

INVITATION TO BID

**BID NO. 19-0001-4**

**LITTLE HURST CANAL DRAINAGE IMPROVEMENTS**

**PRE-BID CONFERENCE: 2:00 PM, JANUARY 22, 2019**

**BID OPENING: 2:00 PM, FEBRUARY 5, 2019**

THE COMMISSIONERS OF CHATHAM COUNTY, GEORGIA

ALBERT J. SCOTT, CHAIRMAN

COMMISSIONER HELEN J. STONE

COMMISSIONER TABITHA ODELL

COMMISSIONER JAMES J. HOLMES

COMMISSIONER JAMES "JAY" JONES

COMMISSIONER BOBBY LOCKETT

COMMISSIONER DEAN KICKLIGHTER

COMMISSIONER PATRICK J. FARRELL

COMMISSIONER CHESTER A. ELLIS

R. JONATHAN HART, COUNTY ATTORNEY

CHATHAM COUNTY, GEORGIA

DOCUMENT CHECK LIST

The following documents, when marked, are contained in and made a part of this Bid Package or are required to be submitted with the bid. It is the responsibility of the bidder to read, complete and sign, where indicated, and return these documents with his/her bid. **FAILURE TO DO SO MAY BE CAUSE FOR DISQUALIFYING THE BID.**

  X   GENERAL INFORMATION AND INSTRUCTIONS TO BID WITH ATTACHMENTS

  X   SURETY REQUIREMENTS - **A Bid Bond of 5% with this ITB.**

  X   PROPOSAL

       PLANS/SPECIFICATIONS – Plan Sheets **must be** purchased at Clayton Digital Reprographics by logging into [www.cdrepro.com](http://www.cdrepro.com). Login to DFS. New users **must register**. For technical support contact CDR at (912) 447-5445, fax (912) 233-7020 or email: [cdwest@cdrepro.com](mailto:cdwest@cdrepro.com).

  X   BID SCHEDULE

       PERFORMANCE BOND – **Required at the time of contract.**

       PAYMENT BOND – **Required at the time of contract.**

       CONTRACT

  X   LEGAL NOTICE

  X   ATTACHMENTS: A. DRUG FREE WORKPLACE; B. NONDISCRIMINATION STATEMENT; C. DISCLOSURE OF RESPONSIBILITY STATEMENT; D. CONTRACTOR & SUBCONTRACTOR AFFIDAVIT AND AGREEMENT, E. BIDDER'S CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION, F. M/WBE PARTICIPATION REPORT, G. SYSTEMATIC ALIEN VERIFICATION FOR ENTITLEMENTS,

  X   DOCUMENTATION OF ABILITY TO PERFORM BID REQUIREMENTS. THIS MAY BE REQUIRED OF BIDDERS AFTER SUBMISSION OF BIDS.

**COUNTY TAX CERTIFICATE REQUIREMENT** - Contractor must supply a copy of their Tax Certificate from their location in the State of Georgia, as proof of payment of the occupational tax where their office is located.

CURRENT TAX CERTIFICATE NUMBER

CITY \_\_\_\_\_

COUNTY \_\_\_\_\_

OTHER \_\_\_\_\_

**The Chatham County of Commissioners have established goals to increase participation of minority and woman owned businesses. In order to accurately document participation, businesses submitting bids or proposals are encouraged to report ownership status. A minority or woman owned business is defined as a business with at least 51% ownership by one or more minority/female individuals and whose daily business operations are managed and directed by one (1) or more of the minority/female owners. Please check ownership status as applicable:**

**African-American** \_\_\_\_\_ **Asian American** \_\_\_\_\_ **Hispanic** \_\_\_\_\_

**Native American or Alaskan Indian** \_\_\_\_\_ **Woman** \_\_\_\_\_

**In the award of "Competitive Sealed Proposals", minority/female participation may be one of several evaluation criteria used in the award process when specified as such in the Request for Proposal.**

RECEIPT IS HEREBY ACKNOWLEDGED OF ADDENDA NUMBER(S) \_\_\_\_\_

The undersigned bidder certifies that he/she has received the above listed and marked documents and acknowledges that his/her failure to return each, completed and signed as required, may be cause for disqualifying his/her bid.

BY: \_\_\_\_\_

DATE

\_\_\_\_\_  
SIGNATURE

TITLE: \_\_\_\_\_

COMPANY: \_\_\_\_\_

CHATHAM COUNTY, GEORGIA  
OFFICE OF THE PURCHASING DIRECTOR  
1117 EISENHOWER DRIVE - SUITE C  
SAVANNAH, GEORGIA 31406  
(912) 790-1622

**Date: January 2, 2019**

**BID NO. 19-0001-4**

**GENERAL INFORMATION FOR INVITATION FOR BID**

This is an invitation to submit a bid to supply Chatham County with construction, equipment, supplies and/or services as indicated herein. Sealed bids will be received at the Office of the Purchasing Director, at **The Chatham County Citizens Service Center, 1117 Eisenhower Drive, Suite C, Savannah, Georgia 31406 up to 2:00PM local time, FEBRUARY 5, 2019,** at which time they will be opened and publicly read. **The County reserves the right to reject all bids that are non-responsive or not responsible.**

Instructions for preparation and submission of a bid are contained in this Invitation To Bid package. Please note that specific forms for submission of a bid are required. Bids must be typed or printed in ink.

A **Pre-bid Conference** has been scheduled to be conducted at **The Chatham County Citizens Service Center, 1117 Eisenhower Drive, Suite C, Savannah, Georgia on JANUARY 22, 2019, at 2:00 PM,** to discuss the specifications and resolve any questions and/or misunderstanding that may arise. **You are encouraged to attend.**

Any changes to the conditions and specifications must be in the form of a written addendum to be valid; therefore, the Purchasing Director will issue a written addendum to document each approved change. Generally when addenda are required, the bid opening date will be changed.

Chatham County has an equal opportunity purchasing policy. Chatham County seeks to ensure that all segments of the business community have access to supplying the goods and services needed by County programs. The County affirmatively works to encourage utilization of disadvantaged and minority business enterprises in our procurement activities. The County provides equal opportunity for all businesses and does not discriminate against any persons or businesses regardless of race, color, religion, age, sex, national origin or handicap. The terms "disadvantaged business," "minority business enterprise," and "minority person" are more specifically defined and explained in the **Chatham County Purchasing Ordinance and Procedures Manual**, Article VII - Disadvantaged Business Enterprises Program.

**This project IS a Special Purpose Local Option Sales Tax (SPLOST) Project. See paragraph 2.25 for MBE/WBE participation goals.**

## **INSTRUCTIONS TO BIDDERS**

- 1.1 **Purpose:** The purpose of this document is to provide general and specific information for use in submitting a bid to supply Chatham County with equipment, supplies, and/or services as described herein. All bids are governed by the Code of Chatham County, Chapter 4, Article IV, and the laws of the State of Georgia.

1.2 **How to Prepare Bids:** All bids shall be:

- a. Prepared on the forms enclosed herewith, unless otherwise prescribed, and **all documents must be submitted.**
- b. Typewritten or completed with pen and ink, signed by the business owner or authorized representative, with all erasures or corrections initialed and dated by the official signing the bid. ALL SIGNATURE SPACES MUST BE SIGNED.

Bidders are encouraged to review carefully all provisions and attachments of this document prior to submission. Each bid constitutes an offer and may not be withdrawn except as provided herein.

1.3 **How to Submit Bids:** All bids shall be:

- a. **An original and duplicate copy must be submitted in a sealed opaque envelope, plainly marked with the bid number and title, date and time of bid opening, and company name.**
- b. Mailed or delivered as follows in sufficient time to ensure receipt by the Purchasing Director on or before the time and date specified above.
  1. **Mailing Address: Chatham County Purchasing and Contracting, 1117 Eisenhower Drive, Suite C, Savannah, Georgia 31406.**
  2. **Hand Delivery: Purchasing Director, Chatham County Citizens Service Center, 1117 Eisenhower Drive, Suite C, Savannah, Georgia 31406.**

**BIDS NOT RECEIVED BY THE TIME AND DATE SPECIFIED WILL NOT BE OPENED OR CONSIDERED.**

- 1.4 **How to Submit an Objection:** Objections from bidders to this invitation to bid and/or these specifications should be brought to the attention of the County Purchasing Director in the following manner:

- a. When a pre-bid conference is scheduled, bidders shall either present their

oral objections at that time or submit their written objections at least two (2) days prior to the scheduled pre-bid conference.

- b. When a pre-bid conference is not scheduled, the bidder shall submit any objections he may have in writing not less than five (5) days prior to the opening of the bid.
- c. The objections contemplated may pertain to form and/or substance of the invitation to bid documents. Failure to object in accordance with the above procedure will constitute a waiver on the part of the business to protest this invitation to bid.

- 1.5 **Failure to Bid:** If a bid is not submitted, the business should return this invitation to bid document, stating reason therefore, and indicate whether the business should be retained or removed from the County's bidders list.
- 1.6 **Errors in Bids:** Bidders or their authorized representatives are expected to fully inform themselves as to the conditions, requirements, and specifications before submitting bids. Failure to do so will be at the bidder's own risk. In case of error in extension of prices in the bid, the unit price will govern.
- 1.7 **Standards for Acceptance of Bid for Contract Award:** The County reserves the right to reject any or all bids and to waive any irregularities or technicalities in bids received whenever such rejection or waiver is in the best interest of the County. The County reserves the right to reject the bid of a bidder who has previously failed to perform properly or complete on time contracts of a similar nature, or a bid from a bidder whom investigation shows is not in a position to perform the contract.
- 1.8 **Bid Tabulation:** Tabulations for all bids will be posted for thirty (30) days after the bid opening in the Office of Purchasing and Contracting, 1117 Eisenhower Drive, Suite C, Savannah, Georgia 31406 or can be reviewed on the Purchasing web site 24/48 hours after opening at <http://purchasing.chathamcounty.org>.
- 1.9 **Bidder:** Whenever the term "bidder" is used it shall encompass the "person," "business," "contractor," "supplier," "vendor," or other party submitting a bid or proposal to Chatham County in such capacity before a contract has been entered into between such party and the County.
- 1.10 **Responsible / Responsive Bidder:** *Responsible Bidder* means a person or entity that has the capability in all respects to perform fully and reliably the contract requirements. *Responsive Bidder* means a person or entity that has submitted a bid or proposal that conforms in all material respects to the requirements set forth in the invitation for bids or request for proposals.

- 1.11 **Compliance with Laws:** The bidder and/or contractor shall obtain and maintain all licenses, permits, liability insurance, workman's compensation insurance and comply with any and all other standards or regulations required by federal, state or County stature, ordinances and rules during the performance of any contract between the contractor and the County. Any such requirement specifically set forth in any contract document between the contractor and the County shall be supplementary to this section and not in substitution thereof.
- 1.12 **Contractor:** Contractor or subcontractor means any person or business having a contract with Chatham County. The Contractor/Vendor of goods, material, equipment or services certifies that they will follow equal employment opportunity practices in connection with the awarded contract as more fully specified in the contract documents.
- 1.13 **Local Preference:** On 27 March 1998, the Board of Commissioners adopted a "**Local Vendor**" Preference Ordinance that gives the lowest Chatham County vendor submitting a responsible bid/quote the opportunity to match the lowest price offered by an out-of-County vendor. If the County vendor confirms in writing to match within 24 hours, the award will be made to the Chatham County vendor. The lowest Chatham County responsive bidder will be afforded the "right to first refusal". "Local Vendor" is defined as a business or supplier which operates and maintains a regular place of business within the geographical boundaries of Chatham County or one of the local Municipalities of the County AND all real and personal property taxes are paid prior to award of a contract or purchase. "**NOT APPLICABLE TO PUBLIC WORKS CONSTRUCTION PROJECTS AND REVENUE PRODUCING BIDS.**" However, contractors are encourage to apply the same method when awarding bids to local M/WBE businesses whenever possible in order to promote growth in Chatham County's economy.
- 1.14 **Debarred Firms and Pending Litigation:** Any potential proposer/firm listed on the Federal or State of Georgia Excluded Parties Listing (Barred from doing business) **will not** be considered for contract award. Proposers **shall disclose** any record of pending criminal violations (Indictment) and/or convictions, pending lawsuits, etc., and any actions that may be a conflict of interest occurring within the past five (5) years. Any proposer/firm previously defaulting or terminating a contract with the County will not be considered.

\*\* All bidders or proposers are to read and complete the Disclosure of Responsibility Statement enclosed as an Attachment to be returned with response. Failure to do so may result in your solicitation response being rejected as non-responsive.

Bidder acknowledges that in performing contract work for the Board, bidder shall not utilize any firms that have been a party to any of the above actions. If bidder has engaged any firm to work on this contract or project that is later debarred, Bidder shall sever its relationship with that firm with respect to Board contract.

- 1.15 **Performance Evaluation:** On 11 April 2008, the Chatham County Board of Commissioners

approved a change to the County Purchasing Ordinance requiring Contractor/Consultant Performance Evaluations, as a minimum, annually, prior to contract anniversary date. Should Contractor/Consultant performance be unsatisfactory, the appointed County Project Manager for the contract may prepare a Contractor/Consultant Complaint Form or a Performance Evaluation to the County Purchasing Agent.

- 1.16 **Payment of Taxes:** No contract shall be awarded unless all real and personal property taxes have been paid by the successful contractor and/or subcontractors as adopted by the Board of Commissioners on 8 April 1994.

- 1.17 **State Licensing Board for General Contractors:** Pursuant to Georgia law, the following types of contractors must obtain a license from the State Licensing Board of Residential and General Contractors by 1 July 2008 :

**\*Residential - Basic Contractor** (Contractor work relative to detached one-family and two-family residences and one-family townhouses not over three stories in height).

**\*Residential - Light Commercial Contractor** (Contractor work or activity related to multifamily and multiuse light commercial buildings and structures).

**\*General Contractor** (Contractor work or activity that is unlimited in scope regarding any residential or commercial projects).

See "Checklist for Submitting Bid" for the type of license required for this project.

- 1.18 **Immigration:** On 1 July , the Georgia Security and Immigration Compliance Act (SB 529, Section 2) became effective. All contractors and subcontractors with 100 or more employees entering into a contract or work must sign an affidavit that he/she has used the E-Verify System. E-Verify is a no-cost federal employment verification system to insure employment eligibility.

Affidavits are enclosed in this solicitation. You may download M-274 Handbook for Employers at <http://www.dol.state.ga.us/spotlight/employment/rules>. You may go to <http://www.uscis.gov>. to find the E-Verify information.

**Systematic Alien Verification for Entitlements (SAVE) Program:** O.C.G.A. 50-36-1, required Georgia's counties to comply with the federal **Systematic Alien Verification for Entitlements (SAVE) Program**. SAVE is a federal program used to verify that applicants for certain "public benefits" are legally present in the United States. Contracts with the County are considered "public benefits." Therefore, the successful bidder will be required to provide the Affidavit Verifying Status for Chatham County Benefit Application prior to receiving any County contract. The affidavit is included as part of this bid package but is only required of the successful bidder.

**Protection of Resident Workers.** Chatham County Board of Commissioners actively



supports the Immigration and Nationality Act (INA) which includes provisions addressing employment eligibility, employment verification, and nondiscrimination. Under the INA, employers may hire only persons who may legally work in the United States (i.e., citizens and nationals of the U.S.) and aliens authorized to work in the U.S. The employer must verify the identity and employment eligibility of anyone to be hired, which includes completing the Employment Eligibility Verification Form (I-9). The Contractor shall establish appropriate procedures and controls so no services or products under the Contract Documents will be performed or manufactured by any worker who is not legally eligible to perform such services or employment.

## **GENERAL CONDITIONS**

- 2.1 **Specifications:** Any obvious error or omission in specifications shall not inure to the benefit of the bidder but shall put the bidder on notice to inquire of or identify the same from the County. Whenever herein mentioned is made of any article, material or workmanship to be in accordance with laws, ordinances, building codes, underwriter's codes, A.S.T.M. regulations or similar expressions, the requirements of these laws, ordinances, etc., shall be construed to be the minimum requirements of these specifications.
- 2.2 **Multiple Bids:** No vendor will be allowed to submit more than one (1) bid. Any alternate proposals must be brought to the Purchasing Agent's attention during the Pre-bid Conference or submitted in writing at least five (5) days preceding the bid opening date.
- 2.3 Not Used.
- 2.4 **Prices to be Firm:** Bidder warrants that bid prices, terms and conditions quoted in his bid will be firm for acceptance for a period of sixty (60) days from bid opening date, unless otherwise stated in the bid.
- 2.5 **Completeness:** All information required by Invitation for Bids/Proposals must be completed and submitted to constitute a proper bid or proposal.
- 2.6 **Quality:** All materials, or supplies used for the construction necessary to comply with this proposal shall be of the best quality, and of the highest standard of workmanship. Workmanship employed in any construction, repair, or installation required by this proposal shall be of the highest quality and meet recognized standards within the respective trades, crafts and of the skills employed.
- 2.7 **Guarantee/Warranty:** Unless otherwise specified by the County, the bidder shall unconditionally guarantee the materials and workmanship for one (1) year on all material and/or services. If, within the guarantee period, any defects occur which are due to faulty material and or services, the contractor at his expense, shall repair or adjust the condition, or replace the material and/or services to the complete satisfaction of the County. These

repairs, replacements or adjustments shall be made only at such time as will be designated by the County as being least detrimental to the operation of County business.

- 2.8 **Liability Provisions:** Where bidders are required to enter or go onto Chatham County property to take measurements or gather other information in order to prepare the bid or proposal as requested by the County, the bidder shall be liable for any injury, damage or loss occasioned by negligence of the bidder, his agent, or any person the bidder has designated to prepare the bid and shall indemnify and hold harmless Chatham County from any liability arising therefrom. The contract document specifies the liability provisions required of the successful bidder in order to be awarded a contract with Chatham County.
- 2.9 **Cancellation of Contract:** The contract may be canceled or suspended by Chatham County in whole or in part by written notice of default to the Contractor upon non-performance or violation of contract terms. An award may be made to the next low bidder, for articles and/or services specified or they may be purchased on the open market and the defaulting Contractor (or his surety) shall be liable to Chatham County for costs to the County in excess of the defaulted contract prices. See the contract documents for complete requirements.
- 2.10 **Patent Indemnity:** Except as otherwise provided, the successful bidder agrees to indemnify Chatham County and its officers, agents and employees against liability, including costs and expenses for infringement upon any letters patent of the United States arising out of the performance of this Contract or out of the use or disposal for the account of the County of supplies furnished or construction work performed hereunder.
- 2.11 **Certification of Independent Price Determination:** By submission of this bid, the bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, that in connection with this procurement:
- (1) The prices in this bid have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;
  - (2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly to any other bidder or to any competitor; and
  - (3) No attempt has been made or will be made by the bidder to induce any other person or firm to submit or not be submit a bid for the purpose or restricting competition.
- 2.12 **Award of Contract:** The contract, if awarded, will be awarded to that responsible bidder whose bid/proposal will be most advantageous to Chatham County, price and other factors considered. The Board of Commissioners will make the determination as to which bid or

proposal that serves as the best value to Chatham County.

- 2.13 **Procurement Protests:** Objections and protests to any portion of the procurement process or actions of the County staff may be filed with the Purchasing Agent for review and resolution. The Chatham County Purchasing Procedures Manual, Article IX - Appeals and Remedies shall govern the review and resolution of all protests.
- 2.14 **Qualification of Business (Responsible Bidder or Proposer):** A responsible bidder or proposer is defined as one who meets, or by the date of the bid acceptance can meet, certifications, all requirements for licensing, insurance, and registrations, or other documentation required by the Design Professional engaged to develop Scope of Work, specifications and plans. These documents will be listed in the Special Conditions further on in this solicitation. Chatham County has the right to require any or all bidders to submit documentation of the ability to perform, provide, or carry out the service or provide the product requested.

Chatham County has the right to disqualify the bid or proposal of any bidder or proposer as being unresponsive or unresponsible whenever such bidder/proposer cannot document the ability to deliver the requested product.

- 2.15 **Chatham County Tax Certificate Requirement:** A current Chatham County Tax Certificate is required unless otherwise specified. Please contact the Building Safety and Regulatory Services at (912) 201-4300 for additional information.

**NOTE:** No contract shall be awarded unless all real and personal property taxes have been paid by the successful contractor and/or subcontractors as adopted by the Board of Commissioners on 8 April 1994.

- 2.16 **Insurance Provisions, General:** The selected contractor shall be required to procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors. The cost of such insurance shall be included in the Bid.  
It is every contractor's responsibility to provide the County Purchasing and Contracting Division current and up-to-date Certificates of Insurance for multiple year contracts before the end of each term. **Failure to do so may be cause for termination of contract.**

2.16.1 General Information that shall appear on a Certificate of Insurance:

- I. Name of the Producer (Contractor's insurance Broker/Agent).
- II. Companies affording coverage (there may be several).
- III. Name and Address of the Insured (this should be the Company or Parent of the firm Chatham County is contracting with).
- IV. A Summary of all current insurance for the insured (includes effective dates

- of coverage).
- V. A brief description of the operations to be performed, the specific job to be performed, or contract number.
  - VI. Certificate Holder (This is to always include Chatham County).

**Chatham County as an Additional Insured:** Chatham County invokes the defense of sovereign immunity. In order not to jeopardize the use of this defense, the County **is not** to be included as an Additional Insured on insurance contracts.

2.16.2 **Minimum Limits of Insurance** to be maintained for the duration of the contract:

- a. **Commercial General Liability:** Provides protection against bodily injury and property damage claims arising from operations of a Contractor or Tenant. This policy coverage includes: premises and operations, use of independent contractors, products/completed operations, personal injury, contractual, broad form property damage, and underground, explosion and collapse hazards. Minimum limits: \$1,000,000 bodily injury and property damage per occurrence and annual aggregate.
- b. **Worker's Compensation and Employer's Liability:** Provides statutory protection against bodily injury, sickness or disease sustained by employees of the Contractor while performing within the scope of their duties. Employer's Liability coverage is usually included in Worker's Compensation policies, and insures common law claims of injured employees made in lieu of or in addition to a Worker's Compensation claim. Minimum limits: \$500,000 for each accident, disease policy limit, disease each employee and Statutory Worker's Compensation limit.
- c. **Business Automobile Liability:** Coverage insures against liability claims arising out of the Contractor's use of automobiles. Minimum limit: \$1,000,000 combined single limit per accident for bodily injury and property damage. Coverage should be written on an Any Auto basis.

2.16.3 Special Requirements:

- a. **Claims-Made Coverage:** The limits of liability shall remain the same as the occurrence basis, however, the Retroactive date shall be prior to the coincident with the date of any contract, and the Certificate of Insurance shall state the coverage is claims-made. The Retroactive date shall also be specifically stated on the Certificate of Insurance.
- b. **Extended Reporting Periods:** The Contractor shall provide the County with a notice of the election to initiate any Supplemental Extended Reporting Period and the reason(s) for invoking this option.

- c. **Reporting Provisions:** Any failure to comply with reporting provisions of the policies shall not affect coverage provided in relation to this request.
  - d. **Cancellation:** Each insurance policy that applies to this request shall be endorsed to state that it shall not be suspended, voided, or canceled, except after thirty (30) days prior to written notice by certified mail, return receipt requested, has been given to the County.
  - e. **Proof of Insurance:** Chatham County shall be furnished with certificates of insurance and with original endorsements affecting coverage required by this request. The certificates and endorsements are to be signed by a person authorized by the insurer to bind coverage on its behalf. All certificates of insurance are to be submitted prior to, and approved by, the County before services are rendered. The Contractor must ensure Certificate of Insurance are updated for the entire term of the County.
  - f. **Insurer Acceptability:** Insurance is to be placed with an insurer having an A.M. Best's rating of A and a five (5) year average financial rating of not less than V. If an insurer does not qualify for averaging on a five year basis, the current total Best's rating will be used to evaluate insurer acceptability.
  - g. **Lapse in Coverage:** A lapse in coverage shall constitute grounds for contract termination by the Chatham County Board of Commissioners.
  - h. **Deductibles and Self-Insured Retention:** Any deductibles or self-insured retention must be declared to, and approved by, the County. At the option of the County, either: the insurer shall reduce or eliminate such deductibles or self-insured retention as related to the County, its officials, officers, employees, and volunteers; or the Contractor shall procure a bond guaranteeing payment of related suits, losses, claims, and related investigation, claim administration and defense expenses.
- 2.16.4 **Additional Coverage for Specific Procurement Projects:**
- a. **Professional Liability:** Insure errors or omission on behalf of architects, engineers, attorneys, medical professionals, and consultants.

Minimum Limits:

\$1 million per claim/occurrence

Coverage Requirement:

If claims-made, retroactive date must precede or coincide with the contract effective date or the date of the Notice to Proceed. The professional must state if tail coverage has been purchased and the duration of the coverage.

- b. **Builder's Risk: (For Construction or Installation Contracts)** Covers against insured perils while in the course of construction.  
Minimum Limits: All-Risk coverage equal 100% of contract value  
Coverage Requirements: Occupancy Clause - permits County to use the facility prior to issuance of Notice of Substantial Completion.
- 2.17 **Compliance with Specification - Terms and Conditions:** The Invitation to Bid, Legal Advertisement, General Conditions and Instructions to Bidders, Specifications, Special Conditions, Vendor's Bid, Addendum, and/or any other pertinent documents form a part of the bidders proposal or bid and by reference are made a part hereof.
- 2.18 **Signed Bid Considered Offer:** The signed bid shall be considered an offer on the part of the bidder, which offer shall be deemed accepted upon approval by the Chatham County Board of Commissioners, Purchasing Agent or his designee. In case of a default on the part of the bidder after such acceptance, Chatham County may take such action as it deems appropriate, including legal action for damages or lack of required performance.
- 2.19 **Notice to Proceed:** The successful bidder or proposer shall not commence work under this Invitation to Bid until a written contract is awarded and a Notice to Proceed is issued by the Purchasing Agent or his designee. If the successful bidder does commence any work or deliver items prior to receiving official notification, he does so at his own risk.
- 2.20 **Payment to Contractors:** Instructions for invoicing the County for products delivered to the County are specified in the contract document.
  - a. Questions regarding payment may be directed to the Finance Department at (912) 652-7900 or the County's Project Manager as specified in the contract documents.
  - b. Contractors will be paid the agreed upon compensation upon satisfactory delivery of the products or completion of the work as more fully described in the contract document.
  - c. Upon completion of the work or delivery of the products, the Contractor will provide the County with an affidavit certifying all suppliers, persons or businesses employed by the Contractor for the work performed for the County have been paid in full.
  - d. Chatham County is a tax exempt entity. Every contractor, vendor, business or person under contract with Chatham County is required by Georgia law to pay State sales or use taxes for products purchased in Georgia or transported into Georgia and sold to Chatham County by contract. Please consult the State of Georgia, Department of Revenue, Sales and Use Tax Unit in Atlanta (404) 656-4065 for additional information.

2.21 **Owner's Rights Concerning Award:** The Owner reserves the right, and sole and complete discretion to waive technicalities and informalities. The Owner further reserves the right, and sole and complete discretion to reject all bids and any bid that is not responsive or that is over the budget, as amended. In judging whether the bidder is responsible, the Owner will consider, but is not limited to consideration of, the following:

- a. Whether the bidder or principals are currently ineligible, debarred, suspended, or otherwise excluded from bidding or contracting by any state or federal agency, department, or authority;
- b. Whether the bidder or principals have been terminated for cause or are currently in default on a public works contract;
- c. Whether the bidder can demonstrate a commitment to safety with regard to Workers' Compensation by having an experience Modification Rate (EMR) over the past three years not having exceeded an average of 1.2; and
- d. Whether the bidder's past work provides evidence of an ability to successfully complete public works projects within the established time, quality, or cost, or to comply with the bidder's contract obligations; and
- e. Whether the bidder has made a Good Faith Effort to meet local participation goals for local economic impact for Disadvantaged Business Enterprises and Small Business Enterprises.

2.22 **Owner's Right to Negotiate with the Lowest Bidder:**

In the event all responsive and responsible bids are in excess of the budget, the Owner, in its sole and absolute discretion and in addition to the rights set forth above, reserves the right either to (i) supplement the budget with additional funds to permit award to the lowest responsive and responsible bid, or (ii) to negotiate with the lowest responsive and responsible bidder (after taking all deductive alternates) only for the purpose of making changes to the Project that will result in a cost to the Owner that is within the budget, as it may be amended.

2.23 **Debarred or Suspended Subcontractors.**

CONTRACTOR shall not subcontract, and shall ensure that no subcontracts are awarded at any tier, to any individual, firm, partnership, joint venture, or any other entity regardless of the form of business organization, that is on the Federal Excluded Parties List System (EPLS) at <https://www.epls.gov> or the State of Georgia, DOAS, State Purchasing Exclusion listing, or other local government entity. This includes pending litigation or claims with the County or other government entities. Contractor shall immediately notify County in

the event any subcontractor is added to a Federal, State or other Government Entity listing after award of the subcontract.

**2.24 Cone of Silence:**

Lobbying of Procurement Evaluation Committee members, County Government employees, and elected officials regarding this product or service solicitation, Invitation to Bid (ITB) or Request for Proposal (RFP) or contract by any member of a proposer's staff, or those people employed by any legal entity affiliated with an organization that is responding to the solicitation is strictly prohibited. Negative campaigning through the mass media about the current service delivery is strictly prohibited. Such actions may cause your proposal to be rejected.

**2.25 The Chatham County Board of Commissioners has adopted an aggressive program that establishes goals for minority/female, small and disadvantaged business participation in construction, professional services, and general procurement.**

- a. The Chatham County Board of Commissioners under Georgia law may reject any bid as non-responsive if they feel a bidder did not exercise "Good Faith Effort" in obtaining the goal established for M/WBE participation.
- b. The Chatham County Board of Commissioners adopted a policy establishing goals oriented to increase participation of minority and female owned businesses, through MBE/WBE certification and development. In order to accurately document participation, businesses submitting bids, quotes or proposals are encouraged to report ownership status. A bidder or vendor that is certified by any agency of the Federal Government or State of Georgia may submit a copy of their certification with their bid as proof of qualifications. Bidders that intend to engage in joint ventures or utilize subcontractors must submit to the County Contracts Administrator, a report on Minority/Female Business Enterprise participation.

**Goals established for this project is 30% Combined.**

- c. A Minority/Female Business Enterprise (M/WBE) is a business concern that is at least 51% owned by one or more minority/female individuals and whose daily business operations are managed and directed by one (1) or more of the minority/female owners.

**2.26 LIQUIDATED DAMAGES:** Failure to complete all work within **360** calendar days plus any extension authorized in writing by the County shall entitle the County to deduct as "Liquidated Damages" from the monies due the Contractor the amount of **\$750** for each calendar day in excess of the authorized construction time.



- 2.26 Bidders or proposers are required to make a **Good Faith Effort**, where subcontracting is to be utilized in performing the contract, to subcontract with or purchase supplies from qualified M/WBEs. Bidders or proposers are required to state if they intend to subcontract any part of the work. Goals will be established for each contract at the onset. **Forms** requiring the signatures of bidders or proposers are enclosed as **Attachments** and must be completed and returned with your bid response. If forms are not completed and submitted, the bid may be considered nonresponsive.

Each bidder or proposer is required to maintain records of such efforts in detail adequate to permit a determination of compliance with these requirements. All contracts will reflect **Good Faith Efforts** and reporting requirements for the term of the contract. The County particularly urges general contractors to give emphasis to subcontracting with local area firms. **For information on the program or M/WBE contractors/vendors please contact Connell C. Heyward, Chatham County Minority and Women Business Coordinator, 1117 Eisenhower Drive, Suite 101, Savannah, Georgia 31406, (912) 652-7828 phone, or (912) 652-7951 fax. Email: [cheyward@chathamcounty.org](mailto:cheyward@chathamcounty.org)**

- 2.27 **GEORGIA OPEN RECORDS ACT** - The responses will become part of the County's official files without any obligation on the County's part. Ownership of all data, materials and documentation prepared for and submitted to Chatham County in response to a solicitation, regardless of type, shall belong exclusively to Chatham County and will be considered a record prepared and maintained or received in the course of operations of a public office or agency and subject to public inspection in accordance with the Georgia Open Records Act, Official Code of Georgia Annotated, Section 50-18-70, et. Seq., unless otherwise provided by law.

Responses to RFPs shall be held confidential from all parties other than the County until after the contract is awarded by the Board of Commissioners.

The vendor and their bid price in response to ITBs will be read allowed at public bid openings. After Bid Tabulations, the ITB shall be available for public viewing.

Chatham County shall not be held accountable if material from responses is obtained without the written consent of the vendor by parties other than the County, at any time during the solicitation evaluation process.

- 2.28 **GEORGIA TRADE SECRET ACT of 1990** - In the event a Bidder/Proposer submits trade secret information to the County, the information must be clearly labeled as a Trade Secret. The County will maintain the confidentiality of such trade secrets to the extent provided by law.
- 2.29 **CONTRACTOR RECORDS** -The Georgia Open Records Act is applicable to the records of all contractors and subcontractors under contract with the County. This applies to those specific contracts currently in effect and those which have been completed or closed for up

three (3) years following completion.

- 2.30 **REFERENCES - \$500,000 or more:** For bidders to be responsive each must provide information on the most recent five (5) projects with similar scope of work as well as other information to determine experience and qualifications as follows:

a. Project Name:\_\_\_\_\_

Location:\_\_\_\_\_

Owner:\_\_\_\_\_

Address:\_\_\_\_\_

City and State:\_\_\_\_\_

Contact:\_\_\_\_\_

Phone & Fax:\_\_\_\_\_

\*Architect or Engineer:\_\_\_\_\_

Contact:\_\_\_\_\_

Phone & Fax:\_\_\_\_\_

b. The awarded bid amount and project start date.

Final cost of project and completion date.

Number of change orders.

Contracted project completion in days.

Project completed on time. Yes\_\_\_\_\_ No\_\_\_\_\_ Days exceeded\_\_\_\_\_.

List previous contracts your company performed for Chatham County by Project Title, date and awarded/final cost.

Has contractor ever failed to complete a project? If so, provide explanation.

Have any projects ever performed by contractor been the subject of a claim or lawsuit by or against the contractor? If yes, please identify the nature of such claim or lawsuit, the court in which the case was filed and the details of its resolution.

**\$499,000 and less:** Provide references from owners of at least three (3) projects of various sizes. Include government owners if possible. If the contractor has performed any work for the Chatham County Board of Commissioners within the last five (5) years, at least one (1) of the three (3) owner references must be from the appropriate party within the Chatham County Government. Provide in the format as in (a) above on the attached form.

**Failure to provide the above information may result in your firm's bid being rejected and ruled as non-responsive.**

**NOTE: FORMS FOR YOU TO FILL OUT FOR YOUR REFERENCES ARE ATTACHED TO THE BACK OF THIS BID PACKAGE.**

## ADDITIONAL CONDITIONS

- 3.1 **METHOD OF COMPENSATION.** The compensation provided for herein shall include all claims by the CONTRACTOR for all costs incurred by the CONTRACTOR in the conduct of the Project as authorized by the approved Project Compensation Schedule and this amount shall be paid to the CONTRACTOR after receipt of the invoice and approval of the amount by the COUNTY. The COUNTY shall make payments to the CONTRACTOR within thirty (30) days from the date of receipt of the CONTRACTOR's acceptable statement on forms prepared by the CONTRACTOR and approved by the COUNTY.

Should the Project begin within any one month, the first invoice shall cover the partial period from the beginning date of the Project through the last day of the month (or on a mutually agreeable time) in which it began. The invoices shall be submitted each month until the Project is completed. Invoices shall be itemized to reflect actual expenses for each individual task; also refer to the requirements concerning changes, delays and termination of work under Sections I-8, 9, and 10 of the contract. Each invoice shall be accompanied by a summary progress report which outlines the work accomplished during the billing period and any problems that may be inhibiting the Project execution. The terms of this contract are intended to supersede all provisions of the Georgia Prompt Pay Act.

As long as the gross value of completed work is less than 50% of the total contract amount, or if the contractor is not maintaining his construction schedule to the satisfaction of the engineer, the County shall retain 10% of the gross value of the completed work as indicated by the current estimate approved by the engineer.

After the gross value of completed work becomes to or exceed 50% of the total contract amount within a time period satisfactory to the County, then the total amount to be retained may be reduced to 5% of the gross value of the completed work as indicated by the current estimate approved by the engineer, until all pay items are substantially completed.

When all work is completed and time charges have ceased, pending final acceptance and final payment the amount retained may be further reduced at the discretion of the County.

The CONTRACTOR may submit a final invoice to the County for the remaining retainage upon COUNTY'S acceptance of the Certificate of Substantial Completion. Final payment constituting the entire unpaid balance due shall be paid by the COUNTY to the

CONTRACTOR when work has been fully completed and the contract fully performed, except for the responsibilities of the CONTRACTOR which survive final payment. The making of final payment shall constitute a waiver of all claims by Chatham County except those arising from unsettled liens, faulty or defective work appearing after substantial completion, failure of the work to comply with the requirements of the Contract Documents.

or terms of any warranties required by the Contractor Documents or those items previously made in writing and identified by the COUNTY as unsettled at the time of final application for payment. Acceptance of final 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 final application for payment.

**3.3 SURETY REQUIREMENTS and Bonds: (check where applicable)**

- X   A. Such bidder shall post a bid bond, certified check or money order made payable to the Chatham County Finance Department in the amount of 5% of the bid price.
- X   B. Contractor(s) shall be required at time of contract to shall post a payment/performance bond, certified check or money order made payable to the Chatham County Finance Department in the amount of 100% of the bid price if awarded the purchase. Such bond(s) are due prior to contract execution as a guarantee that goods meet specifications and will be delivered per contract. Such bonds will also guarantee quality performance of services and timely payment of invoices to any subcontractors.
- X   C. Whenever a bond is provided, it shall be executed by a surety authorized to do business in the State of Georgia and approved by Chatham County.
- X   D. Bidder acknowledges Chatham County's right to require a Performance and Payment Bond of a specific kind and origin. "Performance Bond" means a bond with good and sufficient surety or surities for the faithful performance of the contract and to indemnify the governmental entity for any damages occasioned by a failure to perform the same within the prescribed time. Such bond shall be payable to, in favor of, and for the protection of the governmental entity for which the work is to be done. "Payment Bond" means a bond with good and sufficient surety or surities payable to the governmental entity for which the work is to be done and intended for the use and protection of all subcontractors and all persons supplying labor, materials, machinery, and equipment in the prosecution of the work provided for in the public works construction contract.
- X   E. Forfeit the amount of the Bid Bond if he/she fails to enter into a contract with Chatham County to do and/or furnish everything necessary to provide service and/or accomplish the work stated and/or specified in this bid proposal for the bid amount.

3.4 **WARRANTY REQUIREMENTS:**

- a. Provisions of item 2.7 apply.
  - b. Warranty required.
- X
- 1. Standard warranty shall be offered with bid.
  - 2. Extended warranty shall be offered with bid. The cost of the extended warranty will be listed separately on the bid sheet.

3.5 **TERMS OF CONTRACT:** (check where applicable):

- a. Annual Contract (With automatic renewal options for four (4) additional one (1) year terms if all parties agree)
- b. One-time Purchase
- X c. Other **ONE TIME CONTRACT**

3.6 **AUDITS AND INSPECTIONS:**

At any time during normal business hours and as often as the County may deem necessary, the Contractor and his subcontractors shall make available to the County and/or representatives of the Chatham County Department of Internal Audit for examination of all its records with respect to all matters covered by this Contract. It shall also permit the County and/or representatives of the Department of Internal Audit to audit, inspect, examine and make copies, excerpts or transcripts from such records of personnel, conditions of employment and other data relating to all matters covered by this Contract. All documents to be audited shall be available for inspection at all reasonable times in the main offices of the County or at the offices of the Contractor as requested by the County.

**CONVERSATIONS OR CORRESPONDENCE REGARDING THIS SOLICITATION OR REPORT BETWEEN PROSPECTIVE OFFERORS AND PERSONS OUTSIDE THE CHATHAM COUNTY PURCHASING OFFICE WILL NOT BE CONSIDERED OFFICIAL OR BINDING UNLESS OTHERWISE SPECIFICALLY AUTHORIZED WITHIN THIS DOCUMENT.**

The undersigned bidder or proposer certifies that he/she has carefully read the preceding list of instructions to bidders and all other data applicable hereto and made a part of this invitation; and,

further certifies that the prices shown in his/her bid/proposal are in accordance with all documents contained in this Invitation for Bids/ Proposals package, and that any exception taken thereto may disqualify his/her bid/proposal.

This is to certify that I, the undersigned bidder, have read the instructions to bidder and agree to be bound by the provisions of the same.

This \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_\_.

BY \_\_\_\_\_

SIGNATURE

\_\_\_\_\_

TITLE

\_\_\_\_\_

COMPANY

\_\_\_\_\_

Phone / Fax No's. / e-mail

CHATHAM COUNTY, GEORGIA  
SURETY REQUIREMENTS

A Bid Bond for five percent (5%) of the amount of the bid is required to be submitted with each bid.

A Performance Bond for one hundred percent (100%) of the bid shall be required of the successful bidder.

The Bidder certifies that he/she has examined all documents contained in this bid package, and is familiar with all aspects of the proposal and understands fully all that is required of the successful bidder. The Bidder further certifies that his/her bid shall not be withdrawn for thirty (30) days from the date on which his bid is publicly opened and read.

The Bidder agrees, if awarded this bid, he/she will:

- A. Furnish, upon receipt of an authorized Chatham County Purchase Order, all items indicated thereon as specified in this bid proposal for the bid amount, or;
- B. Enter a contract with Chatham County to do and/or furnish everything necessary to provide the service and/or accomplish the work as stated and/or specified in this bid proposal for the bid amount, and;
- C. Furnish, if required, a Performance Bond, and acknowledges Chatham County's right to require a Performance Bond of a specific kind and origin, and;
- D. Forfeit the amount of the Bid Bond if he/she fails to enter a contract with Chatham County as stated in (B) above, within fifteen (15) days of the date on which he/she is awarded the bid, and/or;
- E. Forfeit the amount of the Performance Bond if he/she fails to execute and fulfill the terms of the contract entered. The amount of forfeiture shall be:
  - 1. The difference between his/her bid and the next lowest, responsible bid that has not expired or been withdrawn, or;
  - 2. The difference between his/her bid and the amount of the lowest, responsible bid received as a result of rebidding, including all costs related to rebidding.

\_\_\_\_\_  
COMPANY

\_\_\_\_\_  
DATE

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
TELEPHONE NUMBER

## **PROPOSAL**

**SPECIFICATIONS FOR:**

**BID NO. 19-0001-4**

### **LITTLE HURST CANAL DRAINAGE IMPROVEMENTS**

The project is partially located within the corporate limits of Port Wentworth and partially in unincorporated Chatham County. The project begins at the east side of the culvert crossing of SR 21 by Little Hurst Canal, near the intersection of SR 21 with I- 95, and extends to the east side of the canal's crossing of CSX railroad, a total length of some 1400 feet. There is also an access road to be developed to reach the eastern side of the tracks.

The work consists of clearing and grubbing the right-of-way and easements to the extent shown on the plans, installation of storm drain pipes by trenchless and open cut methods, construction or modification of open channels, access road construction and associated work as shown on the plans.

**This shall be a Unit Price contract.**

### **COMMENCEMENT AND COMPLETION:**

**WORK SHALL BEGIN WITHIN 10 DAYS AFTER RECEIPT OF "NOTICE TO PROCEED". ALL WORK SHALL BE COMPLETED WITHIN 360 CALENDAR DAYS AFTER THE TEN DAY PERIOD.**



STORM DRAINAGE IMPROVEMENTS  
LITTLE HURST CANAL  
BID SCHEDULE

ITEM NUMBER	DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE	TOTAL COST
1.	Mobilization	Job	Lump Sum	_____
2.	Clearing and Grubbing	2.6 AC	_____	_____
3.	Grading	Job	Lump Sum	_____
4.	Remove and replace unsuitable material as directed by owner	300 CY	_____	_____
5.	Foreign Borrow	4500 CY	_____	_____
6.	72" storm drain pipe installed by trenchless methods	216 LF	_____	_____
7.	72" storm drain pipe installed by open cut	384 LF	_____	_____
8.	42" storm drain pipe	96 LF	_____	_____
9.	18" storm drain pipe	56 LF	_____	_____
10.	15" storm drain pipe	106 LF	_____	_____
11.	42" flared end section	1 EA	_____	_____
12.	18" GDOT safety end section	2 EA	_____	_____
13.	Channel excavation	2100 CY	_____	_____
14.	Low water crossing	2 EA	_____	_____
15.	Flowable fill for pipe abandonment	100 CY	_____	_____
16.	6" aggregate surface course, including filter fabric	1100 SY	_____	_____
17.	8" graded aggregate base course, including filter fabric	140 SY	_____	_____

STORM DRAINAGE IMPROVEMENTS  
LITTLE HURST CANAL  
BID SCHEDULE

ITEM NUMBER	DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE	TOTAL COST
18.	2" asphaltic concrete binder course, Including bituminous prime	140 SY	_____	_____
19.	1 1/2 " asphaltic concrete surface course, Including tack coat	140 SY	_____	_____
20.	Maintenance of Flow	Job	Lump Sum	_____
21.	Utility Coordination	Job	Lump Sum	_____
22.	Traffic Control	Job	Lump Sum	_____
23.	NPDES Compliance	Job	Lump Sum	_____
24.	Riprap, 12" thickness, including filter fabric	800 SY	_____	_____
25.	Silt Fence – Sensitive	4500 LF	_____	_____
26.	Jute Mesh for slopes, as directed by owner	500 SY	_____	_____
27.	Construction Exit	2 EA	_____	_____
28.	Floating sediment barrier	50 LF	_____	_____
29.	Check Dam	5 EA	_____	_____
30.	Temporary Grassing	17,000 SY	_____	_____
31.	Permanent Grassing	17,000 SY	_____	_____
32.	CSX Coordination	Job	Lump Sum	_____
33.	Field Condition Allowance	Job	Lump Sum	100,000
TOTAL, ALL WORK			\$	_____

STORM DRAINAGE IMPROVEMENTS  
LITTLE HURST CANAL  
BID SCHEDULE

---

NAME / TITLE

---

COMPANY

---

ADDRESS

---

PHONE / FAX

---

E-MAIL

### LIST OF SUBCONTRACTORS

I do \_\_\_\_\_, do not \_\_\_\_\_, propose to subcontract some of the work on this project. I propose to subcontract work to the following subcontractors: **NOTE: M/WBE PARTICIPATION.**

<i>NAME AND ADDRESS</i>	<i>TYPE OF WORK</i>

SIGNED: \_\_\_\_\_ CONTRACTOR

---

**SPECIAL PROVISION**  
**PROMPT PAYMENT**

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Prime Contractors, who sublet a portion of their work, shall pay their subcontractors for satisfactory performance of their contracts no later than ten calendar days from receipt of each payment made to them.

Any delay or postponement of payment among the parties may take place only for good cause with prior written approval from the County.

If the contractor is found to be in noncompliance with these provisions, it shall constitute a breach of contract and further payments for any work performed may be withheld until corrective action is taken. If corrective action is not taken, it may result in termination of the contract.

All subcontract agreements shall contain this requirement.

## **SPECIAL CONDITIONS**

### **SECTION 01600**

#### **PART 1 – PROJECT DESCRIPTION**

The project is partially located within the corporate limits of Port Wentworth and partially in unincorporated Chatham County. The project begins at the east side of the culvert crossing of SR 21 by Little Hurst Canal, near the intersection of SR 21 with I- 95, and extends to the east side of the canal's crossing of CSX railroad, a total length of some 1400 feet. There is also an access road to be developed to reach the eastern side of the tracks.

The work consists of clearing and grubbing the right-of-way and easements to the extent shown on the plans, installation of storm drain pipes by trenchless and open cut methods, construction or modification of open channels, access road construction and associated work as shown on the plans. Compliance with requirements of the NPDES Georgia general permit, with the exception of stormwater monitoring, is included. There will be minimal traffic impacts, but traffic control remains a part of the project. Capacity for storm water flow must be maintained at all times, although temporary blockages are acceptable. A soil erosion and sedimentation control plan is provided and must be implemented prior to, and maintained during, construction. There is very little contact with existing utility facilities, but coordination with utility providers is included.

Part of the work lies within GDOT right-of-way and will be completed by permit. The bulk of the work lies within the CSX right-of-way and will be completed by agreement. Coordination with CSX and GDOT personnel is required. Further, the selected contractor must make several submittals to CSX, as defined on the plans and in the documents, which must be approved prior to beginning work.

#### **PART 2 – CONTRACT DOCUMENTS**

##### 2.1 Technical Specifications:

01600	Special Conditions
02200	Excavation, Filling and Grading
02210	Erosion Control
02221	Excavation, Trenching and Backfilling for Utility Systems
02400	Storm Drainage System
02441	Micro- tunneling and Pipe- jacked Tunnels
02480	Grassing and Sodding

##### 2.2 Drawings:

1	Cover Sheet, Vicinity Map, and Schedule of Drawings
2	General Notes
3	Typical Sections
4-6	Construction Plans
7-8	Pipeline Profiles and Sections
9-10	Cross Sections

### **PART 3 – PRE-CONSTRUCTION INSPECTIONS**

A pre-construction conditions video (standard DVD format) is required and must be submitted to Chatham County Department of Engineering for approval prior to start of any land disturbing work. Special emphasis shall be given to record pre-disturbance condition of roadways, driveways, buildings, utilities and other improvements located within or within 100 feet of the project limits. This is in addition to other inspections and surveys required of the Contractor or performed by the County. The video shall be prepared by a photographer having experience in similar work and approved by the County. A voice narrative shall identify location and features of the pre-construction video. A typewritten version of the voice narrative shall be provided upon request. Still photographs with a detailed description log may be substituted for the video provided that level of coverage is similar.

### **PART 4 - STAKING**

The County shall engage a surveyor registered by the State of Georgia to provide initial project control and demarcation of right-of-way and easement lines. Ongoing control of the project work shall be the responsibility of the Contractor. The cost to reestablish initial project controls damaged or lost due to construction activities shall be paid for by the Contractor. The Contractor shall provide access and schedule all work in order to accommodate the survey work by the County's surveyor.

### **PART 5 – DOCUMENTATION**

#### **5.1 Documentation to be provided with requests for payment:**

A. In addition to the documentation described elsewhere in the Contract Documents, the Contractor shall submit with each request for payment the following:

1. Copies of material delivery tickets. The Contractor shall be responsible for collecting these documents at the time of delivery. The delivery tickets shall not relieve the Contractor of his responsibility to ensure the materials are in accordance with the contract with the contract documents. Missing or incomplete documentation of delivered materials may be cause for delay/denial of payment.
2. Copies of soil erosion and sedimentation, including NPDES, reports and forms completed during the pay period.
3. Prior to submitting a request for payment, the Contractor shall review the extent of work completed with the County's representative for accuracy and completeness.

## **PART 6 – EROSION AND SEDIMENTATION CONTROL**

6.1 The Contractor shall be fully responsible for compliance with the Georgia Water Quality Control Act and completing the approved sediment and erosion control plan contained in the contract documents.

A. The design engineer shall accomplish the initial inspection of the Best Management Practice (BMP) system installation. The Contractor shall perform no land disturbing activities (other than that which is necessary for installation of the BMPs) until after the design engineer has provided to the Contractor a letter stating approval of the initial BMP installations.

B. Storm water monitoring, testing, and reporting will be done by an independent firm working directly for Chatham County. The contractor shall share rainfall records with this organization and shall cooperate with on-site personnel.

C. The Contractor shall be responsible for all inspections of the BMP system (Excluding the initial inspections as described above) and for maintaining records at the site for inspection. However, representatives of Port Wentworth and Chatham County may visit the site periodically to verify compliance with regulations. The contractor shall cooperate with these personnel.

D. The Contractor shall provide the Owner copies of all inspection reports and other records which occur during a pay period with the pay request.

E. The Contractor shall be responsible for preparation of plans, applying for, and obtaining erosion control permit for any impacted areas, or lay down areas proposed by the contractor that are not included in the current plan documents.

## **PART 7 – FINES AND LIQUIDATED DAMAGES**

### **7.1 Fine**

A. A \$200 per day fee shall be assessed against the Contractor and withheld from the Contract Price for each and every day that the erosion and sedimentation control plan is not in proper operation. This fee shall be in addition to any penalties or assessments made against the Contractor for non-compliance of the Georgia Water Quality Control Act.



## 7.2 Liquidated Damages

A. Liquidated Damages shall be assessed at **\$750** per calendar day for work not completed within the Contract period. The full amount of liquidated damages will be deducted from the final payment to the Contractor.

## **PART 8 – ALLOWANCE**

### 8.1 Field Condition Allowance

A. The Field Condition Allowance shown on the bid sheet shall belong to Chatham County. The purpose of this Allowance is to allow the County to designate actions associated with completion of the project which are not indicated on the plans, but which are dictated by field conditions. Bidders shall not use this Allowance to assume any Contractor costs known or unknown at the bidding. Chatham County must approve use of the Allowance. All bidders shall include this Field Condition Allowance within their base bid. Any unused allowance shall revert to Chatham County.

## **PART 9 – SPECIAL REQUIREMENTS OF CONSTRUCTION**

1. The County will pay for all materials testing as required by the contract. Testing will be performed by an independent testing lab that is hired by the County. The County will not pay for testing in support of contractor operations/schedule. The contractor will be required to pay for failed tests.
2. Clearing debris may not be chipped and spread on the project site.
3. The project site may be accessed from SR 21, with separate points for the west and east sides of the CSX tracks. There will be no cross-track access. Construction exits will be required at the locations shown on the plans or as necessary to prevent soil deposition on pavement.
4. The Contractor shall comply with all local, state and federal regulations as they pertain to construction activities (erosion control, etc.).
5. All efforts have been made to identify every underground and above ground utility; however, the contractor has the ultimate obligation to proceed with caution when a suspected utility line is present in the excavation. Any lines which are not shown to be abandoned shall be repaired immediately if broken during construction.
6. Work hours shall be limited to 7:00 am to 7:00 pm Monday through Friday and shall exclude weekends and holidays unless otherwise approved by Chatham County. The contractor shall

clear all proposed times of work with CSX personnel for work within the railroad right-of-way.

7. **The Contractor shall obtain an Encroachment permit from the Department of Public Works prior to any work within County rights of way.** All work is to be performed within the existing rights of way and easements as shown on the plans unless coordinated with others.
8. All work within the right-of-way of SR 21 is under the jurisdiction of the Georgia Department of Transportation and will be completed by permit. The contractor shall be provided a copy of the permit and shall comply with all conditions and requirements of the permit.
9. Watering past the date of substantial completion of the work shall be provided on seeded areas to achieve full coverage to match existing conditions and as accepted by Chatham County.
10. A detailed construction schedule for the project shall be provided to and approved by Chatham County prior to beginning work.
11. Most of the work will be completed in areas removed from regular vehicular traffic. However, work in the SR 21 right-of way will offer potential for conflicts with traffic. Regular access to and from the work site will also offer potential for conflicts with traffic. Temporary lane closures may be needed for the tie in of the access drive to the existing pavement.

The contractor is responsible for all measures of traffic control, including signs, channelization devices and flagmen.

The contractor shall develop a traffic control plan for review and approval by the County. No work shall commence on the site until the plan has been accepted.

12. Submittals for the following items are required:
  - Storm drain pipe
  - Storm drain structures
  - Silt fence
  - Grassing
13. The contractor shall be responsible for the continued functioning of the storm drainage system throughout the course of the project. It is understood that flow must be blocked in in order to complete the work in the dry; likewise, groundwater must be controlled.

The contractor will develop a water control plan showing measures proposed for the control and bypass of channel flow and the collection and disposal of groundwater. This plan is to be reviewed and accepted by Chatham County prior to the beginning of construction.

14. Work within the CSX right-of-way will be completed under a Facility Encroachment Agreement between CSX and Chatham County. During the course of the construction the contractor will be considered to be acting as an agent of the County and will be covered as such by the agreement. The contractor will be given a copy of the agreement and must accept and acknowledge his acceptance of these conditions by completing the Contractor's Acceptance that is part of the agreement.

There are several special conditions or required submittals which cover the work in CSX right-of-way. While these may also be found in the contract documents or in the Facility Agreement, they are summarized below as well. Any soil which is excavated within the CSX right-of-way shall not be removed from the site'

or tested without an environmental right-of-entry or written approval from the CSX Environmental Department. Any excess soil that is not reused within the CSX right-of-way shall be treated for contamination and disposed of accordingly at a CSX approved site. All costs of the testing and disposal shall be included in the price bid. No costs will be incurred by or assigned to CSX. Construction contractor shall provide the following construction submittals to CSX for review and approval prior to beginning construction activities:

1. Manufacturer's literature for micro-tunneling machine or TBM, slurry mixing and separation plant.
2. Guidance system
3. Calculation of anticipated jacking loads
4. Shaft design submittal including the jacking back-stop design
5. Daily log sheet detailing machine performance and operational data
6. Daily log sheet for settlement monitoring data

Contractor will complete a plan for the complete tunneling installation. This shall include methods used to support pit sides and the faces next to the railroad embankment to no earth movement. This plan must be submitted to and approved by CSX prior to the beginning of construction activities. Contractor shall prepare and submit a temporary shoring design, trench monitoring program and dewatering plan to CSX for review and approval prior to beginning construction. The temporary shoring design shall meet all CSX specifications ( 1/2 " minimum deflection within 12' of trench centerline, 1" maximum deflection outside of 12' of trench centerline).

The contractor shall submit a contingency plan outlining mitigation for unforeseen conditions, including settlement, during the pipe installation.

Under terms of the agreement, Chatham County has documented that it is self-insured so that the insurance coverage requirements do not apply to the County. This does not carry over to the contractor, who must obtain and document the following coverages:

1. Statutory Worker's Compensation and Employer's Liability insurance with available limits of not less than \$ 1,000,000, which must contain a waiver of

subrogation against CSX and its affiliates.

2. Commercial General Liability coverage with available limits of not less than \$ 5,000,000 naming CSX and/ or its designee as additional insured and in combined single limits for bodily injury and property damage and covering the contractual liabilities in the Agreement.

3. Business automobile liability insurance with available limits of not less than \$ 1,000,000 combined single limit for bodily injury and/ or property damage per occurrence.

4. Railroad Protective Liability insurance naming CSX and/ or its designee as Named Insured with limits of \$ 5,000,000 per occurrence for bodily injury and property damage and \$ 10,000,000 aggregate limit per annum. If desired,

and with approval from CSX, contractor may pay CSX the cost of adding this encroachment to CSX's coverage for the period of the construction.

It is assumed that CSX will require flagging during some or all operations in close proximity to the tracks. The contractor shall be responsible for the cost of the flagging.

## **PART 10 – MEASUREMENT AND PAYMENT**

### **10.1 Measurement**

The items listed in the proposal shall be considered as sufficient to complete the work in accordance with the drawings and specifications. Any portion of the work not listed in the bid form shall be deemed to be a part of the item which it is associated with and shall be included in the cost of the unit shown on the bid form. Payment for the unit shown on the bid form shall be considered to cover the cost of all labor, material, equipment and performing all operations necessary to complete the work in place. The unit of measurement shall be the unit shown on the bid form. Payment for unit price items shall be based upon the actual quantity multiplied by the unit prices. Where work is to be performed at a lump sum price, the lump sum shall include all operations and elements necessary to complete the work. No payment will be made for any material wasted, unused, rejected or used for the convenience of the Contractor.

### **10.2 Payment**

#### **A. Mobilization**

Mobilization of equipment and commencement of project. Payment shall be at the sum price in the Bid Proposal and shall not to exceed 5% of the total bid price for the project.

B. Clearing and Grubbing

Clearing shall include removal of all vegetative materials such as trees, shrubs and grass as required to complete the work as shown on the plans. Removal of stumps and roots is a part of clearing. Demolition shall also include the removal of all manmade items required to complete the work as shown on the plans, with the exception of items specifically listed in the Bid Schedule. Payment shall be at the lump sum price in the Bid Proposal

C. Grading

Payment shall be at the lump sum price in the Bid Proposal and shall include all labor, materials and equipment required. The item shall include grading of access/maintenance roads, channel banks and shoulders, and areas of fill over storm pipes. The item shall also include construction staking, bonds, insurance and all other work required to complete the project and which is not covered by a separate item.

D. Remove and Replace Unsuitable Subgrade Material

Payment shall be at the unit price in the Bid Proposal and shall include all labor, materials and equipment required to remove the material as directed by the owner, dispose of it off-site, and replace with Type II backfill material. Measurement shall be based on before and after cross sections or such other method as may be acceptable to owner.

E. Foreign Borrow

Payment shall be at the unit price in the Bid Proposal and shall include all labor, equipment and materials required to obtain, transport and install borrow material as required to meet final grades as shown on the plans or to replace subgrade or soil material determined by the owner to be unsuitable. Measurement shall be by trench sections or such other method as may be accepted by the owner. Foreign borrow shall include fill material required to install pipes or fill above them if the owner determines that the materials removed from the trench or excavated elsewhere on the site are not suitable for use on the project.

F. 72" Pipe, Trenchless Method

Measurement shall be on the basis of the actual number of linear feet of pipe installed by trenchless methods as shown on the plans or directed by the owner. Payment shall be at the unit price in the Bid Proposal and shall include all labor, materials and equipment required to install the pipe through the existing rail bed in

accordance with the documents and CSX requirements

G. 72" Pipe, Open Cut

Measurement shall be on the basis of the actual number of linear feet of pipe installed by open cut methods as shown on the plans or directed by the owner. Payment shall be at the unit price in the Bid Proposal and shall include all labor, materials and equipment required to install the pipe and connect it to the pipe installed by trenchless methods in accordance with the documents and CSX requirements. Cost of bedding, trenching and backfill to existing grade to be included in price bid; fill above existing grade will be paid as foreign borrow. Cost of filter fabric wrap shall also be included in price bid.

H. Storm Drain Pipe

Measurement shall be on the basis of the actual number of linear feet of pipe of each size installed as shown on the plans or as directed by the owner. Payment shall be at the unit price in the Bid Proposal for each size and shall include all labor, materials and equipment required to install the pipe, including trenching, bedding, filter fabric wrap and backfill.

I. 42" Flared End Section

Measurement shall be on the basis of the actual number of end sections installed as shown on the plans or directed by the owner. Payment shall be at the unit price in the Bid Proposal and shall include all labor, material and equipment required to install the end section.

J. GDOT Safety End Section

Measurement shall be on the basis of the actual number of safety end sections installed as shown on the plans or directed by the owner. Payment shall be at the unit price in the Bid Proposal and shall include all labor, material and equipment required to install the end section.

K. Channel Excavation

Measurement shall be on the actual number of cubic yards excavated from the channel as shown on the plans or directed by the owner determined by before and after sections or such other method as may be acceptable to the owner. Payment shall be at the unit price in the Bid Proposal and shall include all labor, materials, and equipment required to excavate the material and dispose of it off-site. Suitable material from the excavations shall be used in the embankments before foreign borrow is used.

L. Low Water Crossing

Measurement shall be on the basis of the actual number of low water crossings installed as shown on the plans or directed by the owner. Payment shall be at the unit price in the Bid Proposal and shall include all labor, materials and equipment required to construct the crossings.

M. Flowable Fill for Pipe Abandonment

Measurement shall be on the basis of the actual number of cubic yards of flowable fill used to abandon the existing storm drain pipes as required by CSX. Payment shall be at the unit price in the Bid Proposal and shall include all labor, material, and equipment required to complete the abandonment.

N. 6" Aggregate Surface Course

Measurement shall be on the basis of the actual number of square yards of aggregate surface installed as shown on the plans or directed by the owner. Payment shall be at the unit price in the Bid Proposal and shall include all labor, material and equipment required to install the surface. This will include excavation, grading and filter fabric.

O. 8" Graded Aggregate Base Course

Measurement shall be on the basis of the actual number of square yards of base course installed in the GDOT right-of-way as shown on the plans or directed by the owner. Payment shall be at the unit price in the Bid Proposal and shall include all labor, material and equipment required to install the base to GDOT requirements. Cost of filter fabric under base to be included.

P. Asphaltic Concrete

Measurement shall be on the basis of the actual number of square yards of binder and surface courses installed in the GDOT right-of-way as shown on the plans or directed by the owner. Payment shall be at the unit price in the Bid Proposal for each layer and shall include all labor, material and equipment required to install the binder and surface to GDOT requirements. Cost of bituminous prime to be included in price for binder. Cost of tack coat to be included in price for surface.

Q. Traffic Control

Payment shall be at the lump sum price in the Bid Proposal and shall include all materials and labor required to control and maintain traffic movement through the

work zone. This includes, but is not limited to, signs, barricades, flagmen, temporary and permanent markings and channelization devices.

R. Utility Coordination

Payment shall be at the lump sum price in the Bid Proposal and shall include all measures associated with coordinating the installation of the new storm drain with existing public and private utilities. This will include arranging for location and adjustments.

S. Maintenance of Flow

Payment shall be at the lump sum price in the Bid Proposal and shall include all materials, labor and equipment necessary to maintain the flow of stormwater, sanitary sewer and water as shown on the plans or directed by the owner.

T. Silt Fence

Payment shall be at the unit price for each type in the Bid Proposal and shall include all labor, materials, and equipment required to install the silt fence, maintain it during the construction period, remove it when stabilization is completed, and restore the area where the fence was installed. Measurement shall be on the basis of the actual number of linear feet of each type of silt fence installed as shown on the plans or directed by the owner.

U. Riprap

Payment shall be at the unit price in the Bid Proposal and shall include all labor, materials and equipment required to place the filter fabric and stone riprap. Measurement shall be based on the actual number of square yards placed as shown on the plans or directed by the owner.

V. Floating Silt Barrier

Payment shall be at the unit price in the Bid Proposal and shall include all labor, materials and equipment required to install the floating silt barrier, maintain it during the construction period and remove it when construction is complete. Measurement shall be based on the actual number of linear feet installed as shown on the plans or directed by the owner.



W. NPDES Compliance

Payment shall be at the unit price in the Bid Proposal and shall include all measures required to comply with the Georgia general permit except for stormwater sampling, testing and reporting. Chatham County will engage a third party for stormwater sampling, testing and reporting.

X. Grassing

Payment shall be at the unit price in the Bid Proposal for each type of grassing and shall include all labor, materials and equipment required to establish the temporary / permanent vegetation on the disturbed areas. This shall include watering and mowing until acceptance by the County. Measurement shall be based on the actual number of square yards of temporary / permanent grassing in place.

Y. Jute Mesh for Slopes

Payment shall be at the unit price in the Bid Proposal and shall include all labor, material and equipment to place matting on the channel slopes to prevent erosion until vegetation is established. Measurement shall be on the basis of the actual number of square yards of matting installed as shown on the plans or directed by the owner.

Z. Construction Exit

Measurement shall be on the basis of the actual number of construction exits installed as shown on the plans or directed by the owner. Payment shall be at the unit price in the Bid Proposal and shall include all labor, material and equipment required to install the exit, maintain it during the construction period, and remove it when construction is complete.

AA. Check Dam

Measurement shall be on the basis of the actual number of check dams installed as shown on the plans or directed by the owner. Payment shall be at the unit price in the Bid Proposal and shall include all labor, materials, and equipment required to install the dam, maintain it during the construction period, and remove it when construction is complete.

BB. CSX Coordination

Payment shall be at the Lump Sum price in the Bid Proposal and shall include all costs associated with working in the CSX right-of-way. This shall include, but not be limited to, material or operation submittals, required railroad insurance, and flagging.

CC. Inlet Sediment Trap

Payment shall be at the unit price in the Bid Proposal and shall include all labor, equipment and materials required to install the sediment traps, maintain them during construction, and remove them when work is complete. Measurement shall be based on the actual number of sediment traps installed as shown on the plans or directed by the owner.

# TECHNICAL SPECIFICATIONS

## SECTION 02100 CLEARING AND GRUBBING

1. SCOPE:

Under this heading shall be included the furnishing of all labor, materials and equipment and performing all operations necessary for clearing and grubbing all areas and disposal of all materials.

2. LIMITS:

Clearing and grubbing under this Contract shall be performed within the area necessary to perform the work as shown on the plans. No clearing or grubbing shall take place outside of the Chatham County rights-of-way or easements.

3. CLEARING:

Completely clear, remove and satisfactorily dispose of all unsuitable materials resting on or protruding above the surface of existing ground. Clearing includes trees (unless designated for preservation), stumps, bushes, grass, rubbish, refuse, scrap iron, rubble, other items specified on the Plans to be removed, and all other deleterious materials. Excavate for stumps if necessary.

4. GRUBBING:

Completely grub the entire designated area free of all roots, stumps, logs, rubbish and other deleterious materials to a depth of at least two feet below existing ground. If no further excavation is to be made within the limits of Work under this heading then the holes caused by the removal of stumps, trees and rocks shall be filled and compacted with suitable material and graded to conform with the surrounding surface.

5. BENCH MARKS:

The Contractor shall maintain and protect all benchmarks, monuments, settlement monitoring devices and other reference points. Any reference point damaged or destroyed as a result of the Contractor's operations or negligence shall be repaired or replaced at no cost to the Owner.

6. DISPOSAL:

Disposal of all cleared and grubbed materials shall be made off the site and property of the Owner unless shown otherwise on the Plans. The use of burning at the project site for the disposal of refuse and debris will **not** be permitted.

7. PROTECTION OF EXISTING FEATURES:

Existing work to remain shall be protected from damage. Work damaged by the Contractor shall be repaired or restored to its original condition or acceptable equivalent.

8. HISTORICAL ITEMS:

There are no known historical items on the project site. If historical items are discovered, contact the County immediately and remove historical items in a manner to prevent damage and turn them over to the County for proper disposition.

SECTION 02200

EXCAVATION, FILLING, AND GRADING

1. SCOPE:

Under this heading shall be included the following:

- a) Excavation required for structures.
- b) Sub-cut excavation as required or designated.
- c) Excavation as required for roadways.
- d) Shoring, sheeting, and bracing as required.
- e) Wasting and disposal of excess or unsuitable materials.
- f) Furnishing and placing borrow material.
- g) Furnishing and placing granular foundation material.
- h) Compaction of all materials.
- i) Dewatering or unwatering as necessary to complete the excavations to the required depths and as necessary to maintain the excavation sufficiently dry so that all work can be accomplished.
- j) Site grading as required, including excavation, and backfill.
- k) Preparation of subgrades.
- l) All other work specified herein.

Excavation and backfill for outside utility systems and other underground piping is specified in Section 02221 of these Specifications.

2. GENERAL:

The Contractor shall accept the site in its existing condition, and shall assume the risk of encountering whatever materials as may occur. Chatham County will be responsible for obtaining geotechnical testing services directly, outside of this contract. All testing and evaluation of soils referenced in this section will be performed by the County's Geotechnical Consultant.

3. DEWATERING AND PROTECTION AGAINST WATER:

The Contractor shall remove water from the site and shall lower the ground water level as necessary to complete the excavations to the required depths and as required to maintain the excavations sufficiently dry so that all required work can be accomplished. The Contractor shall do

such well construction, well pointing, sheeting, ditching, diking, and pumping and shall construct necessary drains, channels, sumps, and cofferdams to keep his excavations and new structures clear of ground water, storm water or sewage and to keep his construction areas dry during the progress of the work and until the finished work is accepted by the Owner, except as otherwise specified.

The Contractor shall be responsible for the effect of dewatering operations on adjacent property and for the effect on water supplies located in the vicinity of the project.

Adequate measures and protection shall be provided by the Contractor to protect his work from damage from uplift due to ground water, storm water, or flood water. Any damages which may result shall be the Contractor's responsibility.

The Contractor shall accept all responsibility for damage to the work of this Contract because of floods and water pressures and other water damages and shall accept all risks of floods and other events which may occur.

All water discharged by pumping operations shall be discharged so as not to interfere with work under this Contract or with existing structures and operations. Route of dewatering pipe shall be subject to the Owner's review. Discharge facilities and water quality shall comply with applicable regulations of State and Federal agencies.

Dewatering operations shall be uninterrupted and continuous during the course of the work so as not to endanger any construction in place or to present a hazard to workmen in and around the site. The Contractor shall take all measures necessary including, but not limited to, standby equipment and constant attendance to ensure that the dewatering system remains operational and effective throughout the period of time that it is required.

#### 4. MATERIALS:

##### a) Earth Fill.

Earth fill shall consist of all suitable materials from required excavations. Suitable materials for earth fill shall generally be composed of sands, clay-sand mixtures and silt-sand mixtures classified as SW, SP, SM, or SC (low plasticity only) by the Unified Soil Classification System. Earth fill behind headwalls shall be classified as SW or SP. Clay-sand and silt-sand mixtures must be approved by the County's soil technician prior to being incorporated in fills. Clays, silts, and organic soils will be considered as unsuitable materials.

##### b) Excavated Materials.

All suitable materials from excavations shall be used in the permanent construction required under these Specifications. Suitable materials shall be excavated separately from materials to be wasted and the suitable materials shall be segregated by loads during the excavation operations and shall be placed in temporary stockpiles and later placed in the designated locations. Excavated materials, which, after drainage, are suitable for the embankment but which, when excavated are too

wet for immediate compaction in the embankment, shall be placed temporarily in stockpiles until the moisture content is reduced sufficiently to permit them to be placed in the earth fills.

c) Excess Materials.

All excess materials from required excavations shall be removed from the site unless written authorization is given by the Owner's Representative to stockpile the material on the site.

5. EXCAVATION:

Excavation shall include the loosening, loading, removing, transporting, stockpiling and disposing of all materials, wet or dry, necessary to be removed to construct all structures included in this Contract to the lines and grades, and at the locations, shown on the Contract Drawings. Excavation for outside piping, storm sewers and utilities systems is included in other Sections of these Specifications.

Excavation for structures shall conform to the depth and dimensions necessary for the proper installation of all structures detailed on the Contract Drawings. Unless shown on the Drawings excavation shall not be carried below the elevations shown on the Drawings. Where bottoms of excavations are slightly unstable and the Drawings do not require a stabilized granular backfill and the County does not direct additional excavation and replacement, the Contractor may provide a gravel course, but such work will be considered as for the Contractor's convenience and will not be considered as extra work.

Where any unauthorized excavation is made below the elevation indicated on the Contract Drawings, the excavation shall be restored to the proper elevation with compacted, well graded granular backfill. Such backfill shall be compacted as specified in the Article entitled "Compaction".

Excavation for pipes under and adjacent to structures shall be made after the installation of the granular backfill. Excavations shall be made to the required depths, grades, alignment, and trench widths required for the installation of the pipe. Temporary sheeting and bracing shall be used as required to confine the trench size and width. Trench size and width shall conform to the requirements in Section 02221.

Excavation shall be made for roadways and other site work to the required depths, grades and alignment.

Excavations, where conditions require, shall be properly shored, sheeted and braced by the Contractor to maintain excavation in a condition to permit the safe and efficient installation of all items of Contract work. Upon completion of the various Contract items, all temporary forms, shores and bracing shall be removed. While being withdrawn, all voids left by the sheeting and bracing shall be carefully filled with sand and compacted.

6. UNSUITABLE MATERIAL:

Where material encountered is unsuitable for subgrade construction of roads, such material shall be excavated to the required depth of compaction (generally two feet below surface elevation), disposed of off the site and property of the Owner and replaced with suitable material. Unsuitable materials are those classified as MH, CH, OH, OL, and Peat in accordance with the Unified Soil Classification System. Excess water in material will not be a basis for establishing unsuitable material regardless of gradation. The Owner's Representative shall be notified immediately upon encountering of unsuitable material.

7. BORROW:

It is anticipated that some suitable material for required fill and backfill can be obtained from required excavation. Suitable materials shall be secured by the Contractor from off-site sources as required to complete the work.

8. BACKFILLING:

All excavation shall be backfilled to the lines and grades shown on the Contract Drawings. Backfill adjacent to structures shall not be placed until forms, form lumber and all debris from construction has been entirely removed from around the work. No backfilling shall be done in unsuitable weather or over ground that is frozen or too wet.

Backfill shall not be placed against structures until the concrete has cured at least 7 days. Backfill, in general, shall be placed in horizontal layers not more than 8 inches in thickness, except in the cases of embankment construction around structures and under roadway and piping locations, where backfill shall be placed in 6 inch layers, with each layer thoroughly compacted as specified hereinafter, prior to the addition of the succeeding layer.

Fill immediately adjacent to walls shall be hand tamped and special care shall be taken to prevent any wedging action or eccentric loading against the walls.

Fill material shall be free of organics, roots, or other deleterious materials, including frozen material, stones, or cobbles over 6 inches in maximum dimension. It shall be non-plastic granular material containing less than 15 percent fines passing the No. 200 sieve.

9. COMPACTION:

a) General.

Compaction of earth fill shall be performed to the percentages of maximum standard or modified dry densities and to the depths as shown on the drawing or as follows:

1. Access Roadways.

100 Percent Standard (ASTM Test D698) 24 inches

2.     Unpaved Areas To Be Grassed Or Sodded.  
95 Percent Standard (ASTM Test D698) Full Depth

b)     Moisture Content.

All compaction shall be performed at material moisture contents within 3 percentage points, plus or minus of optimum. Compaction and proof rolling equipment shall be as may be required for the type of fill being compacted.

10.    TESTING:

a)     General.

The County will select an approved independent testing laboratory for the purpose of identifying soils, checking densities, and classifying soils materials during construction. Payment for the testing will be by the County outside of this contract.

Testing shall consist of one compaction test per 200 cubic yards, 500 linear feet of subgrade along roadway centerline and one "proctor" test for each type of fill material to determine if the proper compaction has been attained.

b)     Moisture Density Tests.

A test shall be performed on each type of material used in the work regardless of source. Tests will be accompanied by particle-size analyses of the soils tested (ASTM Methods D421 and D422). Changes in color, gradation, plasticity or source of fill material will require the performance of additional tests.

c)     Field Density Tests.

Tests shall be made in accordance with ASTM Method D1556 and/or ASTM Method D 2922 or any other method as may be accepted by the owner. If any compaction test reveals that fill or backfill is not compacted as specified, the Contractor shall scarify and recompact as required to achieve the specified density. Additional compaction tests shall be made to verify proper compaction.

d)     Submittals.

The soils technicians will submit formal reports of all compaction tests and retests to the Contractor and Owner's Representative as soon as possible upon completion of the required tests.

This report information is to include but not be limited to the following:

1.     Date of the test and date submitted.
2.     Location of test.
3.     Wet weight, moisture content and dry weight of field sample.



4. Description of soil.
5. Maximum dry density and moisture content of the lab sample which best matches the field sample in color, texture, grain size and maximum dry density.
6. Ratio of field dry density to maximum lab dry density expressed as a percentage.
7. Comments concerning the field density passing or failing the specified compaction.
8. Comments about recompaction if required.

e) Compaction Results.

The soils technician is to advise the Owner's Representative and Contractor immediately of any compaction tests failing to meet the specified minimum requirements. No additional lift is to be placed on a lift with any portion failing.

11. GRADING:

Upon completion of other construction operations, the entire site, within the limits shown on the Drawings, shall be brought to the finished grades shown. All surfaces shall be sloped to the grades indicated and which will provide proper drainage. All surfaces shall be raked smooth and shall be free of all vegetable matter, debris and stones larger than 2-1/2 inches. Allow for thickness of required topsoil.

SECTION 02210  
EROSION CONTROL

1. SCOPE:

Under this section shall be included all measures both temporary and permanent to control erosion and sedimentation, and protect all surface waters and property both on and off site. This shall include all labor, materials and equipment necessary to meet the requirements of this Section.

2. GENERAL:

It is the intent of this Specification that the Project and the Contractor comply with all applicable requirements of the Erosion and Sedimentation Act of 1975, local County regulations and ordinances, and the current edition of the Manual for Erosion and Sediment Control in Georgia. Chatham County will hire a third party NPDES firm to perform the storm water monitoring sampling, testing and reporting as required by the General Permit for Construction. Contractor shall provide qualified personnel to perform all other inspections, reporting and record keeping as noted on the plans or required by the General Permit for Construction.

The Manual for Erosion and Sediment Control in Georgia further defines practices and requirements. The Contractor is responsible for maintaining all sediment and erosion control measures on the project site during construction. The Contractor is responsible for any damage caused due to failure to implement these requirements. A Soil Erosion and Sedimentation Control Permit has been obtained by the Owner so that periodic inspections may be made by the County. The Contractor is to cooperate with the person performing these inspections.

3. PLANS:

A Soil Erosion and Sedimentation Control Plan is included in the Contract Documents and is to be implemented as a part of the procedures necessary to implement requirements of the Act and applicable local regulations.

4. IMPLEMENTATION:

Implementation of the requirements of the Act is based on the following principles:

- a) The disturbed area and the duration of exposure to erosion elements should be minimized.
- b) Stabilize disturbed areas immediately.
- c) Retain or accumulate runoff.
- d) Retain sediment.

- e) Do not encroach upon watercourses unless indicated on the Plans.

5. SYMBOLS:

The Soil Erosion and Sedimentation Control Plan contains standard symbols for the different types of measures for implementing the Act. These symbols are defined for conditions, design criteria and construction specifications in Sections II and III of the Manual.

6. SPECIFIC REQUIREMENTS:

- a) All disturbed areas shall be grassed by sodding or seeding, fertilizing, mulching and watering to obtain a ground cover which prevents soil erosion.

- b) A temporary construction egress pad shall be installed and maintained at any point where construction vehicles enter a paved road, street or parking area. The pad shall be used to prevent mud from leaving the construction area. The pad shall be constructed as shown in the Manual for Erosion and Sediment Control.

- c) All measures installed for sediment control shall be checked at the beginning and end of each day when construction is occurring to ascertain that the measures are in place and functioning properly.

- d) Erosion control measures shall be inspected by the Contractor after each rainfall event and at least daily during prolonged periods of continuous rainfall. Contractor shall make repairs and adjustments as necessary to maintain the effectiveness of all sediment and erosion control measures.

- e) All temporary erosion control measures shall be removed and disposed of off-site once final inspections are complete and vegetative cover is established. Final payment and/or retainage may not be released until the temporary measures are removed.

SECTION 02221  
EXCAVATION, TRENCHING AND BACKFILL FOR UTILITY SYSTEMS

1. SCOPE:

Under this heading shall be included the excavation, trenching and backfilling required for all underground utility systems.

Utility systems for this project are storm drain pipes.

2. GENERAL:

Underground piping and utility systems which are to be installed in trenches whose lowest point of excavation is below the existing ground level, and which are unaffected by an excavation for structures, may be installed at any time during the course of the work. Piping and systems to be installed in or over fill, backfill or new embankments shall not be installed until all earthwork has been completed to rough grade, nor until settlement of the fill or embankment has taken place.

Chatham County will be responsible for obtaining geotechnical testing services directly, outside of this contract. All testing and evaluation of soils referenced in this section will be performed by the County's Geotechnical Consultant.

Braced and sheeted trenches and open trenches shall comply with all state laws and regulations, and local ordinances relating to safety, life, health and property. Also, this shall conform to the Occupational Safety and Health Standards for Excavations, Final Rule (29 CFR Part 1926) as printed in the October 31, 1989 issue of the Federal Register.

The sides and bottoms of the trenches shall be protected against any instability which may interfere with the proper laying of the pipe and as necessary for the safety of the workmen and others and as may be necessary to protect adjacent structures. Protective systems for trenches shall be utilized by the Contractor and shall conform with Section 1926.652, 29 CFR Part 1926, Final Rule.

3. LOCATION AND PROTECTION OF UTILITIES AND STRUCTURES:

It shall be the responsibility of the Contractor to acquaint himself with the location of all utilities and structures both present and proposed, also all existing surface structures which may be affected by work under the Contract. The location of any underground structures furnished, shown on the Plans or given on the site are based upon the available records but are not guaranteed to be complete or correct, and are given only to assist the Contractor in making a determination of the existence of underground structures.

Overhead utilities, poles, etc., shall be protected against damage by the Contractor, and if damaged by the Contractor, shall be replaced by him. The Contractor shall notify those who maintain utilities sufficiently in advance of the proposed construction so that they may locate, uncover and disclose such work. If the progress of construction necessitates the removal or

relocation of poles, overhead utilities and obstructions, the Contractor shall make all arrangements and assume all costs of the work involved.

The Contractor shall provide for the continuance of the flow of any sewers, drains, water pipes, and water courses, and the like. Where such facilities, water courses, or electric overhead wires or conduits are interfered with by the work of the Contractor, the interruption shall be a minimum and shall be scheduled in advance with the Owner's Representative and the utility owner.

The Contractor shall restore all facilities interfered with to their original condition or acceptable equivalent. The cost of such restoration or damage caused directly by his work shall be paid for by the Contractor and shall be included in the prices bid for the items to which it pertains.

4. EXCAVATION AND TRENCHING:

a) Excavation.

Excavate all materials encountered. See Article 8 for removal of unsuitable materials.

b) Caution in Excavation.

The Contractor shall proceed with caution in the excavation and preparation of the trench so that the exact location of underground structures in the trench zone may be determined before being damaged. He shall be held responsible for the repair or replacement of such structures when broken or otherwise damaged because of his operations.

c) Subsurface Explorations.

The Contractor shall make explorations and excavations at no additional charge to the Owner to determine the location of existing underground structures.

d) Depth of Trench.

Utilities and other piping shall be laid in open trenches as shown and specified. Trenches shall be excavated to the designated lines and grades, beginning at the outlet end and progressing toward the upper end in each case. Trenches for pipe shall be shaped to the lower 1/3 of the pipe and provide uniform and continuous bearing. Bell holes shall be dug to allow ample room for working fully around each joint.

e) Width of Trench.

Trenches shall be of minimum width to provide ample working space for making joints and tamping backfill. Width on each side of barrel of pipe shall be as shown on the Plans. Sides of trenches shall be closely vertical to top of pipe and shall be sheet piled and braced where soil is of unstable nature. Above the top of the pipe, trenches may be sloped. The width of the trench above this level may be wider for sheeting and bracing and the performance of the work.

f) Alignment and Grade.

Trenches shall be excavated on the alignments shown on the Plans, and to the depth and grade necessary to accommodate the pipes at the elevations shown. Where elevations of the invert or centerline of a pipe are shown at the ends of a pipe, the pipe shall be installed at a continuous grade between the two elevations.

g) Over Excavation.

Excavation in excess of the depth required for proper shaping shall be corrected by bringing to grade the invert of the trench with compacted coarse, granular material at no additional expense to the Owner. Bell holes shall be excavated to relieve bells of all load, but shall be small enough to ensure that support is provided throughout the length of the pipe barrel.

Excavation in excess of the depths required for manholes and other structures shall be corrected by placing a subfoundation of 1500 psi concrete, at no additional expense to the Owner.

If trenches are excavated to widths in excess of those specified, or if the trench walls collapse, the pipe shall be laid in accordance with the next better class of bedding at the expense of the Contractor.

5. TRENCHES:

Trenches shall be maintained in a safe condition to prevent hazardous conditions to persons working in or around the trench.

Braced and sheeted trenches and open trenches shall comply with all State and Federal Laws and Regulations, and local ordinances relating to safety, life, health and property.

The top portion of the trench may be excavated with sloping or vertical sides to any width which will not cause damage to adjoining structures, roadways, utilities, etc. The bottom of the trenches shall be graded to provide uniform bearing and support each section of the pipe on undisturbed soil at every point along its entire length, except for the portions of the pipe sections excavated for bell holes and for the sealing of pipe joints. Bell holes and depressions for joints shall be dug after the trench bottom has been graded and in order that the pipe rests upon the trench bottom for its full length and shall be only of such length, depth and width for making the particular type of joints. The bottom of the trench shall be rounded so that at least the bottom one-third of the pipe shall rest on undisturbed earth for the full length of the barrel as jointing operations will permit. This part of the excavation shall be done manually only a few feet in advance of the pipe laying by workmen skilled in this type of work.

The sides of all trenches and excavation for structures shall be held by stay bracing, or by skeleton or solid sheeting and bracing according to conditions encountered, to protect the excavation, adjoining property and for the safety of personnel. Bracing and shoring may be removed when the level of the backfilling has reached the elevation to protect the pipe work and adjacent property. When sheeting or shoring above this level cannot be safely removed, it may be left in

place.

6. DEWATERING AND PROTECTION AGAINST WATER:

The Contractor shall remove water from the site and shall lower the ground water level as necessary to complete the excavations to the required depths and so that all required work can be accomplished in the dry. The Contractor shall do such well construction, well pointing, sheeting, ditching, and pumping, and shall construct necessary drains, channels and sumps to keep his excavations and new structures clear of ground water, storm water or sewage and to keep his construction areas dry during the progress of the Work.

Adequate measures and protection shall be provided by the Contractor to protect his work from damage from uplift due to ground water, storm water, or flood water. Any damages which may result shall be the Contractor's responsibility.

The Contractor shall accept all responsibility for damage to the work of this Contract because of floods and water pressures and other water damages and shall accept all risks of floods and other events which may occur.

All water discharged by pumping operations shall be discharged so as not to interfere with work under this Contract or with existing structures and operations. Water from dewatering operations shall be conveyed to the existing drainage features, using piping and pumping facilities provided by the Contractor.

Route of dewatering pipe shall be subject to the Owner's review. Discharge facilities and water quality shall comply with applicable regulations of State and Federal agencies.

Dewatering operations shall be uninterrupted and continuous during the course of the work so as not to endanger any construction in place or to present a hazard to workmen in and around the site. The Contractor shall take all measures necessary including, but not limited to, standby equipment and constant attendance to ensure that the dewatering system remains operational and effective throughout the period of time that it is required.

No water shall be allowed to run over any uncompleted portions of the work. No units of the work shall be constructed under water. The cost of dewatering shall be included in the price bid for the item of work for which it is required.

7. PILING EXCAVATED MATERIALS:

All excavated material shall be piled in a manner that will not endanger the work and that will avoid obstructing access ways.

8. REMOVAL OF UNSUITABLE BEDDING MATERIAL:

Where, in the opinion of the Owner's Representative, the subgrade of the pipe trench is

unsuitable material, the Contractor shall remove the unsuitable material 6" deep and furnish and place stone backfill in the trench to stabilize the subgrade. Attention is invited to the fact that the presence of water does not necessarily mean that stone backfill is required. If well points or other types of dewatering will remove the water, the Contractor shall be required to completely dewater the trench in lieu of stone backfill. Stone backfill will be limited to areas where well pointing and other conventional methods of dewatering will not produce a dry bottom. Stone shall be placed 6" deep and 18" wider than the pipe at the barrel. The pipe shall be carefully bedded in the stone as specified or in accordance with the manufacturer's recommendations. Should overdepth excavation be necessary to remove unsuitable material below the specified bedding and to replace it with satisfactory material, the Contractor will be paid for this work, based on the following requirements:

a) Unsuitable materials for bedding are those classified as MH, CH, OL, OH and PT in accordance with the Unified Soil Classification System. Excavated soils that are too wet to compact shall not be classified unsuitable due to high moisture content alone.

b) When the trench is excavated to the plan depth or as required by these Specifications, and soft or other material not suitable for bedding purposes is encountered in the trench, the Contractor shall immediately notify the Owner's representative for inspection and measurement of the unsuitable material to be removed.

c) No overdepth excavation or backfilling of the overdepth excavated trench shall start until proper measurements of the trench have been taken by the Owner's Representative for the determination of the quantity in cubic yards of unsuitable material excavated. Backfill material and backfilling shall conform to the requirements specified in Article 12 below.

d) No payment will be made for any overdepth excavation of soft unstable material due to the failure of the Contractor to provide adequate means to keep the trench dry.

e) No payment will be made for any overdepth excavation of the unsuitable material and replacement not inspected and measured by the Owner's Representative prior to excavation.

#### 9. BEDDING OF CONCRETE PIPE:

Pipe shall be laid on foundations prepared in accordance with ASTM C12 as modified herein and in accordance with the various classes of bedding required by the trench width and trench depth for the size of pipe to be laid. Bedding shall be included in the appropriate unit price bid for concrete pipe.

a) Class "A" Bedding.  
Class "A" Bedding shall be achieved by either of the following two construction methods:

1. Concrete Cradle.



The pipe shall be bedded in a monolithic cradle of plain or reinforced concrete having a minimum thickness under the pipe barrel of one-fourth the inside diameter of the pipe but in no case less than 4 inches and extending up the sides to a height of at least one-fourth of the pipe outside diameter. The cradle shall have a width equal to the full width of the trench as excavated. The pipe shall be laid to line and grade on concrete blocking after which the concrete shall be placed to the limits described. Concrete shall be 3,000 psi concrete.

2. Concrete Arch.

The pipe shall be bedded in crushed stone or rounded gravel bedding material having a minimum thickness under the pipe barrel of one-fourth the outside diameter of the pipe but in no case less than 4 inches and shall extend up the sides of the pipe to the horizontal centerline. The top half of the pipe shall be covered with a monolithic plain or reinforced concrete arch having a thickness of one-fourth the inside diameter of the pipe but in no case less than 4 inches at the crown of the pipe. The arch shall have a width equal to the full width of the trench as excavated.

b) Class "B" Bedding.

Class "B" Bedding shall be achieved by either of two construction methods:

1. The bottom of the trench excavation shall be shaped to conform to a cylindrical surface with a radius at least 2 inches greater than the radius of the outside of pipe with a width sufficient to allow 6/10 of the width of the pipe barrel to be bedded in fine granular fill placed in the shaped excavation. Carefully compacted backfill shall be placed at the sides of the pipe to a thickness of at least 12 inches above the top of the pipe.

2. The pipe may be bedded in compacted crushed stone, placed on a flat trench bottom. The crushed stone bedding shall have a minimum thickness of 1/4 the outside pipe diameter and shall extend halfway up the pipe barrel at the sides. The remainder of the side fills and a minimum depth of 12 inches over the top of the pipe shall be billed with carefully compacted material.

c) Class "C" Bedding.

Class "C" Bedding shall be achieved by either of two construction methods:

1. The pipe shall be bedded in an earth foundation formed in the trench bottom by a shaped excavation which will fit the pipe barrel with reasonable closeness for a width of at least 50 percent of the outside pipe diameter. The side fills and area over the pipe to a minimum of 12 inches above the top of the pipe and shall be filled with compacted fill.

2. The pipe shall be bedded in compacted granular material placed on a flat trench bottom. The granular bedding shall have a minimum thickness of 4 inches under the barrel and shall extend 1/6 of the outside diameter up the pipe barrel at the sides. The remainder of the side fills and to a minimum depth of 12 inches over the top of the pipe shall be filled with compacted backfill. Class "C" Bedding shall be used except where the use of Class "A" or Class "B" bedding is

shown on the Plans.

d) Class "D" Bedding.

Class "D" Bedding is achieved by shaping bell holes only on a flat trench and no care is taken to secure compaction at the sides and immediately over the pipe. This type bedding is not permitted.

e) Bell Holes.

Bell holes shall be provided in all classes of bedding to relieve pipe bells of all load, but small enough to insure that support is provided throughout the length of the pipe barrel.

f) Stone Bedding.

Stone Bedding material shall consist of crushed stone or pea gravel, clean and graded, 95 to 100 percent of which shall pass a 3/4 inch sieve with 95 to 100 percent retained on a No. 4 sieve. Bedding material shall be placed on a flat bottom trench and thoroughly compacted by tamping or slicing with a flat blade shovel. Compacted bedding material shall be extended up the sides of the pipe to the heights shown for the various classes of bedding.

g) Overwidth Excavation.

If trenches are excavated to widths in excess of those specified below, or if trench walls collapse, pipe shall be laid in accordance with the requirements for at least the next better class of bedding at the expense of the Contractor.

h) Borrow Backfill.

Borrow backfill will be required if there is not sufficient suitable material available from other parts of the work to backfill the trenches. Borrow backfill from approved borrow pits shall be used. Only those soils in the borrow pits that meet the specified requirements for suitable material shall be used.

i) Trench Widths.

Trench widths at the top of the pipe and depths for clay, concrete and metal pipes using the various bedding classes, shall not exceed those shown on the Plans.

10. BACKFILLING:

Backfilling consists of placing suitable materials removed during the excavation into the excavated areas, placing embedment materials and compacting the same to a density equal to or greater than what exists before excavation or as specified herein.

Under backfilling operations is also included removal of excess materials and debris from the site, leveling all depressions caused by operation of equipment and maintaining the backfilled areas until accepted by the Owner.

All backfill material shall be free of stones, concrete and clay lumps larger than 1/3 cubic foot. Roots, stumps and rubbish which will decompose will not be permitted in the backfill. Backfill material shall have its moisture content corrected, as may be necessary before being placed in the trench to bring the moisture content to approximately "optimum" for good compaction. Any rock, stone, concrete, clay lumps larger than 1/3 cubic foot in volume, rubbish and debris shall be removed from the site and disposed of by the Contractor in a lawful manner.

Backfilling operations in this work are referred to herein as Backfilling at the Pipe Zone, Type "A" and Type "B".

Backfilling in the excavated areas below parts of proposed structures shall be referred to hereinafter as Type "A" Backfilling.

Where trenches cross or extend under structures or into present roadways, future roadways or parking areas as shown on the Plans, the backfilling shall be referred to hereinafter as Type "A" Backfilling.

Backfilling in all other areas shall be referred to hereinafter as Type "B" Backfilling.

a) Backfilling at the Pipe Zone.

Throughout the entire construction, backfilling at the pipe zone shall include bedding and shall be as follows: Backfill material shall be placed below, around each side, and over the top of the pipe, in approximately horizontal layers to a height of 12 inches over the top of the pipe. Layers shall be of such thickness to facilitate the required compaction. This backfill shall be well compacted by using mechanical tamping equipment in such manner as not to damage the pipe, pipe joints or shift the pipe alignment. Workmen shall not be permitted to walk over the pipe until at least 12 inches of compacted fill has been placed over the pipe. The Contractor shall not use water to obtain compaction except for adding water to the backfill material before placing in the trench to bring the moisture content to approximately "optimum" for good compaction.

b) Type "A" Backfilling.

Type "A" backfilling consists of placing sand and gravel or other suitable materials excavated from the trench in the trench in 6 inch thick layers from a point 12 inches above the top of the pipe and mechanically tamped or compacted by rolling until the backfill density after compaction is equal to 100 percent of the maximum density obtainable at optimum moisture content as determined by the Standard Proctor Test. No water shall be used to secure compaction except for adding water to the backfill material before placing in the trench to bring moisture content to approximately "optimum" for good compaction. Each 6 inch thick layer shall be mechanically tamped before additional backfill material is placed in the excavated area.

c) Type "B" Backfilling.

Type "B" Backfilling consists of placing sand and gravel or other suitable material excavated from the trench in the trench in 12 inch thick compacted layers from a point 12 inches above the top of the pipe. Each 12 inch thick layer shall be compacted before additional backfill material is placed in the excavation. Only mechanical tamping, use of roller or small tractor will be

allowed. The density of the backfilled material after compaction shall be not less than 95 percent of the maximum density obtainable at optimum moisture content as determined by the Standard Proctor Test. Except in the upper 12 inches, water shall be added to backfill material only before being placed in the trench in order to bring the moisture content to approximately "optimum" for good compaction.

11. UTILITY CONSTRUCTION IN OTHER EXCAVATION:

Where utilities are required to be constructed in areas also requiring excavation and backfill for other work, coordinate the work so that the parts come together properly and the construction of the various parts can be done without damage to other parts. Place bedding which will form bearing for pipes, using suitable material and shaping to the lower 1/3 of the pipe to provide uniform and continuous bearing. Compaction of backfill material which will form bearing shall be equal to that specified hereinbefore under Type "A" Backfilling. After the pipe or other utility is placed, backfilling shall proceed as specified hereinbefore following the requirements specified under "Backfilling at the Pipe Zone," "Type 'A' Backfilling", and "Type 'B' Backfilling" as applicable.

12. TESTING:

a) General.

The County will select an approved independent testing laboratory for the purpose of identifying soils, checking densities, and classifying soils materials during construction. All testing will be paid for by the County outside of this contract.

b) Moisture-Density Tests.

A test shall be performed on each type of material used in the work regardless of source. Tests will be accompanied by particle-size analyses of the soils tested (ASTM Methods D421 and D422). Changes in color, gradation, plasticity or source of fill material will require the performance of additional tests.

c) Field Density Tests.

Tests shall be made in accordance with ASTM Method D1556 or such other test as may be accepted by the owner. Tests shall be made in accordance with the following minimum schedule or as required by the soils technician or as may be directed by the Owner's Representative:

One test for each lift of backfill for each 200 feet of trench or fraction thereof.

d) Submittals.

The soils technicians will submit formal reports of all compaction tests and retests. The reports are to be furnished to the Owner's Representative as soon as possible upon completion of the required tests.

This report information is to include but not be limited to the following:

1. Date of the test and date submitted.
2. Location of test.
3. Wet weight, moisture content and dry weight of field sample.
4. Description of soil.
5. Maximum dry density and moisture content of the lab sample which best matches the field sample in color, texture, grain size and maximum dry density.
6. Ratio of field dry density to maximum lab dry density expressed as a percentage.
7. Comments concerning the field density passing or failing the specified compaction.
8. Comments about recompaction if required.

e) Compaction Results.

If any compaction test reveals that fill or backfill is not compacted as specified, the Contractor shall scarify and recompact as required to achieve the specified density. Additional compaction tests shall be made to verify proper compaction.

The soils technician is to advise the Owner's Representative and the Contractor's Superintendent immediately of any compaction tests failing to meet the specified minimum requirements. No additional lift is to be placed on a lift with any portion failing.

SECTION 02400  
STORM DRAINAGE SYSTEM

1. SCOPE:

Under this heading shall be included all operations in connection with the installation of the storm drainage system.

2. EXCAVATION AND BACKFILL:

Excavation and backfilling shall be as specified in Section 02221, Excavation, Trenching and Backfilling for Utility Systems.

3. DELIVERY, STORAGE, AND HANDLING OF MATERIALS:

a) Delivery and Storage.

Materials delivered to site shall be inspected for damage, unloaded, and stored with the minimum of handling. Do not store materials directly on the ground. Inside of pipes and fittings shall be kept free of dirt and debris.

b) Handling.

Materials shall be handled in such a manner as to insure delivery to the trench in sound undamaged condition. Pipe shall be carried to the trench, not dragged. Gasket materials and plastic materials that are not to be installed immediately shall not be stored in the direct sunlight.

4. PIPE FOR CULVERTS AND STORM DRAINS:

Pipe for culverts and storm drains shall be as indicated and shall conform to requirements for the following types.

a) Concrete Pipe.

Pipe 12 inches shall be reinforced concrete pipe conforming to ASTM C76, Class III or Class V as shown on the plans.

1) Joints.

Joints shall be made by use of a continuous rubber gasket conforming to the requirements of ASTM C443 unless otherwise indicated. Type II or III rubber gaskets shall be used on the pipe. Joints which do not fit tightly and uniformly shall be grouted after that segment of the line has been installed. All joints for pipes installed by open cut shall be wrapped with a two foot wide strip of non-woven filter fabric lapped two feet.

The assembly of the gasketed joint shall be performed as recommended by the pipe manufacturer. The elastomeric gaskets may be supplied separately in cartons or prepositioned in the bell joint or coupling at the factory. In all cases, clean the gasket, the bell or coupling interior, especially the groove spigot area to remove any dirt or foreign material before assembling. Inspect the gasket, pipe spigot bevel, gasket groove, and seating surfaces for damage or deformation. When gaskets are separate, use only gaskets which are designed for and supplied with the pipe. Insert them as recommended by the manufacturer.

Lubricant should be applied as specified by the pipe manufacturer. Align the spigot to the bell and insert the spigot into the bell until it contacts the gasket uniformly.

5. DRAINAGE STRUCTURES:

Drainage structures shall be of the following types, constructed of the materials specified for each type and in accordance with the indicated details.

a) Manholes and Inlets.

Construction shall be of reinforced concrete, plain concrete, brick, precast reinforced concrete or precast concrete segmental blocks, complete with frames and covers or gratings. Precast concrete manholes and inlets shall be designed for the required depth and to sustain the required wheel loads and/or surface pressures. When manholes and inlets are to be constructed of prefabricated materials, shop drawings shall be submitted for approval before ordering the material.

b) Connection to Existing Inlets and/or Manholes.

Pipe connections to existing inlets and/or manholes shall be in such a manner that the finished work will conform as nearly as practicable to the applicable requirements specified for new inlets and/or manholes, including all necessary concrete work, cutting and shaping.

6. MATERIALS FOR DRAINAGE STRUCTURES:

a) Mortar.

Mortar for connections to other drainage structures, and brick or block construction shall conform to ASTM C270, Type M, except the maximum placement time shall be one half hour.

Hydrated lime may be added to the mixture of sand and cement in a quantity equal to 25 percent of the volume of cement used. Hydrated lime shall conform to F.S. SS-L-351, Type M, or ASTM C141, Type A.

The quantity of water in the mixture shall be sufficient to produce a stiff workable mortar but in no case shall exceed 5 gallons of water per sack of cement. Water shall be clean and free of harmful acids, alkalies, and organic impurities. The mortar shall be used within 30 minutes after the ingredients are mixed with water.

b) Precast Reinforced Concrete Manholes.

Manholes shall conform to ASTM C478 or AASHTO M199. Joints between precast concrete risers and tops shall be flexible plastic gasket and shall provide a flexible watertight joint. Flexible plastic gasket shall be RAM-NEK or equal.

c) Precast Concrete Segmental Blocks.

Blocks shall conform to ASTM C139, not more than 8 inches thick, not less than 8 inches long, and of such shape that joints can be sealed effectively and bonded with cement mortar.

d) Bricks.

Bricks shall conform to ASTM C62, Grade SW; ASTM C55, Grade S-I or S-II; or ASTM C32, Grade MS. Mortar for jointing and plastering shall consist of one part Portland cement and two parts fine sand. Lime may be added to the mortar in a quantity not more than 25 percent of the volume of cement. The joints shall be filled completely and shall be smooth and free from surplus mortar on the inside of the structure. Brick structures shall be plastered with 3/4 inch of mortar over the entire outside surface of the walls. For square or rectangular structures, brick shall be laid in stretcher courses with a header course every sixth course. For round structures, brick shall be laid radially with every sixth course a stretcher course.

e) Frame and Cover or Gratings.

Fabrication shall be from one or more of the material options presented in F.S. RR-F-621, except the malleable cast iron option shall conform to ASTM A220, Grade 40010. Weight, shape, size and waterway openings for grates and curb inlets shall be as indicated on the plans. Frames and covers for curb inlets and for areas not subject to vehicular traffic or storage may be malleable iron if so indicated. Malleable iron frames and covers shall conform to ASTM A220 and shall be of the weight, shape and size indicated.

7. BEDDING:

See Section 02221 "Excavation, Trenching and Backfill for Utility Systems," for additional requirements.

8. PLACING PIPE:

Each pipe shall be carefully examined before being laid, and defective or damaged pipe shall not be used. Pipe lines shall be laid to the grades and alignment indicated. Proper facilities shall be provided for lowering sections of pipe into trenches. Under no circumstances shall pipe be laid in water, and no pipe shall be laid when trench conditions or weather are unsuitable for such work. Pipe shall be moved horizontally into place by use of a winch or other suitable means. A backhoe bucket or other means which could damage the pipe shall not be used. Diversion of drainage or dewatering of trenches during construction shall be provided as necessary. All pipe in place shall be inspected before backfilling, and those damaged during placement shall be removed and replaced at no additional cost to the Owner. No additional compensation will be given to the Contractor for the required diversion of drainage and/or dewatering of trenches.



9. BACKFILLING:

Backfilling shall be done in accordance with Section 02221, "Excavation, Trenching and Backfill for Utility Systems."

10. STONE RIPRAP:

a) Materials.

The stone used for stone slope protection shall be sound, rough, dense and resistant to the action of air and water and satisfactory to the Owner's Representative. The stone shall have a density of not less than 150 pounds per cubic foot. Neither the breadth nor the thickness of any piece of stone shall be less than one-third of its length. The stone will be subject to inspection on delivery and if found to be improper gradation or quality, it will be rejected. The stone shall consist of quarry run sizes, graded as specified below:

STONE SLOPE PROTECTION

SIZE OF STONE	PERCENT OF TOTAL WEIGHT SMALLER THAN THE GIVEN SIZE
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Class I

100 lb.	100
60 lb.	80
25 lb	50
2 lb.	Not to Exceed 10

b) Placement.

The slope protection shall be placed in such a manner as to produce a reasonable well-graded mass of material with the minimum practicable percentage of voids, and shall be constructed within the limits and to the lines, grades, and sections shown on the Plans. A tolerance of plus 6 inches or minus 3 inches from the limits shown on the Plans will be allowed in the finished surface on the slope protection except that the extreme of this tolerance shall not be continuous over an area greater than 100 square feet. Filter fabric (Mirafi 700X or approved equal) shall be placed and tamped in before placing riprap. Materials shall be placed in horizontal layers starting on the lower edge of the section and worked up the slope. Dumping down the slope will not be permitted. Materials shall not be dropped from a height greater than 3 feet. Any damage to the slope due to the fault of the Contractor shall be repaired at no expense to the Owner.

11. SHOP DRAWINGS:

Shop drawings shall be submitted on each manufactured item supplied under this Section along with other information as specified.

## **Section 02441**

### **MICROTUNNELING AND PIPE-JACKED TUNNELS**

#### **PART 1 - GENERAL**

##### **1.01 SECTION INCLUDES**

A. Tunnel construction of pipe by one-pass methods with or without man entry. The construction methods involve jacking pipe behind a tunnel boring machine (TBM) or microtunnel boring machine (MTBM) with the pipe serving as both the tunnel liner during construction and the carrier pipe after completion of construction.

B. Reinforced concrete pipe (RCP) shall be used as the tunnel liner and carrier pipe.

##### **1.02 MEASUREMENT AND PAYMENT**

A. Unit Prices.

1. The length of the jacked pipe installed will be measured by linear foot along the center line of the completed tunnel, as designated on the Drawings. The installation of pipe outside the limits of the tunnel, by methods other than pipe-jacking, will not be considered for measurement and payment at the unit price bid for the item described in this section.

2. Payment will include and be full compensation for labor, equipment, materials, submittals, railroad fees, railroad insurance, and railroad supervision for construction of the tunnel, complete in place including disposal of excess materials, sheeting, shoring or bracing, dewatering, railroad settlement monitoring, utility adjustments, grouting (if required), testing, backfilling, clean-up, and other related work necessary for construction as specified or as shown on the Drawings.

##### **1.03 REFERENCE STANDARDS**

A. American Railway Engineering Association (AREA) Manual for Railway Engineering.

B. American Association of State Highway and Transportation Officials (AASHTO).

C. Occupational Safety and Health Administration (OSHA).

D. National Electrical Code - (NFPA 70).

## **1.04 DEFINITION**

A. Jacked Pipe. A method for installing pipe that serves as initial construction lining and tunnel support, installed for stability and safety during construction, and as the carrier pipe. The pipe is shoved forward, or jacked, as the tunnel is advanced behind a TBM or MTBM.

B. Microtunneling. A method of installing pipe by jacking the pipe behind a microtunnel boring machine which is connected to and shoved forward by the pipe being installed, generally precluding man entry.

C. Tunnel Boring Machine (TBM). Mechanized excavating equipment that is a steerable, guided and articulated, connected to and shoved forward by the pipe being installed, with man entry.

D. Microtunnel Boring Machine (MTBM). Mechanized excavating equipment that is remotely-controlled, steerable, guided and articulated, connected to and shoved forward by the pipe being installed, usually precluding man entry.

E. Tunneling Methodology. A written description, together with supporting documentation that defines Contractor's plans and procedures for the microtunneling or pipe jacking operations.

F. Zone of Active Excavation. Area located within a radial distance about a surface point immediately above the face of excavation equal to the depth to the bottom of the excavation.

G. Critical Structure. Any building, structure, bridge, pier, or similar construction partially or entirely located within a zone of active excavation.

H. Tunnel. Section of jacked pipe installed by microtunneling or pipe jacking operations.

I. Carrier Pipe. Product pipe installed to function as a conduit for the transport of water through the tunnel.

J. Grout. Grout for voids shall consist of 1 part Portland Cement and 4 parts fine, clean sand mixed with water.

## **1.05 TUNNEL SUBMITTALS**

A. Submittals shall be in accordance with Submittal Procedures described in these specifications.

B. The following submittals are required:

1. Qualifications of Contractor Performing Tunneling Work. A qualifications package shall be submitted to the Owner for review and approval prior to performing any tunnel-related work. The qualifications package must include:

- a. Cover sheet with date, company name, address, telephone and fax numbers, email address and contact person.
- b. Resumes of managerial, supervisory and operation key personnel.
- c. Detailed descriptions of at least 3 previous projects of similar size and scope with references and contact information for each project.

2. Tunneling Methodology. A brief description of proposed tunnel methodology for review prior to performing any tunnel-related work. The description should be sufficient to convey the following:

- a. Proposed method of tunnel construction and type of face support.
- b. Manufacturer and type of tunneling equipment proposed; type of lighting and ventilation systems.
- c. Number and duration of shifts planned to be worked each day.
- d. Sequence of operations,
- e. Locations of access shafts and work sites.
- f. Method of spoil transportation from the face, surface storage and disposal location.
- g. Capacity of jacking equipment and type of cushioning.
- h. Identify critical utility crossings and special precautions proposed.

3. Drawings and Calculations. Submit for record purposes, drawings and calculations for any tunnel support system designed by the Contractor. Drawings shall be adequate for construction and include installation details. Show pipe and pipe joint details. Documents must be signed and sealed by a Professional Engineer registered in the State of Georgia. Calculations shall include clear statement of criteria used for the design as described in Paragraph 1.06, Design Criteria.

4. Quality Control. Submit for review prior to performing any tunnel-related work a brief description of quality control methods including:

a. Method and frequency of survey control.

b. Example of tunnel daily log.

5. Geotechnical Investigation. When geotechnical investigations are conducted by the Contractor, submit results to the Owner's representative for record purposes.

6. Monitoring Plans:

a. Instrumentation Monitoring Plan: Submit for review, prior to construction, a monitoring plan that includes a schedule of instrumentation design, layout of instrumentation points, equipment installation details, manufacturer's catalog literature, and monitoring report forms.

b. Surface Settlement Monitoring Plan. Submit a settlement monitoring plan for review prior to construction. The plan shall identify the location of settlement monitoring points, reference benchmarks, survey frequency and procedures, and reporting formats.

7. Structures Assessment. Preconstruction and postconstruction assessment reports shall be provided for critical structures, namely those located within the zone of active excavation from the proposed tunnel centerline. Photographs or a video of any existing damage to structures in the vicinity of the proposed tunnel alignment shall be included in the assessment reports.

8. The readings of all monitoring shall be submitted to the Owner's representative.

9. Daily Reports. The shift log as defined in Paragraph 3.04, Pipe-jacked Tunneling Data, subparagraph 3.04A, shall be maintained by the Contractor and must be made available to the Owner's representative on request.

10. Materials. Supply full details of all of the materials used during construction of the tunnels including:

a. Design mixes for concrete, grout or flowable fills.

b. Manufacturer's information on selected pipe.

11. Record Drawings:

a. Maintain at construction site a complete set of field drawings for recording as-built conditions.

b. Mark or note thereon up-to-date as-built conditions, properly dated.

c. Submit record drawings to Owner's representative at the completion of construction.

## **1.06 DESIGN CRITERIA**

A. Contractor is responsible for selection of the appropriate pipe and pipe joints to carry the thrust of any jacking forces or other construction loads in combination with overburden, earth and hydrostatic loads. Design of any pipe indicated on the Drawings considers in-place loads only and does not take into account any construction loads. The criteria for longitudinal loading (jacking forces) on the pipe and joints shall be determined by the Contractor, based on the selected method of construction.

B. The jacked pipe shall be designed to withstand the thrust from the MTBM or TBM without damage or distortion. The propulsion jacks shall be configured so that the thrust is uniformly distributed and will not damage or distort the pipe.

C. Take into account loads from handling and storing.

D. The criteria to be used at railroad crossings shall be Cooper E-80 locomotive loading distributions in accordance with AREA specifications for culverts. In the design, account for additive loadings due to multiple tracks.

E. Provide pipes of diameter shown on the Drawings.

## **PART 2 PRODUCTS**

### **2.01 CARRIER PIPE**

A. Contractor shall be responsible for selecting appropriate reinforced concrete pipe (RCP) and pipe joints to safely carry the loads imposed during construction, including jacking forces. Pipe joints shall be flush with the outside pipe face when the pipes are assembled. RCP must meet the requirements shown on the Drawings as a minimum.

B. Use pipe that is round with a smooth, even outer surface and has joints that allow for easy connections between pipes. Pipe ends shall be designed so that jacking loads are evenly distributed around the entire pipe joint and such that point loads will not occur when the pipe is installed. Pipe used for pipe jacking shall be capable of withstanding all forces that will be imposed by the process of installation, as well as the final in-place loading conditions. Protect the driving ends of the pipe and joints against damage.

C. The carrier pipe shall be manufactured with grout plugs, spaced at appropriate intervals, to facilitate the addition of grout to fill the annular space between the pipe and surrounding soil.

## **PART 3 EXECUTION**

### **3.01 CONSTRUCTION OPERATIONS CRITERIA**

- A. Use methods for microtunneling and pipe-jacked tunneling operations that will minimize ground settlement. Select a method which will control flow of water and prevent loss of soil into the tunnel and provide stability of the face under anticipated conditions.
- B. Conduct tunneling operations in accordance with applicable safety rules and regulations, OSHA standards and Contractor's safety plan. Use methods which include due regard for safety of workers, adjacent structures, utilities, and the public.
- C. Maintain clean working conditions wherever there is worker access.
- D. For tunneling under railroad embankments, highways, or streets, perform the installation so as to avoid interference with the operation of the railroads, highways, or streets, except as approved by the owner of the facility.
- E. Do not schedule tunnel construction within and adjacent to Railroad property until the Owner and Railroad have approved the submittals, including proper Railroad insurance. Approval does not relieve Contractor of responsibility for adequacy and safety of procedure.
- F. Provide Owner and Railroad written notice in advance as required by the agreement between the Owner and Railroad.
- G. Place in effect, before work proceeds, all safety, precautionary and protective devices and services required by the Railroad.
- H. Follow all applicable Railroad specification and agreement/permit requirements.

### **3.02 GROUND WATER CONTROL**

- A. Provide ground water control measures when necessary to perform the Work.

### **3.03 EQUIPMENT**

- A. Full directional guidance of TBM or MTBM is a prerequisite of this method of construction.
- B. The Contractor shall be responsible for selection of tunneling equipment which, based on past experience, has proven to be satisfactory for excavation of the soils to be encountered.

C. The Contractor shall employ tunneling equipment that will be capable of handling the various anticipated ground conditions and is capable of minimizing loss of soil ahead of and around the machine and shall provide satisfactory support of the excavated face.

D. Tunnel Boring Machine (TBM). A TBM used for pipe-jacking shall conform to the shape of the tunnel with a uniform perimeter that is free of projections that could produce over-excavation or voids. An appropriately sized overcutting bead may be provided to facilitate steering. In addition it shall:

1. Be capable of full face closure.
2. Be equipped with appropriate seals to prevent loss of bentonite lubricant.
3. Be capable of correcting roll by reverse drive or fins.
4. Be designed to handle adverse ground conditions including ground water ingress.
5. Be equipped with visual display to show the operator actual position of TBM relative to design reference.

E. Microtunneling Equipment. In the case of MTBM, use a spoil transportation system which:

1. Either balances the soil and ground water pressures by the use of a slurry or earth pressure balance system; system shall be capable of adjustments required to maintain face stability for the particular soil condition and shall monitor and continuously balance the soil and ground water pressure to prevent loss of slurry or uncontrolled soil and ground water inflow, or, in the case of a slurry spoil transportation system:
  - a. Provides pressure at the excavation face by use of the slurry pumps, pressure control valves, and a flow meter.
  - b. Includes a slurry bypass unit in the system to allow the direction of flow to be changed and isolated, as necessary.
  - c. Includes a separation process. Design it to provide adequate separation of the spoil from the slurry so that slurry with a sediment content within the limits required for successful tunneling can be returned to the cutting face for reuse. Appropriately contain spoil at the site prior to disposal.
  - d. Uses the type of separation process suited to the size of tunnel being constructed, the soil type being excavated, and the work space available at each work area for operating the plant.



e. Allows the composition of the slurry to be monitored to maintain the slurry weight and viscosity limits required.

2. In the case of a cased auger earth pressure balance system, the system shall be capable of adjustments required to maintain face stability for the particular soil condition to be encountered. Monitor and continuously balance the soil and ground water pressure to prevent loss of soil or uncontrolled ground water inflow.

a. In a cased auger spoil transportation system, manage the pressure at the excavation face by controlling the volume of spoil removal with respect to the advance rate. Monitor the speed of rotation of the auger flight, and the addition of water.

3. Remote Control System. Provide an MTBM which includes a remotely controlled system with the following features:

a. Allows for operation of the system without the need for personnel to enter the tunnel. Has a display available to the operator, at a remote operation console, showing the position of the shield in relation to a design reference together with other information such as face pressure, roll, pitch, steering attitude, valve positions, thrust force, and cutter head torque; rate of advance and installed length.

b. Integrates the system of excavation and removal of spoil and its simultaneous replacement by pipe. As each pipe section is jacked forward, the control system shall synchronize all of the operational functions of the system.

4. Active Direction Control. Provide an MTBM which includes an active direction control system with the following features:

a. Controls line and grade by a guidance system that relates the actual position of the MTBM to a design reference (e.g., by a laser beam transmitted from the jacking shaft along the pipe to a target mounted in the shield).

b. Provides active steering information which shall be monitored and transmitted to the operating console.

c. Provides positioning and operation information to the operator on the control console.

5. Use generator which is suitably insulated for noise ("hospital" type) in residential or commercial areas.

F. Pipe Jacking Equipment. Provide a pipe jacking system with the following features:

1. Has the main jacks mounted in a jacking frame located in the starting shaft.
  2. Has a jacking frame which successively pushes a string of connected pipes following the tunneling excavation equipment towards a receiving shaft.
  3. Has sufficient jacking capacity to push the tunneling excavation equipment and the string of pipe through the ground. Incorporates intermediate jacking stations, if required.
  4. Has a capacity at least 20 percent greater than the calculated maximum jacking load.
  5. Develops a uniform distribution of jacking forces on the end of the pipe by use of spreader rings and packing, measured by operating gauges.
  6. Provides and maintains a pipe lubrication system at all times to lower the friction developed on the surface of the pipe during jacking.
  7. Jack Thrust Reactions. Use reactions for pipe jacking that are adequate to support the jacking pressure developed by the main jacking system. Special care shall be taken when setting the pipe guide rails in the jacking shaft to ensure correctness of the alignment, grade, and stability.
- G. Air Quality. Provide equipment to maintain proper air quality of manned tunnel operations during construction in accordance with OSHA requirements.
- H. Enclose lighting fixtures in watertight enclosures with suitable guards. Provide separate circuits for lighting, and other equipment.
- I. Electrical systems shall conform to requirements of National Electrical Code - NFPA70.

### **3.04 PIPE-JACKED TUNNELING DATA**

- A. Maintain shift logs of construction events and observations. The Owner's representative shall have access to the Contractor's logs with regard to the following information:
1. Location of boring machine face or shield by station and progress of tunnel drive during shift.
  2. Hours worked per shift on tunneling operations.
  3. Completed field forms for checking line and grade of the tunneling operation, showing achieved tolerance relative to design alignment. Steering control logs will generally be acceptable.

4. Maximum pipe jacking pressures per drive.
5. Location, elevation and brief soil descriptions of soil strata.
6. Ground water control operations and piezometric levels.
7. Observation of any lost ground or other ground movement.
8. Any unusual conditions or events.
9. Reasons for operational shutdown in the event a drive is halted.

### **3.05 EXCAVATION AND JACKING OF PIPE**

#### **A. Tunnel Excavation.**

1. Keep tunnel excavation within the easements and rights-of-way indicated on the Drawings and to the lines and grades designated on the Drawings.
2. Perform tunneling operations in a manner that will minimize the movement of the ground in front of and surrounding the tunnel. Prevent damage to structures and utilities above and in the vicinity of the tunneling operations.
3. Closed-face excavation:
  - a. Carefully control volume of spoil removed. Advance rate and excavation rate to be compatible to avoid over excavation or loss of ground.
  - b. When cutting head is withdrawn or is open for any purpose, keep excavated face supported and stabilized.
4. Excavated diameter should be a minimum size to permit pipe installation by jacking with allowance for bentonite injection into the annular space.
5. Whenever there is a condition encountered which could endanger the tunnel excavation or adjacent structures, operate without intermission including 24-hour working, weekends and holidays, until the condition no longer exists, to the extent practical without causing further endangerment.
6. The Contractor shall be responsible for damage due to settlement from any construction-induced activities.

## B. Pipe Jacking

1. Cushion pipe joints as necessary to transmit the jacking forces without damage to the pipe or pipe joints.
2. Maintain an envelope of bentonite slurry around the exterior of the pipe during the jacking and excavation operation to reduce the exterior friction and possibility of the pipe seizing in place, if necessary.
3. If the pipe seizes up in place and the Contractor elects to construct a recovery access shaft, obtain approval from the project Owner and property owner. Coordinate traffic control measures and utility adjustments as necessary prior to commencing work.
4. In the event a section of pipe is damaged during the jacking operation, or joint failure occurs, as evidenced by inspection, visible ground water inflow or other observations, the Contractor shall submit for approval his methods for repair or replacement of the pipe.

C. Grouting. Voids due to over-excavation shall be fully grouted from within the carrier pipe through grout plugs manufactured into the RCP.

## 3.06 CONTROL OF LINE AND GRADE

### A. Construction Control.

1. Baselines and benchmarks are indicated on the Drawings. Contractor shall check baselines and benchmarks at the beginning of the Work and report any errors or discrepancies to the Owner's representative.
2. Use the baselines and benchmarks to establish and maintain construction control points, reference lines and grades for locating tunnel, sewer pipe, and structures.
3. Establish construction control points sufficiently far from the work so as not to be affected by ground movement caused by pipe-jacked tunneling operations.

B. Bench Mark Movement. The Contractor shall ensure that if settlement of the ground surface occurs during construction which affects the accuracy of the temporary benchmarks the Contractor shall detect and report such movement and reestablish temporary bench marks. Advise the Owner's representative of any settlement affecting the permanent monumentation benchmarks.

### C. Line and Grade.

1. Check and record the survey control for the tunnel against an above-ground undisturbed reference at least once for each tunnel constructed.
2. Record the exact position of the MTBM or TBM after each shove to ensure the alignment is within specified tolerances. Make immediate correction to alignment before allowable tolerances are exceeded.
3. When excavation is off line or grade, make alignment corrections to avoid reverse grades.
4. Acceptance criteria for the carrier pipe shall be plus or minus 6 inches in horizontal alignment from the theoretical at any point, including the receiving end, and plus or minus 1-1/2 inches in elevation from the theoretical.
5. At the discretion of the Owner, pipe installed outside tolerances shall be fully grouted and abandoned.

### **3.07 MONITORING**

A. Instrumentation Monitoring. Instrumentation shall be accessible at all times to the Owner's representative. Readings shall be submitted promptly to the Owner's representative.

1. Install and maintain an instrumentation system to monitor and detect movement of the ground surface and adjacent structures. Establish vertical control points at a distance from the construction areas that avoids disturbance due to ground settlement.
2. Installation of the instrumentation shall not preclude the project or property Owner, through an independent contractor or consultant, from installing instrumentation in, on, near, or adjacent to the construction work. Access shall be provided to the work for such independent installations.
3. Instruments shall be installed in accordance with the Drawings and the manufacturer's recommendations.

### B. Surface Settlement Monitoring

1. Establish monitoring points on all critical structures.
2. Record location of settlement monitoring points with respect to construction baselines and elevations. Record elevations to an accuracy of 0.01 feet for each monitoring point location.

Monitoring points should be established at locations and by methods that protect them from damage by construction operations, tampering, or other external influences.

3. Ground surface elevations shall be recorded on the centerline ahead of the tunneling operations at a minimum of 10-foot intervals along each tunnel drive. Also record similar data at approximately 20 feet each side of the centerline. Settlement monitoring points must be clearly marked by studs or paint for ease of locating.

4. Railroads. Monitor ground settlement of track subbase at centerline of each track rail.

5. Utilities and Pipelines. Monitor ground settlement directly above and 10 feet before and after the utility or pipeline intersection.

C. Reading Frequency and Reporting. The Contractor shall submit to the Owner's representative, records of readings from the various instruments and survey points.

1. Instrumentation monitoring results to be read at the frequency specified and unless otherwise specified, shall be started prior to the zone of active excavation reaching that point, and shall be continued until the zone of active excavation has passed and until no further detectable movement occurs.

2. Surface settlement monitoring readings shall be taken:

a. Prior to the zone of active excavation reaching that point,

b. When the tunnel face reaches the monitoring point (in plan), and

c. When the zone of active excavation has passed and no further movement is detected.

3. All monitoring readings shall be submitted promptly to the Owner's representative.

4. Immediately report to the Owner's representative any movement, cracking, or settlement which is detected.

5. Following substantial completion but prior to final completion, make a final survey of all monitoring points.

### **3.10 DISPOSAL OF EXCESS MATERIAL**

A. Remove and dispose of spoil in accordance with the Drawings and Specifications.

### **3.11 ACCEPTANCE TESTING**

A. Acceptance testing is to be carried out by methods for the described in the Specifications for the carrier pipe.

B. A visual survey of the carrier pipe shall be performed to note joint misalignments, gaps between pipe sections or other carrier pipe defects created during installation.

**END OF SECTION**

SECTION 02480  
GRASSING AND SODDING

1. SCOPE:

This section includes fertilizing and grassing.

2. GENERAL:

All disturbed areas resulting from work under this Contract shall be grassed.

3. FERTILIZING:

a) Material.

All areas to be grassed shall have fertilizer and lime applied as specified or as determined by the soil analyses.

Fertilizer shall be of such composition that when uniformly applied it will furnish not less than the following quantities of available plant food per 1,000 square feet:

Nitrogen	1.0 pounds
Phosphoric Acid	1.0 pounds
Potash	1.0 pounds

This is equivalent to a commercial 10-10-10 fertilizer. Commercial fertilizer blends which will give fractions exceeding these will be accepted, provided that no fraction exceeds the required by more than 2 times. The fertilizer shall be delivered to the job in original, unopened containers.



4. SEEDING:

Seed shall be delivered in suitable sealed containers labeled in accordance with applicable laws and regulations and including name and location of the producer. The pure live grass seed mixture shall be as follows:

a) Mixtures for Spring and Summer Planting-March 1 to September 1.

Bermuda, hulled (Cynodon dactylon)	10 lbs/acre	(March – June)
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Bermuda, unhulled (Cynodon dactylon)	10 lbs/acre	(July – August)
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b) Mixtures for Fall and Winter Planting-September 1 to March 1.

Annual Rye Grass (Lolium Temulentum)	40 lbs/acre
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OR

Bermuda (Unhulled) (Cynodon dactylon)	10 lb/acre
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Rye (Secale cereale)	30 lb/acre
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c) Application.

Seeds are to be sown by a mechanical spreader either hand operated or machine operated. Seeding equipment shall be such as will continuously mix the seeds to prevent segregation.

d) Soil Preparation.

Immediately before seeding, the soil shall have been properly prepared for seeding. Immediately after the seed has been sown, the entire area shall be raked lightly and rolled lightly to pack the soil firmly around the seed.

Seeded areas shall be moist when seeding and shall be kept moist by sprinkling until a good stand of grass is obtained (minimum of two weeks) and until the work is accepted by the Owner. Reseeding shall be done by the Contractor at his own expense as may be necessary to obtain a satisfactory stand of grass.

The Contractor shall use mulch or other additive materials when conditions do not allow an acceptable stand of grass to grow. Mulch and additive materials shall contain no weed seeds.

5. MAINTENANCE AND RESEEDING:

All seeded areas shall be maintained without additional payment until acceptance of the Contract and any regrading, refertilizing, or reseeding shall be done at the Contractor's expense. Any areas which fail to show a "catch" or uniform stand, for any reason whatever, shall be reseeded with the original mixture, and such reseeding shall be repeated until final acceptance. The Contractor shall properly water, mow, and otherwise maintain all seeded areas until final acceptance.

Damage resulting from erosion, gulleys, washouts, or other causes shall be repaired by filling with topsoil, tamping, refertilizing, and reseeding by the Contractor at his expense if such damage occurs prior to acceptance of the Contract.

6. SUBMITTAL:

Manufacturer's data shall be submitted to the Owner's Representative on grass seed and fertilizer before the materials are delivered to the project site.

## ATTACHMENT A

### DRUG - FREE WORKPLACE CERTIFICATION

THE UNDERSIGNED CERTIFIES THAT THE PROVISIONS OF CODE SECTIONS 50-24-1 THROUGH 50-24-6 OF THE OFFICIAL CODE TO GEORGIA ANNOTATED, RELATED TO THE \*\*DRUG-FREE WORKPLACE\*\*, HAVE BEEN COMPLIED WITH IN FULL. THE UNDERSIGNED FURTHER CERTIFIES THAT:

1. A Drug-Free Workplace will be provided for the employees during the performance of the contract; and
2. Each sub-contractor under the direction of the Contractor shall secure the following written certification:

\_\_\_\_\_ (CONTRACTOR)  
certifies to Chatham County that a Drug-Free Workplace will be provided for the employees during the performance of this contract known as procurement **Little Hurst Canal Drainage Improvements** (PROJECT) pursuant to paragraph (7) of subsection (B) of Code Section 50-24-

3. Also, the undersigned further certifies that he/she will not engage in the unlawful manufacture, sale, distribution, possession, or use of a controlled substance or marijuana during the performance of the contract.

\_\_\_\_\_  
CONTRACTOR

\_\_\_\_\_  
DATE

\_\_\_\_\_  
NOTARY

\_\_\_\_\_  
DATE

## ATTACHMENT B

### PROMISE OF NON-DISCRIMINATION STATEMENT

Know All Men By These Presence, that I (We), \_\_\_\_\_  
Name

\_\_\_\_\_, \_\_\_\_\_  
Title Name of Bidder

(herein after Company) in consideration of the privilege to bid/or propose on the following Chatham County project procurement **Little Hurst Canal Drainage** 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 the bid submitted to Chatham County or the performance of the contract resulting therefrom;
- (2) That it is and shall be the policy of this Company to provide equal opportunity to all business persons seeking to contract or otherwise interested with the Company, including those companies owned and controlled by racial minorities, and women;
- (3) In connection herewith, I (We) acknowledge and warrant that this Company has been made aware of, understands and agrees to take affirmative action to provide minority and women owned companies with the maximum practicable opportunities to do business with this Company on this contract;
- (4) That the promises of non-discrimination as made and set forth herein shall be continuing throughout the duration of this contract with Chatham County;
- (5) That the promises of non-discrimination as made and set forth herein shall be and are hereby deemed to be made a part of and incorporated by reference in the contract which this Company may be awarded;
- (6) That the failure of this Company to satisfactorily discharge any of the promises of non-discrimination as made and set forth above may constitute a material breach of contract entitling the County to declare the contract in default and to exercise appropriate remedies including but not limited to termination of the contract.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## ATTACHMENT C

### DISCLOSURE OF RESPONSIBILITY STATEMENT

Failure to complete and return this information will result in your bid/offer/proposal being disqualified from further competition as non-responsive.

1. List any convictions of any person, subsidiary, or affiliate of the company, arising out of obtaining, or attempting to obtain a public or private contract or subcontract, or in the performance of such contract or subcontract.

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2. List any indictments or convictions of any person, subsidiary, or affiliate of this company for offenses such as embezzlement, theft, fraudulent schemes, etc. or any other offenses indicating a lack of business integrity or business honesty which affects the responsibility of the contractor.

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3. List any convictions or civil judgments under states or federal antitrust statutes.

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4. List any violations of contract provisions such as knowingly (without good cause) to perform, or unsatisfactory performance, in accordance with the specifications of a contract.

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5. List any prior suspensions or debarments by any governmental agency.

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6. List any contracts not completed on time.

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7. List any penalties imposed for time delays and/or quality of materials and workmanship.

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8. List any documented violations of federal or any state labor laws, regulations, or standards, occupational safety and health rules.

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- I. \_\_\_\_\_, as \_\_\_\_\_  
Name of individual Title & Authority

of \_\_\_\_\_, declare under oath that

Company Name \_\_\_\_\_

the above statements, including any supplemental responses attached hereto, are true.

\_\_\_\_\_  
Signature

State of \_\_\_\_\_

County of \_\_\_\_\_

Subscribed and sworn to before me on this \_\_\_\_\_ day of \_\_\_\_\_

20\_\_ by \_\_\_\_\_ representing him/herself to be

\_\_\_\_\_ of the company named herein.

\_\_\_\_\_  
Notary Public

My Commission expires:

\_\_\_\_\_

Resident State: \_\_\_\_\_

## ATTACHMENT D

### CONTRACTOR AFFIDAVIT under O.C.G.A. § 13-10-91(b)(1)

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

\_\_\_\_\_  
Federal Work Authorization User Identification Number

\_\_\_\_\_  
Date of Authorization

\_\_\_\_\_  
Name of Contractor

\_\_\_\_\_  
Name of Project

\_\_\_\_\_  
Name of Public Employer

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

Executed on \_\_\_\_\_, \_\_\_, 201\_\_ in \_\_\_\_\_(city), \_\_\_\_\_(state).

\_\_\_\_\_  
Signature of Authorized Officer or Agent

\_\_\_\_\_  
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME

ON THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 201\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

My Commission Expires:  
\_\_\_\_\_

### SUBCONTRACTOR AFFIDAVIT under O.C.G.A. § 13-10-91(b)(3)

By executing this affidavit, the undersigned subcontractor verifies its compliance with O.C.G.A. 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services under a contract with \_\_\_\_\_ (name of contractor) on behalf of CHATHAM COUNTY has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned subcontractor will continue to use the federal work authorization program throughout the contract period and the undersigned subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the subcontractor with the information required by O.C.G.A. § 13-10-91 (b). Additionally, the undersigned subcontractor will forward notice of the receipt of an affidavit from a sub-subcontractor to the contractor within five (5) business days of receipt. If the undersigned subcontractor receives notice of receipt of an affidavit from any sub-subcontractor that has contracted with a sub-subcontractor to forward, within five (5) business days of receipt, a copy of such notice to the contractor. Subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

\_\_\_\_\_  
Federal Work Authorization User Identification Number

\_\_\_\_\_  
Date of Authorization

\_\_\_\_\_  
Name of Subcontractor

\_\_\_\_\_  
Name of Project

\_\_\_\_\_  
Name of Public Employer

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

Executed on \_\_\_\_\_, \_\_\_, 201\_\_ in \_\_\_\_\_ (city), \_\_\_\_\_ (state).

\_\_\_\_\_  
Signature of Authorized Officer or Agent

\_\_\_\_\_  
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME

ON THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 201\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

My Commission Expires:

\_\_\_\_\_



**ATTACHMENT E**

**CHATHAM COUNTY, GEORGIA**

**BIDDER'S CERTIFICATION REGARDING DEBARMENT, SUSPENSION,  
INELIGIBILITY AND VOLUNTARY EXCLUSION**

The undersigned certifies, by submission of this proposal or acceptance of this contract, that neither Contractor nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency, State of Georgia, City of Savannah, Board of Education or local municipality. Bidder agrees that by submitting this proposal that Bidder will include this clause without modification in all lower tier transactions, solicitations, proposals, contracts and subcontracts. Where the Bidder or any lower tier participant is unable to certify to this statement, that participant shall attach an explanation to this document.

Bidder must verify Sub-Tier Contractors and Suppliers are not debarred, suspended, ineligible, pending County litigation or pending actions from any of the above government entities.

**Certification - the above information is true and complete to the best of my knowledge and belief.**

---

(Printed or typed Name of Signatory)

---

(Signature)

---

(Date)

**NOTE:** The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001

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**END OF DOCUMENT Mod. CC P & C 6/2005**

## ATTACHMENT F

**Chatham County**  
**Minority and Women Business Enterprise Program**  
**M/WBE Participation Report**

Name of Bidder: \_\_\_\_\_

Name of Project: \_\_\_\_\_

Bid No: \_\_\_\_\_

M/WBE Firm	Type of Work	Contact Person/ Phone #	City, State	%	MBE or WBE

MBE Total \_\_\_\_\_

WBE Total \_\_\_\_\_%

M/WBE Combined \_\_\_\_\_%

The undersigned should enter into a formal agreement with M/WBE Contractor identified herein for work listed in this schedule conditioned upon execution of contract with the Chatham County Board of Commissioners.

Signature \_\_\_\_\_ Print \_\_\_\_\_

Phone (\_\_\_\_) \_\_\_\_\_

Fax (\_\_\_\_) \_\_\_\_\_

## ATTACHMENT G

### *Systematic Alien Verification for Entitlements (SAVE) Affidavit Verifying Status for Chatham County Benefit Application*

By executing this affidavit under oath, as an applicant for a Chatham County, Georgia Business License or Occupation Tax Certificate, Alcohol License, Taxi Permit, Contract or other public benefit as reference in O.C.G.A. Section 50-36-1, I am stating the following with respect to my bid for a Chatham County contract for \_\_\_\_\_. [Name of natural person applying on behalf of individual, business, corporation, partnership, or other private entity]

1.) \_\_\_\_\_ I am a citizen of the United States.

**OR**

2.) \_\_\_\_\_ I am a legal permanent resident 18 years of age or older.

**OR**

3.) \_\_\_\_\_ I am an otherwise qualified alien (8 § USC 1641) or non-immigrant under the Federal Immigration and Nationality Act (8 USC 1101 et seq.) 18 years of age or older and lawfully present in the United States.\*

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

Signature of Applicant: \_\_\_\_\_

Date \_\_\_\_\_

Printed Name: \_\_\_\_\_

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

\* \_\_\_\_\_  
Alien Registration number for non-citizens.

Notary Public  
My Commission Expires:

**REFERENCE FORM**

**REFERENCES - \$499,999 or more:** On July 25, 2003 the Board of Commissioners directed that all construction projects with a bid of \$499,999 or less, for bidders to be responsive each must provide information on the most recent three (3) projects with similar scope of work as well as other information to determine experience and qualifications as follows. If the contractor has performed any work for the Chatham County Board of Commissioners within the last five (5) years, at least one (1) of the three (3) owner references must be from the appropriate party within the Chatham County Government

- a. Project Name: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Owner: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City and State: \_\_\_\_\_  
 Contact: \_\_\_\_\_  
 Phone & Fax: \_\_\_\_\_  
 \*Architect or Engineer: \_\_\_\_\_  
 Contact: \_\_\_\_\_  
 Phone & Fax: \_\_\_\_\_  
 Email: \_\_\_\_\_
- b. The awarded bid amount and project start date. \_\_\_\_\_
- c. Final cost of project and completion date. \_\_\_\_\_
- d. Number of change orders. \_\_\_\_\_
- e. Contracted project completion in days. \_\_\_\_\_
- f. Project completed on time. Yes \_\_\_\_\_ No \_\_\_\_\_ Days exceeded \_\_\_\_\_
- g. List previous contracts your company performed for Chatham County by Project Title, date and awarded/final cost.
- h. Has contractor ever failed to complete a project? \_\_\_\_\_ If so, provide explanation.
- i. Have any projects ever performed by contractor been the subject of a claim or lawsuit by or against the contractor? \_\_\_\_\_ If yes, please identify the nature of such claim or lawsuit, the court in which the case was filed and the details of its resolution.

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## CHECKLIST FOR SUBMITTING BID

Sign below and submit this sheet with Bid

**NOTE:** All of the following items must be submitted with your Bid to be considered "responsive".

1. ACKNOWLEDGMENT OF ANY/ALL ADDENDUMS (Page 3 of ITB).
2. **ORIGINAL SURETY BOND (5% OF BID) ALONG WITH SURETY REQUIREMENTS SHEETS FILLED OUT.**
3. **BID SHEET COMPLETELY FILLED OUT AND SIGNED.**
4. **"LIST OF SUBCONTRACTORS" SHEET FILLED OUT WITH ALL SUBCONTRACTORS AND SUPPLIERS.**
5. **"% TO MBE SUBCONTRACTORS/SUPPLIERS' SHEET COMPLETELY FILLED OUT SHOWING \$ AMOUNT AS WELL AS % OF PROJECT THAT IS PROJECTED TO GO TO MBE/WBE SUBCONTRACTORS/SUPPLIERS.**
6. SECTION 2.31 OF ITB - **REFERENCES:** Read this section and submit the correct number of "References" (based on total dollar amount of project) Note: Supply ALL the information that is requested for each Reference. *NOTE: Forms for Reference Information are attached to this Bid Package.*
7. **ALL FIRMS REQUESTING TO DO BUSINESS WITH CHATHAM COUNTY MUST REGISTER ON-LINE AT [HTTP://PURCHASING.CHATHAMCOUNTY.ORG](http://PURCHASING.CHATHAMCOUNTY.ORG).**
8. **COMPLETE AND SUBMIT ALL ATTACHMENTS TO THE ITB (Attachments A thru H). D-2 IS TO BE FILLED OUT FOR EACH SUBCONTRACTOR.**

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NAME/TITLE

---

COMPANY NAME

---

ADDRESS

---

CITY/STATE/ZIP

---

PHONE / FAX NUMBERS

---

E-MAIL

LEGAL NOTICE

CC NO. 167378

Invitation to Bid

Sealed Bids will be received until 2:00 P.M. on FEBRUARY 5, 2019 and publicly opened in Chatham County Purchasing & Contracting Department, at The Chatham County Citizens Service Center, 1117 Eisenhower Drive, Suite C, Savannah, Georgia 31406, for:  
BID NO : 19-0001-4 LITTLE HURST CANAL DRAINAGE IMPROVEMENTS.

**PRE-BID CONFERENCE:** Conference will be held at The Chatham County Citizens Service Center, 1117 Eisenhower Drive, Suite C, Savannah, Georgia on JANUARY 22, 2019, at 2:00 P.M. You are encouraged to attend.

The Bid Package can be downloaded and printed from the County website  
<http://purchasing.chathamcounty.org> Also, all firms requesting to do business with Chatham County must also register on-line at website:  
<http://purchasing.chathamcounty.org>


Plans must be purchased at Clayton Digital Reprographics by logging into [www.cdrepro.com](http://www.cdrepro.com). Login to DFS. New users must register. For technical support contact CDR at (912) 447-5445, fax (912) 233-7020 or email: [cdwest@cdrepro.com](mailto:cdwest@cdrepro.com).

For any additional questions regarding this bid, please contact Robert Marshall, Senior Procurement Specialist, at 912-790-1622 or [rmarshall@chathamcounty.org](mailto:rmarshall@chathamcounty.org)

Bid Bond is required at the time of bid. (5% of total bid)  
Payment and Performance Bonds (100% of bid) will be required for this project at the time of contract award.

CHATHAM COUNTY HAS THE AUTHORITY TO REJECT ALL BIDS AND WAIVE MINOR FORMALITIES.

"CHATHAM COUNTY IS AN EQUAL OPPORTUNITY EMPLOYER. M/F/H, ALL BIDDERS ARE TO BE EQUAL OPPORTUNITY EMPLOYERS"

  
MARGARET H. JOYNER, PURCHASING DIRECTOR

SAVANNAH NEWS/PRESS INSERT: Jan. 9. 2019  
Please send affidavit to:  
Chatham County Purchasing & Contracting Department  
1117 Eisenhower Drive, Suite C  
Savannah, Georgia 31406  
(912) 790-1622