

INVITATION TO BID

**BID NO. 14-0040-4**

**COTTONVALE ROAD DRAINAGE IMPROVEMENTS**

**PRE-BID CONFERENCE: 2:00PM, May 8, 2014**

**BID OPENING: 2:00PM, May 22, 2014**

THE COMMISSIONERS OF CHATHAM COUNTY, GEORGIA

ALBERT J. SCOTT, CHAIRMAN

COMMISSIONER HELEN J. STONE

COMMISSIONER YUSUF K. SHABAZZ

COMMISSIONER JAMES J. HOLMES

COMMISSIONER LORI L. BRADY

COMMISSIONER TONY CENTER

COMMISSIONER DEAN KICKLIGHTER

COMMISSIONER PATRICK J. FARRELL

COMMISSIONER PRISCILLA D. THOMAS

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/DRAWINGS – 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).

  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, H. CHATHAM APPRENTICE PROGRAM DOCUMENTATION

  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 AGENT  
1117 EISENHOWER DRIVE - SUITE C  
SAVANNAH, GEORGIA 31406  
(912) 790-1622

**Date: April 14, 2014**

**BID NO. 14-0040-4**

**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 Agent, at **The Chatham County Citizens Service Center, 1117 Eisenhower Drive, Suite C, Savannah, Georgia 31406 up to 2:00PM local time, MAY 22, 2014,** 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 For 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 MAY 8, 2014, at 2:00PM,** 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 Agent 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 Agent 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 Agent, 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 Agent 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 statute,

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 11April 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 performing 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.

- 1.19 **Chatham Apprentice Program Hiring:** Chatham County has established a Chatham Apprentice Program (CAP) to train area residents in the building trades. Successful Contractor shall be required to make a good faith effort to utilize labor from the CAP Program on this project when feasible. A Good Faith Effort will be demonstrated by documentation of inquiry into CAP labor available and resulting hiring of CAP labor or providing reasons for Contractor not utilizing any CAP labor. Form demonstrating Good Faith Effort is enclosed in this bid package. Contractor shall complete the form and return with their first pay request. All questions regarding CAP student hiring should be directed to Daniel Dodd-Ramirez at (912) 232-6747.

### 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 irresponsible 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 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 the Chatham County Minority and Women Business Coordinator, 124 Bull Street, Suite 310, Savannah, Georgia 31401, (912) 652-7860 phone, or (912) 652-7849 fax.**

- 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 sureties 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.

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. 14-0040-4**

### **COTTONVALE ROAD DRAINAGE IMPROVEMENTS**

The project is located at 204 Cottonvale Road in unincorporated Chatham County, Georgia. The work consists of removing four culverts located on the property and installing two 60" RCP culverts. All associated work ifor the culvert replacement is included on the construction drawings prepared by Kern & Company, LLC.

**This shall be a unit price contract. Quantities are approximate and payment shall be for actual in-place work measurements.**

### **COMMENCEMENT AND COMPLETION:**

**WORK SHALL BEGIN WITHIN 10 DAYS AFTER RECEIPT OF "NOTICE TO PROCEED". ALL WORK SHALL BE COMPLETED WITHIN 60 CALENDAR DAYS AFTER THE TEN DAY PERIOD.**



# Cottonvale Road Drainage Improvements

## Bid Schedule

| Item No. | Description                       | Qty.  | Units | Unit Price | Cost      |
|----------|-----------------------------------|-------|-------|------------|-----------|
| 1        | General Conditions / Mobilization | 1     | LS    |            |           |
| 2        | Construct/Maintain Access Road    | 1     | LS    |            |           |
| 3        | Install Construction Exit         | 1     | EA    |            |           |
| 4        | Remove Existing 24" RCP           | 32    | LF    |            |           |
| 5        | Remove Existing 30" RCP           | 24    | LF    |            |           |
| 6        | Remove Existing 48" CMP           | 24    | LF    |            |           |
| 7        | Regrade Ditch                     | 1     | LS    |            |           |
| 8        | Remove Chainlink Fence            | 1     | LS    |            |           |
| 9        | Remove Unsuitable Material        | 20    | CY    |            |           |
| 10       | 12" #57 Stone Bedding             | 12    | CY    |            |           |
| 11       | Install 60" RCP                   | 64    | LF    |            |           |
| 12       | Du/Ds1 - Dust Control / Mulch     | 3,000 | SY    |            |           |
| 13       | Ds2 Temporary grassing            | 3,000 | SY    |            |           |
| 14       | Ds3 Pemanent grassing             | 3,000 | SY    |            |           |
| 15       | Check Dam                         | 1     | EA    |            |           |
| 16       | Floating Silt Curtain             | 1     | EA    |            |           |
| 17       | Rip-Rap                           | 33    | SY    |            |           |
| 18       | Replace North Fence               | 24    | LF    |            |           |
| 19       | 20' Double Swing Gate             | 1     | EA    |            |           |
| 19       | Replace South Fence               | 25    | LF    |            |           |
| 20       | Field Allowance                   | 1     | LS    | 10,000.00  | 10,000.00 |

(Signed)

(Date)

Total Estimated Cost

NAME / TITLE

COMPANY

ADDRESS

PHONE / FAX NO'S.

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> |
|-------------------------|---------------------|
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**SIGNED:** \_\_\_\_\_

**CONTRACTOR**

## **Section 16 00 00 – SPECIAL CONDITIONS**

### **PART 1 – PROJECT DESCRIPTION**

#### **1.1 LOCATION AND DESCRIPTION OF WORK**

- A. The project is located at 204 Cottonvale Road in unincorporated Chatham County.
- B. The work consists of removing four culverts located on the property and installing two 60" RCP culverts.
- C. All associated work for the culvert replacement is included on the construction drawings.

### **PART 2 – CONTRACT DOCUMENTS**

#### **2.1 TECHNICAL SPECIFICATIONS**

- A. 31 00 00 EARTHWORK
- B. 31 10 00 SITE PREPARATION
- C. 31 23 34 EXCAVATION, TRENCH & BACKFILLING FOR UTILITIES SYSTEMS
- D. 31 25 00 EROSION & SEDIMENTATION CONTROL
- E. 32 31 13 CHAIN LINK FENCES AND GATES
- F. 32 92 00 TURF AND GRASSES
- G. 33 40 00 STORM DRAINAGE

#### **2.2 DRAWINGS**

- A. C0 COVER SHEET
- B. N1 GENERAL NOTES
- C. C1 EXISTING CONDITIONS
- D. C2 DEMOLITION AND INITIAL EROSION PLAN
- E. C3 GRADING PLAN
- F. C4 INTERMEDIATE EROSION PLAN
- G. C5 FINAL EROSION PLAN
- H. SESC-1 EROSION NOTES
- I. SESC-2 EROSION NOTES
- J. SESC-3 SOIL EROSION AND SEDIMENTATION CONTROL DETAILS
- K. DET-1 SITE DETAILS

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

#### **3.1 PRE-CONSTRUCTION INSPECTION**

- A. 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 professional photographer having experience in similar work and approved by the County. A voice narrative shall identify location and features of the preconstruction video. A typewritten version of the voice narrative shall be provided upon request.

### **PART 4 – STAKING**

#### **4.1 CONSTRUCTION STAKING AND CONTROL OF WORK**

- A. The County shall engage a surveyor registered by the State of Georgia to provide initial construction stakeout and demarcation project limits and property lines. Ongoing control of the project work shall be the responsibility of the Contractor. The cost to reestablish initial project controls 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 documents. Missing or incomplete documentation of delivered materials may be cause for delay/denial of payment.
  - 2. 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 DUTIES**

- A. The Contractor will be responsible for installation, maintenance and repair of the sedimentation and erosion control facilities and for any modifications or adjustments necessary for the project to remain in compliance with the Georgia Erosion and Sedimentation Act during performance of the work. The Contractor will have on site at all times of construction activity a Georgia Soil and Water Conservation Commission Level 1A certified person.
- B. The total contract amount will be reduced by an amount as specified in the fines section below for each occurrence of failure to conform to the sediment and erosion control requirements of the contract. For the purpose of this paragraph an occurrence shall be defined as each 24-hour period with consecutive 24-hour periods being measured as separate occurrences. 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.

## **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 Lump Sum 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 \$200 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**

### **9.1 REQUIREMENTS**

- A. 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.

- B. The Owner of the subject parcel maintains horses on the property. Contractor shall be mindful of the animals at all times during construction. Contractor must communicate with the Owner and tenant to keep them informed of the progress.
- C. **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. Permission to use private property outside of these areas shall be obtained by the Contractor in writing. Copies of such agreements shall be provided to the Chatham County Engineering Department.
- D. The Contractor shall provide approved means and methods upstream and downstream of the excavation to control water as needed in any open excavations as required for construction. The Contractor's means and methods shall not impede natural drainage through the construction site. The County must approve the Contractor's plan for maintenance of flow prior to beginning work. The use of removable sandbags to temporarily dam the channel is encouraged.
- E. 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.
- F. If necessary, the Contractor shall provide traffic control during the construction of the project. No alterations to traffic flow shall commence until a detailed traffic control plan is reviewed and approved by Chatham County.
- G. A detailed construction schedule for the project shall be provided to and approved by Chatham County prior to beginning demolition or construction.
- H. Unsuitable material shall be removed and replaced with suitable material meeting the requirements of the specifications. Measurement of unsuitable material shall exclude excavation of all materials within the limits of excavation shown on the drawings. Measurements of unsuitable material shall be made by cross section method as approved by Chatham County. Measurement by truck count will not be allowed unless otherwise stated.
- I. The Contractor shall replace all property corner pins or monuments disturbed during construction.
- J. The Contractor shall access the project from the Cottonvale Canal access/maintenance road unless other arrangements are permitted by the property owner. The cost required to improve the road for accessibility shall be listed on Line item 2 of the Bid Schedule. The Contractor shall ensure that the haul road at the end of the project is left in an equal or better state than the start of construction.

## Section 31 00 00 – EARTHWORK

### PART 1 – GENERAL

#### 1.1 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

1. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO T 180 (2001) Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and an 457-mm (18-in) Drop

AASHTO T 224 (2001) Correction for Coarse Particles in the Soil Compaction Test

2. ASTM INTERNATIONAL (ASTM)

ASTM C 136 (2004) Sieve Analysis of Fine and Coarse Aggregates

ASTM D 1140 (2000) Amount of Material in Soils Finer than the No. 200 (75-micrometer) Sieve

ASTM D 1556 (2000) Density and Unit Weight of Soil in Place by the Sand-Cone Method

ASTM D 1557 (2002e1) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft. (2,700 kN-m/cu.m.))

ASTM D 2487 (2000) Soils for Engineering Purposes (Unified Soil Classification System)

ASTM D 422 (1963; R 2002) Particle-Size Analysis of Soils

ASTM D 4318 (2000) Liquid Limit, Plastic Limit, and Plasticity Index of Soils

#### 1.2 DEFINITIONS

A. Satisfactory Materials:

1. Soils classified by ASTM D 2487 as SW, SP, SM, or SM-SP with a maximum of 15% passing a #200 sieve. Additionally, soils classified by ASTM D 2487 as CL with a maximum Plasticity Index of 25 and a maximum Liquid Limit of 40 may be acceptable for use well above the groundwater table.

B. Unsatisfactory Materials:

1. Materials which do not comply with the requirements for satisfactory materials are unsatisfactory. Unsatisfactory materials also include man-made fills; trash; refuse; backfills from previous construction; and material classified as satisfactory which contains root and other organic matter or frozen material. Soils with the minus #200 fraction classified as MH or CH are also unsatisfactory. In addition soils classified as SC or CL, exhibiting moisture sensitivity, or soils with excessive clay content, or excessive moisture are unsatisfactory. The Owner and A/E shall be notified of any contaminated materials.

C. Cohesionless and Cohesive Materials:

1. Cohesionless materials include materials classified in ASTM D 2487 as GW, GP, SW, and SP. Cohesive materials include materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as GM and SM will be identified as cohesionless only when the fines are nonplastic. Testing required for classifying materials shall be in accordance with ASTM D 4318, ASTM C 136, ASTM D 422, and ASTM D 1140.

D. Degree of Compaction:

1. Degree of compaction required, except as noted in the second sentence, is expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D 1557 abbreviated as a percent of laboratory maximum density. Since ASTM D 1557 applies only to soils that have 30 percent or less by weight of their particles retained on the 3/4 inch sieve, the degree of compaction for material having more than 30 percent by weight of their particles retained on the 3/4 inch sieve shall be expressed as a percentage of the maximum density in accordance with AASHTO T 180 Method D and corrected with AASHTO T 224. To maintain the same percentage of coarse material, the "remove and replace" procedure as described in the NOTE 8 in Paragraph 7.2 of AASHTO T 180 shall be used.

1.3 SUBMITTALS

A. A/E approval is required for the following submittals:

1. SD-06 Test Reports
2. Testing
3. Borrow Site Testing

Within 24 hours of conclusion of physical tests, 4 copies of test results, including calibration curves and results of calibration tests. Results of testing at the borrow site.

B. SD-07 Certificates:

1. Testing
2. Qualifications of the commercial testing laboratory.

1.4 MEASUREMENT AND PAYMENT

- A. No unit measurement will be made for earthwork as part of these contract documents. All earthwork work shown on the Construction Plans and described in these contract specifications is included in the lump sum bid on the contract.

1.5 SURFACE DATA

- A. (Subsurface data not available)

1.6 CLASSIFICATION OF EXCAVATION

- A. No consideration will be given to the nature of the materials, and all excavation will be designated as unclassified excavation.

1.7 CRITERIA FOR BIDDING

A. Base bids on the following criteria:

1. Surface elevations are as indicated.
2. Pipes or other artificial obstructions, except those indicated, will not be encountered.
3. Ground water elevations indicated by the boring log were those existing at the time subsurface investigations were made and do not necessarily represent ground water elevation at the time of construction.
4. Material character is indicated by the boring logs.
5. Hard materials and rock will not be encountered.

1.8 DEWATERING WORK PLAN

- A. Submit procedures for accomplishing dewatering work.

**PART 2 - PRODUCTS**

2.1 MATERIALS

- A. General: Where the terms "approved", "suitable", "unsuitable" and similar designations are used in specifications section pertaining to earthwork, it means earth or material designated as being approved, suitable or unsuitable for their intended use by the soils technician of the Engineer.
- B. Suitable Soil Materials are defined as those complying with ASTM D-2487 soil classification groups: GW, GP, GM, SM, SW, and SP.
- C. Unsuitable Soil Materials are defined as those complying with ASTM D-2487 soil classification groups GC, SC, MH, ML, CL, CH, OL, OH, PT. Clays, silts, and organic soils will be considered as unsuitable materials. Excess water in materials will be a basis for establishing unsuitable material regardless of gradation.
- D. Backfill and Fill Materials shall be suitable soil materials, free of clay, rock or gravel larger than 2" in any dimension, debris, waste, frozen materials, vegetable and other deleterious matter. Suitable materials for earth fill shall generally be composed of sands, clay-sand and silt-sand mixtures and shall be approved by the soils technician or the Engineer prior to being incorporated in fills.
- E. Borrow shall consist of sand or sand clay soils capable of being readily shaped and compacted to the required densities, and shall be free of roots, trash and other deleterious material.

### **PART 3 - EXECUTION**

#### **3.1 TOP SOIL**

- A. Contractor shall strip and stockpile topsoil.
- B. Topsoil shall be placed to a depth of 4" over all disturbed areas.
- C. Any remaining topsoil will be hauled off site and disposed of at the Contractor's expense.
- D. Additional topsoil shall meet Georgia Department of Transportation Specification 893.1. Any additional topsoil which is required to repair disturbed areas and complete the contract shall be provided by the Contractor at his expense.

#### **3.2 EXCAVATION**

- A. Excavation is unclassified and includes excavation to subgrade elevations indicated, regardless of character of materials and obstructions encountered.
- B. All excavation shall be in conformity with the lines, grades and cross sections shown on the Plans or established by the Engineer. All suitable material removed in the excavation shall be used as far as practicable in formation of embankment, subgrades and shoulders and at such other places as may be indicated on the Plans or directed by the Engineer.
- C. Unauthorized Excavation consists of removal or loosening of materials beyond indicated subgrade elevations or dimensions without specific directions of the Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, and as specified herein shall be at Contractor's expense.

Under footings, foundation bases, or retaining walls, fill unauthorized excavations by extending indicated bottom elevation of footing or base to the bottom of the excavation, without altering required top elevation.

Elsewhere, backfill and compact unauthorized walls, fill unauthorized excavations as specified for authorized excavations of same classification, unless otherwise directed by the Engineer.

- D. Additional Excavation: When excavation has reached required subgrade elevations and unsuitable materials exist, carry excavations deeper and replace excavated materials as directed by the Engineer. Dispose of unsuitable material as directed by the Engineer.

The Contractor shall dispose of unsuitable and surplus materials except where the Engineer permits the use of such fill slopes, or unless specific disposal areas are shown on the Plans.



- E. Dewatering: Prevent surface water and subsurface or ground water flowing into excavations and from flooding project site and surrounding area. Do not allow water to accumulate in excavations. Remove water to prevent softening of roadway subgrades and foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrades and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations.

Establish and maintain temporary drainage ditches and other diversions outside excavation limits to convey rain water and water removed from excavations to collecting or run-off areas. Do not use trench excavations as temporary drainage ditches.

The Contractor will be responsible for all damage incurred in handling water conditions.

- F. Material Storage: Stockpile satisfactory excavated materials where directed, until required for backfill or fill. Place, grade and shape stockpiles for proper drainage and to minimize erosion. Locate and retain soil materials away from edge of excavations. Do not store within drip-line of trees indicated to remain.
- G. Excavation for Structures: Conform to elevations and dimensions shown within a tolerance of plus or minus 0.10', and extending of sufficient distance from footings and foundations to permit placing and removal of concrete framework, installations to permit placing and removal of concrete framework, installation of services, other constructions, and for inspection.

In excavating for footings and foundations, take care not to disturb bottom of excavation. Excavate by hand to final grade before concrete reinforcement is placed. Trim bottoms to required lines and grades to leave solid base to receive other work.

- H. Proper drainage shall be maintained at all times.
- I. Perform excavation within the critical root zones of large trees to remain by hand or by other approved means which will not result in twisting, tearing, breakage or other injury to roots remaining on the tree. Protect existing trees and shrubs at all times during earthwork operations. No trees shall be removed without prior approval of Chatham County.

### 3.3 BORROW

- A. Shall be excavated and hauled by the Contractor from his own sources and shall meet the requirements as specified.
- B. Borrow shall be procured by the Contractor.
- C. Contractor shall bear all expenses in developing borrow sources including drying material, haul roads, excavation and hauling.

### 3.4 GROUND SURFACE PREPARATION FOR FILL

- A. All vegetation such as roots, brush, heavy sods, heavy growth of grass, decayed vegetation matter, rubbish, and other unsuitable material within the areas to be filled shall be stripped and removed prior to beginning the fill operation.
- B. Sloped ground surfaces steeper than 1 vertical to 4 horizontal, on which fill is to be placed shall be plowed, stepped, benched or broken up as directed, in such a manner that the fill material will bond with the existing surface.
- C. Surfaces on which fill is to be placed and compacted shall be wetted or dried as may be required to obtain the specified compaction.

### 3.5 FILL

- A. Shall be reasonably free from roots, organic material, trash and stones having maximum dimensions of 6 inches.

- B. Shall be placed in successive horizontal layers of 8 inches (4 inches for hand tamped compaction) in loose depth for the full width of the cross-section and compacted as required with heavy compaction equipment.

### 3.6 FINISH GRADING

- A. All areas covered by the project including excavated and filled sections and adjacent transition areas shall be smooth graded and free from irregular surface changes.
- B. Degree of finish shall be that ordinarily obtainable from either blade-grader or scraper operations, supplemented with hand raking and finishing, except as otherwise specified.
- C. The finished surface of unpaved areas shall be not more than 0.05' feet above or below the established grade or designed cross-section. Grading shall be done in order that no ponding will occur.
- D. Ditches shall be finished smooth to reduce erosion and permit adequate drainage.

### 3.7 DISPOSAL OF WASTE MATERIAL

- A. All vegetation, roots, brush, sod, broken pavements, curb and gutter, rubbish, and other unsuitable or surplus material stripped or removed from the limits of construction shall be disposed of by the Contractor.

### 3.8 PROTECTION

- A. Protect existing trees and shrubs at all times during earthwork operations. No trees shall be removed without prior acceptance of the Owner.
- B. The Contractor shall be responsible for protection of below grade utilities shown on the drawings or indicated to him by the Owner at all times during earthwork operations.
- C. Graded areas shall be protected from traffic, erosion, settlement, or any washing away that may occur from any cause prior to acceptance.
- D. Any repair or reestablishment of grades prior to final acceptance shall be at the Contractors expense.

## **PART 4 - TESTING**

### 4.1 COMPACTION TESTING

- A. General: Compaction of earth fill and all pavement subgrades shall be performed to the percentage of maximum standard of modified dry densities and to the depths as indicated below:
    - 1. Roadway Subgrades: 100% Standard (ASTM Test D-698) Compact top 24" in Parking areas and top 15" in Driveways.
    - 2. Subgrades under pavement removed and replaced for utility installations: 100% Standard (ASTM Test D-698) to 12 inch depth.
    - 3. Structural Fill under all structures, slabs and steps: 98% Standard (ASTM Test D-698). Compact top 24 inches of subgrade and each layer of fill.
    - 4. Subgrade below Sidewalks and Curb and Gutters: 97% Standard (ASTM Test D-698) Compact top 6 inches.
    - 5. Unpaved Areas to be grassed, sodded or landscaped: 90% Standard (ASTM Test D-698) full depth.
- All other areas not described above: as directed by the Engineer.

- B. Moisture Control: All compaction shall be performed at material moisture contents within 3 percentage points, plus or minus, of optimum. Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material, to prevent free water appearing on surface during or subsequent to compaction operations. Remove, and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by dicing, harrowing or pulverizing until moisture content to a satisfactory value.
- C. Field Density Tests: Tests shall be made in accordance with ASTM Method D-1556 and/or ASTM 2922. Minimum testing frequency shall be based on the most stringent of the following requirements (as applicable). Additional tests may be required by the Engineer in areas he deems critical.
1. One every layer of fill,
  2. One every 200 cubic yards of fill,
  3. One every 250 square yards of roadway subgrade of fill
  4. One test per horizontal layer per 1,500 square feet of fill area.
  5. Areas where degree of compaction is in question
- If in opinion of Engineer, based on testing service reports and inspection, subgrade or fills which have been placed are below specified density, additional compaction and testing will be required.
- D. Proof Rolling: Proof rolling of the subbase or subgrade of all areas of new road paving will be required. Equipment shall have a minimum axle load of 6,000 pounds and a maximum axle load of 15,000 pounds or as determined by the Engineer.

END OF SECTION – 31 00 00

## Section 31 10 00 - SITE PREPARATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Site Clearing:
  - a. Protection of existing trees
  - b. Removal of trees and other vegetation
  - c. Topsoil stripping and stockpiling
  - d. Clearing and grubbing
  - e. Removing above-grade improvements, as indicated on drawings
2. Related Sections:
  - a. Section 01 50 00 - Construction Facilities and Temporary Controls
  - b. Section 31 00 00 - Earthwork

#### 1.2 QUALITY ASSURANCE

##### A. Regulatory Requirements:

1. Conform to applicable local code for demolition of structures, safety of adjacent structures, dust control and runoff control.
2. Obtain required permits and licenses from authorities. Pay associated fees including disposal charges.
3. Notify affected utility companies before starting work and comply with their requirements.
4. Do not close or obstruct roadways, sidewalks or hydrants without permits.
5. Conform to applicable regulatory procedures when discovering hazardous or contaminated materials.
6. Test soils around buried tanks for contamination.

##### B. Contractor shall provide methods to ensure pollution control during the demolition period.

##### C. In addition to complying with all pertinent codes, the contractor will also comply with the requirements of those insurance carriers providing coverage for existing structures and this work.

1. Comply with governing EPA notification regulations before starting selective demolition. Comply with hauling disposal regulations of authorities having jurisdiction.

##### D. Arborist qualifications: an arborist certified by the international society of arboriculture or licensed in the jurisdiction where project is located.

##### E. Tree pruning standards: comply with ANSI 4300, "Trees, Shrubs, and Other Woody Plant Maintenance - Standard Practices," unless more stringent requirements are indicated.

#### 1.3 PROJECT CONDITIONS

##### A. Existing Conditions:

1. Conditions existing at time of inspection for bidding purposes will be maintained by owner in so far as practicable. Variations within structures may occur by owner's removal and salvage operations prior to start of demolition work.
  - a. Start of work is acceptance of conditions.
2. Notify owner of variations to conditions or discrepancies in actual site conditions prior to start of site preparation work.
3. Structures to be demolished will be discontinued in use and vacated prior to start of work.
4. Owner assumes no responsibility for condition of structures to be demolished.

##### B. Traffic: conduct site clearing operations to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Do not close or obstruct streets, walks, or other occupied or used facilities without permission from authorities having jurisdiction.

C. Existing Services:

1. General: indicated locations are approximate; determine exact locations before commencing work.
2. Arrange and pay for disconnecting, removing, capping, and plugging utility services. Notify affected utility companies in advance and obtain before starting this work.
3. Place markers to indicated location of disconnected services. Identify service lines and capping locations on project record documents.

D. Protection of existing improvements: provide protections necessary to prevent damage to existing improvements indicated to remain in place.

1. Restore damaged improvements to their original condition, as acceptable to property owners.
2. Provide protection for safe passage of persons around area of site preparation. Take precautions and conduct operations to prevent injury to adjacent buildings, structures, other facilities, and persons.
3. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement or collapse of structures to be demolished and adjacent facilities to remain.

E. Protection of existing trees and vegetation: protect tops, trunks, and roots of existing trees and other vegetation to remain in place against unnecessary cutting, breaking or skinning of roots, skinning or bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line. Provide temporary guards to protect trees and vegetation to be left standing.

1. Install temporary fencing located as indicated or outside the drip line of trees to protect remaining vegetation from construction damage. Utilize plastic snow fence materials as approved by owner's representative.
2. Water trees and other vegetation to remain within limits of contract work as required maintaining their health during course of construction operations.
3. Provide protection for roots over 1-1/2 inch diameters that are cut during construction operations. Coat cut faces with emulsified asphalt, or other acceptable coating, formulated for use on damaged plant tissues. Temporarily cover exposed roots with wet burlap to prevent roots from drying out. Cover with earth as soon as possible.
4. Repair or replace trees and vegetation to remain, which are damaged by construction operations, in a manner acceptable to owner's representative. employ a licensed arborist to repair damages to trees and shrubs.

F. Improvements on adjoining property: authority for performing removal and alteration work on property adjoining owner's property will be obtained by owner prior to award of contract.

G. Salvageable improvements: carefully remove items indicated to be salvaged and store on owner's premises where indicated or directed.

## **PART 2 - PRODUCTS**

### **2.1 FILL MATERIALS**

A. Specified in Section 31 00 00 – Earthwork

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. Provide, erect, and maintain erosion control devices, temporary barriers and security devices at locations indicated as specified in Section 01 50 00 and as shown on drawings.
- B. Protect existing landscaping materials, appurtenances and structures and other features indicated to remain.
- C. Prevent movement or settlement of adjacent structures: provide bracing and shoring.
- D. Mark location of utilities. Protect and maintain in safe and operable condition the utilities to remain. Prevent interruption of existing utility service to occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities as acceptable to governing authorities and the owner.

### 3.2 SITE DEMOLITION

#### A. General:

1. Document existing conditions of adjacent areas prior to start of demolition.
2. Conduct demolition to minimize interference with adjacent structures or pavements.
3. Cease operations immediately if adjacent structures appear to be in danger. Notify authority having jurisdiction. Do not resume operations until directed.
4. Conduct operations with minimum interference to public or private access. Maintain access and egress at all times.
5. Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon or limit access to their property.
6. Sprinkle work with water to minimize dust. Provide hoses and water connections for this purpose.
7. Comply with governing regulations pertaining to environmental protection.
8. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations. Return adjacent areas to condition existing prior to start of work.

#### B. Selective site demolition

1. Disconnect remove and cap and identify designated utilities within demolition areas.
2. Abandonment or removal of certain underground pipe or conduits may be indicated on mechanical or electrical drawings and is included under work of related div. 15 and 16 sections. Removal of abandoned underground piping or conduit interfering with construction is included under this section.

#### C. Pollution controls:

1. Use water mist, temporary enclosures, and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations.
  - a. Do not use water when it may damage existing construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
  - b. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before start of selective demolition.

#### D. Salvage materials:

1. All demolished material shall be offered to the owner. If not desired by the owner, materials shall become property to be removed from site and disposed of by the contractor at his expense unless noted otherwise on the drawings.
2. Historic artifacts, including cornerstones and their contents, commemorative plaques and tablets, antiques, and other articles of historic significance remain to the owner. Notify the owner's representative if items are encountered and obtain acceptance regarding method of removal and salvage for the owner.

### 3.3 SITE CLEARING AND GRUBBING

#### A. General: remove trees, shrubs, grass and other vegetation, improvements, or obstructions as required to permit installation of new construction. Remove similar items elsewhere on site or premises as specifically indicated. "Removal" includes digging out and off-site disposing of stumps and roots.

1. Cut minor roots and branches of trees indicated to remain in a clean and careful manner, where such roots and branches obstruct installation of new construction.
2. Completely remove stumps, roots, and other debris protruding through ground surface.
3. Use only hand methods for grubbing inside drip line of trees indicated to remain.
4. All roots 3 inches and greater in diameter shall be removed within 5'-0" of all existing or new site improvements.

### 3.4 STRIPPING AND STOCKPILING OF TOPSOIL

#### A. Topsoil: topsoil is defined as friable clay loam surface soil found in a depth of not less than 4 inches. Satisfactory topsoil is reasonably free of subsoil, clay lumps, stones, and other objects over 2 inches in diameter, or over 3' in length, and without weeds, roots, and other objectionable material.

1. Strip topsoil to whatever depths encountered in a manner to prevent intermingling with underlying subsoil or other objectionable material.
  - a. Remove heavy growths of grass from areas before stripping.
  - b. Where existing trees are indicated to remain, leave existing topsoil in place within drip lines to prevent damage to root system.
2. Stockpile topsoil where indicated on drawings or directed by owner's representative. Construct stockpile areas to positively drain surface water. cover stockpile areas as required to prevent windblown dust. Dispose of unsuitable topsoil off-site as specified clearing, unless directed otherwise by owner's representative. Dispose of excess topsoil off-site as specified for clearing, unless directed otherwise by owner's representative.
  - a. Stockpile to be a maximum of 10' in height.
  - b. Install silt fence around perimeter of the stockpile area.

### 3.5 BACKFILLING

- A. Completely fill below grade areas and voids resulting from demolition or removal of structures (including underground fuel storage tanks, wells, cisterns, etc.) using approved select fill materials consisting of stone, gravel, and sand free from debris, trash, frozen materials, roots, and other organic matter.
  1. Fill depressions caused by clearing and grubbing operations with acceptable fill material to subgrade elevation.
  2. Ensure that areas to be filled are free of standing water, frost, frozen, or unsuitable material, trash, and debris prior to fill placement.
  3. Place fill materials in horizontal layers and compact each layer at optimum moisture content of fill material to proposed density as specified in Section 31 00 00 - EARTHWORK.
  4. Grade surface to match adjacent grades and to provide flow of surface drainage after fill placement and compaction.

### 3.6 EXCAVATION AROUND EXISTING TREES

#### A. Excavation around trees to remain:

1. Where trenching for utilities is required within drip line, hand dig under or around roots. Do not cut lateral roots or tap roots. Cut smaller roots interfering with new construction.
2. Where excavating for new construction is required within drip line of trees, hand excavates to minimize damage to root systems and provide sheeting at excavations if required. Use narrow tine spading forks and comb soil to expose roots. Relocate roots in backfill areas. If large, main lateral roots are encountered, exposed beyond excavation limits, bend and relocate without breaking. If encountered immediately adjacent to location of new construction and relocation is not practical, cut roots approximately 3 inches back from new construction.
3. Allow no exposed roots to dry out before permanent backfill is placed; provide temporary earth cover, or pack with peat moss and wrap with burlap. Water and maintain in moist condition and temporarily support and protect from damage until permanently relocated and covered with backfill.
4. Prune branches in accordance with standard horticultural practice to balance loss to root system caused by damage or cutting of root system. Engage qualified arborist to prune branches.

#### B. Grading and filling around trees near clearing limits:

1. Existing grades: maintain existing grading within drip line of trees, unless otherwise indicated on the drawings.
2. Lowering grades: where existing grade is above new finish grade shown around trees, carefully hand excavate within drip line to new finish grade. Cut roots exposed by excavation or provide permanent protection as recommended by arborist.
3. Raising grades:
  - a. Minor fill: where existing grade is 6 inches or less below elevation of finish grade shown, use a topsoil fill mixture. Place a single layer and do not compact; hand grade to require finish elevations.
  - b. Moderate fills: where existing grade is more than 6 inches but less than 12 inches below finish grade elevation, place layer of drainage fill on existing grade elevation prior to placing topsoil. Carefully place against trunk of tree approximately 2 inches above finish grade elevation and extend not less than 18 inches from tree trunk on all sides. For balance of area within drip line perimeter, place drainage fill to an elevation of 6 inches below grade and complete fill with a layer of topsoil to finish grade elevation. Do not compact stone or gravel or topsoil layers, and grade to required elevations.

C. Repair for damaged trees:

1. Engage a qualified arborist to perform tree repair work.
2. Make repairs promptly after damage occurs to prevent progressive deterioration.
3. Remove dead and damaged trees which are determined by arborist to be incapable of restoration to normal growth pattern.

3.7 REMOVAL

A. Remove debris, rock, extracted plant life, paving, curbs, and other structures indicated on drawings and as specified.

B. Disposal of demolished materials:

1. Remove from site debris, rubbish, and other materials resulting from demolition operations.
2. No burning of any material, debris, cleared material, or trash on-site or off-site will be allowed, except when allowed by the appropriate governing authority and the owner. If allowed as stated above, burning shall be performed in manner prescribed by governing authority. Attend burning materials until fires have burned out or have been extinguished.
3. Transport cleared and demolished materials with appropriate vehicles and dispose off-site to areas which are approved for disposal by governing authorities and appropriate property owners.

C. Remove grass, trees, plant life, stumps and all other construction debris from site to a dump site that is suitable for handling such material according to state laws and regulations.

D. Remove erosion control materials.

END OF SECTION — 31 10 00



## Section 31 23 34 – EXCAVATION, TRENCHING AND BACKFILLING FOR UTILITIES SYSTEMS

### PART 1 – GENERAL

#### 1.1 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

1. ASTM INTERNATIONAL (ASTM)

|             |  |
|-------------|--|
| ASTM C 136  | (2004) Sieve Analysis of Fine and Coarse Aggregates  |
| ASTM D 1140 | (2000) Amount of Material in Soils Finer than the No. 200 (75-micrometer) Sieve  |
| ASTM D 1556 | (2000) Density and Unit Weight of Soil in Place by the Sand-Cone Method  |
| ASTM D 1557 | (2000) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft. (2,700 kN-m/cu. m.)) |
| ASTM D 2487 | (2000) Classification of Soils for Engineering Purposes (Unified Soil Classification System)                           |
| ASTM D 422  | (1963; R 2002) Particle-Size Analysis of Soils   |
| ASTM D 4318 | (2000) Liquid Limit, Plastic Limit, and Plasticity Index of Soils  |

#### 1.2 DEGREE OF COMPACTION

- A. Degree of compaction shall be expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D 1557.

#### 1.3 SUBMITTALS

- A. A/E approval is required for the following submittals:
- B. SD-06 Test Reports
- C. Field Density Tests
1. Testing of Backfill Materials
- D. Copies of all laboratory and field test reports within 24 hours of the completion of the test.

#### 1.4 MEASUREMENT AND PAYMENT

- A. No unit measurement will be made for excavation, trenching, and backfilling as part of these contract documents. All excavation, trenching, and backfilling work shown on the Construction Plans and described in these contract specifications is included in the lump sum bid on the contract.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

A. Satisfactory Materials

1. Soils classified by ASTM D 2487 as SW, SP, SM, or SM-SP with a maximum of 15% passing a #200 sieve. Additionally, soils classified by ASTM D 2487 as CL with a maximum Plasticity Index of 25 and a maximum Liquid Limit of 40 may be acceptable for use well above the groundwater table.

B. Unsatisfactory Materials

1. Materials which do not comply with the requirements for satisfactory materials are unsatisfactory. Unsatisfactory materials also include man-made fills; trash; refuse; backfills from previous construction; and

material classified as satisfactory which contains root and other organic matter or frozen material. Soils with the minus #200 fraction classified as MH or CH are also unsatisfactory. In addition soils classified as SC or CL, exhibiting moisture sensitivity, or soils with excessive clay content, or excessive moisture are unsatisfactory. The Owner shall be notified of any contaminated materials.

C. Cohesionless and Cohesive Materials

1. Cohesionless materials include materials classified in ASTM D 2487 as GW, GP, SW, and SP. Cohesive materials include materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as GM and SM will be identified as cohesionless only when the fines are nonplastic. Testing required for classifying materials shall be in accordance with ASTM D 4318, ASTM C 136, ASTM D 422, and ASTM D 1140.

D. Unstable Material

1. Unstable material shall consist of materials too wet to properly support the utility pipe, conduit, or appurtenant structure.

E. Select Granular Material

1. Select granular material shall consist of well-graded sand, gravel, crushed gravel, crushed stone or crushed slag composed of hard, tough and durable particles, and shall contain not more than 10 percent by weight of material passing a No. 200 mesh sieve and no less than 95 percent by weight passing the 1 inch sieve. The maximum allowable aggregate size shall be 1.5 inches, or the maximum size recommended by the pipe manufacturer, whichever is smaller.

F. Initial Backfill Material

1. Initial backfill shall consist of select granular material or satisfactory materials free from rocks 3 inches or larger in any dimension or free from rocks of such size as recommended by the pipe manufacturer, whichever is smaller. When the pipe is coated or wrapped for corrosion protection, the initial backfill material shall be free of stones larger than 1 inches in any dimension or as recommended by the pipe manufacturer, whichever is smaller.

2.2 PLASTIC MARKING TAPE

- A. Plastic marking tape shall be acid and alkali-resistant polyethylene film, 6 inches wide with minimum thickness of 0.004 inch. Tape shall have a minimum strength of 1750 psi lengthwise and 1500 psi crosswise. The tape shall be manufactured with integral wires, foil backing or other means to enable detection by a metal detector when the tape is buried up to 3 feet deep. The tape shall be of a type specifically manufactured for marking and locating underground utilities. The metallic core of the tape shall be encased in a protective jacket or provided with other means to protect it from corrosion. Tape color shall be as specified in TABLE 1 and shall bear a continuous printed inscription describing the specific utility.

TABLE 1. Tape Color

|         |   |
|---------|---|
| Red:    | Electric  |
| Yellow: | Gas, Oil, Dangerous Materials                                     |
| Orange: | Telephone, Telegraph, Television, Police, and Fire Communications |
| Blue:   | Water Systems   |
| Green:  | Sewer Systems   |

2.3 DETECTION WIRE FOR NON-METALLIC PIPING

- A. Detection wire shall be insulated single strand, solid copper with a minimum diameter of 12 AWG.

**PART 3 - EXECUTION**

3.1 EXECUTION

- A. Excavation shall be performed to the lines and grades indicated. During excavation, material satisfactory for backfilling shall be stockpiled in an orderly manner at a distance from the banks of the trench equal to 1/2 the depth of the excavation, but in no instance closer than 2 feet. Excavated material not required or not satisfactory for backfill shall be removed from the site. Grading shall be done as may be necessary to prevent surface water from flowing into the excavation, and any water accumulating shall be removed to maintain the stability of the

bottom and sides of the excavation. Unauthorized over excavation shall be backfilled in accordance with paragraph BACKFILLING AND COMPACTION at no additional cost to the Owner.

**B. Trench Excavation Requirements**

1. The trench shall be excavated as recommended by the manufacturer of the pipe to be installed. Trench walls below the top of the pipe shall be sloped, or made vertical, and of such width as recommended in the manufacturer's installation manual. Where no manufacturer's installation manual is available, trench walls shall be made vertical. Trench walls more than 4 feet high shall be shored, cut back to a stable slope, or provided with equivalent means of protection for employees who may be exposed to moving ground or cave in. Vertical trench walls more than 5 feet high shall be shored. Trench walls which are cut back shall be excavated to at least the angle of repose of the soil. Special attention shall be given to slopes which may be adversely affected by weather or moisture content. The trench width below the top of pipe shall not exceed 24 inches plus pipe outside diameter (O.D.) for pipes of less than 24 inches inside diameter and shall not exceed 36 inches plus pipe outside diameter for sizes larger than 24 inches inside diameter. Where recommended trench widths are exceeded, redesign, stronger pipe, or special installation procedures shall be utilized by the Contractor. The cost of redesign, stronger pipe, or special installation procedures shall be borne by the Contractor without any additional cost to the Owner.

**C. Bottom Preparation**

1. The bottoms of trenches shall be accurately graded to provide uniform bearing and support for the bottom quadrant of each section of the pipe. Bell holes shall be excavated to the necessary size at each joint or coupling to eliminate point bearing. Stones of 3 inches or greater in any dimension, or as recommended by the pipe manufacturer, whichever is smaller, shall be removed to avoid point bearing.

**D. Removal of Unstable Material**

1. Where unstable material is encountered in the bottom of the trench, such material shall be removed to the depth directed and replaced to the proper grade with select granular material as provided in paragraph BACKFILLING AND COMPACTION. When removal of unstable material is required due to the Contractor's fault or neglect in performing the work, the resulting material shall be excavated and replaced by the Contractor without additional cost to the Owner.

**E. Excavation for Appurtenances**

1. Excavation for manholes, catch-basins, inlets, or similar structures shall be sufficient to leave at least 12 inches clear between the outer structure surfaces and the face of the excavation or support members. Loose disintegrated rock and thin strata shall be removed. Removal of unstable material shall be as specified above. When concrete or masonry is to be placed in an excavated area, special care shall be taken not to disturb the bottom of the excavation. Excavation to the final grade level shall not be made until just before the concrete or masonry is to be placed.

**F. Stockpiles**

1. Stockpiles of satisfactory, unsatisfactory, and wasted materials shall be placed and graded as specified. Stockpiles shall be kept in a neat and well drained condition, giving due consideration to drainage at all times. The ground surface at stockpile locations shall be cleared, grubbed, and sealed by rubber-tired equipment, excavated satisfactory and unsatisfactory materials shall be separately stockpiled. Stockpiles of satisfactory materials shall be protected from contamination which may destroy the quality and fitness of the stockpiled material. If the Contractor fails to protect the stockpiles, and any material becomes unsatisfactory, such material shall be removed and replaced with satisfactory material from approved sources at no additional cost to the Owner. Locations of stockpiles of satisfactory materials shall be subject to prior approval of the Owner.

**3.2 BACKFILLING AND COMPACTION**

- A. Backfill material shall consist of satisfactory material, select granular material, or initial backfill material as required. Backfill shall be placed in layers not exceeding 6 inches loose thickness for compaction by hand operated machine compactors, and 8 inches loose thickness for other than hand operated machines, unless otherwise specified. Each layer shall be compacted to at least 95 percent maximum density for cohesionless soils and 95 percent maximum density for cohesive soils, unless otherwise specified.

**B. Trench Backfill**

1. Trenches shall be backfilled to the grade shown. The trench shall be backfilled to 2 feet above the top of pipe prior to performing the required pressure tests. The joints and couplings shall be left uncovered during the pressure test.

C. Replacement of Unstable Material

1. Unstable material removed from the bottom of the trench or excavation shall be replaced with select granular material placed in layers not exceeding 6 inches loose thickness.

D. Bedding and Initial Backfill

1. Initial backfill material shall be placed and compacted with approved tampers to a height of at least one foot above the utility pipe or conduit. The backfill shall be brought up evenly on both sides of the pipe for the full length of the pipe. Care shall be taken to ensure thorough compaction of the fill under the haunches of the pipe.

E. Backfill for Appurtenances

1. After the manhole, catch basin, inlet, or similar structure has been constructed, backfill shall be placed in such a manner that the structure will not be damaged by the shock of falling earth. The backfill material shall be deposited and compacted as specified for final backfill, and shall be brought up evenly on all sides of the structure to prevent eccentric loading and excessive stress.

### 3.3 SPECIAL REQUIREMENTS

Special requirements for both excavation and backfill relating to the specific utilities are as follows:

A. Water Lines

1. Trenches shall be of a depth to provide a minimum cover of 3 feet from the existing ground surface, or from the indicated finished grade, whichever is lower, to the top of the pipe.

B. Plastic Marking Tape and Detection Wire

1. Warning tapes and wires shall be installed directly above the pipe, at a depth of 18 inches below finished grade unless otherwise shown.

### 3.4 TESTING

Testing shall be the responsibility of the contractor and shall be performed at no additional cost to the owner.

A. Testing Facilities

1. Tests shall be performed by an approved commercial testing laboratory. No work requiring testing will be permitted until the facilities have been approved by the Owner.

B. Testing of Backfill Materials

1. Classification of backfill materials shall be determined in accordance with ASTM D 2487 and the moisture-density relations of soils shall be determined in accordance with ASTM D 1557. A minimum of one soil classification and one moisture-density relation test shall be performed on each different type of material used for bedding and backfill.

C. Field Density Tests

1. Tests shall be performed in sufficient numbers to ensure that the specified density is being obtained. A minimum of one field density test per lift of backfill for every 100 feet of installation shall be performed. One moisture density relationship shall be determined for every 1500 cubic yards of material used. Field in-place density shall be determined in accordance with ASTM D 1556. Copies of results shall be furnished to the Owner. Trenches improperly compacted shall be reopened to the depth directed, then refilled and compacted to the density specified at no additional cost to the Owner.

D. Displacement of Sewers

1. After other required tests have been performed and the trench backfill compacted to the finished grade surface, the pipe shall be inspected to determine whether significant displacement has occurred. This

inspection shall be conducted in the presence of the A/E. Pipe shall be inspected by shining a light or laser between manholes or manhole locations, and by the use of television cameras passed through the pipe. A digital or analog copy of the videotaping shall be submitted to the owner and A/E in addition to the accompanying log report. If, in the judgment of the A/E, the interior of the pipe shows poor alignment or any other defects that would cause improper functioning of the system, the defects shall be remedied as directed at no additional cost to the Owner.

END OF SECTION – 31 23 34

## Section 31 25 00 – EROSION AND SEDIMENTATION CONTROL

### PART 1 – GENERAL

#### 1.1 REFERENCES

- A. Manual for erosion and sediment control in Georgia.

### PART 2 – PRODUCTS

#### 2.1 CHEMICALS FOR DUST CONTROL

- A. Calcium Chloride, Anionic Asphalt Emulsion, Latex Emulsion or Resin-in-Water Emulsion may be used for dust control.

#### 2.2 SILT FENCE FABRIC

- A. Silt fence fabric shall be a woven fabric certified to meet FHWA's Task Force 25 minimum roll average per ASTM-D-4354. The geotextile fabric shall be a woven sheet of plastic yarn, of a long chain synthetic polymer composed of at least 85% by weight propylene, ethylene, amide, ester, or vinylidene chloride, and shall contain stabilizer and/or inhibitors added to the base plastic to make the filaments resistant to deterioration due to ultra-violet and/or heat exposure. The fabric should be finished so that the filaments will retain their relative position with respect to each other. The fabric shall be free of defects, rips, holes, or flaws.

- B. The fabric shall meet the following requirements

##### Woven Fabrics

|                       |                |
|-----------------------|----------------|
| Grab Strength         | 90 lbs.        |
| Mullen Burst Strength | 250 lbs.       |
| UV Resistance         | 90%            |
| Permittivity          | 15 gal/min/sf. |

- C. Product shall be equivalent to EXXON GTF-180 Fabric or AMOCO Woven Construction Fabric No. 1380.

- D. Silt fencing shall not be placed in waterways or areas of concentrated flow. Type "C" wire-reinforced silt fence shall be used where fill slopes exceed 3:1.

#### 2.3 GABIONS

- A. Gabions shall be constructed of heavy galvanized steel wire mesh with a zinc coating of triple hexagon weave. The mesh wire diameter for the galvanized gabions shall be 2.2 mm (.0866")  $\pm$  2-1/2%; the mesh edge wire shall be not less than 2.7 mm - 2-1/2%. The lacing wire for binding the netting units together shall be 2.2 mm (.0866")  $\pm$  2-1/2%.
- B. Geotextiles are recommended to be used behind all gabion structures and shall be specified in accordance with AASHTO M288-96 Section 7.5, "Permanent Erosion Control Requirements."

#### 2.4 HAY BALES

- A. Hay bales rectangular in shape shall be bound with wire or nylon to securely contain the material. Pine straw bales may be used in lieu of hay bales. Bales shall be placed in a single row, lengthwise, on the contour and embedded in the soil to a depth of four (4) inches. Bales must be securely anchored in place by stake or bars driven through the bales.

#### 2.5 PLASTIC FILTER FABRIC

- A. Plastic filter fabric shall be a pervious sheet of plastic yarn, of a long chain synthetic polymer composed of at least 85% by weight propylene, ethylene, amide, ester, or vinylidene chloride, and shall contain stabilizers and/or inhibitors added to the base plastic to make the filaments resistant to deterioration due to ultra-violet and/or heat exposure. The cloth should be finished so that the filaments will retain their relative position with respect to each other. The cloth shall be free of defects, rips, holes, or flaws. During shipment and storage, the filter fabric shall be wrapped in a protective material. The fabric shall meet the following requirements.

B. Woven Fabrics

|                                  |              |
|----------------------------------|--------------|
| Tensile Strength (any direction) | 200 lbs.     |
| Bursting Strength                | 400 psi      |
| Elongation Before Breaking       | 15%          |
| Permittivity                     | 4 gal/min/sf |

C. Product shall be equivalent to EXXON GTF-400E or AMOCO Woven Construction Fabric No. 2002.

D. Seams - Fabric may be sewn together with thread of a material having the same chemical requirements as the material forming the fabric or shall be bonded by cementing or by heat. The strength of the seams shall be equal to that of the unaged fabric. Fabrics to be used under Rip-Rap are allowed to be bonded or sewn together forming sections not less than six feet wide.

2.6 SHEET PILING

A. Sheet piling shall be treated timber (0.5 CCA), steel (minimum 3/8-inch thick), or other material accepted on a case by case basis by the Engineer for the site at which the piling is used.

2.7 STONE

A. Stone shall be hard quarry, granite or field stone and shall be of such quality that the stone will not disintegrate on exposure to water or weather. The stone size, type and weight shall be as shown in conjunction with the structure with which it is associated. The stone shall be accepted by the Engineer prior to delivery.

2.8 TREATED TIMBERS

A. Treated timbers (0.5 CCA) shall be a nominal 4" by 4" and of varying length to accommodate the size of the proposed structure.

2.9 RIP-RAP

A. Rip-rap shall be hard quarry or field stone, and shall be of such quality that they will not disintegrate on exposure to water and weather. The stone shall range in weight from a minimum of 25 pounds to a maximum of 150 pounds. At least 50 percent of the stone pieces shall weigh more than 60 pounds. The stone pieces shall have a minimum plane dimension of 12 inches. The stone analysis, source and other pertinent data shall be submitted for review by the Engineer prior to delivery. The filter fabric for permanent Rip-rap shall be Mirafi 140N or equivalent. Rip Rap shall not be placed on slopes steeper than 1.5 horizontal to 1.0 vertical.

**PART 3 – EXECUTION**

3.1 GENERAL

A. Every effort shall reasonably be employed by the Contractor to control erosion with the use of, but not limited to, terraces, grassing, and silt fencing during the project. All erosion and sedimentation control measures or facilities, whether temporary or permanent, shall be continuously maintained by the Contractor so as to be effective, or as ordered by the Owner.

3.2 BUFFER ZONE

A. Buffer zone is an undisturbed zone or "green belt" surrounding the site, bordering streams or environmentally sensitive areas. Contractors shall not trespass on or in these areas unless he has prior acceptance by the Owner. Trespass in these areas will not be permitted unless there is no alternative method to accomplish the task. Cost shall not come into consideration in the evaluation of this type of request.

### 3.3 CONSTRUCTION EXIT

- A. Construction exits shall be located at the exits of the project to remove mud from the tires of all vehicles leaving the site. The construction exit shall consist of a minimum of six (6) inch thick pad of washed stone meeting Section AASHTO M288-96, Section 7.4, Stabilization Requirements. The aggregate size shall be in accordance with National Stone Association R-2 (1 ½"-3 ½" diameter in size and of the necessary length to accomplish the task for which it is intended. The pad may require periodic top dressing with 2" of similar stone. Geotextiles are required and a Separation/ Stabilization fabric to keep the aggregate stone from becoming contaminated with subgrade soils. The geotextile shall be based on AASHTO M288-96 Specifications. The entrance area must be excavated to a depth of 3 inches and be cleaned of all vegetation and roots. Geotextile underliner must be placed the full length and width of the entrance.

### 3.4 DISTURBED AREA STABILIZATION

- A. Vegetative cover will be placed on completed areas. This vegetative plan will be carried out on road cut and fill slopes, shoulders, and other critical areas created by construction. Plant grass seed as soon as construction in an area is completed. Planting will be made to control erosion, to reduce damage from sediment and runoff to downstream areas and to improve the safety and beauty of the development area.
- B. Due to grading and construction, the areas to be treated are mainly subsoil and substrate. Fertility is low and the physical characteristics of the exposed material are unfavorable to all but the most hardy plants.
- C. Conventional Seeding Equipment - Grade, shape and smooth where needed to provide for safe equipment operation at seeding time and for maintenance purposes. The lime and fertilizer in dry form will be spread uniformly over the area immediately before seedbed preparation. A seedbed will be prepared by scarifying to a depth of 1 to 4 inches as determined on site. The seedbed must be well pulverized, smoothed and firmed. Seeding will be by either a cultipacker-seeder, drill, rotary seeder, mechanical seeder, hand seeder or hydro-seeding. Seed will be distributed uniformly over a freshly prepared seedbed and covered lightly. Within 24 hours after seeding, with exception to hydro-seeding, straw or hay mulch will be spread uniformly over the area, leaving about 25 percent of the ground surface exposed. Mulch will be spread with blower-type mulch equipment or by hand and anchored immediately after it is spread. A disk harrow with the disk set straight or a special packer disk may be used to press the mulch into the soil.
- D. The per acre application rates are as follows using conventional seeding equipment on slopes less than 3:1:

|  |                               |                       |
|--|-------------------------------|-----------------------|
| 1. <u>Soil Treatment</u>                       | <u>Application Rate/Acre</u>  |                       |
| Agricultural limestone                         | 4000 #/acre                   |                       |
| Fertilizer, 10-10-10<br>(with micro-nutrients) | 1500 #/acre                   |                       |
| Mulch, straw or hay                            | 4000 #/acre                   |                       |
| 2. <u>Seed Species</u>                         | <u>Application Rates/Acre</u> | <u>Planting Dates</u> |
| Hulled common bermuda grass                    | 10 #                          | 3/1 - 9/30            |
| Rye grass                                      | 50 #                          | 10/1 - 2/28           |
| Hay mulch for<br>Temporary cover               | 4000 #                        | N/A                   |

- E. Top-dressing: Apply when plants are 2 to 4 inches tall
- F. Fertilizer (Ammonium Nitrate 33.5%) at 300 #/acre
- G. If the project extends in to the second year, fertilizer shall be applied at the rate of 800 #/acre.

### 3.5 DUST CONTROL ON DISTURBED AREAS

- A. Dust raised from vehicular traffic will be controlled by wetting down the access road with water or by the use of a deliquescent chemical, such as calcium chloride, if the relative humidity is over 30%. Chemicals shall be applied in accordance with the manufacturer's recommendations. Calcium chloride, anionic asphalt emulsion, latex emulsion or resin-in-water emulsion may be used for dust control.



### 3.6 DOWNDRAIN STRUCTURE

- A. Downdrain structures shall be constructed where shown on the drawings and elsewhere as necessary to carry runoff down slopes to prevent the formation of rills or gullies. Downdrain structures shall be a paved chute, steel or plastic pipe, or sectional pipe at the discretion of the contractor. Outlets of downdrains shall outfall into stabilized areas only. Soil around the inlet shall be compacted to prevent the pipe from being washed out by seepage. Rock rip-rap or other suitable materials shall be placed at the outlet for stabilization.

### 3.7 GABIONS

- A. Gabions shall be of the size shown on the drawing and as dimensioned in the details on the plans. The gabions shall be laced together along the perimeter of all surfaces and filled with 4" to 8" diameter stone in 3 lifts, with two connecting wires placed between each lift. Care shall be taken to protect the vertical panels from being bent during filling.

### 3.8 SEDIMENT BARRIER

- A. Sediment barrier shall be constructed of hay bales (pine bales) anchored and embedded into the soil to prevent washout or water washing under the barrier. A minimum of two (2) re-bars, steel pickets or 2" x 2" stakes shall be used per bale and shall be long enough to extend through the bale and be driven into the ground a minimum of 1-1/2 feet. Where two (2) rows are called for, the bales shall be staggered. Bales shall be embedded in the soil to a depth of 4 inches.
- B. Bales shall be placed in a single row, lengthwise, on the contour and embedded in the soil to a depth of four (4) inches. Bales must be securely anchored in place by stakes or bars driven through the bales.

### 3.9 SILT FENCE

- A. Silt fence shall be placed at the approximate location shown on the plans and installed in accordance with the Georgia Erosion and Sediment Control Manual recommendations. Type "C" wire-reinforced silt fence shall be used where fill slopes exceeds 3:1. Silt fence shall not be placed in waterways or areas of concentrated flow.

### 3.10 STONE PLACEMENT

- A. The minimum thickness or depth of the stone layer shall be shown on the drawings or the detail with which the device is associated. When used with a plastic filter fabric, the stone placing shall begin in a trench at the bottom of the slope with the filter fabric wrapped in stone. The entire mass of stone shall be placed so as to be in conformance with the lines, grades, and thickness shown on the drawings.

### 3.11 RIP-RAP

- A. Rip-rap shall be placed in accordance with the notes on the drawings. Any rip rap that shall be permanent shall have an underlayment of filter fabric.

### 3.12 STORM DRAIN OUTLET PROTECTION

- A. Storm drain outlets shall be paved or have a rock or other energy dispersion device associated with it, as called for on the drawings. The length shall be a minimum of six (6) times the pipe diameter and placed on a 1% grade unless otherwise specified on the drawings.
- B. To prevent undermining of the rip-rap apron a separation geotextile shall be used beneath the entire length of apron. The geotextile shall be specified in accordance with AASHTO M288-96, Section 7.5, and "Permanent Erosion Control Requirements".

### 3.13 INLET SEDIMENT TRAP

- A. The Contractor shall erect silt fence or hay bales at and around inlets under construction. Existing inlets in paved areas shall be protected by the use of concrete blocks wrapped with filter fabric as per detail. Sufficient quantities of selected devices shall be utilized to completely protect the entire length of the inlet. Contractor may alternately construct a temporary baffle in the inlet on the effluent pipe per detail providing that accumulated sediment be removed after each erosion event.

#### 3.14 SITE RESTORATION

- A. The site shall be restored in a manner suitable to accommodate the erosion control device or system of devices for the use which they are intended.

#### 3.15 TOPSOIL

- A. If topsoil is stripped and stored on site to be used after construction, the stockpile side slopes shall be 2:1 or flatter. Stockpiled topsoil shall not obstruct natural drainage. Topsoil replacement shall be spread at minimum of 4" thickness.

#### 3.16 SITE SAFETY

- A. The Contractor shall incorporate and utilize all necessary fencing and other safety barriers as necessary, or directed by Owner, to prevent trespassing into potentially dangerous areas of the erosion control area.

END OF SECTION -- 31 25 00

## Section 32 31 13 - CHAIN LINK FENCES AND GATES

### PART 1 – GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. 6'-0" high, galvanized steel chain link fence & gates.

#### 1.2 SUBMITTALS

##### A. Submit "Letter Of Conformance" in accordance with section 01330 (01 33 00) and with the following supporting data:

1. Product data in the form of manufacturer's technical data, specifications, and installation instructions for fence and gate posts, fabric, gates, gate operators, and accessories.
2. Shop drawings showing location of fence, gates, each post, and details of post installation, extension arms, gate swing, hardware, and accessories.
3. Wiring diagrams from manufacturer for electrically operated gates.
4. If pvc coated fence, samples for initial selection of pvc color in form of manufacturer's color charts or 6-inch lengths of actual fabric wire showing colors available.

#### 1.3 QUALITY ASSURANCE

##### A. Manufacturer: company specializing in commercial-quality chain link fence.

##### B. Installer qualifications: engage an experienced installer who has at least three years' experience and has completed at least five chain link fence projects with same material and of similar scope to that indicated for this project with a successful construction record of in-service performance.

##### C. Single-source responsibility: obtain chain link fences and gates, including accessories, fittings, and fastenings, from a single source.

##### D. Installation: ansi/astm f567

#### 1.4 PROJECT CONDITIONS

##### A. Field measurements: verify layout information for fences and gates shown on the drawings in relation to the property survey and existing structures. Verify dimensions by field measurements.

### PART 2 – PRODUCTS

#### 2.1 MANUFACTURERS

##### A. Approved manufacturers:

1. American fence corp. (800-877-8823)
2. Anchor fence, inc. (800-229-5615)
3. Allied fence manufacturing co. (800-525-5433)

#### 2.2 FABRIC

##### A. Steel chain-link fence fabric: No. 9 ga. (0.148" + 0.005") size steel wires, 2" mesh, with top selvages knuckled for fabric 60" high and under, and both top and bottom selvages twisted and barbed for fabric over 60" high.

\*Furnish one-piece fabric widths for fencing up to 12" high.

\*Fabric Finish: Galvanized, ASTM A 392, Class II, with not less than 2.0 oz. zinc per sq. ft. of surface.

#### 2.3 FRAMING

##### A. Strength requirements for posts and rails conforming to astm f669.

- B. Pipe shall be straight, true to section, material, and sizes specified, and shall conform to the following weights per foot:

| NPS IN INCHES | ACTUAL OD IN INCHES | WEIGHT TYPE I STEEL (16 FT) |
|---------------|---------------------|-----------------------------|
| 1             | 1.315               | 1.618                       |
| 1-1/4         | 1.660               | 2.27                        |
| 1-1/2         | 1.900               | 2.72                        |
| 2             | 2.375               | 3.65                        |
| 2-1/2         | 2.875               | 5.79                        |
| 3             | 3.500               | 7.58                        |
| 3-1/2         | 4.000               | 9.11                        |
| 4             | 4.500               | 10.79                       |
| 6             | 6.625               | 18.97                       |
| 8             | 8.625               | 28.55                       |

- C. Steel framework, general: Galvanized steel, ASTM A 120 or A 123, with not less than 1.8 oz. zinc per sq. ft. of surface.

- D. End, corner, and pull posts for following fabric heights:

- Up to 6' fabric height, 2.375" OD steel pipe, 3.65 lbs. per lin. ft., 3.5" x 3.5" roll-formed sections, 4.85 lbs. per lin. ft.
- Over 6' fabric height, 2.875" OD steel pipe, 5.79 lbs. per lin. ft., or 3.5" x 3.5" roll-formed sections, 4.85 lbs. per lin. ft.

- E. Line or intermediate posts for following fabric heights:

- Over 6 feet: 2.375" OD steel pipe, 3.65 lbs. per lin. ft. or 2.25" x 1.875" H-sections, 2.64 lbs. per lin. ft.

- F. Gate posts: furnish posts for supporting single gate leaf, or one leaf of a double gate installation, for nominal gate widths as follows:

- Up to 6 feet: 2.875-inch od type i steel pipe, 2.004 lbs. per lin. Ft
- Over 6 feet: 4.00-inch od type i steel pipe, 3.151 lbs. per lin. Ft.

- G. Top rail: manufacturer's longest lengths, with expansion-type couplings, approximately 6 inches long, for joining. Provide rail ends or other means for attaching top rail securely to each gate corner, pull, and end post.

- 1.66" OD pipe, 2.27 lbs. per ft. or 1.625" x 1.25" roll-formed sections, 1.35 lbs. per ft.

- H. Fittings and accessories:

- Material: Galvanized, ASTM A 153
- Post and line caps: provide weathertight closure cap for each post. Provide line post caps with loop to receive tension wire or top rail.
- Post brace assembly: Manufacturer's standard adjustable brace at end and gate posts and at both sides of corner and pull posts, with horizontal brace located at mid-height of fabric. Use same material as top rail for brace, and truss to line posts with 0.375" diameter rod and adjustable tightener.
- Tension or stretcher bars: hot-dip galvanized steel with minimum length 2 inches less than full height of fabric, minimum cross-section of 3/16 inch by 3/4 inch and minimum 1.2 oz. Zinc coating per square foot of surface area. Provide one bar for each gate and end post, and two for each corner and pull post, except where fabric is integrally woven into post.
- Tension and brace bands: minimum 3/4-inch-wide hot-dip galvanized steel with minimum 1.2 oz. Zinc coating per sq. Ft. Of surface area.
  - Tension and brace bands: minimum 12-gauge (0.105 inch) thick.

6. Tie wires: 9-gauge galvanized steel with a minimum of 0.90 oz. Per square foot of zinc coating of surface area in accordance with astm a641, class 3.
7. Tension wire: 7-gauge metallic-coated steel marcelled tension wire conforming to astm a824 with finish to match fabric.
  - a. Type ii zinc-coated in following class:
    - 1) Class 2, with a minimum coating weight of 1.20 oz. Per square foot of uncoated wire surface.

## 2.4 CONCRETE

- A. General: comply with aci 301 for cast-in-place concrete
- B. Concrete: provide concrete consisting of portland cement, astm c150, aggregates complying with astm c33, and potable water. Mix materials to obtain concrete with a minimum 28-day compressive strength of 3000 psi. Use at least 4 sacks of cement per cu. Yd., 1-inch maximum size aggregate, maximum 3-inch slump, and 2 to 4 percent entrained air.

## 2.5 GATES

- A. Fabrication: fabricate perimeter frames of gates from metal and finish to match fence framework. Assemble gate frames by welding. Provide horizontal and vertical members to ensure proper gate operation and attachment of fabric, hardware, and accessories. Space frame members maximum of 8 feet apart unless otherwise indicated.
  1. Provide same fabric as for fence unless otherwise indicated. Install fabric with tension bars and bands at vertical edges and at top and bottom edges.
  2. Install diagonal cross-bracing consisting of 3/8-inch-diameter adjustable-length truss rods on gates to ensure frame rigidity without sag or twist.
- B. Swing gates: comply with astm f900
  1. Steel:
    - a. Up to 6 feet high and 8 feet wide: fabricate perimeter frames of minimum 1.660-inch od type i steel pipe.
    - b. Over 6 feet high and 8 feet wide: fabricate perimeter frames of minimum 1.90-inch od type i steel pipe.
- C. Gate hardware: provide hardware and accessories for each gate, galvanized per astm a153, and in accordance with the following:
  1. Hinges: size and material to suit gate size, non-lift-off type, offset to permit 180-deg. Gate opening. Provide 1-1/2 pair of hinges for each leaf over 6-foot nominal height.
  2. Latch: forked type or plunger-bar type to permit operation from either side of gate, with padlock eye as integral part of latch.

## **PART 3 – EXECUTION**

### 3.1 INSTALLATION

- A. Do not begin installation and erection before final grading is completed unless otherwise permitted. Install framework, fabric, and accessories in accordance with astm f567, and more stringent requirements specified.
- B. Excavation: drill holes for posts to diameters and spacings indicated, in firm, undisturbed or compacted soil.
  1. If not indicated on drawings, excavate holes for each post to minimum diameter recommended by fence manufacturer, but not less than four times largest cross-section of post.
  2. Unless otherwise indicated, excavate hole depths approximately three inches lower than post bottom, with bottom of posts set not less than 42 inches below finish grade surface.
- C. Setting posts: center and align posts in holes 3 inches above bottom of excavation. Space maximum 10 feet o.c., unless otherwise indicated.
  1. Protect portion of posts above ground from concrete splatter. Place concrete around posts and vibrate or tamp for consolidation. Check each post for vertical and top alignment, and hold in position during placement and finishing operations.
    - a. Unless otherwise indicated, extend concrete footings 2 inches above grade and trowel to a crown to shed water.
    - b. Use of mechanical devices to set line posts per astm f567 is not permitted.

- D. Top rails: run rail continuously through line post caps, bending to radius for curved runs and at other posts terminating into rail end attached to posts or post caps fabricated to receive rail. Provide expansion couplings as recommended by fencing manufacturer.
- E. Center rails: provide center rails at corner, gates posts and as required by manufacturers. Install in one piece between posts and flush with post on fabric side, using rail ends and special offset fittings where necessary.
- F. Brace assemblies: install braces so posts are plumb when diagonal rod is under proper tension.
- G. Bottom tension wire: install tension wire within 6 inches of bottom of fabric before stretching fabric and tie to each post with not less than same gauge and type of wire. Pull wire taut, without sags. Fasten fabric to tension wire with 11-gauge hog rings of same material and finish as fabric wire, spaced maximum 24 inches o.c.
- H. Fabric: leave approximately 2 inches between finish grade and bottom salvage unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Install fabric on security side of fence, and anchor to framework so that fabric remains in tension after pulling force is released.
- I. Stretcher bars: thread through or clamp to fabric 4 inches o.c. and secure to posts with metal bands spaced 15" o.c.
- J. Gates: install gates plumb, level, and secure for full opening without interference. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.
- K. Tie wires: use u-shaped wire, conforming to diameter of pipe to which attached, clasping pipe and fabric firmly with end twisted at least two full turns. Bend ends of wire to minimize hazard to persons or clothing.
  - 1. Tie fabric to line posts with wire ties spaced 12" o.c. tie fabric to rails and braces with wire ties spaced 24" o.c. tie fabric to tension wires with hog rings spaced 24" o.c.
- L. Fasteners: install nuts for tension bands and hardware bolts on side of fence opposite fabric side. Peen ends of bolts or score threads to prevent removal of nuts.

**End of section – 32 31 13**

## Section 32 92 00 - TURF AND GRASSES

### PART 1 - PRODUCTS

#### 1.1 MATERIALS GENERAL

- A. The Contractor shall, at the time of delivery, furnish the Engineer invoices of all materials, received in order that the application rate of materials may be determined.

#### 1.2 FERTILIZER

- A. 10-10-10, commercial fertilizer of accepted type, conforming to state fertilizer laws.

#### 1.3 LIME

- A. Lime shall be agricultural grade, ground limestone and shall conform to the requirements of the Georgia Department of Agriculture. Lime to be added based on soil tests.

#### 1.4 SEED

- A. All seed shall conform to all State Laws and to all requirements and regulations of the Georgia Department of Agriculture.
- B. The several varieties of seed shall be individually packaged or bagged, and tagged to show name of seed, net weight, origin, germination, lot number, and other information required by the Department of Agriculture.
- C. The Engineer reserves the right to test, reject, or accept all seed before seeding.
- D. Mixtures of different types of seed called for in the seeding schedule shall be weighted and mixed in the proper proportions at the site of the work in the presence of the Engineer.

#### 1.5 SEEDING SCHEDULE

- A. Hulled Bermuda Seeds are to be used at a rate of 40 pounds per acre, and at a depth of 1/4 to 1/8 inch. Pure line seed to be 82% by weight, with a maximum weed seed of 0.50%.
- B. In shaded areas, or other areas as directed by the Owner or Engineer, the Contractor shall use a mixture of hulled Bermuda seed at a rate of 25 pounds per acre and carpet seed at a rate of 30 pounds per acre.
- C. Temporary grassing shall consist of annual rye grass seed at a rate of 75 pounds per acre.
- D. In areas where existing grasses are to be matched, the Contractor shall sow the seed at the rate recommended by the seed distributor.

#### 1.6 STRAW MULCH

- A. Straw mulch material shall consist of straw or hay. Straw shall be stalks of wheat, rye, barley, oats, or other accepted straw. Hay shall consist of timothy, peavine, alfalfa, coastal bermuda or other grasses from accepted sources. These materials shall be reasonably dry and shall be reasonably free from mature seed-bearing stalks, roots, or bulbets or Johnson Grass, Nutgrass, Sandbur, Wild Garlic, Wild Onion, Wild Mustard, Crotonaria, Pigweed, Witchweed and Coclebur. The Contractor shall also comply with all State and Federal domestic plant quarantine regulations.

#### 1.7 EXCELSIOR MULCH

- A. Excelsior mulch shall consist of wood fibers cut from sound, green timber. The average length of the fibers shall be 4 to 6 inches. The cut shall be made in such a manner as to provide maximum strength of fiber, but at a slight angle to the natural grain of the wood so as to cause splintering of the fibers when weathering in order to provide adherence to each other and to the soil.

## 1.8 WOOD CELLULOSE FIBER MULCH

- A. Wood cellulose fiber mulch shall be made from wood chips particles manufactured particularly for discharging uniformly on the ground surface when dispersed by a hydraulic water sprayer. It shall remain in uniform suspension in water under agitation and blend with grass seed and fertilizer to form a homogenous slurry. The mulch fibers shall intertwine physically to form a strong moisture holding mat on the ground surface and allow rainfall to percolate the underlying soil. The mulch shall be heat processed so as to contain no germination or growth-inhibiting factors. It shall be dyed (non-toxic) an appropriate color to facilitate metering of material.
- B. Suppliers shall be prepared to certify that laboratory and field testing of their project has been accomplished, and that it meets all of the foregoing requirements based upon such testing.
- C. Weight specifications for this material from suppliers and for all applications shall refer only to air dry weight of fiber material. Absolute air dry weight is based on the normal weight standard of the Technical Association of the Pulp and Paper Industry for wood cellulose and is considered equivalent to 10% moisture. Each package of the cellulose fiber shall be marked by the manufacturer to show the air dry weight content.

## 1.9 SOD

- A. Sod shall be densely rooted, good quality centipede grass, free from noxious weeds. The sod shall be obtained from areas where the soil is reasonably fertile. The sod shall be raked free of all debris and the grass mowed to two inches before cutting. The sod shall contain practically all of the dense root system and not be less than one (1) inch thick. Sod shall be cut in uniform strips not less than twelve (12) inches in width and not less than twenty-four (24) inches in length.

## 1.10 PRODUCT REVIEW

- A. The Contractor shall provide the Engineer with a complete description of all products before ordering. The Engineer will review all products before they are ordered.

## **PART 2 - EXECUTION**

### 2.1 STAND OF GRASS

- A. Before acceptance of the seeding performed for the establishment of permanent vegetation, the Contractor will be required to produce a satisfactory stand of perennial grass whose root system shall be developed sufficiently to survive dry periods and the winter weather and be capable of re-establishment in the spring.
- B. Before acceptance of the seeding performed for the establishment of temporary vegetation, the Contractor will be required to produce a stand of grass sufficient to control erosion for a given area and length of time before the next phase of construction or the establishment of permanent vegetation is to commence.

### 2.2 SEEDING DATES AND RATES OF APPLICATION

- A. Seeding shall be performed during the periods and at the rates specified in the seeding schedules. Seeding work may, at the discretion of the Contractor, be performed throughout the year using the schedule prescribed for the given period. Seeding work shall not be conducted when the ground is frozen or excessively wet. The Contractor will be required to produce a satisfactory stand of grass regardless of the period of the year the work is performed.

### 2.3 PREPARATION

- A. The areas to be seeded or sodded shall be made smooth and uniform and shall conform with the finished grade and cross section shown on the plans or as otherwise designated. Minor shaping and smoothing of uneven and rough areas outside the graded section shall be performed as directed by the Engineer in order to provide for more effective erosion control and for ease of subsequent mowing operations.
- B. The areas to be grassed, if not loose, shall be loosened to a minimum depth of 3 inches before agricultural lime, fertilizer, seed or sod is applied. The areas to be seeded shall be cleared of stones larger than 2-1/2-inches, in any dimension, roots, and other debris.



## 2.4 APPLYING LIME AND FERTILIZER

- A. Following advance preparation and placing selected material for shoulders and slopes when called for in the contract, lime if called for based on soil tests and fertilizer shall be spread uniformly over the designated areas and shall be thoroughly mixed with the soil to a depth of approximately 2 inches. Fertilizer shall be applied at the rate of 500 pounds per acre for the initial application, unless otherwise directed by the Engineer. Lime shall be applied at the rate determined by the soil test. Unless otherwise provided, lime will not be applied for temporary seeding. In all cases where practicable, acceptable mechanical spreaders shall be used for spreading fertilizer. On steep slopes subject to slides and inaccessible to power equipment, the slopes shall be adequately scarified. Fertilizer may be applied on steep slopes by hydraulic methods as a mixture of fertilizer and seed. When fertilizer is applied in combination seed and fertilizer drills, no further incorporation will be necessary. The fertilizer and seed shall be applied together when the method of seeding (Wood Cellulose Fiber Mulch) is used. Any stones larger than 2-1/2 inches in any dimension, larger clods, roots, or other debris brought to the surface shall be removed.

## 2.5 SEEDING

- A. Seed shall be sown within 24 hours following the application of fertilizer and lime and preparation of the seedbed as specified in Section 2.04. Seed shall be uniformly sown at the rate specified by the use of acceptable mechanical seed drills. Rotary hand seeders, power sprayers or other satisfactory equipment may be used on steep slopes or on other areas that are inaccessible to seed drills.
- B. The seeds shall be covered and lightly compacted by means of a cultipacker or light roller if the drill does not perform this operation. On slopes inaccessible to compaction equipment, the seed shall be covered by dragging spiked chains, by light harrowing or by other satisfactory methods.
- C. Apply water with fine spray immediately after each area has been sown.
- D. Do not sow seed when ground is too dry, during windy periods or immediately following a rain.
- E. All seeded areas seeded with permanent grasses shall be uniformly mulched in a continuous blanket immediately following seeding and compacting operations, using at least 2 tons of straw per acre.

## 2.6 SEEDING (EXCELSIOR MULCH)

- A. Seed shall be sown as specified in Section 2.05. Within 24 hours after the covering of seed, excelsior mulch shall be uniformly applied at the rate of 2 tons per acre. The mulch may be applied hydraulically or by other acceptable methods. Should the mulch be placed in a dry condition, it shall be thoroughly wetted immediately after placing. The Engineer may require light rolling of the mulch to form a tight mat.

## 2.7 SEEDING (WOOD CELLULOSE FIBER MULCH)

- A. After the lime has been applied and ground prepared as specified in Section 2.04, wood cellulose fiber mulch shall be applied at the rate of 1,500 pounds per acre in a mixture of seed and fertilizer. Hydraulic equipment shall be used for the application of fertilizer, seed and slurry of the prepared wood pulp. This equipment shall have a built-in agitation system with an operating capacity sufficient to agitate, suspend, and homogeneously mix a slurry of the specified amount of fiber, fertilizer, seed and water. The slurry distribution lines shall be large enough to prevent stoppage. The discharge line shall be equipped with a set of hydraulic spray nozzles which will provide an even distribution of the slurry on the various areas to be seeded. The slurry tank shall have a minimum capacity of 1,000 gallons.
- B. The seed, fertilizer, wood pulp mulch, and water shall all be combined into the slurry tank for distribution of all ingredients in one operation by the hydraulic seeding method specified herein. The materials shall be combined in a manner recommended by the manufacturer. The slurry mixture shall be so regulated that the amounts and rates of application shall result in a uniform application of all materials at rates not less than the amount specified. Using the color of the wood pulp as a guide, the equipment operator shall spray the prepared seedbed with a uniform visible coat. The slurry shall be applied in a sweeping motion, in an arched stream so as to fall like rain, allowing the wood fibers to build upon each other until an even coat is achieved.

## 2.8 SODDING

- A. Sod shall be placed between March 1st and December 1st.
- B. Sod shall be placed within 48 hours of cutting.
- C. Sod shall be moist when laid and placed on moist ground. The sod shall be carefully placed by hand, beginning at the toe of slopes and working upwards. The length of the strips shall be at right angles to the flow of surface water. All joints shall be tightly butted and end joints shall be staggered at least 12 inches. The sod shall be immediately pressed firmly into the ground by tamping or rolling. Fill all joints between strips with fine screened soil. Sod on slopes shall be pegged with sod pegs to prevent movement. The sod shall be watered, mowed, weeded, repaired or otherwise maintained, to insure the establishment of a uniform healthy stand of grass until acceptance.

## 2.9 MAINTENANCE

- A. Maintain seeded and sodded surfaces until final acceptance.
- B. Maintenance shall consist of providing protection against traffic, watering to ensure uniform seed germination and to keep surface of soil damp, and repairing any areas damaged as a result of construction operations or erosion.

## 2.10 ACCEPTANCE

- A. Before release of the performance bond on the seeding and sodding performed for the establishment of permanent vegetation, the Contractor will be required to produce a satisfactory stand of perennial grass whose root system shall be developed sufficiently to survive dry periods and the winter weather and be capable of reestablishment in the spring.

END OF SECTION 32 92 00

## **Section 33 40 00 STORM DRAINAGE**

### **PART 1 - PRODUCTS**

#### **1.01 PIPE:**

- A. Concrete Pipe - Shall be reinforced Class III and shall conform to ASTM Specification C-76.
  - 1. Joints - Shall be water tight flexible rubber gasket and shall meet ASTM Specification C-443 and AASHTO M-198.
  - 2. Filter Fabric - Mirafi 140N or equivalent.
- B. Plastic Pipe - To be used for subgrade drainage shall be rigid heavy duty corrugated polyethylene perforated pipe manufactured by Advance Drainage Systems (ADS), or accepted equivalent, and shall conform to AASHTO M 252. The use of coiled tubing is not permitted and will be rejected.

#### **1.02 DRAINAGE STRUCTURES:**

- A. Details - See plans.
- B. Concrete - Reinforced and non-reinforced.
  - 1. Shall have a compressive strength of 3,000 PSI in 28 days. Concrete shall be ready mixed conforming to ASTM C-94.
  - 2. Reinforcing steel shall conform to ASTM A-615, Grade 60. Mesh reinforcing shall conform to ASTM A-185. Reinforcing shall be covered by a minimum 1" of concrete for covers and 1-1/2" for walls and flooring and 3" where concrete is deposited directly against the ground.
  - 3. Expansion joint filler materials shall conform to ASTM Specification D-1751, to AASHTO M-90 or shall be resin impregnated fiberboard conforming to the physical requirements of ASTM Specification D-1752.
- C. Mortar:
  - 1. Mortar used at connections of pipe and drainage structures shall be composed of one part by volume of portland cement and two parts of sand. The portland cement shall conform to ASTM C-150, Type I or II. The sand shall conform to AASHTO Standard M-45 and shall be of an accepted gradation. Hydrated lime may be added to the mixture of sand and cement in an amount equal to 25% of the volume of cement used. Hydrated lime shall conform to ASTM C-141, Type A. The quantity of water in the mixture shall be sufficient to produce a workable mortar, but shall in no case exceed 7 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 from the time the ingredients are mixed with water.
- D. Brick Masonry - Brick shall conform to ASTM Specification C-62, Grade SW or C-55, Grade P-I or P-II. 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 the amount not more than 25% of the volume of cement. The joints shall be completely filled and shall be smooth and free from surplus mortar on the inside of the structure. Brick structures shall be plastered with 1/2-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, and for round structures, brick shall be laid radially with every sixth course a stretcher course.

E. Precast - Shall be constructed in accordance with ASTM C-478 and conform to the details on the project drawings.

1. Joints - Shall be tongue and groove sealed with flexible gaskets or mastic sealant. Gaskets shall be O-Ring or Type A or B "Tylox" conforming to A.S.T.M. C-443 and mastic shall be "Ram-nek", or equivalent, with primer. The primer shall be applied to all contact surfaces of the manhole joint at the factory in accordance with the manufacturer's instructions.
2. Steps - Shall be aluminum alloy equivalent to Neenah R-1982-W or polypropylene equivalent to M.A. Industries, Type PS-1 or PS-1-PF. The steps shall be installed at the manhole factory and in accordance with the recommendations of the step manufacturer. Manholes will not be acceptable if steps are not installed accordingly, and properly aligned vertically.
3. Leaks - No leaks in the manhole will be acceptable. All repairs made from inside the manhole shall be made with mortar composed of one part portland cement and two parts clean sand; the mixing liquid shall be straight bonding agent equivalent to "Acryl 60".

F. Frames, Covers & Grates shall conform to the details shown on the project drawings. Grates in pavement and in other flush-mounted type surfaces shall be of a "bicycle-safe" configuration consisting of 45 degrees diagonal bars or slotted grates with a maximum clear opening of 1" and a maximum length of 4". In any case, the long dimension of the openings shall be located transverse to the direction of traffic.

#### 1.03 STONE BACKFILL:

A. Shall be graded crushed granite with the following gradation:

| <u>Square Opening Size</u> | <u>Percent Passing by Weight</u> |
|----------------------------|----------------------------------|
| 1"                         | 100%                             |
| 3/4"                       | 90% to 100%                      |
| 3/8"                       | 0% to 65%                        |
| No. 4                      | 0% to 25%                        |
| No. 100                    | 0% to 10%                        |

#### 1.04 SAND BACKFILL:

A. Shall be free from clay and organic material. Not more than 10% shall pass the No. 100 sieve.

#### 1.05 BORROW:

A. Where it is determined by the Engineer that sufficient suitable material is not available from the site to satisfactorily backfill the pipe to at least 2 feet above the top of the pipe, the Contractor shall furnish suitable sandy borrow material to accomplish the requirements. The material shall have not more than

60% passing the No. 100 sieve, nor more than 20% passing the No. 200 sieve.

## **PART 2 - EXECUTION & TESTING**

### **2.01 LOCATION AND GRADE:**

- A. The line and grade of the sewer and ditches and the position of all manholes and other structures are shown on the drawings. The grade line as given on the profile or mentioned in these specifications means the invert or bottom of the inside of the pipe or bottom of ditch. The Contractor shall be responsible for the proper locations and grade of the sewers.

### **2.02 EXCAVATION FOR PIPE:**

- A. Excavated material shall be piled a sufficient distance from the trench banks to avoid overloading to prevent slides or cave-ins.
- B. Remove from site all material not required or suitable for backfill.
- C. Grade as necessary to prevent water from flowing into excavations.
- D. Remove all water accumulating in the excavation from surface flow, seepage or otherwise, by pumping or other accepted method.
- E. Sheet piling, bracing or shoring as necessary for the protection of the work and safety of personnel.

### **2.03 TRENCHING FOR PIPE:**

- A. Trenching for Pipe - The width of trenches at any point below the top of the pipe shall not be greater than the outside diameter of the pipe, plus 2'-0" for pipes measuring through 30-inches, and 3'-0" for pipes greater than 30-inches, to permit satisfactory jointing and thorough tamping of the bedding material under and around the pipes. Sheet piling and bracing where required shall be placed within the trench width as specified. Care shall be taken not to over-excavate. Where trench widths are exceeded, redesign with a resultant increase in cost of stronger pipe or special installation procedures shall be necessary. Cost of this re-design and increased cost of pipe or installation shall be borne by the Contractor without additional cost to the Owner.
- B. Removal of Unstable Material - Where wet or otherwise unstable soil, incapable of supporting the pipe, as determined by the Owner, is encountered in the bottom of the trench, such material shall be removed to the depth required and replaced to the proper grade with select material, compacted as provided in the paragraph "BACKFILLING PIPE", hereinafter.

### **2.04 BRACING AND SHEETING:**

- A. The sides of all trenches shall be securely held by stay bracing, or by skeleton or solid sheet piling and bracing, as required by the soil conditions encountered, to protect the adjoining property and for safety. Where shown on the drawings or where directed by the Owner, the Contractor must install solid sheet piling to protect adjacent property and utilities. The sheet piling shall be steel or timber and the Contractor shall submit design data, including the section modules of the members and the arrangement for bracing at various depths, to the Engineer for review before installing the sheet piling. It

shall penetrate at least 3 feet below the pipe invert. Sheet piling shall be removed in units when the backfilling has reached the elevation necessary to protect the pipe, adjoining property and utilities.

When sheet piling or shoring above the elevation cannot be safely removed, it shall be left in place. Timber left in place shall be cut off at least 2 feet below the surface. No separate payment shall be made for bracing and sheet piling except where shown on the drawings or authorized by the Owner.

## **2.05**

### **BEDDING:**

- A. The bedding surface for the pipe shall provide a firm foundation of uniform density throughout the entire length of the pipe. The trench bottom shall be dewatered before laying pipe by the use of well points. Where the nature of the soil is such that well points will not remove the water, the Contractor shall construct sumps and use sump pumps to remove all water from the bedding surface. The pipe shall be carefully bedded in a soil foundation that has been accurately shaped and rounded to conform to the lowest one-fourth (1/4) of the outside portion of circular pipe, or to the lower curved portion of arch pipe for the entire length of the pipe. When necessary, the bedding shall be tamped to compact it to 98% of optimum density. Bell holes and depressions for joints shall be only of such length, depth and width as required for properly making the particular type joint.
- B. Stone Backfill - Where, in the opinion of the Engineer, the subgrade of the pipe trench is unsuitable material, the Contractor shall remove the unsuitable material six inches (6") deep and furnish and place stone backfill in the trench to stabilize the subgrade. The stone shall be 3/4-inch graded but variations in the gradation will be permitted upon acceptance by the Engineer. 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. Pipe shall be carefully bedded in the stone as specified above.
- C. Sand Backfill - Where in the opinion of the Engineer, the character of the soil is such that the material even though dewatered is unsuitable for pipe bedding, an additional foot of excavation shall be made and replaced with clean sand furnished by the Contractor.

## **2.06**

### **PLACING PIPE:**

- A. 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. Diversion of drainage or dewatering of trenches during construction shall be provided as necessary. All pipe in place shall have been checked before backfilling. When storm drain pipe terminates in a new ditch, the headwall or end section together with ditch pavement, if specified, shall be constructed immediately as called for on the plans. Ditch slopes and disturbed earth areas shall be grassed and mulched as required. The Contractor will be responsible for maintaining these newly constructed ditches and take immediate action subject to acceptance to keep erosion of the ditch bottom and slopes to a minimum during the life of the contract. No additional compensation will be given to the Contractor for the required diversion of drainage and/or dewatering of trenches. Grassing of the completed earth surface of the trench backfill shall conform to the technical specification for Grassing.
- B. Concrete Pipe - Laying shall proceed upgrade with the spigot ends of bell and spigot pipe and the tongue ends of tongue and groove pipe pointing in the direction of the flow.

**2.07****JOINTS IN PIPES:**

- A. Concrete Pipe - Flexible watertight joint shall be made with rubber-type gaskets for concrete pipe. The design of joints and the physical requirements for rubber-type gaskets shall conform to ASTM Specification C-443 or AASHTO Standard M-198. Gaskets and jointing materials shall have not more than one splice, except that two splices of the rubber gasket type will be permitted if the nominal diameter of the gasket exceeds 54-inches.
  - 1. Installation of Filter Fabric at Joint - After each joint is joined together, the Contractor shall place two layers of filter fabric around the joint a minimum width of four feet, centered on the joint.

**2.08****BACKFILLING PIPE:**

- A. After the bedding has been prepared and the pipe installed, select material from excavation or borrow, at a moisture content that will facilitate compaction, shall be placed along both sides of the pipe in layers not exceeding six-inches (6") in compacted depth. The backfill shall be brought up evenly on both sides of the pipe for the full length of the pipe. Care shall be taken to insure thorough compaction of the fill under the haunches of the pipe. Each layer shall be thoroughly compacted with mechanical tampers or rammers. This method of filling and compaction shall continue until the fill has reached an elevation of at least 12-inches above the top of the pipe. The remainder of the trench shall be backfilled and compacted by spreading and rolling or compacted by mechanical tampers or rammers in layers not to exceed 8-inches. Soil density relations tests and moisture density relations tests may be performed by a testing firm or laboratory and shall be taken as directed in conformance with the compaction requirements specified in subparagraph "COMPACTION" hereinafter. Deficiencies shall be corrected by the Contractor without additional cost to the Owner. Where it is necessary in the opinion of the Owner, any sheeting and/or portions of bracing used shall be left in place. Untreated sheeting shall not be left in place beneath structures or pavements.
- B. For pipe placed in fill sections, the backfill material and the placement and compaction procedures shall be as specified above and in subparagraph "COMPACTION" hereinafter. The fill material shall be uniformly spread in layers longitudinal on both sides of the pipe, not exceeding six inches (6") in compacted depth, and shall be compacted by rolling parallel with pipe or by mechanical tamping or ramming. Prior to commencing normal filling operations, the crown width of the fill at a height of 12-inches above the top of the pipe shall extend a distance of not less than twice the outside diameter on each side of the pipe or 12 feet, whichever is less. After the backfill has reached at least 12-inches above the top of the pipe, the remainder of the fill shall be placed and thoroughly compacted in layers not exceeding 8-inches.
- C. In compacting by rolling or operating heavy equipment parallel with the pipe, displacement of or injury to the pipe shall be avoided. Movement of construction machinery over a culvert at any stage of the construction shall be at the Contractor's risk. Any pipe damaged thereby shall be repaired or replaced at the expense of the Contractor.

**2.09****COMPACTION:**

- A. Soil and compaction tests shall be made by a testing laboratory accepted by the Owner and shall be made at the Owner's direction and expense. Failed tests shall be rescheduled at the Owner's direction and retesting shall be paid for by the Contractor. Laboratory tests of the soil shall be made in accordance with AASHTO Method T-99. In-place density tests shall be made in accordance with AASHTO Method T-191 or T-238. Results of the tests shall be furnished to the Owner by the testing laboratory.

The minimum number of tests required shall be:

Backfill over pipe

in traffic areas . . . 1 per 100 lf or less for each 4 feet of depth or portion thereof.  
(Minimum of 2 for any line segment)

Backfill over pipe in

non-traffic areas . . 1 per 200 lf or less for each 6 feet of depth or portion thereof.

The minimum percent of compaction of the backfill material (in accordance to AASHTO T-99) shall be the following:

In traffic areas . . . 100%

In non-traffic areas . . . 95%

**2.10 DRAINAGE STRUCTURES:**

- A. Drainage structures shall be constructed of the materials specified for each type and in accordance with the details shown on the drawings.

**2.11 MANHOLES:**

- A. Manholes shall be constructed where shown on the drawings or where directed by the Owner. The channel in the bottom of the manholes shall be smooth and properly shaped. Special care must be exercised in laying the channel in adjacent pipes to grade. The tops of manholes shall be built to grades designed by the Owner. Manhole sections with either honeycomb defects; exposed reinforcing; broken/fractured tongue or groove; or cracked walls will be subject to rejection by the Engineer for use on the project. When mastic sealant is used, improperly applied primer will also be cause for rejection.

**2.12 LEAKAGE:**

- A. All visible leaks shall be repaired, regardless of the amount of leakage.

**2.13 CONNECT SEWERS TO EXISTING STRUCTURES:**

- A. The Contractor shall connect the system to the existing structure where indicated. A hole not more than 4-inches larger than the outside diameter of the new pipe shall be cut neatly in the structure, the new pipe laid so that it is flush with the inside face of the structure, and the annular space around the pipe filled with a damp, expanding mortar or grout to make a watertight seal.

**2.14 CLEANING:**

- A. Before acceptance of the sewer system it shall be tested and cleaned to the satisfaction of the Owner. Where any obstruction is met, the Contractor will be required to clean the sewers by means of rods and swabs or other instruments. The pipe line shall be straight and show a uniform grade between the manholes.

**2.15 CLOSING PIPE:**

- A. When the work or pipe laying is suspended, either for night or at other times, the end of the sewer must be closed with a tight cover. The Contractor will be held responsible for keeping the sewer free from obstruction.



**2.16 REGRADE EXISTING DITCH:**

- A. Designated existing ditches shall be regraded and shaped to provide a bottom with a uniform slope, without depressions that hold water, and that conforms to the plan grades. The side slopes shall be smooth and uniform, dressed by hand if necessary, conforming to the indicated slopes.

**2.17 CONSTRUCT NEW DITCHES:**

- A. New ditches as shown on the construction drawings shall be graded and shaped to provide a bottom with a uniform slope, without depressions that hold water, and that conforms to the plan grades. The side slopes shall be smooth and uniform, dressed by hand if necessary, conforming to the indicated slopes.

END OF SECTION 34 40 00

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:

\_\_\_\_\_  
certifies to Chatham County that a Drug-Free Workplace will be provided for the employees during the performance of this contract known as procurement COTTONVALE ROAD 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 **COTTONVALE ROAD DRAINAGE**  
**IMPROVEMENTS** 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.  

---
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.  

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

---
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.  

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

---
6. List any contracts not completed on time.  

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

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

---

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: \_\_\_\_\_

DPC Form #45

**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:  
\_\_\_\_\_

D-1

**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

\_\_\_\_\_  
**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/<br>Phone # | City, State | % | MBE<br>or<br>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:

## ATTACHMENT H

### Chatham Apprentice Program Documentation

(must be submitted to Arneja Riley County MWBE Coordinator with 1<sup>st</sup> Pay Request)

Contractor \_\_\_\_\_

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

Contract No. \_\_\_\_\_

1) Contractor has contact CAP office to determine availability of specific labor classes which may be utilized for the project:

Date of Inquiry

# of Available Participants

\_\_\_\_\_

\_\_\_\_\_

2) Anticipated number of CAP students that will be hired and related trade category:

# \_\_\_\_\_

Trade Category \_\_\_\_\_

# \_\_\_\_\_

Trade Category \_\_\_\_\_

# \_\_\_\_\_

Trade Category \_\_\_\_\_

3) If CAP students are not anticipated to be hired for this project, the contractor must briefly explain.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Any questions regarding the Construction Apprentice Program and available participant labor should be directed to Daniel Dodd-Ramirez at (912) 232-6747.

## **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.**
9. **SUBMIT A COPY OF YOUR GEORGIA UTILITIES CONTRACTOR'S LICENSE**

\_\_\_\_\_  
NAME/TITLE

\_\_\_\_\_  
COMPANY NAME

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_  
CITY/STATE/ZIP

\_\_\_\_\_  
PHONE NUMBER

\_\_\_\_\_  
FAX NUMBER

## 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. \_\_\_\_\_

**REFERENCE FORM**

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- 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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- 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. \_\_\_\_\_

LEGAL NOTICE

CC NO. 165768

Invitation to Bid

Sealed Bids will be received until 2:00 P.M. on MAY 22 , 2014 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 : 14-0040-4 COTTONVALE ROAD DRAINAGE IMPROVEMENTS

**PRE-BID CONFERENCE:** Conference will be held at The Chatham County Citizens Service Center, 1117 Eisenhower Drive, Suite C, Savannah, Georgia on MAY 8, 2014, at 2:00PM. You are encouraged to attend.

Plans are available and must be purchased from Clayton Digital Reprographics (CDR) located at 1101 Chatham Parkway, Suite A2, Garden City, Georgia, 31408. CDR phone: 912-447-5445, fax 912-233-7020, e-mail: [cdwest@cdrepro.com](mailto:cdwest@cdrepro.com)

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>

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 AGENT

SAVANNAH NEWS/PRESS INSERT: Apr.23, 2014  
Please send affidavit to:  
Chatham County Purchasing & Contracting Department  
1117 Eisenhower Drive, Suite C  
Savannah, Georgia 31406  
(912) 790-1622