

PROJECT MANUAL

2021 MISCELLANEOUS DRAINAGE
FOR THE TOWN OF TYRONE

Project Number: PW-2021-02



Prepared By: Town of Tyrone

January 25, 2021

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ADVERTISEMENT FOR BIDS

Owner: Town of Tyrone

Project Name: 2021 Miscellaneous Drainage Improvements

Project Number: PW-2021-02

Project Location: Town of Tyrone – Various Locations in Town Limits

Description of Project/Services: improvements to four drainage catch basins and two Cured In Place Pipe installations on approximately 140 LF total of existing 18" CMP with all related accessories as shown on the plans and called for in the Contract Documents and Technical Specifications

Bid/Submittal Due Date: February 24, 2021

Service Cost Range: \$25,000 - \$50,000

PROJECT DOCUMENTS MAY BE OBTAINED FROM: <http://tyrone.org/links/bid-items/>

- Contractor/Firm will be required to provide Performance and Labor and Material Payment Bonds, each in the amount of 100% of the contract price.
- All public notices, addendum and other documents shall be posted at <http://tyrone.org/links/bid-items/>
- Licensure: To be considered for selection, persons or firms must be properly licensed in accordance with the requirements of the Official Code of Georgia Annotated, as amended, at the time of proposal submission.
- All communication shall be in writing with the Project Manager listed below. Preferred method of communication is email.

Project Coordinator/Manager: Scott Langford, PE **Title:** Public Works Director & Town Engineer

Address: **Street:** 950 Senoia Road

City: Tyrone

State: Georgia

ZIP: 30290

EMAIL: slangford@tyrone.org

Phone: 770-487-4038

Pre-submittal Conference: None

Submittal Due Date: March 31, 2021

Time: 10:00 AM

Location: Tyrone Town Hall

Submittal Delivery Address:

Hand Delivery: Town of Tyrone

Attn: Scott Langford, PE

950 Senoia Road

Tyrone, GA 30290

Mail Services: Town of Tyrone

Attn: Scott Langford, PE

950 Senoia Road

Tyrone, GA 30290

Approved By: 

(Town Manager)

Date: 3/4/2021

INFORMATION FOR BIDDERS

ALL BIDS must be made on the required BID form. All blank spaces for BID prices must be filled in, in ink or typewritten, and the BID form must be fully completed when submitted. Only one copy of the BID form is required. In case of discrepancy between unit prices and extended prices, unit prices shall prevail. The Engineer will correct any such errors and/or any errors in the summation of the extended prices. The Total Base Bid Amount shall be the sum of the Lump Sum prices, the corrected extended prices, and any pre-printed required allowances.

The OWNER may waive any informalities or minor defects or reject any and all BIDS. Any BID may be withdrawn prior to the above scheduled time for the opening of BIDS or authorized postponement thereof. Any BID received after the time and date specified shall not be considered. No BIDDER may withdraw a BID within 60 days after the actual date of the opening thereof. Should there be reasons why the Contract cannot be awarded within the specified period, the time may be extended by mutual written agreement between the OWNER and the BIDDER.

BIDDERS must satisfy themselves of the accuracy of the estimated quantities in the BID Schedule by examination of the site and a review of the drawings and specifications including ADDENDA. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of WORK or of the nature of the WORK to be done.

The OWNER shall provide to BIDDERS prior to BIDDING, all information which is pertinent to, and delineates and describes, the land owned and rights-of-way acquired or to be acquired. All work shall be performed within the land owned and/or rights-of-way of the Town of Tyrone.

The CONTRACT DOCUMENTS contain the provisions required for the construction of the PROJECT. Information obtained from an officer, agent, or employee of the OWNER or any person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve the Contractor from fulfilling any of the conditions of the Contract.

Each BID must be accompanied by a BID Bond payable to the OWNER for five percent of the total amount of the BID. As soon as the BID prices have been compared, the OWNER will return the BONDS of all except the three lowest responsible BIDDERS. When the Agreement is executed the bonds of the two remaining unsuccessful BIDDERS will be returned. The BID BOND of the successful BIDDER will be retained until the payment BOND and performance BOND have been executed and approved, after which it will be returned. A certified check for five percent of the total amount of the BID may be used in lieu of a BID BOND.

A Performance BOND and a Payment BOND each in the amount of 100 percent of the CONTRACT PRICE, with a corporate surety approved by the OWNER, will be required for the faithful performance of the Contract.

Attorney-in-fact who sign BID BONDS or Payment BONDS and Performance BONDS must file with each BOND a certified and effective dated copy of their power of attorney.

Qualifications:

Bidder may be required to submit at least 3 references of similar work completed in the last two years.

The party to whom the contract is awarded will be required to execute the Agreement and obtain the Performance BOND and Payment BOND within ten (10) calendar days from the date when NOTICE OF AWARD is delivered to the BIDDER. The NOTICE OF AWARD shall be accompanied by the necessary Agreement and BOND forms. In case of failure of the BIDDER to execute the Agreement, the OWNER may consider the BIDDER in default, in which case the BID BOND accompanying the proposal shall become the property of the OWNER.

The OWNER within ten (10) days of receipt of acceptable Performance BOND, Payment BOND and Agreement signed by the party to whom the Agreement was awarded shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the BIDDER may by WRITTEN NOTICE withdraw the signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the OWNER.

The NOTICE TO PROCEED shall be issued within ten (10) days of the execution of the Agreement by the OWNER. Should there be reasons why the NOTICE TO PROCEED cannot be issued within such period, the time may be extended by mutual written agreement between the OWNER AND CONTRACTOR. If the NOTICE TO PROCEED has not been issued within the ten (10) day period or within the period mutually agreed upon, the CONTRACTOR may terminate the Agreement without further liability on the part of either party.

The OWNER may make such investigations as deemed necessary to determine the ability of the BIDDER to perform the WORK, and the BIDDER shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The General Contractor shall have a minimum of 5 years of experience with projects of similar type and scope of work. The OWNER reserves the right to reject any BID if the evidence submitted by, or investigation of such, BIDDER fails to satisfy the OWNER that such BIDDER is properly qualified to carry out the obligations of the Agreement and to complete the WORK contemplated therein.

A conditional, qualified or obviously unbalanced BID will not be accepted.

Award of the Contract will be made to the lowest responsive and responsible BIDDER on the basis of the lowest actual bid amount for the Contract, which is defined as the base bid less any deductions for "allowed" deductive alternates, plus any additions for "allowed" additive alternates listed in the Bid Schedule. The Owner reserves the right to delete or modify portions of the work in order to meet constraints caused by budget limitations

All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the Contract throughout.

Each BIDDER is responsible for inspecting the site and for reading and being thoroughly familiar with the CONTRACT DOCUMENTS prior to bid. The failure or omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from any obligation in respect to its BID.

Further, the BIDDER agrees to abide by the requirements under Executive Order No. 11246, as amended, including specifically the provisions of the equal opportunity clause set forth in the SUPPLEMENTAL GENERAL CONDITIONS.

The low BIDDER shall supply the names and addresses of major material SUPPLIERS and SUBCONTRACTORS when required to do so by the OWNER.

The ENGINEER and PROJECT MANAGER on this project is: Scott A. Langford, PE, Public Works Director and Town Engineer, Town of Tyrone, 950 Senoia Road, Tyrone, GA 30290.

BID

Proposal of _____; hereinafter called "BIDDER",
organized and existing under the laws of the State of _____, doing
business as _____ (Insert "a corporation",
"a partnership", or "an individual" as applicable). To the Town of Tyrone, hereinafter
called "OWNER".

In compliance with the Advertisement for Bids, BIDDER hereby proposes to
perform all WORK for the construction of

2021 MISCELLANEOUS DRAINAGE IMPROVEMENTS

FOR THE TOWN OF TYRONE, GEORGIA

in strict accordance with the CONTRACT DOCUMENTS, within the time set forth therein,
and at the prices stated below.

By submission of this BID, each BIDDER certifies, and in the case of a joint BID each
party thereto certifies as to its own organization, that this BID has been arrived at independently,
without consultation, communication, or agreement as to any matter relating to this BID with
any other BIDDER or with any competitor.

BIDDER hereby agrees to commence WORK under this contract on or before a date to
be specified in the NOTICE TO PROCEED and to fully complete the PROJECT within **forty-**
five (45) consecutive calendar days hereafter. BIDDER further agrees to pay as liquidated
damages the sum of **\$300.00** for each consecutive day thereafter as provided in Section 15 of the
General Conditions.

BIDDER acknowledges receipt of the following ADDENDUM:

BIDDER agrees to perform all the work described in the CONTRACT DOCUMENTS for the following unit prices or lump sum including all applicable taxes and fees:

BID SCHEDULE

No.	Item	Estimate Quantity	Unit	Unit Price	Total Price
1.	Repairs to Catch Basin @ 525 Valleywood Road, complete	1	Lump Sum	Lump Sum	\$ _____
2.	Repairs to Catch Basin @ 152 Shamrock Industrial Blvd, complete	1	Lump Sum	Lump Sum	\$ _____
3.	Repairs to Catch Basin @ 179 Handley Road, complete	1	Lump Sum	Lump Sum	\$ _____
4.	Repairs to Catch Basin @ 2030 Castle Lake Drive, complete	1	Lump Sum	Lump Sum	\$ _____
5.	CIPP & Rip Rap @ 120 Rollingbrook Trail, complete	1	Lump Sum	Lump Sum	\$ _____
6.	CIPP & Rip Rap @ 115 Wildwood Court, complete	1	Lump Sum	Lump Sum	\$ _____
7.	Allowance per Special Conditions	1	Lump Sum	Lump Sum	\$ <u>3,000.00</u>

Total of Base Bid - \$ _____

TOTAL CONTRACTED AMOUNT: \$ _____

Notes:

1. The Owner reserves the right to modify project scope, as necessary to meet project budget limitations, based on prices bid.
2. Include with the Bid, a copy of current Business License (Occupational Tax Certificate) and proof of applicable licensing issued by Georgia Secretary of State.

Respectfully Submitted:

Signature

Company's Legal Name

Printed Name

Address

Title

City, State, Zip Code

License No.

Date

SEAL - (if BID is by incorporation)

BID BOND

KNOW ALL PERSONS BY THESE PRESENTS: that we, the undersigned as Principal, and as Surety, are hereby held and firmly bound unto Town of Tyrone, Georgia as OWNER in the penal sum of 5% for the payment of which, well and truly to be made, we hereby jointly severally bind ourselves, successors and assigns.

Signed, this day of _____, 20____. The condition of the above obligation is such that whereas the Principal has submitted to Town of Tyrone, Georgia a certain BID, attached hereto and hereby made a part hereof to enter into a contract in writing, for: 2021 MISCELLANEOUS DRAINAGE IMPROVEMENTS for the TOWN OF TYRONE, GEORGIA

NOW, THEREFORE,

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

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extensions of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

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

Principal L. S.

Surety

By: _____
(Address)

(Surety)

(Address)

(Address)

(Address)

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended), be authorized to transact business, and have a registered agent in the state where project is located.

AGREEMENT

THIS AGREEMENT, made this day of _____, 20__ by and between the Town of Tyrone, Georgia, hereinafter called "Owner" and _____ doing business as (an individual), or (a partnership), or (a corporation) hereinafter called "Contractor".

WITNESSETH: That for and in consideration of the payments and agreements herein aftermentioned:

1. The CONTRACTOR will commence and complete the construction of:

2021 MISCELLANEOUS DRAINAGE IMPROVEMENTS

FOR THE TOWN OF TYRONE, GEORGIA.

2. The CONTRACTOR will furnish all of the materials, supplies, tools, equipment, labor, and other services necessary for the construction and completion of the PROJECT described herein.
3. The CONTRACTOR will commence the work required by the CONTRACT DOCUMENTS within 10 calendar days after the date of the NOTICE TO PROCEED and will work continuously to complete the same within 45 calendar days.
4. The CONTRACTOR agrees to perform all of the WORK described in the CONTRACT DOCUMENTS and comply with the terms therein for the sum of \$ _____ or as shown in the bid schedule.
5. The terms "Contract Documents" MEANS and includes the following:
 - (A) Advertisement for BIDS
 - (B) Information for BIDDERS
 - (C) BID
 - (D) BID BOND

- (E) Agreement
- (F) General Conditions
- (G) SUPPLEMENTAL GENERAL CONDITIONS & SPECIAL CONDITIONS
- (H) Payment BOND
- (I) Performance BOND
- (J) NOTICE OF AWARD
- (K) NOTICE TO PROCEED
- (L) CHANGE ORDER
- (M) SPECIFICATIONS prepared or issued by the Town of Tyrone, date January 2, 2020
- (N) ADDENDA:

No. _____, dated _____, 20____.

_____, dated _____, 20____.

_____, dated _____, 20____.

6. The OWNER will pay to the CONTRACTOR in the manner and at such times as set forth in the General Conditions such amount as required by the CONTRACT DOCUMENTS.

7. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

8. Any dispute which may arise under this agreement shall be resolved under the laws of the State of Georgia and venue shall be proper in Fayette County, Georgia.

IN WITNESS WHEREOF, the parties hereto have executed or caused to be executed by their duly authorized official, this Agreement in Quadruplicate (four) copies shall be deemed an original on the date first above written.

OWNER:
_____ TOWN OF TYRONE, GEORGIA _____

BY : _____

NAME: _____ Eric Dial _____
(Please Print)

TITLE: _____ Mayor _____

(SEAL)
ATTEST:

Name : _____

(Please Print)

Title : _____

CONTRACTOR:

BY: _____

NAME: _____
(Please Print)

Address: _____

Employer Identification

Number: _____ - _____

(SEAL)

ATTEST:

Name: _____

(Please Print)

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called PRINCIPAL, and

(Name of Surety)

(Address of Surety)

hereinafter called SURETY, are held and firmly bond unto

TOWN OF TYRONE, GEORGIA

(Name of Owner)

950 SENOIA ROAD, TYRONE, GA 30292

(Address of Owner)

hereinafter called OWNER, in total aggregate penal sum of

_____ Dollars (\$_____)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents.

THIS CONDITION OF THIS OBLIGATION is such that whereas, the PRINCIPAL entered into a certain contract with the OWNER, dated the ___ day of _____, 20__ a copy of which is hereto attached and made a part hereof for the construction of:

2021 MISCELLANEOUS DRAINAGE IMPROVEMENTS
FOR THE TOWN OF TYRONE, GEORGIA

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

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

PROVIDED, FURTHER, that it is expressly agreed that the BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the contract not increasing the contract price more than 20 percent so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the CONTRACT as so amended. The term "Amendment", wherever used in this BOND, and whether referring to this BOND, or the Contract shall include any alteration, addition, extension, or the modification of any character whatsoever.

IN WITNESS WHEREOF, this instrument is executed in four counterparts, each one of which shall be deemed an original, this the _____ day of _____, 20__.

ATTEST:

(Principal) Secretary (SEAL)

(Witness as to Principal)

(Address)

Principal

By: _____

(Address)

(Surety)

ATTEST:

(Witness to Surety)

(Attorney-in-Fact)

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Contract so the Town will date the bonds. If CONTRACTOR is partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended), be authorized to transact business in the state, and have a registered agent in the state where project is located.

Surety companies must present financial statements for the prior three (3) years as proof of financial responsibility. The Owner reserves the right to review said financial statements and reject any surety not deemed financially able to assume the responsibility of this Contract.

Such bond shall not be deemed accepted until approved by Owner's Attorney.

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called PRINICIPAL,
and

(Name of Surety)

(Address of Surety)

hereinafter called SURETY, are held and firmly bound unto

TOWN OF TYRONE GEORGIA
(Name of Owner)

950 SENOIA ROAD, TYRONE.GA 30292
(Address of Owner)

hereinafter called OWNER, and unto all persons, firms, and corporations who or which may furnish labor, or who furnish materials to perform as described under the contract and to their successors and assigns in the total aggregate penal sum of:

_____ Dollars (\$_____)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these present.

THIS CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the __ day of _____, 20__ a copy of which is hereto attached and made a part hereof for the construction of:

2021 MISCELLANEOUS DRAINAGE IMPROVEMENTS
FOR THE TOWN OF TYRONE, GEORGIA

NOW, THEREFORE, if the PRINCIPAL shall promptly make payment to all persons, firms, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extensions or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and for all labor cost incurred in such WORK including that by a SUBCONTRACTOR, and to any mechanic or materialman lienholder whether it acquires its lien by operation of State or Federal law; then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, that beneficiaries or claimants hereunder shall be limited to the SUBCONTRACTORS, and persons, firms, and corporations having a direct contract with the PRINCIPAL or its SUBCONTRACTORS.

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

PROVIDED, FURTHER, that no suit or action shall be commenced hereunder by any claimant: (a) Unless claimant, other than one having a direct contract with the PRINCIPAL, shall have given written notice to any two of the following: The PRINCIPAL, the OWNER, or the SURETY above named within ninety (90) days after such claimant did or performed the last of the work or labor, if furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the PRINCIPAL, OWNER, or SURETY, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer. (b) After the expiration on one (1) year following the date of which PRINCIPAL ceased work on said CONTRACT, is being understood, however, that if any limitation embodied in the BOND is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

PROVIDED, FURTHER, that it is expressly agreed that this BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract not increasing the contract price more than 20 percent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the Contract as so amended. The term "Amendment", wherever used in this SURETY BOND and whether referring to this BOND, the contract shall include any alteration, addition, extension or modification of any character whatsoever.

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

IN WITNESS WHEREOF, this instrument is executed in four counterparts, each one of which shall be deemed an original, this the ____ day of _____, 20____.

ATTEST:

Principal

(Principal) Secretary

(SEAL)

By _____ (s)

(Witness as to Principal)

(Address)

(Address)

(Surety)

ATTEST:

(Witness to Surety)

By _____
(Attorney-in-Fact)

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Contract so the Town will date the bonds. If CONTRACTOR is partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended), be authorized to transact business in the state, and have a registered agent in the state where project is located.

Surety companies must present financial statements for the prior three (3) years as proof of financial responsibility. The Owner reserves the right to review said financial statements and reject any surety not deemed financially able to assume the responsibility of this Contract.

Such bond shall not be deemed accepted until approved by Owner's Attorney.

GENERAL CONDITIONS

- | | | | |
|-----|-----------------------------|-----|-------------------------|
| 1. | Definitions | 15. | Time for Completion and |
| 2. | Additional Instructions and | | Liquidated Damages |
| | Detail Drawings | 16. | Correction of Work |
| 3. | Schedules, Reports, and | 17. | Subsurface Conditions |
| | Records | 18. | Suspension of Work., |
| 4. | Drawings and Specifications | | Termination, and Delay |
| 5. | Shop Drawings | 19. | Payments to Contractor |
| 6. | Materials, Services, and | 20. | Acceptance of Final |
| | Facilities | | Payment as Release |
| 7. | Inspection and Testing | 21. | Insurance |
| 8. | substitutions | 22. | Contract Security |
| 9. | Patents | 23. | Assignments |
| 10. | Surveys, Permits, | 24. | Indemnification |
| | Regulations | 25. | Separate Contracts |
| 11. | Protection of Work, | 26. | Subcontracting |
| | Property, Persons | 27. | Engineer's Authority |
| 12. | Supervision by Contractor | 28. | Land and Rights-of-Way |
| 13. | Changes in Work | 29. | Guaranty |
| 14. | Changes in Contract Price | 30. | Arbitration |

1. DEFINITIONS

- 1.1 Wherever used in the CONTRACT DOCUMENTS, the following terms shall have the meanings indicated and shall be applicable to both the singular and plural thereof:
- 1.2 ADDENDA - Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the CONTRACT DOCUMENTS, DRAWINGS and SPECIFICATIONS, by additions, deletions, clarifications, or corrections.
- 1.3 BID - The offer or proposal of the BIDDER submitted on the prescribed form setting forth the prices for the WORK to be performed.
- 1.4 BIDDER - Any person, firm, or corporation submitting a BID For the WORK.
- 1.5 BONDS -- Bid, Performance, and Payment Bonds and other instruments of surety, furnished by the CONTRACTOR and the CONTRACTOR'S surety in accordance with the CONTRACT DOCUMENTS.

- 1.6 CHANGE ORDER A written order to the CONTRACTOR authorizing an addition, deletion, or revision in WORK within the general scope of the CONTRACT DOCUMENTS, or authorizing an adjustment in the CONTRACT PRICE or CONTRACT TIME.
- 1.7 CONTRACT DOCUMENTS - The contract, including Advertisement for BIDS, Information for BIDDERS, BID, BID BOND, Agreement, Payment BOND, Performance BOND, NOTICE OF AWARD, NOTICE TO PROCEED, CHANGE ORDER, DRAWINGS, SPECIFICATIONS, AND ADDENDA.
- 1.8 CONTRACT PRICE - The total monies payable to the CONTRACTOR under the terms and conditions of the CONTRACT DOCUMENTS.
- 1.9 CONTRACT TIME - The number of calendar days stated in the CONTRACT DOCUMENTS for the completion of the WORK.
- 1.10 CONTRACTOR - The person, firm, or corporation with whom the OWNER has executed the Agreement.
- 1.11 DRAWINGS The parts of the CONTRACT DOCUMENTS which show the characteristics and scope of the WORK to be performed and which have been prepared or approved by the ENGINEER.
- 1.12 ENGINEER - The person, firm, or corporation named as such in the CONTRACT DOCUMENTS.
- 1.13 FIELD ORDER - A written order effecting a change in the WORK not involving an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, issued by the ENGINEER to the CONTRACTOR during construction.
- 1.14 NOTICE OF AWARD - The written notice of the acceptance of the BID from the OWNER to be the successful BIDDER.
- 1.15 NOTICE TO PROCEED Written communication issued by the OWNER to the CONTRACTOR authorizing him/her to proceed with the WORK and establishing the date for commencement of the WORK.
- 1.16 OWNER A public or quasi-public body or authority, corporation, association, partnership, or an individual for whom the WORK is to be performed.

- 1.17 PROJECT - The undertaking to be performed as provided in the CONTRACT DOCUMENTS.
- 1.18 RESIDENT PROJECT REPRESENTATIVE - The authorized representative of the OWNER who is assigned to the PROJECT site or any part thereof.
- 1.19 SHOP DRAWINGS All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the CONTRACTOR, a SUBCONTRACTOR, manufacturer, SUPPLIER or distributor, which illustrate how specific portions of the WORK shall be fabricated or installed.
- 1.20 SPECIFICATIONS - A part of the CONTRACT DOCUMENTS consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards and workmanship.
- 1.21 SUBCONTRACTOR An individual, firm or corporation having a direct contract with CONTRACTOR or with any other SUBCONTRACTOR for the performance of a part of the WORK at the site.
- 1.22 SUBSTANTIAL COMPLETION - That date certified by the ENGINEER when the construction of the PROJECT or a specified part thereof is sufficiently completed, in accordance with the CONTRACT DOCUMENTS, so that the PROJECT or specified part can be utilized for the purposes for which it is intended.
- 1.23 SUPPLEMENTAL GENERAL CONDITIONS - Modifications to General Conditions.
- 1.24 SUPPLIER - Any person or organization who supplies materials or equipment for the WORK, including that fabricated to a special design, but who does not perform labor at the site.
- 1.25 WORK - All labor necessary to produce the construction required by the CONTRACT DOCUMENTS, and all materials and equipment incorporated or to be incorporated in the PROJECT.
- 1.26 WRITTEN NOTICE Any notice to any party of the Agreement relative to any part of this Agreement in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at their last given address, or delivered in person to said party or their authorized representative on the WORK.

2. ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS
 - 2.1 The CONTRACTOR may be furnished additional instructions and detail drawings, by the ENGINEER, as necessary to carry out the WORK required by the CONTRACT DOCUMENTS.
 - 2.2 The additional drawings and instructions thus supplied will. become a part of the CONTRACT DOCUMENTS. The CONTRACTOR shall carry out the WORK in accordance with the additional detail drawings and instructions.
3. SCHEDULES, REPORTS AND RECORDS
 - 3.1 The CONTRACTOR shall submit to the OWNER such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data where applicable as are required by the CONTRACT DOCUMENTS for the WORK to be performed.
 - 3.2 Prior to the first partial payment estimate the CONTRACTOR shall submit construction progress schedules showing the order in which the CONTRACTOR proposes to carry on the WORK, including dates at which the various parts of the WORK will be started, estimated date of completion of each part and, as applicable:
 - 3.2.1 The dates at which special detail drawings will be required; and
 - 3.2.2 Respective dates for submission of SHOP DRAWINGS, the beginning of manufacture, the testing and the installation of materials, supplies and equipment.
 - 3.3 The CONTRACTOR shall also submit a schedule of payments that the CONTRACTOR anticipates will be earned during the course of the WORK.
4. DRAWINGS AND SPECIFICATIONS
 - 4.1 The intent of the DRAWINGS and SPECIFICATIONS is that the CONTRACTOR shall furnish labor, materials, tools, equipment, and transportation necessary for the proper execution of the WORK in accordance with the CONTRACT DOCUMENTS and all incidental WORK necessary to complete the PROJECT in an acceptable manner, ready for use, occupancy or operation by the OWNER.
 - 4.2 In case of conflict between the DRAWINGS and SPECIFICATIONS, the SPECIFICATIONS shall govern. Figure dimensions on DRAWINGS shall govern over general DRAWINGS.

4.3 Any discrepancies found between the DRAWINGS and SPECIFICATIONS and site conditions or any inconsistencies or ambiguities in the DRAWINGS or SPECIFICATIONS shall be immediately reported to the ENGINEER, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. WORK done by the CONTRACTOR after discovery of such discrepancies, inconsistencies or ambiguities shall be done at the CONTRACTOR'S risk.

5. SHOP DRAWINGS

5.1 The CONTRACTOR shall provide SHOP DRAWINGS as may be necessary for the prosecution of the WORK as required by the CONTRACT DOCUMENTS. The ENGINEER shall promptly review all SHOP DRAWINGS. The ENGINEER'S approval of any SHOP DRAWINGS shall not release the CONTRACTOR from responsibility for deviations from the CONTRACT DOCUMENTS. The approval of any SHOP DRAWINGS which substantially deviates from the requirement of the CONTRACT DOCUMENTS shall be evidenced by a CHANGE ORDER.

5.2 When submitted for the ENGINEER'S review, SHOP DRAWINGS shall bear the CONTRACTOR'S certification that he has reviewed, checked and approved the SHOP DRAWINGS and that they are in conformance with the requirements of the CONTRACT DOCUMENTS.

5.3 Portions of the WORK requiring a SHOP DRAWING or sample submission. shall not begin until the SHOP DRAWING or submission has been approved by the ENGINEER. A copy of each approved SHOP DRAWING and each approved sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the ENGINEER.

6. MATERIALS, SERVICES AND FACILITIES

6.1 It is understood that, except as otherwise specifically stated in the CONTRACT DOCUMENTS, the CONTRACTOR shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the WORK within the specified time.

6.2 Materials supplied by the CONTRACTOR and equipment shall be so stored as to insure the preservation of their quality and fitness for the WORK. Stored materials and equipment to be incorporated in the WORK

shall be located so as to facilitate prompt inspection.

- 6.3 Manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.
- 6.4 Materials, supplies, and equipment shall be in accordance with samples submitted by the CONTRACTOR and approved by the ENGINEER.
- 6.5 Materials, supplies, or equipment to be incorporated into the WORK shall not be purchased by the CONTRACTOR or the SUBCONTRACTOR subject to a chattel mortgage or under a conditional sale contract or other agreement by which any interest is retained by the seller.

7. INSPECTION AND TESTING

- 7.1 All materials and equipment used in the construction of the PROJECT shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the CONTRACT DOCUMENTS.
- 7.2 The OWNER shall provide all inspection and testing services not required by the CONTRACT DOCUMENTS.
- 7.3 The CONTRACTOR shall provide at the CONTRACTOR'S expense the testing and inspection services required by the CONTRACT DOCUMENTS.
- 7.4 If the CONTRACT DOCUMENTS, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any WORK to specifically be inspected, tested, or approved by someone other than the CONTRACTOR, the CONTRACTOR will give the ENGINEER timely notice of readiness. The CONTRACTOR will then furnish the ENGINEER the required certificates of inspection, testing or approval.
- 7.5 Inspections, tests, or approvals by the ENGINEER or others shall not relieve the CONTRACTOR from the obligations to perform the WORK in accordance with the requirements of the CONTRACT DOCUMENTS.
- 7.6 The ENGINEER and the ENGINEER'S representatives will at all times have access to the WORK. In addition, authorized representatives and agents of any participating Federal or State agency shall be permitted to inspect all work, materials, payrolls,

records or personnel, invoices of materials, and other relevant data and records. The CONTRACTOR will provide proper facilities for such access and observation of the WORK and also for any inspection or testing thereof.

- 7.7 If any WORK is covered contrary to the written instructions of the ENGINEER it must, if requested by the ENGINEER, be uncovered for the ENGINEER'S observation and replaced at the CONTRACTOR'S expense.
- 7.8 If the ENGINEER considers it necessary or advisable that covered WORK be inspected or tested by others, the CONTRACTOR, at the ENGINEER'S request, will uncover, expose or otherwise make available for observation, inspection or testing as the ENGINEER may require, that portion of the WORK in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such WORK is defective, the CONTRACTOR will bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, if, however, such WORK is not found to be defective, the CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate CHANGE ORDER shall be issued.

8. SUBSTITUTIONS

- 8.1 Whenever a material, article, or piece of equipment is identified on the DRAWINGS or SPECIFICATIONS by reference to brand name or catalogue numbers, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements and that other products of equal capacities, quality and function shall be considered. The CONTRACTOR may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the CONTRACT DOCUMENTS by reference to brand name or catalogue number, and if, in the opinion of the ENGINEER, such material, article, or piece of equipment is of equal substance and function to that specified, the ENGINEER may approve its substitution and use by the CONTRACTOR. Any cost differential shall be deductible from the CONTRACT PRICE and the CONTRACT DOCUMENTS shall be appropriately modified by CHANGE ORDER. The CONTRACTOR warrants that if substitutes are approved, no major changes in the function or general

design of the PROJECT will result. Incidental changes or extra component parts required to accommodate the substitute will be made by the CONTRACTOR without a change in the CONTRACT PRICE or CONTRACT TIME.

The ENGINEER and/or OWNER reserves the right to reject any proposed substitution based upon quality or price comparison with specified equipment. The ENGINEER and/or OWNER may also reject any proposed substitution based on previous, unsatisfactory experience with equipment or materials from proposed manufacturer. In the case of such a rejection, the CONTRACTOR shall provide the specified equipment or another approved substitution, at no additional cost to the CONTRACT. CONTRACTOR shall not assume that the terms "or equal" constitutes an automatic approval of a proposed substitution.

9. PATENTS

9.1 The CONTRACTOR shall pay all applicable royalties and license fees, and shall defend all suits or claims for infringement of any patent rights and save the OWNER harmless from loss on account thereof, except that the OWNER shall be responsible for any such loss when a particular process, design, or product of a particular manufacturer or manufacturers is specified, however, if the CONTRACTOR has reason to believe that the design, process or product specified is an infringement of a patent, the CONTRACTOR shall be responsible for such loss unless the CONTRACTOR promptly gives such information to the ENGINEER.

10. SURVEYS, PERMITS, REGULATIONS

10.1 The OWNER shall furnish all boundary surveys and establish all base lines for locating the principal component parts of the WORK together with a suitable number of bench marks adjacent to the WORK as shown in the CONTRACT DOCUMENTS. From the information provided by the OWNER, unless otherwise specified in the CONTRACT DOCUMENTS, the CONTRACTOR shall develop and make all detail surveys needed for construction such as slope stakes, batter boards, stakes for pipe locations and other working points, lines, elevations and cut sheets.

10.2 The CONTRACTOR shall carefully preserve bench marks, reference points and stakes and, in case of willful or careless destruction, shall be charged with the resulting expense and shall be responsible for any

mistake that may be caused by their unnecessary loss or disturbance.

10.3 Permits and licenses of a temporary nature necessary for the prosecution of the WORK shall be secured and paid for by the CONTRACTOR unless otherwise stated in the SUPPLEMENTAL GENERAL CONDITIONS. Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the OWNER, unless otherwise specified. The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the WORK as drawn and specified. If the CONTRACTOR observes that the CONTRACT DOCUMENTS are at variance therewith, the CONTRACTOR shall promptly notify the ENGINEER in writing, and any necessary changes shall be adjusted as provided in Section 13, CHANGES IN THE WORK.

11. PROTECTION OF WORK, PROPERTY, AND PERSONS

11.1 The CONTRACTOR will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the WORK. The CONTRACTOR will take all necessary precautions for the safety of, will provide the necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees on the WORK and other persons who may be affected thereby, all the WORK and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawn?, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

11.2 The CONTRACTOR will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. The CONTRACTOR will erect and maintain, as required by the conditions and progress of the WORK, all necessary safeguards for safety and protection. The CONTRACTOR will notify OWNERS of adjacent utilities when prosecution of the WORK may affect them. The CONTRACTOR will remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or part, by the CONTRACTOR, any SUBCONTRACTOR or anyone directly or indirectly employed. by any of them or anyone of whose acts any of them be liable, except damage or loss attributable to the fault of the CONTRACT DOCUMENTS or to the acts or omissions

of the OWNER, of the ENGINEER or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the CONTRACTOR.

- 11.3 In emergencies affecting the safety of persons or the WORK or property at the site or adjacent thereto, the CONTRACTOR, without special instructions or authorization from the ENGINEER Or OWNER, shall act to prevent threatened damage, injury or loss. The CONTRACTOR will give the ENGINEER prompt WRITTEN NOTICE of any significant changes in the WORK or deviations from the CONTRACT DOCUMENTS caused thereby, and a CHANGE ORDER shall thereupon be issued covering the changes and deviations involved.

12. SUPERVISION BY CONTRACTOR

- 12.1 The CONTRACTOR will supervise and direct the WORK. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will employ and maintain on the WORK a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR'S representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR and all communications given to the supervisor shall be as binding as if given to the CONTRACTOR. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the WORK.

13. CHANGES IN THE WORK

- 13.1 The OWNER may at any time, as the need arises, order changes within the scope of the WORK without invalidating the Agreement. If such changes increase or decrease the amount due under the CONTRACT DOCUMENTS, or in the time required for performance of the WORK, an equitable adjustment shall be authorized by CHANGE ORDER.

- 13.2 The ENGINEER, also, may at any time, by issuing a FIELD ORDER, make changes in the details of the WORK. The CONTRACTOR shall proceed with the performance of any changes in the WORK so ordered by the ENGINEER unless the CONTRACTOR believes that such FIELD ORDER entitles the CONTRACTOR to a change in CONTRACT PRICE or TIME, or both, in which event the CONTRACTOR shall give the ENGINEER WRITTEN NOTICE thereof within seven (7) days

after the receipt of the ordered change. Thereafter the CONTRACTOR shall document the basis for the change in CONTRACT PRICE OR TIME within thirty (30) days. The CONTRACTOR shall not execute such changes pending the receipt of an executed CHANGE ORDER for further instruction from the OWNER.

14. CHANGES IN CONTRACT PRICE

14.1 The CONTRACT PRICE may be changed only by a CHANGE ORDER. The value of any WORK covered by a CHANGE ORDER or of any claim for increase or decrease in the CONTRACT PRICE shall be determined by one or more of the following methods in the order of precedence listed below:

- a. Unit prices previously approved.
- b. An agreed lump sum.

15. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

15.1 The date of beginning and the time for completion of the WORK are essential conditions of the CONTRACT DOCUMENTS and the WORK embraced shall be commenced on a date specified in the NOTICE TO PROCEED.

15.2 The CONTRACTOR will proceed with the WORK at such rate of progress to insure full completion within the CONTRACT TIME. It is expressly understood and agreed, by and between the CONTRACTOR and the OWNER, that the CONTRACT TIME for the completion of the WORK described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the WORK.

15.3 If the CONTRACTOR shall fail to complete the WORK within the CONTRACT TIME, or extension of time granted by the OWNER, then the CONTRACTOR will pay to the OWNER the amount for liquidated damages as specified in the BID for each calendar day that the CONTRACTOR shall be in default after the time stipulated in the CONTRACT DOCUMENTS. In addition to Liquidated Damages, the CONTRACTOR shall reimburse the ENGINEER for additional inspection and engineering services required due to overrun of the contract time, or the overrun of approved extension of contract time. This will be paid at 2.5 times the direct expense to the ENGINEER and will be withheld from the CONTRACTOR'S monthly pay request. The OWNER will pay the ENGINEER directly from the withheld amount.

15.4 The CONTRACTOR shall not be charged with liquidated

damages or any excess cost or any payment to the ENGINEER when the delay in completion of the WORK is due to the following and the CONTRACTOR has promptly given WRITTEN NOTICE of such delay to the OWNER or ENGINEER.

- 15.4.1 To any preference, priority or allocation order duly issued by the OWNER.
 - 15.4.2 To unforeseeable causes beyond the control and without the fault or negligence of the CONTRACTOR, including but not restricted to, acts of God or of the public enemy, acts of the OWNER, acts of another CONTRACTOR in the performance of a contract with the OWNER, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and abnormal and unforeseeable weather; and
 - 15.4.3 To any delays of SUBCONTRACTORS occasioned by any of the causes specified in paragraphs 15.4.1 and 15.4.2 of this article.
16. CORRECTION OF WORK
- 16.1 The CONTRACTOR shall promptly remove from the premises all WORK rejected by the ENGINEER for failure to comply with the CONTRACT DOCUMENTS, whether incorporated in the construction or not, and the CONTRACTOR shall promptly replace and re-execute the WORK in accordance with the CONTRACT DOCUMENTS and without expense to the OWNER and shall bear the expense of making good all WORK of other CONTRACTORS destroyed or damaged by such removal or replacement.
 - 16.2 All removal and replacement WORK shall be done at the CONTRACTOR'S expense. If the CONTRACTOR does not take action to remove such rejected WORK within ten (10) days after receipt of WRITTEN NOTICE, the OWNER may remove such WORK and store the materials at the expense of the CONTRACTOR.
17. SUBSURFACE CONDITIONS
- 17.1 The CONTRACTOR shall promptly, and before such conditions are disturbed, except in the event of an emergency, notify the OWNER by WRITTEN NOTICE of:
 - 17.1.1 Subsurface or latent physical conditions at the site differing materially from those indicated in the CONTRACT DOCUMENTS; or

- 17.1.2 Unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in WORK of the character provided for in the CONTRACT DOCUMENTS.
- 17.2 The OWNER shall promptly investigate the conditions, and if it is found that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for, performance of the WORK, an equitable adjustment shall be made and the CONTRACT DOCUMENTS shall be modified by a CHANGE ORDER. Any claim of the CONTRACTOR for adjustment hereunder shall not be allowed unless the required WRITTEN NOTICE has been given; provided that the OWNER may, if the OWNER determines the facts so justify, consider and adjust any such claims asserted before the date of final payment.
18. SUSPENSION OF WORK, TERMINATION, AND DELAY
- 18.1 The OWNER may suspend the WORK or any portion thereof for a period of not more than ninety days or such further time as agreed upon by the CONTRACTOR, by WRITTEN NOTICE to the CONTRACTOR and the ENGINEER which shall fix the date on which WORK shall be resumed. The CONTRACTOR will resume that WORK on the date so fixed. The CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to any suspension.
- 18.2 If the CONTRACTOR is adjudged as bankrupt or insolvent, or makes a general assignment for the benefit of its creditors, or if a trustee or receiver is appointed for the CONTRACTOR or for any of its property, or if CONTRACTOR files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or applicable laws, or repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or repeatedly fails to make prompt payments to SUBCONTRACTORS or for labor, materials or equipment or disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction of the WORK or disregards the authority of the ENGINEER, or otherwise violates any provision of the CONTRACT DOCUMENTS, then the OWNER may, without prejudice to any other right or remedy and after giving the CONTRACTOR and its surety a minimum of ten (10) days from delivery of a WRITTEN NOTICE, terminate the services of the CONTRACTOR and take possession of the PROJECT and of all materials, equipment, tools, construction equipment

and machinery thereon owned by the CONTRACTOR, and finish the WORK by whatever method the OWNER may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the WORK is finished. If the unpaid balance of the CONTRACT PRICE exceeds the direct and indirect costs of completing the PROJECT, including compensation for additional professional services, such excess SHALL BE PAID TO THE CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR will pay the difference to the OWNER. Such costs incurred by the OWNER will be determined by the ENGINEER and incorporated in a CHANGE ORDER.

- 18.3 Where the CONTRACTOR'S services have been so terminated by the OWNER, said termination shall not affect any right of the OWNER against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of monies by the OWNER due the CONTRACTOR will not release the CONTRACTOR from compliance with the CONTRACT DOCUMENTS.
- 18.4 After ten (10) days from delivery of a WRITTEN NOTICE to the CONTRACTOR and the ENGINEER, the OWNER may without cause and without prejudice to any other right or remedy, elect to abandon the PROJECT and terminate the contract. In such case the CONTRACTOR shall be paid for all WORK executed and any expense sustained plus reasonable profit.
- 18.5 If, through no act or fault of the CONTRACTOR, the WORK is suspended for a period of more than ninety (90) days by the OWNER or under an order of court or other public authority, or the ENGINEER fails to act on any request for payment within thirty (30) days after it is submitted, or the OWNER fails to pay the CONTRACTOR substantially the sum approved by the ENGINEER or awarded by arbitrators within thirty (30) days of its approval and presentation, then the CONTRACTOR may, after ten (10) days from delivery of a WRITTEN NOTICE to the OWNER and the ENGINEER terminate the contract and recover from the OWNER payment for all WORK executed and all expenses sustained. In addition, and in lieu of terminating the contract, if the ENGINEER has failed to act on a request for payment or if the OWNER has failed to make any payment as aforesaid, the CONTRACTOR may upon ten (10) days WRITTEN NOTICE to the OWNER and the ENGINEER stop the WORK until paid all amounts then due, in which event and upon resumption of the WORK CHANGE ORDERS shall be issued for adjusting the CONTRACT PRICE or extending the CONTRACT TIME or

both to compensate for the costs and delays attributable to the stoppage of the WORK.

18.6 If the performance of all or any portion of the WORK is suspended, delayed, or interrupted as a result of a failure of the OWNER or ENGINEER to act within the time specified in the CONTRACT DOCUMENTS, or if no time is specified, within a reasonable time, an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, shall be made by CHANGE ORDER to compensate the CONTRACTOR for the costs and delays necessarily caused by the failure of the OWNER or ENGINEER.

19. PAYMENT TO CONTRACTOR

19.1 At least ten (10) days before each progress payment falls due (but not more often than once a month), the CONTRACTOR will submit to the ENGINEER a partial payment estimate filled out and signed by the CONTRACTOR covering the WORK performed during the period covered by the partial payment estimate and supported by such data as the ENGINEER may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the WORK but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the OWNER, as will establish the OWNER'S title to the material and equipment and protect the OWNER'S interest therein, including applicable insurance. The ENGINEER will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing approval of payment, and present the partial payment estimate to the OWNER, or return the partial payment estimate to the CONTRACTOR indicating in writing the reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the necessary corrections and re-submit the partial payment estimate. The OWNER will, within ten (10) days of presentation of an approved partial payment estimate, pay the CONTRACTOR a progress payment on the basis of the approved partial payment estimate less the retainage. The retainage shall be an amount equal to 10% of said estimate until 50% of the WORK has been completed. At 50% completion, no additional retainage will be withheld, such that total retainage will be gradually reduced from 10% at 50% completion to 5% at 100% completion. At 50% completion or any time thereafter when the progress of the WORK is not satisfactory, additional amounts may be retained but in no event shall the total retainage be more than

10% of the value of the WORK completed. The retainage amount withheld in the Contractor's Application for Payments shall be invested by the Owner at the current market rate for the duration of the Project. If the Project is completed within the time limits specified and at the Contract Price specified, subject to any authorized modification thereto, the interest earned on the retainage shall be paid to the Contractor. Any expenses charged by the financial institution for the retainage investment account will be deducted from the interest earned on the account. Payment of the interest to the Contractor shall be made with the final payment, after the Engineer certifies that the Work, including incomplete minor items remaining after substantial completion, has been completed. If the Contractor does not satisfy the time and/or price conditions, the Owner will retain the interest earned on retainage. When the WORK has been substantially completed except for WORK which cannot be completed because of weather conditions, lack of materials or other reasons 'which in the judgment of the OWNER are valid reasons for non-completion, the OWNER may make additional payments, retaining at all times an amount sufficient to cover the estimated cost of the WORK still to be completed.

- 19.2 The request for payment may also include an allowance for the cost of such major materials and equipment which are suitably stored either at or near the site.
- 19.3 Prior to SUBSTANTIAL COMPLETION, the OWNER, with the approval of the ENGINEER and with the concurrence of the CONTRACTOR, may use any completed or substantially completed portions of the WORK. Such use shall not constitute an acceptance of such portions of the WORK.
- 19.4 The OWNER shall have the right to enter the premises for the purpose of doing WORK not covered by the CONTRACT DOCUMENTS. This provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the WORK, or the restoration of any damaged WORK except such as may be caused by agents or employees of the OWNER.
- 19.5 Upon completion and acceptance of the WORK, the ENGINEER shall issue a certificate attached to the final payment request that the WORK has been accepted under the conditions of the CONTRACT DOCUMENTS. The entire balance found to be due the CONTRACTOR, including the retained percentages, but except such sums as may be lawfully retained by the OWNER, shall be

paid to the CONTRACTOR within thirty (30) days of completion and acceptance of the WORK.

19.6 The CONTRACTOR will indemnify and save the OWNER or the OWNER'S agents harmless from all claims growing out of the lawful demand of SUBCONTRACTORS, laborers, workmen, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the WORK. The CONTRACTOR shall, at the OWNER'S request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the CONTRACTOR fails to do so the OWNER may, after having notified the CONTRACTOR, either pay unpaid bills or withhold from the CONTRACTOR'S unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be resumed in accordance with the terms of the CONTRACT DOCUMENTS, but in no event shall the provisions of this sentence be construed to impose any obligations upon the OWNER to either the CONTRACTOR, the CONTRACTOR'S Surety, or any third party. In paying any unpaid bills of the CONTRACTOR, any payment so made by the OWNER shall be considered as a payment made under the CONTRACT DOCUMENTS by the OWNER to the CONTRACTOR and the OWNER shall not be liable to the CONTRACTOR for any such payments made in good faith.

19.7 If the OWNER fails to make payment thirty (30) days after approval by the ENGINEER, in addition to other remedies available to the CONTRACTOR, there shall be added to each such payment interest at the maximum legal rate commencing on the first day after said payment is due and continuing until the payment is received by the CONTRACTOR.

20. ACCEPTANCE OF FINAL PAYMENT AS RELEASE

20.1 The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER of all claims and all liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the CONTRACTOR for all things done or furnished in connection with this WORK and for every act and neglect of the OWNER and others relating to or arising out of this WORK. Any payment, however, final or otherwise, shall not release the CONTRACTOR or its sureties from any obligations under the CONTRACT

DOCUMENTS or the Performance and Payment BONDS.

21. INSURANCE

- 21.1 The CONTRACTOR shall purchase and maintain such insurance as will protect it from claims set forth below which may arise out of, or result from, the CONTRACTOR'S execution of the WORK, whether such execution be by the CONTRACTOR, any SUBCONTRACTOR, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:
- 21.1.1 Claims under workmen's compensation, disability benefit and other similar employee benefit acts;
- 21.1.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of employees;
- 21.1.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than employees;
- 21.1.4 Claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the CONTRACTOR, or (2) by any other person; and
- 21.1.5 Claims for damages because of injury to or destruction of tangible property, including loss of use resulting therefrom.
- 21.2 Certificates of Insurance acceptable to the OWNER shall be filed with the OWNER prior to commencement of the WORK. These Certificates shall contain a provision that coverages afforded under the policies will not be canceled unless at least fifteen (15) days prior WRITTEN NOTICE has been given to the OWNER.
- 21.3 The CONTRACTOR shall procure and maintain, at the CONTRACTOR'S own expense, during the CONTRACT TIME, liability insurance as hereinafter specified:
- 21.3.1 CONTRACTOR'S General Public Liability and Property Damage Insurance including vehicle coverage issued to the CONTRACTOR and protecting the CONTRACTOR from all claims for personal injury, including death, and all claims for destruction of or damage to property, arising out of or in connection with any operations

under the CONTRACT DOCUMENTS, whether such operations be by the CONTRACTOR or by any SUBCONTRACTOR employed by the CONTRACTOR or anyone directly or indirectly employed by the CONTRACTOR or by a SUBCONTRACTOR employed by the CONTRACTOR. Insurance shall be written with a limit of liability of not less than \$1,000,000 for all damages arising out of bodily injury, including death, at any time resulting therefrom, sustained by any one person in any one accident; and a limit of liability of not less than \$1,000,000 aggregate for any such damages sustained by two or more persons in any one accident. Insurance shall be written with a limit of liability of not less than \$500,000 for all property damage sustained by any one person in any one accident; and a limit of liability of not less than \$500,000 aggregate for any such damage sustained by two or more persons in any one accident.

21. 3. 2 The CONTRACTOR shall acquire and maintain, Fire and Extended Coverage insurance upon the PROJECT to the full insurable value thereof for the benefit of the OWNER, the CONTRACTOR, and SUBCONTRACTORS as their interest may appear. This provision shall in no way release the CONTRACTOR or CONTRACTOR'S surety from obligations under the CONTRACT DOCUMENTS to fully complete the PROJECT.
- 21.4 The CONTRACTOR shall procure and maintain, at the CONTRACTOR'S own expense, during the CONTRACT TIME, in accordance with the provisions of the laws of the state in which the WORK is performed, Workmen's Compensation Insurance, including occupational disease provisions, for all of the CONTRACTOR'S employees at the site of the PROJECT and in case any WORK is sublet, the CONTRACTOR shall require such SUBCONTRACTOR similarly to provide Workmen's Compensation Insurance, including occupational disease provisions for all of the latter's employees unless such employees are covered by the protection afforded by the CONTRACTOR. In case any class of employees engaged in hazardous WORK under this contract at the site of the PROJECT is not protected under Workmen's Compensation statute, the CONTRACTOR shall provide, and shall cause each SUBCONTRACTOR to provide, adequate and suitable insurance for the protection of its employees not otherwise protected.
21. 5 The CONTRACTOR shall secure, "All Risk" type Builder's Risk Insurance for WORK to be performed. Unless specifically authorized by the OWNER, the amount of such insurance shall not be less than the CONTRACT PRICE totaled in the BID. The policy shall cover not

less than the losses due to fire, explosion, hail, lightning, vandalism, malicious mischief, wind, collapse, riot, aircraft, and smoke during the CONTRACT TIME, and until the WORK is accepted by the OWNER. The policy shall name as the insured the CONTRACTOR, and the OWNER.

22. CONTRACT SECURITY

22.1 The CONTRACTOR shall within ten (10) days after the receipt of the NOTICE OF AWARD furnish the OWNER with a Performance BOND and a Payment BOND in penal sums equal to the amount of the CONTRACT PRICE, conditioned upon the performance by the CONTRACTOR of all undertakings, covenants, terms, conditions and agreements of the CONTRACT DOCUMENTS, and upon the prompt payment by the CONTRACTOR to all persons supplying labor and materials in the prosecution of the WORK provided by the CONTRACT DOCUMENTS. Such BONDS shall be executed by the CONTRACTOR and a corporate bonding company licensed to transact such business in the state in which the WORK is to be performed and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of these BONDS shall be borne by the CONTRACTOR. If at any time a surety on any such BOND is declared a bankrupt or loses its right to do business in the state in which the WORK is to be performed or is removed from the list of Surety Companies accepted on Federal Bonds, CONTRACTOR shall within ten (10) days after notice from the OWNER to do so, substitute an acceptable BOND (or BONDS) in such form and sum and signed by such other surety or sureties as may be satisfactory to the OWNER. The premiums on such BOND shall be paid by the CONTRACTOR. No further payment shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable BOND to the OWNER.

23. ASSIGNMENTS

23.1 Neither the CONTRACTOR nor the OWNER shall sell, transfer, assign, or otherwise dispose of the Contract or any portion thereof, or of any right, title or interest therein, or any obligations thereunder, without written consent of the other party.

24. INDEMNIFICATION

24.1 The CONTRACTOR will indemnify and hold harmless the OWNER and the ENGINEER and their agents and employees

from an against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance of the WORK, provided that any such claims, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property including the loss of use resulting therefrom; and is caused in whole or in part by any negligent or willful act or omission of the CONTRACTOR, and SUBCONTRACTOR, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

24.2 In any and all claims against the OWNER or the ENGINEER, or any of their agents or employees, by any employee of the CONTRACTOR, any SUBCONTRACTOR, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any SUBCONTRACTOR under Workmen's Compensation acts, disability benefit acts or other employee benefits acts.

24.3 The obligation of the CONTRACTOR under this paragraph shall not extend to the liability of the ENGINEER, its agents or employees arising out of the preparation or approval of maps, DRAWINGS, opinions, reports, surveys, CHANGE ORDERS, designs or SPECIFICATIONS.

25. SEPARATE CONTRACTS

25.1 The OWNER reserves the right to let other contracts in connection with this PROJECT. The CONTRACTOR shall afford other CONTRACTORS reasonable opportunity for the introduction and storage of their materials and the execution of their WORK, and shall properly connect and coordinate the WORK with theirs.

If the proper execution or results of any part of the CONTRACTOR'S WORK depends upon the WORK of any other CONTRACTOR, the CONTRACTOR shall inspect and promptly report to the ENGINEER any defects in such WORK that render it unsuitable for such proper execution and results.

25.2 The OWNER may perform additional WORK related to the PROJECT or the OWNER may let other contracts containing provisions similar to these. The CONTRACTOR will afford the other CONTRACTOR'S who are parties to such

Contracts (or the OWNER, if the OWNER is performing the additional WORK) reasonable opportunity for the introduction and storage of materials and equipment and the execution of WORK, and shall properly connect and coordinate the WORK with the s.

25.3 If the performance of additional WORK by other CONTRACTOR'S or the OWNER is not noted in the CONTRACT DOCUMENTS prior to the execution of the CONTRACT, written notice thereof shall be given to the CONTRACTOR prior to starting any such additional WORK. If the CONTRACTOR believes that the performance of such additional WORK by the OWNER or others involves it in additional expense or entitles it to an extension of the CONTRACT TIME, the CONTRACTOR may make a claim thereof as provided in Sections 14 and 15.

26. SUBCONTRACTING

26.1 The CONTRACTOR may utilize the services of specialty SUBCONTRACTS on those parts of the WORK which, under normal contracting practices, are performed by specialty SUBCONTRACTORS.

26.2 The CONTRACTOR shall not award WORK to SUBCONTRACTOR(s), in excess of fifty (50%) percent of the CONTRACT PRICE, without prior written approval of the OWNER.

26.3 The CONTRACTOR shall be fully responsible to the OWNER for the acts and omissions of its SUBCONTRACTORS, and of persons either directly or indirectly employed by them, as the CONTRACTOR is for the acts and omissions of persons directly employed by it.

26.4 The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the WORK to bind SUBCONTRACTORS to the CONTRACTOR by the terms of the CONTRACT DOCUMENTS insofar as applicable to the WORK of SUBCONTRACTORS and give the CONTRACTOR the same power as regards terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provision of the CONTRACT DOCUMENTS.

26.5 Nothing contained in this CONTRACT shall create any contractual relation between any SUBCONTRACTOR and the OWNER.

27. ENGINEER'S AUTHORITY

27.1 The ENGINEER shall act as the OWNER'S representative

during the construction period, shall decide questions which may arise as to quality and acceptability of materials furnished and WORK performed, and shall interpret the intent of the CONTRACT DOCUMENTS in a fair and unbiased manner. The ENGINEER will make visits to the site and determine if the WORK is proceeding in accordance with the CONTRACT DOCUMENTS.

- 27.2 The CONTRACTOR will be held strictly to the intent of the CONTRACT DOCUMENTS in regard to the quality of materials, workmanship, and execution of the WORK. Inspections may be at the factory or fabrication plant of the source of material supply.
- 27.3 The ENGINEER will not be responsible for the construction means, controls, techniques, sequences, procedures, or construction safety.
- 27.4 The ENGINEER shall promptly make decisions relative to interpretation of the CONTRACT DOCUMENTS.
- 28. LAND AND RIGHTS-OF-WAY
 - 28.1 Prior to issuance of NOTICE TO PROCEED, the OWNER shall obtain all land and rights-of-way necessary for carrying out and for the completion of the WORK to be performed pursuant to the CONTRACT DOCUMENTS, unless otherwise mutually agreed.
 - 28.2 The OWNER shall provide to the CONTRACTOR information which delineates and describes the lands owned and rights-of way acquired.
 - 28.3 The CONTRACTOR shall provide at its own expense and without liability to the OWNER any additional land and access thereto that the CONTRACTOR may desire for temporary construction facilities, or for storage of materials.
- 29. GUARANTEE
 - 29.1 The CONTRACTOR shall guarantee all materials supplied by the CONTRACTOR and equipment furnished and WORK performed for a period of one (1) year from the date of SUBSTANTIAL COMPLETION. The CONTRACTOR warrants and guarantees for a period of one (1) year from the elate of SUBSTANTIAL COMPLETION of the system that the completed system is free from all defects due to faulty materials supplied by the CONTRACTOR or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including

the repairs of the damage of other parts of the system resulting from such defects.

The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs, adjustments, or other WORK that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The Performance BOND shall remain in full force and effect through the guarantee period.

30. ARBITRATION BY MUTUAL AGREEMENT

30.1 All claims, disputes, and other matters in question arising out of, or relating to, the CONTRACT DOCUMENTS or the breach thereof, except for claims which have been waived by making an acceptance of final payment as provided by Section 20, may be decided by arbitration if the parties mutually agree. Any agreement to arbitrate shall be specifically enforceable under the prevailing arbitration law. The award rendered by the arbitrators shall be final, and judgment may be entered upon in any court having jurisdiction thereof.

30.2 Notice of the request for arbitration shall be filed in writing with the other party to the CONTRACT DOCUMENTS and a copy shall be filed with the ENGINEER. Request for arbitration shall in no event be made on any claim, dispute, or other matter in question which would be barred by the applicable statute of limitations.

30.3 The CONTRACTOR will carry on the WORK and maintain the progress schedule during any arbitration proceedings, unless otherwise mutually agreed in writing.

SUPPLEMENTAL GENERAL CONDITIONS

1. CONTRACT CHANGES.

All changes which affect the cost of the construction of the project must be authorized by means of a Contract Change Order. The Contract Change Order will include extra work, work for which quantities have been altered from those shown in the bidding schedule, as well as decreases or increases in the quantities of installed units which are different than those shown in the Bidding Schedule because of final measurements. All changes should be recorded on a contract change order as they occur so they may be included in the partial payment estimate. All contract change orders must be approved by the ENGINEER and OWNER.
2. EQUAL OPPORTUNITY CLAUSE
 - A. The contractor will not discriminate against any employee or applicant for employment because of race, color, creed, sex, age, marital status, or national origin. The CONTRACTOR will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, creed, sex, age, marital status or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The CONTRACTOR agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this equal opportunity clause.
 - B. The CONTRACTOR will, in all solicitations or advertisements for employees placed by or on behalf of the CONTRACTOR, state that all qualified applicants will receive consideration for employment without regard to race, color, creed, sex, age, marital status, or national origin.
3. PROTECTION OF LIVES AND PROPERTY
 - A. In order to protect the lives and health of its employees under the Contract, the CONTRACTOR shall comply with all pertinent provisions of the "Manual of Accident Prevention in Construction" issued by the Associated General Contractors of America, Inc., and shall maintain an accurate record of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment or work under the Contract.
4. The CONTRACTOR alone shall be responsible for the safety, security, efficiency, and adequacy of the construction site

and for its plant, appliances, and methods, and for any damage which may result from their failure or their improper construction, maintenance, or operation.

4. No official of the OWNER who is authorized in such capacity and on behalf of the OWNER to negotiate, make, accept, or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspecting, construction or material supply contract or any subcontract in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or in any part thereof. No officer, employee, architect, attorney, engineer, or inspector of or for the OWNER who is authorized in such capacity and on behalf of the OWNER who is in any legislative, executive, supervisory, or other similar functions in connection with the construction of the project, shall become directly or indirectly interested personally in this contract, or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the project.
5. The ENGINEER may withhold or, on account of subsequently discovered evidence, nullify the whole or part of any approved partial payment estimate to such extent as may be necessary to protect the OWNER from loss on account of:
 - A. Defective work not remedied.
 - B. Claims filed or reasonable evidence indicating probable filing of claims.
 - C. Failure of CONTRACTOR to make payments properly to subcontractors or for material or labor.
 - D. A reasonable doubt that the WORK can be completed for the balance then unpaid.
 - E. Damage to another contractor.
 - F. Performance of work in violation of the terms of the CONTRACT DOCUMENTS.
6. Where work on unit price items are substantially complete but lack clean-up and/or corrections ordered by the ENGINEER, amounts shall be deducted from unit prices in partial payment estimates to amply cover such clean-up and corrections.
7. When the above grounds in (5) and (6) are cured, payment shall be made for amounts withheld because of them.

**CERTIFICATE OF OWNER'S ATTORNEY
2021 MISCELLANEAOUS DRAINAGE IMPROVEMENTS**

I, the undersigned, Dennis Davenport the duly authorized and acting legal representative of the Town of Tyrone, Georgia, do hereby Certify as follows:

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

Signature

Date

SPECIAL CONDITIONS

1. DESCRIPTION OF WORK

The work included in this Contract shall include all labor and materials necessary for demolition and installation of concrete stormwater catch basin components along with cured-in-place pipe, rip rap, and associated work, complete.

It is the intent of these Plans and Specifications that the Contractor shall perform all incidental items of Work and furnish all items of incidental material, and equipment required to construct the completed Project even though such items are not covered in detail in the Contract Documents.

Due to the nature of the project and the potential for unforeseen conditions, it is anticipated that some additional work may be required. An allowance for additional work is to be included in the Base Bid and in any the Additive Alternate Bid, to be used to cover Change Orders resulting from such additional work. These allowances apply only to additional work not shown on the Drawings or required by the Specifications. Should such additional work become evident during the conduct of the work, a cost to correct such work shall be established and if the Owner agrees to incorporate the Work in this Contract, a Change Order will be issued. The amount of the Change Order will be deducted from the appropriate allowance. At the end of the job, if any allowance remains unused, a Change Order will be issued decreasing the Contract amount by the amount of the unused allowance.

2. COORDINATION OF WORK

The individual Contractor is responsible for the proper coordination of the Work. The OWNER and the ENGINEER will assist in coordinating the Work schedules, but will not be responsible for proper cooperation and coordination of any Work. Any additional work, expense or delay due to lack of coordination will be the sole responsibility of the Contractor.

3. SPECIAL NOTICE

Bidders are required to inform themselves fully of all laws, ordinances, and conditions relating to the work.

Bidders are required to visit the site and inform themselves as to all conditions, and failure to do so will in no way relieve the successful bidder or bidders from the necessity of furnishing any materials or performing any work that may be required to complete the work in accordance with the true intent and meaning of the Plans and Specifications without additional cost to the OWNER.

4. SUBSURFACE CONDITIONS

It is not represented that the Plans show all underground structures, and whenever necessary the Contractor shall make all explorations and excavations for such purposes, at his own expense. Any subsurface information furnished is for the general information of the bidders and is not guaranteed. Unforeseen conditions shall not constitute a claim for increased compensation under the terms of the Contract, nor constitute a basis for cancellation thereof.

5. SCHEDULING

Scheduling and sequencing of the work shall be done such that continuous, concerted effort is made towards completion of the work. Extended pauses or delays in the work schedule, other than those beyond the control of the Contractor, will not be permitted.

6. COORDINATION WITH UTILITIES

Existing utilities and services shall be located, protected and maintained by all necessary measures in working condition.

7. LINES AND GRADES

The ENGINEER will furnish sufficient bench marks and dimensions to enable the Contractor to layout the necessary construction lines from the information shown on the Plans. The Contractor shall be responsible for the preservation of all points and elevations furnished and shall bear the expense of setting same if, through negligence or carelessness on his part, they are destroyed. The Contractor shall satisfy himself as to the accuracy of all elevations and points furnished and shall not take advantage of any errors that may have been made.

All lines and grades shall be subject to checking by the ENGINEER, but this checking shall in no way relieve the Contractor from his responsibility for their correctness.

The Contractor shall provide such stakes, material, etc., and such field men, and assistance as the ENGINEER may require to establish bench marks and checking and measuring the work.

8. WARNING AND SIGNALS

The Contractor shall be responsible for all signals to the public while the work is in progress, and shall keep amber lights during the entire night at such points as may be necessary; and he shall provide watchmen, signboards, digital message boards, fences, etc., and shall take any precautions that may be necessary to protect life and property.

9. CONSTRUCTION EQUIPMENT

The Contractor shall provide all necessary equipment in good repair for the expedient construction of the work. Any equipment not adapted for the work, or in such repair as to be dangerous to the work or workers shall not be used.

10. TRAFFIC CONTROL

The Contractor shall develop traffic control plans and programs as necessary to provide, erect, and maintain, all necessary barricades, suitable and sufficient lights, danger signals, signs, pilot vehicles, flagmen and other control devices, and take all necessary precautions for the protection of the work and the safety of the public. A minimum of one lane shall remain open to traffic at all times. Contractor shall comply with the Manual for Uniform Traffic Control Devices, latest addition.

11. SANITARY PROVISIONS

The Contractor shall provide and maintain in a neat and sanitary condition such accommodations for the use of his employees as necessary to comply with the Regulations of the State Board of Health and all local ordinances. No nuisances will be permitted.

12. SPECIAL INSPECTION

Representatives of the OWNER and the ENGINEER shall have access to the work whenever it is in preparation or progress, and the Contractor will provide proper facilities for such access and inspection.

13. PLANS AND SPECIFICATIONS

The ENGINEER shall furnish to the Contractor, free of charge, three (3) copies of the Plans and Specifications. If additional copies are desired by the Contractor, they will be furnished at his expense. The Contractor shall keep one copy of the Plans and Specifications on the site of the work in good order, available to the ENGINEER and to their representatives. All Plans, Specifications, and copies thereof furnished by the ENGINEER are their property. They are not to be used on other work, and with the exception of the signed Contract Set are to be returned to them on request, at the completion of the work.

14. ENVIRONMENTAL PROTECTION

During construction the Contractor shall provide silt barriers, and/or other preventive measures as may be required by governing laws or ordinances to prevent siltation and soil erosion. All such work shall be done without additional cost to the OWNER.

The Contractor will restore all disturbed areas to their present or better condition upon completion of construction.

15. NOTICE TO PROPERTY OWNERS

Contractor shall provide written notice of work schedule to property owners adjacent to immediate work area. Notice shall include approximate work dates, directions regarding on-street parking, sprinkler system operation, trimming of tree limbs, misc. encroachments, etc. Contractor shall submit sample notice to the Engineer for approval.

16. EQUIPMENT STAGING AREAS

Equipment staging/storage areas shall be approved by the Engineer.

17. SPECIALTY SIGNAGE - OMITTED

18. ADJUSTMENTS TO EXISTING UTILITIES WITHIN PAVEMENT

Only items listed on the Bid Schedule will be measured for payment.

19. DEBRIS REMOVAL AND CLEAN UP

Contractor shall remove all debris from work area, as necessary to properly complete the work. Debris shall be

disposed of, at a legal offsite location selected by the Contractor, at no additional cost.

Debris and waste materials generated by the work shall be disposed of by the Contractor at a suitable off-site location.

21. TIME OF WORK

No work shall be done between 7:00 p.m. and 8:00 a.m., nor on Sundays or legal holidays, without the written permission of the Owner. However, maintenance or emergency work during these hours may be done without prior permission.

Overtime Notice: If the Contractor for his convenience and at his own expense should desire to carry on his own work at night or outside regular hours, he shall submit written notice to the Engineer and he shall allow ample time for satisfactory arrangements to be made for inspecting the work in progress. The Engineer will be the sole judge of whether on-site inspection is required. The Contractor will pay the Engineer an amount equal to 3.0 times the direct salary cost of the resident inspector for such work, said amount to be deducted from the payments to the Contractor by the Owner.

22. REQUIREMENTS FOR THE GEORGIA SECURITY AND IMMIGRATION COMPLIANCE ACT OF 2006

See the following pages.

(To be executed by successful Bidder, after Notice of Award)

STATE OF GEORGIA

FAYETTE COUNTY

GEORGIA SECURITY AND IMMIGRATION COMPLIANCE ACT OF 2006

WITNESSETH:

1. Pursuant to the Georgia Security and Immigration Compliance Act of 2006, the Contractor understands and agrees that compliance with the requirements of O.C.G.A. § 13-10-91 and Georgia Department of Labor Rule 300-10-1-.02. are conditions of this Agreement. The Contractor further agrees that such compliance shall be attested by the Georgia Department of Labor through execution of the contractor affidavit. The Contractor's fully executed affidavit is attached hereto as Exhibit "A" and is incorporated into this Agreement by reference herein.

2. The Contractor understands and agrees that, in the event the Contractor employs or contracts with any subcontractor or subcontractors in connection with this Agreement, the Contractor shall:

- A. Secure from each such subcontractor and sub-subcontractor an attestation of the subcontractor's compliance with O.C.G.A. § 13-10-91 and Georgia Department of Labor Rule 300-10-1.02 by causing each such subcontractor to execute the subcontractor affidavit required by Georgia Department of Labor Rule 300-10-1-.08, which is attached hereto as Exhibit "B", and sub-subcontractor, hereto as Exhibit "C", or a substantially similar

subcontractor affidavit. The Contractor further understands and agrees that the Contractor shall require the executed subcontractor affidavit to become part of the agreement between the Contractor and each such subcontractor. The Contractor agrees to maintain records of each subcontractor attestation required hereunder for inspection by the Department at any time.

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 the Town of Tyrone, Georgia 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 _____, 20__ in (city) _____ (state) _____.

Signature

Printed Name and Title of Authorized Officer of Agent

SUBSCRIBED AND SWORN BEFORE ME

ON THIS THE ___ Day of _____, 20__.

NOTARY PUBLIC

My Commission Expires: _____

EXHIBIT 'A'

Part 2 of 2

O.C.G.A. 50-36-1 (e)(2) Affidavit

By executing this affidavit under oath, as an applicant for a(n) _____ Contract _____, as referenced in O.C.G.A. 50-36-1, from Town of Tyrone, Georgia, the undersigned applicant verifies one of the following with respect to my application for a public benefit:

- 1)____ I am a United States citizen.
- 2)____ I am a legal permanent resident of the United States.
- 3)____ I am a qualified alien or non-immigrant under the Federal Immigration and Nationality Act with an alien number issued by the Department of Homeland Security or other federal immigration agency.

My alien number issued by the Department of Homeland Security or other federal immigration agency is: _____

The undersigned applicant also hereby verifies that he or she is 18 years of age or older and has provided at least one secure and verifiable document, as required by O.C.G.A. 50-36-1 (e)(1), with this affidavit.

The secure and verifiable document provided with this affidavit can best be classified as:

(Driver's License, Passport, etc. - Attach copy)

In the 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 O.C.G.A 16-10-2-, and face criminal penalties as allowed by such criminal statute.

Executed in _____(city) _____(state).

Signature of Applicant

Printed Name of Applicant

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

NOTARY PUBLIC
My Commission Expires:

EXHIBIT 'B'

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 _____ on behalf of Town of Tyrone, Georgia 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 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 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 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 _____, 20__ in (city) _____ (state) _____.

Signature

Printed Name and Title of Authorized Officer of Agent

SUBSCRIBED AND SWORN BEFORE ME

ON THIS THE__ DAY OF _____, 21__

NOTARY PUBLIC

My Commission Expires: _____

EXHIBIT 'C'

SUB-SUBCONTRACTOR AFFIDAVIT UNDER O.C.G.A. 13-10-91(b)(4)

By executing this affidavit, the undersigned sub-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 subcontractor or sub-subcontractor with whom such sub-subcontractor has privity of contract)* and *(name of contractor)* on behalf of Town of Tyrone, Georgia 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 with the information required by O.C.G.A. 13-10-91(b). The undersigned sub-subcontractor shall submit, at the time of such contract, this affidavit to *(name of subcontractor of sub-subcontractor with whom such sub-subcontractor has privity of contract)* Additionally, the undersigned sub-subcontractor will forward notice of the receipt of an affidavit from a sub-subcontractor to *(name of subcontractor of sub-sub-subcontractor with whom such sub-subcontractor has privity of contract)* . 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 Sub-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

Printed Name and Title of Authorized Officer of Agent

SUBSCRIBED AND SWORN BEFORE ME

ON THIS THE ___ DAY OF ----- 210

NOTARY PUBLIC

My Commission Expires:_____

SECTION 02535 – CURED-IN-PLACE PIPE (CIPP) STORMWATER

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. The work covered by this section includes furnishing all labor, equipment and materials necessary to rehabilitate various size stormwater pipes via cured in place technology. All work performed must meet or exceed the minimum requirements as set forth in the most recent revision of ASTM F1216, "Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube" and ASTM F1743, "Rehabilitation of Existing Pipelines and Conduits by Pulled-In-Place Installation of Cured-In-Place Thermosetting Resin Pipe.
2. Installation of the resin-impregnated flexible tube, shall be cured in place within the existing stormwater pipe. Curing shall be accomplished by hot water inversion. The curing method shall be suitable for the resin used so that the resin is converted into a hard impermeable pipe wall. When cured, the Cured in Place Pipe (CIPP) should extend over the length of each pipe reach in a joint less, continuous tight-fitting watertight pipe-within-a-pipe. By-pass pumping of water in the ditch will be required throughout the entire time from start of cleaning pipe until final camera and approval by inspector. Preliminary televising and cleaning in preparation for the liner system reconstruction will be required and performed for each line segment including laterals to be rehabilitated. Base bid includes pipe bottom stabilization by flowable fill as deemed necessary by the Owner after cleaning. Post-televising for each pipe will also be required. All videos will be recorded by the Contractor and will become the property of the Owner. All work shall comply with the manufacturer's written standards, ASTM standards and NASSCO's standards.

1.2 SUBMITTALS

- A. Product Data: For Materials used and manufacturer's installation instructions. The manufacturer's brochures giving a complete description of the product proposed, its physical and chemical composition, the same for the thermosetting resin or epoxy hardener, the recommended range of curing temperature, period of cure, cool-down procedures and method of installation.
- B. Design Calculations: The design calculations establishing the structural capabilities, chemical composition, thickness, curing temperature and period, and other mechanical properties of the liner system proposed, signed and sealed by a professional engineer licensed to practice in the State of Georgia.
- C. Shop Drawing: Indicate liner thickness and length for each pipe size to be lined.
- D. Pre-install TV Video: Show condition of pipe and joints after cleaning and prior to. Submit video on SD card or USB drive for the review and approval of the Owner prior to CIPP installation.

- E. Post Install TV Video: Prior to acceptance of submit post installation TV videos on SD card or USB Drive. Submit inspection logs in hard copy and electronic format (PDF).
- F. Contractor Certification: Submit contractor certification stating: "To the best of his/her knowledge and belief, the lining system used was installed in full accordance with the manufacturer's recommendations and these specifications."
- G. Cure Tracking Technology: Submit reports for all sections of pipe which will be cured-in-place. Reports shall include continuous data from start to finish of the curing process throughout the completion of the curing process.

1.3 QUALIFICATIONS & DESIGN LIFE:

- A. The cured in place pipe must have a minimum design life of 50 years. The minimum design life may be documented by submitting life estimates by national or internationally recognized authorities or specifying agencies. Long-term testing and long-term in-service results (minimum 10 years) may be used and results extrapolated to 50 years.
- B. Requirements for Installer
 1. In order to be considered acceptable for installation, the installer shall certify successful installation of a minimum of 100,000 L.F. of the product in sewer stormwater pipes in the Southeast part of the United States. Acceptable documentation of these minimum installations must be submitted to the Owner.
 2. The installer must have had at least 5 years active experience in the commercial installation of their proposed product/process.
 3. No Product will be allowed to be installed without submittal of 3rd party test data supporting the long-term strength, corrosion resistance and 50-year design life. Test data shall be in conformance with applicable ASTM Standards for plastic pipe.
 4. For a product to be considered commercially proven, a minimum of 1,000,000 linear feet successful stormwater pipe installations in the Southeast U.S. must be documented to the satisfaction of the Owner to assure commercial viability.

1.4 ADDITIONAL REQUIREMENTS:

- A. Structural Requirements: The structural performance of the inverted cured in place pipe must be adequate to accommodate all internal and external loads (live and dead) over its design life. **The CIPP assume no bonding to the existing pipe for any part of its structural strength.** Since pipe strength is related to the uniformity and density of the pipe wall material, vacuum impregnation of resin will be preferred.
- B. Structural Design Methods: The wall thickness of the CIPP liner shall be based on design methods derived from generally accepted pipe formula for various loading conditions and modes of failure. Parameters considered in design shall include, but not be limited to: pipe wall material strength, long-term strength for minimum 50-year design life, earth loads, groundwater loads, condition of existing pipe, loading on the surface (both live and dead), missing sections of the existing pipe, geometry of the existing pipe, and localized loadings or structural defects in the existing pipe. The design will be chosen relative to buckling, stress and deflection failure from external loads and ring tension and deflection failure from internal loads. When the existing pipe is determined to be fully deteriorated and will not offer any support to the CIPP pipe, the equation for buckling design

will be based upon the Equation X1.1 of ASTM F1216. All equations will be modified to include ovality as a design parameter. All structural design must be certified by a registered engineer, licensed to practice in the State of Georgia.

Minimum thickness requirement shall be as shown below:

Cured-in-Place Pipe (CIPP)	Depth	CIPP Minimum Thickness
Size (inches)	(feet)	Millimeter (mm)
12	0 to 12	7.5
15	0 to 12	7.5
18	0 to 12	8
21	0 to 12	9
24	0 to 12	11
30	0 to 12	13
36	0 to 12	16
42	0 to 12	18
48	0 to 12	21
54	0 to 12	24
60	0 to 12	28.5

Minimum Design Parameters:

Fully Deteriorated

Water at Grade (to ground surface, maximum pipe depth)

Safety Factor of 2

Enhancement Factor K of 7

Ovality (equation X1.1 from ASTM F1216)

Soil Modulus of 500 psi

Soil Density of 120 lbs/cu ft

H-20 Live Highway Loading of 16,000 lbs

An effective length of 3.0 feet of pipe is assumed, and two trucks passing on the street with 6 feet axle widths and 6 feet distance between passing wheels

- C. Mechanical Properties: The cured resin/fabric shall have the following minimum strength requirements:

<u>ASTM F-1216 STANDARD</u>	<u>RESULT</u>
Tensile strength at yield 20 C	3,000 psi
Flexural strength #10 (modified ASTM D-790)	4,500 psi
Creep Factor (long-term flexural modulus)	50% (125,000 psi)
Impact strength	1.5 ft. lb./in
Shear strength	7,000 psi
Flexural modulus of elasticity #10 (modified ASTM D-790)	250,000 psi to 500,000 psi

- D. Physical Strength: The design for CIPP pipe wall thickness will be based on the strengths as shown in ASTM F-1216, latest Revision, and these specifications unless otherwise submitted to and approved by the Owner.

- E. References: The latest revisions of the publications listed below form a part of these specifications:

American Society for Testing and Materials (ASTM), including but not limited to:	
ASTM F1216	Standard practice for rehabilitation of existing pipelines and conduits by the inversion and curing of a resin-impregnated tube.
ASTM F1743	Standard practice for rehabilitation of existing pipelines and conduits by pulled-in-place installation of thermosetting resin pipe.
ASTM D638	Test method for tensile properties of plastic.
ASTM D2290	Tensile, compressive, and flexural creep and creep rupture of plastics.
ASTM D790	Test methods for flexural properties of un-reinforced and reinforced plastics and electrical insulating materials.
ASTM D6260	Standard classification for chemical resistance PVC and CPVC.
ASTM D1693	Test method for environmental stress-cracking of ethylene plastics
ASTM F2599	Standard practices for sectional repair of damaged pipe by means of an inverted cured-in-place liner.

PART 2 - PRODUCTS

2.1 GENERAL:

- A. The cured in place pipe material shall be fabricated from materials which, when cured, will be suitable for the environment intended, i.e., stormwater with a pH of 5-8 and any chemical attack which may be due to materials in the surrounding ground. The final product must not deteriorate, corrode, or lose structural strength in any manner that will preclude meeting the expected design life. A polyethylene internal flow surface will be required for the final cured in place pipe.

2.2 RESIN:

- A. The resin used shall be a general purpose, unsaturated, styrene-based, thermoset resin and catalyst system or an epoxy resin and hardener or such other resin system, approved by the Owner that is compatible with the process proposed. Acceptable resin types include vinyl-ester or polyester thermoset resin.
- B. Resin shall be colored with a light reflective color so that a clear detailed examination with closed circuit television inspection equipment can be made.
- C. The flexible tube shall be vacuum impregnated with resin under controlled conditions. The volume of resin used shall be sufficient to fill all voids in the tube material at normal or design thickness and diameter. **The impregnated bag thickness shall be checked at the wet-out facility for proper liner thickness, as specified by this document.** The volume of resin shall be adjusted by adding five to ten percent (5% - 10%) excess resin for the change in resin

volume due to polymerization and to allow for any migration of resin into the cracks and joints in the original pipe. Any vacuum impregnated tube shall not be used if has been over 120 hours, stored in sunlight or over 70 degrees F from when it was impregnated with resin.

2.3 REINFORCING MATERIAL:

- A. The reinforcing material of the main and lateral liners shall be needle interlocked terylene felt formed into sheets or plies of the required thickness. Layers may be made of single or multiple layer construction where any layer may not be less than 1.5 mm thick. A suitable mechanical strengthener membrane or strip may be sandwiched in between layers where required to control longitudinal stretching. The minimum thickness of a bonded polyurethane (or polyethylene) membrane and liner, if used, shall be .015 inches (.38 mm) + 5 percent and shall not affect the structural dimension requirements of the cured liner. Refer to ASTM D-5813-95. Tube shall be marked with the manufacturers name or symbol at intervals not exceeding 5 feet. Tube must free from dust and other foreign matter, and protected from moisture.

2.4 CONTINUOUS STRUCTURE:

- A. The CIPP must bridge over breaks and missing sections of the existing pipe, eliminating infiltration, exfiltration, or loss of effluent. The new pipe-within-a-pipe must fit tightly against the old pipe wall and consolidate all disconnected sections into a single continuous conduit. In certain instances where conditions dictate, "blind shots" may be necessary where access is only available from one end of an inversion site. Contractor must have ability to perform "blind shot" where entrance-only access is available.

2.5 LINER SIZE AND LENGTH:

- A. The lining shall be fabricated to a size that, when installed, will neatly fit the internal circumference of the conduit(s) being lined. Allowance shall be made for the circumferential stretching during insertion of the liner. After curing of the resin is completed, the hardened liner will extend from manhole to manhole of the section being lined providing a structurally sound, corrosion-resistant, watertight conduit that excludes exfiltration and infiltration, is tight-fitting within the existing pipe and is free of voids or annular spaces between the liner and the existing pipe walls. K-Factor for tightness shall equal 7.0 or greater. All terminations into manhole walls shall be water-tight at the time of final inspection utilizing manhole end-seals or hydro-tite gaskets.
- B. The contractor shall be responsible for determining the minimum length to effectively span the distance from end to end and shall verify the length of the fabric lining material in the field before impregnation. The lining material may run through one or more manholes, but shall not be spliced or joined between manholes/ends.

PART 3 - EXECUTION

3.1 GENERAL:

- A. Installation standards: The process installation must meet the requirements as described in ASTM F-1216, Latest Revision.

3.2 FLOW REQUIRMENTS:

- A. The finished liner will provide a uniform, smooth, interior wall surface and will have at least 100% of the flow capacity of the original pipe before rehabilitation. In lieu of actual measurements, calculated capacities may be derived using a commonly accepted value of Manning "n" coefficients for the original pipe material and a Manning "n" coefficient of 0.009 for a jointless smooth-wall Cured-In-Place Pipe.

3.3 PRELIMINARY PREPERATIONS:

A. Cleaning of Existing Pipe Lines:

1. Prior to installation of the liner, the sewer lines and laterals to be rehabilitated are to be cleaned in accordance with the manufacturer's installation instructions (and these specifications) and internally inspected by remote television methodology. Cleaning of the sewer will include but is not limited to all debris, silt or sediment deposits, grease, roots, protruding service connections or laterals, broken pipe or other obstructions. Contractor shall be responsible to prevent obstruction or blockage of downstream sewers and manholes with debris from this work.
2. All debris removed from the sewer lines being cleaned shall be removed from the site of the work and disposed of legally off-site.

B. Pre-installation Video Inspection:

1. Prior to installation of the liner, but not more than fourteen (14) and not less than five (5) days prior to such installation, the section of sewer to be lined is to be televised its full length using a remote television camera specifically designed for that purpose. The observations shall be recorded on **SD card or USB Drive** compatible with the display system currently in use by the owner. **The Contractor must determine internal line sizes during this process and must contact the Owner immediately if there is a discrepancy in the line sizes within the Bid Items. Materials cannot be ordered by the Contractor until the discrepancy is resolved.**
2. Records of the location of each lateral entering the mainline and the subjective observations of the observer reading the condition of the sewer line at the time of the televising shall be made. This television inspection will take place in the presence of a representative of the Owner.
3. The television camera used for this purpose shall be operative in one hundred (100%) percent moisture conditions. Lighting for the camera shall be sufficient to yield a clear picture of the entire periphery of the pipe. The camera, television monitor and other components of the video system shall be capable of producing a five hundred (500) line resolution picture.
4. Upon completion of the pre-installation television inspection, the television video and inspection log shall be turned over to the **Owner in a digital format**, for its review, no less

than 3 business days prior to CIPP installation. **All data must be submitted on a SD card or USB Drive, this includes both video and inspection logs. A hard copy of the television logs will also be required.**

C. Water Requirements:

1. **The contractor shall be responsible to provide water required to perform this work. The contractor shall pay all fees and coordinate with the local water utility company, Fayette County Water System.** The cost of fire hydrant keys, hydrant meters or hydrant set-up permits, backflow preventers and their installation, truck permits, hose bridges, truck/tank inspections, and other associated costs of water used for these purposes is considered included in the other items of the work as listed on the bid proposal and no additional payment shall be made to the contractor for providing the water necessary to accomplish the work.

D. Traffic Control:

1. The contractor shall be responsible for traffic control during the course of each phase of the work in accordance with the Manual for Traffic Control Devices (MUTCD) and Georgia Department of Transportation (GDOT). Roads shall not be closed without written prior approval from the Owner.

3.4 INTERNAL RECONNECTIONS:

- A. All active laterals, taps, or side connections will be reinstated from inside the rehabilitated pipe. In smaller diameter pipe in which man-entry is not possible, side connections must be reinstated internally by suitable, TV-monitored, robotic cutting equipment. Cross-sections of the opening of the side connections must be reinstated by at least 95% of the original opening. **There shall be no build-up of resin allowed in the invert of the service lateral. If so, resin shall be removed using appropriate equipment unless the lateral is the pipe being lined.** Main-to-lateral connections shall be water-tight without leaks and verified as such via post videotaping. Deficiencies will be corrected as required by Owner.
- B. The main to lateral interface shall be sealed by a polyester impregnated, corrosion resistant fiberglass insert with an epoxy component. The seal shall be of one-piece construction and shall be designed such that when expanded shall tightly fit both Tee and Wye connections at the interface between the main line and lateral. The seal shall extend into the mainline so as to provide a 3" "brim" and shall provide a minimum of 8" overlap inside the lateral pipe. An epoxy sealant rated for piping applications shall be applied to the interface seal to ensure a watertight connection between the mainline pipe and lateral. Epoxy must be compatible with the material of both the lined pipe and the lateral connection.

3.5 CIP MAIN LINE/LATERAL CONNECTION REPAIR:

- A. Where the Town has indicated the installation of a CIP mainline/lateral connection repair, the lateral tube and the mainline liner section will consist of one or more layers of flexible needled felt or an equivalent non-woven material. The tube will be continuous in length and wall thickness shall be uniform. No overlapping sections shall be allowed in the circumference or length of the lateral liner. The tube will be capable of conforming to offset joints, 45 degree bends, and disfigured pipe sections. The mainline sectional liner will be sized accordingly to create a circular lining equal to the diameter of the mainline pipe. The mainline sectional liner

shall be a full circle 16-inch long CIPP liner integrally manufactured to the lateral liner providing a seamless connection between the mainline pipe liner and the lateral liner. Installation will be accomplished remotely using water for inversion and curing. The cured pipe repair system shall be watertight and shall conform to the existing pipe and eliminate any leakage or connection to the outside of the host pipe/service. The cured in place mainline/lateral connection repair system shall be "T-Liner" as manufactured by LMK Enterprises, Inc. or approved equal.

3.6 EXECUTION AND INSTALLATION:

A. Execution:

1. All work shall be in strict accordance with the manufacturer's recommendation, the standard specifications, the rules and the guidelines and regulations of the Occupational Safety and Health Administration (OSHA) and all ordinances, laws and regulations of the governing authorities having jurisdiction. The selected bidder is responsible for compliance with each of these requirements.

B. Insertion of the Flexible Tube:

1. The **dyed** resin impregnated tube shall be inserted through an existing manhole or other access by means of an inversion process. The application of hydrostatic water inversion is the only preferred method. The pressure or force exerted shall be sufficient to fully extend the tube to the next designated manhole or termination point. The inversion head or other pressure head shall be sufficiently large to expand the flexible tube tightly to the pipe wall producing dimples at side connections. Care should be taken during tube installation not to over-stress the fabric fiber. **The contractor shall be responsible to ensure that end seals are used on all liners, unless otherwise approved by Owner in writing.**

C. Lubricant:

1. A lubricant meeting the manufacturer's recommendation shall be used. The lubricant shall be a nontoxic, oil-based product that has no detrimental effect on the tube, boiler or other heating system, pumps or other equipment used for the tube installation or curing process. Such lubricant will not support the growth of bacteria and will not adversely affect the existing conduit or the fluids to be transported by it.

D. Curing:

1. After installation of the resin-impregnated flexible tube is complete, a suitable heat source and appropriate equipment are required to circulate the heat uniformly throughout the length of the pipe being lined. The heat source and circulation equipment shall be capable of raising the pressurized interior of the pipe uniformly to and above the temperature required to effect a cure of the resin. The curing process, temperature and period of the process shall conform to the manufacturer's recommendations. The procedures employed shall include the provision of temperature and pressure gages to be placed both at the upstream inlet and downstream outlet as well as at intermediate access points, if any, to monitor temperatures and pressures during the cure period. Initial cure will occur during the temperature heat-up and is completed when exposed portions of the liner appear to be hard and sound and the temperature sensors indicate that the temperature is of a magnitude to realize a cure in the resin. After initial cure is reached, the temperature shall be raised to the post-cure temperature and held for the period recommended by the resin manufacturer. Curing must take into account the existing pipe

material, the resin system, and the ground conditions (temperature, moisture level and thermal conducting of the soil).

E. Cool Down:

1. Cool down of the cured pipe liner shall be in accordance with the manufacturer's recommendations. Generally, the hardened pipe shall be cooled to a temperature below 100 deg. F before relieving the hydrostatic head.

F. Service Connections:

1. After the liner has been cured in place all existing service connections and laterals shall be re-instated. The Contractor shall abandon a lateral by not re-instating the lateral only with the written consent of the Owner. In general, reconnection of service connections and laterals shall be accomplished internally of the lined pipe without surface excavation using a remote-control cutting device equipped with a television monitor. The Contractor shall certify he has a minimum of 2 complete working cutters plus key spare components on site before each liner installation. In some cases, remote reconnection may not be possible. In these instances, reconnection by conventional methods in accordance with the Owner's Engineer is acceptable. All connections must be reinstated by at least **95%** of the original opening **and brushed smooth. Jagged edges and loose liner material will not be allowed.** Lateral relining, if required, will follow as soon as possible, following service reinstatement. **There shall be no build-up of resin allowed in the invert of the service lateral. If so, resin shall be removed using appropriate equipment.**

G. Site Disruptions

1. No more than one access excavation per 300 feet of main line run will be allowed. These access excavations will be done at no cost to the owner and must be pre-approved by the owner. Not subject to this limitation are any point repairs necessitated by old pipe that has deteriorated to such a degree as to prevent the installation of the CIPP pipe.

H. Bypassing Stormwater Flow

1. During the installation of the liner and the curing process (and television inspection of the lines, if appropriate), the contractor shall provide for bypassing of the flows around the sections of the pipe being lined. The bypass shall be accomplished by sandbag coffer damming the ditch at an existing upstream location and pumping the flow to the downstream location clear of the proposed work. The pump and bypass lines shall be of adequate capacity and size to accommodate the peak flow. Insofar as is possible, work shall be so scheduled that the lining of the pipe, curing of the tube and the restoration of service connections can be accomplished in a single working day or shift. Once the section is lined and has been properly cured in accordance with the manufacturer's instructions the pipe can be placed into operation and the coffer dam removed. Prior to beginning of this work, contractor shall submit to the Owner his proposal to accomplish the bypass of the flows including protecting the downstream from erosion and the discharge location.

I. Back-ups and Overflows

1. The Contractor shall be responsible to maintain the operation of the bypass pump system necessary to eliminate back-up flooding of the upstream area and overflows of the coffer dam. Damages arising from back-ups or overflows during the course of the work or because of the work shall be the sole responsibility of the contractor.

J. Finished Product and Workmanship:

1. All workmanship and materials will meet the standards of the industry. The finished, cured in place liner (for both mains and laterals) shall be continuous over the length of pipe between two manholes and shall be an impermeable, joint less conduit, free from visual defects such as foreign inclusions, dry spots, pin holes, lifts or de-laminations. The inner surface shall be free of cracks and crazing with a smooth finish and with an average of not more than 2 pits per square foot, providing the pits are less than 3 mm in diameter and not more than 1 mm deep and are covered with sufficient resin to avoid exposure of the inner fabric. With the approval of the Owner, some minor waviness shall be permitted, providing that the flow cross-section is not reduced appreciably, the flow characteristics are essentially unchanged and potential line blockage does not occur. In the event the finished liner does not fit tightly against the original pipe at its termination point(s), the space between the liner and the pipe shall be made watertight utilizing manhole end seals, watertight gaskets or approved equal. If in the opinion of the Owner, such defects could cause structural weakening of the liner, impeded the progress of a camera during internal TV inspection, or facilitate solids deposition, and interruptions to flow, the defects shall be corrected at the contractor's expense in a manner acceptable to the Owner.

K. Time of Construction

1. Construction schedules will be submitted and approved by the Owner. At no time will any service connection remain inoperative for more than a fourteen-hour period unless written approval is given by the Owner.

L. Wet Out and Cure Report:

1. The contractor shall submit "wet out" and "cure" reports documenting the specific details of the liner's impregnation and saturation with resin and the CIPP installation of the liner. Electronic or hard copy formats will be provided to the Owner. "Wet out" and "cure" reports shall be turned over to the Owner on a weekly basis and prior to request for payment. At a minimum, this report shall include, in addition to CONTRACTOR and Project Name and Number:
 - a. Line identification and location.
 - b. Wet out date.
 - c. Sample identification(s) and technician.
 - d. Installation date.
 - e. Host pipe inside diameter.
 - f. Liner thickness.
 - g. Liner length.
 - h. Liner and resin batch numbers.
 - i. Resin type.
 - j. Wet out length.
 - k. Quantity of resin and catalyst used.
 - l. Wet out technicians.
 - m. Time wet out started and completed.
 - n. Applicable remarks.
 - o. Boiler and liner heating fluid pressure and temperature versus time log during cure period.
 - p. Cool down report detailing heating fluid pressure and temperature versus time log during cool down period.

M. Housekeeping and Clean-up

1. The contractor must comply with the Owner's housekeeping standards as listed below.
 - a. The contractor is responsible for obtaining and using trash disposal containers as required. No material is to be left in piles on site.
 - b. The work area is to be kept clean and orderly at all times.
 - c. The work area must be cleaned on a daily basis at the end of each work day and as needed throughout the work day to maintain Owner's housekeeping standards.
 - d. If a minimal amount of material is to be kept on site. The contractor is responsible for off loading and neatly staging all materials, equipment and supplies.
 - e. The contractor is responsible for the security of the materials, supplies and equipment.

- N. Safety:
 1. The contractor must comply with all OSHA and Owner safety standards.
 - a. Hard hats, steel toes, safety glasses and safety vests are to be worn at all times.
 - b. Hearing protection is to be worn as appropriate.
 - c. All manholes are considered "Permit Required Confined Spaces". Consequently, the Contractor must comply with Federal and State Confined Space Safety Procedures each time an entry is made.
 - d. **No smoking or playing of music is allowed on site.**

- O. Testing and Inspections:
 1. Owner shall have access to the work site at all times to observe the work in progress, to monitor the work and take such additional tests it may deem appropriate. The materials and processes must be reasonably available for pre-installation, during-installation, and post-installation inspections. Areas which require inspection include (but are not limited to) the following:
 - a. Materials used in felt tube liner should exhibit sufficient transparency to allow visual inspection to assure the quality of **dyed resin impregnation of the liner.**
 - b. To assure the proper re-instatement of service laterals in non-man entry pipe, the pipe wall color of the CIPP pipe shall not be of a dark or non-reflective surface, which inhibits proper viewing when inspected with closed circuit television.
 - c. Temperature-sensing devices, such as thermocouples, shall be located between the existing pipe and the CIPP pipe to ensure complete cure of the entire wall thickness.
 - d. Material thickness shall be verified during the installation process. Material thickness shall be checked using a set of micrometers. The liner thickness shall be verified at the beginning, middle (if applicable) and end of the liner.
 2. After completion of the lining process and reinstatement of service connections, the installation shall be inspected by remote television camera. This post-installation television inspection is to take place as shortly after completion of each section as is feasible, but in no case more than ten (10) calendar days thereafter. Post-installation television inspection shall take place in the presence of an Owner representative and shall verify that the requirements of these specifications have been met or exceeded. No work shall be accepted that fails this post-installation television inspection.
 3. CIPP Samples shall be prepared for each installation designated by the Owner. Physical properties shall be tested in accordance with ASTM F1216. The properties must equal or exceed the values listed in specifications Section 1.4 B, C, and D. Wall thickness must not be less than 90% of the design wall thickness or the minimum thickness in these specifications, whichever is greater. Testing must be performed by a third-party testing company. Owner pays for first test and contractor pays for all retesting

END OF SECTION 02535

SPECIAL PROVISION

UTILITY CONFLICTS

Utility companies having known facilities that conflict with the construction of this project will be directed by the Owner to adjust or relocate their facilities and will be notified of the contract award.

It will be the Contractor's responsibility to conform with all the requirements of the Specifications as they relate to cooperation with utility owners and the protection of utility installations that exist on the project.

It shall be the responsibility of the Contractor to coordinate his work with any work to be performed by others in any Right of Way clearance and arrange a schedule of operations that will allow for completion of the Project within the specified contract time. Where stage construction is required, it shall be the Contractor's responsibility to notify the utility owner when each stage of work is completed and the site is available for utility work to proceed.

The Contractor shall reference all water meters and water valves within the project limits so they will remain undisturbed and can be adjusted to match construction. Access to fire hydrants shall be maintained at all times.

Under Georgia Code Section 32-6-171, utilities are required to remove or relocate their facilities. The Owner is required to give the utility at least 60 days written notice directing the removal and relocation, and the utility is required to begin removal within a reasonable time thereafter.

In accordance with Subsection 105.06 of the Specifications, the Owner shall not be liable for payment of any claims due to utility delays, inconvenience or damage sustained by the Contractor due to interference of any utilities or appurtenances, or the operation of moving them. In accordance with Subsection 107.21.G delays by utilities will continue to be considered by the Owner in charging Contract Time.

The determination of all utility conflicts on this project is currently in progress. Information regarding utility conflicts will be forwarded to the Contractor upon receipt.

NOTE: See "Information to Bidders" to Contractor Qualifications requirement.

SPECIAL PROVISION

MODIFICATION OF STANDARD SPECIFICATIONS
APPROVED DECEMBER 19, 1991

SECTION 101 - DEFINITIONS AND TERMS

Add the following paragraph at the beginning of section:

"This project is being constructed by Town of Tyrone, Georgia. It is the intent that the roadway, and related facilities be constructed in accordance with the Georgia Department of Transportation's Standard Specifications for Materials and Construction. However, references to the Department as defined in 101.22 when relating to approvals and contractual matters shall mean Town of Tyrone, Georgia, and/or its authorized agent, Mallett Consulting, Inc.

Change content of the following section to:

101.24 Engineer: Town of Tyrone or its duly authorized representative.

SPECIAL PROVISION

ADDITION TO THE STANDARD SPECIFICATIONS
APPROVED DECEMBER 19, 1991

CONSTRUCTION MATERIALS TESTING

DESCRIPTION

- A. Readjust work performed that does not meet technical or design requirements, but make no deviation from the Contract Documents without specific and written approval from the Engineer.

FOR CLARIFICATION: "THE OWNER WILL RETAIN AND COMPENSATE A TESTING FIRM TO PERFORM REQUIRED CONSTRUCTION MATERIALS, TESTING. ANY RE-TESTING REQUIRED WILL BE AT THE EXPENSE OF THE CONTRACTOR".

SPECIAL PROVISION

MODIFICATION OF STANDARD SPECIFICATIONS
APPROVED DECEMBER 19, 1991

SECTION 103 - AWARD AND EXECUTION OF CONTRACT
(60 DAY CLAUSE)

103.02 Award of Contract and Execution and Approval of Contract is amended as follows:

The Owner reserves the right to delay either the Award of Contract (103.02) or the Execution and Approval of Contract (103.06) for a period of sixty (60) calendar days instead of the normal thirty (30) calendar days specified in each of the aforementioned articles.

In the event a longer period of time is required by the Owner and such period is agreed to in writing by the successful bidder, the interval of time for Award of Contract or issuance of Notice to Proceed may be extended for any mutually agreed number of calendar days.