with coarse sand from the bottom of the trench to at least 6-inches above the drain port opening in the hydrant to a distance of 12-inches around the elbow.
6. When a hydrant is set in clay or other impervious soil, a drainage pit 2 x 2 x 2 feet shall be excavated below each hydrant and filled with coarse gravel or crushed stone mixed with coarse sand under and around the elbow of the hydrant and to a level of 6-inches above the drain port.
7. Hydrants shall be located as shown on the Drawings or as directed by the Construction Manager
    a. In the case of hydrants that are intended to fail at the ground-line joint upon vehicle impact, specific care must be taken to provide adequate soil resistance to avoid transmitting shock moment to the lower barrel and inlet connection.
    b. In loose or poor load bearing soil, this may be accomplished by pouring a concrete collar approximately 6-inches thick to a diameter of 24-inches at or near the ground line around the hydrant barrel.
8. All hydrants shall have fluorescent markings at the curb. Markings shall not be the same color as markings denoting water meters.
9. FIRE HYDRANTS SHALL NOT BE OPERATED WITH ANY TOOL EXCEPT A SPECIFICALLY DESIGNED FIRE HYDRANT WRENCH.
    a. It is the Contractor's responsibility to ensure that all new facilities are maintained in new condition until final completion of the project and acceptance by the County.
    b. Fire hydrants with damaged operating nuts shall not be accepted.
10. New fire hydrants, not yet in service, shall be bagged or tagged with appropriate "out of service" materials. All hydrant openings shall be capped, except when hydrant is being worked on.

L. Air Valve Vaults

1. Construct the vault or manhole as detailed on the Drawings.
2. The frame and cover or floor door shall be cast into the top slab or cone. The floor door drain shall be piped to vault exterior.
3. Vaults and manholes shall be constructed such that their walls are plumb.

M. Electronic markers shall be provided for all water mains.

1. Electronic markers shall be installed every 100 linear feet and as needed to establish a change in direction.
2. Contractor shall program markers at the time of installation according to the information template specified by the County.

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3. Markers shall be programmed prior to installation, shall be locked to prevent further programming, and shall be buried 2.5 feet below finished grade, but no more than 4 feet below finished grade.

4. The County shall verify programming and location of all electronic markers, and if placement and/or programmed information is not satisfactory, Contractor shall be responsible for replacing and re-installing the marker.

3.06 CONNECTIONS TO WATER MAINS

A. Connections to existing pipe lines shall generally be made by the use of tapping sleeves and valves, except as specifically indicated on the Drawings to be otherwise, or as may be directed by the Owner.

1. In certain instances it may be specified or desirable to tap a dry line. In this circumstance a tapping sleeve and valve is required and the tap accomplished utilizing a standard tapping machine.

2. Under no circumstances will the Contractor be permitted to burn a hole in the main using oxyacetylene tools.

B. Wet Cut-Ins

1. The Contractor shall provide all labor and equipment necessary to make a cut-in to an existing water main for the purpose of making a connection, installing a valve, fire hydrant assembly, or other fittings and appurtenances.

2. A “wet cut-in” is defined to be the physical cutting into any existing water main which will result in the interruption of service to an existing customer, or which will necessitate the removal of water contained within the existing main from the excavation which is caused by the cutting into the pipe.

3. Wet cut-ins shall not be allowed to be performed on Fridays.

C. All connections shall be scheduled with the Construction Manager and Owner at least 48-hours in advance so as to permit supervision by the Owner.

D. Make connections to existing pipe lines with tapping sleeves and valves, unless specifically shown otherwise on the Drawings.

E. Location: Before laying pipe, locate the points of connection to existing water mains and uncover as necessary for the Construction Manager to confirm the nature of the connection to be made.

F. Interruption of Services: Make connections to existing water mains only when system operations permit. Operate existing valves only with the specific authorization and direct supervision of the Owner.

G. Tapping Sleeves

1. Holes in the new pipe shall be machine cut, either in the field or at the factory. No torch cutting of holes shall be permitted.

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2. Prior to attaching the sleeve, the pipe shall be thoroughly cleaned, utilizing a brush and rag, as required.

3. Before performing field machine cut, the water tightness of the sleeve assembly shall be pressure tested, in the presence of the County Project Inspector.

   a. The interior of the assembly shall be filled with water.

   b. An air compressor shall be attached, which will induce a test pressure of 250 psi.

   c. No leakage shall be permitted for a period of five minutes.

4. The Contractor shall properly support the tapping sleeve and valve using bricks, blocks, wedges, or other substantial supporting materials, which will prevent the tapping valve or tapping machine to transfer any downward rotational force to the tapping sleeve.

   a. This support shall be provided before mounting the tapping machine.

5. **After attaching the sleeve to an existing main, but prior to making the tap, the interior of the assembly shall be disinfected. All surfaces to be exposed to potable water shall be swabbed or sprayed with a one percent hypochlorite solution.**

H. Connections Using Solid Sleeves: Where connections are shown on the Drawings using solid sleeves, the Contractor shall furnish materials and labor necessary to make the connection to the existing pipe line.

I. Connections Using Couplings: Where connections are shown on the Drawings using couplings, the Contractor shall furnish materials and labor necessary to make the connection to the existing pipe line, including all necessary cutting, plugging and backfill.

J. Valve Operation:

1. Existing valves may be operated by County personnel or with the specific authorization and/or direct supervision of the County.

2. The only exception is an emergency situation affecting public health or safety. Any Contractor found violating this provision may be subject to prosecution under the Code of Fulton County for tampering with County property.

3. When the Contractor requires existing valves to be operated in order to perform the work, the Contractor shall request such services from the Department of Public Works at least eight working days in advance.

K. System Shutdowns and Interruption of Services

1. S**h**utdowns shall be coordinated directly through the County.

   a. The Contractor shall notify the Construction Manager in writing at least eight working days in advance when scheduling the work.

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b. When more than eight working days notice is deemed necessary by the County, the length of such notice shall be as shown on the Drawings.

c. Scheduling of shutdowns shall be approved at the discretion of the County.

d. The County reserves the right to cancel the shutdown if conditions warrant (i.e. heavy rain, main break, etc.).

2. Contractor will provide “Water Line Maintenance” signs as directed by the County. Signs will be as specified in Figure 1 at the end of this Section.

3. The County does not at any time guarantee the Contractor a 100 percent complete shutdown or dry shut. Dewatering shall be the responsibility of the Contractor.

4. Shutdowns will be permitted Monday through Thursday, exclusive of County holidays. The Contractor shall perform connections to existing mains requiring shutdowns at night.

   a. Unless otherwise specified by the County, the hours of the shutdown shall be limited from 12:00 midnight to 6:00 A.M.

   b. In business districts and other areas of high water usage, circumstances may dictate limiting the hours of shutdown from 2:00 A.M. to 6:00 A.M.

   c. The excavation for the work shall be completed no later than 3:30 P.M. on the day prior to the shutdown to allow for inspection by the County.

5. The materials to be installed and the tools to be used shall be assembled and ready for inspection no later than 3:30 P.M. on the day prior to the shutdown.

   a. The inside of all water system pipe and fittings to be installed shall be cleaned and swabbed with a chlorine solution of 50 mg/L, and ends of lines shall be capped until the time of installation.

   b. All visible dirt and foreign materials shall be removed from the interior of the pipe and fittings. Immediately prior to installation of the assembly, the pipe and fittings shall again be swabbed with 50 mg/L chlorine solution.

   c. The Contractor shall review in detail his plan of operation with the Construction Manager at the time the excavated pipe work is inspected for readiness.

6. Excavation around the existing pipe shall be sufficient to allow the work to be performed without requiring additional excavation during the connection.

   a. Excavation shall be of sufficient depth to accommodate a minimum of 8-inches uniform depth of #57 stone which shall be placed by the Contractor over the entire bottom of the excavation.

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b. In addition, there shall be a minimum of 12-inches clearance between the bottom of the pipe and the top of the #57 stone.

7. The Contractor shall clean and mark the locations on the existing pipe where the pipe cuts are to be made by 3:30 P.M. on the day prior to the shutdown.

   a. The Contractor shall measure the outside diameter of the pipe to be cut-in to be sure the proposed pipe and fittings are compatible with the existing pipe to be cut.

   b. All measurements shall be double-checked in the presence of the Construction Manager just prior to cutting the existing pipe.

8. The Contractor shall have sufficient crews and equipment on hand to perform the work for each connection.

   a. All equipment to be used during the work, including, but not limited to, pump, backup pump, backhoe, at least two pipe saws, fuel, tools, generators, light towers, tanker truck, etc., shall be test run and determined to be in proper running order prior to cutting of the existing pipe.

   b. If the Contractor fails to provide adequate equipment in proper running order, the Construction Manager has the option to cancel the work, and the Contractor shall request rescheduling when the deficiencies have been corrected.

9. The Contractor shall have available at the site of the work two full circle stainless steel repair clamps and two ductile iron mechanical joint plugs or caps as necessary for each size of pipe to be cut. If plugs or caps are used, appropriate thrust restraint shall be provided by the Contractor.

10. After an existing main has been taken out of service for the work, the Contractor shall make continuous progress toward restoring the water main to full service.

    a. The Contractor shall maintain sufficient crews, equipment, and supplies and shall not leave the work site until the water main work has been completed and restored to complete operation.

11. Any pump discharge shall be directed in such a manner as to ensure drainage away from the excavation to prevent flooding of streets or private property.

12. Hydrant service signs shall be placed by the Contractor on existing hydrants temporarily taken out of service as directed by the Construction Manager. Such signs shall remain in place until removal is approved by the Construction Manager.

L. The Contractor shall be responsible for any additional expense incurred by the Owner from his failure to comply with the aforementioned requirements.

   a. The Contractor shall anticipate the additional expense in performing the work at night and under partial shutdown conditions. No claims for additional compensation shall be made by the Contractor for performing

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these operations outside normal working hours and complete shutdown conditions.

3.07 THRUST RESTRAINT

A. Provide restraint at all points where hydraulic thrust may develop. All restrained ductile iron pipe and fittings (tees, plugs, bends, etc.) shall include two forms of restraint – a manufactured restrained joint with either concrete blocking or tie rods as specified in Section 40 05 19.

B. Where specified or as directed, plugs, caps, tees, and bends deflecting 11¼ degrees or more shall be restrained. Restrained joint pipe and fittings shall be restrained, at a minimum, to the restraint lengths specified on the Drawings with one (1) of the following methods:

1. Method ‘A’: Restrained joint pipe and fittings

2. Method ‘B’: One (1) of the following dual (2) independent restraints:

   a. Retainer glands plus Thrust Blocking

   b. Retainer glands plus Rodding.

C. Retainer Glands:

1. Retainer glands are only allowed on MJ valves or where allowed by Construction Manager.
2. Retainer glands shall be installed in accordance with the manufacturer's recommendations, particularly, the required torque of the set screws.
3. The Contractor shall furnish a torque wrench to verify the torque on all set screws which do not have inherent torque indicators.
4. All MJ valves shall be restrained with two forms of restraint - retainer glands and thrust collar with tie rods sized to withstand 300 psi testing pressure.

D. Hydrants: Hydrants shall be attached to the water main by the following method:

1. The isolation valve shall be attached to the main by connecting the valve to the hydrant tee.
2. The isolation valve shall be attached to the hydrant by providing an anchor coupling between the valve and hydrant, if the hydrant and valve are less than two feet apart. Otherwise, provide ductile iron pipe with retainer glands on the hydrant and valve.

E. Thrust Collars:

1. Collars shall be constructed as shown on the Drawings.
2. Concrete and reinforcing steel shall meet the requirements as specified in this Section.

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3. The split gland mega lug or welded on collar shall be designed to meet the minimum allowable load shown on the Drawings. The welded-on collar shall be attached to the pipe by the pipe manufacturer.

F. Concrete Blocking

1. Provide concrete blocking for all bends, tees, valves, and other points where thrust may develop, except where other exclusive means of thrust restraint are specifically shown on the Drawings.
2. Concrete shall be as specified herein before in this Section.
3. Form and pour concrete blocking at fittings as shown on the Drawings and as directed by the Construction Manager.
    a. Pour blocking against undisturbed earth. Increase dimensions when required by over excavation.
    b. The Contractor shall allow the concrete to set up for a minimum of 4-hours before backfilling.

G. Harnessing

1. Provide harness rods only where specifically shown on the Drawings or directed by the Construction Manager.
2. Harness rods shall be manufactured in accordance with ASTM A 36 and shall have an allowable tensile stress of no less than 22,000 psi. Harness rods shall be hot dip galvanized or field coated with bitumastic before backfilling.
3. Where possible, harness rods shall be installed through the mechanical joint bolt holes. Where it is not possible, provide 90 degree bend eye bolts or duc-lugs.
4. Eye bolts shall be of the same diameter as specified in AWWA C111 for that pipe size.
    a. The eye shall be welded closed.
    b. Where eye bolts are used in conjunction with harness rods, an appropriate size washer shall be utilized with a nut on each end of the harness rod.
    c. Eye bolts shall be of the same material and coating as the harness rods.

3.08 SPECIAL COATINGS

A. Surface Preparation

1. Remove loose scale, rust, dirt, excessive moisture, or frost from the surface in accordance with SSPC SP-2 (Hand Tool Cleaning).

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B. Application

1. All surfaces shall be hand rubbed or brushed with a priming paste recommended by the CSM. Sharp projections such as threads, irregular contours, or badly pitted areas shall receive a liberal amount of priming paste to ensure maximum protection of metal throughout.

2. On irregular shaped surfaces, i.e., nuts, bolts, flanges, valves, etc., the Contractor shall use either of the following systems recommended by the CSM.

   a. Apply recommended mastic by hand in sufficient quantity to build an even contour over entire surface. The Contractor shall pay particular attention to ensure that folds and air pockets within the mastic layer are thoroughly pressed out prior to subsequent application of tape. OR

   b. An extra layer of tape shall be cut and carefully molded around sharp projections, nuts, bolts, etc., before final application of tape, in order to meet specified system thickness.

3. Tape shall be spirally wrapped with a 55 percent overlap and sufficient tension and pressure to provide continuous adhesion without stretching the tape. Edges of tape must be continuously smoothed and sealed by hand during wrapping. On vertical application, contractor shall begin at bottom and proceed upward creating a weatherboard overlap.

4. System Thickness

   a. Smooth contours shall have a minimum thickness of 50 mils while nuts, bolts, and sharp projections shall be 100 mils.

5. Tape

   a. Number and types of tape wraps shall be in accordance with the CSM's written instructions.

3.09 INSPECTION AND TESTING

A. All valves shall be tested at the point of manufacture in accordance with the specific AWWA standard for that size and type of valve.

1. After the valves have been set in place the Contractor shall hydrostatically field-test each valve as part of the hydrostatic test of the main.

2. Any valve that fails to be proved bubble-tight shall either be repaired to make it so, or be removed from the line and replaced.

3. Valves repaired or replaced shall be re-tested for leakage prior to acceptance by the Owner.

B. Pipes, fittings, and appurtenances shall be laid in such a manner as to leave joints water tight. After the pipe is laid, each section, as may be determined or defined by the Construction Manager, shall be properly and adequately flushed, all air removed, and then tested in accordance with AWWA C600.

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1. A section of main will be considered ready for testing after completion of all thrust restraint and backfilling.
2. Each segment of water main between main valves shall be tested individually.

C. Test Preparation.

1. All testing of water mains, fittings, and appurtenances shall be conducted in the presence of the Construction Manager, and under his/her direction. To facilitate the testing, the Contractor shall furnish:
   a. Gauges and meters calibrated within 90 days of the test
   b. A corporation cock in the main for pressure pump connection
   c. A suitable pump, piping, appliances, labor, and other items necessary to conduct the pressure test
   d. A valve wrench and labor to accompany the Construction Manager to verify that all valves, including fire hydrant branch valves, are fully open during the pressure test.
   e. Temporary support or reinforcement as necessary for testing purposes.
   f. All the necessary apparatus and labor.
   g. The Owner will make water available for flushing and testing of water mains at the Contractor's expense. The Contractor shall provide whatever means necessary to transport or convey the water from a designated source to the main.
   h. NOTE: THE USE OF FIRE HYDRANTS AS A CONNECTION FOR EITHER HYDROSTATIC TESTING OR INJECTION OF CHLORINE SOLUTIONS FOR DISINFECTION IS EXPRESSLY PROHIBITED.
2. The Contractor shall notify the Construction Manager at least 24 hours in advance of the test date and perform tests in the presence of the Construction Manager.
3. For water mains less than 24-inches in diameter, flush sections thoroughly at flow velocities, greater than 2.5 feet per second, adequate to remove debris from pipe and valve seats.
4. For water mains 24-inches in diameter and larger, the main shall be carefully swept clean, and mopped if directed by the Construction Manager.
5. All stub-outs shall be flushed and included in the pressure test.
   a. Each stub-out shall be properly plugged, braced, and tested with the stub-out valve open.
   b. Following a successful pressure test, all stub-out valves shall be returned to the closed position.
6. Partially operate valves and hydrants to allow the water to flush the seats.

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7. Provide temporary blocking, bulkheads, flanges and plugs as necessary, to ensure all new pipe, valves, and appurtenances will be pressure tested.
    a. Pressure test shall not commence until after thrust restraint has been installed, the line has been backfilled, and at least seven days has passed since the last concrete thrust blocking was poured.
8. Fill pipeline slowly with water at a velocity of approximately one foot per second and the specified test pressure shall be applied by means of pump connected to the pipe in a satisfactory manner.
9. Before applying test pressure, air shall be completely expelled from the pipeline and all appurtenances.
    a. Insert corporation cocks at highpoints to expel air as main is filled with water as necessary to supplement automatic air valves.
    b. Install additional 3/4" service taps at the highest elevations, including any intermediate points, of the section of the pipe to be tested, or at locations directed by the Construction Manager.
    c. Corporation stops shall be constructed as detailed on the Drawings with a meter box.
    d. Any such taps installed must be removed by the Contractor prior to final acceptance of the main.
10. Provide a suitable pump with an accurate gauge to pump the line to the specified pressure. The pump shall operate by pumping water from a separate reservoir into the main to be tested, until the specified test pressure is attained.
11. The differential pressure across a valve or hydrant shall equal the maximum possible, but not to exceed, the rated working pressure. Where necessary, provide temporary backpressure to meet the differential pressure restrictions.
12. Valves shall not be operated in either the opening or closing direction at differential pressures above the rated pressure.
13. Pressure shall be applied at intervals not to exceed 2000 feet.

D. Test Pressure:

1. Test the pipeline at 250 psi measured at the lowest point for at least two hours.
2. Maintain the test pressure within 5 psi of the specified test pressure for the test duration.
3. Should the pressure drop more than 5 psi at any time during the test period, the pressure shall be restored to the specified test pressure.
4. Provide an accurate pressure gauge with graduation not greater than 5 psi.
5. Any exposed pipe, fittings, valves, and joints shall be examined carefully during the test.

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E. Any damaged or defective pipe, fittings, or valves following the hydrostatic pressure test or leakage test shall be repaired in a manner approved by the Construction Manager or replaced with sound material, and the test shall be repeated until it is satisfactory to the Construction Manager.

F. Allow the system to stabilize at the test pressure before conducting the leakage test.

G. Leakage

1. A leakage test shall be conducted concurrently with the hydrostatic pressure test.

   a. The leakage test shall be performed with a calibrated water meter, calibrated pressure gauge, measure container, pump and water.

   b. The Contractor shall provide certification of calibration of testing devices indicating devices were calibrated within 90 days of actual tests.

   c. All equipment shall be approved by the Construction Manager prior to performance.

2. Leakage shall be defined as the sum of the quantity of water that must be pumped into the test section to maintain pressure within 5 psi of the specified test pressure for the test duration plus water required to return line to test pressure at the end of the test. Leakage shall be the total cumulative amount measured on a water meter.

3. The County assumes no responsibility for leakage occurring through existing valves.

4. Test Results: No test section shall be accepted if the leakage exceeds the limits determined by the following formula:

$$L = \frac{SD\,(P)^{1/2}}{133{,}200}$$

Where: L = allowable leakage, in gallons per hour

S = length of pipe tested, in feet
D = nominal diameter of the pipe, in inches
P = average test pressure during the leakage test, in pounds per square inch (gauge)

As determined under Section 4 of AWWA C600.

5. If the water main section being tested contains lengths of various pipe diameters, the allowable leakage shall be the sum of the computed leakage for each diameter.

H. If any test of pipe laid discloses defects due to hydrostatic pressure test or leakage greater than that specified, the Contractor shall, at his own expense, locate and

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make repairs in a manner approved by the Construction Manager and perform tests again until results are within allowable limits.

I. All visible leaks shall be repaired regardless of leakage test results.

J. Completion: After a pipeline section has been accepted, relieve test pressure. Record type, size and location of all outlets on record drawings.

3.10 DISINFECTING PIPELINE

A. After successfully pressure testing each pipeline section and before being placed in service all new water main pipe lines and accessories shall be disinfected by chlorination in accordance with AWWA C651 for the continuous-feed method and these Specifications. All chlorinating equipment, materials, labor, and supplies shall be furnished by the Contractor.

B. Specialty Contractor:

1. Disinfection shall be performed by an approved specialty contractor.
2. Before disinfection is performed, the Contractor shall submit a written procedure for approval before being permitted to proceed with the disinfection.
3, This plan shall also include the steps to be taken for the neutralization of the chlorinated water.

C. Prior to chlorination, all mud, dirt, debris, or other foreign matter shall be removed from the pipeline by a thorough flushing through fire hydrants or other approved means.

1. Each valved section of newly laid pipe shall be flushed independently.
2. This shall be performed prior to the pressure test to ensure removal of any trapped air within the pipe.

D. Chlorination

1. The preferable point of application of the chlorinating agent should be at the beginning of the pipeline extension, or any of its valved section. Application shall be through a corporation stop tapped into the newly laid pipe by means of a tapping saddle.
2. Back pressure, causing a reversal of flow in the pipe being treated, shall be prevented.
3. During the process of chlorinating the newly laid pipe, all valves or other appurtenances shall be operated to ensure the chlorinating agent is equally distributed throughout the pipeline.
4. Disinfection of water mains shall be performed in strict accordance with AWWA C651, latest edition, and the Georgia Environmental Protection Division’s Minimum Standards for Public Water Systems, latest edition.

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5. Apply chlorine solution to achieve a concentration of at least 25 milligrams per liter free chlorine in new line.
    a. Retain chlorinated water for 24 hours. Water shall be supplied from a temporary source protected by appropriate backflow prevention devices.
    b. Backflow preventer must be approved by the County prior to connection.
    c. Chlorine shall be injected no more than ten feet from the beginning of the new main.
6. The highly chlorinated water shall be retained in the pipe long enough to destroy all non spore-forming bacteria.
7. After the chlorine treated water has been retained for the required time, the water shall be field tested for residual chlorine in the extremities.
8. Chlorine concentration shall be recorded at every outlet along the line at the beginning and end of the 24 hour period.
9. After 24 hours, all samples of water shall contain at least 10 milligrams per liter free chlorine.
10. Re-chlorinate if required results are not obtained on all samples.

E. Disposal of Chlorinated Water:

1. Following chlorination, all disinfection water shall be thoroughly flushed from the newly laid pipe at its extremities. This process shall continue until water sampled throughout the newly laid pipe tests both bacteriologically and chemically to be the same water quality as the water being served to the public through the existing pipelines.
2. Due to the proximity of creeks, streams, ponds, or other bodies of water, the Contractor may be directed by the Construction Manager to de-chlorinate any water flushed from the main to prevent damage to aquatic organisms, plants, fish, etc. Method and system of de-chlorination must be pre-approved by the Construction Manager.
3. Reduce chlorine residual of disinfection water to less than one milligram per liter if discharged directly to a body of water or to less than two milligrams per liter if discharged onto the ground prior to disposal.
4. Dechlorination shall be accomplished by treating water with sulfur dioxide or other reducing chemicals to neutralize chlorine residual.

F. Bacteriological Testing:

1. After flushing, the Construction Manager shall notify the County's Water Laboratory that the main is ready for bacteriological samples to be taken and processed.
2. After final flushing and before the water main is placed in service, the water samples from the line shall be taken and tested for bacteriological quality

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in accordance with the rules of the Georgia Department of Natural Resources, Environmental Protection Division.

a. Two consecutive sets of acceptable samples, taken at least 24 hours apart, shall be collected from the new main.

b. At least one set of samples shall be collected from every 1200 feet of new water main, plus one set from the end of the line (dead end or cul-de-sac) and at least one set from each branch.

c. Both sets of samples must receive passing tests in order for the line to receive a “Passed” certification.

d. Samples taking and testing shall be performed by the County's Water Laboratory Representatives.

e. FIRE HYDRANTS SHALL NOT BE USED AS SAMPLING POINTS. A SAMPLING TAP MUST BE INSTALLED AT ALL TEST POINTS.

f. NOTE: WHEN THE COUNTY WATER LABORATORY REPRESENTATIVE ATTEMPTS TO OBTAIN AN ACCEPTABLE SAMPLE, IF HE/SHE OBSERVES AIR, DISCOLORED WATER, TRASH, DEBRIS, TOO HIGH CHLORINE RESIDUAL, OR NO CHLORINE RESIDUAL IN THE WATER, NO SAMPLE WILL BE TAKEN UNTIL THE MAIN IS RE-FLUSHED.

3. Should the bacteriological test fail due to bacterial growth, the Contractor shall be directed to re-chlorinate the entire pipeline until required results are obtained at no additional cost to the Owner.

G. Unless the Construction Manager directs otherwise, cuts made into existing lines for the insertion of valves or fittings, for repairs or for any other purpose, shall be disinfected by thoroughly wetting the interior of the pipes, valve, fittings, etc. with a sprayed-on 1 percent hypochlorite solution.

3.11 PROTECTION AND RESTORATION OF WORK AREA

A. General: Return all items and all areas disturbed, directly or indirectly by work under these Specifications, to their original condition or better, as quickly as possible after work is started.

1. The Contractor shall plan, coordinate, and prosecute the work such that disruption to personal property and business is held to a practical minimum.

2. All construction areas abutting lawns and yards of residential or commercial property shall be restored promptly.

3. Backfilling of underground facilities, ditches, and disturbed areas shall be accomplished on a daily basis as work is completed.

4. Finishing, dressing, and grassing shall be accomplished immediately thereafter, as a continuous operation within each area being constructed and with emphasis placed on completing each individual yard or business frontage.

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5. Care shall be taken to provide positive drainage to avoid ponding or concentration of runoff.

6. Handwork, including raking and smoothing, shall be required to ensure that the removal of roots, sticks, rocks, and other debris is complete in order to provide a neat and pleasing appearance.

7. The Department of Transportation's engineer shall be authorized to stop all work by the Contractor when restoration and cleanup are unsatisfactory and to require appropriate remedial measures.

B. Man-Made Improvements:

1. Protect, or remove and replace with the Construction Manager's approval, all fences, walkways, mail boxes, pipe lines, drain culverts, power and telephone lines and cables, property pins and other improvements that may be encountered in the Work.

C. Cultivated Growth:

1. Do not disturb cultivated trees or shrubbery unless approved by the Construction Manager.

2. Any such trees or shrubbery which must be removed shall be heeled in and replanted under the direction of an experienced nurseryman.

D. Cutting of Trees:

1. Do not cut trees for the performance of the Work except as absolutely necessary.

2. Protect trees that remain in the vicinity of the work from damage from equipment.

3. Do not store spoil from excavation against the trunks.

4. Remove excavated material stored over the root system of trees within 30 days to allow proper natural watering of the root system.

5. Repair any damaged tree over 3-inches in diameter, not to be removed, under the direction of an experienced nurseryman.

6. All trees and brush that require removal shall be promptly and completely removed from the work area and disposed of by the Contractor.

7. No stumps, wood piles, or trash piles will be permitted on the work site.

E. Disposal of Rubbish:

1. Dispose of all materials cleared and grubbed during the construction of the Project in accordance with the applicable codes and rules of the appropriate city, state and federal regulatory agencies.

F. Swamps and Other Wetlands

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1. The Contractor shall not construct permanent roadbeds, berms, drainage structures or any other structures which alter the original topographic features within the easement.
2. All temporary construction or alterations to the original topography shall incorporate measures to prevent erosion into the surrounding swamp or wetland.
3. All areas within the easement shall be returned to their original topographic condition as soon as possible after work is completed in the area.
4. All materials of construction and other non-native materials shall be disposed by the Contractor.
5. The Contractor shall provide temporary culverts or other drainage structures, as necessary, to permit the free migration of water between portions of a swamp, wetland or stream which may be temporarily divided by construction.
6. The Contractor shall not spread, discharge or dump any fuel oil, gasoline, pesticide, or any other pollutant to adjacent swamps or wetlands.

3.12 ABANDONING EXISTING WATER MAINS

A. General:

1. Abandon in place all existing water main segments indicated on the Drawings to be abandoned.
2. Perform abandonment after the new water main has been placed in service and all water main services have been changed over to the new main.
3. Salvage for the County, existing fire hydrants, valve boxes, valve markers, and other materials indicated on the Drawings or located on water mains abandoned.

B. Capping and Plugging

1. Where existing water mains are proposed for abandonment and where portions of the water distribution system must be shut down, the Contractor shall only be permitted to perform cut and plug operations on Monday through Thursday between the hours of 12:00 midnight and 6:00 A.M.
2. Furthermore, the County does not guarantee a complete shutdown of the distribution system should a shutdown be necessary.
3. The Contractor shall anticipate cut and plug operations having to be carried out with the system under partial pressure and provide additional equipment as necessary for such an operation at no additional cost to the County.
4. Disconnect by sawing or cutting and removing a segment of existing pipe where cutting and capping or plugging is shown on the Drawings or directed by the Construction Manager.
5. Provide a watertight pipe cap or plug and concrete blocking for restraint to seal off existing mains indicated to remain in service.

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6. Seal ends of existing mains to be abandoned with a pipe cap or plug or with a masonry plug and minimum 6-inch cover of concrete on all sides around the end of the pipe.

7. The Contractor shall be responsible for uncovering and verifying the size and material of the existing main to be capped or plugged.

C. Salvaging Materials:

1. Salvage existing fire hydrants, valve boxes, valve markers and other materials as indicated on the Drawings and deliver salvaged items in good condition to the County's storage yard.

2. Coordinate delivery and placement of salvaged materials in advance with the County.

D. Blow-Off Piping:

1. Remove existing blow-off piping, located on segments of water mains to be abandoned, to a minimum of two feet below finished grade.

2. Seal the end of remaining piping as specified above in paragraph B.

3. Blow-off piping removed becomes the property of the Contractor.

E. Pavement Removal and Replacement: Perform any necessary pavement removal and replacement in accordance with the details on the Drawings and Section 32 12 16 of these Specifications.

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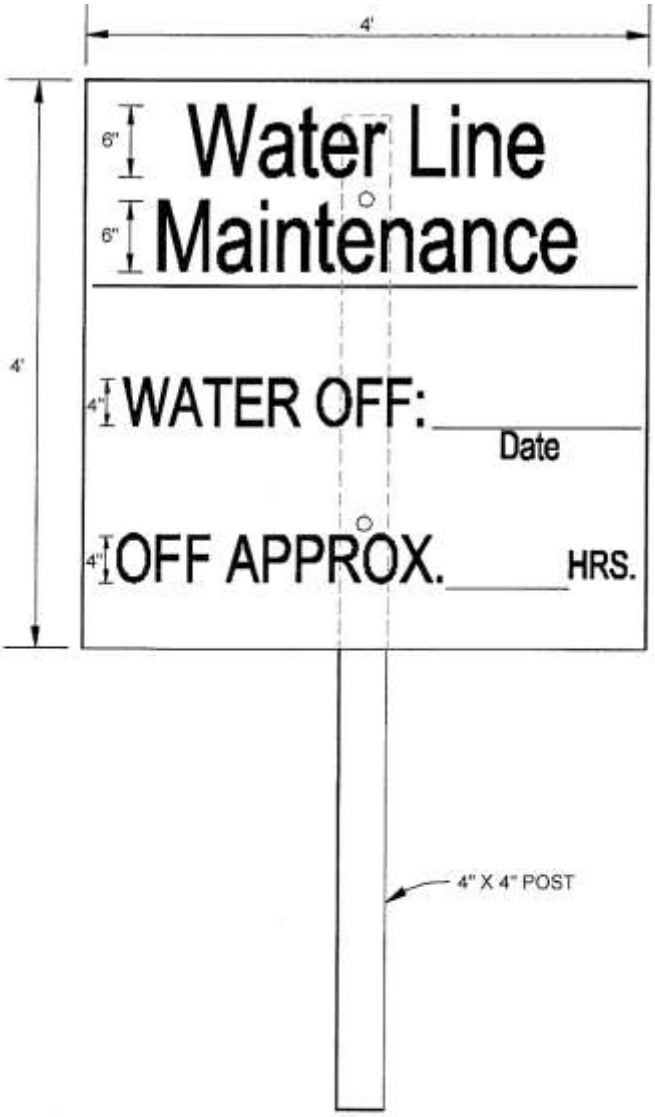
FIGURE 1



WATER LINE
MAINTENANCE
SIGN

END OF SECTION

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SECTION 40 05 06

WATER SERVICE CONNECTIONS

PART 1 – GENERAL

1.01 SCOPE

A. The work covered by this Section includes furnishing all materials and equipment, providing all required labor and installing water service connections and all appurtenant work according to these Specifications and/or to the Water Connection Detail as shown schematically on the Drawings.

B. Water meters are not to be furnished nor installed. However, the water meter connection must be compatible with the water meters currently used by the Owner.

1.02 LOCATIONS

A. Locations shall be directed by the Construction Manager along the route of the water mains.

1.03 SERVICE COMPATIBILITY

A. It is the intent of these Specifications that the water service connections shall duplicate those presently being provided by the County in order to be compatible with their service maintenance procedures.

1.04 QUALITY CONTROL

A. All materials installed under this Section shall have the approval of the NSF for water services.

PART 2 – MATERIALS

2.01 MATERIALS AND CONSTRUCTION

A. Service Line

1. No galvanized or PVC pipe or fittings shall be used on water services.
2. Copper Tubing: Tubing shall be ASTM B 88, Type K. Fittings shall be brass with flare connection inlets and outlets, ANSI B16.26. Where required, adapters shall be brass ANSI B16.18. Unions shall be cast bronze. Joints shall be flare type. All fittings shall be of bronze construction with flare type connection.

B. Meter Box for Single Family Residential (where sewer service is not present)

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1. Modified Polyethylene Meter Box shall have nominal dimensions of 19-1/2" X 12-3/8" X 18" and shall have a 10,000 lb. Load Rating with a single mouse hole in each end.
2. Cover for Meter Box shall be Modified Polyethylene with "WATER METER" in minimum 1" high letters.
3. Lids shall have oblong knock out and 1/2-inch recess for meter antennae with a ferrous magnet in the lid and a plastic locking mechanism. The covers shall have a non-skid surface.
4. Meter box and lid shall be DFW Meter Box Model 1219-18-1MKF Deep. Lid only shall be Model 1219-1-MKF Deep.
5. Minimum inside dimensions shall be 19-1/2 inches x 12-3/8 inches and at least 18 inches deep.
6. Lids shall be Fulton County standard and fit snugly on the box. Lids shall be banded together with a steel strapping and painted with black asphaltic paint before shipping.
7. Lid for Stretch Yoke Box shall be DFW Model 6514-1-MKF Deep with Oblong Knock Out and 1/2-inch Recess for Meter Antennae with a Ferrous Magnet in the lid and a plastic locking mechanism.

C. Meter Box for Irrigation Meter

1. Where irrigation meters are necessary (where sewer service is present), meter boxes shall be cast iron painted black with a locking lid quad valve box.
2. Boxes shall have nominal dimensions of 14-3/4 inches x 17 inches at bottom, 12 inches x 14 inches opening, and 12 inches tall.
3. Meter box assemblies shall include one U-branch, four ball valves, two unions, two touch plugs with cotter pins, and two expansion connections.
4. The entire assembly shall be configured to allow a 7-1/2 inch meter and an ASSE 1024 dual check valve with a combined distance of 12-3/4 inches between inlet and outlet unions for the installation of the meter and ASSE 1024 dual check valve backflow preventer.
5. The County will install the meter after property owner applies for it.
6. Meter boxes shall be equal to The Ford Meter Box Company, Inc. DGHC 228-243-TT-NL Assembly Long Double Gulfbox, Angle Inlet for 5/8-inch by 3/4-inch meter drawing C14434-001.

D. Valves and Accessories

1. Curb Stops
    a. Ball valves shall be full port bronze, heavy duty type.
    b. Valve ends shall be threaded.
    c. Valves shall have a minimum 200 psi working pressure for water.
    d. Valves shall have stainless steel nut and handle. Valves shall be

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made in the U.S.A.

e. Curb stops shall be equal to Ford BA21-444W with padlock wings. The stops shall open left.

2. Corporation Cocks

a. Corporation cocks shall be ground key type, shall be made of bronze conforming to ASTM B61 or B62 and shall be suitable for the working pressure of the system.

b. Ends shall be suitable for flare type joint. Coupling nut for connection to flared copper tubing shall conform to ANSI B16.26.

b. Corporation cocks shall be equal to Ford FB600-4. The cocks shall open left.

E. 1-1/2-inch water services are saddle tapped to the water main using the following brass material certified to ANSI/NSF Standard 61:

1. Brass Saddles/W (IPT) – Ford or equal:

Pipe Size	Part No.
6”	202B-750-IP6
8”	202B-962-IP6
10”	202B-1212IP6
12”	202B-1438-IP6
16”	202B-1840-IP6
20”	202B-2220-IP6
24"	202B-2650-IP6

2. 1 ½” Ballcorp Corporation Stop: Ford #FB1100-6-G-K or equal

3. 1 ½” Rolled Type K soft copper tubing

4. 1 ½” Meter Setter- A.Y. McDonald #20R600WWFF 666X402 or equal

5. Water meter box & lid are of a composite material, box 24x36x24, and lid with one 1 ¼” hole on top.

F. 2-inch water services are saddle tapped to the water main using the following brass material certified to ANSI/NSF Standard 61:

1. Brass Saddles/W (IPT) – Ford or equal:

Pipe Size	Part No.
6”	202B-750-IP7
8”	202B-962-IP7
10”	202B-1438-IP7
12”	202B-1438-IP7
16”	202B-1840-IP7
20”	202B-2220-IP7
24"	202B-2650-IP7

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2. 2" Ballcorp Corporation Stop: Ford #FB1100-7-G-K or equal
3. 2" Rolled Type K soft copper tubing
4. 2" Meter Setter: A.Y. McDonald #20R700WWFF 777X15.62 or equal
5. Water meter box & lid are of a composite material, box 24x36x24, and lid with two 1 ¼" holes on top.

G. Detection Tape:

1. Detection tape shall be composed of a solid aluminum foil encased in a protective plastic jacket.
2. Tapes shall be color coded in accordance with APWA color codes with the following legends: Water Systems, Safety Precaution Blue, "Caution Water Line Buried Below". Colors may be solid or striped.
3. Tape shall be permanently printed with no surface printing allowed.
4. Tape width shall be a minimum of 2-inches when buried less than 10-inches below the surface.
5. Tape width shall be a minimum of 3-inches when buried greater than 10-inches and less than 20-inches.
6. Detection tape shall be equal to Lineguard Type III Detectable or Allen Systems Detectatape.

2.02 DOUBLE DETECTOR BACKFLOW PREVENTER ASSEMBLY

A. Provide a double detector check (DDC) backflow preventer (BFP) assembly in a size to match that of the required fire line service piping. The DDC-BFP assembly shall be provided with a OS&Y gate valve near the inlet and outlet sides of the device.

B. The DDC device shall be provided with three brass ball valve test cocks fitted with brass or plastic threaded plugs. A fourth test cock shall be provided on the upstream side of the inlet shut-off valve.

C. The DDC device and shut-off valve bodies shall be cast iron, coated inside and outside with a NSF-approved, fused epoxy coating and assembled with bolts that are resistant to electrolysis. All DDC device interior/exterior components shall be of materials equal in corrosion resistance to bronze and/or stainless steel to resist electrolysis.

D. Check valves shall have replaceable seats, and be accessible by top-entry only for maintenance and repair.

E. The detector bypass line on the DDC-BFP assembly shall be of 3/4-inch copper pipe and have a bronze detector meter and a 3/4-inch DCV-BFP complete with unions and shut-off valves.

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F. The DDC-BFP assembly shall be classified or listed by the Underwriters Laboratories, Factory Mutual Insurance, and bear the ASSE seal (ASSE Standard 1049).

1. The DDC-BFP assembly shall have approval of and conform to all current requirements of the University of Southern California, Foundation for Cross-Connection Control (USC-FCCC).

2. The DDC-BFP assembly shall be individually factory tested, shipped and installed as a unit.

G. The DDC-BFP assembly shall not be buried in earth but installed below ground in a concrete vault, and as close as practical to the property line of the premises.

H. Under no condition will any connection be allowed on the system other than for fire fighting or fire protection purposes.

I. All DDC-BFP assemblies shall be tested at the time of installation and at least annually thereafter. A copy of all test and maintenance reports must be submitted to the Fulton County Water Department, Dogwood Station.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Water Service Connections

1. Immediately following completion of the water main system, water service connections and meter boxes shall be installed for the properties adjacent to the water transmission mains both to the same side of the roadway (Short Side Service) and to the opposite side of the roadway (Long Side Service) as directed by the Construction Manager.

2. The Contractor shall be prepared to make emergency repairs to the water system, if necessary, due to damage by others working in the area.

a. In conjunction with this requirement, the Contractor shall furnish and have available at all times, a tapping machine, for the purpose of making temporary water service taps or emergency repairs to damaged water services.

b. The Contractor shall furnish the County a phone number of an individual with the authority to initiate emergency repair work. This number must be provided prior to starting work on the Project.

3. All services connected to water main shall be through individual 1-inch direct taps regardless of service and meter size with the exception of 1 ½" and 2" inch services and above.

4. The water main shall be tapped with a tapping machine specifically designed for that purpose.

a. The tap shall be a direct tap into the water main through a 1-inch brass

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corporation cock. All taps shall be supervised by the County.

b. All taps shall be made on the water main at a position so as not to be the top side of the pipe nor the bottom of the pipe.

c. Distance between taps must be a minimum of 12 inches apart and not in line with each other.

5. Installation shall conform to the details for water service connections appearing schematically on the Drawings. Contractor shall provide any and all appurtenant work required to provide the intended water service connections.

B. Service Lines

1. Copper tubing between tap and water meter shall be one continuous length of pipe with no intermediate joints or connections. The service line shall be placed without sharp turns or bends from the water main to the meter box.

2. When meters are located on the opposite side of the street from the water main, new copper service lines shall be extended through a common 6-inch bore, Schedule 40 PVC conduit to the service side.

a. Replacement of existing services may be by free bore without a casing.

3. Provide detection tape over all service lines.

4. Service lines shall have a minimum 48-inch clear cover between main and meter, shallowing to allow a bury of 12-inches at the meter location.

C. Meter Boxes

1. The meter box shall be located one foot from back of right of way.

a. The meter box lid shall be set at finished grade.

b. The meter box shall be placed on two courses of brick on a bed of gravel or crushed stone. Brick shall not be placed on top of water service lines.

c. The bed of gravel or crushed stone shall be 3-inches thick and extend 6-inches in all directions beyond the edge of the meter box.

d. The box shall be carefully and uniformly backfilled to prevent distortion that would cause leaks.

e. Meter boxes shall be located in pairs within two feet of the common property lines between the lots.

2. All water meters shall have fluorescent markings at curb.

a. Markings shall not be the same color as markings denoting hydrants.

b. In addition to fluorescent markings, a saw cut ½" deep "W" notch on top of curb at water service location is required.

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D. Relocation of Service Lines

1. Relocate the existing meter to the new right-of-way limits as shown on the drawings or as ordered by the Construction Manager and reconnect to the house service. Existing meters already located at the new right-of-way limits will not need relocating.
2. Before disconnecting the existing meter, the existing corporation cock in the main shall be closed. All existing meters and meter boxes shall be removed if not already located at the right-of-way, reinstalled and reconnected as indicated on the Drawings.
3. Existing service lines shall be field-located by the Contractor. The Contractor shall be responsible for locating existing water meters, relocating the meters and meter boxes as necessary, and determining the existing size service line to reconnect the meters to the new water mains.
4. All service lines installed under existing pavement, including streets, driveways and sidewalks, shall be installed by boring.

E. Transfer of Service:

1. Immediately before connecting to the relocated or existing meter, all service lines shall be flushed to remove any foreign matter.
2. Any special fittings required to reconnect the existing meter to the new copper service line, or the existing private service line, shall be provided by the Contractor.
3. To minimize out of service time, the Contractor shall determine the connections to be made and have all the required pipe and fittings on hand before shutting off the existing service.
4. After completing the connection, the new corporation stop shall be opened and all visible leaks shall be repaired.

F. Maintenance and Repairs: The tap, service line and meter box shall remain under the Contractor's maintenance responsibility for the same warranty period as the water main. The Contractor shall promptly repair any damage to the water system during the warranty period.

END OF SECTION

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SECTION 40 05 06.16

PIPING CONNECTIONS

PART 1 – GENERAL

1.01 DESCRIPTION

A. This section specifies the following methods of connecting metallic piping: flanges, threading, mechanical couplings, equipment connection fittings, and dielectric unions.

1.02 REFERENCES

A. This section contains references to the following documents.

1. They are a part of this section as specified and modified. Where a referenced document contains references to other standards, those documents are included as references under this section as if referenced directly.
2. In the event of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.
3. Unless otherwise specified, references to documents shall mean the documents in effect at the time of Advertisement for Bids or Invitation to Bid (or on the effective date of the Agreement if there were no Bids).
4. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued.
5. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, regardless of whether the document has been superseded by a version with a later date, discontinued or replaced.

Reference	Title
ANSI B1.1	Unified Inch Screw Threads (UN and UNR Thread Form)
ANSI B1.20.1	Pipe Threads, General Purpose (Inch)
ANSI B16.1	Cast Iron Pipe Flanges and Flanged Fittings
ANSI B16.5	Pipe Flanges and Flanged Fittings
ANSI B18.2.1	Square and Hex Bolts and Screws Inch Series
ANSI B18.2.2	Square and Hex Nuts (Inch Series)
ANSI B31.1	Power Piping

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Reference	Title
ANSI B31.3	Chemical Plant and Petroleum Refinery Piping
ASME Section IX	Boiler and Pressure Vessel Code; Welding and Brazing Procedures, Welders, Brazers, and Welding and Brazing Operators Qualifications
ASTM B98	Copper-Silicon Alloy Rod, Bar and Shapes
ASTM F37	Standard Test Methods for Sealability of Gasket Materials
ASTM F104	Standard Classification System for Nonmetallic Gasket Materials
ASTM F152	Standard Test Methods for Tension Testing of Nonmetallic Gasket Materials
ASTM F593	Stainless Steel Bolts, Hex Cap Screws, and Studs
AWWA C111	Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
AWWA C206	Field Welding of Steel Water Pipe
AWWA C207	Steel Pipe Flanges for Waterworks Service-Size 4 in. through 144 in.
AWWA C219	Bolted, Sleeve-Type Couplings for Plain-End Pipe
AWWA C550	Protective Epoxy Coatings for Valves and Hydrants
AWWA C606	Grooved and Shouldered Joints
AWWA M11	Steel Pipe-A Guide for Design and Installation
NSF 61	Drinking Water System Components - Health Effects

1.03 SUBMITTALS

A. In addition to the material listed in the detailed specification, the following submittals shall be provided in accordance with Section 01 33 00:

1. For Equipment Connection Fittings used in pumping applications submit thrust rod stretch calculations and dimensional layout data.

PART 2 – PRODUCTS .

2.01 MECHANICAL COUPLINGS

A. Sleeve-Type Couplings:

1. Unless otherwise specified, sleeve-type mechanical pipe couplings shall be Smith-Blair Type 411, Dresser Style 38, or equal, with the stop removed from the middle ring.

2. Reducing couplings shall be Smith-Blair Type 415, Dresser Style 62, or equal.

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3. Sleeve-type flanged coupling adapters shall be Smith-Blair Type 913, Dresser Style 128, or equal.
4. Insulating couplings shall be Smith-Blair Type 416, Dresser Style 39, or equal.
5. Bolts for submerged service shall be made of Type 316 stainless steel in conformance with ASTM F593, markingF593F.
6. Nuts for submerged service shall be made of copper-silicon alloy bronze conforming to ASTM B98, alloy C65100, designation H04, or alloy C65500, designation H04.
7. Bolts and nuts for buried services shall be made of noncorrosive high-strength, low-alloy steel having the characteristics specified in ANSI/AWWA C111/A21, regardless of any other protective coating. Where washers are required, they shall be of the same material as the associated bolts.
8. Gaskets shall be as specified in paragraph 2.03 and AWWA C111.

B. Plain End Couplings:

1. Plain end pipe couplings for pipe sizes 6 inches and smaller shall be Gustin-Bacon 200, Victaulic Style 99, or equal for Schedule 80 pipe and Gustin-Bacon 205, Victaulic Style 90, or equal for lighter weight pipe.
2. Plain end couplings for pipe sizes 8 inches and larger shall be Gustin-Bacon 200, Victaulic Style 99, or equal.
3. Unless otherwise specified, bolts and nuts shall comply with AWWA C606.
4. Gaskets shall be as specified in paragraph 2.03 and AWWA C606.

C. Dismantling Joints:

1. Dismantling joints may be used as takedown couplings in accordance with paragraph 3.03.
2. Dismantling joints shall fully restrained double flange fittings consisting of a flange coupling adapter and flanged spool piece that allows for longitudinal adjustment.
3. Thrust restraint shall be provided by means of all threaded rod spanning between flanges and secured to the flanges with a minimum of two flange bolts.
4. Dismantling joints shall be Romac DJ-400, Smith Blair 975, or Crane-Viking Johnson Dismantling Joint.

D. Equipment Connection Fittings

1. Design of equipment connection fittings shall conform to AWWA C219.
    a. Sleeves shall be carbon steel or as specified for the specific piping system.

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b. Pressure rating of flange adapters shall equal or exceed the pressure rating of mating flanges.

c. All metal portions of equipment connection fittings, with the exception of 316 stainless steel components, shall be coated and lined with fusion bonded epoxy conforming to AWWA C550 and NSF 61.

d. Equipment connection fittings shall be Romac ECF400 Series or equal.

E. Pipe thread dimensions and size limits shall conform to ANSI Bl.20.1.

2.02 DIELECTRIC UNIONS

A. Dielectric unions shall be EPCO, Capitol Manufacturing, or equal.

PART 3 – EXECUTION

3.01 PIPE CUTTING, THREADING AND JOINTING

A. Pipe cutting, threading and jointing shall conform to the requirements of ANSI B31.1.

3.02 TAKEDOWN COUPLINGS

A. Takedown couplings shall be screw unions, flanged or grooved end mechanical coupling type joints and shall be provided as specified.

B. Flanged or grooved end joints shall be employed on pipelines 2-1/2 inches in diameter and larger. Where piping passes through walls, takedown couplings shall be provided within 3 feet of the wall, unless specified otherwise.

C. A union or flanged connection shall be provided within 2 feet of each threaded end valve.

3.03 FLEXIBILITY

A. Unless otherwise specified, piping passing from concrete to earth shall be provided with two pipe couplings or flexible joints on the buried pipe as follows:

1. Within 2 feet of the structure for 2-inch through 6-inch diameter pipe.
2. Within 3 feet of the structure for 8-inch through 24-inch diameter pipe.
3. Within one and one-half pipe diameters of the structure for larger pipe.

B. Where required for resistance to pressure, mechanical couplings shall be restrained in accordance with Chapter 13 of AWWA M11, including Tables 13-4, 13-5 and 13-5A, and Figure 13-20.

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3.04 DIELECTRIC CONNECTIONS

A. Where a copper pipe is connected to steel or cast iron pipe, an insulating section of rubber or plastic pipe shall be provided.

B. The insulating section shall have a minimum length of 12 pipe diameters.

C. Dielectric unions as specified in paragraph 2.05 may be used instead of the specified insulating sections.

3.05 EQUIPMENT CONNECTION FITTINGS

A. Shall be required:

1. To permit easy disassembly and reassembly
2. To provide misalignment adjustment between equipment connection flanges and the connection to field piping.
3. To provide full pressure thrust restraint between the field piping connection and equipment connection flanges.
4. To Impede the transmission of damaging forces.

B. Equipment connection fittings shall each conform to the requirements of the specified piping system of sufficient length to span the gap between the connection at the equipment and the connection at the field piping with gasketed flange adapters at each end.

END OF SECTION

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SECTION 40 05 19

DUCTILE IRON PIPE

PART 1 – GENERAL

1.01 DESCRIPTION

A. Scope:

1. This section specifies ductile iron pipe, ductile fittings and gaskets.

B. Definition:

1. Where cast iron pipe is specified, the term and symbol shall mean ductile iron pipe.

1.02 REFERENCES

A. This section contains references to the following documents.

1. They are a part of this section as specified and modified. Where a referenced document contains references to other standards, those documents are included as references under this section as if referenced directly.
2. In the event of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.
3. Unless otherwise specified, references to documents shall mean the documents in effect at the time of Advertisement for Bids or Invitation to Bid (or on the effective date of the Agreement if there were no Bids).
4. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued.
5. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, regardless of whether the document has been superseded by a version with a later date, discontinued or replaced.

Reference	Title
ANSI B1.1	Unified Inch Screw Threads (UN, UNR, and UNJ Thread Forms)
ANSI B16.1	Cast Iron Pipe Flanges and Flanged Fittings Class 25, 125, 250, and 800
ANSI B16.5	Pipe Flanges and Flanged Fittings
ASTM A 193	High Tensile Alloy and Stainless Steel Bolts

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Reference	Title
ASTM A 194	Carbon Steel, Alloy Steel, and Stainless Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both
ASTM A242	Standard Specification for High-Strength Low-Alloy Structural Steel
ASTM A307	Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength
ASTM A563	Standard Specification for Carbon and Alloy Steel Nuts (Inch and Metric)
ASTM A716	Ductile-Iron Culvert Pipe
ASTM B633	Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel
ASTM C150	Portland Cement
AWWA C104 (ANSI A21.4)	Cement-Mortar Lining for Ductile- Iron and Gray-Iron Pipe and Fittings for Water
AWWA C105 (ANSI A21.5)	American National Standard for Polyethylene Encasement For Ductile-Iron Pipe Systems
AWWA C110 (ANSI A21.10)	Ductile-Iron and Gray-Iron Fittings, 3 In. Through 48 In., for Water and Other Liquids
AWWA C111 (ANSI A21.11)	Rubber-Gasket Joints for Ductile- Iron and Gray-Iron Pressure Pipe and Fittings
AWWA C115 (ANSI A21.15)	Flanged Ductile-Iron and Gray-Iron Pipe With Threaded Flanges
AWWA C116 (ANSI A21.16-09)	Protective Fusion-Bonded Epoxy Coatings for the Interior and Exterior Surfaces of Ductile-Iron and Gray-Iron Fittings
AWWA C150 (ANSI A21.50)	Thickness Design of Ductile-Iron Pipe
AWWA C151 (ANSI A21.51)	Ductile-Iron Pipe, Centrifugally Cast, in Metal Molds or Sand-Lined Molds, for Water or Other Liquids
AWWA C153 (ANSI A21.53)	Ductile-Iron Compact Fittings, 3 In. Through 12 In. for Water and Other Liquids
AWWA C600	Installation of Ductile-Iron Water Mains and Their Appurtenances
AWWA C606	Grooved and Shouldered Type Joints

1.03 SUBMITTALS

A. The following information shall be provided in accordance with Section 01 33 23:

1. A copy of this specification section, with addendum updates included, and all referenced and applicable sections, with addendum updates included, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements.

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a. Check marks shall denote full compliance with a paragraph as a whole.

b. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation.

c. The Engineer shall be the final authority for determining acceptability of requested deviations.

d. The remaining portions of the paragraph not underlined will signify compliance on the part of the Contractor with the specifications.

2. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.

B. The following information shall be submitted by pipe and fitting suppliers

1. Name of the pipe manufacturer and a list of the piping and quantities to be provided by manufacturer.

2. Name(s) of fitting manufacturer(s) and lists of fittings and quantities to be provided by manufacturer.

3. Pipe and fitting product data indicating conformance with this Specification, applicable standards, and warranty provisions, including written documentation regarding any intended variance from this specification and applicable standards.

4. At the time of shipment, the supplier shall provide certified documentation of pipe and fitting conformance with this Specification and applicable pipe and fitting standards specified herein.

PART 2 – PRODUCTS

2.01 GENERAL

A. Pipe design, materials and manufacture shall comply with the following documents:

Item	Document
Thickness design	AWWA C150
Manufacturing requirements	
• Water or other liquid	AWWA C151
Gravity service pipe	ASTM A716
Joints	
• Rubber gasket	AWWA C111

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Item	Document
• Threaded flange	AWWA C115
Fittings	
• Water or other liquid	AWWA C110/AWWA C153
Cement mortar lining	AWWA C104

B. All ductile iron pipe shall be marked in accordance with AWWA C151 and ductile iron fittings shall be marked in accordance with AWWA C110.

C. Acceptable Manufacturers

1. American Cast Iron Company
2. U.S. Pipe
3. Or approved equal

2.02 PIPE

A. All pipe shall be Class 50 (thickness class) for 16-inch and smaller, and Class 51 for 18-inch and larger, unless otherwise specified or shown on the Drawings.

B. Flanged pipe minimum wall thickness shall be equal to Special Class 53. Flanges shall be furnished by the pipe manufacturer.

C. All pipes shall have a minimum pressure rating as indicated in the following table, unless otherwise specified or shown on the Drawings:

Diameter	Minimum Pressure Class
4” through 20”	350
24” and greater	300

D. Unless otherwise specified, pipe shall have nominal laying lengths of 18 or 20 feet.

E. All pipe shall be manufactured in the United States of America.

F. Certificates of conformance with the foregoing specifications shall be furnished with each lot of pipe supplied.

2.03 GASKETS

A. Unless otherwise specified, gasket stock shall be a synthetic rubber compound in which the elastomer is nitrile or neoprene.

1. The compound shall contain not less than 50 percent by volume nitrile or neoprene and shall be free from factice, reclaimed rubber and other deleterious substances.

B. Gaskets for flanges shall be the full face type and 1/8 inch thick.

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C. Gaskets shall, in addition, comply with AWWA C111 for push-on and mechanical joints and with AWWA C606 for grooved end joints.

D. Sufficient lubricant shall be furnished with each order of pipe to provide a thin coating on both the gasket and the spigot-end of the pipe.

1. Lubricant shall be NSF 61 approved and shall have no deleterious effect on the rubber gasket.

2. Lubricant shall be of such consistency that it can be easily applied to the pipe in either hot or cold weather, and shall satisfactorily adhere to either wet or dry pipe.

3. ONLY LUBRICANT FURNISHED WITH THE PIPE BY THE PIPE MANUFACTURER SHALL BE USED.

2.04 FITTINGS

A. Unless otherwise specified, fittings shall conform to AWWA C110 with a minimum rated working pressure of 250 psi.

B. Ends shall be flanged, restrained mechanical joint, restrained push-on, or grooved to suit the conditions specified.

C. The AWWA C153 compact ductile iron fittings in sizes 3 through 12 inches are an acceptable substitute for standard fittings unless otherwise specified.

D. In general, use flanged fittings with long radius elbows except where space limitations prohibit use of same.

E. Design of special flanged fittings, including wall castings, shall conform to dimensions and details as directed, indicated, or noted on the approved drawings.

F. Fittings shall be cement lined in accordance with AWWA C104 and shall be furnished with a bituminous outside coating.

G. In lieu of cement lining and bituminous coating, fittings may be provided with a fusion bonded coating and lining meeting the requirements of AWWA C116.

H. Galvanized pipe fittings and PVC pipe fittings shall not be used as any part of the Fulton County Water Transmission and Distribution System, nor shall it be used to join any appurtenances to the System.

2.05 JOINTS

A. Unrestrained Joints:

1. Push-On Joints:

a. Unrestrained joints, where specified, shall be the rubber ring compression, push-on type joint suitable for buried services.

b. Acceptable unrestrained joints shall be:

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1) Fastite Joint as manufactured by American Cast Iron Pipe Company

2) Tyton Joint as manufactured by U.S. Pipe

3) Or approved equal.

c. This joint is not permitted on fittings or specials, unless otherwise specified.

d. Unless otherwise specified, joints shall have an allowable maximum deflection up to 5 degrees at specified pressures.

e. Joint assembly and field cut joints shall be made in strict conformance with AWWA C600 and manufacturer's recommendations.

2. Mechanical Joints:

a. Where specified, mechanical joints for above or below ground services shall meet the requirements of ANSI/AWWA A21.10/C110 and ANSI/AWWA A21.11/C111.

b. Mechanical joint glands shall be ductile iron.

c. Gaskets and bolts and nuts shall comply with paragraphs 2.03 and 2.05D, respectively.

B. Restrained Joints:

1. General:

a. Unless otherwise specified, restrained joints shall be flanged or grooved end for exposed service and restrained push-on or restrained mechanical for buried services.

b. Restrained joint pipe (RJP) on supports shall have bolted joints and shall be specifically designed for clear spans of at least 36 feet.

2. Push-On Joints:

a. Restrained push-on joints shall be as specified in paragraph 2.05A, modified for restraint.

b. Acceptable restrained push on Joints

1) Flex-Ring or Lok-Ring Joint as manufactured by American Cast Iron Pipe Company,

2) TR Flex or HP Lok Joint as manufactured by US Pipe

3) Clow “SUPER-LOCK”

4) Griffin “SNAP-LOK”

5) Or approved equal.

c. Restraining gasket joints shall be assembled with American Fast-Grip gaskets or US Pipe FIELD LOK gaskets and may be used for pipe 12-Inches in diameter or less.

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d. Restrained joints shall be capable of being deflected after full assembly.

e. Joint assembly shall be in strict conformance with AWWA C600 and manufacturer's recommendations.

f. No field welding for manufactured restrained joint pipe assembly will be permitted.

g. No field cuts of restrained pipe are permitted without prior approval of the Construction Manager.

h. Where field cutting of restrained joint pipe is required, the joint shall be assembled with American Field Flex-Rings or US Pipe TR FLEX GRIPPER Rings.

3. Flange Joints:

a. Unless otherwise specified, flanges shall be flat faced, ductile iron and shall be threaded-on flanges conforming to ANSI/AWWA A21.15/C115 or cast-on flanges conforming to ANSI/AWWA A21.10/C110.

b. Flanges shall be adequate for 250 psi working pressure.

c. Bolt circle and bolt holes shall match those of ANSI B16.1, Class 125 flanges and ANSI B16.5, Class 150 flanges.

d. Where specified, flanges shall be threaded-on or cast-on flanges conforming to ANSI B16.1, Class 125.

e. Gaskets shall be as specified in Paragraph 2.03.

4. Thrust collars shall be welded-on ductile iron body type or split retainer gland type, as shown on the Drawings or directed by the Construction Manager, designed to withstand thrust due to 250 psi internal pressure on a dead end.

5. Anchorage:

a. All valves, caps, tees, bends deflecting 11 ¼ degrees or more and other fittings shall have two forms of restraint as one of the following:

1) Manufactured restrained joint plus concrete blocking (3,000 psi concrete thrust block sized to withstand line pressures of 300 psi and soil bearing pressures of 2,000 psf)

2) Manufactured restrained joint plus rodding to concrete thrust collar (3,000 psi concrete collar and tie rods sized to withstand line pressures of 300 psi and soil bearing pressures of 2,000 psf)

6. Mechanical Joints:

a. Where specified, restrained mechanical joints shall be the positive restraint type.

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b. Retainer glands on a mechanical joint may be used as a restrained joint only where retainer glands are specifically shown on the drawings, where specifically specified or where specifically identified and allowed by the Construction Manager.

1) Retainer glands shall be Megalug Series 1100, as manufactured by EBAA Iron, or Uni-Flange Series 1400, as manufactured by Ford Meter Box Company.

c. Locked mechanical hydrant tees, bends and adapters are an acceptable substitute for anchoring fire hydrants and valves to the pipe main.

C. Ball and Socket Flexible Joint Pipe:

1. Ball and socket flexible joint pipe shall be the boltless type and shall allow a maximum joint deflection of 15 degrees.
2. Each joint shall be provided with a retainer lock to prevent rotation after assembly.
3. Joints shall be the Flex-Lok Joint as manufactured by American Cast Iron Pipe Company, USIFLEX as manufactured by U.S. Pipe, or equal.

D. Bolts and Nuts:

1. Provide the necessary bolts for connections. All bolts and nuts shall be threaded in accordance with ANSI B1.1, Coarse Thread Series, Class 2A external and 2B internal fit. All bolts and nuts shall be made in the U.S.A.
2. Bolts and nuts for mechanical joints shall be Tee Head Bolts and nuts of high strength low-alloy steel in accordance with ASTM A 242 to the dimensions shown in AWWA C111/ANSI A21.11.
3. Flanged joints shall be bolted with through stud or tap bolts of required size as directed. Bolt length and diameter shall conform to ANSI/AWWA C115 for Class 125 flanges shown in ANSI/ASME B16.1.
4. Bolts for exposed service shall be zinc plated, cold pressed, steel machine bolts conforming to ASTM A 307, Grade B. Nuts for exposed service shall be zinc plated, heavy hex conforming to ASTM A 563. Zinc plating shall conform to ASTM B 633, Type II.
5. Bolts for submerged service shall be stainless steel machine bolts conforming to ASTM A 193, Grade B8M. Nuts shall be heavy hex, stainless steel conforming to ASTM A 194, Grade 8M.
6. Corrosion-resistant bolts and nuts for use with ductile iron joints shall be Type 316 stainless steel.

E. Thrust collars shall be welded-on ductile iron body type or split retainer gland type, as shown on the Drawings or directed by the Construction Project Manager, designed to withstand thrust due to 250 psi internal pressure on a dead end.

F. Tapping Saddles: Tapping saddles are not allowed.

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G. Pipe outlets shall be welded-on ductile iron pipe and shall be provided in lieu of tees or saddles on mains with a diameter greater than or equal to 24-inches.

1. Outlets shall be plain end, push-on, mechanical or flanged joint, and shall meet the joint requirements stated in this Specification.
2. All welding, fabrication and outlet hole drilling shall be performed by the manufacturer of the parent pipe.
3. Outlets shall be free of burrs. Sizes shall be as indicated on the Drawings.
4. The outlets and parent pipe shall be minimum Class 53 ductile iron pipe for parent pipe 54-inches and smaller.
5. For pipe larger than 54-inches, parent pipe shall be Pressure Class 350.
6. Each welded outlet shall be rated for 250 psi working pressure and hydrostatically tested at 500 psi.
7. The maximum outlet diameters shall not exceed those listed in the table below:

Parent Pipe Diameter, Inches	Maximum Outlet Diameter, Inches
24	16
30	20
36	24
42	30
48	30
54	30
60	30
64	30

2.06 PIPE COATING

A. The exterior of ductile iron pipe and fittings shall be coated with a layer of arc-sprayed zinc per ISO 8179.

1. The mass of the zinc applied shall be 200 g/m^2 of pipe surface area.
2. A finishing layer of bituminous topcoat as specified in AWWA C151 shall be applied to pipe and fitting over the zinc.
3. The coating system shall conform in every respect to ISO 8179-1 “Ductile iron pipes – External zinc-based coating - Part 1: Metallic zinc with finishing layer. Second edition 2004- 06-01.”

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B. Where corrosive soils or soils with electrical currents are encountered that may, or in the judgment of the Owner, cause a deleterious effect on the piping system, the piping system shall be wrapped with polyethylene in accordance with the manufacturers recommendations to a minimum distance of 20 lineal feet beyond such conditions.

1. All elements of the piping system shall be wrapped entirely in polyethylene tubbing and secured with polyethylene tape to completely prevent the entrance of foreign matter.
2. Such encasement shall be carried out in accordance with AWWA/ANSI C105/A21.5.

2.07 PIPE LINING

A. Cement Mortar Lining:

1. Pipe:
   a. Cement mortar lining shall be to Standard thickness in accordance with ANSI/AWWA C104/A21.4 .
2. Fittings:
   a. Cement mortar lining shall be to Double thickness in accordance with ANSI/AWWA C104/A21.4

2.08 PRODUCT DATA

A. The following information shall be provided in accordance with Section 01 33 23:

1. Shop drawings.
2. Alignment drawings.
3. Certifications specified in the following documents:
   a. ASTM A716, paragraph 4.2
   b. AWWA C110, paragraph 10-5.3
   c. AWWA C111, paragraph 11-7.1
   d. AWWA C115, paragraph 15-4.2
   e. AWWA C151, paragraph 51-5.2
   f. AWWA C153, paragraph 53-6.3
   g. AWWA C606, paragraph 4.1.1.1

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PART 3 – EXECUTION

3.01 INSTALLATION

A. General:

1. Piping runs specified on the Drawings shall be followed as closely as possible. Proposed deviations shall be submitted in accordance with Section 01 33 00.
2. Pipe shall be installed in accordance with AWWA C600.
3. Coatings and linings shall be inspected for damage during installation, and damage shall be repaired according to the coating manufacturer's recommendations.

B. Insulating Sections:

1. Where a metallic nonferrous pipe or appurtenance is connected to ferrous pipe or appurtenance, an insulating section shall be provided as specified in Section 40 05 06.16.

C. Anchorage:

1. Anchorage shall be provided as specified. Calculations and drawings for proposed alternative anchorage shall be submitted in accordance with Section 01 33 00.

3.02 ACCEPTANCE TESTING

A. Hydrostatic pressure and leakage tests shall be conducted in accordance with Section 4 of AWWA C600 except that test pressures and allowable leakage shall be as listed in Section 40 05 01.

B. Contractor shall conduct the tests in the presence of Construction Manager.

3.03 GUARANTEE

A. Material Warranty:

1. A written guarantee of 20 years submitted to the County for the specific project shall be provided by the Manufacturer against any defects of the pipe and fittings material.
2. A successful pressure test or pressure leak test prior to the expiration of the warranty period shall not relieve the supplier of warranty responsibility for the full warranty term.

B. Workmanship Warranty:

1. The Contractor shall guarantee the Work is free from defects in material and workmanship for a period of 10 years from the final acceptance

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including, but not be limited to, all water mains, appurtenances, trenches, roadways, landscaping, and other areas disturbed by the construction of the project.

2. The warranty shall cover the costs to repair or replace items including, but not be limited to, water mains, service mains appurtenances, trenches, roadways, landscaping, other areas disturbed by the construction of the project and freight to project site, should these items have any defects in material or workmanship.
3. A successful pressure test or pressure leak test prior to the expiration of the warranty period shall not relieve the installer of warranty responsibility for the full warranty term.

C. Deficiencies related to material and workmanship shall be repaired by Contractor to the satisfaction of the Construction Manager.

D. No bell clamps or wrap around corsets are allowed as a means of repair on new pipelines.

E. The Contractor shall be responsible to cover all costs, including materials and labor, associated with these repairs.

F. If required, Contractor and pipe manufacturer representatives may participate in inspections to determine such deficiencies.

G. If repairs are made, the Contractor/Manufacturer shall warrant the repaired work for the periods as specified above for material and workmanship in addition to the original warranty period required by the Contract.

H. The Contractor shall be responsible for repairs to any trench settlements caused by leaking pipe, fittings, etc. He shall promptly furnish and place fill to original grade.

I. Should any leaks or trench settlement occur under the new pavement, the Contractor will be held responsible for the cost of all repairs, including pavement replacement.

J. Within the guarantee period, where no loss of customer service or property damage is involved, the Contractor shall begin work on requested repairs or corrective measures with 24 hours following notification by Owner.

K. If property damage or loss of customer service is involved, the Contractor shall begin work with four (4) hours of notification by Owner.

L. Unless otherwise specified, the warranty periods shall begin after the Certificate of Acceptance is issued for the Contract.

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3.04 INSPECTION

A. Furnish to Owner copies of the Manufacturer's Sworn Certificate of Inspection and Testing of all ductile iron pipe and ductile iron fittings provided on the Work.

B. All ductile iron pipe and cast iron fittings will be subject to inspection and approval by Owner after delivery of material to the site. Do not use broken, cracked, misshaped, imperfectly coated, unsatisfactory, or otherwise damaged pipe or fittings.

C. Such inspection by Owner does not relieve the Contractor of full responsibility for the material installed.

END OF SECTION

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SECTION 40 05 64

BUTTERFLY VALVES

PART 1 – GENERAL

1.01 DESCRIPTION

A. Scope:

1. This Section specifies resilient seated butterfly valves 16 inches in diameter and larger for services in the water systems. Unless specified otherwise, the valves shall be manually operated.

B. Type:

1. Butterfly valves shall be resilient seated, short body design, and shall be designed, manufactured, and tested in accordance with all requirements of AWWA C504 and as modified below.
2. All valves furnished under this specification shall be suitable for installation in vaults or direct burial as specified. Unless otherwise specified, all valves shall conform to ANSI/AWWA 504.

C. Design and Performance Requirements:

1. Valves shall be designed for a rated working pressure of 250 psi
2. Valves furnished under this specification shall be suitable for use in water services.
3. Valves furnished under this specification shall be Class 250.
4. Valve shall be able to withstand a 500 psi pressure test without being damaged.

1.02 REFERENCES

A. This section contains references to the following documents.

1. They are a part of this section as specified and modified. Where a referenced document contains references to other standards, those documents are included as references under this section as if referenced directly.
2. In the event of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.
3. Unless otherwise specified, references to documents shall mean the documents in effect at the time of Advertisement for Bids or Invitation to Bid (or on the effective date of the Agreement if there were no Bids).
4. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement

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documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued.

5. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, regardless of whether the document has been superseded by a version with a later date, discontinued or replaced.

Reference	Title
ANSI B16.1	Cast Iron Pipe Flanges and Flanged Fittings Class 25, 125, 250 and 800
ANSI B16.5	Pipe Flanges and Flanged Fittings
ANSI B46.1	Surface Texture
ASTM A36	Structural Steel
ASTM A48	Gray Iron Castings
ASTM A108	Steel Bars, Carbon, Cold-Finished, Standard Quality
ASTM A126	Gray Iron Castings for Valves, Flanges, and Pipe Fittings
ASTM A216/A216M	Steel Castings, Carbon, Suitable for Fusion Welding, for High Temperature Service
ASTM A276	Stainless and Heat-Resisting Steel Bars and Shapes
ASTM A436	Austenitic Gray Iron Castings
ASTM A536	Ductile Iron Castings
AWWA C504	Rubber-Seated Butterfly Valves
ANSI/NSF 61	Drinking Water System Components Health Effects

1.03 SUBMITTALS

A. Action Submittals:

1. Procedures: Section 01 33 00.

2. A copy of this specification section, with addendum updates included, and all referenced and applicable sections, with addendum updates included, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements.

   a. Check marks (✓) shall denote full compliance with a paragraph as a whole.

   b. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation.

   c. The Construction Manager shall be the final authority for determining acceptability of requested deviations.

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d. The remaining portions of the paragraph not underlined will signify compliance on the part of the Contractor with the specifications.

e. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.

3. Affidavit of compliance, as required by AWWA C504.

4. Catalog information, sectional views showing internal details, dimensions, weights, and bills of material detailing construction materials for the each size and Type valve. This information shall be in sufficient detail to demonstrate compliance with this Section and any related specification.

5. Installation drawings depicting the arrangement of each valve.

B. Informational Submittals:

1. Procedures: Section 01 33 00

2. Certified test records.

a. Certification shall be by an officer of the manufacturing corporation.

3. Installation details and instructions.

4. Manufacturer's Installation Certification Form 43 05 11-A specified in Section 01 99 90.

1.04 FACTORY TESTS

A. Butterfly valves shall be subjected to hydrostatic and leakage tests in accordance with ANSI/AWWA C504.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers: Candidate manufacturers are listed below. The manufacturer's standard product may require modification to conform to specified requirements:

1. DeZurik
2. American
3. M&H
4. Mueller
5. Pratt

B. All valves shall be manufactured in the U.S.A.

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2.02 MATERIALS

A. Valves shall be 250 pound valves constructed of the following materials unless otherwise specified:

Component	Material
Shaft and Shaft Hardware	Stainless steel, ASTM A564, Type 630, machined and polished
Disc	Ductile iron, ASTM A536, Gr 65-45-12
Seat Mating Surface	See Paragraph 2.03 C
Seat Sealing Surface	See Paragraph 2.03 C
Body	Ductile iron, ASTM A536, Gr 65-45-12

B. All materials shall be NSF-61 compliant.

2.03 MANUFACTURE

A. Body:

1. The body shall have openings equal to the size of the connecting piping and shall be arranged for installation with the shaft in the horizontal.
2. Finish on all body waterway surfaces shall be 3.2 or better in accordance with ANSI B42.1.
3. The valve shall be suitable for buried or exposed installation as specified.
4. A mounting pad shall be provided on the extended shaft end of the body for mounting the worm gear operator.
5. Valve for buried services shall be mechanical joint type, except where other joint ends are shown.
6. Valves for exposed services shall have flanged joints meeting the requirements of ANSI B16.1, Class 250, but drilled and faced to Class 125 dimensions.

B. Disc:

1. The disc shall be streamlined to provide minimum loss characteristics in the open position.
2. The disc shall be finished smooth on all surfaces to 3.2 or better in accordance with ANSI B46.1.
3. Disc seats shall conform to the requirements of paragraph 2.02C .
4. Discs shall be retained on the shaft by pins or keys.
5. All shaft joints shall be pinned in two directions.

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C. Seats:

1. The resilient valve seat shall be located on the valve disc and shall be fully field adjustable and field replaceable.
2. Resilient seating materials shall be mounted with 316 L SS hardware on the disc with bolted, continuous 316L SS retainer plates.
3. Valves with resilient seats mounted on the body will not be acceptable.
4. The Contractor shall furnish documentation, signed under penalty of perjury by an officer of the valve manufacturer's corporation, that the material selected for the seating material meets the requirements of paragraphs 3.5.3.3.2 and 3.5.3.3.3 of ANSI/AWWA C504 under actual test.
5. The seat design shall be such that the seat material can be replaced without removing the valve from the pipeline and can be adjusted from within the pipe.
6. The design shall be such that the resilient material is retained and cannot extrude under the specified differential pressure.
7. All bolts, cap screws, keeper plates, lock washers and retainers shall be of stainless steel or Monel.
8. Body seats shall be 316L stainless steel with machined face, mechanically fastened to the valve body.
9. The mating surface shall have a minimum thickness of 3/8-inch.

D. Bearings:

1. Bearings shall be bronze, conforming to ANSI/AWWA C504 and shall be replaceable.

E. Shaft Seals:

1. Shaft seals shall be replaceable without removing the valve from the pipeline.
2. The seals shall be retained in the seal cavity by devices that are independent from the actuator mechanism.
3. Seals shall be replaceable without disturbing the actuator mechanism.
4. Packing shall be TFE impregnated fiber.
5. All shaft seal hardware shall be 316 stainless steel.

2.04 MANUAL OPERATORS

A. General:

1. Manual operators shall be designed in accordance with AWWA C504 and shall have a disc position indicator designating the opened and closed position of the valve.

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B. Manual Operators

1. Manual operators shall be of the traveling nut, rack and pinion or worm gear type.
2. Valves shall be equipped with traveling nut, self-locking type operators designed, manufactured and tested in accordance with AWWA C504.
3. Operators shall be capable of holding the disc in any position between full open and full closed without any movement or fluttering of the disc.
4. Operators shall be equipped with fully adjustable mechanical stop-limiting devices to prevent over travel of the disc in the open and closed positions and shall be self-locking and designed to hold the valve in any intermediate position between full open and full closed.
5. Operators that utilize the sides of the actuator housing to limit disc travel are not acceptable.
6. Valve operator components shall withstand an input torque of 450 ft-lbs at the extreme operator positions without damage.
7. Valves for buried services or where otherwise shown on the Drawings shall include an AWWA operating nut and shall be gasketed and grease packed for submerged operation at water pressures to 10 psig.
8. Valves for buried services shall have a 2-inch square wrench nut type operator and shall be equipped with a valve box and stem extension, as required and shall open left.
9. Operators for exposed service shall include a handwheel and be gasketed for weatherproof service.

2.05 PAINTINGS AND OTHER COATINGS

A. All valves, where not constructed of brass or bronze, or of finished steel, shall be coated at the point of manufacture in accordance with the AWWA Standard Specifications for Painting Ductile or Cast Iron Water Pipes and Fittings.

B. Resilient seated valves shall only be provided with a bonded epoxy coating.

C. Machined surfaces shall be given a suitable coating of grease or other protective material.

2.06 PRODUCT DATA

A. Affidavits of compliance with AWWA C504 for Type A valves shall be provided in accordance with Section 01 33 00.

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PART 3 – EXECUTION

3.01 INSTALLATION

A. Valves for buried services shall be installed with the valve shafts horizontal.

B. Valves and operators shall have seals on all shafts and gaskets on valve actuator covers to prevent the entry of water. Actuator mounting brackets shall be totally enclosed and shall have gasket seals.

C. Valves shall be installed as specified and in accordance with manufacturer's written recommendations.

D. The installation and initial operation shall be certified on Form 43 05 11-A specified in Section 01 99 90.

3.02 TESTING

A. Test in accordance with Class B, AWWA C504 Section 5.2 testing requirements modified as follows:

1. The leakage test shall be performed at a pressure of 250 psi
2. The hydrostatic test shall be performed at a pressure of 500 psi
3. Proof of design tests shall be performed and certification of such proof of design test shall be provided to the Construction Manager.

B. Upon completion of installation, the valves shall be pressure tested to demonstrate a leak-free closure.

3.03 MANUFACTURER’S SERVICES

A. Butterfly valve supplier shall provide one (1) day of field/start-up services by the manufacturer’s factory personnel.

END OF SECTION

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SECTION 40 05 70

BACKFLOW PREVENTERS

PART 1 – GENERAL

1.01 SCOPE

A. This section includes materials, installation, and testing of reduced-pressure backflow prevention devices and check valve and double check valve assemblies.

1.02 REFERENCE SECTIONS

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

B. Reference shall be made to the latest edition of said standards unless otherwise called for.

1. AWWA Publication Cross-Connection and Backflow Prevention
2. AWWA C510 - Double Check Valve Backflow-Prevention Assembly
3. AWWA C511 - Reduced-Pressure Principle Backflow-Prevention Assembly
4. AWWA M14 - Recommended Practice for Backflow Prevention and Cross-Connection Control

1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Agencies of Jurisdiction rules and regulations regarding “Cross Connection Control and Backflow Prevention”.

B. Fulton County Standard Drawings.

C. Fulton County Standard Specifications.

1.04 SERVICE APPLICATION

A. Reduced-pressure backflow prevention assemblies shall be provided on all commercial and industrial water services. Depending on degree of hazard, a double check valve assembly may be required in place of a reduced-pressure backflow assembly.

B. Reduced-pressure backflow prevention assemblies shall be provided on irrigation services where served by potable water.

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C. Reduced-pressure backflow prevention assemblies shall be provided on potable water services where recycled water, well water or any other water supply is served to the same property.

D. Double check valve assemblies shall be provided at all points of connections to County sources at construction sites.

E. Reduced-pressure detector assemblies shall be provided on all fire services. Backflow prevention on fire services shall be as required by the County.

F. The County shall be the final authority as to the location, installation, and type of backflow prevention device required.

1.05 GENERAL DESIGN CONSIDERATIONS

A. The design and construction of backflow prevention assemblies shall meet the requirements called for in this specification except that any modifications specifically shown on the Approved Plans shall take precedence over these general standards.

B. The nominal size of the backflow prevention device shall be equal to or greater than the size of the purchased meter. For example, a 25mm (1") meter shall have a 25mm (1") or larger backflow device.

C. The assembly shall include same size valves located on either side of the backflow prevention assemblies. Four test cocks shall be appropriately located on the assembly for testing and certification.

D. The nominal size of reduced-pressure principle detector assemblies shall be as shown on the Approved Plans or as directed by the Fire Department of jurisdiction.

E. Enclosures and concrete slabs shall be provided only as shown on the Approved Plans or as required by the County.

1.06 DELIVERY, STORAGE AND HANDLING

A. Backflow prevention assemblies shall be delivered and stored in accordance with AWWA C210, AWWA C213, and AWWA C550.

B. The port openings shall be covered with plastic, cardboard, or wood while in transit and during storage in the field.

C. These covers shall remain in place until the backflow assembly is ready to be installed.

D. Backflow assemblies shall not be stored in contact with bare ground.

E. Backflow assemblies shall not be stacked.

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1.07 RECYCLED WATER IDENTIFICATION

A. Backflow prevention assemblies and enclosures, if required, for recycled water shall be identified with purple-colored coating, identification labels, or signs.

1.08 WARNING/IDENTIFICATION TAPE

A. Warning/Identification tape shall be installed for backflow prevention assemblies.

PART 2 – MATERIALS

2.01 BACKFLOW PREVENTION ASSEMBLIES

A. Backflow prevention assemblies shall be among those listed on the list below for the size of the water service line.

B. Double Check Assemblies

1. Watts LF007 Double Check Assembly for 5/8 inch to 2 inch.
2. Watts 774 Double Check Assembly for 2-1/2 inch to 12 inch.

C. Reduced Pressure Zone Assemblies

1. Watts LF009 RPZ Assembly for 5/8 inch to 2 inch.
2. Ames 4000SS RPZ Assembly for 2-1/2 inch to 12 inch.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Installation shall comply with the latest edition of the Uniform Plumbing Code, applicable local agency and County requirements.

B. Backflow prevention assemblies shall be installed in accordance with the Standard Drawings in separate vaults or boxes.

C. Water service and fire service shut-off valves will be secured closed during installation until an approved backflow prevention device is installed and tested in compliance with this specification.

D. When static pressure exceeds 150psi, when recommended by the backflow device manufacturer, or when required by the County, a pressure-reducing valve shall be installed as shown on the Standard Drawings.

END OF SECTION

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EXHIBIT G
DRAWINGS

(SEE SOLICITATION DOCUMENT)

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EXHIBIT H
PURCHASING FORMS

STATE OF GEORGIA

COUNTY OF FULTON

FORM A: GEORGIA SECURITY AND IMMIGRATION CONTRACTOR AFFIDAVIT AND AGREEMENT

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services[1] under a contract with **[insert name of prime contractor]** WADE COOTS COMPANY, INC. on behalf of **Fulton County Government** has registered with and is participating in a federal work authorization program*,[2] in accordance with the applicability provisions and deadlines established in O.C.G.A. 13-10-91.

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

1435443
EEV/Basic Pilot Program* User Identification Number

BY: Authorized Officer of Agent
(Insert Contractor Name)

VICE-PRESIDENT
Title of Authorized Officer or Agent of Contractor

W. GREG COOTS
Printed Name of Authorized Officer or Agent

Sworn to and subscribed before me this 17th day of FEBRUARY, 2026

Notary Public:

County: FLOYD

Commission Expires: 4-2-29

MARK SHAWN SUTTON
COMMISSION # W-00695973
NOTARY PUBLIC
EXPIRES 04-02-2029
FLOYD COUNTY, GEORGIA

[1] O.C.G.A. § 13-10-90(4), as amended by Senate Bill 160, provides that "physical performance of services" means any performance of labor or services for a public employer (e.g., Fulton County) using a bidding process (e.g., ITB, RFQ, RFP, etc.) or contract wherein the labor or services exceed $2,499.99, except for those individuals licensed pursuant to title 26 or Title 43 or by the State Bar of Georgia and is in good standing when such contract is for service to be rendered by such individual.

[2] *[Any of the electronic verification of work authorization programs operated by the United States Department of Homeland Security or any equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603].

FORM C1: CONTRACTOR'S GEORGIA UTILITY LICENSE CERTIFICATION

Contractor's Name: WADE COOTS COMPANY, INC

Utility Contractor's Name: W. GREG COOTS

Expiration Date of License: 4-30-26

I certify that the above information is true and correct and that the classification noted is applicable to the Bid for this Project.

Signed: [signature]

Date: 2-12-26

(ATTACH COPY OF LICENSE)

* SEE ATTACHED

FORM C2: CONTRACTOR'S GEORGIA GENERAL CONTRACTOR'S LICENSE CERTIFICATION

Contractor's Name: WADE COOTS COMPANY, INC.

General Contractor's License Number: _____

Expiration Date of License: 12-31-26

I certify that the above information is true and correct and that the classification noted is applicable to the Bid for this Project.

Signed: _____

Date: 2-19-26

(ATTACH COPY OF LICENSE)

* SEE ATTACHED

FORM C3: GEORGIA PROFESSIONAL LICENSE CERTIFICATION

NOTE: Please complete this form for the work your firm will perform on this project.

Contractor's Name: WADE COOTS COMPANY, INC.

Performing work as: Prime Contractor ✓ Sub-Contractor ____

Professional License Type: UTILITY

Professional License Number: UC # 300104

Expiration Date of License: 4-30-26

I certify that the above information is true and correct and that the classification noted is applicable to the Bid for this Project.

Signed: [signature]

Date: 2-17-26

(ATTACH COPY OF LICENSE)

* SEE ATTACHED

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

STATE OF GEORGIA
BRAD RAFFENSPERGER, Secretary of State
Georgia Construction Industry Licensing Board
LICENSE NO: UC300104
Wade Coots Company, Inc.
P.O. Box 549
Powder Springs GA 30127
Utility Contractor

EXP DATE - 04/30/2025 Status: Active
Issue Date: 12/28/1993

A pocket-sized license card is below. Above is an enlarged copy of your pocket card.

Please make note of the expiration date on your license. It is your responsibility to renew your license before it expires. Please notify the Board if you have a change of address.

Wall certificates suitable for framing are available at cost, see board fee schedule. To order a wall certificate, please order from the web site – www.sos.ga.gov/plb.

Please refer to Board Rules for any continuing education requirements your profession may require.

Georgia State Board of Professional Licensing
237 Coliseum Drive
Macon GA 31217
Phone: (404) 424-9966
www.sos.ga.gov/plb

Wade Coots Company, Inc.
174 Duncan Circle
Hiram GA 30141

STATE OF GEORGIA
BRAD RAFFENSPERGER, Secretary of State
Georgia Construction Industry Licensing Board
License No: UC300104
Wade Coots Company, Inc.
P.O. Box 549
Powder Springs GA 30127
Utility Contractor
EXP DATE - 04/30/2025 Status: Active
Issue Date: 12/28/1993

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

Professional Licensee Search

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Licensee Details

Licensee Information

TRADE NAME/DBA NAME	FACILITY NAME	FACILITY ADDRESS	OWNERS
Wade Coots Company, Inc.	Wade Coots Company, Inc.	P.O. Box 549, Powder Springs, GA, 30127	

AUTHORIZED BUSINESS AGENT
William Wade Coots

FILE A COMPLAINT

Primary Source License Information

LICENSE NUMBER	PROFESSION	LICENSE TYPE
UC300104	Utility	Utility Contractor
SUB TYPE	**OBTAINED BY**	**STATUS**
-	Application	Active
ISSUED	**EXPIRES**	**LAST RENEWAL DATE**
12/28/1993	04/30/2027	03/28/2025

Associated Licenses

LICENSEE	PROFESSION TYPE	LICENSE NUMBER	LICENSE STATUS
William Gregory Coots	Utility	UM000983	Active
TYPE	**ASSOCIATION DATE**	**DISASSOCIATION DATE**	**EXPIRY**
Prerequisite	-	-	04/30/2027
LICENSEE	**PROFESSION TYPE**	**LICENSE NUMBER**	**LICENSE STATUS**
William Wade Coots	Utility	UM000100	Active
TYPE	**ASSOCIATION DATE**	**DISASSOCIATION DATE**	**EXPIRY**
Prerequisite	-	-	04/30/2027

Public Board Orders

NO BOARD ORDER DOCUMENTS

Document

NO DOCUMENTS

This website is to be used as a primary source verification for licenses issued by the Professional Licensing Boards. Paper verifications are available for a fee. Please contact the Professional Licensing Boards at 404-424-9966 (tel:404-424-9966).

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STATE OF GEORGIA

Secretary of State

Corporations Division
313 West Tower
2 Martin Luther King, Jr. Dr.
Atlanta, Georgia 30334-1530

ANNUAL REGISTRATION

Electronically Filed
Secretary of State
Filing Date: 1/8/2024 11:36:51 AM

BUSINESS INFORMATION

CONTROL NUMBER	K213879
BUSINESS NAME	WADE COOTS COMPANY, INC.
BUSINESS TYPE	Domestic Profit Corporation
EFFECTIVE DATE	01/08/2024
ANNUAL REGISTRATION PERIOD	2024, 2025, 2026

PRINCIPAL OFFICE ADDRESS

ADDRESS	P.O. Box 549, Powder Springs, GA, 30127, USA

REGISTERED AGENT

NAME	ADDRESS	COUNTY
William Gregory Coots	635 Phillips Lee Road, Hiram , GA, 30141, USA	Paulding

OFFICERS INFORMATION

NAME	TITLE	ADDRESS
Margaret A Coots	SECRETARY	679 Phillips Lee Road, Hiram, GA, 30141, USA
William G Coots	CEO	635 Phillips Lee Rd., Hiram, GA, 30141, USA
William W Coots	CFO	679 Phillips Lee Road, Hiram, GA, 30141, USA

AUTHORIZER INFORMATION

AUTHORIZER SIGNATURE	Brad Hall
AUTHORIZER TITLE	Authorized Person

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City of Hiram

Occupational Tax Certificate

2025

Date Issued: 03/17/2025 Certificate Number: OCC25-23305 Expiration Date: 12/31/2025

Issued to: **WADE COOTS COMPANY INC**
Type of Business: **Water and Sewer Line and Related Structures Construction**
Location: **174 DUNCAN CIR**

Mailing Address **WADE COOTS COMPANY INC**

PO BOX 549
POWDER SPRINGS, GA 30127

In consideration of which is granted a Certificate in this City for the period ending December 31, 2025.

Witness by hand and seal for the City, day and year above written.

Melissa Chessher
City Clerk

DISPLAY IN A CONSPICUOUS PLACE. MAY BE REVOKED FOR CAUSE.
NON-TRANSFERABLE

City of Hiram

Occupational Tax Certificate

Receipt for Certificate

2025

Date Issued: 03/17/2025 Certificate Number: OCC25-23305 Expiration Date: 12/31/2025

FEE INFORMATION

CLASS 1	$2,750.00

TOTAL PAID **$2,750.00**

FORM D: DISCLOSURE FORM AND QUESTIONNAIRE

1. Please provide the names and business addresses of each of the Offeror's firm's officers and directors.

   For the purposes of this form, the term "Offeror" means an entity that responds to a solicitation for a County contract by either submitting a proposal in response to a Request for Proposal or a Request for Qualification or a Bid in response to an Invitation to Bid. Describe accurately, fully and completely, their respective relationships with said Offeror, including their ownership interests and their anticipated role in the management and operations of said Offeror.

2. Please describe the general development of said Offeror's business during the past five (5) years, or such shorter period of time that said Offeror has been in business.

3. Please state whether any employee, agent or representative of said Offeror who is or will be directly involved in the subject project has or has ever: (i) directly or indirectly had a business relationship with Fulton County; (ii) directly or indirectly received revenues from Fulton County; or (iii) directly or indirectly receives revenues from the result of conducting business on Fulton County property or pursuant to any contract with Fulton County. Please describe in detail any such relationship.

A SEE ATTACHED

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

2/17/26

Bid: 25ITB090911K-NJH (2026 Standby Misc. Construction Water Services)

Re: Response to Proposer's Disclosure Form and Questionnaire

The following responses correlate respectively to the numerically listed questions solicited in the specifications attached hereto.:

General Questions

1. Wade Coots Company, Inc. officers and directors:

W. Wade Coots	President
W. Greg Coots	Vice President
Margaret Coots	Secretary

There are no "Affiliates" for this Project.

2. The Wade Coots Company, Inc. is a local underground utility Contractor that has been in business for over 30 years and has grown from 8 employees to over 25 employees. The Company owns and operates it's own equipment necessary to do the majority of the Work for this Contract. Wade Coots Company, Inc. specializes in Annual Contracts and holds multiple Annuals in Cobb, Fulton, and Marietta.

3. All business that has been done on previous Fulton County Contracts has been completed as Wade Coots Company, Inc. No individuals or employees have or had a separate business relationship with the County outside of Wade Coots Company, Inc.

W. Wade Coots
President

UNDERGROUND UTILITY CONTRACTOR
174 DUNCAN CIRCLE, HIRAM, GA 30141
PHONE 770/819-0601 FAX: 770/819-0601102

LITIGATION DISCLOSURE:

Failure to fully and truthfully disclose the information required, may result in the disqualification of your bid or proposal from consideration or termination of the Contract, once awarded.

1. Please state whether any of the following events have occurred in the last five (5) years with respect to said Offeror. If any answer is yes, explain fully the following:

   (a) whether a petition under the federal bankruptcy laws or state insolvency laws was filed by or against said Offeror, or a receiver fiscal agent or similar officer was appointed by a court for the business or property of said Offeror;

   Circle One: YES NO

   (b) whether Offeror was subject of any order, judgment, or decree not subsequently reversed, suspended or vacated by any court of competent jurisdiction, permanently enjoining said Offeror from engaging in any type of business practice, or otherwise eliminating any type of business practice; and

   Circle One: YES NO

   (c) whether said Offeror's business was the subject of any civil or criminal proceeding in which there was a final adjudication adverse to said or Offeror, which directly arose from activities conducted by the business unit or corporate division of said Offeror which submitted a bid or proposal for the subject project. If so please explain.

   Circle One: YES NO

2. Have you or any member of your firm or team to be assigned to this engagement ever been indicted or convicted of a criminal offense within the last five (5) years?

   Circle One: YES NO

3. Have you or any member of your firm or team been terminated (for cause or otherwise) from any work being performed for Fulton County or any other Federal, State or Local Government?

   Circle One: YES NO

4. Have you or any member of your firm or team been involved in any claim or litigation adverse to Fulton County or any other federal, state or local government, or private entity during the last three (3) years?

   Circle One: YES NO

5. Has any offeror, member of offeror's team, or officer of any of them (with respect to any matter involving the business practices or activities of his or her employer), been notified within the five (5) years preceding the date of this offer that any of them are the target of a criminal investigation, grand jury investigation, or civil enforcement proceeding?

   Circle One: YES NO

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If you have answered "YES" to any of the above questions, please indicate the name(s) of the person(s), the nature, and the status and/or outcome of the information, indictment, conviction, termination, claim or litigation, the name of the court and the file or reference number of the case, as applicable. Any such information should be provided on a separate page, attached to this form and submitted with your proposal.

NOTE: If any response to any question set forth in this questionnaire has been disclosed in any other document, a response may be made by attaching a copy of such disclosure. (For example, said Offeror's most recent filings with the Securities and Exchange Commission ("SEC") may be provided if they are responsive to certain items within the questionnaire.) However, for purposes of clarity, Offeror should correlate its responses with the exhibits by identifying the exhibit and its relevant text.

Disclosures must specifically address, completely respond and comply with all information requested and fully answer all questions requested by Fulton County. Such disclosure must be submitted at the time of the bid or proposal submission and included as a part of the bid/proposal submitted for this project. Disclosure is required for Offerors, joint venture partners and first-tier subcontractors.

Failure to provide required disclosure, submit officially signed and notarized documents or respond to any and all information requested/required by Fulton County can result in the bid/proposal declared as non-responsive. This document must be completed and included as a part of the bid/proposal package along with other required documents.

[SIGNATURES ON NEXT PAGE]

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Under penalty or\f perjury, I declare that I have examined this questionnaire and all attachments hereto, if applicable, to the best of my knowledge and belief, and all statements contained hereto are true, correct, and complete.

On this 17th day of FEBRUARY, 2026

WADE COOTS COMPANY INC 2-17-26
(Legal Name of Proponent) (Date)

2-17-26
(Signature of Authorized Representative) (Date)

VICE- PRESIDENT
(Title)

Sworn to and subscribed before me,

This 17th day of FEBRUARY, 2026

(Notary Public) (Seal)

MARK SHAWN SUTTON NOTARY PUBLIC FLOYD COUNTY, GEORGIA COMMISSION # W.0065973 EXPIRES 04-02-2029

Commission Expires 4-2-29
(Date)

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

EXHIBIT I
OFFICE OF CONTRACT COMPLIANCE FORMS

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

EXHIBIT A – PROMISE OF NON-DISCRIMINATION

"Know all persons by these presents, that I/We (W. GREG COOTS),

Name

VICE-PRESIDENT Title

WADE COOTS COMPANY INC. Company Name

Hereinafter "Company", in consideration of the privilege to bid on or obtain contracts funded, in whole or in part, by Fulton County, hereby consent, covenant and agree as follows:

1) No person shall be excluded from participation in, denied the benefit of, or otherwise discriminated against on the basis of race, color, national origin or gender in connection with any bid submitted to Fulton County for the performance of any resulting there from,

2) That it is and shall be the policy of this Company to provide equal opportunity to all businesses seeking to contract or otherwise interested in contracting with this Company without regard to the race, color, gender or national origin of the ownership of this business,

3) That the promises of non-discrimination as made and set forth herein shall be continuing in nature and shall remain in full force and effect without interruption,

4) That the promise of non-discrimination as made and set forth herein shall be made a part of, and incorporated by reference into, any contract or portion thereof which this Company may hereafter obtain,

5) That the failure of this Company to satisfactorily discharge any of the promises of non-discrimination as made and set forth herein shall constitute a material breach of contract entitling the Board to declare the contract in default and to exercise any and all applicable rights and remedies, including but not limited to cancellation of the contract, termination of the contract, suspension and debarment from future contracting opportunities, and withholding and/or forfeiture of compensation due and owning on a contract; and

6) That the bidder shall provide such information as may be required by the Director of Purchasing & Contract Compliance pursuant to Section 102.436 of the Fulton County Non-Discrimination in Purchasing and Contracting Policy.

NAME: W. GREG COOTS **TITLE:** VICE-PRESIDENT

SIGNATURE:

ADDRESS: 171 DUNCAN CIRCLE
HIRAM, GA 30141

PHONE NUMBER: 770-819-0601 **EMAIL:** mark.sutton@wadecootscompany.com

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

EXHIBIT B1 - SCHEDULE OF INTENDED SUBCONTRACTOR UTILIZATION

This form **must be** completed and **submitted with the bid/proposal.** All prime bidders/proposers **must** submit this form which lists all intended subcontractors/suppliers who will be utilized under the scope of work/services.

Prime Bidder/Proposer Company Name WADE COATS COMPANY, INC.

ITB/RFP Name & Number: 25ITB0911K-NJH STANDBY MISC. CONSTRUCTION WATER,

1. My firm, as **Prime** Bidder/Proposer on this scope of work/service(s) **is NOT**☑, **is**☐ a minority or female owned and controlled business enterprise. ☐**African American (AABE);** ☐**Asian American (ABE);** ☐ **Hispanic American (HBE);** ☐**Native American (NABE);** ☐ **White Female American (WFBE);** ☐**Small Business (SBE);** ☐**Service Disable Veteran (SDVBE)** ☐**Disadvantage Business (DBE)** ****If yes, Prime must submit a copy of recent certification.**

☐ Male or ☐ Female (Check the appropriate boxes).

Indicate below the portion of work, including, percentage of bid/proposal amount that your firm will carry out directly as the Prime Contractor:

_____

$ Or %

2. This information below must be completed and submitted with the bid/proposal if a **joint venture (JV)** approach is to be undertaken. Please provide JV breakdown information below and attach a copy of the executed Joint Venture Agreement.

JV Partner(s) information:

Business Name		Business Name	
(a.)		(b.)	
% of JV		**% of JV**	
Ethnicity		**Ethnicity**	
Gender		**Gender**	
Certified (Y or N)		**Certified (Y or N)**	
Agency		**Agency**	
Date Certified		**Date Certified**	

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SUB-CONTRACTORS (INCLUDING SUPPLIERS) TO BE UTILIZED IN THE PERFORMANCE OF THE SCOPE OF WORK/SERVICES(S), IF AWARDED ARE LISTED BELOW

Subcontractor Name	Email Address	City, State, Phone	Ethnic Group	Certification Agency	Certification Designation	Scope of Work	Dollar Amount	Percentage
CORE & MAIN								
FERGUSON								
CONSOLIDATED								
SUM CONSULTING	VICKYSUTTON1119@gmail.com	ROME, GA	WBE			CONSULTING		5% +/-
T & J WELDING	creative6544@aol.com	STATE MTN, GA	MBE			MISC TRUCK		5% +/-

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EXHIBIT C FORM
SUBCONTRACTOR CONTACT FORM

Certification Designation: AABE – African American Business Enterprise, HBE – Hispanic American Business Enterprise, NABE – Native American Business Enterprise, ABE – Asian American Business Enterprise, FBE – Female Business Enterprise, MBE – Minority Business Enterprise, SDVBE – Service Disabled Veteran Business Enterprise, SBE – Small Business Enterprise, DBE – Disadvantage Business Enterprise

Subcontractor/Supplier	Business Address	Contact Name	Contact Email Address	Contact Phone	Scope of Work Solicited for Project	Certification Designation	Result of Contact

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

EXIBIT C FORM
SUBCONTRACTOR CONTACT FORM

Subcontractor/Supplier	Business Address	Contact Name	Contact Email Address	Contact Phone	Scope of Work Solicited for Project	Certification Designation	Result of Contact

Company Name: WADE COOTS COMPANY INC.

Project # & Title: 25 ITB0911 K-NJH STANDBY WATER

Printed Signature: MARK SUTTON

Date: 2-17-26

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

EXHIBIT B2 FORM TBD

SUB-CONTRACTORS (INCLUDING SUPPLIERS) TO BE UTILIZED IN THE PERFORMANCE OF THE SCOPE OF WORK/SERVICES(S), IF AWARDED ARE LISTED BELOW

Certification Designation: AABE – African American Business Enterprise, HBE – Hispanic American Business Enterprise, NABE – Native American Business Enterprise, ABE – Asian American Business Enterprise, FBE – Female Business Enterprise, MBE – Minority Business Enterprise, SDVBE – Service Disabled Veteran Business Enterprise, SBE – Small Business Enterprise, DBE – Disadvantage Business Enterprise

Subcontractor Name	Email Address	City, State, Phone	Ethnic Group	Certification Agency	Certification Designation	Scope of Work	Dollar Amount	Percentage

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

3. Lists all Sub-Contractor/suppliers participating on the project. **(COMPLETE Exhibit B2 FORM)**

Total Dollar Value of Certified Subcontractors: ($)	$696,127.00
Total Percentage of Certified Subcontractors: (%)	10

CERTIFICATION: The undersigned certifies that he/she has read, understands and agrees to be bound by the Bid/Proposer provisions, including the accompanying Exhibits and other terms and conditions regarding sub-contractor utilization. The undersigned further certifies that he/she is legally authorized by the Bidder/Proposer to make the statement and representation in this Exhibit and that said statements and representations are true and correct to the best of his/her knowledge and belief. The undersigned understands and agrees that if any of the statements and representations are made by the Bidder/Proposer knowing them to be false, or if there is a failure of the intentions, objectives and commitments set forth herein, then in any such event the Contractor's acts or failure to act, as the case may be, shall constitute a material breach of the contract, entitling the County to terminate the Contract for default. The right to so terminate shall be in addition to, and in lieu of, any other rights and remedies the County may have for other defaults under the contract.

By submitting this form, it is understood that every firm listed as a subcontractor has been properly notified and will participate.

Signature: _____ **Title:** VICE-PRESIDENT

Business or Corporate Name: WADE COOTS COMPANY, INC

Address: 174 DUNCAN CIRCLE

HIRAM, GA 30141

Telephone: (770) 819-0601

Fax Number: (770) 819-0601102

Email Address: mark.sutton@wadecootscompany.com

UTILIZATION REPORT – Post Award

The awarded vendor(s) are required to report **all** payments to the prime contractor, subcontractors and sub-consultants (if applicable) during the project using the B2GNow software program. This requirement will be further explained by the Office of Contract Compliance upon determination of all awarded contracts.

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EXHIBIT J
RISK MANAGEMENT INSURANCE PROVISIONS FORMS

Consultant/Contractor obligation to indemnify and hold harmless, as set forth hereinabove, shall also include, but is not limited to, any matter arising out of any actual or alleged infringement of any patent, trademark, copyright, or service mark, or other actual or alleged unfair competition disparagement of product or service, or other tort or any type whatsoever, or any actual or alleged violation of trade regulations.

Consultant/Contractor further agrees to indemnify and hold harmless Fulton County, its Commissioners, officers, employees, subcontractors, successors, assigns and agents from and against any and all claims or liability for compensation under the Worker's Compensation Act, Disability Benefits Act, or any other employee benefits act arising out of injuries sustained by any employees of Consultant/Contractor. These indemnities shall not be limited by reason of the listing of any insurance coverage.

PROTECTION OF PROPERTY

Contractor/Vendor will adequately protect its own work from damage, will protect Fulton County Government's property from damage or loss and will take all necessary precautions during the progress of the work to protect all persons and the property of others from damage or loss.

Contractor/Vendor shall take all necessary precautions for the safety of employees of the work and shall comply with all applicable provisions of the Federal, State and local safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the premises where work is being performed.

Contractor/Vendor shall erect and properly maintain at all times as required by the conditions and progress of the work, all necessary safeguards for the protection of its employees, Fulton County Government employees and the public and shall post all applicable signage and other warning devices to protect against potential hazards for the work being performed (where applicable).

CONTRACTOR/VENDOR ACKNOWLEDGES HAVING READ, UNDERSTANDING, AND AGREEING TO COMPLY WITH THE AFOREMENTIONED PROVISIONS AND THE REPRESENTATIVE OF THE CONTRACTOR/VENDOR IDENTIFIED BELOW IS AUTHORIZED TO SIGN CONTRACTS ON BEHALF OF THE RESPONDING CONTRACTOR/VENDOR.

COMPANY: WADE COOTS COMPANY, INC. SIGNATURE: [signature]

NAME: W. GREG COOTS TITLE: VICE-PRESIDENT

DATE 2-17-26

Docusign Envelope ID: 5E813F8C-67F9-462F-BC70-C656392A08FA

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 3/31/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Yates, LLC 2800 Century Parkway NE Suite 300 Atlanta GA 30345-	**CONTACT NAME:** **PHONE (A/C, No, Ext):** 404-633-4321 **FAX (A/C, No):** 404-633-1312 **E-MAIL ADDRESS:** certs@yatesins.com
INSURED WADECO01-C Wade Coots Co., Inc. 174 Duncan Circle Hiram GA 30141	**INSURER(S) AFFORDING COVERAGE** / **NAIC #** **INSURER A :** Illinois Union Insurance Company — 27960 **INSURER B :** Monroe Guaranty Insurance Company — 32506 **INSURER C :** National Trust Insurance Company — 20141 **INSURER D :** FCCI Insurance Company — 10178 **INSURER E :** **INSURER F :**

COVERAGES **CERTIFICATE NUMBER:** 1282415435 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
B	X **COMMERCIAL GENERAL LIABILITY** CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT X LOC OTHER:			CPP100049281	7/1/2025	7/1/2026	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 100,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
D	**AUTOMOBILE LIABILITY** X ANY AUTO OWNED AUTOS ONLY / SCHEDULED AUTOS X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY			CA100003783	7/1/2025	7/1/2026	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
C	X **UMBRELLA LIAB** X OCCUR **EXCESS LIAB** CLAIMS-MADE DED X RETENTION $ 0			UMB100015831	7/1/2025	7/1/2026	EACH OCCURRENCE AGGREGATE	$ 5,000,000 $ 5,000,000
B	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N: N **(Mandatory in NH)** If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		WC0100058632	7/1/2025	7/1/2026	X PER STATUTE / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
A B	Pollution Liability Leased/Rented Equipment			CPYG28174329 009 CPP100049281	7/1/2025 7/1/2025	7/1/2026 7/1/2026	$10,000 Ded $1,000 Ded	$1,000,000 Occ/Agg $250,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Subject to policy terms, conditions, forms, and exclusions, the insurance coverages afforded by the policies above include the following when required by written contract for the certificate holder and/or entities listed below: Blanket Additional Insured in regards to General Liability for Ongoing & Completed Operations and Automobile Liability; Blanket Primary and Non-Contributory in regards to General Liability; Blanket Waiver of Subrogation in regards to General Liability, Automobile Liability and Workers Compensation. Per Project Aggregate applies to the General Liability. Umbrella is subject to policy limits, forms, terms, conditions, and exclusions.

FORMS:
CGL088 (02/21) First Choice Contractors Liability Endorsement
See Attached...

CERTIFICATE HOLDER

Fulton County Government
Attn: Purchasing Department
130 Peachtree Street, S.W. Suite 1168
Atlanta, GA 30303-3459

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

W. Barry Dawson

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AGENCY CUSTOMER ID: WADECO01-C

LOC #:

ADDITIONAL REMARKS SCHEDULE

AGENCY Yates, LLC	NAMED INSURED Wade Coots Co., Inc. 174 Duncan Circle Hiram GA 30141
POLICY NUMBER	
CARRIER / NAIC CODE	EFFECTIVE DATE:

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: 25 FORM TITLE: CERTIFICATE OF LIABILITY INSURANCE

CGL084 (02/21) Additional Insured-Owners Lessees or Contractors-Automatic Status When Required In Construction Agreement With You-Ongoing Operations And Products-Completed Operations
CG2033 (12/19) Additional Insured-Owners, Lessees Or Contractors-Automatic Status When Required In Construction Agreement
CAU003 (10/22) Auto Advantage Coverage Endorsement
MAN-AU (01/02) Blanket Waiver
1UNCUM 9549 (09/16) Schedule of Underlying Insurance
CU0001 (04/13) Commercial Liability Umbrella Coverage Form
WC000313 (04/84) Waiver Of Our Right To Recover From Others Endorsement

Project: 25ITB0911K-NJH, Standby Miscellaneous Construction Water System Services

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

FIRST CHOICE CONTRACTORS LIABILITY ENDORSEMENT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE FORM

NOTE: The following are additions, replacements and amendments to the Commercial General Liability Coverage Form, and will apply unless excluded by separate endorsement(s) to the Commercial General Liability Coverage Form.

The COMMERCIAL GENERAL LIABILITY COVERAGE FORM is amended as follows:

SECTION I - COVERAGES, COVERAGE A. BODILY INJURY AND PROPERTY DAMAGE is amended as follows:

1. **Extended "Property Damage"**

   Exclusion 2.a., Expected or Intended Injury, is replaced with the following:

   a. "Bodily injury" or "property damage" expected or intended from the standpoint of the insured. This exclusion does not apply to "bodily injury" or "property damage" resulting from the use of reasonable force to protect persons or property.

2. **Non-owned Watercraft**

   Exclusion 2.g. (2) (a) is replaced with the following:

   (a) Less than 51 feet long; and

3. **Property Damage Liability – Borrowed Equipment**

   The following is added to Exclusion 2.j. (4):

   Paragraph (4) of this exclusion does not apply to "property damage" to borrowed equipment while at a jobsite and not being used to perform operations. The most we will pay for "property damage" to any one borrowed equipment item under this coverage is $25,000 per "occurrence". The insurance afforded under this provision is excess over any other valid and collectible property insurance (including deductible) available to the insured, whether primary, excess, contingent or on any other basis.

4. **Limited Electronic Data Liability**

   Exclusion 2.p. is replaced with the following:

   p. Electronic Data

      Damages arising out of the loss of, loss of use of, damage to, corruption of, inability to access, or inability to manipulate "electronic data" that does not result from physical injury to tangible property.

   The most we will pay under Coverage A for "property damage" because of all loss of "electronic data" arising out of any one "occurrence" is $10,000.

   We have no duty to investigate or defend claims or "suits" covered by this Limited Electronic Data Liability coverage.

   The following definition is added to **SECTION V – DEFINITIONS** of the Coverage Form:

   "Electronic data" means information, facts or programs stored as or on, created or used on, or transmitted to or from computer software (including systems and applications software), hard or floppy disks, CD-ROMS, tapes, drives, cells, data processing devices or any other media which are used with electronically controlled equipment.

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For purposes of this **Limited Electronic Data Liability** coverage, the definition of "Property Damage" in **SECTION V – DEFINITIONS** of the Coverage Form is replaced by the following:

17. "Property damage" means:

a. Physical injury to tangible property, including all resulting loss of use of that property. All such loss of use shall be deemed to occur at the time of the physical injury that caused it;

b. Loss of use of tangible property that is not physically injured. All such loss of use shall be deemed to occur at the time of the "occurrence" that caused it;

c. Loss of, loss of use of, damage to, corruption of, inability to access, or inability to properly manipulate "electronic data", resulting from physical injury to tangible property. All such loss of "electronic data" shall be deemed to occur at the time of the "occurrence" that caused it.

For purposes of this insurance, "electronic data" is not tangible property.

SECTION I – COVERAGES, COVERAGE B. PERSONAL AND ADVERTISING INJURY LIABILITY is amended as follows:

Paragraph 2.e. Exclusions – the Contractual Liability Exclusion is deleted.

SECTION I – COVERAGES, the following coverages are added:

COVERAGE D. VOLUNTARY PROPERTY DAMAGE

1. Insuring Agreement

We will pay, at your request, for "property damage" caused by an "occurrence", to property of others caused by you, or while in your possession, arising out of your business operations. The amount we will pay for damages is described in SECTION III LIMITS OF INSURANCE.

2. Exclusions

This insurance does not apply to:

"Property Damage" to:

a. Property at premises owned, rented, leased or occupied by you;

b. Property while in transit;

c. Property owned by, rented to, leased to, loaned to, borrowed by, or used by you;

d. Premises you sell, give away, or abandon, if the "property damage" arises out of any part of those premises;

e. Property caused by or arising out of the "products-completed operations hazard";

f. Motor vehicles;

g. "Your product" arising out of it or any part of it; or

h. "Your work" arising out of it or any part of it.

3. Deductible

We will not pay for loss in any one "occurrence" until the amount of loss exceeds $250. We will then pay the amount of loss in excess of $250 up to the applicable limit of insurance.

4. Cost Factor

In the event of a covered loss, you shall, if requested by us, replace the damaged property or furnish the labor and materials necessary for repairs thereto at your actual cost, excluding profit or overhead charges.

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The insurance afforded under COVERAGE D is excess over any other valid and collectible property or inland marine insurance (including the deductible applicable to the property or inland marine coverage) available to you whether primary, excess, contingent or any other basis.

Coverage D covers unintentional damage or destruction, but does not cover disappearance, theft, or loss of use.

The insurance under COVERAGE D does not apply if a loss is paid under COVERAGE E.

COVERAGE E. CARE, CUSTODY OR CONTROL

1. Insuring Agreement

We will pay those sums that the insured becomes legally obligated to pay as damages because of "property damage" caused by an "occurrence", to property of others while in your care, custody, or control or property of others as to which you are exercising physical control if the "property damage" arises out of your business operations. The amount we will pay for damages is described in SECTION III LIMITS OF INSURANCE.

2. Exclusions

This insurance does not apply to:

"Property Damage" to:

a. Property at premises owned, rented, leased or occupied by you;

b. Property while in transit;

c. Premises you sell, give away, or abandon, if the "property damage" arises out of any part of those premises;

d. Property caused by or arising out of the "products-completed operations hazard";

e. Motor vehicles;

f. "Your product" arising out of it or any part of it; or

g. "Your work" arising out of it or any part of it.

3. Deductible

We will not pay for loss in any one "occurrence" until the amount of loss exceeds $250. We will then pay the amount of loss in excess of $250 up to the applicable limit of insurance.

4. Cost Factor

In the event of a covered loss, you shall, if requested by us, replace the damaged property or furnish the labor and materials necessary for repairs thereto at your actual cost, excluding profit or overhead charges.

The insurance afforded under COVERAGE E is excess over any other valid and collectible property or inland marine insurance (including the deductible applicable to the property or inland marine coverage) available to you whether primary, excess, contingent or any other basis.

The insurance under COVERAGE E does not apply if a loss is paid under COVERAGE D.

COVERAGE F. LIMITED PRODUCT WITHDRAWAL EXPENSE

1. Insuring Agreement

a. If you are a "seller", we will reimburse you for "product withdrawal expenses" associated with "your product" incurred because of a "product withdrawal" to which this insurance applies.

The amount of such reimbursement is limited as described in SECTION III - LIMITS OF INSURANCE. No other obligation or liability to pay sums or perform acts or services is covered.

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a. This insurance applies to a "product withdrawal" only if the "product withdrawal" is initiated in the "coverage territory" during the policy period because:

(1) You determine that the "product withdrawal" is necessary; or

(2) An authorized government entity has ordered you to conduct a "product withdrawal".

c. We will reimburse only those "product withdrawal expenses" which are incurred and reported to us within one year of the date the "product withdrawal" was initiated.

d. The initiation of a "product withdrawal" will be deemed to have been made only at the earliest of the following times:

(1) When you have announced, in any manner, to the general public, your vendors or to your employees (other than those employees directly involved in making the determination) your decision to conduct a "product withdrawal" This applies regardless of whether the determination to conduct a "product withdrawal" is made by you or is requested by a third party;

(2) When you received, either orally or in writing, notification of an order from an authorized government entity to conduct a "product withdrawal; or

(3) When a third party has initiated a "product withdrawal" and you communicate agreement with the "product withdrawal", or you announce to the general public, your vendors or to your employees (other than those employees directly involved in making the determination) your decision to participate in the "product withdrawal", whichever comes first.

e. "Product withdrawal expenses" incurred to withdraw "your products" which contain:

(1) The same "defect" will be deemed to have arisen out of the same "product withdrawal"; or

(2) A different "defect" will be deemed to have arisen out of a separate "product withdrawal" if newly determined or ordered in accordance with paragraph 1.b of this coverage.

2. Exclusions

This insurance does not apply to "product withdrawal" expenses" arising out of:

a. Any "product withdrawal" initiated due to:

(1) The failure of "your products" to accomplish their intended purpose, including any breach of warranty of fitness, whether written or implied. This exclusion does not apply if such failure has caused or is reasonably expected to cause "bodily injury" or physical damage to tangible property.

(2) Copyright, patent, trade secret or trademark infringements;

(3) Transformation of a chemical nature, deterioration or decomposition of "your product", except if it is caused by:

(a) An error in manufacturing, design, processing or transportation of "your product"; or

(b) "Product tampering".

(4) Expiration of the designated shelf life of "your product".

b. A "product withdrawal", initiated because of a "defect" in "your product" known to exist by the Named Insured or the Named Insured's "executive officers", prior to the inception date of this Coverage Part or prior to the time "your product" leaves your control or possession.

c. Recall of any specific products for which "bodily injury" or "property damage" is excluded under Coverage A - Bodily Injury And Property Damage Liability by endorsement.

d. Recall of "your products" which have been banned from the market by an authorized government entity prior to the policy period.

e. The defense of a claim or "suit" against you for "product withdrawal expenses".

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3. For the purposes of the insurance afforded under COVERAGE F, the following is added to 2. Duties In The Event Of Occurrence, Offense, Claim Or Suit Condition under SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS:

e. Duties In The Event Of A "Defect" Or A "Product Withdrawal"

(1) You must see to it that we are notified as soon as practicable of any actual, suspected or threatened "defect" in "your products", or any governmental investigation, that may result in a "product withdrawal". To the extent possible, notice should include:

(a) How, when and where the "defect" was discovered;

(b) The names and addresses of any injured persons and witnesses; and

(c) The nature, location and circumstances of any injury or damage arising out of use or consumption of "your product".

(2) If a "product withdrawal" is initiated, you must:

(a) Immediately record the specifics of the "product withdrawal" and the date it was initiated;

(b) Send us written notice of the "product withdrawal" as soon as practicable; and

(c) Not release, consign, ship or distribute by any other method, any product, or like or similar products, with an actual, suspected or threatened defect.

(3) You and any other involved insured must:

(a) Immediately send us copies of pertinent correspondence received in connection with the "product withdrawal";

(b) Authorize us to obtain records and other information; and

(c) Cooperate with us in our investigation of the "product withdrawal".

4. For the purposes of this Coverage F, the following definitions are added to the Definitions Section:

a. "Defect" means a defect, deficiency or inadequacy that creates a dangerous condition.

b. "Product tampering" is an act of intentional alteration of "your product" which may cause or has caused "bodily injury" or physical injury to tangible property.

When "product tampering" is known, suspected or threatened, a "product withdrawal" will not be limited to those batches of "your product" which are known or suspected to have been tampered with.

c. "Product withdrawal" means the recall or withdrawal of "your products", or products which contain "your products", from the market or from use, by any other person or organization, because of a known or suspected "defect" in "your product", or a known or suspected "product tampering", which has caused or is reasonably expected to cause "bodily injury" or physical injury to tangible property.

d. "Product withdrawal expenses" means those reasonable and necessary extra expenses, listed below paid and directly related to a "product withdrawal":

(1) Costs of notification;

(2) Costs of stationery, envelopes, production of announcements and postage or facsimiles;

(3) Costs of overtime paid to your regular non-salaried employees and costs incurred by your employees, including costs of transportation and accommodations;

(4) Costs of computer time;

(5) Costs of hiring independent contractors and other temporary employees;

(6) Costs of transportation, shipping or packaging;

(7) Costs of warehouse or storage space; or

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(8) Costs of proper disposal of "your products", or products that contain "your products", that cannot be reused, not exceeding your purchase price or your cost to produce the products; but "product withdrawal expenses" does not include costs of the replacement, repair or redesign of "your product", or the costs of regaining your market share, goodwill, revenue or profit.

e. “Seller” means a person or organization that manufactures, sells or distributes goods or products. “Seller” does not include a “contractor” as defined elsewhere in this endorsement.

The insurance under COVERAGE F does not apply if a loss is paid under COVERAGE G.

COVERAGE G. CONTRACTORS ERRORS AND OMISSIONS

1. Insuring Agreement

If you are a “contractor”, we will pay those sums that you become legally obligated to pay as damages because of “property damage” to “your product”, “your work” or “impaired property”, due to faulty workmanship, material or design, or products including consequential loss, to which this insurance applies. The damages must have resulted from your negligent act, error or omission while acting in your business capacity as a contractor or subcontractor or from a defect in material or a product sold or installed by you while acting in this capacity. The amount we will pay for damages is described in SECTION III LIMITS OF INSURANCE.

We have no duty to investigate or defend claims or “suits” covered by this Contractors Errors or Omissions coverage.

This coverage applies only if the “property damage” occurs in the “coverage territory” during the policy period.

This coverage does not apply to additional insureds, if any.

Supplementary Payments – Coverage A and B do not apply to Coverage G. Contractors Errors and Omissions.

2. Exclusions

This insurance does not apply to:

a. “Bodily injury” or "personal and advertising injury".

b. Liability or penalties arising from a delay or failure to complete a contract or project, or to complete a contract or project on time.

c. Liability because of an error or omission:

(1) In the preparation of estimates or job costs;

(2) Where cost estimates are exceeded;

(3) In the preparation of estimates of profit or return on capital;

(4) In advising or failure to advise on financing of the work or project; or

(5) In advising or failing to advise on any legal work, title checks, form of insurance or suretyship.

d. Any liability which arises out of any actual or alleged infringement of copyright or trademark or trade dress or patent, unfair competition or piracy, or theft or wrongful taking of concepts or intellectual property.

e. Any liability for damages:

(1) From the intentional dishonest, fraudulent, malicious or criminal acts of the Named Insured, or by any partner, member of a limited liability company, or executive officer, or at the direction of any of them; or

(2) Which is in fact expected or intended by the insured, even if the injury or damage is of a different degree or type than actually expected or intended.

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f. Any liability arising out of manufacturer's warranties or guarantees whether express or implied.

g. Any liability arising from "property damage" to property owned by, rented or leased to the insured.

h. Any liability incurred or "property damage" which occurs, in whole or in part, before you have completed "your work." "Your work" will be deemed completed at the earliest of the following times:

(1) When all of the work called for in your contract or work order has been completed;

(2) When all the work to be done at the job site has been completed if your contract calls for work at more than one job site; or

(3) When that part of the work done at a job site has been put to its intended use by any person or organization other than another contractor or subcontractor working on the same project.

Work that may need service or maintenance, correction, repair or replacement, but which is otherwise complete, will be treated as complete.

i. Any liability arising from "property damage" to products that are still in your physical possession.

j. Any liability arising out of the rendering of or failure to render any professional services by you or on your behalf, but only with respect to either or both of the following operations:

(1) Providing engineering, architectural or surveying services to others; and

(2) Providing or hiring independent professionals to provide engineering, architectural or surveying services in connection with construction work you perform.

Professional services include the preparing, approving or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders, or drawings and specifications. Professional services also include supervisory or inspection activities performed as part of any related architectural or engineering activities.

But, professional services do not include services within construction means, methods, techniques, sequences and procedures employed by you in connection with construction work you perform.

k. Your loss of profit or expected profit and any liability arising therefrom.

l. "Property damage" to property other than "your product," "your work" or "impaired property."

m. Any liability arising from claims or "suits" where the right of action against the insured has been relinquished or waived.

n. Any liability for "property damage" to "your work" if the damaged work or the work out of which the damage arises was performed on your behalf by a subcontractor.

o. Any liability arising from the substitution of a material or product for one specified on blueprints, work orders, contracts or engineering specifications unless there has been written authorization, or unless the blueprints, work orders, contracts or engineering specifications were written by you, and you have authorized the changes.

p. Liability of others assumed by the insured under any contract or agreement, whether oral or in writing. This exclusion does not apply to liability for damages that the insured would have in the absence of the contract or agreement.

3. For the purposes of Coverage G, the following definition is added to the Definitions section:

a. "Contractor" means a person or organization engaged in activities of building, clearing, filing, excavating or improvement in the size, use or appearance of any structure or land. "Contractor" does not include a "seller" as defined elsewhere in this endorsement.

4. Deductible

We will not pay for loss in any one "occurrence" until the amount of loss exceeds $250. The limits of insurance will not be reduced by the application of the deductible amount.

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We may pay any part or all of the deductible amount to effect settlement of any claim or "suit", and upon notification of the action taken, you shall promptly reimburse us for such part of the deductible amount as has been paid by us.

5. Cost Factor

In the event of a covered loss, you shall, if requested by us, replace the damaged property or furnish the labor and materials necessary for repairs thereto at your actual cost, excluding profit or overhead charges.

The insurance under COVERAGE G does not apply if a loss is paid under COVERAGE F.

COVERAGE H. LOST KEY COVERAGE

1. Insuring Agreement

We will pay those sums, subject to the limits of liability described in SECTION III LIMITS OF INSURANCE in this endorsement and the deductible shown below, that you become legally obligated to pay as damages caused by an "occurrence" and due to the loss or mysterious disappearance of keys entrusted to or in the care, custody or control of you or your "employees" or anyone acting on your behalf. The damages covered by this endorsement are limited to the:

a. Actual cost of the keys;

b. Cost to adjust locks to accept new keys; or

c. Cost of new locks, if required, including the cost of installation.

2. Exclusions

This insurance does not apply to:

a. Keys owned by any insured, employees of any insured, or anyone acting on behalf of any insured;

b. Any resulting loss of use; or

c. Any of the following acts by any insured, employees of any insured, or anyone acting on behalf of any insured:

1) Misappropriation;

2) Concealment;

3) Conversion;

4) Fraud; or

5) Dishonesty.

3. Deductible

We will not pay for loss in any one "occurrence" until the amount of loss exceeds $1,000. The limits of insurance will not be reduced by the application of the deductible amount.

We may pay any part or all of the deductible amount to effect settlement of any claim or "suit" and, upon notification of the action taken, you shall promptly reimburse us for such part of the deductible amount as has been paid by us.

EXPANDED COVERAGE FOR TENANT'S PROPERTY AND PREMISES RENTED TO YOU

The first paragraph after subparagraph (6) in Exclusion j., Damage to Property is amended to read as follows:

Paragraphs **(1), (3)** and **(4)** of this exclusion do not apply to "property damage" (other than damage by fire) to premises, including the contents of such premises, rented to you. A separate limit of insurance applies to Damage To Premises Rented To You as described in Section **III** – Limits Of Insurance.

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SECTION I - COVERAGES, SUPPLEMENTARY PAYMENTS – COVERAGE A and B is amended as follows:

All references to SUPPLEMENTARY PAYMENTS – COVERAGES A and B are amended to SUPPLEMENTARY PAYMENTS – COVERAGES A, B, D, E, G, and H.

1. Cost of Bail Bonds

Paragraph 1.b. is replaced with the following:

b. Up to $2,500 for cost of bail bonds required because of accidents or traffic law violations arising out of the use of any vehicle to which the Bodily Injury Liability Coverage applies. We do not have to furnish these bonds.

2. Loss of Earnings

Paragraph 1.d. is replaced with the following:

d. All reasonable expenses incurred by the insured at our request to assist us in the investigation or defense of the claim or "suit", including actual loss of earnings up to $500 a day because of time off from work.

SECTION II – WHO IS AN INSURED is amended as follows:

1. Incidental Malpractice

Paragraph 2.a.(1)(d) is replaced with the following:

(d) Arising out of his or her providing or failing to provide professional health care services. However, this exclusion does not apply to a nurse, emergency medical technician or paramedic employed by you to provide medical services, unless:

(i) You are engaged in the occupation or business of providing or offering medical, surgical, dental, x-ray or nursing services, treatment, advice or instruction; or

(ii) The "employee" has another insurance that would also cover claims arising under this provision, whether the other insurance is primary, excess, contingent or on any other basis.

2. Broadened Who Is An Insured

The following are added to Paragraph 2.:

Subsidiaries

e. Your subsidiaries if:

(1) They are legally incorporated entities; and

(2) You own more than 50% of the voting stock in such subsidiaries as of the effective date of this policy. If such subsidiaries are not shown in the Declarations, you must report them to us within 180 days of the inception of your original policy.

Additional Insureds

f. Any person or organization described in paragraphs g. through k. below whom you are required to add as an additional insured on this policy under a written contract or agreement in effect during the term of this policy, provided the written contract or agreement was executed prior to the "bodily injury", "property damage" or "personal and advertising injury" for which the additional insured seeks coverage.

However, the insurance afforded to such additional insured(s):

(1) Only applies to the extent permitted by law;

(2) Will not be broader than that which you are required by the contract or agreement to provide for such additional insured;

(3) Will not be broader than that which is afforded to you under this policy;

(4) Is subject to the conditions described in paragraphs g. through k. below; and

(5) Nothing herein shall extend the term of this policy.

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g. Owner, Lessor or Manager of Premises

If the additional insured is an owner, lessor or manager of premises, such person or organization shall be covered only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by you or those acting on your behalf in connection with the ownership, maintenance or use of that part of any premises leased to you and subject to the following additional exclusions:

(1) Any "occurrence" that takes place after you cease to occupy those premises; or

(2) Structural alterations, new construction or demolition operations performed by or on behalf of such person or organization.

h. State or Governmental Agency or Subdivision or Political Subdivision – Permits or Authorizations

If the additional insured is the state or any political subdivision, the state or political subdivision shall be covered only with respect to operations performed by you or on your behalf for which the state or political subdivision has issued a permit or authorization. This insurance does not apply to:

(1) "Bodily injury", "property damage", or "personal and advertising injury" arising out of operations performed for the federal government, state or municipality; or

(2) "Bodily injury" or "property damage" included within the "products-completed operations hazard".

i. Lessor of Leased Equipment

If the additional insured is a lessor of leased equipment, such lessor shall be covered only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your maintenance, operation or use of equipment leased to you by such person(s) or organization(s). With respect to the insurance afforded to these additional insureds, this insurance does not apply to any "occurrence" which takes place after the equipment lease expires.

j. Mortgagee, Assignee, or Receiver

If the additional Insured is a mortgagee, assignee, or receiver of premises, such mortgagee, assignee or receiver of premises is an additional insured only with respect to their liability as mortgagee, assignee, or receiver and arising out of the ownership, maintenance, or use of the premises by you. This insurance does not apply to structural alterations, new construction and demolition operations performed by or for that person or organization.

k. Vendor

If the additional insured is a vendor, such vendor is an additional insured only with respect to liability for "bodily injury" or "property damage" caused by "your products" which are distributed or sold in the regular course of the vendor's business, subject to the following additional exclusions:

(1) The insurance afforded to the vendor does not apply to:

(a) "Bodily injury" or "property damage" for which the vendor is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that the vendor would have in absence of the contract or agreement.

(b) Any express warranty unauthorized by you;

(c) Any physical or chemical change in "your product" made intentionally by the vendor;

(d) Repackaging, unless unpacked solely for the purpose of inspection, demonstration, testing, or the substitution of parts under instructions from the manufacturer, and then repackaged in the original container;

(e) Any failure to make such inspections, adjustments, tests or servicing as the vendor has agreed to make or normally undertakes to make in the usual course of business, in connection with the distribution or sale of the products;

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(f) Demonstration, installation, servicing or repair operations, except such operations performed at the vendor's premises in connection with the sale of the product;

(g) Products which, after distribution or sale by you, have been labeled or relabeled or used as a container, part or ingredient of any other thing or substance by or for the vendor; or

(h) "Bodily injury" or "property damage" arising out of the sole negligence of the vendor for its own acts or omissions or those of its own acts or omissions or those of its employees or anyone else acting on its behalf. However, this exclusion does not apply to:

i. The exceptions contained in Subparagraphs d. or f.; or

ii. Such inspections, adjustments, tests or servicing as the vendor has agreed to make or normally undertakes to make in the usual course of business, in connection with the distribution or sale of the products.

(2) This insurance does not apply to any insured person or organization, from whom you have acquired such products, or any ingredient, part or container, entering into, accompanying or containing such products.

3. Newly Formed or Acquired Organizations

Paragraph 3. is amended as follows:

a. Coverage under this provision is afforded until the end of the policy period.

d. Coverage A does not apply to product recall expense arising out of any withdrawal or recall that occurred before you acquired or formed the organization.

SECTION III – LIMITS OF INSURANCE is amended as follows:

1. Paragraph 2. is replaced with the following:

2. The General Aggregate Limit is the most we will pay for the sum of:

a. Medical expenses under Coverage C;

b. Damages under Coverage A, except damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard";

c. Damages under Coverage B;

d. Voluntary "property damage" payments under Coverage D;

e. Care, Custody or Control damages under Coverage E.; and

f. Lost Key Coverage under Coverage H.

2. Paragraph 5. is replaced with the following:

5. Subject to Paragraph 2. or 3. above, whichever applies, the Each Occurrence Limit is the most we will pay for the sum of:

a. Damages under Coverage A;

b. Medical expenses under Coverage C;

c. Voluntary "property damage" payments under Coverage D;

d. Care, Custody or Control damages under Coverage E;

e. Limited Product Withdrawal Expense under Coverage F;

f. Contractors Errors and Omissions under Coverage G.; and,

g. Lost Key Coverage under Coverage H.

because of all "bodily injury" and "property damage" arising out of any one "occurrence".

3. Paragraph 6. is replaced with the following:

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6. Subject to Paragraph 5. above the Damage To Premises Rented To You Limit is the most we will pay under Coverage A for damages because of "property damage" to any one premises, while rented to you, or in the case of damage by fire or explosion, while rented to you or temporarily occupied by you with permission of the owner.

   The Damage to Premises Rented to You Limit is the higher of the Each Occurrence Limit shown in the Declarations or the amount shown in the Declarations as Damage To Premises Rented To You Limit.

4. Paragraph 7. is replaced with the following:

7. Subject to Paragraph 5. above, the higher of $10,000 or the Medical Expense Limit shown in the Declarations is the most we will pay under Coverage C for all medical expenses because of "bodily injury" sustained by any one person.

5. Paragraph 8. is added as follows:

8. Subject to Paragraph 5. above, the most we will pay under Coverage D. Voluntary Property Damage for loss arising out of any one "occurrence" is $1,500. The most we will pay in any one-policy period, regardless of the number of claims made or suits brought, is $3,000.

6. Paragraph 9. is added as follows:

9. Subject to Paragraph 5. above, the most we will pay under Coverage E. Care, Custody or Control for "property damage" arising out of any one "occurrence" is $1,000. The most we will pay in any one-policy period, regardless of the number of claims made or suits brought, is $5,000.

7. Paragraph 10. is added as follows:

10. Subject to Paragraph 5. above, the most we will pay under Coverage F. Limited Product Withdrawal Expense for "product withdrawal expenses" in any one-policy period, regardless of the number of insureds, "product withdrawals" initiated or number of "your products" withdrawn is $10,000.

8. Paragraph 11. is added as follows:

11. Subject to Paragraph 5. above, the most we will pay under Coverage G. Contractors Errors and Omissions for damage in any one-policy period, regardless of the number of insureds, claims or "suits" brought, or persons or organizations making claim or bringing "suits" is $10,000.

    For errors in contract or job specifications or in recommendations of products or materials to be used, this policy will not pay for additional costs of products and materials to be used that would not have been incurred had the correct recommendations or specifications been made.

9. Paragraph 12. is added as follows:

12. Subject to Paragraph 5. above, the most we will pay under Coverage H., Lost Key Coverage for damages arising out of any one occurrence is $50,000.

10. Paragraph 13. is added as follows:

13. The General Aggregate Limit applies separately to:

    a. Each of your projects away from premises owned by or rented to you; or

    b. Each "location" owned by or rented to you.

    "Location" as used in this paragraph means premises involving the same or connecting lots, or premises whose connection is interrupted only by a street, roadway, waterway or right-of-way of a railroad.

11. Paragraph 14. is added as follows:

14. With respect to the insurance afforded to any additional insured provided coverage under this endorsement:

    If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

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a. Required by the contract or agreement; or

b. Available under the applicable Limits of Insurance;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance.

SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS is amended as follows:

1. Subparagraph 2.a. of Duties In The Event Of Occurrence, Offense, Claim, or Suit is replaced with the following:

a. You must see to it that we are notified as soon as practicable of an "occurrence" or an offense which may result in a claim. This requirement applies only when the "occurrence" or offense is known to the following:

(1) An individual who is the sole owner;

(2) A partner, if you are a partnership or joint venture;

(3) An "executive officer" or insurance manager, if you are a corporation;

(4) A manager, if you are a limited liability company;

(5) A person or organization having proper temporary custody of your property if you die;

(6) The legal representative of you if you die; or

(7) A person (other than an "employee") or an organization while acting as your real estate manager.

To the extent possible, notice should include:

(1) How, when and where the "occurrence" or offense took place;

(2) The names and addresses of any injured persons and witnesses; and

(3) The nature and location of any injury or damage arising out of the "occurrence" or offense.

2. The following is added to Subparagraph 2.b. of Duties In The Event Of Occurrence, Offense, Claim, or Suit:

The requirement in 2.b.applies only when the "occurrence" or offense is known to the following:

(1) An individual who is the sole owner;

(2) A partner or insurance manager, if you are a partnership or joint venture;

(3) An "executive officer" or insurance manager, if you are a corporation;

(4) A manager or insurance manager, if you are a limited liability company;

(5) Your officials, trustees, board members or insurance manager, if you are a not-for-profit organization;

(6) A person or organization having proper temporary custody of your property if you die;

(7) The legal representative of you if you die; or

(8) A person (other than an "employee") or an organization while acting as your real estate manager.

3. The following is added to paragraph 2. of Duties in the Event of Occurrence, Offense, Claim or Suit:

e. If you report an "occurrence" to your workers compensation carrier that develops into a liability claim for which coverage is provided by the Coverage Form, failure to report such an "occurrence" to us at the time of the "occurrence" shall not be deemed a violation of paragraphs a., b., and c. above. However, you shall give written notice of this "occurrence" to us as soon as you become aware that this "occurrence" may be a liability claim rather than a workers compensation claim.

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4. Paragraph 6. is replaced with the following:

6. Representations

By accepting this policy, you agree:

a. The statements in the Declarations are accurate and complete;

b. Those statements are based upon representations you made to us; and

c. We have issued this policy in reliance upon your representations.

Any error or omission in the description of, or failure to completely describe or disclose any premises, operations or products intended to be covered by the Coverage Form will not invalidate or affect coverage for those premises, operations or products, provided such error or omission or failure to completely describe or disclose premises, operations or products was not intentional.

You must report such error or omission to us as soon as practicable after its discovery. However, this provision does not affect our right to collect additional premium charges or exercise our right of cancellation or nonrenewal.

5. The following is added to paragraph 8. Transfer Of Rights Of Recovery Against Others To Us:

We waive any right of recovery against any person or organization, because of any payment we make under this Coverage Part, to whom the insured has waived its right of recovery in a written contract or agreement. Such waiver by us applies only to the extent that the insured has waived its right of recovery against such person or organization prior to loss.

6. Paragraph 10. is added as follows:

10. Liberalization

If we revise this Coverage Form to provide more coverage without additional premium charge, your policy will automatically provide the additional coverage as of the day the revision is effective in the applicable state(s).

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – AUTOMATIC STATUS WHEN REQUIRED IN CONSTRUCTION AGREEMENT WITH YOU – ONGOING OPERATIONS AND PRODUCTS-COMPLETED OPERATIONS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE FORM

SCHEDULE (OPTIONAL)

Name of Additional Insured Persons or Organizations
(As required by written contract or agreement per Paragraph A. below.)

Locations of Covered Operations
(As per the written contract or agreement, provided the location is within the "coverage territory".) BLANKET

(Information required to complete this Schedule, if not shown above, will be shown in the Declarations.)

A. SECTION II – WHO IS AN INSURED is amended to include as an additional insured:

1. Any person or organization for whom you are performing operations when you and such person or organization have agreed in writing in a contract or agreement in effect during the term of this policy that such person or organization be added as an additional insured on your policy; and

2. Any other person or organization you are required to add as an additional insured under the contract or agreement described in Paragraph 1. above; and

3. The particular person or organization, if any, scheduled above.

Such person(s) or organization(s) is an additional insured only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" occurring after the execution of the contract or agreement described in Paragraph 1. above and caused, in whole or in part, by:

1. Your acts or omissions; or

2. The acts or omissions of those acting on your behalf in the performance of your ongoing operations for the additional insured; or

3. "Your work" performed for the additional insured and included in the "products-completed operations hazard" if such coverage is specifically required in the written contract or agreement.

However, the insurance afforded to such additional insured(s) described above:

1. Only applies to the extent permitted by law;

2. Will not be broader than that which you are required by the contract or agreement to provide for such additional insured;

3. Will not be broader than that which is afforded to you under this policy; and

4. Nothing herein shall extend the term of this policy.

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B. The insurance provided to the additional insured does not apply to "bodily injury", "property damage" or "personal and advertising injury" arising out of the rendering of, or the failure to render, any professional architectural, engineering or surveying services, including:

1. The preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; or

2. Supervisory, inspection, architectural or engineering activities.

C. This insurance is excess over any other valid and collectible insurance available to the additional insured whether on a primary, excess, contingent or any other basis; unless the written contract or agreement requires that this insurance be primary and non-contributory, in which case this insurance will be primary and non-contributory relative to insurance on which the additional insured is a Named Insured.

D. With respect to the insurance afforded to these additional insureds, the following is added to **SECTION III – LIMITS OF INSURANCE**:

The most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement described in Paragraph **A.1.**; or

2. Available under the applicable Limits of Insurance;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance.

E. SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS is amended as follows:

Paragraph **2. Duties In The Event of Occurrence, Offense, Claim Or Suit** is amended to add the following additional conditions applicable to the additional insured:

An additional insured under this endorsement must as soon as practicable:

1. Give us written notice of an “occurrence” or an offense which may result in a claim or “suit” under this insurance, and of any claim or “suit” that does result;

2. Send us copies of all legal papers received in connection with the claim or “suit”, cooperate with us in the investigation or settlement of the claim or defense against the “suit”, and otherwise comply with all policy conditions; and

3. Tender the defense and indemnity of any claim or “suit” to any provider of other insurance which would cover the additional insured for a loss we cover under this endorsement and agree to make available all such other insurance. However, this condition does not affect Paragraph **C.** above.

We have no duty to defend or indemnify an additional insured under this endorsement until we receive from the additional insured written notice of a claim or “suit”.

F. This endorsement does not apply to any additional insured or project that is specifically identified in any other additional insured endorsement attached to the **COMMERCIAL GENERAL LIABILITY COVERAGE FORM**.

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ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – AUTOMATIC STATUS WHEN REQUIRED IN A WRITTEN CONSTRUCTION AGREEMENT WITH YOU

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

A. **Section II – Who Is An Insured** is amended to include as an additional insured any person or organization for whom you are performing operations when you and such person or organization have agreed in writing in a contract or agreement that such person or organization be added as an additional insured on your policy. Such person or organization is an additional insured only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or

2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured.

However, the insurance afforded to such additional insured:

1. Only applies to the extent permitted by law; and

2. Will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

A person's or organization's status as an additional insured under this endorsement ends when your operations for that additional insured are completed.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to:

1. "Bodily injury", "property damage" or "personal and advertising injury" arising out of the rendering of, or the failure to render, any professional architectural, engineering or surveying services, including:

a. The preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; or

b. Supervisory, inspection, architectural or engineering activities.

This exclusion applies even if the claims against any insured allege negligence or other wrongdoing in the supervision, hiring, employment, training or monitoring of others by that insured, if the "occurrence" which caused the "bodily injury" or "property damage", or the offense which caused the "personal and advertising injury", involved the rendering of or the failure to render any professional architectural, engineering or surveying services.

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2. "Bodily injury" or "property damage" occurring after:

a. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or

b. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

C. With respect to the insurance afforded to these additional insureds, the following is added to **Section III – Limits Of Insurance:**

The most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement you have entered into with the additional insured; or

2. Available under the applicable limits of insurance;

whichever is less.

This endorsement shall not increase the applicable limits of insurance.

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AUTO ADVANTAGE COVERAGE ENDORSEMENT

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

NOTE: The following are additions, replacements and amendments to the Business Auto Coverage Form, and will apply unless excluded by separate endorsement(s) to the Business Auto Coverage Form.

With respect to coverages provided by this endorsement, the provisions of the Business Auto Coverage Form apply unless modified by this endorsement.

The Business Auto Coverage Form is amended as follows:

SECTION II – COVERED AUTOS LIABILITY COVERAGE is amended as follows:

A. Paragraph **1. Who Is An Insured** in section **A. Coverage** is amended by the addition of the following:

d. Any legally incorporated subsidiary of yours in which you own more than 50% of the voting stock on the effective date of this coverage form. However, "insured" does not include any subsidiary that is an "insured" under any other liability policy or would be an "insured" under such a policy but for its termination or the exhaustion of its limits of insurance. In order for such subsidiaries to be considered insured under this policy, you must notify us of such subsidiaries within 60 days of policy effective date.

e. Any organization you newly acquire or form during the policy period, other than a partnership or joint venture, and over which you maintain sole ownership or a majority interest. However, coverage under this provision:

(1) Does not apply if the organization you acquire or form is an "insured" under another liability policy or would be an "insured" under such a policy but for its termination or the exhaustion of its limits of insurance;

(2) Does not apply to "bodily injury" or "property damage" that occurred before you acquired or formed the organization; and

(3) Is afforded only for the first 90 days after you acquire or form the organization or until the end of the policy period, whichever comes first.

f. Who Is An Insured is amended to include as an "insured" any person or organization except a person or organization that leases or rents "auto(s)" to you, but only to the extent of his, her, or its liability for whom you and such person or organization have agreed in writing in a contract or agreement, signed and executed by you prior to the loss for which coverage is sought, that such person or organization be added as an additional "insured" on your policy. Certificates of insurance will not be considered an Agreement to Insure.

Such person or organization is an additional "insured" but only with respect to your negligent actions, which cause liability to be imposed on such person or organization without fault on the part of said person or organization.

B. Paragraphs **(2)** and **(4)** under section **2. Coverage Extensions, a. Supplementary Payments** are deleted and replaced by the following:

(2) Up to $3,000 for cost of bail bonds (including bonds for related traffic violations) required because of an "accident" we cover. We do not have to furnish these bonds.

(4) All reasonable expenses incurred by the "insured" at our request, including actual loss of earnings up to $350 a day because of time off from work.

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SECTION III – PHYSICAL DAMAGE COVERAGE is amended as follows:

A. Paragraph **4. Coverage Extensions** under section **A. Coverage** is deleted and replaced by the following:

4. Coverage Extensions

a. Transportation Expenses

We will pay up to $40 per day to a total maximum of $1,200 for temporary transportation expenses incurred by you because of the total theft of a covered "auto" of the private passenger type or light trucks with a gross vehicle weight of less than 10,000 pounds. We will pay only for those covered "autos" for which you carry either Comprehensive or Specified Causes Of Loss Coverage. We will pay for temporary transportation expenses incurred during the period beginning 48 hours after the theft and ending, regardless of the policy's expiration, when the covered "auto" is returned to use or we pay for its "loss".

b. Loss of Use Expenses

For Hired Auto Physical Damage, we will pay expenses for which an "insured" becomes legally responsible to pay for loss of use of a vehicle rented or hired without a driver under a written rental contract or agreement. We will pay for loss of use expenses if caused by:

(1) Other than collision only if the Declarations indicate that Comprehensive Coverage is provided for hired "autos";

(2) Specified Causes of Loss only if the Declarations indicate that Specified Causes of Loss Coverage is provided for hired "autos"; or

(3) Collision only if the Declarations indicate that Collision Coverage is provided for hired "autos".

However, the most we will pay for any expenses for loss of use to any one vehicle is $40 per day, to a total maximum of $1200.

B. The following is added to paragraph **4. Coverage Extensions** under section **A. Coverage**:

c. Fire Department Service Charge

When a fire department is called to save or protect a covered "auto", its equipment, its contents, or occupants from a covered cause of loss, we will pay up to $1,000 for your liability for fire department service charges:

(1) Assumed by contract or agreement prior to loss; or

(2) Required by local ordinance.

No deductible applies to this additional coverage.

d. Auto Loan/Lease Gap Coverage

The following provisions apply:

(1) If a long term leased "auto", under an original lease agreement, is a covered "auto" under this Coverage Form and the lessor of the covered "auto" is named as an additional "insured" under this policy, in the event of a total "loss" to the leased covered "auto", we will pay any unpaid amount due on the lease, less the amount paid under the Physical Damage Coverage Section of the policy; and less any:

(a) Overdue lease payments at the time of the "loss";

(b) Financial penalties imposed under a lease for excessive use, abnormal wear and tear or high mileage;

(c) Security deposits not returned by the lessor;

(d) Costs for extended warranties, Credit Life Insurance, Health Accident or Disability Insurance purchased with the lease; and

(e) Carry-over balances from previous loans or leases.

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(2) If an owned "auto" is a covered "auto" under this Coverage Form and the loss payee of the covered "auto" is named a loss payee under this policy, in the event of a total loss to the covered "auto", we will pay any unpaid amount due on the loan, less the amount paid under the Physical Damage Coverage Section of the policy; and less any;

(a) Overdue loan payments at the time of the "loss";

(b) Costs for extended warranties, Credit Life Insurance, Health Accident or Disability Insurance purchased with the loan; and

(c) Carry-over balances from previous loans.

C. Section **D. Deductible** is deleted and replaced by the following:

D. Deductible

For each covered "auto", our obligation to pay for, repair, return or replace damaged or stolen property will be reduced by the applicable deductible shown in the Declarations prior to the application of the Limit of Insurance provided that:

1. The Comprehensive or Specified Causes of Loss Coverage deductible applies only to "loss" caused by:

a. Theft or mischief or vandalism; or

b. All perils.

2. Regardless of the number of covered "autos" damaged or stolen, the maximum deductible applicable for all "loss" in any one event caused by:

a. Theft or mischief or vandalism; or

b. All perils;

will be equal to five times the highest deductible applicable to any one covered "auto" on the Policy for Comprehensive or Specified Causes of Loss Coverage. The application of the highest deductible used to calculate the maximum deductible will be made regardless of which covered "autos" were damaged or stolen in the "loss".

3. Any Comprehensive Coverage deductible shown in the Declarations does not apply to glass damage if repaired rather than replaced.

SECTION IV – BUSINESS AUTO CONDITIONS is amended as follows:

A. The following is added to paragraph **a.** under section **A. Loss Conditions, 2. Duties in the Event of Accident, Claim, Suit or Loss**:

This duty applies when the "accident", claim, "suit" or "loss" is first known to:

(a) You, if you are an individual;

(b) A partner, if you are a partnership;

(c) An executive officer or insurance manager, if you are a corporation; or

(d) A member or manager, if you are a limited liability company.

B. The following is added to Condition **2. Concealment, Misrepresentation or Fraud** under section **B. General Conditions**:

However, if you unintentionally fail to disclose any hazards at the inception of your policy, we will not deny coverage under this Coverage Form because of such failure. This provision does not affect our right to collect additional premium or exercise our right of cancellation or non-renewal.

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Policy Number
CA100003783-10

ENDORSEMENT

FCCI Insurance Company

Named Insured Wade Coots Company, Inc.

Effective Date: 07-01-25
12:01 A.M., Standard Time

Agent Name YATES LLC

Agent No. 03036-001

BLANKET WAIVER

AUTOMATIC WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US
This endorsement is subject to the terms, conditions, and any other provisions of the Business Auto Coverage Form and any endorsements attached thereto, unless changes are indicated below.
The following is added to sub-paragraph 5. Transfer Of Rights Of Recovery Against Others To Us of Paragraph A. Loss Conditions under section IV - Business Auto Conditions:
However, we will waive any right of recovery we may have because of payments we make under this coverage form arising out of an "accident" or "loss" if:
a. The "accident" or "loss" is caused by operations undertaken by you in accordance with a written contract or agreement requiring such waiver with that person or organization in the written contract or agreement and
b. The written contract or agreement was executed prior to any "accident" or "loss".
Our waiver of our right to recovery applies only to the extent that the person or organization included in the wriiten contract or agreement with you is considered to be an Additional Insured under this coverage form or is entitled to indemnity from you. No waiver of the right to recovery will directly or indirectly apply to your employees or employees of the person or organization included in the written contract or agreement with you.

We reserve our rights or lien to be reimbursed from any recovery funds by an injured employee.

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POLICY NUMBER: UMB100015831-09

SCHEDULE OF UNDERLYING INSURANCE

NAME OF UNDERLYING INSURER UNDERLYING POLICY NUMBER UNDERLYING POLICY PERIOD	COVERAGE	LIMIT OF INSURANCE (UNDERLYING LIMIT)
001 FCCI INSURANCE COMPANY CA 100003783 07/01/2025 - 07/01/2026	Commercial Automobile Liability	Combined Single Limit-Each Accident $1,000,000 OR Bodily Injury-Each Person Bodily Injury-Each Accident Property Damage-Each Accident
026 MONROE GUARANTY INSURANCE COMPANY CPP 100049281 07/01/2025 - 07/01/2026	Commercial General Liability [X] Occurrence Form [ ] Claims-Made Form _____ Retroactive Date	Each Occurrence Limit $1,000,000 General Aggregate Limit $2,000,000 Personal and Advertising Injury Limit $1,000,000 Products-Completed Operations Aggregate Limit $2,000,000
026 MONROE GUARANTY INSURANCE COMPANY WC0 100058632 07/01/2025 - 07/01/2026	Employers Liability	Bodily Injury by Accident-Each Accident $1,000,000 Bodily Injury by Disease-Policy Limit $1,000,000 Bodily Injury by Disease-Each Employee $1,000,000
026 MONROE GUARANTY INSURANCE COMPANY CPP 100049281 07/01/2025 - 07/01/2026	Employee Benefits Liability [X] Occurrence Form [ ] Claims-Made Form _____ Retroactive Date	Each Employee Limit $1,000,000 Aggregate Limit $1,000,000

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COMMERCIAL LIABILITY UMBRELLA COVERAGE FORM

Various provisions in this policy restrict coverage. Read the entire policy carefully to determine rights, duties and what is and is not covered.

Throughout this policy the words "you" and "your" refer to the Named Insured shown in the Declarations, and any other person or organization qualifying as a Named Insured under this policy. The words "we", "us" and "our" refer to the company providing this insurance.

The word "insured" means any person or organization qualifying as such under Section **II** – Who Is An Insured.

Other words and phrases that appear in quotation marks have special meaning. Refer to Section **V** – Definitions.

SECTION I – COVERAGES

COVERAGE A – BODILY INJURY AND PROPERTY DAMAGE LIABILITY

1. Insuring Agreement

a. We will pay on behalf of the insured the "ultimate net loss" in excess of the "retained limit" because of "bodily injury" or "property damage" to which this insurance applies. We will have the right and duty to defend the insured against any "suit" seeking damages for such "bodily injury" or "property damage" when the "underlying insurance" does not provide coverage or the limits of "underlying insurance" have been exhausted. When we have no duty to defend, we will have the right to defend, or to participate in the defense of, the insured against any other "suit" seeking damages to which this insurance may apply. However, we will have no duty to defend the insured against any "suit" seeking damages for "bodily injury" or "property damage" to which this insurance does not apply. At our discretion, we may investigate any "occurrence" that may involve this insurance and settle any resultant claim or "suit" for which we have the duty to defend. But:

(1) The amount we will pay for the "ultimate net loss" is limited as described in Section **III** – Limits Of Insurance; and

(2) Our right and duty to defend ends when we have used up the applicable limit of insurance in the payment of judgments or settlements under Coverages **A** or **B.**

No other obligation or liability to pay sums or perform acts or services is covered unless explicitly provided for under Supplementary Payments – Coverages **A** and **B.**

b. This insurance applies to "bodily injury" or "property damage" that is subject to an applicable "retained limit". If any other limit, such as a sublimit, is specified in the "underlying insurance", this insurance does not apply to "bodily injury" or "property damage" arising out of that exposure unless that limit is specified in the Declarations under the Schedule of "underlying insurance".

c. This insurance applies to "bodily injury" and "property damage" only if:

(1) The "bodily injury" or "property damage" is caused by an "occurrence" that takes place in the "coverage territory";

(2) The "bodily injury" or "property damage" occurs during the policy period; and

(3) Prior to the policy period, no insured listed under Paragraph **1.a.** of Section **II** – Who Is An Insured and no "employee" authorized by you to give or receive notice of an "occurrence" or claim, knew that the "bodily injury" or "property damage" had occurred, in whole or in part. If such a listed insured or authorized "employee" knew, prior to the policy period, that the "bodily injury" or "property damage" occurred, then any continuation, change or resumption of such "bodily injury" or "property damage" during or after the policy period will be deemed to have been known prior to the policy period.

d. "Bodily injury" or "property damage" which occurs during the policy period and was not, prior to the policy period, known to have occurred by any insured listed under Paragraph **1.a.** of Section **II** – Who Is An Insured or any "employee" authorized by you to give or receive notice of an "occurrence" or claim, includes any continuation, change or resumption of that "bodily injury" or "property damage" after the end of the policy period.

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e. "Bodily injury" or "property damage" will be deemed to have been known to have occurred at the earliest time when any insured listed under Paragraph **1.a.** of Section **II** – Who Is An Insured or any "employee" authorized by you to give or receive notice of an "occurrence" or claim:

(1) Reports all, or any part, of the "bodily injury" or "property damage" to us or any other insurer;

(2) Receives a written or verbal demand or claim for damages because of the "bodily injury" or "property damage"; or

(3) Becomes aware by any other means that "bodily injury" or "property damage" has occurred or has begun to occur.

f. Damages because of "bodily injury" include damages claimed by any person or organization for care, loss of services or death resulting at any time from the "bodily injury".

2. Exclusions

This insurance does not apply to:

a. Expected Or Intended Injury

"Bodily injury" or "property damage" expected or intended from the standpoint of the insured. This exclusion does not apply to "bodily injury" resulting from the use of reasonable force to protect persons or property.

b. Contractual Liability

"Bodily injury" or "property damage" for which the insured is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages:

(1) That the insured would have in the absence of the contract or agreement; or

(2) Assumed in a contract or agreement that is an "insured contract", provided the "bodily injury" or "property damage" occurs subsequent to the execution of the contract or agreement. Solely for the purposes of liability assumed in an "insured contract", reasonable attorneys' fees and necessary litigation expenses incurred by or for a party other than an insured are deemed to be damages because of "bodily injury" or "property damage", provided:

(a) Liability to such party for, or for the cost of, that party's defense has also been assumed in the same "insured contract"; and

(b) Such attorneys' fees and litigation expenses are for defense of that party against a civil or alternative dispute resolution proceeding in which damages to which this insurance applies are alleged.

c. Liquor Liability

"Bodily injury" or "property damage" for which any insured may be held liable by reason of:

(1) Causing or contributing to the intoxication of any person;

(2) The furnishing of alcoholic beverages to a person under the legal drinking age or under the influence of alcohol; or

(3) Any statute, ordinance or regulation relating to the sale, gift, distribution or use of alcoholic beverages.

This exclusion applies even if the claims against any insured allege negligence or other wrongdoing in:

(a) The supervision, hiring, employment, training or monitoring of others by that insured; or

(b) Providing or failing to provide transportation with respect to any person that may be under the influence of alcohol;

if the "occurrence" which caused the "bodily injury" or "property damage" involved that which is described in Paragraph **(1)**, **(2)** or **(3)** above.

However, this exclusion applies only if you are in the business of manufacturing, distributing, selling, serving or furnishing alcoholic beverages. For the purposes of this exclusion, permitting a person to bring alcoholic beverages on your premises, for consumption on your premises, whether or not a fee is charged or a license is required for such activity, is not by itself considered the business of selling, serving or furnishing alcoholic beverages.

This exclusion does not apply to the extent that valid "underlying insurance" for the liquor liability risks described above exists or would have existed but for the exhaustion of underlying limits for "bodily injury" and "property damage". To the extent this exclusion does not apply, the insurance provided under this Coverage Part for the liquor liability risks described above will follow the same provisions, exclusions and limitations that are contained in the applicable "underlying insurance", unless otherwise directed by this insurance.

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d. Workers' Compensation And Similar Laws

Any obligation of the insured under a workers' compensation, disability benefits or unemployment compensation law or any similar law.

e. ERISA

Any obligation of the insured under the Employee Retirement Income Security Act of 1974 (ERISA), and any amendments thereto or any similar federal, state or local statute.

f. Auto Coverages

(1) "Bodily injury" or "property damage" arising out of the ownership, maintenance or use of any "auto" which is not a "covered auto"; or

(2) Any loss, cost or expense payable under or resulting from any first-party physical damage coverage; no-fault law; personal injury protection or auto medical payments coverage; or uninsured or underinsured motorist law.

g. Employer's Liability

"Bodily injury" to:

(1) An "employee" of the insured arising out of and in the course of:

(a) Employment by the insured; or

(b) Performing duties related to the conduct of the insured's business; or

(2) The spouse, child, parent, brother or sister of that "employee" as a consequence of Paragraph **(1)** above.

This exclusion applies whether the insured may be liable as an employer or in any other capacity, and to any obligation to share damages with or repay someone else who must pay damages because of the injury.

This exclusion does not apply to liability assumed by the insured under an "insured contract".

With respect to injury arising out of a "covered auto", this exclusion does not apply to "bodily injury" to domestic "employees" not entitled to workers' compensation benefits. For the purposes of this insurance, a domestic "employee" is a person engaged in household or domestic work performed principally in connection with a residence premises.

This exclusion does not apply to the extent that valid "underlying insurance" for the employer's liability risks described above exists or would have existed but for the exhaustion of underlying limits for "bodily injury". To the extent this exclusion does not apply, the insurance provided under this Coverage Part for the employer's liability risks described above will follow the same provisions, exclusions and limitations that are contained in the applicable "underlying insurance", unless otherwise directed by this insurance.

h. Employment-related Practices

"Bodily injury" to:

(1) A person arising out of any:

(a) Refusal to employ that person;

(b) Termination of that person's employment; or

(c) Employment-related practices, policies, acts or omissions, such as coercion, demotion, evaluation, reassignment, discipline, defamation, harassment, humiliation, discrimination or malicious prosecution directed at that person; or

(2) The spouse, child, parent, brother or sister of that person as a consequence of "bodily injury" to that person at whom any of the employment-related practices described in Paragraph **(a)**, **(b)**, or **(c)** above is directed.

This exclusion applies whether the injury-causing event described in Paragraph **(a)**, **(b)** or **(c)** above occurs before employment, during employment or after employment of that person.

This exclusion applies whether the insured may be liable as an employer or in any other capacity, and to any obligation to share damages with or repay someone else who must pay damages because of the injury.

i. Pollution

(1) "Bodily injury" or "property damage" which would not have occurred in whole or part but for the actual, alleged or threatened discharge, dispersal, seepage, migration, release or escape of "pollutants" at any time; or

(2) "Pollution cost or expense".

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This exclusion does not apply if valid "underlying insurance" for the pollution liability risks described above exists or would have existed but for the exhaustion of underlying limits for "bodily injury" and "property damage". To the extent this exclusion does not apply, the insurance provided under this Coverage Part for the pollution risks described above will follow the same provisions, exclusions and limitations that are contained in the applicable "underlying insurance", unless otherwise directed by this insurance.

j. Aircraft Or Watercraft

"Bodily injury" or "property damage" arising out of the ownership, maintenance, use or entrustment to others of any aircraft or watercraft owned or operated by or rented or loaned to any insured. Use includes operation and "loading or unloading".

This exclusion applies even if the claims against any insured allege negligence or other wrongdoing in the supervision, hiring, employment, training or monitoring of others by that insured, if the "occurrence" which caused the "bodily injury" or "property damage" involved the ownership, maintenance, use or entrustment to others of any aircraft or watercraft that is owned or operated by or rented or loaned to any insured.

This exclusion does not apply to:

(1) A watercraft while ashore on premises you own or rent;

(2) A watercraft you do not own that is:

(a) Less than 50 feet long; and

(b) Not being used to carry persons or property for a charge;

(3) Liability assumed under any "insured contract" for the ownership, maintenance or use of aircraft or watercraft;

(4) The extent that valid "underlying insurance" for the aircraft or watercraft liability risks described above exists or would have existed but for the exhaustion of underlying limits for "bodily injury" or "property damage". To the extent this exclusion does not apply, the insurance provided under this Coverage Part for the aircraft or watercraft risks described above will follow the same provisions, exclusions and limitations that are contained in the "underlying insurance", unless otherwise directed by this insurance; or

(5) Aircraft that is:

(a) Chartered by, loaned to, or hired by you with a paid crew; and

(b) Not owned by any insured.

k. Racing Activities

"Bodily injury" or "property damage" arising out of the use of "mobile equipment" or "autos" in, or while in practice for, or while being prepared for, any prearranged professional or organized racing, speed, demolition, or stunting activity or contest.

l. War

"Bodily injury" or "property damage", however caused, arising, directly or indirectly, out of:

(1) War, including undeclared or civil war;

(2) Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or

(3) Insurrection, rebellion, revolution, usurped power, or action taken by governmental authority in hindering or defending against any of these.

m. Damage To Property

"Property damage" to:

(1) Property:

(a) You own, rent, or occupy, including any costs or expenses incurred by you, or any other person, organization or entity, for repair, replacement, enhancement, restoration or maintenance of such property for any reason, including prevention of injury to a person or damage to another's property; or

(b) Owned or transported by the insured and arising out of the ownership, maintenance or use of a "covered auto".

(2) Premises you sell, give away or abandon, if the "property damage" arises out of any part of those premises;

(3) Property loaned to you;

(4) Personal property in the care, custody or control of the insured;

(5) That particular part of real property on which you or any contractors or subcontractors working directly or indirectly on your behalf are performing operations, if the "property damage" arises out of those operations; or

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(6) That particular part of any property that must be restored, repaired or replaced because "your work" was incorrectly performed on it.

Paragraph **(2)** of this exclusion does not apply if the premises are "your work" and were never occupied, rented or held for rental by you.

Paragraphs **(1)(b), (3), (4), (5)** and **(6)** of this exclusion do not apply to liability assumed under a sidetrack agreement.

Paragraphs **(3)** and **(4)** of this exclusion do not apply to liability assumed under a written Trailer Interchange agreement.

Paragraph **(6)** of this exclusion does not apply to "property damage" included in the "products-completed operations hazard".

n. Damage To Your Product

"Property damage" to "your product" arising out of it or any part of it.

o. Damage To Your Work

"Property damage" to "your work" arising out of it or any part of it and included in the "products-completed operations hazard".

This exclusion does not apply if the damaged work or the work out of which the damage arises was performed on your behalf by a subcontractor.

p. Damage To Impaired Property Or Property Not Physically Injured

"Property damage" to "impaired property" or property that has not been physically injured, arising out of:

(1) A defect, deficiency, inadequacy or dangerous condition in "your product" or "your work"; or

(2) A delay or failure by you or anyone acting on your behalf to perform a contract or agreement in accordance with its terms.

This exclusion does not apply to the loss of use of other property arising out of sudden and accidental physical injury to "your product" or "your work" after it has been put to its intended use.

q. Recall Of Products, Work Or Impaired Property

Damages claimed for any loss, cost or expense incurred by you or others for the loss of use, withdrawal, recall, inspection, repair, replacement, adjustment, removal or disposal of:

(1) "Your product";

(2) "Your work"; or

(3) "Impaired property";

if such product, work, or property is withdrawn or recalled from the market or from use by any person or organization because of a known or suspected defect, deficiency, inadequacy or dangerous condition in it.

r. Personal And Advertising Injury

"Bodily injury" arising out of "personal and advertising injury".

s. Professional Services

"Bodily injury" or "property damage" due to rendering of or failure to render any professional service. This includes but is not limited to:

(1) Legal, accounting or advertising services;

(2) Preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings or specifications;

(3) Inspection, supervision, quality control, architectural or engineering activities done by or for you on a project on which you serve as construction manager;

(4) Engineering services, including related supervisory or inspection services;

(5) Medical, surgical, dental, X-ray or nursing services treatment, advice or instruction;

(6) Any health or therapeutic service treatment, advice or instruction;

(7) Any service, treatment, advice or instruction for the purpose of appearance or skin enhancement, hair removal or replacement, or personal grooming or therapy;

(8) Any service, treatment, advice or instruction relating to physical fitness, including service, treatment, advice or instruction in connection with diet, cardiovascular fitness, bodybuilding or physical training programs;

(9) Optometry or optical or hearing aid services including the prescribing, preparation, fitting, demonstration or distribution of ophthalmic lenses and similar products or hearing aid devices;

(10) Body piercing services;

(11) Services in the practice of pharmacy;

(12) Law enforcement or firefighting services; and

(13) Handling, embalming, disposal, burial, cremation or disinterment of dead bodies.

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This exclusion applies even if the claims against any insured allege negligence or other wrongdoing in the supervision, hiring, employment, training or monitoring of others by that insured, if the "occurrence" which caused the "bodily injury" or "property damage", involved the rendering of or failure to render any professional service.

t. Electronic Data

Damages arising out of the loss of, loss of use of, damage to, corruption of, inability to access or inability to manipulate electronic data.

However, this exclusion does not apply to liability for damages because of "bodily injury".

As used in this exclusion, electronic data means information, facts or programs stored as or on, created or used on, or transmitted to or from computer software, including systems and applications software, hard or floppy disks, CD-ROMs, tapes, drives, cells, data processing devices or any other media which are used with electronically controlled equipment.

This exclusion does not apply if valid "underlying insurance" for the electronic data risks described above exists or would have existed but for the exhaustion of underlying limits for "bodily injury" and "property damage". The insurance provided under this Coverage Part will follow the same provisions, exclusions and limitations that are contained in the applicable "underlying insurance", unless otherwise directed by this insurance.

u. Recording And Distribution Of Material Or Information In Violation Of Law

"Bodily injury" or "property damage" arising directly or indirectly out of any action or omission that violates or is alleged to violate:

(1) The Telephone Consumer Protection Act (TCPA), including any amendment of or addition to such law;

(2) The CAN-SPAM Act of 2003, including any amendment of or addition to such law;

(3) The Fair Credit Reporting Act (FCRA), and any amendment of or addition to such law, including the Fair and Accurate Credit Transactions Act (FACTA); or

(4) Any federal, state or local statute, ordinance or regulation, other than the TCPA, CAN-SPAM Act of 2003 or FCRA and their amendments and additions, that addresses, prohibits, or limits the printing, dissemination, disposal, collecting, recording, sending, transmitting, communicating or distribution of material or information.

COVERAGE B – PERSONAL AND ADVERTISING INJURY LIABILITY

1. Insuring Agreement

a. We will pay on behalf of the insured the "ultimate net loss" in excess of the "retained limit" because of "personal and advertising injury" to which this insurance applies. We will have the right and duty to defend the insured against any "suit" seeking damages for such "personal and advertising injury" when the "underlying insurance" does not provide coverage or the limits of "underlying insurance" have been exhausted. When we have no duty to defend, we will have the right to defend, or to participate in the defense of, the insured against any other "suit" seeking damages to which this insurance may apply. However, we will have no duty to defend the insured against any "suit" seeking damages for "personal and advertising injury" to which this insurance does not apply. At our discretion, we may investigate any offense that may involve this insurance and settle any resultant claim or "suit" for which we have the duty to defend. But:

(1) The amount we will pay for the "ultimate net loss" is limited as described in Section **III** – Limits Of Insurance; and

(2) Our right and duty to defend end when we have used up the applicable limit of insurance in the payment of judgments or settlements under Coverages **A** or **B.**

No other obligation or liability to pay sums or perform acts or services is covered unless explicitly provided for under Supplementary Payments – Coverages **A** and **B.**

b. This insurance applies to "personal and advertising injury" that is subject to an applicable "retained limit". If any other limit, such as a sublimit, is specified in the "underlying insurance", this insurance does not apply to "personal and advertising injury" arising out of that exposure unless that limit is specified in the Declarations under the Schedule of "underlying insurance".

c. This insurance applies to "personal and advertising injury" caused by an offense arising out of your business but only if the offense was committed in the "coverage territory" during the policy period.

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2. Exclusions

This insurance does not apply to:

a. "Personal and advertising injury":

(1) Knowing Violation Of Rights Of Another

Caused by or at the direction of the insured with the knowledge that the act would violate the rights of another and would inflict "personal and advertising injury".

(2) Material Published With Knowledge Of Falsity

Arising out of oral or written publication, in any manner, of material, if done by or at the direction of the insured with knowledge of its falsity.

(3) Material Published Prior To Policy Period

Arising out of oral or written publication, in any manner, of material whose first publication took place before the beginning of the policy period.

(4) Criminal Acts

Arising out of a criminal act committed by or at the direction of the insured.

(5) Contractual Liability

For which the insured has assumed liability in a contract or agreement. This exclusion does not apply to:

(a) Liability for damages that the insured would have in the absence of the contract or agreement.

(b) Liability for false arrest, detention or imprisonment assumed in a contract or agreement.

(6) Breach Of Contract

Arising out of a breach of contract, except an implied contract to use another's advertising idea in your "advertisement".

(7) Quality Or Performance Of Goods – Failure To Conform To Statements

Arising out of the failure of goods, products or services to conform with any statement of quality or performance made in your "advertisement".

(8) Wrong Description Of Prices

Arising out of the wrong description of the price of goods, products or services stated in your "advertisement".

(9) Infringement Of Copyright, Patent, Trademark Or Trade Secret

Arising out of the infringement of copyright, patent, trademark, trade secret or other intellectual property rights. Under this exclusion, such other intellectual property rights do not include the use of another's advertising idea in your "advertisement".

However, this exclusion does not apply to infringement, in your "advertisement", of copyright, trade dress or slogan.

(10) Insureds In Media And Internet Type Businesses

Committed by an insured whose business is:

(a) Advertising, broadcasting, publishing or telecasting;

(b) Designing or determining content of web sites for others; or

(c) An Internet search, access, content or service provider.

However, this exclusion does not apply to Paragraphs **14.a., b.** and **c.** of "personal and advertising injury" under the Definitions section.

For the purposes of this exclusion, the placing of frames, borders or links, or advertising, for you or others anywhere on the Internet, is not by itself, considered the business of advertising, broadcasting, publishing or telecasting.

(11) Electronic Chatrooms Or Bulletin Boards

Arising out of an electronic chatroom or bulletin board the insured hosts, owns, or over which the insured exercises control.

(12) Unauthorized Use Of Another's Name Or Product

Arising out of the unauthorized use of another's name or product in your e-mail address, domain name or metatag, or any other similar tactics to mislead another's potential customers.

(13) Pollution

Arising out of the actual, alleged or threatened discharge, dispersal, seepage, migration, release or escape of "pollutants" at any time.

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(14) Employment-related Practices

To:

(a) A person arising out of any:

(i) Refusal to employ that person;

(ii) Termination of that person's employment; or

(iii) Employment-related practices, policies, acts or omissions, such as coercion, demotion, evaluation, reassignment, discipline, defamation, harassment, humiliation, discrimination or malicious prosecution directed at that person; or

(b) The spouse, child, parent, brother or sister of that person as a consequence of "personal and advertising injury" to that person at whom any of the employment-related practices described in Paragraph **(i)**, **(ii)** or **(iii)** above is directed.

This exclusion applies whether the injury-causing event described in Paragraph **(i)**, **(ii)** or **(iii)** above occurs before employment, during employment or after employment of that person.

This exclusion applies whether the insured may be liable as an employer or in any other capacity, and to any obligation to share damages with or repay someone else who must pay damages because of the injury.

(15) Professional Services

Arising out of the rendering of or failure to render any professional service. This includes but is not limited to:

(a) Legal, accounting or advertising services;

(b) Preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings or specifications;

(c) Inspection, supervision, quality control, architectural or engineering activities done by or for you on a project on which you serve as construction manager;

(d) Engineering services, including related supervisory or inspection services;

(e) Medical, surgical, dental, X-ray or nursing services treatment, advice or instruction;

(f) Any health or therapeutic service treatment, advice or instruction;

(g) Any service, treatment, advice or instruction for the purpose of appearance or skin enhancement, hair removal or replacement, or personal grooming or therapy;

(h) Any service, treatment, advice or instruction relating to physical fitness, including service, treatment, advice or instruction in connection with diet, cardiovascular fitness, bodybuilding or physical training programs;

(i) Optometry or optical or hearing aid services including the prescribing, preparation, fitting, demonstration or distribution of ophthalmic lenses and similar products or hearing aid devices;

(j) Body piercing services;

(k) Services in the practice of pharmacy;

(l) Law enforcement or firefighting services; and

(m) Handling, embalming, disposal, burial, cremation or disinterment of dead bodies.

This exclusion applies even if the claims against any insured allege negligence or other wrongdoing in the supervision, hiring, employment, training or monitoring of others by that insured, if the offense which caused the "personal and advertising injury", involved the rendering of or failure to render any professional service.

(16) War

However caused, arising, directly or indirectly, out of:

(a) War, including undeclared or civil war;

(b) Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or

(c) Insurrection, rebellion, revolution, usurped power, or action taken by governmental authority in hindering or defending against any of these.

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(17) Recording And Distribution Of Material Or Information In Violation Of Law

Arising directly or indirectly out of any action or omission that violates or is alleged to violate:

(a) The Telephone Consumer Protection Act (TCPA), including any amendment of or addition to such law;

(b) The CAN-SPAM Act of 2003, including any amendment of or addition to such law;

(c) The Fair Credit Reporting Act (FCRA), and any amendment of or addition to such law, including the Fair and Accurate Credit Transactions Act (FACTA); or

(d) Any federal, state or local statute, ordinance or regulation, other than the TCPA, CAN-SPAM Act of 2003 or FCRA and their amendments and additions, that addresses, prohibits, or limits the printing, dissemination, disposal, collecting, recording, sending, transmitting, communicating or distribution of material or information.

b. "Pollution cost or expense".

SUPPLEMENTARY PAYMENTS – COVERAGES A AND B

1. We will pay, with respect to any claim we investigate or settle, or any "suit" against an insured we defend, when the duty to defend exists:

a. All expenses we incur.

b. Up to $2,000 for cost of bail bonds (including bonds for related traffic law violations) required because of an "occurrence" we cover. We do not have to furnish these bonds.

c. The cost of bonds to release attachments, but only for bond amounts within the applicable limit of insurance. We do not have to furnish these bonds.

d. All reasonable expenses incurred by the insured at our request to assist us in the investigation or defense of the claim or "suit", including actual loss of earnings up to $250 a day because of time off from work.

e. All court costs taxed against the insured in the "suit". However, these payments do not include attorneys' fees or attorneys' expenses taxed against the insured.

f. Prejudgment interest awarded against the insured on that part of the judgment we pay. If we make an offer to pay the applicable limit of insurance, we will not pay any prejudgment interest based on that period of time after the offer.

g. All interest on the full amount of any judgment that accrues after entry of the judgment and before we have paid, offered to pay, or deposited in court the part of the judgment that is within the applicable limit of insurance.

These payments will not reduce the limits of insurance.

2. When we have the right but not the duty to defend the insured and elect to participate in the defense, we will pay our own expenses but will not contribute to the expenses of the insured or the "underlying insurer".

3. If we defend an insured against a "suit" and an indemnitee of the insured is also named as a party to the "suit", we will defend that indemnitee if all of the following conditions are met:

a. The "suit" against the indemnitee seeks damages for which the insured has assumed the liability of the indemnitee in a contract or agreement that is an "insured contract";

b. This insurance applies to such liability assumed by the insured;

c. The obligation to defend, or the cost of the defense of, that indemnitee, has also been assumed by the insured in the same "insured contract";

d. The allegations in the "suit" and the information we know about the "occurrence" are such that no conflict appears to exist between the interests of the insured and the interests of the indemnitee;

e. The indemnitee and the insured ask us to conduct and control the defense of that indemnitee against such "suit" and agree that we can assign the same counsel to defend the insured and the indemnitee; and

f. The indemnitee:

(1) Agrees in writing to:

(a) Cooperate with us in the investigation, settlement or defense of the "suit";

(b) Immediately send us copies of any demands, notices, summonses or legal papers received in connection with the "suit";

(c) Notify any other insurer whose coverage is available to the indemnitee; and

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(d) Cooperate with us with respect to coordinating other applicable insurance available to the indemnitee; and

(2) Provides us with written authorization to:

(a) Obtain records and other information related to the "suit"; and

(b) Conduct and control the defense of the indemnitee in such "suit".

So long as the above conditions are met, attorneys' fees incurred by us in the defense of that indemnitee, necessary litigation expenses incurred by us and necessary litigation expenses incurred by the indemnitee at our request will be paid as Supplementary Payments. Notwithstanding the provisions of Paragraph **2.b.(2)** of Section **I** – Coverage **A** – Bodily Injury And Property Damage Liability, such payments will not be deemed to be damages for "bodily injury" and "property damage" and will not reduce the limits of insurance.

Our obligation to defend an insured's indemnitee and to pay for attorneys' fees and necessary litigation expenses as Supplementary Payments ends when we have used up the applicable limit of insurance in the payment of judgments or settlements or the conditions set forth above, or the terms of the agreement described in Paragraph **f.** above, are no longer met.

SECTION II – WHO IS AN INSURED

1. Except for liability arising out of the ownership, maintenance or use of "covered autos":

a. If you are designated in the Declarations as:

(1) An individual, you and your spouse are insureds, but only with respect to the conduct of a business of which you are the sole owner.

(2) A partnership or joint venture, you are an insured. Your members, your partners, and their spouses are also insureds, but only with respect to the conduct of your business.

(3) A limited liability company, you are an insured. Your members are also insureds, but only with respect to the conduct of your business. Your managers are insureds, but only with respect to their duties as your managers.

(4) An organization other than a partnership, joint venture or limited liability company, you are an insured. Your "executive officers" and directors are insureds, but only with respect to their duties as your officers or directors. Your stockholders are also insureds, but only with respect to their liability as stockholders.

(5) A trust, you are an insured. Your trustees are also insureds, but only with respect to their duties as trustees.

b. Each of the following is also an insured:

(1) Your "volunteer workers" only while performing duties related to the conduct of your business, or your "employees", other than either your "executive officers" (if you are an organization other than a partnership, joint venture or limited liability company) or your managers (if you are a limited liability company), but only for acts within the scope of their employment by you or while performing duties related to the conduct of your business. However, none of these "employees" or "volunteer workers" are insureds for:

(a) "Bodily injury" or "personal and advertising injury":

(i) To you, to your partners or members (if you are a partnership or joint venture), to your members (if you are a limited liability company), to a co-"employee" in the course of his or her employment or performing duties related to the conduct of your business or to your other "volunteer workers" while performing duties related to the conduct of your business;

(ii) To the spouse, child, parent, brother or sister of that co-"employee" or "volunteer worker" as a consequence of Paragraph **(a)(i)** above; or

(iii) For which there is any obligation to share damages with or repay someone else who must pay damages because of the injury described in Paragraph **(a)(i)** or **(ii)** above.

(b) "Property damage" to property:

(i) Owned, occupied or used by;

(ii) Rented to, in the care, custody or control of, or over which physical control is being exercised for any purpose by;

you, any of your "employees", "volunteer workers", any partner or member (if you are a partnership or joint venture), or any member (if you are a limited liability company).

(2) Any person (other than your "employee" or "volunteer worker"), or any organization while acting as your real estate manager.

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(3) Any person or organization having proper temporary custody of your property if you die, but only:

(a) With respect to liability arising out of the maintenance or use of that property; and

(b) Until your legal representative has been appointed.

(4) Your legal representative if you die, but only with respect to duties as such. That representative will have all your rights and duties under this Coverage Part.

c. Any organization you newly acquire or form, other than a partnership, joint venture or limited liability company, and over which you maintain ownership or majority interest, will qualify as a Named Insured if there is no other similar insurance available to that organization. However:

(1) Coverage under this provision is afforded only until the 90th day after you acquire or form the organization or the end of the policy period, whichever is earlier;

(2) Coverage **A** does not apply to "bodily injury" or "property damage" that occurred before you acquired or formed the organization; and

(3) Coverage **B** does not apply to "personal and advertising injury" arising out of an offense committed before you acquired or formed the organization.

2. Only with respect to liability arising out of the ownership, maintenance or use of "covered autos":

a. You are an insured.

b. Anyone else while using with your permission a "covered auto" you own, hire or borrow is also an insured except:

(1) The owner or anyone else from whom you hire or borrow a "covered auto". This exception does not apply if the "covered auto" is a trailer or semitrailer connected to a "covered auto" you own.

(2) Your "employee" if the "covered auto" is owned by that "employee" or a member of his or her household.

(3) Someone using a "covered auto" while he or she is working in a business of selling, servicing, repairing, parking or storing "autos" unless that business is yours.

(4) Anyone other than your "employees", partners (if you are a partnership), members (if you are a limited liability company), or a lessee or borrower or any of their "employees", while moving property to or from a "covered auto".

(5) A partner (if you are a partnership), or a member (if you are a limited liability company) for a "covered auto" owned by him or her or a member of his or her household.

(6) "Employees" with respect to "bodily injury" to:

(a) Any fellow "employee" of the insured arising out of and in the course of the fellow "employee's" employment or while performing duties related to the conduct of your business; or

(b) The spouse, child, parent, brother or sister of that fellow "employee" as a consequence of Paragraph **(a)** above.

c. Anyone liable for the conduct of an insured described above is also an insured, but only to the extent of that liability.

3. Any additional insured under any policy of "underlying insurance" will automatically be an insured under this insurance.

Subject to Section **III** – Limits Of Insurance, if coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

a. Required by the contract or agreement, less any amounts payable by any "underlying insurance"; or

b. Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

Additional insured coverage provided by this insurance will not be broader than coverage provided by the "underlying insurance".

No person or organization is an insured with respect to the conduct of any current or past partnership, joint venture or limited liability company that is not shown as a Named Insured in the Declarations.

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SECTION III – LIMITS OF INSURANCE

1. The Limits of Insurance shown in the Declarations and the rules below fix the most we will pay regardless of the number of:
   a. Insureds;
   b. Claims made, "suits" brought, or number of vehicles involved; or
   c. Persons or organizations making claims or bringing "suits".
2. The Aggregate Limit is the most we will pay for the sum of all "ultimate net loss" under:
   a. Coverage **A**, except "ultimate net loss" because of "bodily injury" or "property damage" arising out of the ownership, maintenance or use of a "covered auto"; and
   b. Coverage **B**.
3. Subject to Paragraph **2.** above, the Each Occurrence Limit is the most we will pay for the sum of all "ultimate net loss" under Coverage **A** because of all "bodily injury" and "property damage" arising out of any one "occurrence".
4. Subject to Paragraph **2.** above, the Personal And Advertising Injury Limit is the most we will pay under Coverage **B** for the sum of all "ultimate net loss" because of all "personal and advertising injury" sustained by any one person or organization.
5. If there is "underlying insurance" with a policy period that is nonconcurrent with the policy period of this Commercial Liability Umbrella Coverage Part, the "retained limit(s)" will only be reduced or exhausted by payments for:
   a. "Bodily injury" or "property damage" which occurs during the policy period of this Coverage Part; or
   b. "Personal and advertising injury" for offenses that are committed during the policy period of this Coverage Part.

   However, if any "underlying insurance" is written on a claims-made basis, the "retained limit(s)" will only be reduced or exhausted by claims for that insurance that are made during the policy period, or any Extended Reporting Period, of this Coverage Part.

The Aggregate Limit, as described in Paragraph **2.** above, applies separately to each consecutive annual period and to any remaining period of less than 12 months, starting with the beginning of the policy period shown in the Declarations, unless the policy period is extended after issuance for an additional period of less than 12 months. In that case, the additional period will be deemed part of the last preceding period for purposes of determining the Limits of Insurance.

SECTION IV – CONDITIONS

1. **Appeals**

   If the "underlying insurer" or insured elects not to appeal a judgment in excess of the "retained limit", we may do so at our own expense. We will also pay for taxable court costs, pre- and postjudgment interest and disbursements associated with such appeal. In no event will this provision increase our liability beyond the applicable Limits of Insurance described in Section **III** – Limits Of Insurance.

2. **Bankruptcy**

   a. **Bankruptcy Of Insured**

      Bankruptcy or insolvency of the insured or of the insured's estate will not relieve us of our obligations under this Coverage Part.

   b. **Bankruptcy Of Underlying Insurer**

      Bankruptcy or insolvency of the "underlying insurer" will not relieve us of our obligations under this Coverage Part.

   However, this insurance will not replace the "underlying insurance" in the event of bankruptcy or insolvency of the "underlying insurer". This insurance will apply as if the "underlying insurance" were in full effect.

3. **Duties In The Event Of Occurrence, Offense, Claim Or Suit**

   a. You must see to it that we are notified as soon as practicable of an "occurrence" or an offense, regardless of the amount, which may result in a claim. To the extent possible, notice should include:
      (1) How, when and where the "occurrence" or offense took place;
      (2) The names and addresses of any injured persons and witnesses; and
      (3) The nature and location of any injury or damage arising out of the "occurrence" or offense.
   b. If a claim is made or "suit" is brought against any insured, you must:
      (1) Immediately record the specifics of the claim or "suit" and the date received; and
      (2) Notify us as soon as practicable.

      You must see to it that we receive written notice of the claim or "suit" as soon as practicable.
   c. You and any other involved insured must:
      (1) Immediately send us copies of any demands, notices, summonses or legal papers received in connection with the claim or "suit";

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(2) Authorize us to obtain records and other information;

(3) Cooperate with us in the investigation or settlement of the claim or defense against the "suit"; and

(4) Assist us, upon our request, in the enforcement of any right against any person or organization which may be liable to the insured because of injury or damage to which this insurance may also apply.

d. No insured will, except at that insured's own cost, voluntarily make a payment, assume any obligation, or incur any expense, other than for first aid, without our consent.

4. Legal Action Against Us

No person or organization has a right under this Coverage Part:

a. To join us as a party or otherwise bring us into a "suit" asking for damages from an insured; or

b. To sue us on this Coverage Part unless all of its terms have been fully complied with.

A person or organization may sue us to recover on an agreed settlement or on a final judgment against an insured; but we will not be liable for damages that are not payable under the terms of this Coverage Part or that are in excess of the applicable limit of insurance. An agreed settlement means a settlement and release of liability signed by us, the insured and the claimant or the claimant's legal representative.

5. Other Insurance

a. This insurance is excess over, and shall not contribute with any of the other insurance, whether primary, excess, contingent or on any other basis. This condition will not apply to insurance specifically written as excess over this Coverage Part.

When this insurance is excess, we will have no duty under Coverages **A** or **B** to defend the insured against any "suit" if any other insurer has a duty to defend the insured against that "suit". If no other insurer defends, we will undertake to do so, but we will be entitled to the insured's rights against all those other insurers.

b. When this insurance is excess over other insurance, we will pay only our share of the "ultimate net loss" that exceeds the sum of:

(1) The total amount that all such other insurance would pay for the loss in the absence of the insurance provided under this Coverage Part; and

(2) The total of all deductible and self-insured amounts under all that other insurance.

6. Premium Audit

a. We will compute all premiums for this Coverage Part in accordance with our rules and rates.

b. Premium shown in this Coverage Part as advance premium is a deposit premium only. At the close of each audit period we will compute the earned premium for that period and send notice to the first Named Insured. The due date for audit and retrospective premiums is the date shown as the due date on the bill. If the sum of the advance and audit premiums paid for the policy period is greater than the earned premium, we will return the excess to the first Named Insured.

c. The first Named Insured must keep records of the information we need for premium computation, and send us copies at such times as we may request.

7. Representations Or Fraud

By accepting this policy, you agree:

a. The statements in the Declarations are accurate and complete;

b. Those statements are based upon representations you made to us;

c. We have issued this policy in reliance upon your representations; and

d. This policy is void in any case of fraud by you as it relates to this policy or any claim under this policy.

8. Separation Of Insureds

Except with respect to the Limits of Insurance, and any rights or duties specifically assigned in this Coverage Part to the first Named Insured, this insurance applies:

a. As if each Named Insured were the only Named Insured; and

b. Separately to each insured against whom claim is made or "suit" is brought.

9. Transfer Of Rights Of Recovery Against Others To Us

If the insured has rights to recover all or part of any payment we have made under this Coverage Part, those rights are transferred to us. The insured must do nothing after loss to impair them. At our request, the insured will bring "suit" or transfer those rights to us and help us enforce them.

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10. When We Do Not Renew

If we decide not to renew this Coverage Part, we will mail or deliver to the first Named Insured shown in the Declarations written notice of the nonrenewal not less than 30 days before the expiration date.

If notice is mailed, proof of mailing will be sufficient proof of notice.

11. Loss Payable

Liability under this Coverage Part does not apply to a given claim unless and until:

a. The insured or insured's "underlying insurer" has become obligated to pay the "retained limit"; and

b. The obligation of the insured to pay the "ultimate net loss" in excess of the "retained limit" has been determined by a final settlement or judgment or written agreement among the insured, claimant and us.

12. Transfer Of Defense

When the underlying limits of insurance have been used up in the payment of judgments or settlements, the duty to defend will be transferred to us. We will cooperate in the transfer of control to us of any outstanding claims or "suits" seeking damages to which this insurance applies which would have been covered by the "underlying insurance" had the applicable limit not been used up.

13. Maintenance Of / Changes To Underlying Insurance

Any "underlying insurance" must be maintained in full effect without reduction of coverage or limits except for the reduction of the aggregate limit in accordance with the provisions of such "underlying insurance" that results from payment of claims, settlement or judgments to which this insurance applies.

Such exhaustion or reduction is not a failure to maintain "underlying insurance". Failure to maintain "underlying insurance" will not invalidate insurance provided under this Coverage Part, but insurance provided under this Coverage Part will apply as if the "underlying insurance" were in full effect.

If there is an increase in the scope of coverage of any "underlying insurance" during the term of this policy, our liability will be no more than it would have been if there had been no such increase.

You must notify us in writing, as soon as practicable, if any "underlying insurance" is cancelled, not renewed, replaced or otherwise terminated, or if the limits or scope of coverage of any "underlying insurance" is changed.

14. Expanded Coverage Territory

a. If a "suit" is brought in a part of the "coverage territory" that is outside the United States of America (including its territories and possessions), Puerto Rico or Canada, and we are prevented by law, or otherwise, from defending the insured, the insured will initiate a defense of the "suit". We will reimburse the insured, under Supplementary Payments, for any reasonable and necessary expenses incurred for the defense of a "suit" seeking damages to which this insurance applies, that we would have paid had we been able to exercise our right and duty to defend.

If the insured becomes legally obligated to pay sums because of damages to which this insurance applies in a part of the "coverage territory" that is outside the United States of America (including its territories and possessions), Puerto Rico or Canada, and we are prevented by law, or otherwise, from paying such sums on the insured's behalf, we will reimburse the insured for such sums.

b. All payments or reimbursements we make for damages because of judgments or settlements will be made in U.S. currency at the prevailing exchange rate at the time the insured became legally obligated to pay such sums. All payments or reimbursements we make for expenses under Supplementary Payments will be made in U.S. currency at the prevailing exchange rate at the time the expenses were incurred.

c. Any disputes between you and us as to whether there is coverage under this policy must be filed in the courts of the United States of America (including its territories and possessions), Canada or Puerto Rico.

d. The insured must fully maintain any coverage required by law, regulation or other governmental authority during the policy period, except for reduction of the aggregate limits due to payments of claims, judgments or settlements.

Failure to maintain such coverage required by law, regulation or other governmental authority will not invalidate this insurance. However, this insurance will apply as if the required coverage by law, regulation or other governmental authority was in full effect.

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SECTION V – DEFINITIONS

1. "Advertisement" means a notice that is broadcast or published to the general public or specific market segments about your goods, products or services for the purpose of attracting customers or supporters. For the purposes of this definition:
   a. Notices that are published include material placed on the Internet or on similar electronic means of communication; and
   b. Regarding web sites, only that part of a web site that is about your goods, products or services for the purposes of attracting customers or supporters is considered an advertisement.
2. "Auto" means:
   a. A land motor vehicle, trailer or semitrailer designed for travel on public roads, including any attached machinery or equipment; or
   b. Any other land vehicle that is subject to a compulsory or financial responsibility law or other motor vehicle insurance law where it is licensed or principally garaged.

   However, "auto" does not include "mobile equipment".
3. "Bodily injury" means bodily injury, disability, sickness or disease sustained by a person, including death resulting from any of these at any time. "Bodily injury" includes mental anguish or other mental injury resulting from "bodily injury".
4. "Coverage territory" means anywhere in the world with the exception of any country or jurisdiction which is subject to trade or other economic sanction or embargo by the United States of America.
5. "Covered auto" means only those "autos" to which "underlying insurance" applies.
6. "Employee" includes a "leased worker". "Employee" does not include a "temporary worker".
7. "Executive officer" means a person holding any of the officer positions created by your charter, constitution, bylaws or any other similar governing document.
8. "Impaired property" means tangible property, other than "your product" or "your work", that cannot be used or is less useful because:
   a. It incorporates "your product" or "your work" that is known or thought to be defective, deficient, inadequate or dangerous; or
   b. You have failed to fulfill the terms of a contract or agreement;

   if such property can be restored to use by the repair, replacement, adjustment or removal of "your product" or "your work", or your fulfilling the terms of the contract or agreement.
9. "Insured contract" means:
   a. A contract for a lease of premises. However, that portion of the contract for a lease of premises that indemnifies any person or organization for damage by fire to premises while rented to you or temporarily occupied by you with permission of the owner is not an "insured contract";
   b. A sidetrack agreement;
   c. Any easement or license agreement, except in connection with construction or demolition operations on or within 50 feet of a railroad;
   d. An obligation, as required by ordinance, to indemnify a municipality, except in connection with work for a municipality;
   e. An elevator maintenance agreement;
   f. That part of any contract or agreement entered into, as part of your business, pertaining to the rental or lease, by you or any of your "employees", of any "auto". However, such contract or agreement shall not be considered an "insured contract" to the extent that it obligates you or any of your "employees" to pay for "property damage" to any "auto" rented or leased by you or any of your "employees".
   g. That part of any other contract or agreement pertaining to your business (including an indemnification of a municipality in connection with work performed for a municipality) under which you assume the tort liability of another party to pay for "bodily injury" or "property damage" to a third person or organization. Tort liability means a liability that would be imposed by law in the absence of any contract or agreement.

   Paragraphs **f.** and **g.** do not include that part of any contract or agreement:
   (1) That indemnifies a railroad for "bodily injury" or "property damage" arising out of construction or demolition operations, within 50 feet of any railroad property and affecting any railroad bridge or trestle, tracks, road-beds, tunnel, underpass or crossing;
   (2) That pertains to the loan, lease or rental of an "auto" to you or any of your "employees", if the "auto" is loaned, leased or rented with a driver; or

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(3) That holds a person or organization engaged in the business of transporting property by "auto" for hire harmless for your use of a "covered auto" over a route or territory that person or organization is authorized to serve by public authority.

10. "Leased worker" means a person leased to you by a labor leasing firm under an agreement between you and the labor leasing firm, to perform duties related to the conduct of your business. "Leased worker" does not include a "temporary worker".

11. "Loading or unloading" means the handling of property:

a. After it is moved from the place where it is accepted for movement into or onto an aircraft, watercraft or "auto";

b. While it is in or on an aircraft, watercraft or "auto"; or

c. While it is being moved from an aircraft, watercraft or "auto" to the place where it is finally delivered;

but "loading or unloading" does not include the movement of property by means of a mechanical device, other than a hand truck, that is not attached to the aircraft, watercraft or "auto".

12. "Mobile equipment" means any of the following types of land vehicles, including any attached machinery or equipment:

a. Bulldozers, farm machinery, forklifts and other vehicles designed for use principally off public roads;

b. Vehicles maintained for use solely on or next to premises you own or rent;

c. Vehicles that travel on crawler treads;

d. Vehicles, whether self-propelled or not, maintained primarily to provide mobility to permanently mounted:

(1) Power cranes, shovels, loaders, diggers or drills; or

(2) Road construction or resurfacing equipment such as graders, scrapers or rollers;

e. Vehicles not described in Paragraph **a.**, **b.**, **c.** or **d.** above that are not self-propelled and are maintained primarily to provide mobility to permanently attached equipment of the following types:

(1) Air compressors, pumps and generators, including spraying, welding, building cleaning, geophysical exploration, lighting and well servicing equipment; or

(2) Cherry pickers and similar devices used to raise or lower workers;

f. Vehicles not described in Paragraph **a.**, **b.**, **c.** or **d.** above maintained primarily for purposes other than the transportation of persons or cargo.

However, self-propelled vehicles with the following types of permanently attached equipment are not "mobile equipment" but will be considered "autos":

(1) Equipment designed primarily for:

(a) Snow removal;

(b) Road maintenance, but not construction or resurfacing; or

(c) Street cleaning;

(2) Cherry pickers and similar devices mounted on automobile or truck chassis and used to raise or lower workers; and

(3) Air compressors, pumps and generators, including spraying, welding, building cleaning, geophysical exploration, lighting and well servicing equipment.

However, "mobile equipment" does not include land vehicles that are subject to a compulsory or financial responsibility law or other motor vehicle insurance law where it is licensed or principally garaged. Land vehicles subject to a compulsory or financial responsibility law or other motor vehicle insurance law are considered "autos".

13. "Occurrence" means an accident, including continuous or repeated exposure to substantially the same general harmful conditions.

14. "Personal and advertising injury" means injury, including consequential "bodily injury", arising out of one or more of the following offenses:

a. False arrest, detention or imprisonment;

b. Malicious prosecution;

c. The wrongful eviction from, wrongful entry into, or invasion of the right of private occupancy of a room, dwelling or premises that a person occupies, committed by or on behalf of its owner, landlord or lessor;

d. Oral or written publication, in any manner, of material that slanders or libels a person or organization or disparages a person's or organization's goods, products or services;

e. Oral or written publication, in any manner, of material that violates a person's right of privacy;

f. The use of another's advertising idea in your "advertisement"; or

g. Infringing upon another's copyright, trade dress or slogan in your "advertisement".

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15. "Pollutants" mean any solid, liquid, gaseous or thermal irritant or contaminant, including smoke, vapor, soot, fumes, acids, alkalis, chemicals and waste. Waste includes materials to be recycled, reconditioned or reclaimed.

16. "Pollution cost or expense" means any loss, cost or expense arising out of any:

    a. Request, demand, order or statutory or regulatory requirement that any insured or others test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of, "pollutants"; or

    b. Claim or suit by or on behalf of a governmental authority for damages because of testing for, monitoring, cleaning up, removing, containing, treating, detoxifying or neutralizing, or in any way responding to, or assessing the effects of, "pollutants".

17. "Products-completed operations hazard":

    a. Includes all "bodily injury" and "property damage" occurring away from premises you own or rent and arising out of "your product" or "your work" except:

        (1) Products that are still in your physical possession; or

        (2) Work that has not yet been completed or abandoned. However, "your work" will be deemed completed at the earliest of the following times:

            (a) When all of the work called for in your contract has been completed.

            (b) When all of the work to be done at the job site has been completed if your contract calls for work at more than one job site.

            (c) When that part of the work done at a job site has been put to its intended use by any person or organization other than another contractor or subcontractor working on the same project.

        Work that may need service, maintenance, correction, repair or replacement, but which is otherwise complete, will be treated as completed.

    b. Does not include "bodily injury" or "property damage" arising out of:

        (1) The transportation of property, unless the injury or damage arises out of a condition in or on a vehicle not owned or operated by you, and that condition was created by the "loading or unloading" of that vehicle by any insured; or

        (2) The existence of tools, uninstalled equipment or abandoned or unused materials.

18. "Property damage" means:

    a. Physical injury to tangible property, including all resulting loss of use of that property. All such loss of use shall be deemed to occur at the time of the physical injury that caused it; or

    b. Loss of use of tangible property that is not physically injured. All such loss of use shall be deemed to occur at the time of the "occurrence" that caused it.

    With respect to the ownership, maintenance or use of "covered autos", property damage also includes "pollution cost or expense", but only to the extent that coverage exists under the "underlying insurance" or would have existed but for the exhaustion of the underlying limits.

    For the purposes of this insurance, with respect to other than the ownership, maintenance or use of "covered autos", electronic data is not tangible property.

    As used in this definition, electronic data means information, facts or programs stored as or on, created or used on, or transmitted to or from computer software (including systems and applications software), hard or floppy disks, CD-ROMs, tapes, drives, cells, data processing devices or any other media which are used with electronically controlled equipment.

19. "Retained limit" means the available limits of "underlying insurance" scheduled in the Declarations or the "self-insured retention", whichever applies.

20. "Self-insured retention" means the dollar amount listed in the Declarations that will be paid by the insured before this insurance becomes applicable only with respect to "occurrences" or offenses not covered by the "underlying insurance". The "self-insured retention" does not apply to "occurrences" or offenses which would have been covered by "underlying insurance" but for the exhaustion of applicable limits.

21. "Suit" means a civil proceeding in which damages because of "bodily injury", "property damage" or "personal and advertising injury" to which this insurance applies are alleged. "Suit" includes:

    a. An arbitration proceeding in which such damages are claimed and to which the insured must submit or does submit with our consent; or

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b. Any other alternative dispute resolution proceeding in which such damages are claimed and to which the insured submits with our consent or the "underlying insurer's" consent.

22. "Temporary worker" means a person who is furnished to you to substitute for a permanent "employee" on leave or to meet seasonal or short-term workload conditions.

23. "Ultimate net loss" means the total sum, after reduction for recoveries or salvages collectible, that the insured becomes legally obligated to pay as damages by reason of settlement or judgments or any arbitration or other alternate dispute method entered into with our consent or the "underlying insurer's" consent.

24. "Underlying insurance" means any policies of insurance listed in the Declarations under the Schedule of "underlying insurance".

25. "Underlying insurer" means any insurer who provides any policy of insurance listed in the Schedule of "underlying insurance".

26. "Volunteer worker" means a person who is not your "employee", and who donates his or her work and acts at the direction of and within the scope of duties determined by you, and is not paid a fee, salary or other compensation by you or anyone else for their work performed for you.

27. "Your product":

a. Means:

(1) Any goods or products, other than real property, manufactured, sold, handled, distributed or disposed of by:

(a) You;

(b) Others trading under your name; or

(c) A person or organization whose business or assets you have acquired; and

(2) Containers (other than vehicles), materials, parts or equipment furnished in connection with such goods or products.

b. Includes:

(1) Warranties or representations made at any time with respect to the fitness, quality, durability, performance or use of "your product"; and

(2) The providing of or failure to provide warnings or instructions.

c. Does not include vending machines or other property rented to or located for the use of others but not sold.

28. "Your work":

a. Means:

(1) Work or operations performed by you or on your behalf; and

(2) Materials, parts or equipment furnished in connection with such work or operations.

b. Includes:

(1) Warranties or representations made at any time with respect to the fitness, quality, durability, performance or use of "your work"; and

(2) The providing of or failure to provide warnings or instructions.

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WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.)

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

Schedule

All persons or organizations that, in a written contract executed by both parties prior to the date of the injury covered by this policy, require you to obtain this agreement from us.

NOTE: This endorsement does not apply to any work completed at job sites located in Kentucky.

This endorsement changes the policy to which it is attached and is effective on the date issued unless otherwise stated.
(The information below is required only when this endorsement is issued subsequent to preparation of the policy.)

Endorsement Effective **07-01-25** Policy No. **WC0100058632-06** Endorsement No.

Insured **Wade Coots Co Inc** Premium $ **Incl.**

Insurance Company **Monroe Guaranty Insurance Company**

Countersigned By _____

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Certificate Of Completion

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Status: Completed
Subject: 25ITB0911K-NJH (B) Standby Miscellaneous Construction, Water System Services - Wade Coots
Parcel ID:
Employee Name:
Source Envelope:
Document Pages: 518
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Certificate Pages: 6
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W. Greg Coots greg.coots@wadecootscompany.com Vice President Security Level: Email, Account Authentication (None)	 Signature Adoption: Pre-selected Style Using IP Address: 97.227.139.178	Sent: 4/15/2026 2:03:02 PM Viewed: 4/15/2026 2:42:33 PM Signed: 4/15/2026 2:44:14 PM
Electronic Record and Signature Disclosure: Accepted: 12/3/2018 3:43:13 PM ID: d36d1271-8cc0-4e86-9248-74c80b0a0470		
David Clark david.clark@fultoncountyga.gov Director Public Works Security Level: Email, Account Authentication (None)	 Signature Adoption: Pre-selected Style Using IP Address: 74.174.59.10	Sent: 4/15/2026 2:44:58 PM Viewed: 4/15/2026 2:46:02 PM Signed: 4/15/2026 2:46:16 PM
Electronic Record and Signature Disclosure: Accepted: 11/13/2017 1:07:14 PM ID: 62e0a41e-60ea-4640-a1cb-69bfc2cfa732		
David Lowman david.lowman@fultoncountyga.gov Supervising County Counsel Security Level: Email, Account Authentication (None)	**Completed** Using IP Address: 74.174.59.4	Sent: 4/15/2026 2:47:04 PM Viewed: 4/15/2026 3:39:39 PM Signed: 4/15/2026 3:54:01 PM
Electronic Record and Signature Disclosure: Accepted: 4/15/2026 3:39:39 PM ID: 2a641d43-da8b-4c86-8c61-e821513d738d		
Kaye Burwell kaye.burwell@fultoncountyga.gov Deputy County Attorney Security Level: Email, Account Authentication (None)	 Signature Adoption: Pre-selected Style Using IP Address: 74.174.59.10	Sent: 4/15/2026 3:54:39 PM Viewed: 4/16/2026 9:16:49 AM Signed: 4/16/2026 9:16:49 AM
Electronic Record and Signature Disclosure:		

Signer Events	Signature	Timestamp
Accepted: 4/16/2026 9:16:05 AM ID: a6b76815-9e9c-4e42-98a0-a7a6e1ac8e3e		
Nikki Peterson nikki.peterson@fultoncountyga.gov Chief Deputy Clerk to the Board of Commissioners Fulton County Government Security Level: Email, Account Authentication (None)	**Completed** Using IP Address: 134.231.232.249	Sent: 4/16/2026 9:17:26 AM Viewed: 4/21/2026 4:57:34 PM Signed: 4/21/2026 4:57:55 PM
Electronic Record and Signature Disclosure: Accepted: 11/27/2017 1:39:37 PM ID: b7ce88ee-0c66-4f3a-bfee-705e0af602d8		
Robert L. Pitts harriet.thomas@fultoncountyga.gov Chairman Fulton County Security Level: Email, Account Authentication (None)	Robert L. Pitts Signature Adoption: Pre-selected Style Using IP Address: 74.174.59.10	Sent: 4/21/2026 4:58:32 PM Viewed: 4/21/2026 5:21:01 PM Signed: 4/21/2026 5:21:15 PM
Electronic Record and Signature Disclosure: Accepted: 4/21/2026 5:21:01 PM ID: 54658c1b-4710-44b0-a4bc-b2a2006e99f2		
Tonya Grier tonya.grier@fultoncountyga.gov Clerk to the Commission Fulton County Government Security Level: Email, Account Authentication (None)	 Signature Adoption: Uploaded Signature Image Using IP Address: 134.231.232.249	Sent: 4/21/2026 5:21:58 PM Viewed: 4/21/2026 10:36:02 PM Signed: 4/21/2026 10:36:17 PM
Electronic Record and Signature Disclosure: Accepted: 10/27/2025 11:21:47 AM ID: 4889b84d-8ea3-4ba9-bf87-bf4c309e21ab		
Natascha Hooper natascha.hooper@fultoncountyga.gov Security Level: Email, Account Authentication (None)	**Completed** Using IP Address: 2600:1700:2250:86f0:9c1e:e006:fd4:cfd5	Sent: 4/21/2026 10:37:02 PM Viewed: 4/23/2026 8:05:42 AM Signed: 4/23/2026 8:11:20 AM
Electronic Record and Signature Disclosure: Not Offered via Docusign		

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp
Natascha Hooper natascha.hooper@fultoncountyga.gov Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via Docusign	COPIED	Sent: 4/15/2026 2:44:57 PM Resent: 4/23/2026 8:12:08 AM Viewed: 4/15/2026 2:45:21 PM
Dian DeVaughn dian.devaughn@fultoncountyga.gov Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via Docusign	COPIED	Sent: 4/23/2026 8:11:56 AM Viewed: 4/23/2026 8:58:21 AM

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	4/15/2026 2:03:02 PM
Certified Delivered	Security Checked	4/23/2026 8:05:42 AM
Signing Complete	Security Checked	4/23/2026 8:11:20 AM
Completed	Security Checked	4/23/2026 8:11:56 AM

Payment Events	Status	Timestamps

Electronic Record and Signature Disclosure

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Required hardware and software

Operating Systems:	Windows® 2000, Windows® XP, Windows Vista®; Mac OS® X
Browsers:	Final release versions of Internet Explorer® 6.0 or above (Windows only); Mozilla Firefox 2.0 or above (Windows and Mac); Safari™ 3.0 or above (Mac only)
PDF Reader:	Acrobat® or similar software may be required to view and print PDF files
Screen Resolution:	800 x 600 minimum
Enabled Security Settings:	Allow per session cookies

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