

GREGG COUNTY, TEXAS
BID NO. 2017-709

KNOX LEE ROAD BRIDGE REPAIRS

JANUARY 2017



HAYES ENGINEERING, INC.
Texas Registered Engineering Firm F-1465
2126 Alpine St.
Longview, TX 75601
(903) 758-2010

Gregg County Bid No. 2017-709
for Knox Lee Road Bridge Repairs

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GREGG COUNTY INVITATION TO BID NO. 2017-709 for
KNOX LEE ROAD BRIDGE REPAIRS

Sealed proposals addressed to Kelli Davis, Gregg County Purchasing Agent, 101 E. Methvin St., Ste. 205, Longview, TX 75601 will be received on or before 2:00 p.m., March 2, 2017 for furnishing all labor, materials, equipment, supplies, and supervision necessary for the construction of the Knox Lee Road Bridge Repairs. At the time stated, bids will be opened and publicly read aloud in the Purchasing Agent's Conference Room, located on the 2nd Floor of the Gregg County Courthouse.

Plans and specifications may be examined without charge or obtained for \$20 (nonrefundable) at the office of Hayes Engineering, Inc., 2126 Alpine Rd., Longview, TX 75601, (903) 758-2010.

Gregg County is wholly committed to developing, establishing, maintaining, and enhancing minority business involvement in the total procurement process.

EEO/M/F/V/H/D

The Honorable Bill Stoudt, County Judge
Gregg County, Texas

Advertising Dates: Tuesdays, February 14th and 21st, 2017



Gregg County Bid No. 2017-709
Knox Lee Road Bridge Repairs Project

INTENT

Gregg County, Texas is requesting sealed bids for Knox Lee Road Bridge Repairs project.

INSTRUCTIONS TO BIDDERS

Site Visit - Contractors should carefully examine the construction site to obtain first-hand knowledge of existing conditions. Contractors will not be given extra payments for conditions which can be determined by examining the site and bid documents.

Due Date - Sealed bids must be submitted to Kelli Davis, Gregg County Buyer, 101 E. Methvin St., Suite 205, Longview, Texas 75601, on or before **Thursday, March 2, 2017 at 2:00 P.M.** Bids may be withdrawn any time prior to the official deadline. Bids may not be amended, altered or withdrawn after the official deadline.

Compliance - Successful vendor agrees to comply with any and all Federal, State and local laws, rules and regulations pertaining to wages, hours of employment and minority hiring practices.

Measurement Calculation - Measurement estimates are approximate and subject to error in computation. Each contractor must measure and calculate to his satisfaction.

Performance, Payment, and Maintenance Bonds - Within 15 days after the date of the award, the issuance of a purchase order and prior to commencement of the actual work the successful bidder shall furnish all bonds for the full amount of the contract if that contract exceeds \$50,000. If the contract is for \$50,000 or less, any payment will be made after the Purchasing Agent and/or the Auditor have been notified that services have been received in accordance with the award.

Award - Gregg County expressly reserves the right to accept or reject in whole or in part any bid submitted and to waive any technicalities or formalities, considered to be in the best interest of Gregg County. The contract will be awarded to the firm that is determined to be the best value to the County. The Commissioner's Court intends to award the contract on **Monday, March 13, 2017 at 9:00 a.m.** and the awarded contractor should plan on commencing work as soon as possible thereafter.

Completion Date - All work **MUST BE COMPLETED** within sixty (60) days of Notice to Proceed.

Conflict of Interest - No public official shall have interest in this contract, in accordance with Vernon's Texas Codes Annotated, Local Government Code Title 5, Subtitle C, and Chapter 171.

Ethics - The bidder shall not offer or accept gifts or anything of value nor enter into any business arrangement with any employee, official or agent of Gregg County.

Gregg County Standard Terms & Conditions – By submitting and signing this bid document Contractor agrees to all terms and conditions as set forth in the Gregg County Standard Terms & Conditions and that they have carefully read and will follow all instructions, requirements and specifications. Fill out all required forms properly and completely. Submit all appropriate supplements and or samples with your bid. Sign your bid. ***Unsigned bids will be disqualified.***

Questions - Questions regarding the Work should be addressed in writing to Kelli Davis, Buyer, by fax no. 903-237-2682 or by e-mail to purchasing@co.gregg.tx.us

To: Vendors of Gregg County, Texas
From: Kelli L. Davis, CPPB, Purchasing Agent
Re: ***Conflict of Interest Form (CIQ)***

Vendor:

Attached, please find link below to a Conflict of Interest Questionnaire. Please complete this form if you have a conflict of interest with any Gregg County Official, Employee, or Department. The questionnaire should reflect the name of the individual with whom the conflict of interest occurs. If you have any questions regarding compliance with Chapter 176 of the Texas Local Government Code, please consult your legal representative. Compliance is the responsibility of each individual, business, agent or representative who is subject to the law's filing requirements.

<http://www.ethics.state.tx.us/forms/CIQ.pdf>

Original completed forms should be filed with the County Clerk's Office and a copy sent to the Gregg County Purchasing Department either through bid return, fax, or email. Please see contact information below.

Gregg County Clerk
Gregg County Courthouse
101 East Methvin, Ste. 200
Longview, Texas 75601
Ph: 903-236-8430

Gregg County Purchasing Department
Email: purchasing@co.gregg.tx.us
Ph: 903-237-2684
Fx: 903-237-2682

Applicable Law

Chapter 176 of the Texas Local Government Code requires that any vendor or person considering doing business with a local government entity disclose in the Questionnaire Form CIQ, the vendor or person's affiliation or business relationship that might cause a conflict of interest with a local government entity. By law, this questionnaire must be filed with the records administrator of Gregg County (County Clerk) no later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Texas Local Government Code.

STATEMENT OF QUALIFICATIONS

CONTRACTOR: _____

ADDRESS: _____

1. Name of Project: _____

Owner: _____

Address: _____

Phone: _____

Value of Contract: \$ _____

Date Started: _____

Date Completed: _____

Approximate Quantities of Major Items: _____

2. Name of Project: _____

Owner: _____

Address: _____

Phone: _____

Value of Contract: \$ _____

Date Started: _____

Date Completed: _____

Approximate Quantities of Major Items: _____

3. Name of Project: _____

Owner: _____

Address: _____

Phone: _____

Value of Contract: \$ _____

Date Started: _____

Date Completed: _____

Approximate Quantities of Major Items: _____

4. Other Project References: _____

CERTIFICATION OF ELIGIBILITY

By submitting a bid or Bid in response to this solicitation, the bidder/proposer certifies that at the time of submission, he/she is ***not*** on the Federal Government's list of suspended, ineligible, or debarred contractors.

In the event of placement on the list between the time of bid/Bid submission and time of award, the bidder/proposer will notify the Gregg County Purchasing Agent. Failure to do so may result in terminating this contract for default.

Signature: _____ **Date:** _____

Printed Name: _____

PROPOSAL

TO: Kelli Davis, Gregg County Buyer

**FOR: Gregg County Bid No. 2017-709
Knox Lee Road Bridge Repairs**

The undersigned, as bidder, declares that the only person or parties interested in this proposal as principals are those named herein; that this proposal is made without collusion with any other person, firm, or corporation; that he has carefully examined the form of Contract, Notice to Bidders, and Specifications herein referred to, and has carefully examined the locations, conditions and classes of materials of the proposed work; and agrees that he will provide all the necessary labor, machinery, tools, apparatus, and other items incidental to construction, and will do all the work and furnish all the materials called for in the Contract and Specifications in the manner prescribed therein and according to the requirements of the Engineer as therein set forth.

It is further agreed that the quantities of work to be done at unit prices and materials to be furnished may be increased or diminished as may be considered necessary, in the opinion of the Engineer, to complete the work fully as planned and contemplated, and that all quantities of work, whether increased or decreased, are to be performed at the unit prices set forth below except as provided for in the Specifications.

It is further agreed that lump sum prices may be increased to cover additional work ordered by the Engineer and agreed to by Owner, but not required by the Specifications, in accordance with the provisions of the General Conditions. Similarly, they may be decreased to cover deletion of work so ordered.

It is understood and agreed that the work is to be completed in full within **sixty (60)** calendar days beginning on the date stated in the work order on which work is to be commenced. Bidder further agrees to pay as liquidated damages, the sum of **\$500.00** for each consecutive calendar day thereafter as provided in the General Conditions.

Accompanying this proposal is a certified or cashier's check or bid bond (5% of largest amount bid), payable to Gregg County, Texas for:

Dollars

_____ Dollars
(\$ _____).

The bid security accompanying this proposal shall be returned to the bidder, unless in case of the acceptance of the proposal the bidder shall fail to execute a Contract and to file a Performance, Payment, and Maintenance Bond within fifteen (15) days after its acceptance, in which case the bid security shall become the property of the Gregg County and shall be considered as payment for damages due to delay and other inconveniences suffered by the Owner on account of such failure of the bidder. It is understood that the Gregg County reserves the right to reject any and all bids and to waive any informalities in the bidding.

In the event of the award of a Contract to the undersigned, the undersigned will furnish a Performance and Payment Bond and Maintenance Bond for the full amount of the Contract to secure proper compliance with the terms and provisions of the contract, to insure and guarantee the work until final completion and acceptance, and to guarantee Payment of all lawful claims for labor performed and materials furnished in the fulfillment of the Contract.

**GREGG COUNTY BID NO. 2017-709
KNOX LEE ROAD BRIDGE REPAIRS
BID PROPOSAL**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>U/M</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
1	Mobilization, bonds, and insurance	1	LS	\$ XXXXXXXX	\$ _____
2	Traffic control & barricades	1	LS	\$ XXXXXXXX	\$ _____
3	Storm water pollution prevention & erosion control	1	LS	\$ XXXXXXXX	\$ _____
4	Remove & dispose of existing concrete bridge approach slabs, existing asphalt paving & base, & embankment vegetation & debris	1	LS	\$ XXXXXXXX	\$ _____
5	Provide embankment excavation, fill & grading as required	1	LS	\$ XXXXXXXX	\$ _____
6	Furnish & drive steel sheet piling with cap & give protective coating, complete in place	1,440	SF	\$ _____	\$ _____
7	Furnish & place select backfill under approach slabs	1	LS	\$ XXXXXXXX	\$ _____
8	Furnish & install rock gabions with filter fabric	31	CY	\$ _____	\$ _____
9	Construct 20' concrete bridge approach slab with slab support for use with concrete pavement	1	LS	\$ XXXXXXXX	\$ _____
10	Construct 20' concrete bridge approach slab for use with asphalt pavement	1	LS	\$ XXXXXXXX	\$ _____
11	Construct reinforced concrete roadway paving with subgrade preparation	134	SY	\$ _____	\$ _____
12	Construct asphalt roadway paving with subgrade preparation	39	SY	\$ _____	\$ _____
13	Furnish & place 4" topsoil & hydromulch	1	LS	\$ XXXXXXXX	\$ _____
TOTAL AMOUNT BID					\$ _____

The undersigned certifies that the bid prices contained in this proposal have been carefully checked and are submitted as correct and final.

NOTE: Should bid prices on any items be omitted, the right is reserved to apply the lowest prices submitted by any other bidders for the omitted items in payment for work done under this Proposal. In the event of discrepancies, the Owner reserves the right to accept or reject informalities.

Receipt is hereby acknowledged of the following addenda to the contract Documents:

Addendum No. 1 dated _____	Rec. _____
Addendum No. 2 dated _____	Rec. _____
Addendum No. 3 dated _____	Rec. _____
Addendum No. 4 dated _____	Rec. _____
Addendum No. 5 dated _____	Rec. _____

CONTRACTOR: _____

BY: _____
(Authorized Signature)

PRINT NAME: _____

TITLE: _____

ADDRESS: _____

COUNTY: _____

CITY, STATE, ZIP: _____

TELEPHONE: _____

DATE: _____

BID SIGNATURE FORM

The undersigned agrees this bid becomes the property of Gregg County after the official opening.

The undersigned affirms he has familiarized himself with the local conditions under which the work is to be performed; satisfied himself/herself of the conditions of delivery, handling and storage of equipment and all other matters which may be incidental to the work, before submitting a bid.

The undersigned agrees if this bid is accepted, to furnish any and all items/services upon which prices are offered, at the price(s) and upon the terms and conditions contained in the Specifications. The period for acceptance of this Bid will be ninety (90) calendar days unless a different period is noted by the bidder.

The undersigned affirms that they are duly authorized to execute this contract, that this bid has not been prepared in collusion with any other Bidder, nor any employee of Gregg County, and that the contents of this bid have not been communicated to any other bidder or to any employee of Gregg County prior to the official opening of this bid.

Vendor hereby assigns to purchase any and all claims for overcharges associated with this contract which arise under the antitrust laws of the United States, 15 USCA Section 1 et seq., and which arise under the antitrust laws of the State of Texas, Tex. Bus. & Com. Code, Section 15.01, et seq.

The undersigned affirms that they have read and do understand the specifications and any attachments contained in this bid package. ***Failure to sign and return this form will result in the rejection of the entire bid.***

Signature _____ **X**

Company Name			
Address			
City/State/Zip Code			
Phone:	Office:	Fax:	
	Cell:	Email:	
Print Name			
Job Title			

CONTRACT DOCUMENTS

Certificate of Interested Parties (Form 1295)

In 2015, the Texas Legislature adopted House Bill 1295, which added Section 2252.908 of the Government Code. The law states that a government entity may not enter into certain contracts with a business entity unless the business entity submits a disclosure of interested parties to the government entity. The disclosure of interested parties will be submitted online via Form 1295 and must be submitted to the governmental entity prior to any signed contract and/or vote by the governing authority.

The Filing Process:

1. Prior to award by Commissioners Court, your firm will be required to log in to the Texas Ethics Commission, https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm and fill out the Electronic Filing Application.
2. Once submitted, the system will generate an electronic Form 1295 displaying a "Certificate Number." Your firm must print, sign and notarize Form 1295.
3. **Within ten (10) business days** from notification of pending award by the Gregg County Purchasing Agent, the completed Form 1295 **must** be submitted to Gregg County.
4. Your firm will need to repeat this process and obtain a separate Form 1295 each time you enter into a new contract, renew a contract or make modification and/or amendments to a Gregg County contract.

Instructions and information are available at <https://www.ethics.state.tx.us/tec/1295-Info.htm> or you may call the Texas Ethics Commission at (512) 463-5800.

STANDARD FORM OF AGREEMENT

Approved as to Legal Form by
Legal Counsel

STATE OF TEXAS }
COUNTY OF GREGG }

THIS AGREEMENT, made and entered into this ____ day of _____, A.D. 2017, by and between the County of Gregg, and State of Texas, acting through its County Judge, thereunto duly authorized so to do, Party of the First Part, hereinafter termed OWNER, and _____ of the City of _____, County of _____, and State of Texas, Party of the Second Part, hereinafter termed CONTRACTOR.

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the Party of the First Part (OWNER), and under the conditions expressed in the bond bearing even date herewith, the said Party of the Second Part (CONTRACTOR), hereby agrees with the said Party of the First Part (OWNER) to commence and complete the construction of certain improvements described as follows:

**Gregg County Bid No. 2017-709 for
Knox Lee Road Bridge Repairs**

and all extra work in connection therewith, under the terms as stated in the General Conditions of the Agreement and all of the documents attached by reference to this Standard Form of Agreement; all Plans, Specifications and drawings for the project as prepared by the OWNER's engineer Hayes Engineering, Inc. (herein entitled "ENGINEER"); and all printed or written explanatory materials of said Plans, Specifications and drawings. The CONTRACTOR hereby agrees with the OWNER that the CONTRACTOR shall commence and complete all such construction and work at the CONTRACTOR's own proper cost and expense to furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said construction and work.

The documents that are attached to and for all purposes made part of this Standard Form of Agreement include the Notice to Bidders, Instructions to Bidders, Conflict of Interest Form, Statement of Qualifications, Certification of Eligibility, Bid Proposal, Bid Signature Form, Performance Bond, Payment Bond, Maintenance Bond, Certificate of Insurance, Separation of Materials, Certificate of Final Completion, Gregg County, Texas Standard Terms and Conditions, General Conditions of Agreement, Special Conditions, Technical Specifications, Contract Drawings. This Agreement shall also include all Plans, Specifications and drawings for the project, as prepared by the ENGINEER, and all printed or written explanatory materials of said Plans, Specifications and drawings. This Standard Form of Agreement and the documents listed herein shall collectively evidence and constitute the entire contract between the parties hereto regarding the subject matter hereof.

The CONTRACTOR hereby agrees to commence work within ten (10) days after the date written notice to do so shall have been given to him, and to complete the same within sixty (60) calendar days after the date of the written notice to commence work, subject to such extensions of time as are provided by the General and Special Conditions.

CONTRACTOR's failure to timely commence work or diligently pursue completion of the work within the time limitations set out herein shall constitute a material breach of this contract. TIME IS OF THE ESSENCE IN THE PERFORMANCE OF THIS CONTRACT.

The OWNER agrees to pay the CONTRACTOR in current funds the price or prices shown in the Bid Proposal, which forms a part of this contract, such payments to be subject to the terms and conditions of this contract, including without limitation the General and Special Conditions of Agreement.

Without regard to and notwithstanding any rules on conflicts of law, this contract shall be subject to and interpreted in conformance with the laws of the State of Texas, unless expressly required otherwise by federal law or regulations.

IN WITNESS WHEREOF, the parties to these presents have executed this Agreement in the year and day first above written.

GREGG COUNTY, TEXAS
Party of the First Part (OWNER)

Party of the Second Part (CONTRACTOR)

By: _____
The Hon. Bill Stoudt, County Judge

By: _____

ATTEST:

ATTEST:

(Seal)

(Seal)

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor or Company)

(Address)

a _____ hereinafter called Principal, and
(Corporation / Partnership)

(Name of Surety Company)

(Address)

hereinafter called Surety, are held and firmly bound unto

(Name of Recipient)

(Recipient's Address)

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

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

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

PROVIDED FURTHER, that the said Surety, for value received hereby stipulates and agrees that no
change, extension of time, alteration or addition to the terms of the contract or to WORK to be
performed thereunder or the SPECIFICATIONS accompanying the 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 final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

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

ATTEST:

(Principal)

By _____

(Principal Secretary)

(SEAL)

(Witness as to Principal)

(Address)

(Address)

ATTEST:

(Surety)

By _____

(Witness as to Surety)

(Attorney in Fact)

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor or Company)

(Address)

a _____, hereinafter called Principal,
(Corporation / Partnership)

and _____
(Name of Surety Company)

(Address)

hereinafter called Surety, are held and firmly bound unto

(Name of Recipient)

(Recipient's Address)

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

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

(Project Name)

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

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the 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 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 _____ counter-parts, each on of
(Number)
which shall be deemed an original, this the _____ day of _____, 20__.

ATTEST:

(Principal)

By _____

(Principal Secretary)

(SEAL)

(Witness as to Principal)

(Address)

(Address)

ATTEST:

(Surety)

By _____

(Witness as to Surety)

(Attorney in Fact)

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND.

MAINTENANCE BOND

STATE OF TEXAS §
COUNTY OF _____ §

KNOW ALL MEN BY THESE PRESENTS:

That _____
as principal, and the other subscriber hereto authorized under the laws of the State of Texas to act as surety on
bonds for principals, do hereby acknowledge ourselves to be held and firmly bound unto
_____, "Owner", in the penal sum of
_____ DOLLARS (\$ _____) for the
payment whereof the said principal and surety do bind themselves and their heirs, administrators, executors,
successors and assigns, jointly and severally. The conditions of this obligation are such that:

WHEREAS, the said principal has entered into a certain written contract with
_____, dated the _____ day of _____, 20____, for the
completion of:

all of such work to be done as set out in full in said contract and the plans and specifications therein referred to
and made a part hereof as fully and to the same extent as if copied at length herein.

WHEREAS, under the plans, specifications and contract, it is provided that the Contractor shall
maintain and keep in good repair the work herein contracted to be done for a period of one (1) year from the
date of written acceptance of said work and to do all necessary repairing and/or reconstructing in whole or in
part of said improvements that should be occasioned by settlement of foundation, defective workmanship or
materials furnished in the construction of any part thereof, or any of the accessories thereof constructed by the
Contractor; be it understood that the purpose of this section is to cover all defective conditions arising by reason
of defective material or workmanship and charge the same against that said Contractor and Surety on this
obligation, and the said Contractor and Surety shall be subject to the liquidation damages mentioned in said
contract for each day's failure on its part to comply with the terms of said provisions of said contract;

NOW, THEREFORE, if the said Contractor shall keep and perform its said agreement to maintain said
work and keep the same in repair for the said maintenance period of one (1) year, as provided, then these
presents shall be null and void and have no further effect. If default shall be made by the said Contractor in the
performance of its contract to so maintain and repair said work, then these presents shall have full force and
effect and said Owner shall have and recover damages from said Contractor and its Principal and Surety. It is
further agreed that this obligation shall be continuing, one against the Principal and Surety herein, and that
successive recoveries may be hereon for successive breaches until the full amount shall have been exhausted. It

is further understood that the obligation herein to maintain said work shall continue throughout said maintenance period and the same shall not be changed, diminished or in any manner affected from any cause during said time.

PROVIDED, the aggregate liability of Surety hereunder is limited to the penal sum of this bond.

IN WITNESS WHEREOF, the said Principal and Surety have signed and sealed this instrument on the respective dates written below their signatures.

ATTEST/SEAL: (if a corporation)
WITNESS: (if not a corporation)

(Full Name of Principal)

By _____
Name _____
Title _____

By _____
Name _____
Title _____
Date _____

Address _____

ATTEST/SEAL: (if a corporation)
(if not a corporation)

_____ WITNESS:
(Full Name of Surety)

By _____
Name _____
Title _____

By _____
Name _____
Title _____
Date _____

The name and address of the resident agent of Surety is:

NOTE: Date of Maintenance Bond must not be prior to date of contract.

SEPARATION OF MATERIALS FORM

STATE SALES TAX. The Contractor's attention is directed to paragraph No. 3 of Ruling No. 9 by obtaining the necessary permit or permits from the State Comptroller allowing the purchase of materials for incorporation in this project without having to pay the Limited Sales, Excise and Use Tax at the time of purchase. Such bidders must submit segregated prices for the total cost of materials and total cost of services, and the successful bidder must require his sub-contractors to obtain such permits and to sign written sub-contracts in which the prices are segregated for the total cost of materials and the total cost of services. Total materials cost should not include materials which are used or consumed in performing the work, but do not become a part of the completed installation.

After the bid opening and prior to execution of contract, the low bidder will be required to provide a separation of materials costs and labor costs for the amounts of the base bid and any alternatives. The following form shall be used to provide this information. This form shall be submitted with the executed contract and such statement will become a part of the contract:

STATEMENT OF MATERIALS AND SERVICES

Gregg County, Texas Bid No. 2017-709

Project Name: **Knox Lee Road Bridge Repairs**

Total Materials Cost: \$ _____

Total Service Cost: \$ _____

TOTAL CONTRACT PRICE: \$ _____

Note: The total materials cost plus the total services cost must equal the amount shown of the total contract price.

CERTIFICATE OF FINAL COMPLETION
OF
Gregg County Bid No. 2017-709 for
Knox Lee Road Bridge Repairs

CONTRACT DATED: _____

STATE OF TEXAS }
COUNTY OF _____}

Before me, the undersigned authority, a Notary Public in and for _____ County, Texas, on this day personally appeared _____ who, being by me duly sworn on his oath, says that he is/represents _____, the contractor who has performed a contract with Gregg County for the construction of the work described above, and is duly authorized to make this affidavit; that he has personally examined the work described above as required by the specifications of Gregg County attached to the contract; that said work and all items thereof have been completed and all known defects made good; that thereof have been completed and all known defects made good; that all surplus material, refuse, dirt and rubbish have been cleaned up, removed and disposed of; that all parts of the work are in a neat, tidy, finished condition and ready in all respects for acceptance by the County; that all the required work has been performed in accordance with the specifications, that rates of pay for all labor employed on said work have not been below the minimum set out in Labor Classification and Minimum Wage Scale in said Specifications and that within the knowledge of affiant all just bills for labor and material and for the rental or use of any equipment or apparatus used in, on, or in connection with the work have been paid in full by the Contractor.

CERTIFIED TRUE AND CORRECT

Contractor Signature

Sworn to and subscribed before me this _____ day of _____, 20_____.

Notary Public in and for
_____ County, Texas

GREGG COUNTY, TEXAS
STANDARD TERMS AND CONDITIONS
AND
BONDING REQUIREMENTS



STANDARD TERMS AND CONDITIONS
Gregg County, Texas

Awarded vendor certifies and agrees to the following:

1. Non-performance or non-compliance of the Standard Terms & Conditions, or non-performance or non-compliance with the Specifications shall be basis for termination by Gregg County of the bid or final executed contract. Termination in whole, or in part, by the County may be made solely at the County's option and without prejudice to any other remedy to which Gregg County may be entitled by law or in equity, or elsewhere under this Bid or the agreement, by giving thirty (30) days written notice to the vendor with the understanding that all work being performed under this agreement shall cease upon the date specified in such notice. Gregg County shall not pay for work, equipment, services or supplies, which are unsatisfactory. The Respondent may be given reasonable opportunity prior to termination to correct any deficiency. This however shall in no way be construed as negating the basis for termination for non-performance or non-compliance.
2. Respondent shall make all inquiries necessary to be thoroughly informed as to the specifications and all other requirements proposed in the Bid. Any apparent omission or silence of detail in the description concerning any point in the specifications shall be interpreted on the basis of best commercial practices, and best commercial practices shall prevail.
3. Invoices shall be sent to the Gregg County Purchasing Department, 101 East Methvin, St. 205, Longview, TX, 75601. Invoices must detail the materials/equipment/services delivered and **must reference the Gregg County Purchase Order Number.** Payments are processed after the Purchasing Department has verified that the material or equipment and/or services have been delivered in good condition and that no unauthorized substitutions have been made according to specifications. Neither a signed receipt nor payments shall be construed as an acceptance of any defective work, improper materials, or release of any claim for damage.
4. Only the Commissioners Court of Gregg County, Texas acting as a body may enter into any type of agreement or contract on behalf of Gregg County. Department heads, other elected or appointed officials, are not authorized to enter into any type of agreement or contract on behalf of Gregg County, or to agree to any type of supplemental agreements or contracts for goods or services. Contracts are subject to review by the County's attorney prior to signature by the authorized County official.

5. The Respondent shall be considered an independent Contractor and not an agent, servant, employee or representative of the County in the performance of the work. No term or provision, hereof, or act of the Respondent shall be construed as changing that status.
6. The Respondent shall defend, indemnify, and shall save whole and harmless the County and all its officers, agents, employees from and against all suits, actions, or claims of the character, name and description brought for or on account of any injuries or damages (including but not restricted to death) received or sustained by any person(s) or property on account of, arising out of, or in connection with the performance of the work, including without limiting the generality of the foregoing, any negligent act or omission of the Respondent on the execution or performance of the Contract.
7. The Respondent agrees, during the performance of the work, to comply with all applicable codes and ordinances of the City of Longview, Gregg County, or State of Texas as they may apply, as these laws may now read or as they may hereafter be changed or amended.
8. The awarded vendor shall obtain from the appropriate City, Gregg County, or State of Texas the necessary permit(s) required by the ordinances of the City, County, or State, for performance of the work.
9. The awarded contractor shall not sell, assign, transfer or convey the agreement in whole or in part, without the prior written consent of the County.
10. The parties herein agree that the agreement shall be enforceable in Gregg County, Texas, and if legal action is necessary to enforce it, exclusive venue shall lie in Gregg County, Texas.
11. The agreement shall be governed by, and construed in accordance with, the Laws of the State of Texas and all applicable Federal Laws.
12. Funding Clause - Payments required to be made by Gregg County under the terms of the agreement shall be contingent upon and subject to the initial and continuing appropriation of funding for the agreement by and through the Commissioners Court of Gregg County, Texas. In the event appropriations for funding of the agreement are not approved by and through the Commissioners Court, the contract shall terminate. Gregg County shall, submit written notice to Respondent thirty (30) days prior to such termination. Upon notice of termination, as provided in this paragraph, the Respondent may submit a final invoice to the County and coordinate with the Purchasing Agent to remove all property belonging to said Respondent as soon as possible. Payment for final invoice will be subject to verification and approval by the purchasing agent. Thereupon, Gregg County will be released from its obligation to make further payments.
13. Gregg County is exempt from federal excise and sales taxes, ad valorem taxes and personal property taxes; therefore, tax must not be included in proposals tendered. Proposals offered must be complete and all inclusive. Gregg County will not pay additional taxes, surcharges or other fees not included in bid prices.

14. In case any one or more of the provisions contained in the agreement shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision thereof and the agreement shall be considered as if such had never been contained herein.
15. The agreement embodies the complete agreement of the parties hereto, superseding all oral or written previous and contemporary agreements between the parties and relating to matters herein, and except as otherwise provided herein cannot be modified without written agreement of the parties. A contract will be executed after determination of the award.
16. Awarded Respondent must provide a certificate of insurance conforming to the above listed requirements or a statement of Respondent's insurance carrier certifying that the required coverage shall be obtained by Respondent within ten (10) days of formal award of the Contract. In the case where a certification letter from an insurance carrier is attached to the bid in lieu of an insurance certificate, any formal award of a contract shall be contingent upon required coverage being put into force **prior** to any performance required by subject agreement.
17. Gregg County reserves the right to terminate an agreement/contract at any time, without cause, upon thirty (30) days written notice to awarded contractor. Upon termination, Gregg County shall pay Respondent for those costs directly attributable to work done or supplies obtained in preparation for completion or compliance with the Contract, except no payment shall be made for costs recoverable by Respondent in the normal course of doing business or which can be mitigated through the sale of supplies or materials obtained for use under this Contract. It is further agreed by Respondent that Gregg County shall not be liable for loss or reduction in any anticipated profit.
18. Gregg County is wholly committed to developing, establishing, maintaining, and enhancing minority business involvement in the total procurement process. The County, its contractors, their suppliers and sub-contractors, vendors of goods, equipment, services, and professional services, shall not discriminate on the basis of race, color, religion, national origin, age, handicap, or sex in the award and/or performance of contracts. However, competition and quality of work remain the ultimate standards in contractor, sub-contractor, vendor service, professional service, and supplier utilization. All vendors, suppliers, professionals and contractors doing business or anticipating doing business with Gregg County shall support, encourage and implement steps toward our common goal of establishing equal opportunity for all citizens of Gregg County.
19. The awarded contractor agrees that Gregg County assumes no responsibility for any costs associated with any administrative or judicial proceedings resulting from the solicitation process.
20. The awarding Respondent shall maintain adequate records to justify all charges, expenses, and costs incurred in estimating and performing the work for at least two (2)

years after completion of the contract resulting from this request for proposal. Gregg County shall have access to all records, documents and information collected and/or maintained by others in the course of the administration of this agreement.

21. Contractor understands and agrees that in returning a response to this proposal/bid that it is neither an "offer" nor an "acceptance" until such time a formal contract is authorized/awarded by the Gregg County Commissioners Court; if any.
22. Gratuities— Gregg County may, by written notice to the Seller, cancel this contract without liability to Seller if it is determined by Gregg County that gratuities, in the form of entertainment, gifts, or otherwise, were offered or given by the Seller, or any agent or representative of the Seller, to any officer or employee of Gregg County with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending, or the making of any determinations with respect to the performing of such a contract. In the event this contract is canceled by Gregg County pursuant to this provision, Gregg County shall be entitled, in addition to any other rights and remedies, to recover or withhold the amount of the cost incurred by Seller in providing such gratuities.
23. Termination - The performance of work under this order may be terminated in whole or in part by the Buyer in accordance with this provision. Termination of work hereunder shall be effected by the delivery to the Seller of a "Notice of Termination" specifying the extent to which performance of work under the order is terminated and the date upon which such termination becomes effective. Such right of termination is in addition to and not in lieu of rights of Buyer.
24. Force Majeure - If, by reason of Force Majeure, either party hereto shall be rendered unable wholly or in part to carry out its obligations under this Agreement then such party shall give notice and full particulars of such Force Majeure in writing to the other party within a reasonable time after occurrence of the event or cause relied upon, and the obligation of the party giving such notice, so far as it is affected by such Force Majeure, shall be suspended during the continuance of the inability then claimed, except as hereinafter provided, but for no longer period, and such party shall endeavor to remove or overcome such inability with all reasonable dispatch. The term Force Majeure as employed herein, shall mean acts of God, strikes, lockouts, or other industrial disturbances, act of public enemies, orders of any kind of government of the United States or the State of Texas or any civil or military authority, insurrections, riots, epidemics, landslides, lightning, earthquake, fires, hurricanes, storms, floods, washouts, droughts, arrests, restraint of government and people, civil disturbances, explosions, breakage or accidents to machinery, pipelines or canals or other causes not reasonably within the control of the party claiming such inability. It is understood and agreed that the settlement of strikes and lockouts shall be entirely within the discretion of the party having the difficulty, and that the above requirement that any Force Majeure shall be remedied with all reasonable dispatch shall not require the settlement of strikes and lockouts by acceding to the demands of the opposing party or parties when such settlement is unfavorable in the judgment of the party having the difficulty.

25. Assignment Delegation - No right or interest in this contract shall be assigned or delegation of any obligation made by Seller without the written permission of the Buyer. Any attempted assignment or delegation by Seller shall be wholly void and totally ineffective for all purposes unless made in conformity with this paragraph.
26. Waivers - No claim or right arising out of a breach of this contract can be discharged in whole or in part by a waiver or renunciation of the claim or right unless the waiver or renunciation is supported by consideration and is in writing signed by the aggrieved party.
27. Modification - Contract can be modified or rescinded only by a written and signed agreement by both of the parties duly authorized agents.
28. Applicable Law - This agreement shall be governed by the Uniform Commercial Code. Wherever the term "Uniform Commercial Code" is used, it shall be construed as meaning the Uniform Commercial Code as adopted in the State of Texas as effective and in force on the date of this agreement.
29. Advertising - Seller shall not advertise or publish, without Buyer's prior consent, the fact that Buyer has entered into this contract, except to the extent necessary to comply with proper requests for information from an authorized representative of the federal, state, or local government.
30. Right to Assurance - Whenever one party to this contract in good faith has reason to question the other party's intent to perform, he may demand that the other party give written assurance of his intent to perform. In the event a demand is made and no assurance is given within five (5) days, the demanding party may treat this failure as an anticipatory repudiation of the contract.
31. Venue - Both parties agree that venue for any litigation arising from this contract shall be in Longview, Gregg County, Texas.
32. No negotiations, decisions, or actions shall be executed by the vendor as a result of any discussions with any public service official, employee and/or consultant. Only those transactions provided in written form may be considered binding.
33. The contents of each vendor's bid, including specifications shall remain valid for a minimum of 60 calendar days from the Bid due date.
34. Subcontracting: The Vendor must function as the single point of responsibility for the Agency. No vendor shall submit a proposal comprised of separate software packages from multiple subcontractors.

35. Conflict of Interest: No public official shall have interest in this contract except in accordance with Vernon's Texas Codes Annotated, Local Government Code Title 5, Subtitle C, Chapter 171. State Law (CHAPTER 176 of the Local Government Code) requires the filing of a CONFLICT OF INTEREST QUESTIONNAIRE by certain individuals and businesses.
36. Design, Strength, Quality of materials and workmanship must conform to the highest standards of manufacturing and engineering practice.
37. All Hardware of any other item offered in this bid must be new and unused, unless otherwise specified, in first-class condition and of current manufacture.
38. Descriptions: Whenever an article or material is defined or used in the BID specifications by describing a proprietary product or by using the name of a manufacturer, model number, or make, the term "or equal" if not inserted, shall be implied. Any reference to specified article or material shall be understood as descriptive, NOT restrictive, and is used to indicate type and quality level desired for comparison purposes unless otherwise noted. Bids must be submitted on units of quantity specified, extended, and totaled. In the event of discrepancies in extension, the unit prices shall govern.
39. Addendum: Any interpretations, corrections or changes to this Bid and Specifications will be made by addendum, unless otherwise stated. Issuing authority of addendum shall be the Commissioners' Court of Gregg County, Texas. Addendum will be mailed, emailed, or faxed to all that are known to have received a copy of the Bid. Vendors shall acknowledge receipt of all addenda and include receipt and response to addenda with submission.
40. Patents/Copyrights: The successful vendor agrees to protect Gregg County from claims involving infringements of patents and/or copyrights.
41. Contract Administrator: The Contract Administrator will serve as sole liaison between the Gregg County Commissioners Court and affected Gregg County Departments and the successful vendor. Unless directly outlined in this specification the vendor shall consider no one but the Contract Administrator authorized to communicate, by any means, information or suggestions regarding or resembling this bid throughout the proposal process. The Contract Administrator has been designated the responsibility to ensure compliance with contract requirements, such as but not limited to, acceptance, inspection and delivery. The County will not pay for work, equipment or supplies, which it deems unsatisfactory. Vendors will be given a reasonable opportunity to correct deficiencies before termination. This however, shall in no way be construed as negating the basis for termination for non-performance.
42. Packing slips or other suitable shipping documents shall accompany each special order shipment and shall include:

- (a) Name and address of successful vendor;
 - (b) Name and address of receiving department and/or location;
 - (c) Gregg County Purchase Order number; and,
 - (d) Descriptive information of the materials shipped or services rendered, including item numbers, serial numbers, quantities, number of containers and package numbers, address/location of services rendered, as applicable.
43. Unless otherwise indicated, items will be new, unused, and in first class condition in containers suitable for damage-free shipment and storage.
44. Invoices must show all information as stated above, and will be issued for each purchase order.
45. Equipment/Good/Services supplied under this contract shall be subject to the County's approval. Item(s) found defective or not meeting specifications shall be picked up and replaced by the successful vendor within one (1) week after notification at no expense to the County. If item(s) is not picked up within one (1) week after notification, the item(s) will become a donation to the County for disposition.
46. Warranty: Successful vendor shall warrant that all equipment/goods/services shall conform to the proposed specifications and/or all warranties stated in the Uniform Commercial Code and be free from all defects in material, workmanship and title.
47. Remedies: The successful vendor and Gregg County agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.
48. Silence of Specification: The apparent silence of specifications as to any detail or to the apparent omission from it of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practices are to prevail. All interpretations of these specifications shall be made on the basis of this statement.
49. The Contractor shall procure and maintain at its sole cost and expense for the duration of this Agreement insurance against claims for injuries to persons or damages to property that may arise from or in connection with the performance of the work hereunder by the Contractor, its agents, representatives, volunteers, employees or subcontractors. The Contractor's insurance coverage shall be primary insurance with respect to the County, its officials, employees and volunteers. Any insurance or self-insurance maintained by the County, its officials, employees or volunteers shall be considered in excess of the Contractor's insurance and shall not contribute to it. Further, the Contractor shall include all subcontractors as additional insured under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverage for subcontractors shall be subject to all of the requirements stated herein. **All Certificates of Insurance and endorsements shall be furnished to the County's Purchasing Agent and approved by the County *before* work commences.**

50. ***Standard Insurance Policies Required:***

- a. Commercial General Liability Policy
- b. Automobile Liability Policy
- c. Worker's Compensation Policy

General Requirements applicable to all policies:

- a. Only insurance carriers licensed and admitted to do business in the State of Texas will be accepted.
- b. Deductibles shall be listed on the Certificate of Insurance and are acceptable only on a per occurrence basis for property damage only.
- c. "Claims Made" policies will not be accepted.
- d. Each insurance policy shall be endorsed to state that coverage shall not be suspended, voided, canceled, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to Gregg County.
- e. All insurance policies shall be furnished to Gregg County upon request.

Commercial General Liability

- a. General Liability insurance shall be written by carrier with an A:VIII or better rating in accordance with the current Best Key Rating guide.
- b. Minimum Combined Single Limit of \$1,000,000.00 per occurrence for bodily Injury and property damage with Gregg County named as an additional insured.
- c. No coverage shall be deleted from the standard policy without notification of individual exclusions being attached for review and acceptance.

Automobile Liability

- a. General Liability Insurance shall be written by a carrier with an A:VIII or better rating in accordance with the current Best Key Rating Guide.
- b. Minimum Combined Single Limit of \$600,000.00 per occurrence for bodily injury and property damage.

51. ***Workers Compensation Insurance*** - Pursuant to the requirements set forth in Title 28, Section 110.110 of the Texas compensation insurance policy; either directly through their employer's policy (the Contractor's or subcontractor's policy) or through an executed coverage agreement on an approved TWCC form. Accordingly, if a subcontractor does not have his or her own policy and a coverage agreement is used, Contractors and subcontractors must use that portion of the form whereby the hiring contractor agrees to provide coverage to the employees of the subcontractor. The portion of the form that would otherwise allow them not to provide coverage for the employees of an independent contractor may not be used.

The worker's compensation insurance shall include the following terms:

- a. Employer's Liability limits of \$500,000.00 for each accident is required.

- b. "Texas Waiver of Our Right to Recover from Others Endorsement" shall be included in this policy. (Waiver of Subrogation)

Pursuant to the explicit terms of Title 28, Section 110.110 (c) (7) of the Texas Administrative Code, the Proposal specifications, this Agreement, and all subcontracts on this Project must include the following terms and conditions in the following language, without any additional words or changes, except those required to accommodate the specific document in which they are contained or to impose stricter standards of documentation:

Definitions:

Certificate of coverage ("certificate") - A copy of a certificate of insurance, a certificate of authority to self-insure issued by the Texas Worker's Compensation Commission, or a coverage agreement (TWCC-81), TWCC-83, or TWCC-84), showing statutory worker's compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.

Duration of the project - includes the time from the beginning of the work on the project until the Contractor's/person's work on the project has been completed and accepted by the governmental entity.

Persons providing services on the project ("subcontractors" in section 406.096 {of the Texas Labor Code}) - includes all persons or entities performing all or part of the services the Contractor has undertaken to perform on the project, regardless of whether that person has employees. This includes, without limitation, independent Contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity or employees of any entity which furnishes persons to provide services on the project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage respondents, office supply deliveries, and delivery of portable toilets.

- The Contractor shall provide coverage, based on the proper reporting of classification codes and payroll amounts and filing of any coverage agreements, that meets the statutory requirements of Texas Labor Code, Section 401.011 (44) for all employees of the Contractor providing services on the project, for the duration of the project.
- The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract.
- If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the project, the Contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.
- The Contractor shall obtain from each person providing services on a project, and provide to the governmental entity:

- (1) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file providing services on the project, and certificates of coverage showing coverage for all person; and
- (2) no later than seven calendar days after receipt by the Contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.
- (3) The Contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.

The Contractor shall notify the governmental entity in writing by certified mail or personal delivery, within 10 calendar days after the Contractor knew or should have known, or any change that materially affects the provision of coverage of any person providing services on the project.

The Contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation commission, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

The Contractor shall contractually require each person with whom it contracts to provide services on a project, to:

- (1) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreement, that meets the statutory requirements of Texas Labor Code, Section 401.011 (44) for all of its employees providing services on the project, for the duration of the project;
- (2) provide to the Contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;
- (3) provide the Contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.
- (4) obtain from each other person with whom it contracts, and provide to the Contractor:
 - (a) a certificate of coverage, prior to the other person beginning work on the project; and
 - (b) a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
- (5) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
- (6) notify the governmental entity in writing by certified mail or personal delivery, within 10 calendar days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and

- (7) Contractually require each person with whom it contracts, to perform as required; with the certificates of coverage to be provided to the person for whom they are providing services.

By signing a contract with Gregg County, or providing, or causing to be provided a certificate of coverage, the Contractor who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier, or, in the case of a self-insured, with the commission's Division of Self-Insurance regulation. Providing false or misleading information may subject the Contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

CERTIFICATES OF INSURANCE shall be prepared and executed by the insurance company or its authorized agent, and shall contain the following provisions and warranties:

- a. The company is licensed and admitted to do business in the State of Texas.
- b. The insurance policies provided by the insurance company are underwritten on forms that have been provided by the Texas State Board of Insurance or ISO.
- c. All endorsements and insurance coverage according to requirements and instructions contained herein.
- d. The form of the notice of cancellation, termination, or change in coverage provisions to Gregg County.
- e. Original endorsements affecting coverage required by the section shall be furnished with the certificates of insurance.

BONDING REQUIREMENTS

If applicable, a Bid Bond shall be required. Pursuant to the provisions of Section 262.032 (a) of the Texas Local Government Code, if the contract contemplated by this request is a bid for the construction of public works, or will be under a contract exceeding \$100,000.00, Gregg County may require the vendor to execute a good and sufficient bid bond in the amount of five percent (5%) of the total contract price. Said bond shall be executed with a surety company authorized to do business in the State of Texas.

If applicable, a Performance Bond shall be required. Pursuant to the provisions of Section 262.032 (b) of the Texas Local Government Code, within thirty (30) days of the date of the signing of a contract or issuance of a purchase order following the acceptance of a bid by Gregg County Commissioners Court and prior to commencement of the actual work, the successful vendor shall furnish a performance bond to Gregg County for the full amount of the contract if the contract exceeds \$50,000.00. Said bond shall be for the purpose of insuring the faithful performance of the work in accordance with the plans, specifications and contract documents associated with the contract.

If applicable, a Payment Bond shall be required. Pursuant to the provisions of Section 2253.021, Texas Government Code, if the amount of the contract awarded to the successful vendor exceeds \$25,000.00, the successful vendor shall execute a payment bond in the amount of the contract. Said bond is solely for the protection and use of payment bond beneficiaries who have a direct contractual relationship with the prime contractor or a subcontractor to supply public work labor or material. This bond must be issued to the County within ten (10) days of the award of the contract and before vendor begins the work.

If applicable, a Performance Bond shall be required. Pursuant to the provisions of Section 2253.021, Texas Government Code, if the amount of the contract awarded to the successful vendor exceeds \$100,000.00, the successful vendor shall execute a performance bond in the amount of the contract. Said performance bond is solely for the protection of Gregg County and is conditioned on the faithful performance of the work in accordance with the plans, specifications, and contract documents. This bond must be issued to the County within ten (10) days of the award of the contract and before the vendor begins the work.

GENERAL CONDITIONS OF AGREEMENT

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GENERAL CONDITIONS OF AGREEMENT

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GENERAL CONDITIONS

1. DEFINITIONS OF TERMS

1.01 OWNER, CONTRACTOR AND ENGINEER. The OWNER, the CONTRACTOR and the ENGINEER are those persons or organizations identified as such in the Agreement and are referred to throughout the Contract Documents as if singular in number and masculine in gender. The term ENGINEER means the ENGINEER or his duly authorized representative. The ENGINEER shall be understood to be the ENGINEER of the OWNER, and nothing contained in the Contract Documents shall create any contractual or agency relationship between the ENGINEER and the CONTRACTOR.

1.02 CONTRACT DOCUMENTS. The Contract Documents shall consist of the Notice to Contractors (Advertisement), Special Conditions (Instructions to Bidders), Proposal, signed Agreement, Performance and Payment Bonds (when required), General Conditions of the Agreement, Technical Specifications, Plans, and all modifications thereof incorporated in any of the documents before the execution of the agreement.

The Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all. In case of conflict between any of the Contract Documents, priority of interpretation shall be in the following order: Signed Agreement, Performance and Payment Bonds, Special Bonds (if any), Proposal, Special Conditions of Agreement, Notice to Contractors, Technical Specifications, Plans, and General Conditions of Agreement.

1.03 SUB-CONTRACTOR. The term Sub-Contractor, as employed herein, includes only those having a direct contract with the CONTRACTOR and it includes one who furnished material worked to a special design according to the plans or specifications of this work, but does not include one who merely furnishes material not so worked.

1.04 WRITTEN NOTICE. Written notice shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered mail to the last business address known to him who gives the notice.

1.05 WORK. The CONTRACTOR shall provide and pay for all materials, supplies, machinery, equipment, tools, superintendence, labor, services, insurance, and all water, light, power, fuel, transportation and other facilities necessary for the execution and completion of the work covered by the Contract Documents. Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of a good quality. The CONTRACTOR shall if required, furnish satisfactory evidence as to the kind and quality of materials. Materials or work described in words that so applied have a well known technical or trade meaning shall be held to refer to such recognized standards.

1.06 EXTRA WORK. The term "Extra Work" as used in this contract shall be understood to mean and include all work that may be required by the ENGINEER or OWNER to be done by the CONTRACTOR to accomplish any change, alteration or addition to the work shown upon the plans, or reasonably implied by the specifications, and not covered by the CONTRACTOR'S Proposal, except as provided under "Changes and Alterations", herein.

1.07 WORKING DAY. A "Working Day" is defined as any day not including Saturdays, Sundays or legal holidays, in which weather or other conditions, not under the control of the CONTRACTOR, will permit construction of the principal units of the work for a period of not less than seven (7) hours between 7:00 a.m. and 6:00 p.m.

1.08 CALENDAR DAY. "Calendar Day" is any day of the week or month, no days being excepted.

1.09 SUBSTANTIALLY COMPLETED. By the term "substantially completed" is meant that the structure has been made suitable for use or occupancy or the facility is in condition to serve its intended purpose, but still may require minor miscellaneous work and adjustment.

2. RESPONSIBILITIES OF THE ENGINEER AND THE CONTRACTOR

2.01 OWNER-ENGINEER RELATIONSHIP. The ENGINEER will be the OWNER'S representative during construction. The duties, responsibilities and limitations of authority of the ENGINEER as the OWNER'S representative during construction are as set forth in the Contract Documents and shall not be extended or limited without written consent of the OWNER and ENGINEER. The ENGINEER will advise and consult with the OWNER, and all of OWNER'S instructions to the CONTRACTOR shall be issued through the ENGINEER.

2.02 PROFESSIONAL INSPECTION BY ENGINEER. The ENGINEER shall make periodic visits to the site to familiarize himself generally with the progress of the executed work and to determine if such work generally meets the essential performance and design features and the technical and functional engineering requirements of the Contract Documents; provided and except, however, that the ENGINEER shall not be responsible for making any detailed, exhaustive, comprehensive or continuous on-site inspection of the quality or quantity of the work or be in any way responsible, directly or indirectly, for the construction means, methods, techniques, sequences, quality, procedures, programs, safety precautions or lack of same incident thereto or in connection therewith. Notwithstanding any other provision of this agreement or any other Contract Document, the ENGINEER shall not be in any way responsible or liable for any acts, errors, omissions or negligence of the CONTRACTOR, any subcontractor or any of the CONTRACTOR'S or subcontractor's agents, servants or employees or any other person, firm or corporation performing or attempting to perform any of the work.

2.03 PAYMENTS FOR WORK. The ENGINEER shall review CONTRACTOR'S applications for payment and supporting data, determine the amount owed to the CONTRACTOR and approve in writing, payment to CONTRACTOR in such amounts; such approval of payment to CONTRACTOR constitutes a representation to the OWNER of ENGINEER'S professional judgment that the work has progressed to the point indicated to the best of his knowledge, information and belief, but such approval of an application for payment to CONTRACTOR shall not be deemed as a representation by ENGINEER that ENGINEER has made any examination to determine how or for what purpose CONTRACTOR has used the moneys paid on account of the Contract price.

2.04 INITIAL DETERMINATIONS. The ENGINEER initially shall determine all claims, disputes and other matters in question between the CONTRACTOR and the OWNER relating to the execution or progress of the work or the interpretation of the Contract Documents and the ENGINEER'S decision shall be rendered in writing within a reasonable time. Should the ENGINEER fail to make such decision within a reasonable time, appeal to arbitration may be taken as if his decision had been rendered against the party appealing.

2.05 OBJECTIONS. In the event the ENGINEER renders any decision which, in the opinion of either party hereto, is not in accordance with the meaning and intent of this contract, either party may file

with the ENGINEER within thirty days his written objection to the decision, and by such action may reserve the right to submit the question so raised to arbitration as hereinafter provided.

2.06 LINES AND GRADES. Unless otherwise specified, all lines and grades shall be furnished by the CONTRACTOR or his representative.

2.07 CONTRACTOR'S DUTY AND SUPERINTENDENCE. The CONTRACTOR shall give adequate attention to the faithful prosecution and completion of this contract and shall keep on the work, during its progress, a competent superintendent and any necessary assistants. The superintendent shall represent the CONTRACTOR in his absence and all directions given to him shall be as binding as if given to the CONTRACTOR.

The CONTRACTOR is and at all times shall remain an independent contractor, solely responsible for the manner and method of completing his work under this contract, with full power and authority to select the means, method and manner of performing such work, so long as such methods do not adversely affect the completed improvements, the OWNER and ENGINEER being interested only in the result obtained and conformity of such completed improvements to the plans, specifications and contract.

Likewise, the CONTRACTOR shall be solely responsible for the safety of himself, his employees and other persons, as well as for the protection of the safety of the improvements being erected and the property of himself or any other person, as a result of his operations hereunder. Engineering construction drawings and specifications as well as any additional information concerning the work to be performed passing from or through the ENGINEER shall not be interpreted as requiring or allowing CONTRACTOR to deviate from the plans and specifications, the intent of such drawings, specifications and any other such instructions being to define with particularity the agreement of the parties as to the work the CONTRACTOR is to perform. CONTRACTOR shall be fully and completely liable, at his own expense, for design, construction, installation and use, or non-use, of all items and methods incident to performance of the contract, and for all loss, damage or injury incident thereto, either to person or property, including, without limitation, the adequacy of all temporary supports, shoring, bracing, scaffolding, machinery or equipment, safety precautions or devices, and similar items or devices used by him during construction.

Any review of work in process, or any visit or observation during construction, or any clarification of plans and specifications, by the ENGINEER, or any agent, employee, or representative of either of them whether through personal observation on the project site or by means of approval of shop drawings for temporary construction or construction processes, or by other means or method, is agreed by the CONTRACTOR to be for the purpose of observing the extent and nature of work completed or being performed, as measured against the drawings and specifications constituting the contract, or for the purpose of enabling CONTRACTOR to more fully understand the plans and specifications so that the completed construction work will conform thereto, and shall in no way relieve the CONTRACTOR from full and complete responsibility for the proper performance of his work on the project, including but without limitation the propriety of means and methods of the CONTRACTOR in performing said contract, and the adequacy of any designs, plans or other facilities for accomplishing such performance. Deviation by the CONTRACTOR from plans and specifications that may have been in evidence during any such visitation or observation by the ENGINEER, or any of his representatives, whether called to the CONTRACTOR'S attention or not shall in no way relieve CONTRACTOR from his responsibility to complete all work in accordance with said plans and specifications.

2.08 CONTRACTOR'S UNDERSTANDING. It is understood and agreed that the CONTRACTOR has, by careful examination, satisfied himself as to the nature and location of the work, the conformation of the ground, the character, quality and quantity of the materials to be encountered, the character of equipment and facilities needed preliminary to and during the prosecution of the work, the

general and local conditions, and all other matters which can in any way affect the work under this contract. No verbal agreement or conversation with any officer, agent or employee of the OWNER or ENGINEER either before or after the execution of this contract, shall affect or modify any of the terms or obligations herein contained.

2.09 CHARACTER OF WORKMEN. The CONTRACTOR agrees to employ only orderly and competent men, skillful in the performance of the type of work required under this contract, to do the work; and agrees that whenever the ENGINEER shall inform him in writing that any man or men on the work are, in his opinion, incompetent, unfaithful or disorderly, such man or men shall be discharged from the work and shall not again be employed on the work without the ENGINEER'S written consent.

2.10 CONTRACTOR'S BUILDING. The building of structures for housing men, or the erection of tents or other forms of protection, will be permitted only at such places as the ENGINEER shall direct, and the sanitary conditions of the grounds in or about such structures shall at all times be maintained in a manner satisfactory to the ENGINEER.

2.11 SANITATION. Necessary sanitation conveniences for the use of laborers on the work, properly secluded from public observation, shall be constructed and maintained by the CONTRACTOR in such manner and at such points as shall be approved by the ENGINEER, and their use shall be strictly enforced.

2.12 SHOP DRAWINGS. The CONTRACTOR shall submit to the ENGINEER, with such promptness as to cause no delay in his own work or in that of any other Contractor, four checked copies, unless otherwise specified, of all shop and/or setting drawings and schedules required for the work of the various trades, and the ENGINEER shall pass upon them with reasonable promptness, making desired corrections. The CONTRACTOR shall make any corrections required by the ENGINEER, file with him two corrected copies and furnish such other copies as may be needed. The ENGINEER'S approval of such drawings or schedules shall not relieve the CONTRACTOR from responsibility for deviations from drawings or specifications, unless he has in writing called the ENGINEER'S attention to such deviations at the time of submission, nor shall it relieve him from responsibility for errors of any sort in shop drawings or schedules. It shall be the CONTRACTOR'S responsibility to fully and completely review all shop drawings to ascertain their effect on his ability to perform the required contract work in accordance with the plans and specifications and within the contract time.

Such review by the ENGINEER shall be for the sole purpose of determining the sufficiency of said drawings or schedules to result in finished improvements in conformity with the plans and specifications, and shall not relieve the CONTRACTOR of his duty as an independent contractor as previously set forth, it being expressly understood and agreed that the ENGINEER does not assume any duty to pass upon the propriety or adequacy of such drawings or schedules, or any means or methods reflected thereby, in relation to the safety of either person or property during CONTRACTOR'S performance hereunder.

2.13 PRELIMINARY APPROVAL. The ENGINEER shall not have the power to waive the obligations of this contract for furnishing by the CONTRACTOR of good material, and of his performing good work as herein described, and in full accordance with the plans and specifications. No failure or omission of the ENGINEER to discover, object to or condemn any defective work or material shall release the CONTRACTOR from the obligation to at once tear out, remove and properly replace the same at any time prior to final acceptance upon the discovery of said defective work or material; provided, however, that the ENGINEER shall, upon request of the CONTRACTOR, inspect and accept or reject any material furnished, and in event the material has been once accepted by the ENGINEER,

such acceptance shall be binding on the OWNER, unless it can be clearly shown that such material furnished does not meet the specifications for this work.

Any questioned work may be ordered taken up or removed for re-examination, by the ENGINEER, prior to final acceptance, and if found not in accordance with the specifications for said work, all expense of removing, re-examination and replacement shall be borne by the CONTRACTOR, otherwise the expense thus incurred shall be allowed as EXTRA WORK, and shall be paid for by the OWNER; provided that, where inspection or approval is specifically required by the specifications prior to performance of certain work, should the CONTRACTOR proceed with such work without requesting prior inspection or approval he shall bear all expense of taking up, removing, and replacing this work if so directed by the ENGINEER.

2.14 DEFECTS AND THEIR REMEDIES. It is further agreed that if the work or any part thereof, or any material brought on the site of the work for use in the work or selected for the same, shall be deemed by the ENGINEER as unsuitable or not in conformity with the specifications, the CONTRACTOR shall, after receipt of written notice thereof from the ENGINEER, forthwith remove such material and rebuild or otherwise remedy such work so that it shall be in full accordance with this contract.

2.15 CHANGES AND ALTERATIONS. The CONTRACTOR further agrees that the OWNER may make such changes and alterations as the OWNER may see fit, in the line, grade, form, dimensions, plans or materials for the work herein contemplated, or any part thereof, either before or after the beginning of the construction, without affecting the validity of this contract and the accompanying Performance and Payment Bonds.

If such changes or alterations diminish the quantity of the work to be done, they shall not constitute the basis for a claim for damages, or anticipated profits on the work that may be dispensed with, except as provided for unit price items under Section 5 "Measurement and Payment." If the amount of work is increased, and the work can fairly be classified under the specifications, such increase shall be paid for according to the quantity actually done and at the unit price, if any, established for such work under this contract, except as provided for unit price items under Section 5 "Measurement and Payment;" otherwise, such additional work shall be paid for as provided under Extra Work. In case the OWNER shall make such changes or alterations as shall make useless any work already done or material already furnished or used in said work, then the OWNER shall recompense the CONTRACTOR for any material or labor so used, and for any actual loss occasioned by such change, due to actual expenses incurred in preparation for the work as originally planned.

3. GENERAL OBLIGATIONS AND RESPONSIBILITIES

3.01 KEEPING OF PLANS AND SPECIFICATIONS ACCESSIBLE. The ENGINEER shall furnish the CONTRACTOR with an adequate and reasonable number of copies of all plans and specifications without expense to him, and the CONTRACTOR shall keep one copy of the same constantly accessible on the work, with the latest revisions noted thereon.

3.02 OWNERSHIP OF DRAWINGS. All drawings, specifications and copies thereof furnished by the ENGINEER shall not be reused on other work, and, with the exception of the signed contract sets, are to be returned to him on request, at the completion of the work. All models are the property of the OWNER.

3.03 ADEQUACY OF DESIGN. It is understood that the OWNER believes it has employed competent engineer and designers. It is, therefore, agreed that the OWNER shall be responsible for the

adequacy of the design, sufficiency of the Contract Documents, the safety of the structure and the practicability of the operations of the completed project; provided the CONTRACTOR has complied with the requirements of the said Contract Documents, all approved modifications thereof, and additions and alterations thereto approved in writing by the OWNER. The burden of proof of such compliance shall be upon the CONTRACTOR to show that he has complied with the said requirements of the Contract Documents, approved modifications thereof and all approved additions and alterations thereto.

3.04 RIGHT OF ENTRY. The OWNER reserves the right to enter the property or location on which the works herein contracted for are to be constructed or installed, by such agent or agents as he may elect, for the purpose of inspecting the work, or for the purpose of constructing or installing such collateral work as said OWNER may desire.

3.05 COLLATERAL CONTRACTS. The OWNER agrees to provide by separate contract or otherwise, all labor and material essential to the completion of the work specifically excluded from this contract, in such manner as not to delay the progress of the work, or damage said CONTRACTOR, except where such delays are specifically mentioned elsewhere in the Contract Documents.

3.06 DISCREPANCIES AND OMISSIONS. It is further agreed that it is the intent of this contract that all work must be done and all material must be furnished in accordance with the generally accepted practice, and in the event of any discrepancies between the separate contract documents, the priority of interpretation defined under "Contract Documents" shall govern. In the event that there is still any doubt as to the meaning and intent of any portion of the contract, specifications or drawings, the ENGINEER shall define which is intended to apply to the work.

3.07 EQUIPMENT, MATERIALS AND CONSTRUCTION PLANT. The CONTRACTOR shall be responsible for the care, preservation, conservation, and protection of all materials, supplies, machinery, equipment, tools, apparatus, accessories, facilities, all means of construction, and any and all parts of the work, whether the CONTRACTOR has been paid, partially paid, or not paid for such work, until the entire work is completed and accepted.

3.08 DAMAGES. In the event the CONTRACTOR is damaged in the course of the completion of the work by the act, neglect, omission, mistake or default of the OWNER, or of the ENGINEER, or of any other CONTRACTOR employed by the OWNER upon the work, thereby causing loss to the CONTRACTOR, the OWNER agrees to reimburse the CONTRACTOR for such loss. In the event the OWNER is damaged in the course of the work by the act, negligence, omission, mistake or default of the CONTRACTOR, or should the CONTRACTOR unreasonably delay the progress of the work being done by others on the job so as to cause loss for which the OWNER becomes liable, then the CONTRACTOR shall reimburse the OWNER for such loss.

3.09 PROTECTION AGAINST ACCIDENT TO EMPLOYEES AND THE PUBLIC. The CONTRACTOR shall at all times exercise reasonable precautions for the safety of employees and others on or near the work and shall comply with all applicable provisions of Federal, State, and Municipal safety laws and building and construction codes. All machinery and equipment and other physical hazards shall be guarded in accordance with the "Manual of Accident Prevention in Construction" of the Associated General Contractors of America except where incompatible with Federal, State, or Municipal laws or regulations. The CONTRACTOR shall provide such machinery guards, safe walkways, ladders, bridges, gangplanks, and other safety devices. The safety precautions actually taken and their adequacy shall be the sole responsibility of the CONTRACTOR, acting at his discretion as an independent contractor.

3.10 PERFORMANCE AND PAYMENT BONDS. Unless otherwise specified, it is further agreed by the parties to this Contract that the CONTRACTOR will execute separate performance and payment bonds, each in the sum of one hundred (100) percent of the total contract price, in standard forms for this purpose, guaranteeing faithful performance of the work and the fulfillment of any guarantees required, and further guaranteeing payment to all persons supplying labor and materials or furnishing him any equipment in the execution of the Contract, and it is agreed that this Contract shall not be in effect until such performance and payment bonds are furnished and approved by the OWNER.

Unless otherwise approved in writing by the OWNER, the surety company underwriting the bonds shall be acceptable according to the latest list of companies holding certificates of authority from the Secretary of the Treasury of the United States.

Unless otherwise specified, the cost of the premium for the performance and payment bonds shall be included in the CONTRACTOR'S proposal.

3.11 LOSSES FROM NATURAL CAUSES. Unless otherwise specified, all loss or damage to the CONTRACTOR arising out of the nature of the work to be done, or from the action of the elements, or from any unforeseen circumstance in the prosecution of the same, or from unusual obstructions or difficulties which may be encountered in the prosecution of the work, shall be sustained and borne by the CONTRACTOR at his own cost and expense.

3.12 PROTECTION OF ADJOINING PROPERTY. The said CONTRACTOR shall take proper means to protect the adjacent or adjoining property or properties in any way encountered, which might be injured or seriously affected by any process of construction to undertaken under this Agreement, from any damage or injury by reason of said process of construction; and he shall be liable for any and all claims for such damage on account of his failure to fully protect all adjoining property. The CONTRACTOR agrees to indemnify, save and hold harmless the OWNER and ENGINEER against any claim or claims for damages due to any injury to any adjacent or adjoining property, arising or growing out of the performance of the contract; but any such indemnity shall not apply to any claim of any kind arising out of the existence or character of the work.

3.13 PROTECTION AGAINST CLAIMS OF SUB-CONTRACTORS, LABORERS, MATERIALMEN AND FURNISHERS OF MACHINERY, EQUIPMENT AND SUPPLIES. The CONTRACTOR agrees that he will indemnify and save the OWNER and ENGINEER harmless from all claims growing out of the lawful demands of sub-contractors, laborers, workmen, mechanics, material men and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the furtherance of the performance of this contract. When so desired by the OWNER, the CONTRACTOR shall furnish satisfactory evidence that all obligations of the nature hereinabove designated have been paid, discharged or waived. If the CONTRACTOR fails so to do, then the OWNER may at the option of the CONTRACTOR either pay directly any unpaid bills, of which the OWNER has written notice, or withhold from the CONTRACTOR'S unpaid compensation a sum of money deemed reasonably sufficient to liquidate any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged, whereupon payments to the CONTRACTOR shall be resumed in full, in accordance with the terms of this contract, but in no event shall the provisions of this sentence be construed to impose any obligation upon the OWNER by either the CONTRACTOR or his Surety.

3.14 PROTECTION AGAINST ROYALTIES OR PATENTED INVENTION. The CONTRACTOR shall pay all royalties and license fees, and shall provide for the use of any design, device, material or process covered by letters patent or copyright by suitable legal agreement with the patentee or owner. The CONTRACTOR shall defend all suits or claims for infringement of any patent or copyright rights and shall indemnify and save the OWNER and ENGINEER harmless from any loss on

account thereof, except that the OWNER shall defend all such suits and claims and shall be responsible for all such loss when a particular design, device, material or process or the product of a particular manufacturer or manufacturers is specified or required by the OWNER; provided, however, if choice of alternate design, device, material or process is allowed to the CONTRACTOR, then CONTRACTOR shall indemnify and save OWNER harmless from any loss on account thereof. If the material or process specified or required by the OWNER is an infringement, the CONTRACTOR shall be responsible for such loss unless he promptly gives such information to the OWNER.

3.15 LAWS AND ORDINANCES. The CONTRACTOR shall at all times observe and comply with all Federal, State and local laws, ordinances and regulations, which in any manner affect the contract or the work, and shall indemnify and save harmless the OWNER and ENGINEER against any claim arising from the violation of any such laws, ordinances, and regulations whether by the CONTRACTOR or his employees, except where such violations are called for by the provisions of the Contract Documents. If the CONTRACTOR observes that the plans and specifications are at variance therewith, he shall promptly notify the ENGINEER in writing, and any necessary changes shall be adjusted as provided in the contract for changes in the work. If the CONTRACTOR performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the ENGINEER, he shall bear all costs arising therefrom. In case the OWNER is a body politic and corporate, the law from which it derives its powers, insofar as the same regulates the objects for which, or the manner in which, or the conditions under which the same regulates the objects for which, or the manner in which, or the conditions under which the OWNER may enter into contract, shall be controlling, and shall be considered as part of this contract, to the same effect as though embodied herein.

3.16 ASSIGNMENT AND SUBLETTING. The CONTRACTOR further agrees that he will retain personal control and will give his personal attention to the fulfillment of this contract and that he will not assign by Power of Attorney, or otherwise, or sublet said contract without the written consent of the ENGINEER, and that no part or feature of the work will be sublet to anyone objectionable to the ENGINEER or the OWNER. The CONTRACTOR further agrees that the subletting of any portion or feature of the work, or materials required in the performance of this contract, shall not relieve the CONTRACTOR from his full obligations to the OWNER, as provided by this Agreement.

3.17 INDEMNIFICATION. The CONTRACTOR shall defend, indemnify and hold harmless the OWNER and the ENGINEER and their respective officers, agents and employees, from and against all damages, claims, losses, demands, suits, judgments and costs, including reasonable attorneys' fees and expenses, arising out of or resulting from the performance of the work, provided that any such damages, claim, loss, demand, suit, judgment, cost or expense:

(1) Is attributable to bodily injury, sickness, disease or death or to injury to or destruction of tangible property (other than the work itself) including the loss of use resulting therefrom; and,

(2) Is caused in whole or in part by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any one of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

The obligation of the CONTRACTOR under this Paragraph shall not extend to the liability of the ENGINEER, his agents or employees arising out of the preparation or approval of maps, drawings, reports, surveys, Change Orders, designs or specifications, or the giving of or the failure to give directions or instructions by the ENGINEER, his agents or employees, provided such giving or failure to give is the primary cause of the injury or damage.

3.18.1 CERTIFICATE OF INSURANCE. Before commencing any of the work, CONTRACTOR shall file with the OWNER valid Certificates of Insurance acceptable to the OWNER and the ENGINEER. Such Certificates shall contain a provision that coverages afforded under the policies will not be cancelled until at least fifteen days' prior written notice has been given to the OWNER.

The CONTRACTOR shall also file with the OWNER valid Certificates of Insurance covering all sub-contractors.

4. PROSECUTION AND PROGRESS

4.01 TIME AND ORDER OF COMPLETION. It is the meaning and intent of this contract, unless otherwise herein specifically provided, that the CONTRACTOR shall be allowed to prosecute his work at such times and seasons, in such order of precedence, and in such manner as shall be most conducive to economy of construction: provided, however, that the order and the time of prosecution shall be such that the work shall be substantially completed as a whole and in part, in accordance with this contract, the plans and specifications, and within the time of completion designated in the Proposal; provided, also, that when the OWNER is having other work done, either by contract or by his own force, the ENGINEER may direct the time and manner of constructing the work done under this contract, so that conflict will be avoided and the construction of the various works being done for the OWNER shall be harmonized.

The CONTRACTOR shall submit, at such times as may reasonably be requested by the ENGINEER, schedules which shall show the order in which the CONTRACTOR proposes to carry on the work, with dates at which the CONTRACTOR will start the several parts of the work, and estimated dates of completion of the several parts.

4.02 EXTENSION OF TIME. Should the CONTRACTOR be delayed in the completion of the work by any act or neglect of the OWNER or ENGINEER, or of any employee of either, or by other contractors employed by the OWNER, or by changes ordered in the work, or by strikes, lockouts, fires, and unusual delays by common carriers, or unavoidable cause or causes beyond the CONTRACTOR'S control, or by any cause which the ENGINEER shall decide justifies the delay, then an extension of time shall be allowed for completing the work, sufficient to compensate for the delay, the amount of the extension to be determined by the ENGINEER, provided, however, that the CONTRACTOR shall give the ENGINEER prompt notice in writing of the cause of such delay.

4.03 HINDRANCES AND DELAYS. No claims shall be made by the CONTRACTOR for damages resulting from hindrances or delays from any cause (except where the work is stopped by order of the OWNER) during the progress of any portion of the work embraced in this contract. In case said work shall be stopped by the act of the OWNER, then such expense as in the judgment of the ENGINEER is caused by such stoppage of said work shall be paid by the OWNER to the CONTRACTOR.

5. MEASUREMENT AND PAYMENT

5.01 QUANTITIES AND MEASUREMENTS. No extra or customary measurements of any kind will be allowed, but the actual measured and/or computed length, area, solid contents, number and weight only shall be considered, unless otherwise specifically provided.

5.02 ESTIMATED QUANTITIES. This agreement, including the specifications, plans and estimate, is intended to show clearly all work to be done and material to be furnished hereunder. Where the estimated quantities are shown for the various classes of work to be done and material to be furnished under this contract, they are approximate and are to be used only as a basis for estimating the probable cost of the work and for comparing the proposals offered for the work. It is understood and agreed that the actual amount of work to be done and material to be furnished under this contract may differ somewhat from these estimates, and that where the basis for payment under this contract is the unit price method, payment shall be for the actual amount of such work done and the material furnished.

Where payment is based on the unit price method, the CONTRACTOR agrees that he will make no claim for damages, anticipated profits or otherwise on account of any differences which may be found between the quantities of work actually done, the material actually furnished under this contract and the estimated quantities contemplated and contained in the proposal; provided, however, that in case the actual quantity of any major item should become as much as 20% more than, or 20% less than the estimated or contemplated quantity for such items, then either party to this Agreement, upon demand, shall be entitled to a revised consideration upon the portion of the work above or below 20% of the estimated quantity.

A "Major Item" shall be construed to be any individual bid item incurred in the proposal that has a total cost equal to or greater than five (5) per cent of the total contract cost, computed on the basis of the proposal quantities and the contract unit prices.

Any revised consideration is to be determined by agreement between parties, otherwise by the terms of this Agreement, as provided under "Extra Work."

5.03 PRICE OF WORK. In consideration of the furnishing of all the necessary labor, equipment and material, and the completion of all work by the CONTRACTOR, and on the completion of all work and of the delivery of all material embraced in this Contract in Full conformity with the specifications and speculations herein contained, the OWNER agrees to pay the CONTRACTOR the prices set forth in the Proposal hereto attached, which has been made a part of this contract. The CONTRACTOR hereby agrees to receive such prices in full for furnishing all material and all labor required for aforesaid work, also for all expense incurred by him, and for well and truly performing the same and the whole thereof in the manner and according to this Agreement.

5.04 PARTIAL PAYMENTS. On or before the 10th day of each month, the CONTRACTOR shall prepare and submit to the ENGINEER for approval or modification a statement showing as completely as practicable the total value of the work done by the CONTRACTOR up to and including the last day of the preceding month; said statement shall also include the value of all sound materials delivered on the site of the work that are to be fabricated into the work.

The OWNER shall then pay the CONTRACTOR on or before the 15th day of the current month the total amount of the approved statement, less 10 per cent of the amount thereof, which 10 per cent shall be retained until final payment, and further less all previous payments and all further sums that may be retained by the OWNER under the terms of this Agreement. It is understood, however, that in case the whole work be near to completion and some unexpected and unusual delay occurs due to no fault or neglect on the part of the CONTRACTOR, the OWNER may--upon written recommendation of the ENGINEER--pay a reasonable and equitable portion of the retained percentage to the CONTRACTOR, or the CONTRACTOR at the OWNER'S option, may be relieved of the obligation to fully complete the work and, thereupon, the CONTRACTOR shall receive payment of the balance due him under the contract subject only to conditions stated under "Final Payment."

5.05 USE OF COMPLETED PORTIONS. The OWNER shall have the right to take possession of and use any completed or partially completed portions of the work, notwithstanding the time for completing the entire work or such portions may not have expired but such taking possession and use shall not be deemed an acceptance of any work not completed in accordance with the Contract Documents. If such prior use increases the cost of or delays the work, the CONTRACTOR shall be entitled to such extra compensation, or extension of time, or both, as the ENGINEER may determine.

The CONTRACTOR shall notify the ENGINEER when, in the CONTRACTOR'S opinion, the contract is "substantially completed" and when so notifying the ENGINEER, the CONTRACTOR shall furnish to the ENGINEER in writing a detailed list of unfinished work. The ENGINEER will review the CONTRACTOR'S list of unfinished work and will add thereto such items as the CONTRACTOR has failed to include. The "substantial completion" of the structure or facility shall not excuse the CONTRACTOR from performing all of the work undertaken, whether of a minor or major nature, and thereby completing the structure or facility in accordance with the Contract Documents.

5.06. FINAL COMPLETION AND ACCEPTANCE. Within ten (10) days after the CONTRACTOR has given the ENGINEER written notice that the work has been completed, or substantially completed, the ENGINEER and the OWNER shall inspect the work and within said time, if the work be found to be completed or substantially completed in accordance with the Contract Documents, the ENGINEER shall issue to the OWNER and the CONTRACTOR his Certificate of Completion, and thereupon it shall be the duty of the OWNER within ten (10) days to issue a Certificate of Acceptance of the work to the CONTRACTOR or to advise the CONTRACTOR in writing of the reason for non-acceptance.

5.07 FINAL PAYMENT. Upon the issuance of the Certificate of Completion, the ENGINEER shall proceed to make final measurements and prepare final statement of the value of all work performed and materials furnished under the terms of the Agreement and shall certify same to the OWNER, who shall pay to the CONTRACTOR on or before the 30th day, and before the 35th day, after the date of the Certificate of Completion, the balance due the CONTRACTOR under the terms of this Agreement, provided he has fully performed his contractual obligations under the terms of this contract; and said payment shall become due in any event upon said performance by the CONTRACTOR. Neither the Certificate of Acceptance nor the final payment, nor any provision in the Contract Documents, shall relieve the CONTRACTOR of the obligation for fulfillment of any warranty that may be required.

5.08 PAYMENTS WITHHELD. The OWNER may, on account of subsequently discovered evidence, withhold or nullify the whole or part of any certificate to such extent as may be necessary to protect himself from loss on account of:

- (a) Defective work not remedied.
- (b) Claims filed or reasonable evidence indicating probable filing of claims.
- (c) Failure of the CONTRACTOR to make payments properly to subcontractors or for material or labor.
- (d) Damage to another contractor.
- (e) Reasonable doubt that the work can be completed for the unpaid balance of the contract amount.
- (f) Reasonable indication that the work will not be completed within the contract time.

When the above grounds are removed or the CONTRACTOR provides a Surety Bond satisfactory to the OWNER, which will protect the OWNER in the amount withheld, payment shall be made for amounts withheld because of them.

5.09 DELAYED PAYMENTS. Should the OWNER fail to make payment to the CONTRACTOR of the sum named in any partial or final statement, when payment is due, then the OWNER shall pay to the CONTRACTOR, in addition to the sum shown as due by such statement, interest thereon at the rate of six (6) per cent per annum, unless otherwise specified, from date due as provided under "Partial Payments" and "Final Payments," until fully paid, which shall fully liquidate any injury to the CONTRACTOR growing out of such delay in payment, but the right is expressly reserved to the CONTRACTOR in the event payments be not promptly made, as provided under "Partial Payments," to at any time thereafter treat the contract as abandoned by the OWNER and recover compensation, as provided under "Abandonment of Contract," unless such payments are withheld in accordance with the provisions of "Payments Withheld."

6. EXTRA WORK AND CLAIMS

6.01 CHANGE ORDERS: Without invalidating this Agreement, the OWNER may, at any time or from time to time, order deletions or revisions to the work; such changes will be authorized by Change Order to be prepared by the ENGINEER for execution by the OWNER and the CONTRACTOR. The Change Order shall set forth the basis for any change in contract price, as hereinafter set forth for Extra Work, and any change in contract time which may result from the change.

In the event the CONTRACTOR shall refuse to execute a Change Order which has been prepared by the ENGINEER and executed by the OWNER, the ENGINEER may in writing instruct the CONTRACTOR to proceed with the work as set forth in the Change Order and the CONTRACTOR may make claim against the OWNER for Extra Work involved therein, as hereinafter provided.

6.02 MINOR CHANGES: The ENGINEER may authorize minor changes in the work not inconsistent with the overall intent of the Contract Documents and not involving an increase in Contract Price. If the CONTRACTOR believes that any minor change or alteration authorized by the ENGINEER involves Extra Work and entitles him to an increase in the Contract Price, the Contractor shall make written request to the ENGINEER for a written Field Order.

In such case, the CONTRACTOR by copy of his communication to the ENGINEER or otherwise in writing shall advise the OWNER of his request to the ENGINEER for a written Field Order and that the work involved may result in an increase in the Contract Price.

Any request by the CONTRACTOR for a change in Contract Price shall be made prior to beginning the work covered by the proposed change.

6.03 EXTRA WORK: It is agreed that the basis of compensation to the CONTRACTOR for work either added or deleted by a Change Order or for which a claim for Extra Work is made shall be determined by one or more of the following methods:

Method (A) - By agreed unit prices; or
Method (B) - By agreed lump sum; or
Method (C) - If neither Method (A) nor Method (B) be agreed upon before the Extra Work is commenced, then the CONTRACTOR shall be paid the "actual field cost" of the work, plus fifteen (15) percent.

In the event said Extra Work be performed and paid for under Method (C), then the provisions of this paragraph shall apply and the "actual field cost" is hereby defined to include the cost to the CONTRACTOR of all workmen, such as foreman, timekeepers, mechanics and laborers, and materials, supplies, teams, trucks, rentals on machinery and equipment, for the time actually employed or used on

such Extra Work, plus actual transportation charges necessarily incurred, together with all power, fuel, lubricants, water and similar operating expenses, also all necessary incidental expenses incurred directly on account of such Extra Work, including Social Security, Old Age Benefits and other payroll taxes, and, a ratable proportion of premiums on Performance and Payment Bonds and Maintenance Bonds, Public Liability and Property Damage and Worker's Compensation, and all other insurance as may be required by any law or ordinance, or directed by the OWNER, or by them agreed to. The ENGINEER may direct the form in which accounts of the "actual field cost" shall be kept and the records of these accounts shall be made available to the ENGINEER. The ENGINEER or OWNER may also specify in writing, before the work commences, the method of doing the work and the type and kind of machinery and equipment to be used; otherwise these matters shall be determined by the CONTRACTOR. Unless otherwise agreed upon, the prices for the use of machinery and equipment shall be determined by using 100 per cent, unless otherwise specified, of the latest schedule of Equipment Ownership Expense adopted by the Associated General Contractors of America. Where practicable the terms and prices for the use of machinery and equipment shall be incorporated in the Written Extra Work Order. The fifteen (15%) per cent of the "actual field cost" to be paid the CONTRACTOR shall cover and compensate him for his profit, overhead, general superintendence and field office expense, and all other elements of cost and expense not embraced within the "actual field cost" as herein defined, save that where the CONTRACTOR'S Camp or Field Office must be maintained primarily on account of such Extra Work; then the cost to maintain and operate the same shall be included in the "actual field cost."

No claim for Extra Work of any kind will be allowed unless ordered in writing by the ENGINEER. In case any orders or instructions, either oral or written, appear to the CONTRACTOR to involve Extra Work for which he should receive compensation or an adjustment in the construction time, he shall make written request to the ENGINEER for written order authorizing such Extra Work. Should a difference of opinion arise as to what does not constitute Extra Work, or as to the payment therefore, and the ENGINEER insists upon its performance, the CONTRACTOR shall proceed with the work after making written request for written order and shall keep an accurate account of the "actual field cost" thereof, as provided under Method (C). The CONTRACTOR will thereby preserve the right to submit the matter of payment to arbitration, as hereinbelow provided.

6.04 TIME OF FILING CLAIMS. It is further agreed by both parties hereto that all questions of dispute or adjustment presented by the CONTRACTOR shall be in writing and filed with the ENGINEER within thirty (30) days after the ENGINEER has given any directions, order or instruction to which the CONTRACTOR desires to take exception. The ENGINEER shall reply within thirty (30) days to such written exceptions by the CONTRACTOR and render his final decision in writing. In case the CONTRACTOR should appeal from the ENGINEER'S decision, any demand for arbitration shall be filed with the ENGINEER and the OWNER in writing within ten (10) days after the date of delivery to CONTRACTOR of the ENGINEER'S final decision. It is further agreed that final acceptance of the work by the OWNER and the acceptance by the CONTRACTOR of the final payment shall be a bar to any claims by either party, except where noted otherwise in the Contract Documents.

6.05 ARBITRATION. All questions of dispute under this Agreement shall be submitted to arbitration at the request of either party to the dispute. The parties may agree upon one arbiter, otherwise, there shall be three, one named in writing by each party, and the third chosen by the two arbiters so selected; or if the arbiters fail to select a third within ten (10) days, he shall be chosen by a District Judge serving the County in which the major portion of the project is located, unless otherwise specified. Should the party demanding arbitration fail to name an arbiter within ten (10) days of the demand, his right to arbitrate shall lapse, and the decision of the ENGINEER shall be final and binding on him. Should the other party fail to choose an arbiter within ten(10) days, the ENGINEER shall appoint such arbiter. Should either party refuse or neglect to supply the arbiters with any papers or

information demanded in writing, the arbiters are empowered by both parties to take ex parte proceedings.

The arbiters shall act with promptness. The decision of any two shall be binding on both parties to the contract. The decision of the arbiters upon any question submitted to arbitration under this contract shall be a condition precedent to any right of legal action. The decision of the arbiter or arbiters may be filed in court to carry it into effect.

The arbiters, if they deem the case demands it, are authorized to award the party whose contention is sustained, such sums as they deem proper for the time, expense and trouble incident to the appeal, and if the appeal was taken without reasonable cause, they may award damages for any delay occasioned thereby. the arbiters shall fix their own compensation, unless otherwise provided by agreement, and shall assess the cost and charges of the arbitration upon either or both parties. The award of the arbiters must be made in writing.

7. ABANDONMENT OF CONTRACT

7.01 ABANDONMENT BY CONTRACTOR. In case the CONTRACTOR should abandon and fail or refuse to resume work within ten (10) days after written notification from the OWNER, or the ENGINEER, or if the CONTRACTOR fails to comply with the orders of the ENGINEER, when such orders are consistent with the Contract Documents, then, and in that case, where performance and payment bonds exist, the Sureties on these bonds shall be notified in writing and directed to complete the work, and a copy of said notice shall be delivered to the CONTRACTOR.

After receiving said notice of abandonment the CONTRACTOR shall not remove from the work any machinery, equipment, tools, materials or supplies then on the job, but the same, together with any materials and equipment under contract for the work, may be held for use on the work by the OWNER or the Surety on the performance bond, or another contractor in completion of the work; and the CONTRACTOR shall not receive any rental or credit therefore (except when used in connection with Extra Work, where credit shall be allowed as provided for under Section 6, Extra Work and Claims), it being understood that the use of such equipment and materials will ultimately reduce the cost to complete the work and be reflected in the final settlement.

Where there is no performance bond provided or in case the Surety should fail to commence compliance with the notice for completion hereinbefore provided for, within ten (10) days after service of such notice, then the OWNER may provide for completion of the work in either of the following elective manners:

7.01.1 The OWNER may thereupon employ such force of men and use such machinery, equipment, tools, materials and supplies as said OWNER may deem necessary to complete the work and charge the expense of such labor, machinery, equipment, tools, materials and supplies to said CONTRACTOR, and expense so charged shall be deducted and paid by the OWNER out of such moneys as may be due, or that may thereafter at any time become due to the CONTRACTOR under and by virtue of this Agreement. In case such expense is less than the sum which would have been payable under this contract, if the same had been completed by the CONTRACTOR, then said CONTRACTOR shall receive the difference. In case such expense is greater than the sum which would have been payable under this contract, if the same had been completed by said CONTRACTOR, then the CONTRACTOR and/or his Surety shall pay the amount of such excess to the OWNER; or

7.01.2 The OWNER under sealed bids, after five (5) days notice published one or more times in a newspaper having general circulation in the county of the location of the work, may let the contract for the completion of the work under substantially the same terms and conditions which are provided in this contract. In case any increase in cost to the OWNER under the new contract as compared to what would

have been the cost under this contract, such increase shall be charged to the CONTRACTOR and the Surety shall be and remain bound therefore. However, should the cost to complete any such new contract prove to be less than what would have been the cost to complete under this contract, the CONTRACTOR and/or his Surety shall be credited therewith.

When the work shall have been substantially completed the CONTRACTOR and his Surety shall be so notified and Certificates of Completion and Acceptance, as provided in Paragraph 5.06 hereinabove, shall be issued. A complete itemized statement of the contract accounts, certified to by the ENGINEER as being correct, shall then be prepared and delivered to the CONTRACTOR and his Surety, whereupon the CONTRACTOR and/or his Surety, or the OWNER as the case may be, shall pay the balance due as reflected by said statement, within fifteen (15) days after the date of such Certificate of Completion.

In the event the statement of accounts shows that the cost to complete the work is less than that which would have been the cost to the OWNER had the work been completed by the CONTRACTOR under the terms of this contract; or when the CONTRACTOR and/or his Surety shall pay the balance shown to be due by them to the OWNER, then all machinery, equipment, tools, materials or supplies left on the site of the work shall be turned over to the CONTRACTOR and/or his Surety. Should the cost to complete the work exceed the contract price, the CONTRACTOR and/or his Surety fail to pay the amount due the OWNER within the time designated hereinabove, and there remains any machinery, equipment, tools, materials or supplies on the site of the work, notice thereof, together with an itemized list of such equipment and materials, shall be mailed to the CONTRACTOR and his Surety at the respective addresses designated in this contract, provided, however, that actual written notice given in any manner will satisfy this condition. After mailing, or other giving of such notice, such property shall be held at the risk of the CONTRACTOR and his Surety subject only to the duty of the OWNER to exercise ordinary care to protect such property. After fifteen (15) days from the date of said notice the OWNER may sell such machinery, equipment, tools, materials or supplies and apply the net sum derived from such sale to the credit of the CONTRACTOR and his Surety. Such sale may be made at either public or private sale, with or without notice, as the OWNER may elect. The OWNER shall release any machinery, equipment, tools, materials, or supplies, which remain on the work, and belong to persons other than the CONTRACTOR or his Surety, to their proper owner. The books on all operations provided herein shall be open to the CONTRACTOR and his Surety.

7.02 ABANDONMENT BY OWNER. In case the OWNER shall fail to comply with the terms of this contract, and should fail or refuse to comply with said terms within ten (10) days after written notification by the CONTRACTOR, then the CONTRACTOR may suspend or wholly abandon the work, and may remove therefrom all machinery, tools and equipment, and all materials on the site of work that have not been included in payments to the CONTRACTOR and have not been wrought into the work. And thereupon the ENGINEER shall make an estimate of the total amount earned by the CONTRACTOR, which estimate shall include the value of all work actually completed by said CONTRACTOR (at the prices stated in the attached proposal where unit prices are used), the value of all partially completed work at a fair and equitable price, and the amount of all Extra Work performed at the prices agreed upon, or provided for by the terms of this contract, and a reasonable sum to cover the cost of any provisions made by the CONTRACTOR to carry the whole work to completion and which cannot be utilized. The ENGINEER shall then make a final statement of the balance due the CONTRACTOR by deduction from the above estimate all previous payments by the OWNER and all other sums that may be retained by the OWNER under the terms of this Agreement and shall certify same to the OWNER who shall pay to the CONTRACTOR on or before thirty (30) days after the date of the notification by the CONTRACTOR the balance shown by said final statement as due the CONTRACTOR, under the terms of this Agreement.

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SPECIAL CONDITIONS

1. OWNER. Whenever the term "Owner" appears in these specifications, it shall be understood to mean Gregg County, Texas.

2. ENGINEER. The word "Engineer" in these specifications shall be understood as referring to Hayes Engineering, Inc., 2126 Alpine St., Longview, Texas 75601, Engineer of the Owner, or such other Engineer, Supervisor or Inspector as may be authorized by said Owner to act in any particular position.

3. EXAMINATION OF SITE OF PROJECT. Prospective bidders shall make a careful examination of the site of the project, soil and water conditions to be encountered, improvements to be protected, disposal sites for surplus materials not designated to be salvaged materials, and methods of providing ingress and egress to private properties and of handling traffic during construction of the entire project.

4. QUALIFICATION OF LOW BIDDER. Before being awarded a contract, the low bidder shall submit such evidence as the Engineer may require to establish his financial responsibility, experience, and possession of such equipment as may be needed to prosecute the work in an expeditious, safe, and satisfactory manner.

Should the low bidder fail to produce evidence satisfactory to the Engineer on any of the foregoing points, he may be disqualified and the work awarded to the next low bidder so qualifying.

5. AWARD OF THE CONTRACT. The Owner, acting through its authorized representatives, will notify the successful bidder, in writing, within ninety (90) days after the date of receiving bids of its acceptance of this proposal. The Contractor shall complete the execution of the required Bond and Contract within fifteen (15) days of such notice.

6. ADDENDA. Bidders desiring further information or interpretation of the Plans or Specifications must make request for such information to the Engineer, prior to 48 hours before the bid opening. Answers to all such requests will be given in writing to all bidders in Addendum form, and all Addenda will be bound with, and made a part of, the Contract Documents. No other explanation or interpretation will be considered official or binding. Should a bidder find discrepancies in, or omission from the Plans, Specifications, or other Contract Documents, or should he be in doubt as to their meaning, he should at once notify the Engineer in order that a written Addendum may be sent to all bidders. Any addenda issued prior to 24 hours of the opening of bids will be mailed or delivered to each Contractor contemplating the submission of a proposal on this work. The proposal as submitted by the Contractor will be so constructed as to include any addenda if such are issued by the Engineer prior to 24 hours of the opening of bids.

7. BASIS FOR BID AWARD. If no alternates are specified in the bid proposal, award will be made to the lowest responsible, responsive bidder. However, the Owner reserves the right to reject any and all bids and to waive any irregularities as may be deemed best and in the Owner's interest.

8. TIME FOR COMPLETION. The time allowed for completion of all items of work shall be sixty (60) consecutive calendar days, which time shall begin the tenth (10th) day after issuance of the Work Order. The Work Order shall consist of a written request by the Engineer for the Contractor to proceed with the construction of the project.

9. LIQUIDATED DAMAGES FOR DELAY. The Contractor agrees that time is the essence of this Contract, and that for each day of delay beyond the number of calendar days herein agreed upon for the completion of the work herein specified and contracted for (after due allowance for such extension of time as is provided for in the General Conditions of Agreement) the Owner may withhold, permanently from the

Contractor's total compensation, the sum of Five Hundred Dollars (\$500) per calendar day or an amount equal to actual damages incurred by the Owner, whichever is greater, as stipulated damages for such delay.

10. RIGHTS OF VARIOUS INTERESTS. Wherever work being done by the Owner's employees or by other Contractors is contiguous to work covered by this contract, the respective rights of the various interests involved shall be established by the Engineer to secure the completion of the various portions of the work in general harmony.

11. CORPORATE CONTRACTS. Corporate contractors to be eligible to enter into contract with the Owner shall be qualified to do business in the State or States where the work is to be performed. All licensing requirements shall be complied with. Foreign corporations which have not domesticated or otherwise become licensed in the State or States where work will be performed shall obtain a permit to do business in such State or States pursuant to the State's requirements.

12. PROPOSALS. Proposals must be submitted on forms furnished by the Owner or the Owner's Engineer, Hayes Engineering, and endorsed as provided in the Contract Documents.

Proposals must be submitted filled out with ink or typewriter and without erasure, interlineation or changes, and if not made in accordance with the General Conditions and other contract documents, will be subject to rejection as irregular, yet the Owner reserves the right to waive any irregularities.

Proposals will be made in the name of the principal and, in a co-partnership, the names of all partners shall be given. Exact post office address shall be given in all cases. If proposals are submitted by an agent, satisfactory evidence of agency authority must accompany the proposal.

13. IRREGULAR PROPOSALS. Proposals shall be considered irregular and may be rejected for the following reasons unless otherwise provided by law:

- a. If the proposal form furnished to the Contractor by the Owner or the Owner's Engineer is not used or is altered;
- b. If there are unauthorized additions or conditional bids, or irregularities of any kind which may tend to make the proposal incomplete, indefinite, or ambiguous as to its meaning;
- c. If the bidder adds any provisions reserving the right to accept or reject any award, or to enter into a contract pursuant to an award;
- d. If the unit or lump sum prices contained in the bid schedule are obviously unbalanced either in excess or below the reasonable cost analysis values;
- e. If the bidder fails to insert a unit price for every pay item indicated except in the case of authorized alternate pay items;
- f. If the bidder fails to complete the proposal in any other particulars where information is requested so bidder's proposal may be properly evaluated.

The Owner reserves the right to reject any or all bids and to waive irregularities as may be deemed best and in the Owner's interest.

14. RETURN OF BID SECURITY. Bid security of the lowest two or more bidders may be retained until a contract is executed or rejection made by the Owner. Other bid security will be returned only after the canvass and tabulation of bids is completed.

14. RETURN OF BID SECURITY. Bid security of the lowest two or more bidders may be retained until a contract is executed or rejection made by the Owner. Other bid security will be returned only after the canvass and tabulation of bids is completed.

15. FAILURE TO EXECUTE CONTRACT. Should the successful bidder fail to execute the contract and furnish bonds satisfactory to the Owner to validate the same within ten (10) days after award of contract, his bid security shall be forfeited to the Owner as liquidated damages.

16. RIGHT-OF-ENTRY. Contractor shall provide the Owner, the Owner's Architect or Engineer, or representative of the Federal, State, County, District and Municipal governmental services proper facilities for access to the work wherever it is in preparation or progress.

17. PERMITS AND RIGHT-OF-WAY. The Owner will provide rights-of-way for the purpose of construction without cost to the Contractor by securing permits in areas of public dedication or by obtaining easements across privately owned property. It shall be the responsibility of the Contractor, forty-eight (48) hours prior to the initiation of construction on easements through private property, to inform the property owner of his intent to begin construction. Before beginning construction in areas of public dedication, the Contractor shall inform the agency having jurisdiction in the areas forty-eight (48) hours prior to initiation of the work.

18. CONSTRUCTION IN PUBLIC ROADWAYS AND PRIVATE DRIVEWAYS. No public road shall be entirely closed overnight. It shall be the responsibility of the Contractor to build and maintain all weather by-passes and detours, if necessary, and to properly light, barricade and mark all by-passes and detours that might be required on and across the road involved in the work included in this contract.

The Contractor shall make every effort to complete construction and allow immediate access to adjacent property at all driveway entrances located along the roads. Owners or tenants of improvements where access and/or entrance drives are located shall be notified at least eight (8) hours prior to the time the construction will be started at their drive-ins or entrances and informed as to the length of time driveways will be closed, which period shall not exceed six (6) hours.

The Contractor shall be responsible for all road and entrance reconstruction, and repairs and maintenance of same for a period of one year from the date of such reconstruction. In the event the repairs and maintenance are not made immediately to the satisfaction of the Engineer, and it becomes necessary for the Owner to make such repairs, the Contractor shall reimburse the Owner for the cost of such repairs.

The Contractor shall at all times keep a sufficient width of the roadway clear of dirt and other material to allow the free flow of traffic. The Contractor shall assume any and all responsibility for damage, personal or otherwise, that may be caused by the construction along public roadways or private driveways.

19. REFERENCE SPECIFICATIONS. Where reference is made in these specifications to specifications compiled by other agencies, organizations or departments, such reference is made for expediency and standardization from the material supplier's point of view, and such specifications referred to are hereby made a part of these specifications. Any reference to standard specifications in any of the Contract Documents shall always imply the latest edition of said standard specification or specifications available at time notice inviting Contractors to bid is published unless otherwise stated.

20. TRADE NAMES AND MATERIALS. No material which has been used by the Contractor for any temporary purpose whatever is to be incorporated in the permanent structure without written consent of the Engineer.

Where materials or equipment are specified by a trade or brand name, it is not the intention of the Owner to discriminate against an equal product of another manufacturer, but rather to set a definite standard of quality of performance, and to establish an equal basis for the evaluation of bids. Where the words "equivalent", "proper", or "equal to" are used, they shall be understood to mean that the thing referred to shall be proper, the equivalent of, or equal to some other thing, in the opinion or judgment of the Engineer. Unless otherwise specified, all materials shall be the best of their respective kinds and shall be in all cases fully equal to approved samples. Notwithstanding that the words "or equal to" or other such expressions may be used in the specifications in connection with a material, manufactured article or process, the materials, article or process specifically designated shall be used, unless a substitute shall be approved in writing by the Engineer, and the Engineer shall have the right to require the use of such specifically designated material, article or process.

21. **QUALITY OF MATERIALS.** In the absence of detailed specifications in other sections, all materials shall conform to the latest standards of the American Society for Testing Materials.

22. **MATERIALS, SERVICES, AND FACILITIES.** 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, equipment rental, water, heat, light, fuel, power, transportation, superintendence, temporary construction of every nature and all other services and facilities of every nature whatsoever necessary to execute, complete and deliver the work within the specified time.

23. **WORKMANSHIP, MATERIALS, EQUIPMENT, AND STORAGE.** All work done and all materials and equipment furnished by the Contractor shall strictly conform to the plans, drawings, and specifications. Competent labor, mechanics, and tradesmen shall be used to supervise the installation of equipment as may be required by the Engineer. Any special tools or equipment which may be required for first class work shall be provided by the Contractor.

The acceptance at any time of materials by or in behalf of the Owner shall not be a bar to future rejection if they are subsequently found to be defective or inferior in quality or uniformity to the material specified, or are not as represented to the Engineer or Owner.

Contractor shall be responsible for the care and storage of materials delivered on the work site or purchased for use thereon. Stored materials shall be carefully and continuously protected from damage or deterioration and so located as to facilitate inspection by the Owner and Engineer. This responsibility for the care and storage of materials shall be with the Contractor whether such materials are furnished by the Contractor or by the Owner.

24. **INSPECTION AND TESTING OF MATERIALS.**

- a. During the progress of the work, it shall be subject to the inspection and observance of the Engineer, and the contractor shall afford every reasonable facility and assistance to the Engineer to make such inspection thorough and intelligent. If any work is covered up without approval or consent of the Engineer, it must, if required by the Engineer, be uncovered for examination at the Contractor's expense.
- b. The fact that the Engineer is on the job site shall not be taken as an acceptance of the Contractor's work or any part of it. Contractor shall notify the Engineer upon completion of his contract and the work shall be given final inspection by the Engineer and any tests shall be witnessed by the Engineer. If all parts of the work are acceptable and substantially comply with the intent of the plans, drawings, and specifications, a recommendation of final acceptance will be made by the Engineer to the Owner. If parts of the work are not acceptable and require additional work by the Contractor to complete the project,

necessitating additional inspection by the Engineer, the cost of such additional inspections including time, travel, and lodging, shall be paid for by the Contractor to the Owner who will reimburse the Engineer.

- c. Contractor shall submit to the Engineer seven (7) days in advance of construction, and without charge, samples or specifications of materials he proposes to use and shall not use these materials until he has received approval from the Engineer.
- d. The Owner shall direct and furnish all items necessary for the testing of all materials called for in the specifications. The Owner shall pay the cost of the tests, including all transportation charges unless otherwise noted in the specifications. The cost of re-testing any failed specimens shall be paid by the Contractor.
- e. All tests, unless otherwise provided, shall be in accordance with the pertinent sections of the latest edition of the standards applicable to the material or devices to be tested. A partial list of the principal societies referred to and their abbreviations follows:

ASTM	American Society for Testing Materials
AISC	American Institute of Steel Construction
ACI	American Concrete Institute
FS	Federal Specifications
AASHTO	American Association of State Highway Officials
AWWA	American Water Works Association

- f. All parts of the improvements shall conform to the standard of construction as given in detail under the various items, and in general to the intent thereof, and if they do not conform, shall be made to do so by rebuilding or replacing or otherwise as directed by the Engineer or Owner before acceptance shall be made.

25. BARRICADES, LIGHTS, AND WATCHMEN. Where the work is carried on in or adjacent to any street, alley or public place, the Contractor shall at his own cost and expense furnish and erect such barricades, fences, lights, and danger signals, shall provide such watchmen, and shall provide such other precautionary measures for the protection of persons or property and of the work as are necessary. Barricades shall be painted in a color that will be visible at night. From sunset to sunrise the Contractor shall furnish and maintain at least one light at each barricade and sufficient number of barricades shall be erected to keep vehicles from being driven on or into any work under construction. The Contractor shall furnish watchmen in sufficient numbers to protect the work.

The Contractor will be held responsible for all damage to the work due to failure of barricades, signs, lights, and watchmen to protect it, and whenever evidence is found of such damage, the Engineer may order the damaged portion immediately removed and replaced by the Contractor at his cost and expense. The Contractor's responsibility for the maintenance of barricades, signs, and lights, and for providing watchmen shall not cease until the project shall have been accepted by the Owner.

The Contractor shall use only battery powered lights, enclosed lanterns or other lights satisfactory to the Engineer. Smudge pots or other lights which have an open flame will not be permitted.

26. DISPOSAL OF WASTE AND SURPLUS EXCAVATION. All trees, stumps, slashings, brush or other debris removed from the job site as a preliminary to the construction of the work or its appurtenances shall be removed from the property and disposed of in a manner approved by the Engineer.

All excavated earth in excess of that required for backfilling shall be removed from the job site and disposed of in a satisfactory manner except in locations where, in the judgment of the Engineer, it can be neatly spread over and along the right-of-way.

27. **GUARANTY AGAINST DEFECTIVE WORK.** The Contractor shall indemnify the Owner against any repairs which may become necessary to any part of the work performed under the contract, arising from defective workmanship or materials used therein, for a period of one (1) year from the date of final acceptance of the work.

28. **RESTORATION OF SITE & CLEANUP.** Upon completion of the project (or major portions thereof) the Contractor shall restore the site to its original condition or better. Driveways and streets shall be compacted and resurfaced as originally found. All private property disrupted during construction including fences, patios, retaining walls, sidewalks, wooden decks, etc. shall be mended or repaired to their original condition. At the conclusion of the work, all tools, temporary structures and materials belonging to the Contractor shall be promptly removed, and all dirt, rubbish and other foreign substances shall be disposed of.

The Contractor shall thoroughly clean all equipment and materials installed by him and shall deliver over such materials and equipment in an undamaged, clean condition.

29. **CONTRACTOR'S AND SUBCONTRACTOR'S INSURANCE.** The Contractor shall not commence work under this contract until he has obtained at his expense all insurance required under this section of the General Conditions and by the Contract Documents, and such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work on any subcontract until all similar insurance required of the subcontractor has been so obtained and approved. Such insurance shall remain in full force and effect on all phases of the work, whether or not the work is occupied or utilized by the Owner, until all work under the Contract is completed and has been accepted by the Owner.

Nothing contained in the insurance requirements shall be construed as limiting the extent of the Contractor's responsibility for payment of damages resulting from his operations under the Contract.

Any insurance bearing an adequacy of performance will be maintained after completion of the project for the full guarantee period.

The Contractor shall obtain and maintain for the full period of the Contract the following types of insurance in the form, minimum limits and amounts herein specified or as may be otherwise required in the Contract Documents. The Contractor shall automatically renew any policy which expires during the performance of his Contract and notify the Owner and Engineer of such a renewal prior to expiration date.

A. **Workmen's Compensation including Occupational Disease, and Employer's Liability Insurance.** Before commencement of the work, the Contractor shall take out and maintain during the life of this contract Statutory Workmen's Compensation Insurance and Occupational Disease Disability Insurance for all of his employees to be engaged in work under this Contract, and in case any work is sublet, the Contractor shall require the subcontractor similarly to provide Workmen's Compensation and occupational Disease Disability Insurance for the latter's employees engaged in such work unless such employees are covered by the protection afforded by the Contractor's insurance. In case any class of employees engaged in hazardous work under the Contractor is not protected under the Workmen's Compensation statute, or in case there is no applicable Workmen's Compensation Statute, the Contractor shall provide, and shall cause each subcontractor to provide adequate insurance for the protection of his employees not otherwise protected.

B. Public Liability and Property Damage Insurance: (Note "Indemnity" clause hereinafter). Before commencement of the work, the Contractor shall submit written evidence that he and all his subcontractors have obtained for the period of the Contract full Comprehensive General Liability and Property Damage Insurance coverage. This coverage shall protect the Contractor; the Owner; the Engineer, its architects and engineers; and each of their officers, agents and employees; from claims for damages for bodily or personal injury, sickness or disease, including death, and from claims for damages to property, which may arise directly or indirectly out of, or in connection with the performance of work under this Contract by the Contractor, by any of his Subcontractors, or by anyone directly or indirectly employed of either of them, or under the control of either of them, and the minimum amount of such insurance shall be as follows unless higher minimum amounts are otherwise required in the Contract Documents:

Public Liability Insurance in an amount not less than One Million Dollars (\$1,000,000) for damages arising out of bodily or personal injury, sickness or disease, or death of one person and subject to the same limit for each person and in an amount not less than One Million Dollars (\$1,000,000) in any one occurrence; and Property Damage Insurance in an amount not less than Five Hundred Thousand Dollars (\$500,000) for all damages arising out of injury to or destruction of property of others in any one occurrence with an aggregate limit in the same amount.

The Property Damage portion of this coverage shall include where applicable explosion, collapse and underground exposure coverage. In addition, where Completed Operation Insurance coverage is applicable, such coverage will be maintained after completion and acceptance of the project for the full guarantee period.

C. Automobile Liability and Property Damage Insurance: Before commencement of the work, the Contractor shall submit written evidence that he and all his subcontractors have obtained Automobile Liability and Property Damage Insurance coverage on all self-propelled vehicles used in connection with the Contract, whether owned, non-owned, or hired. The liability limits shall be not less than One Million Dollars (\$1,000,000) for injury or death of one person and in an amount not less than One Million Dollars (\$1,000,000) in any one occurrence; and Property Damage limits of not less than Five Hundred Thousand Dollars (\$500,000) in any one occurrence.

D. Contractual Liability Coverage: Each and every policy for Liability Insurance carried by each Contractor and Subcontractor will include a "Contractual Liability Coverage" endorsement sufficiently broad to insure the provision titled "Indemnity" hereinafter set forth.

E. Indemnity: The Contractor shall defend, indemnify and hold harmless the Owner; the Engineer, its Engineers; and each of their officers, agents, servants and employees; from any and all suits, actions, claims, losses or damage of any character and from all expenses incidental to the defense of such suits, actions or claims, based upon or arising out of or alleged to be based upon or arising out of (1) any injury, disease, sickness or death of any person or persons, (2) any damages to any property including in part loss of use thereof, caused by any act or omission of the Contractor, of any Subcontractor of the Contractor, or by their officers, agents, servants, employees, or anyone else under the Contractor's direction and control, and arising out of, occurring in connection with, resulting from, or caused by the performance or failure of performance of any work or services called for by the Contract or from conditions created by the performance or non-performance of said work or services, but not including the sole negligence of any party herein indemnified.

F. Builder's Risk "All-Risk" Insurance: In addition to such Fire and extended Insurance coverage which the Contractor or his Subcontractors elect to carry for their own protection, the Contractor, before commencement of the work, shall effect and maintain for the life of his Contract Builder's Risk "All-Risk" Completed Value Insurance coverage upon the full insurable value of all portions of the project which is the subject of this Contract and subject to a loss for which Builder's Risk "All-Risk" Insurance coverage gives

protection, and shall include completed work and work in progress. This coverage shall be with an insurance company or companies acceptable to the Owner.

Such insurance shall include as Additional Named Insureds: the Owner; The Engineer, its architects and engineers; and each of their officers, agents, and employees; and any other persons with an insurable interest designated by the Owner as an Additional Named Insured.

Duplicate originals of the policy of insurance required herein shall be furnished to the Engineer as provided under "Evidence of Insurance Coverage" hereinafter.

G. Evidence of Insurance Coverage: Before commencement of any work, the Contractor shall submit written evidence that he and all his Subcontractors have obtained the minimum insurance required by the Contract Documents. Such written evidence shall be in the form of a Certificate of Insurance (see attached form) executed by the Contractor's insurance carrier showing such policies in force for the specified period or by furnishing a copy of the actual policy or policies. Each policy or certificate will bear an endorsement or statement waiving right of cancellation or reduction in coverage without minimum ten (10) days notice in writing to be delivered by registered mail to the owner.

The Contractor shall furnish duplicate originals of Builders' Risk "All-Risk" Completed Value Insurance coverage to the Engineer, one copy of which shall be for the Owner and one copy for the Engineer.

30. SAFETY.

- a. In accordance with generally accepted construction practices, the Contractor alone will be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours.
- b. The duty of the Engineer or Architect to conduct construction review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.

31. EXISTING UTILITIES AND SERVICE LINES. The Contractor shall be responsible for the protection of all existing utilities or service lines crossed or exposed by his construction operations. Where existing utilities or service lines are cut, broken or damaged, the Contractor shall replace or repair the utilities or service lines with the same type of original material and construction, or better, at his own cost and expense.

32. DURING CONSTRUCTION. During construction of the work, the Contractor shall, at all times, keep the site of the work and adjacent premises as free from material, debris, and rubbish as is practicable and shall remove same from any portion of the site, if in the opinion of the Engineer, such material, debris, or rubbish constitutes a nuisance or is objectionable.

The Contractor shall remove from the site all of his surplus materials and temporary structures when no further need therefore develops.

33. COPIES OF PLANS AND SPECIFICATIONS FURNISHED. Three (3) sets of plans and specifications shall be furnished to the Contractor, at no charge, for construction purposes. Additional copies may be obtained at cost of reproduction upon request.

34. LIGHT AND POWER. The Contractor shall provide, at his own expense, temporary lighting and facilities required for the proper prosecution and inspection of the work.

35. EXISTING STRUCTURES. The plans show the locations of all known surface and subsurface structures. However, the Owner assumes no responsibility for failure to show any or all of these structures on the plans, or to show them in their exact location. It is mutually agreed that such failure shall not be considered sufficient basis for claims for additional compensation for extra work or for increasing the pay quantities in any manner whatsoever, unless the obstruction encountered is such as to necessitate changes in the lines or grades, or requires the building of special work, provisions for which are not made in the plans and proposal, in which case the provisions in these specifications for extra work shall apply.

36. USE OF EXPLOSIVES. Use of explosives will be allowed only upon written approval of their use by the Engineer.

Should the Contractor elect to use explosives in the prosecution of the work, the utmost care shall be exercised so as not to endanger life or property. The Owner shall not be held liable for damages done by the Contractor in the use of explosives. The Contractor shall notify the proper representatives of any public service corporation, any company, or any individual, not less than eight (8) hours in advance of the use of explosives which might endanger or damage their or his property along or adjacent to the work. Whenever explosives are stored or kept, they shall be stored in a safe and secure manner and all storage places be plainly marked "DANGER EXPLOSIVES", and shall be under the care of a competent watchman at all times.

37. SUNDAYS, HOLIDAYS, AND OVERTIME. Any work necessary to be performed after regular working hours, on Sundays, or legal holidays, shall be performed without additional expense to the Owner. The Contractor shall notify the Engineer if any work is to be performed on Sundays or holidays.

38. PAYMENTS NO EVIDENCE OF PERFORMANCE. No progress or final estimate certificate given or payment made under this contract shall be evidence of the performance of this contract or construed to be acceptance of defective work or improper materials, either wholly or in part.

39. TEMPORARY SUSPENSION OF THE WORK. The Engineer shall have authority to suspend the work wholly or in part for such period or periods of time as he may deem necessary due to unsuitable weather or other conditions considered unfavorable for the suitable prosecution of the work; or for the failure of the Contractor to carry out instructions or to perform any provisions of the contract. During periods of suspension, the Contractor shall properly protect the work from possible injury.

40. OWNER'S RIGHT TO DO WORK. If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this contract, the Owner, after seven (7) days written notice to the Contractor, may, without prejudice to any other remedy the Owner may have, make good such deficiency and may deduct the cost thereof from the payment then or thereafter due the Contractor. Any money due the Owner after such deduction shall be paid by the Contractor or his sureties who hereby agree to these provisions.

41. RIGHT OF OWNER TO TERMINATE CONTRACT. Should it appear at any time that the work is not being prosecuted with sufficient competence or rapidity to insure the proper completion of the work within the stipulated time, and, if upon seven (7) days written notice to the Contractor, he fails to increase the quality or the quantity of his work, or both, the Owner reserves the right to annul and cancel this contract and relet the work or any part thereof, or at the Owner's option to complete it by day labor. The Contractor shall not be entitled to any claims for damages on account of such annulment, and he will be held liable for costs and expenses incurred in reletting or completing the work under this contract. All money due the Contractor will be retained until the work is completed and all expenses and costs have been deducted and any money due the Owner, after such deductions have been made, shall be paid by the Contractor or his Sureties who hereby agree to these provisions.

42. TERMINOLOGY. Throughout these specifications, the word "shall" denotes mandatory. The word "may" implies only permission. All other "terms" or "word phrases" shall be interpreted as having the meaning customarily ascribed to them by the several building trades of the United States.

43. CERTIFICATES AND GUARANTEES. Four (4) copies of any manufacturer's guaranty or certificate as may be required by the Contract Documents shall be submitted to the Owner prior to the acceptance of the work by the Owner.

44. STATE SALES TAX. This Contract is issued by an organization which qualifies for exemption pursuant to the provisions of Article 20.04 (F) of the Texas Limited Sales, Excise and Use Tax Act. The Contractor performing this contract may purchase, rent or lease all materials, supplies, equipment used or consumed in the performance of this contract by issuing to his suppliers an exemption certificate.

45. COORDINATION WITH OTHERS. In the event other contractors are doing work in the same area simultaneously with this project, the Contractor shall coordinate his proposed construction with that of the other contractors.

46. DEWATERING EXCAVATION. The prospective bidders shall make sufficient subsurface explorations to determine the location of groundwater which might be encountered. The Contractor shall, at his own expense, utilize a pumping system in order to place materials in dewatered excavations.

47. PUBLIC UTILITIES AND OTHER PROPERTY TO BE CHANGED. In case it is necessary to change or move the property of any owner or of a public utility, such property shall not be moved or interfered with until ordered to do so by the Engineer. The right is reserved to the owner of public utilities to enter upon the limits of the project for the purpose of making such changes or repairs of their property that may be made necessary by performance of this Contract.

Any time the Contractor intends to expose, cross, or otherwise work in the area of the existing petroleum pipelines, telephone lines, water lines, etc., the Contractor shall notify the Owner(s) of the respective facilities forty-eight (48) hours in advance.

48. PAY ITEMS. Pay items are listed in the Proposal. All other items necessary to complete the work as shown and specified shall be considered subsidiary obligations of the Contractor.

49. MUTUAL RESPONSIBILITY OF CONTRACTORS. If, through acts or neglect on the part of the Contractor, any other Contractor or Subcontractor shall suffer loss or damage to his work, the Contractor agrees to settle with such other Contractor or Subcontractor by agreement or arbitration, if such other Contractor or Subcontractor will so settle. If such other Contractor or Subcontractor asserts been so sustained, the Owner shall notify the Contractor, who shall indemnify and save harmless the Owner against such claims and for any costs in connection with such claims.

50. PROTECTION OF PROPERTY. The Contractor shall, at no additional expense to the Owner, protect by false work, braces, shoring or other property along his line of work or affected directly by his work, against damage and shall repair the damages or repay the injured Owners if such damage occurs.

The Contractor shall exercise care to protect from injury all water pipes, sanitary sewer pipes, gas mains, telephone cables, electric cables, service pipes, and other utilities or fixtures which may be encountered during the progress of the work. All utilities and other service facilities or fixtures if damaged, shall be repaired by the Contractor without additional compensation.

The Contractor shall personally check and verify utility information on the plans. Where existing utilities or structures are shown on the plans or drawings, they are believed to be accurate but are not guaranteed to such or that these are the only utilities or structures in the construction area. Protection is Contractor's responsibility and he must satisfy himself as to the existence and location of all utilities and structures.

The Contractor shall give notice in writing at least 48 hours before breaking ground, to all persons, superintendents, inspectors, or those otherwise in charge of property, streets, water pipes, gas pipes, sewer pipes, telephone cables, electric cables, railroads or otherwise, who may be affected by the Contractor's operation, in order that they may remove any obstruction for which they are responsible and have a representative on the ground to see that their property is properly protected.

51. EXTENSION OF CONTRACT PERIOD. The Contractor may be granted an extension of time due to Acts of God, Acts or War, Strikes, or non-delivery of materials provided he submits a request in writing to the Engineer not later than ten (10) days from the date of such occurrence. A separate request must be made for each occurrence.

52. FAILURE TO COMPLETE WORK WITHIN CONTRACT PERIOD. If the Contractor fails to complete his work within the contract period, or any extension thereof, as provided in the "Extension of Contract Period" said contract shall upon written notice to the Contractor and Surety be in default.

The Owner may, at its (his) option, permit the Contractor or his surety to complete the work included in the contract, or may proceed to complete the work in accordance with "Completion of Contract in Default". In either event, the Contractor or his Surety shall be responsible for all costs incidental to the completion of the work and also for the liquidated damages stipulated in the proposal form. The Owner may waive such portion of the liquidated damages as may occur after the work is in condition for the safe and convenient use by the Owner.

53. CONTRACTS IN DEFAULT. The Owner may declare a contract in default for any one or more of the following reasons:

- a. Failure to complete the work within the contract period or any extension thereof.
- b. Failure or refusal to comply with an order of the Engineer or Architect within a reasonable time.
- c. Failure or refusal to remove rejected materials.
- d. Failure or refusal to perform anew any defective or unacceptable work.
- e. Bankruptcy or insolvency, or the making of an assignment for the benefit of creditors.
- f. Failure to provide a qualified superintendent, competent workmen or subcontractors to carry on the work in an acceptable manner or failure to prosecute the work according to the agreed schedule of completion.
- g. Disregard or violation of any other important provisions of the Contract Documents as determined by the Engineer.

54. COMPLETION OF CONTRACTS IN DEFAULT. If for any reason, a contract is declared in default, the Owner shall have the right, without process or action at law to take over all or any portion of the work and complete it at its (his) option, either by day labor or by reletting same. Written notice shall be given the Contractor by the Owner that his contract has been declared in default and upon receiving such

notice, the Contractor shall peaceably relinquish possession of said work or the parts thereof specified in the notice.

The Owner may, at its (his) option and at a rental which it considers reasonable, retain all materials, equipment, and tools on the work until the work is complete.

Neither the Owner nor the Owner's officers, agents, or employees shall be in any way liable or accountable to the Contractor or his Surety for the method by which the completion of the said work, or any portion thereof, may be accomplished, or for the price paid therefor. Should the cost of completing the work be in excess of the original contract price, the Contractor and his Surety shall be held responsible for such excess cost. Should the cost of such completion including all proper charges, be less than the original contract price, the amount so saved shall be paid to the Contractor. Neither by taking over the work nor by declaring the contract in default shall the Owner forfeit the right to recover damages from the Contractor or his Surety for failure to complete the entire contract. Maintenance of the work shall continue to be the Contractor's and Surety responsibilities as provided for in the Bond and Guaranty of the Contractor.

55. EXCAVATION IN HIGHWAY RIGHTS-OF-WAY. No trench excavation within a highway right-of-way shall be carried closer than 10 feet of all pavement edges. No dirt from trench excavation shall be piled on roadway shoulders, slopes, ditches, and berms shall be restored to their original condition.

The Contractor shall notify the Highway Department of his construction schedule not less than five (5) days prior to commencing the work within the right-of-way. The Contractor shall conform to the requirements of the Texas Highway Department as to details of construction methods and time of construction.

56. PROVISIONS FOR REROUTING AND DETOUR OF TRAFFIC. The Contractor will be required to furnish all barricades, lights, signs, and flagmen where it becomes necessary to reroute traffic during the time construction is in progress in the City streets or highways. The detour will be determined by the Engineer and approved by the Owner and the Texas Highway Department.

57. REMOVAL AND REPLACEMENT OF EXISTING PIPE CULVERTS. Existing pipe culverts in conflict with the proposed construction shall be unearthed carefully, disjointed, and stockpiled adjacent to the right-of-way. The pipe culverts shall be cleaned and replaced immediately after the sewer line construction is clear so as to cause no serious inconveniences to the property owners and to allow access to their property as quickly as possible. Pipe culverts shall be laid to grade on a firm bedding and shall be backfilled and mechanically tamped to a density such that settlement will not occur. Where existing rubble or concrete headwalls are cut, damaged, or removed, they shall be replaced in an equal or better condition as determined by the Engineer.

Removal and replacement of existing pipe culverts will not be measured and paid for each. No separate payments will be made for removing and replacing headwalls on culverts and all costs in connection therewith shall be included in other items listed in the Proposal.

58. SCHEDULE OF WORK SEQUENCE. Upon award and prior to any construction, it shall be the responsibility of the Contractor to present, to the Owner and Engineer for approval, a tentative schedule of the sequence in which the work will be performed. The schedule should include the following information:

- a. The sequence of work in which the construction will be done.
- b. The approximate period of time in constructing and testing of the facilities.
- c. Coordination of work using two (2) or more crews.

d. Schedule of possible night work in making tie-ins and road crossings.

59. COST BREAKDOWN. Immediately after being awarded a contract for the work, the Contractor shall furnish the Engineer with a cost breakdown of each lump sum bid. Such a breakdown shall be in sufficient detail to permit its use in the preparation of progress estimates by the Engineer. Progress payments for materials and equipment on hand shall be based on invoice prices and invoice copies must be presented to the Engineer.

60. FINAL FIELD TESTS. Upon completion of the work and prior to final payment, all equipment and appliances installed under this Contract shall be subjected to acceptance tests as specified or required to prove compliance with the Contract Documents.

The Contractor shall furnish labor, fuel, energy, water and all other material, equipment, and instrument necessary for all acceptance tests, at no additional cost to the Owner.

61. WATER FOR CONSTRUCTION. Water used for testing and flushing of the pipe line or any other purpose incidental to this project will be furnished by the Contractor. The Contractor shall make the necessary arrangements for securing and/or transporting such water and shall take such water in a manner and at such times that will not produce a harmful drain on the source of water. The Contractor shall be fully responsible for the draining and disposal of all water used in flushing and testing. The Contractor shall obtain approval of the Owner and Engineer of the manner in which the water will be drained and disposed of.

62. ELECTRICITY FOR CONSTRUCTION. Except as provided elsewhere in these specifications, the Contractor shall provide all electricity required.

63. SPECIAL CONSTRUCTION REQUIREMENTS IN STATE HIGHWAY RIGHT-OF-WAY.

- a. All Highway signs removed or disturbed shall be restored to original condition.
- b. All surplus material shall be removed from right-of-way and the excavation finished flush with surrounding natural ground.
- c. Operation along highways shall be performed in such a manner that all excavated materials be kept off the pavements at all times as well as all operating equipment.
- d. Barricades, warning signs and flagmen shall be provided by the Contractor.

64. CONTRACT DOCUMENTS. The Contract Documents shall consist of all documents contained herein as stated in the Table of Contents including the Notice to Bidders (Advertisement), Special Conditions, Instructions to Bidders, Proposal, signed Agreement, Performance and Payment Bonds (when required), Special Bonds (when required), General Conditions of Agreement, Technical Specifications, Plans, and all modifications thereof incorporated in any of the documents before the execution of the Agreement.

65. POLES, SIGNS, GUY WIRES, ETC. All utility poles, guy wires, private sign posts, signs, and similar private obstructions which interfere with the construction of this project will be removed and replaced by the Contractor at his own expense.

The removal and replacement of City street sign posts and signs is the responsibility of the Contractor. The Contractor shall be responsible for all damage to street sign posts and signs within the limits of his operations that remain in place or are removed and replaced.

In event street sign posts and signs are injured or destroyed by the Contractor's operations, they shall be replaced by the Contractor. No separate compensation will be paid for this work, but the costs thereof shall be included in such contract pay items as are provided.

66. PROTECTION OF TREES, PLANTS AND SHRUBS. The Contractor shall make every effort to protect all trees, plants, and shrubs encountered during construction and shall notify property owners, as specified above, before removal of any such item. In all cases where questions arise, the Contractor shall request clarification from the Engineer.

67. PROPERTY LINES AND MONUMENTS. The Contractor shall protect all property lines, monuments and stakes encountered in his work. All monuments, and stakes for later use, that are disturbed or destroyed by the Contractor shall be replaced at his expense.

68. HORIZONTAL AND VERTICAL CONTROL POINTS. Location of the centerlines and grades will be determined and staked by the Contractor. The Contractor shall assume full responsibility for construction in accordance with the approved lines and grades.

69. CONFINED SPACE ENTRY. The Contractor shall be responsible for compliance with any and all Federal and State confined space entry and permitting requirements.

70. ALLOWANCE FOR MISCELLANEOUS EXTRA WORK. A discretionary allowance may have been established in the Bid Proposal for miscellaneous extra work which may arise during the construction phase of the project due to the discovery of unknown obstructions or other unexpected project conditions for which a method of payment, such as individual bid items, is not established. This allowance, if established in the Bid Proposal, is not intended to be used to procure payment for items specifically named as subsidiary to other bid items within the contract documents. Prior to initiating any item of extra work under this bid item, the Owner, Engineer, and Contractor will agree as to the scope of extra work to be performed and the amount of payment to be made for the particular item of extra work under consideration. A written field order for the extra work will be approved by all parties before commencing with extra work. Expenditure of the allowance funds is at the sole discretion of the Owner. The allowance may be used in full or in part as the Owner deems necessary. If no extra work is identified and approved by the Owner, the allowance funds will not be expended.

TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS

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The Texas State Department of Highways and Public Transportation 2004 Standard Specifications for Construction of Highways, Streets and Bridges, shall govern the following Items and any other items of work required to complete the work as shown or specified, except for Measurement and Payment, and shall be in full force as if included in their entirety herein:

Item 300	Asphalts, Oils, and Emulsions
Item 340	Dense Graded Hot Mix Asphalt (Method)
Item 360	Concrete Pavement
Item 421	Hydraulic Cement Concrete
Item 432	Riprap
Item 440	Reinforcing Steel
Item 427	Surface Finishes for Concrete
Item 459	Gabions and Gabion Mattresses

SECTION G
GENERAL REQUIREMENTS

TECHNICAL SPECIFICATIONS

SECTION G1 - GENERAL INFORMATION

G1.1. PERMITS AND RIGHT-OF-WAY: The Owner will provide rights-of-way for the purpose of construction without cost to the Contractor by securing permits in areas of public dedication or by obtaining easements across privately owned property. It shall be the responsibility of the Contractor, five (5) days prior to the initiation of construction on easements through private property, to inform the Owner's Representative of his intent to begin construction. The Owner's representative will notify property owners of intent to begin construction. Before beginning construction in areas of public dedication, the Contractor shall inform the agency having jurisdiction in the area forty-eight (48) hours prior to initiation of the work.

G1.2. CONSTRUCTION IN PUBLIC ROADWAYS AND PRIVATE DRIVEWAYS: No public road shall be entirely closed overnight. It shall be the responsibility of the Contractor to build and maintain by-passes and detours, if necessary, and to properly light, barricade and mark all by-passes and detours that might be required on and across the road involved in the work included in this contract.

The Contractor shall make every effort to complete construction and allow immediate access to adjacent property at all driveway entrances located along the roads. Owners and tenants of improvements where access and/or entrance drives are located shall be notified at least twenty-four (24) hours prior to the time the construction will be started at their drive-ins or entrances and informed as to the length of time driveways will be closed, which period shall not exceed ten (10) hours.

The Contractor shall be responsible for all road and entrance reconstruction, and repairs and maintenance of same, for a period of one (1) year from the date of acceptance. In the event the repairs and maintenance are not made immediately to the satisfaction of the Engineer, and it becomes necessary for the Owner to make such repairs, the Contractor shall reimburse the Owner for the cost of such repairs.

Where sufficient right-of-way is not available and prior approval is obtained from the Engineer, dirt from the excavation may be temporarily placed on city streets. Where this is necessary, the Contractor shall provide proper barricading and other traffic control measures to provide at least one lane of open traffic. Where prior approval of the Engineer is obtained, the roadway may be completely closed, provided alternate routes for traffic are available and detour routings clearly marked by the Contractor.

Where construction alongside roadways is required, it shall be the Contractor's responsibility to insure that precautions are taken to avoid damage to the roadway surface. Damages to the roadway from the Contractor's construction activities shall be repaired by the Contractor to return the roadway to its original condition prior to construction.

The Contractor is responsible for traffic handling and safety in the construction area during the construction period. Signs, barricades and other necessary devices shall be furnished and maintained by the Contractor in compliance with Part IV of the Texas Manual of Uniform Traffic Control Devices, current edition.

G1.3. PUBLIC UTILITIES AND OTHER PROPERTY TO BE CHANGED: In case it is necessary to change or move the property of any owner or of a public utility, such property shall not be moved or interfered with until ordered to do so by the Engineer. The right is reserved to the owner of public utilities to enter upon the limits of the project for the purpose of making such changes or repairs of their property that may be made necessary by performance of this Contract.

Any time the Contractor intends to expose, cross, or otherwise work in the area of the existing petroleum pipelines, telephone lines, water lines, etc. the Contractor shall notify the utility owner five (5) days in advance.

- G1.4. POLES, GUY WIRES, ETC.: All utility poles, guy wires, private sign posts, signs and similar private obstructions which interfere with the construction of this project will be removed and replaced by the Contractor at his own expense.
- G1.5. PROTECTION OF TREES, PLANTS AND SHRUBS: The Contractor shall make every effort to protect all trees, plants, and shrubs encountered during construction outside of the construction area. Where Owner-planted shrubbery must be removed for construction, it shall be stored by the Contractor and replaced in good condition. In all cases where questions arise, the Contractor shall request clarification from the Engineer.

Contractor shall not cut down, remove or trim existing trees without prior approval from the Engineer. Trees noted as "DO NOT DISTURB" on the plans shall be protected from construction activity by construction of a barrier fence at a minimum of 5 ft. radius around the trunk of the trees. The barrier fence shall be constructed a minimum of 4 ft. high with polyethylene/polypropylene grid safety barricade fencing supported by steel t-posts or approved equivalent. Payment for tree protection shall be considered subsidiary to various items of work within the contract. The alignment of the storm sewer pipe may need to be slightly adjusted in the field to avoid significant root damage to the trees. Field alignment adjustments shall have prior approval of the Engineer.

- G1.6. ARCHEOLOGICAL DISCOVERIES: The Contractor may encounter unanticipated cultural or archaeological deposits during construction. If archeological sites or historic structures are discovered after construction operations are begun, the Contractor shall immediately cease operations in that particular area and notify the Owner. The Contractor shall take reasonable steps to protect and preserve the discoveries until they have been inspected by the Owner's Representative. The Owner will promptly coordinate with the Texas Historical Commission and any other appropriate agencies to obtain any necessary approvals or permits to enable the work to continue. The Contractor shall not resume work in the area of the discovery until authorized to do so by the Owner.
- G1.7. CONSTRUCTION STAKING: The Contractor shall provide for his own horizontal and vertical construction staking as a subsidiary cost to his bid. The plans include locations and elevations of temporary bench markers along the right-of-way.

TECHNICAL SPECIFICATIONS

SECTION G2 - EXCAVATION AND BACKFILL

G2.1 REQUIREMENTS

A. Scope

The work under this section shall consist of all labor, equipment, appliances, and materials, as required or necessary for site preparation, excavation, and backfill, fills, under-drain systems, and storm drainage as shown in the plans and specified herein.

B. Submittals

1. The Contractor shall submit test reports prepared by a certified testing laboratory acceptable to the Engineer for 1, 2, and 3 material and drain rock. No material shall be used unless it has been accepted by the Engineer.

C. Testing

1. The standard test to define maximum densities of all compaction work shall be ASTM D-698. All densities shall be expressed as a relative density in terms of the maximum density obtained in the laboratory by the foregoing standard procedure.
2. Periodically throughout the job the Engineer will make compaction tests on fill and backfill as placed by the Contractor. The Contractor shall permit the Engineer to sample, test, and inspect in-place materials at times selected by the Engineer and without additional compensation or additional time.

G2.2 SELECT FILL MATERIAL

A. Type 1 (Select Fill)

1. Type 1 material shall consist of homogenous soils free of organic matter and rocks larger than 6" in diameter and possessing an Atterburg Plasticity index (P.I.) from 3% to 15%, and with a liquid limit of 30% or less, or as shown on the plans.

B. Type 2 (Sand)

1. Type 2 material shall be a select, granular material free from organic matter and, when tested in accordance with ASTM D 422, shall conform to the following requirements:

<u>U.S. Standard Sieve Size</u>	<u>Percent by Weight Passing</u>
3/4"	100
#4	95 to 100
#8	80 to 100
#16	50 to 85
#30	25 to 60
#50	10 to 30
#100	2 to 10

C. Type 3 (Impervious Soils) Clay

1. Type 3 material shall be clay with at least 95% of the particles passing a No.200 sieve and a plasticity index between 15 and 30.

D. Type 4 Drain Rock/Gravel

1. Drain rock, as shown on the drawings, under structures, and behind retaining walls, shall be clean, washed, sound, and durable well-graded rock, crushed gravel, or gravel. When tested in accordance with ASTM D 422, this material shall conform to the following requirements:

<u>U.S. Standard Sieve Size</u>	<u>Percent by Weight</u>
1"	100
3/4"	90 to 100
3/8"	20 to 55
#4	0 to 10
#8	0 to 5

2. This material conforms to ASTM C 33, Size No. 67, coarse aggregate, 3/4" to #4 in size.

E. Type 5 Topsoil

1. Topsoil shall consist of soils suitable for the growth of surface cover. Topsoil may be that material stripped and stockpiled from site preparation or hauled in from off site.
2. Topsoil shall be free from roots, rocks, and other extraneous matter which exceeds one inch in any one direction, free from noxious weeds, and consisting of the following by weight.

Sand	- Minimum of 60%
Silt	- Maximum of 30%
Clay	- Maximum of 10%
Organic Matter	- 6% to 20%

3. The above minimum-maximum percentages are based on oven dried material and percentages shall be determined by either the pipette or hydrometer method of soil analysis. The Ph range shall be from 6.0 to 7.5.

4. Composition

- a. Sand shall be clean natural sand, free from roots, rocks, or other extraneous matter. Particle size range shall be 2.0 mm to 0.05 mm.
- b. Silt shall have a particle size range of 0.05 mm to 0.002 mm.
- c. Clay shall have a particle size range of 0.002 mm minus.
- d. Organic matter shall be partially decomposed residue of plants and animals and the tissues of living and dead micro-organisms and shall be medium in texture containing no material that exceeds 1/2" in any one direction.
- e. Submit test data showing topsoil source, percent by weight of consisting materials, particle size of constituent materials, and pH for all topsoil hauled in from off site.

F. Type 6 Undisturbed Firm Native Soil Subgrade

1. Undisturbed soils shall be those remaining in place after excavating that are suitable for slab subgrades and have not been disturbed or over-excavated. Where subgrade soils are soft, loose, or otherwise unsatisfactory, the soils shall be re-compacted or replaced with select fill as determined by the Engineer.

G. Type 7 Common Fill

1. Common Fill shall be unclassified material obtained from excavation or from any other source. The material shall be free from peat, wood, roots, bark, debris, garbage, trash or other extraneous material.

G2.3 EXCAVATION

A. General

1. The CONTRACTOR shall make provisions for handling all flows in existing creeks, ditches, sewers, and trenches by pipes, flumes or other approved methods at all times when his operations would, in any way, interfere with the natural functioning of said creeks, ditches, sewers and drains. The Contractor shall, during the excavation period and as long thereafter as the condition of the work may require, provide and maintain, in good operating condition, pipe underdrains, well point systems, deep well pumps or other suitable equipment and methods fully adequate in capacity to promptly remove all water entering any excavation or other parts of the work.
2. All excavation shall be kept dry and water pumped or drained from the work shall be disposed of in such a manner as to prevent damage to adjacent property or to other work under construction. Any and all damage, or whatever nature, caused by dewatering the work shall be promptly repaired or remedied by the Contractor at his own expense. This shall include the cleaning and flushing of existing drainage pipe lines where such are used.
3. The Contractor shall at all times have on hand sufficient pumping equipment and machinery in good working condition for all ordinary emergencies, and shall have available at all times competent workmen for the operation of the pumping equipment. The dewatering systems shall not be shut down between shifts, on holidays, or weekends, or during the work stoppages without written permission from the Engineer. The control of groundwater shall be such that softening of the bottom of excavations or formation of "quick" conditions or "boils" shall be prevented. Dewatering systems shall be designed and operated so as to prevent the removal of the natural soils.
4. During excavation, construction of structures, and back filling, excavations shall be kept free of water. The static water level shall be drawn down below the bottom of the excavation so as to maintain the undisturbed state of the natural soils and allow the placement of any fill or backfill to the required density. The dewatering system shall be provided so that the groundwater level outside the excavation is not reduced to the extent that would damage or endanger adjacent structures or property. The release of groundwater to its static level shall be performed in such a manner as to maintain the undisturbed state of the natural foundation soils, prevent disturbances of compacted fill or backfill, and prevent flotation or movement of all structures and pipelines.

B. Removal of Obstructions

1. The Contractor shall remove all heavy sods, heavy growths of grass, and all decayed vegetable matter where the proper construction and completion of the work require their

removal. The Contractor shall also remove all rock, stones, debris, and all obstructions of whatsoever kind or character, whether natural or artificial, encountered in the work. Material shall be removed from the site of the work and disposed of in a manner acceptable to the Engineer.

C. Excess Excavated Material

1. Excess excavation from all sources shall be placed in accordance with the site grading plans. Materials placed under access and parking areas shall be compacted according to the applicable specifications.
2. Material shall be spread and thoroughly compacted at optimum moisture to densities specified. Topsoil shall be stockpiled as required for landscaping.

D. Shoring, Sheeting, and Bracing

1. As may be necessary for the safety of workmen and to prevent shifting of material with possible damage to existing uncompleted structures, trenches and other excavations shall be properly shored, sheeted, and braced as the nature of the ground may require or prudence dictate. Bracing shall be arranged so as not to place any strain on portions of completed work until the general construction has proceeded far enough to provide ample strength.
2. In general, the sheeting and bracing shall be removed as the trench or excavation is backfilled, and in such a manner as to avoid the caving in of the bank or disturbance of adjacent areas or structures. The void left by the withdrawal of sheeting shall be filled by jetting, or as approved by the Engineer.
3. Removal of sheeting, shoring, or bracing, shall be subject to approval by the Engineer, but such approval by the Engineer shall not relieve the Contractor from the responsibility for injury to any structure or to other property or persons from failure to leave such sheeting, shoring or bracing in place.
4. Such shoring and sheeting as may be required during excavation shall be installed to protect adjacent structures and utilities.
5. Excess material from excavation, not required for backfill, shall be deposited, spread, and graded in accordance with the grading plan.

E. Unauthorized Excavation

1. Whenever, through neglect of the Contractor, the excavation is carried below or beyond the lines and grades as given by the Engineer or as shown on the Plans, except as specified above, all such excavated space shall be refilled with such material and in such a manner as may be directed by the Engineer, so as to insure the stability of the affected structure. Beneath all structures, space excavated without authority shall be refilled by the Contractor, at his own expense, with 2500 psi concrete or as directed by the Engineer.

F. Excavation for Structures

1. Unless otherwise specified, any method of excavation within the work limits shown may be employed which, in the opinion of the Contractor, is considered best. At those locations where the excavation extends below the static groundwater level, the Contractor shall take whatever precautions are necessary to maintain the undisturbed

state of either the natural soils or the compacted fill at and below the bottom of the excavation.

2. Where, in the opinion of the Engineer, the condition of the exposed soils is inadequate for the support of the planned structure, the Engineer shall require the Contractor to over-excavate to adequate soils and refill the excavated space to the proper elevation with select fill.
3. Excavation shall extend a sufficient distance from walls and footings to allow for placing and removal of forms, installation of services, and for inspection; except, where concrete is authorized to be deposited directly against excavated surfaces.
4. Where pipelines enter a structure, the requirement for trench excavation shall be complied with up to the excavation line of the structure, unless specified or required otherwise.

G. Backfill

1. Trenches and excavations for structures shall be backfilled to original ground level or to such other grades as the Engineer may direct. All backfilling shall be carried along in an orderly manner and expeditiously as is consistent with the project scheduling.
2. Before backfilling around structures, all lumber, rubbish, braces, and refuse shall be removed from the excavation and disposed of in a manner satisfactory to the Engineer.
3. The backfill around and within 10 ft. of the exterior wall of all structures shall be structural backfill as specified brought up in horizontal lifts of uniform thickness.
4. The method of compaction for berms, levees, and fill areas shall be by equipment and methods approved by the Engineer and shall attain a density equal to or greater than 95% maximum density.
5. The method of compaction of backfill outside the 10 ft. zone around structures and except as specified for backfill of pipeline trenches shall be at the option of the Contractor and shall attain a density equal to or greater than 85% maximum density.

H. Structural Backfill

1. Structural backfill shall be constructed at the locations and to the lines and grades indicated on the plans. Unless otherwise indicated, structural backfill shall be Type 1 material. The material shall be placed in horizontal layers not exceeding 8" in loose depth and shall be moisture conditioned to at least 3% of optimum moisture such that the required degree of compaction may be obtained.
2. Each layer shall be compacted by power-operated tampers, rollers, or other suitable equipment at a dry density equal to 95% of maximum density. Each layer shall be compacted to the specified density prior to placing subsequent layers. The thickness of the loose layer may be increased when in-place density tests satisfactory to the Engineer show that the specified density can be obtained. Dewatering must be maintained during the placement of compacted backfill. When backfill is subgrade for walks, roadways, foundations, or slabs, it shall be structural backfill compacted to a dry density equal to 95% of maximum. Compaction shall be done in a manner that will not damage adjacent or buried facilities. In place, field density tests shall be conducted to verify compaction.
3. Select fill for treatment structures shall consist of homogeneous soils free of organic matter and rocks larger than six inches in diameter and possessing plastic index of 12%

or less, with a liquid limit of 30% or less. The material shall be placed in the following manner:

1. Remove surficial vegetation and organic topsoil. Stripping depths on the order of four to six inches are anticipated.
2. Scarify the exposed subgrade to a depth of six inches, adjust the moisture content, and recompact to 95% of the maximum defined by ASTM D-698.
3. Place subsequent lifts of select fill in thin, loose layers not exceeding eight inches in thickness to the desired rough grade and compact to 95% of the density defined by ASTM D-698. Maintain moisture within two percent of theoretical optimum.
4. Conduct in-place field density tests at the rate of one test per 2,000 square feet for every other lift. Any failed tests will result in scarifying, recompaction and retesting.
5. Prevent excessive loss of moisture during construction.
6. Fill strata which provide shallow foundation support should extend five feet beyond the structure to restrict lateral movement.

A portion of the soil strata removed from structure excavations shall be considered suitable as select fill; however it is anticipated that the suitable materials will require aeration prior to recompaction. All vegetation and organic matter must be removed and the proper moisture content established prior to utilizations as select fill.

TECHNICAL SPECIFICATIONS

SECTION G3 - FINISH GRADING, REPLACEMENT OF TOPSOIL,
SODDING OR HYDROMULCHING

G3.1 GENERAL: The work to be performed under this section of the Specifications shall consist of the removal and disposal of excess excavation, construction of finished grading, replacement of previously stripped topsoil and providing ground cover by hydromulching or sodding.

G3.2 FINISH GRADING: Excess excavation from all sources shall be placed in accordance with the site grading plans. Materials placed under access roads and parking areas shall be compacted according to the applicable Specifications. Excavated material in excess of the requirements of the grading plan shall be disposed of on-site at the Contractor's expense at locations approved by the Engineer.

Materials shall be spread and thoroughly compacted at optimum moisture to densities specified in SECTION G2 of these Specifications.

G3.3 REPLACEMENT OF TOPSOIL AND GROUND COVER: The work to be performed under this section of the Specifications shall consist of replacement of topsoil previously stockpiled to conform to the finish grades as indicated on the Plans, and providing ground cover by hydromulching.

A. Topsoil: The topsoil shall consist of material previously stockpiled under SECTION G2.3 of these Specifications.

Topsoil shall be placed at a depth of 4" over all disturbed areas prior to placing ground cover.

B. Hydromulching: This item shall consist of furnishing and applying fertilizer, seed, mulch cover, and water on all areas disturbed by construction except within landscaping areas as noted on the Plans.

Application of ground cover shall be by hydromulching. The mulch, fertilizer, and seed may be incorporated into one operation, or if the Contractor so elects, the fertilizer may be applied during preparation of the seedbed. Water used in hydromulching shall be of drinking water quality.

After application of the mulch cover, water shall be applied as necessary at the direction of the Engineer for a period of at least three (3) weeks. The time required for application of water will not be included in the computations of contract time for completion of the project provided all other work under the Contract has been completed. Fertilizer shall be a commercial grade, uniform in composition, free flowing, and suitable for application with mechanical equipment, delivered to the site in labeled containers, to current State Fertilizer Laws and bearing the name, trademark, and warranty of the producer.

All seed shall be labeled in accordance with the current rules and regulations of State law and shall be free of noxious weeds. Seed shall be furnished in sealed, standard containers unless otherwise authorized by the Engineer in writing. Seed which has become wet, moldy, or otherwise damaged in transit or storage will not be acceptable. The minimum percentage by weight of pure live seed shall not be less than 85 when tested according to current regulations under the Federal Seed Act. All legumes must be inoculated with an approved culture as per the manufacturer's recommendations.

Seed shall be composed of the varieties and amounts by weight as shown below.

<u>VARIETY</u>	<u>WEIGHT, LBS. PER ACRE</u>
Rye Grass (Gulf Coast or Italian)	50
Crimson Clover	2
Bermuda (Common)	10

The Common Bermuda seed shall be applied during the months of March, April and May only. Rye Grass and Crimson Clover shall be applied with hydromulch and fertilizer immediately upon completion of finish grading. The Contractor shall be responsible for all seeding at the specified times, whether accomplished in single or multiple applications.

For maximum soil holding ability the mulch shall be a wood cellulose fiber. This mulch shall be applied at the rate of 1200 lbs. per acre on 4:1 slopes or flatter or at 1500 lbs. per acre on slopes steeper than 4:1.

Fertilizer shall be composed of 16% nitrogen, 8% phosphorous, and 8% potash and applied at a minimum rate of 400 lbs./acre.

- C. Sod: Slab sod shall be approved nursery grown grass. Nursery grown grass sod shall be centipede. Sod shall be free from noxious weeds or other vegetation. Water shall be of drinking water quality.

Slab sod shall be cut with approved mechanical or manual sod cutters. The designated area shall be mowed when necessary, and sod shall be cut to a minimum depth of 1 inch for nursery grown grass, and to a uniform width and in convenient lengths for handling. Care shall be exercised to retain soil on roots of sod during excavating, hauling and planting.

Sod cut more than 48 hours before placing shall not be used unless authorized. Sod taken from bare areas that may produce inferior growth will not be accepted. Watering required in connection with digging, storing or hauling sod will not be paid for.

Areas to receive slab sod shall be thoroughly pulverized to a depth of approximately 3 inches and dressed to a reasonable grade. Slab sod shall receive fertilizer as specified for hydromulching with 90% broadcast over the area to receive slab sodding, and the remaining 10% shall be broadcast over sod after placing and rolling. Upon delivery to the planting site, slab sod shall be transferred onto the surface of the soil. Areas to be sodded shall be watered as directed. Slabs of sod shall be placed with a minimum amount of space between slabs. Slabs which do not fit closely shall be pulled together with suitable tools and pegged when necessary.

Slab sod shall be rolled as soon after planting as practicable with plain rollers or cultipackers. Where rolling is impracticable, sod shall be tamped by approved hand methods.

Slab sodding shall be watered as directed. If nursery grown grass sod is used, particular attention shall be paid to watering per the supplier's recommendations.

- D. Construction Methods: The area to receive hydromulch shall be brought to a smooth and uniform surface to conform to an elevation 4" below the finished grade indicated on the Plans. The surface of the topsoil stockpile shall be thoroughly disced to a depth of 6" prior to loading. The topsoil shall then be dumped upon the prepared area and spread to a uniform depth of 4". Ground cover shall then be applied by hydromulching as described above.
- E. Maintenance of Ground Cover: Areas which have been sodded or hydromulched shall be maintained by the Contractor in a manner to insure that grass cover is established. The Contractor shall further maintain areas to specified grades for a period of one year from the date of receiving the Notice of Substantial Completion on the project. Final payment will not be made until ground cover is established in accordance with these Specifications.

TECHNICAL SPECIFICATIONS

SECTION G4 - BARRICADES AND WARNING DEVICES

- G4.1. DESCRIPTION: This Item shall consist of the construction, maintenance and removal, if required, of detours of the type and length, and to the lines, grades and typical cross sections shown on the plans. The work shall be done in accordance with the provisions of this specification.
- A. Prior to closing any section of the project to traffic, the Contractor shall furnish, erect, and maintain barricades, warning signs and devices, temporary suitable removable lane delineation striping and all other applicable requirements at and in the vicinity of all road and bridge construction projects at all times; both day and night during the construction period of the contract. The "Texas Manual on Uniform Traffic Control Devices for Streets and Highways" as adopted in 1980 as revised by the Federal Highway Administration in accordance with Title 23, U.S. Code, Section 109 (b), 109 (d), and 402 (1) (latest revision thereof), shall serve as a guideline for the installation and maintenance of barricades and warning devices.
- B. Responsibility for damage or claims: The Contractor shall hold harmless the Owner, Gregg County, and Hayes Engineering, Inc. and all its representatives from all suits, actions or claims of any damages sustained by any person or property in consequence of any neglect in safeguarding the work or through the use of unacceptable materials in the construction of the improvement, or on account of any act of omission by said Contractor. He shall not be released from said responsibility until the roadway shall have been completed and accepted, and so much of the money due the said Contractor under and by virtue of his contract may be retained by the Owner, Gregg County, and Hayes Engineering, or his surety may be held until such claims have been settled and suitable evidence to that effect furnished to the Engineer.
- C. In areas where traffic re-alignment is required, all conflicting existing lane lines shall be obliterated and re-alignment made by use of temporary, removable lane delineation striping until construction is completed and then the temporary striping is removed and permanent striping applied, either non-reflectorized or reflectorized, as was the original.

Whenever temporary pavement marking is required either for re-aligning existing traffic lane striping or for new temporary locations as suitable degradable or removable lane marking material shall be used as required by the F.H.W.A. Addendum Notice N 5160.21 dated May 10, 1976, which amended the manual on Uniform Traffic Control Devices for Streets and Highways as it relates to temporary traffic lane marking systems.

TECHNICAL SPECIFICATIONS

SECTION G5 – STORM WATER POLLUTION PREVENTION

- G5.1. DESCRIPTION: This item shall consist of the work required to provide storm water pollution prevention meeting the requirements of the Texas Commission on Environmental Quality (TCEQ). The TCEQ requirements are specified in the Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit (CGP) No. TXR150000 .
1. REQUIREMENTS – 5 OR MORE ACRES DISTURBED. For construction activities that will disturb 5 or more acres, the Contractor shall perform all activities required by TCEQ. TCEQ requirements include, but are not limited to the following tasks:
 - a. Obtain a copy of the TCEQ CGP (TPDES Permit No. TXR150000).
 - b. Develop a storm water pollution prevention plan (SWP3) meeting the requirements of the TCEQ General Permit.
 - c. Complete and submit a Notice of Intent (NOI) to the TCEQ using the TCEQ form. Include all necessary fees with the NOI submittal. The NOI and all fees must be submitted at least two (2) days prior to commencement of construction.
 - d. Provide the Owner and the Engineer with a copy of the NOI and a copy of the check to the TCEQ and a written notice indicating the date that the NOI was submitted to the TCEQ.
 - e. Implement the SWP3. Perform maintenance and inspection as required by the SWP3.
 - f. Continue to submit the annual project fee as the project continues.
 - g. Modify the SWP3 during construction as necessary.
 - h. Complete and submit a Notice of Termination (NOT) to the TCEQ once the site has reached final stabilization.
 2. REQUIREMENTS – 1 OR MORE ACRES BUT LESS THAN 5 ACRES DISTURBED. For construction activities that will disturb 1 or more acres, but less than 5 acres, the Contractor shall perform all activities required by TCEQ. TCEQ requirements include, but are not limited to the following tasks:
 - a. Obtain a copy of the TCEQ CGP (TPDES Permit No. TXR150000).
 - b. Develop a storm water pollution prevention plan (SWP3) meeting the requirements of the TCEQ General Permit.
 - c. Complete and post a Construction Site Notice (CSN) on the job site at least two (2) days prior to commencement of construction.
 - d. Send a copy of a completed Construction Site Notice Application to the MS4.
 - e. Implement the SWP3. Perform maintenance and inspection as required by the SWP3.
 - f. Modify the SWP3 during construction as necessary.
 3. REQUIREMENTS – LESS THAN 1 ACRE DISTURBED. For construction activities that will disturb less than one acre, coverage under the TCEQ permit is not required. If construction activity increases and the disturbed area increases to 1 or more acres, the Contractor will be required to comply with the applicable sections above.

TECHNICAL SPECIFICATIONS

SECTION G6 - EXISTING UTILITIES

- G6.1. DESCRIPTION: This section covers the requirements with respect to existing public or private utilities.
- G6.2. PROXIMITY TO WATER MAINS: All plans are drawn in such manner that all known utilities are shown using the best available information including utility maps, field surveys, or other sources of information. A minimum distance of 10' shall be maintained between water and sanitary sewer lines where possible. Where this separation distance cannot be achieved, the following procedures shall be used.
- A. Where a new sanitary sewer force main parallels the water main, the sanitary sewer shall be constructed of cast iron, ductile iron, or PVC pipe meeting AWWA Specifications, having a minimum working pressure rating of 150 psi or greater, and equipped with pressure type joints. The water main and sanitary sewer shall be separated by a minimum vertical distance of two feet, and a minimum horizontal distance of four feet, measured between the nearest outside diameters of the pipes, and the water main shall be located above the sewer.
 - B. Where a new gravity, sanitary sewer parallels a water main, the sanitary sewer shall be constructed of cast iron, ductile iron, or PVC pipe meeting AWWA Specifications, or having NSF approval for use as potable water pipe, with a pressure rating for both the pipe and the joints of greater than or equal to 150 psi. The new sewer line may be placed no closer than two feet vertically and four feet horizontally from the sewer, with the separation distances measured between the nearest outside pipe diameters. The water main shall be located at a higher elevation than the sanitary sewer. The water and sewer mains must be installed in separate trenches.
 - C. Where a new sanitary sewer crosses the water main, and that portion of the sewer within 10 feet of the water is constructed as described in G1.2.(A), the water lines may be placed no closer than 18 inches from the sewer. The separation distance must be measured between the nearest outside pipe diameters. The water line shall be located at a higher elevation than the sewer wherever possible and one length of the sewer pipe must be centered on the water line.
- G6.3. DAMAGE TO EXISTING UTILITIES:
- Approximate locations and depths of all known utilities are shown using the best available information. The Contractor is responsible for verifying the existence and location of all utilities shown or not shown on the plans. The Contractor shall hold the Owner harmless from damages to existing utilities arising from the Contractor's operations. Repair expense and any damages suffered by the utility owner shall be at the Contractor's expense.
- G6.4. RELATIONSHIP WITH EXISTING FACILITIES: The Contractor is advised that, unless otherwise indicated, existing utilities must be available at all times for use. The Contractor, therefore, shall at all times take particular care to avoid needless confusion, clutter and debris at the site of the work. At no time shall the Contractor's personnel, equipment, or material prevent the normal conveyance of water and wastewater flows. If it is necessary to request the Contractor to move his equipment, materials, or any material included in the work, he shall do so promptly and place said equipment or material in an area which does not interfere with proper service. The Contractor is further cautioned against adjusting or altering any private property without the written consent of the Owner.
- G6.5. PROTECTION OF EXISTING INSTALLATIONS: The Contractor shall correct or replace, without delay any and all damage to existing structures, surfaces, equipment, controls or systems resulting from his operations.

The Contractor's attention is particularly directed to the dust, abrasive particles, debris and dirt generated by the placement, chipping, cutting, finishing and grinding of new or existing concrete, and the dust debris and dirt generated by excavation and backfill operations; and the filters, protective shieldings, and other dust suppression methods at all times to adequately protect private property.

- G6.6. PERMANENT UTILITIES: The existing site is presently served with utilities. The utilities to be modified by the Contractor are as shown on the plans.
- G6.7. CLEANING UP: The Contractor shall not allow the site of the work to become littered with trash and waste material but shall maintain the site of the work in a neat and orderly condition throughout the construction period. On or before the completion of the work, the Contractor shall carefully clean out all pits, drain lines and drains, chambers or conduits and shall remove all temporary structures built by him and rubbish of all kinds from any of the grounds which he has occupied and leave them in first-class condition to the satisfaction of the Engineer.

SECTION SD
STREETS and DRAINAGE

TECHNICAL SPECIFICATIONS

SECTION SD101 - ROADWAY PREPARATION

SD101.01 DESCRIPTION: Work under this section consists of roadway preparation and clean-up. The work shall cover but not be limited to the following areas: area to be occupied by the improvement, necessary abutting work areas, any area used for stockpiling of excavated material, and areas within the project used for storage.

SD101.02 SITE PREPARATION: The Contractor shall remove all debris, concrete, or asphalt, culverts, abandoned utilities, and any other obstructions on the site of the project which will interfere with construction of the project. Materials or obstructions removed under this item shall be disposed of by the Contractor.

The Contractor shall adjust to the finished grade of the street all manhole covers, cleanout covers, and valve covers. Manhole frames and covers shall be adjusted using precast concrete grade rings and mortar riser section. Cleanouts shall be adjusted by removing the casting and resetting the casting to grade on a Class C concrete foundation poured around the cleanout stack and placing Class C concrete around the adjusted casting. Valve covers shall be adjusted by adjusting the valve cover housing to the finished grade.

SD101.03 CLEAN UP: From time to time the Contractor shall clean up the site, including all areas as stipulated in Section 101.02 above, in order that the site present a neat appearance and the progress of work not be impeded. One such period of clean up shall immediately precede final inspection.

Immediately following acceptance of the work by the Owner, the Contractor shall remove all temporary equipment, surplus materials, and debris resulting from his operation, and leave the site in a condition fully acceptable to the Owner.

TECHNICAL SPECIFICATIONS

SECTION SD102 – CLEARING, GRUBBING, AND STRIPPING

SD102.01 DESCRIPTION: This section will govern the removal and disposal of trees, stumps, roots, logs, brush, vegetation, rubbish and other objectionable matter from the designated portions of the right-of-way and from authorized borrow areas and stripping of 4" to 6" of topsoil.

On areas within R.O.W. and easements for roadway, channel or structural excavation, all stumps, roots, etc., shall be removed to a minimum depth of one foot below the existing ground surface, except that where excavated material is used as construction material, all organic matter and/or rubbish will be removed to the extent necessary to prevent such objectionable matter becoming mixed with the material to be used in construction.

All areas within R.O.W. and proposed easements shall be stripped of topsoil to a depth of 4" to 6" and stockpiled for later use.

SD102.02 BASIS OF PAYMENT: The work prescribed in this section will not be paid for directly but shall be considered subsidiary to other bid items.

TECHNICAL SPECIFICATIONS

SECTION SD110 - ROADWAY EXCAVATION

SD110.01 DESCRIPTION: This section shall govern the furnishing of all labor, equipment, materials, tools and incidentals necessary to perform the required excavation within the limits of the roadway, the removal, proper utilization, and/or disposal of all excavated materials; and the construction, shaping, and finishing of all earthwork on the entire length and width of roadway and approaches to same in conformity with the required lines, grades and cross-sections (including drainage ditches) as shown on the Plans and in accordance with specification requirements herein outlined. Prior to commencing excavation all clearing and grubbing shall be complete in excavation areas.

SD110.02 CLASSIFICATION: Unless classification of roadway excavation is indicated on the Plans or so determined by the Engineer, these specifications shall include all materials encountered regardless of their nature or the manner in which they are removed.

SD110.03 CONSTRUCTION METHODS: All roadway excavation shall be performed as specified herein and the completed roadway shall conform to the established lines, grades, and cross sections.

In constructing the specified roadway sections all suitable excavated materials shall be utilized insofar as practicable. Excavated materials from the roadbed shall be removed, utilized or disposed of as follows:

- A. Excavated material, suitable and necessary for roadway fill shall be utilized in that manner.
- B. Excavated material suitable but not necessary for construction of the required section, may, at the option of the Engineer, be disposed of by depositing in or on designated "waste" areas. Or, if so authorized, the Contractor may dispose of such material to his best advantage.
- C. Excavated material unsuitable for incorporation into the required section and unsatisfactory for "waste" disposal shall be disposed of as directed by the Engineer.

During the construction period the roadbed, slopes and ditches shall be maintained in such condition as to insure proper drainage at all times.

- D. Topsoil shall be stripped from all excavation areas and stockpiled for later use.

SD110.04 BASIS OF PAYMENT: All work performed as required herein will be considered subsidiary to other bid items.

TECHNICAL SPECIFICATIONS

SECTION SD140 - EMBANKMENT

SD140.01 **DESCRIPTION:** This section shall govern the placement and compaction of all materials obtained from roadway, borrow, channel and structural excavation for utilization in the construction of roadway embankments.

SD140.02 **CONSTRUCTION METHODS:**

- (1) General: Prior to placing any embankment, all "Clearing, Grubbing, and Stripping" operations shall have been completed on the excavation sources and areas over which the embankment is to be placed. Stump holes or other small excavations in the limits of the embankments shall be backfilled with suitable material and thoroughly tamped by approved methods before commencing embankment construction. The surface of the ground, including plowed loosened ground, or surface roughened by small washes or otherwise, shall be restored to approximately its original slope by blading or other methods and where indicated on plans or required by the Engineer, the ground surface thus prepared shall be compacted by sprinkling and rolling.

Unless otherwise indicated on plans the surface of the ground of all unpaved areas other than rock which are to receive embankment shall be loosened by scarifying or plowing to a depth of not less than four inches. The loosened material shall be recompacted with the new embankment as hereinafter specified.

Where indicated on plans or directed by the Engineer, the surface of hillsides to receive embankment shall be loosened by scarifying or plowing to a depth of not less than four inches, or cut into steps before embankment materials are placed. The embankment shall then be placed in layers, as hereinafter specified, beginning at the low side in part width layers and increasing the widths as the embankment is raised. The material which has been loosened shall be recompacted simultaneously with the embankment material placed at the same direction.

Where embankments are to be placed adjacent to or over existing roadbeds, the roadbed slopes shall be plowed or scarified to a depth of not less than six inches and the embankment built up in successive layers, as hereinafter specified, to the level of the old roadbed before its height is increased. Then, if directed, the top of the roadbed shall be scarified and recompacted with the next layer of the new embankment. The total depth of the scarified and added material shall not exceed the permissible depth of layer.

Trees, stumps, roots, vegetation or other unsuitable materials shall not be placed in embankment. Except as otherwise required by the plans, all embankment shall be constructed in layers approximately parallel to the finished grade of the roadbed and unless otherwise specified each layer shall be so constructed as to provide a uniform slope of 1/4 inch per foot from the center line of the roadbed to the outside, except that on superelevated curves each layer shall be constructed to conform to the superelevation required by the governing standard.

Embankments shall be constructed to the grade established by the Engineer and completed embankments shall correspond to the general shape of the typical sections shown on the plans and each section of the embankment shall correspond to the detailed section or slopes established by the Engineer. After completion of the roadway, it shall be continuously maintained to its finished section and grade until the project is accepted.

- (2) Earth Embankments: Earth embankments shall be defined as those composed principally of material other than rock, and shall be constructed of accepted material from approved sources.

Except as otherwise specified, earth embankments shall be constructed in successive layers for the full width of the individual roadway cross section and in such lengths as are best suited to the sprinkling and compaction methods utilized.

Layers of embankment may be formed by utilizing equipment which will spread the material as it is dumped, or they may be spread by blading or other acceptable methods from piles or windrows dumped from excavating or hauling equipment in such amounts that material is evenly distributed.

No material placed in the embankment by dumping in a pile or windrow shall be incorporated in a layer in that position, but all such piles or windrows shall be mixed by blading or similar methods. Clods or lumps of material shall be broken and the embankment material mixed by blading, harrowing, disking or similar methods.

Water required to bring the material to the moisture content necessary for maximum compaction shall be evenly applied and it shall be the responsibility of the Contractor to secure a uniform moisture content throughout the layer by such methods as may be necessary.

Compaction of embankments shall be obtained by the method described below.

- (3) Compaction: Each layer shall be compacted to the required density by suitable equipment as hereafter described. The depth of layer, prior to compaction, shall not exceed that depth which will produce six inch compacted layer. Prior to and in connection with the rolling operation each layer shall be brought to the moisture content necessary to obtain the required density and shall be kept leveled with suitable equipment to insure uniform compaction of the entire layer.

For each layer of earth embankment and select material, it is the intent of this specification to provide the density as required herein, unless otherwise shown on the plans. Embankment soils shall be sprinkled as required and compacted to the extent necessary to provide not less than 95 percent of Modified A.A.S.H.T.O. density (A.S.T.M. Method D1557). Field density determinations will be made in accordance with approved methods.

When the Contractor submits each layer of earth embankment or select material for approval prior to placement of the next layer, tests as considered necessary by the Engineer will be made by an approved testing laboratory. If the material fails to meet the density specified, the course shall be reworked as necessary to obtain the specified compaction, and the compaction method shall be altered on subsequent work to obtain specified density. Such procedure shall be determined by, and subject to, the approval of the Engineer.

Should the embankment, due to any reason or cause, lose the required stability, density, or finish before the pavement structure or base is placed, it shall be recompacted and refinished at the sole expense of the Contractor. Excessive loss of moisture in the embankment shall be prevented by sprinkling, sealing or covering with a subsequent layer of granular material. Excessive loss of moisture shall be considered to exist when the soil moisture content is more than four percent below the optimum for the density specified.

SD140.03 **SELECTION OF MATERIALS:** In addition to the requirements in the roadway excavation section of the specifications which cover the general selection and utilization of materials to improve the roadbed, embankments shall be constructed in proper sequence to receive the select material layers shown on plans, with such modifications as may be directed by the Engineer. The layer of embankment immediately preceding the upper layer of select material shall be constructed to the proper section and grade within a tolerance of not more than 0.10 foot from the established section and grade when properly compacted and finished to receive the select material layer.

SD140.04 **PAYMENT:** The work prescribed in this section will not be paid for directly but shall be considered as subsidiary to work performed under other bid items.

TECHNICAL SPECIFICATIONS

SECTION SD204 - SPRINKLING

- SD204.01 DESCRIPTION: This section shall govern the authorized application of water on those portions of roadway shown on the Plans or as directed by the Engineer.
- SD204.02 CONSTRUCTION METHODS: The Contractor shall furnish and operate approved sprinklers equipped with positive and rapidly working cutoff valves and approved spray bars which will insure the distribution of water in a uniform and controllable rate of application. The Contractor shall apply the water in the required quantity where shown on the Plans and/or as directed by the Engineer.
- SD204.03 MEASUREMENT AND PAYMENT: The water furnished and the work performed as prescribed by this section will not be paid for separately, but shall be subsidiary to the various items pertaining to the construction of embankment, subgrade, sub-base and base, as the case may be, which price will be full compensation for all costs in connection with furnishing the water, and for all costs in connection with furnishing and operating approved sprinklers and for applying the water as directed, including all hauling, equipment, tools, labor, materials and incidentals necessary to complete the work. Payment will not be made for unauthorized work.

TECHNICAL SPECIFICATIONS

SECTION SD210 - ROLLING

SD210.01 DESCRIPTION: This section shall govern the equipment used for compaction of subgrade, sub-base, base or asphaltic concrete pavements by the operation of approved power rollers, tamping rollers or pneumatic tired rollers as herein specified and/or as directed by the Engineer.

210.02 EQUIPMENT:

(1) Subgrade, Sub-base and Base:

- (a) Pneumatic Tired Rollers: Large pneumatic tired rollers shall be of a type having five or more tires, with each tire capable of being inflated to a pressure of 100 pounds per square inch. Total weight of the unit when loaded shall be not less than twenty-five tons. The load shall be equally distributed to all wheels and the tires shall be uniformly inflated.

Small pneumatic tired rollers shall consist of not less than nine pneumatic tired wheels running on axles in such a manner that the rear group of tires will not follow in the track of the forward group and mounted in a rigid frame and provided with a body suitable for ballast loading. The wheelbase of the roller shall be not less than five nor more than ten feet. The front axle shall be attached to the frame in such a manner that the roller may be turned within a minimum circle. The pneumatic tired roller under working conditions shall have an effective rolling width of approximately sixty inches and shall be so designed that by ballast loading the load may be varied uniformly from a minimum of 100 to a maximum of 400 pounds per inch of width of tire tread.

The tire pressure and compression to be provided by the pneumatic roller shall be as directed by the Engineer. Pneumatic tired rollers shall be drawn by a suitable crawler type tractor, a pneumatic tired tractor, or a truck of adequate tractive effort, or may be of the self-propelled type, and the roller when drawn or propelled by either type of equipment shall be considered a pneumatic tired roller unit.

Unless otherwise directed, pneumatic tired rollers shall be operated within a speed range from two to four miles per hour.

- (b) Tamping Rollers: Tamping rollers shall consist of two metal rollers, drums or shells of forty inches minimum diameter; each not less than forty-two inches in length and unit-mounted in a rigid frame in such a manner that each roller may oscillate independently of the other; and each roller, drum or shell shall be surmounted by metal studs with tamping feet projecting not less than seven inches from the surface and spaced not less than seven inches from the surface and spaced not less than six nor more than ten inches measured diagonally center to center; and the cross-sectional area of each tamping foot measured perpendicularly to the axis of the stud, shall be not less than five nor more than eight square inches. The roller shall be supplemented with cleaning teeth to provide self cleaning. The roller shall be so designed that by ballast loading, the load on each tamping foot may be varied uniformly from 125 to 175 pounds per square inch of cross-sectional area. The load per tamping foot will be determined by dividing the total weight of the roller by the number of tamping feet in one row parallel to (or approximately so) the axis of the roller. The compression to be provided shall be as directed by the Engineer. The tamping roller shall be drawn by suitable power equipment of adequate tractable effort. Two tamping rollers, consisting of four cylinders, drawn by approved power equipment shall be considered a roller unit. Unless otherwise directed, tamping rollers shall be operated within a speed range of two to three miles per hour.

(2) Hot Mix Asphaltic Concrete Pavement:

- (a) Power Flat Wheel Rollers: Power flat wheel rollers shall be self-propelled and shall be of the three wheel or tandem type, weighing not less than five tons nor more than twelve tons. Power flat wheel rollers shall be operated with a speed range from two to three miles per hour and/or as directed.
- (b) Pneumatic Tired Rollers: Pneumatic tired rollers for hot mix asphaltic concrete pavement shall conform to the specifications as noted above for pneumatic rollers.

SD210.03 CONSTRUCTION METHODS: The compaction shall be accomplished by the methods outlined in the specifications on Subgrade, Sub-base, Base and Flexible Pavement. Tracked or lugged equipment will not be allowed on pavements at any time. In the event the indicated rollers are not sufficiently weighted, nor have sufficient tire inflation capacity, to produce the required degree of compaction, additional larger size rollers will be required at no additional expense to the Owner.

Sufficient rollers shall be provided to compact the material in a satisfactory manner.

SD210.04 MEASUREMENT AND PAYMENT: In general there will be no measured pay quantities under this section. All rolling work shall be a subsidiary item and included in the unit prices bid in the Proposal for the various items pertaining to the construction of embankments, Subgrade, Sub-base, base and surface, as the case may be.

TECHNICAL SPECIFICATIONS

SECTION SD230 - SUBGRADE PREPARATION AND COMPACTION

SD230.01 DESCRIPTION: This section shall govern the scarifying, blading and rolling of the subgrade to obtain uniform texture and density throughout the required depth as shown on the Plans.

SD230.02 CONSTRUCTION METHODS: The roadbed shall be excavated and shaped in conformity with the typical sections shown on the plans and to the lines and grades established by the Engineer. The entire roadway cross-section shall be bladed clear of vegetation and scarified as directed by the Engineer. All soft, unstable, or otherwise objectionable material and other portions of the subgrade which will not compact readily or serve the intended purpose shall be removed or broken off to a depth of not less than eight inches below the surface of the subgrade. Holes or depressions resulting from the removal of such material shall be backfilled with suitable material compacted in layers not to exceed six inches. No direct payment will be made for such removal and/or replacement.

The subgrade shall be scarified then bladed and compacted in the manner directed in the paragraph on "Finishing and Compaction". The surface of the subgrade shall be finished to line and grade as established, and be in conformity with the typical sections shown on the Plans. Material excavated in the preparation of the subgrade shall be disposed of as directed by the Engineer.

SD230.03 FINISHING AND COMPACTION: The subgrade course, shall be sprinkled as required and rolled as directed until a uniform compaction and the required density is obtained. Compaction of the subgrade may be done by use of the rolling equipment outlined in the specifications on "Rolling". Rolling shall continue until the subgrade has been compacted to ninety-five percent of the Standard Proctor Density (A.S.T.M. Method D-698) within three percent above optimum moisture content.

Rolling shall progress gradually from the sides to the center of the land under construction by lapping uniformly each proceeding tract by at least twelve inches.

After rolling and watering, the subgrade shall be checked by the use of string line or instrument and all portions that do not conform to the lines and grades as shown on the Plans shall be corrected and re-compacted to correct elevation.

Until the base course or pavement is placed, the subgrade shall be maintained free from ruts and depressions, in a smooth and compacted condition true to lines and grade and to the density requirements contained herein. All of the Contractor's hauling and other equipment used in such a way as to cause rutting and raveling of the subgrade shall either be removed from the work or suitable runways or other equivalent means shall be provided to prevent rutting.

The Contractor shall be responsible for maintaining and protecting the roadbed for the entire length of the project.

During construction, grading of the subgrade shall be conducted so that berms of earth or other material do not prevent immediate drainage of water to the side. Ditches and drains along the subgrade shall be maintained so as to drain effectively.

TECHNICAL SPECIFICATIONS

SECTION SD400 - EXCAVATION AND BACKFILL FOR STRUCTURES

SD400.01 DESCRIPTION: This section shall govern the excavation for construction to the lines, grades and extent indicated on the Plans of any and all structures and subsequent backfill of these structures.

SD400.02 CONSTRUCTION METHODS: Excavation shall extend a sufficient distance from walls and footings to allow for form, installation of services, and for inspection, except where concrete for walls and footing is authorized or required to be deposited directly against excavated surfaces. Where the excavation is made below the elevations indicated on the drawings or directed by the Engineer, the excavation shall be restored to the proper elevation with lean concrete or other selected material, at the expense of the Contractor.

In order that the Engineer may judge the adequacy of a proposed foundation, the Contractor, if requested, shall make soundings to determine the character of the subgrade materials. The maximum depth of such soundings will not be required to exceed five feet below the proposed footing grade. It is the intent of this provision that soundings shall be made at the time the excavation in each foundation is approximately complete.

The final elevation to which a foundation is to be constructed shall be as shown on the drawings or as raised or lowered by written order from the Engineer when such alterations are judged proper to satisfactorily comply with design requirements of the structure. Should it be found necessary to increase the depth of footings from that shown on the drawings the necessary alterations in the details of the structure shall be accomplished in a manner as directed by the Engineer, who shall have the right to substitute revised details if necessary.

When a structure is to rest on an excavated surface other than rock, special care shall be taken not to disturb the bottom of the excavation, and removal of the last material required to reach foundation final grade shall not be performed until just before the footing is to be placed.

All rocks or other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped, or serrated, as directed by the Engineer. All seams shall be cleaned out and filled with concrete at the time the footing is placed.

Water encountered in excavations shall be attended to by the Contractor who shall do all bailing, pumping, and dewatering at his expense so that foundations and all other structures may be "constructed in the dry".

Earth from excavations shall be used to backfill around structure as required. Earth from excavation not required for backfill shall be disposed on areas within reasonable proximity to the project site. Excavated material required to be used for backfill may be deposited by the Contractor in storage piles at points convenient for rehandling the material during the backfilling operations. The location of storage pile shall be subject to the approval of the Engineer.

SD400.03 METHOD OF PAYMENT: In general, there will be no measured pay quantities under this section. All work performed under this specification will be paid for in the unit price bid for the structure involved. Payment will not be made for unauthorized work.

TECHNICAL SPECIFICATIONS

SECTION SD420 – CONCRETE
(Not for Pavement Structure)

SD420.01 GENERAL: The work covered by this section includes furnishing all materials and equipment and performing all necessary labor to do all concrete work shown on the drawings or incidental to the proper execution of the work, as herein after specified as directed by the Engineer.

SD420.02 COMPOSITION: Concrete shall be composed of cement, fine aggregate, coarse aggregate and water so proportioned and mixed as to produce a plastic, workable mixture in accordance with all requirements under this section and suitable to the specific conditions or placement. For all tanks or structures designed to hold water or other liquids, an approved cement dispersing agent shall be added to the mix. (Pozzoloth or equal)

SD420.03 CLASSIFICATION: Except where required to meet special conditions, all concrete shall be Class "A", Class "B", or Class "C", as designated on the drawings.

SD420.04 STRENGTH: The mixes will be designed to secure concrete having the following compressive strength at the age of 28 days, as determined by breaking standard 6-inch diameter by 12-inch height test specimens in accordance with the procedure set forth in ASTM Designations C31-69 and C39-66:

<u>Class</u>	<u>Minimum Average for any 5 consecutive cylinders</u>	<u>Minimum for any one cylinder</u>
A	3,000 lbs. per sq. in.	2,800 lbs. per sq. in.
B	2,500 lbs. per sq. in.	2,000 lbs. per sq. in.
C	2,000 lbs. per sq. in.	1,600 lbs. per sq. in.

SD420.05 HIGH-EARLY STRENGTH CONCRETE: High-early strength concrete made with high-early strength Portland cement or other special cements shall be used only when specifically authorized by the Engineer. The 7-day compressive strength of concrete of any class, when made with high-early strength cement shall be at least equal to the specified minimum 28-day compressive strengths for that class. All provisions of these specifications, except for cement, shall be applicable to such concrete. High-early strength cement shall be approved by the Engineer before use.

SD420.06 CEMENT:

- (1) Portland Cement: Portland cement shall conform to Federal Specification SS-C192, or ASTM C-150 Type I or Type III, except as specified in subparagraph (2) below.
- (2) High-early Strength Portland Cement: Cement for high-early strength concrete shall conform to Federal Specification SS-C-201, or ASTM C-150, Type III.
- (3) Special Test Requirements: Cement shall be tested by a recognized testing laboratory or agency satisfactory to the Engineer. Samples to be tested shall be taken at the mill. The Contractor shall arrange and pay for the testing and shall furnish the Engineer certified copies of all test reports. No cement shall be used until notice has been given by the Engineer that the test results are satisfactory. Cement which has been stored for more than 4 months after being tested shall be retested by the Contractor at his own expense before use. Ordinarily, no cement shall be used until after it has satisfactorily passed both the 7 and 28-day tests, but in cases of emergency the Engineer may waive the 28-day tests and permit the use of cement which has satisfactorily passed the soundness and 7-day tests, provided it is the product of a quarry and mill having an established reputation for the production of high-grade cement.

SD420.07 FINE AGGREGATE:

- (1) Composition: Fine aggregate shall be natural sand.
- (2) Quality: Fine aggregate shall consist of hard, strong, durable and uncoated particles.
- (3) Grading: The grading shall conform to the following requirements:

<u>Total Retained</u>	<u>Percent by Weight</u>
3/8" Sieve	0
No. 4 Sieve	0-5
No. 8 Sieve	0-20
No. 16 Sieve	15-50
No. 30 Sieve	40-75
No. 50 Sieve	70-90
No. 100 Sieve	90-100

- (4) Deleterious Substances: The substances designated below shall not be present in excess of the following amounts:

	<u>Percent by Weight</u>
Clay Lumps	0.5
Material removed by decantation from aggregates, not more than	4.0
Other deleterious substances such as coal, shale, coated grains and soft flaky particles	2.0

- (5) Mortar Strength: Mortar specimens made 1 part cement to 3 parts of the fine aggregate shall have a compressive strength at 28 days of at least 90 percent of the strength of similar specimens made with Ottawa sand having a fineness modulus of 2.40 + 0.10.
- (6) Tests: When given ASTM C-40 test for organic impurities the color shall not be darker than the standard. Mineral filler may be added to sand if approved by the Engineer.

SD420.08 COARSE AGGREGATE:

- (1) Composition: Coarse aggregate shall be gravel or crushed stone suitably prepared.
- (2) Quality: Coarse aggregate shall consist of hard, tough and durable particles free from adherent coating. It shall contain no vegetable matter, nor soft, friable, thin or elongated particles in quantities considered deleterious by the Engineer. The substance designated shall not be present in excess of the following amount by weight:

Deleterious substances including friable, thin, elongated or laminated pieces	3.0%
Soft fragments	3.0%
Clay lumps	1/4%
Removed by decantation	1%
The sum of all deleterious ingredients exclusive of that removed by decantation, shall not exceed	5%

When the material removed by decantation consists essentially of crusher dirt the maximum amount permitted may be raised to 1 1/2%. Aggregate which has disintegrated or weathered badly under exposure conditions similar to these which will be encountered by the work under consideration, shall not be used. When crushed stone is used the crusher shall be equipped with

a screening system which will entirely separate the dust from the stone and convey it to a separate bin.

- (3) Size: Coarse aggregate shall be well graded from fine to coarse so that concrete of the required workability, density and strength can be made without the use of an excess amount of sand, water or cement. When tested by approved methods, the coarse aggregate shall conform to the following grading requirements:

<u>Concrete</u>	<u>Percent retained by weight on following screens:</u>							
	#4	1/2"	3/4"	1"	1 1/2"	2"	2 1/2"	3"
Class A	95-100	50-75	15-45	0-5	0			
Class B	95-100		20-70		0-5	0		
Class C	95-100		60-80		15-50	0-20	0-5	0

- (4) Tests: Where the concrete in the finished work will be exposed to contact with aggressive soils or waters, or other destructive agents as determined by the Engineer, the coarse aggregate shall be subjected to the sodium sulphate accelerated soundness test in accordance with ASTM Designation C 88 and failure to pass such test shall be cause for rejection of the aggregate. However, aggregate failing to pass this test may be used with the approval of the Engineer, provided it has given satisfactory service for a period of not less than five (5) years under exposure conditions similar to those to which it will be subjected in the proposed work.

SD420.09 WATER: The water used in mixing concrete shall be fresh, clean and free from injurious amounts of oil, acid, alkali or organic matter.

SD420.10 STORAGE:

- (1) Cement: Immediately upon receipt, at the site of the work, cement shall be stored in a thoroughly dry, weather tight, and properly ventilated building or barge, with adequate provisions for the prevention of the absorption of moisture. Storage shall be such as to permit easy access for inspection and definite identification of each shipment.
- (2) Aggregate: The fine aggregate and each size of the coarse aggregate shall be stored separately and in such manner as to be free to drain and to avoid the inclusion of any foreign material in the concrete. Stock piles of coarse aggregates shall be built in horizontal layers to avoid segregation. Aggregates shall be protected from freezing and the inclusion of frost, and heating of aggregates may be required as directed by the Engineer when concreting is performed in cold weather.

SD420.11 PROPORTIONING:

- (1) Control: The exact proportions of all material entering into the concrete shall be as directed by the Engineer. The Contractor shall provide all equipment necessary positively to determine and control the actual amounts of all materials entering the concrete. The proportions will be changed whenever in the opinion of the Engineer, such change becomes necessary to obtain the specified strength and the desired durability, density, uniformity, and workability, and the Contractor will not be compensated because of such change except that he will be compensated for an increase in the specified minimum unit cement content as stated in subparagraph (3) below, when such increase is authorized by the Engineer.
- (2) Measurement: All materials shall be measured by weight or volume as directed by the Engineer. One (1) bag of cement will be considered as 94 pounds in weight, or one (1) cubic foot loose, in volume, and one (1) gallon of water as 8.33 pounds.

(3) Cement Content: Each cubic yard of concrete shall contain not less than the quantity of cement stated below:

Class "A"	-	5.0 bags or 470 pounds
Class "B"	-	4.5 bags or 423 pounds
Class "C"	-	4.0 bags or 376 pounds

(4) Water Content:

(a) In calculating the total water content in any mix, the amount of moisture carried on the surface of the aggregate particles shall be included. The total water content per bag of cement for each batch of concrete shall not exceed the following:

Class "A"	-	6.0 gallons or 50.0 pounds
Class "B"	-	7.25 gallons or 60.4 pounds
Class "C"	-	8.0 gallons or 66.6 pounds

In all cases, however, the amount of water to be used shall be the minimum amount necessary to produce a plastic mixture of the strength specified and of the desired density, uniformity and workability. In general, the consistency of any mix shall be that required for the specific placing conditions and methods of placement, and ordinarily the slump shall be between 1 1/2" and 4 1/2" and in no case less than one inch nor more than six inches, when tested in accordance with the current specifications for "Method of Test for Consistency of Portland Cement Concrete", of the American Society for Testing Materials.

(b) An increase in the maximum water content to improve workability will not be permitted unless comparative tests under job conditions show conclusively that such increase in water content will not result in a decrease in concrete strength and durability and provided further that such increase does not exceed one (1) gallon per cubic yard.

(5) Aggregate Content: The total volume of aggregates to be used in each cubic yard of concrete shall be than necessary to produce a dense mixture of the required workability as determined by the Engineer.

(6) Admixtures: Admixtures may be used only with the approval of the Engineer.

SD420.12 MIXING AND PLACING:

(1) Equipment: The Contractor shall operate one or more approved batch-type mixing plants. The rating capacity of any individual mixer shall be one-half (1/2) cubic yard or more. The mixing plant or plants shall be provided with adequate equipment and facilities for accurate measurement and control of all materials and water for readily changing the proportion to conform to the varying conditions of the work, in order to produce concrete of the required uniform strength and workability. The plant or plants shall include provisions to facilitate the inspection of all operations at all times and shall be subject to the approval of the Engineer.

(2) Ready-Mixed Concrete: At the option of the Contractor, ready-mixed concrete may be used in lieu of concrete mixed at the job. All mixing requirements specified herein for concrete mixed at the site shall be enforced and the Engineer shall have free access to the mixing plant at all times.

(3) Time: The minimum time for mixing each batch, after all materials are in the mixer, shall be one and one-half (1 1/2) minutes. The mixer shall revolve a minimum of twelve (12) revolutions after all materials have been placed herein, and at a uniform speed. Neither the speed nor the volume capacity of the mixer shall exceed those recommended by the manufacturer. Excessive

overmixing, requiring additions of water to preserve the required consistency, will not be permitted.

- (4) Conveying: Concrete shall be conveyed from mixer to forms as rapidly as practicable and by methods which will prevent segregation or loss in ingredients. It shall be deposited as nearly as practical in its final position. Chutes used shall be such that the concrete slides in them and does not flow. Chutes, if permitted, shall have a slope of less than 1 on 2. Where a vertical drop greater than five (5) feet is necessary, placement shall be through elephant trunks or similar devices to prevent segregation.
- (5) Placing: Concrete shall be placed before initial set has occurred, and in no event after it has contained its water content for more than thirty (30) minutes. Unless otherwise specified, all concrete shall be placed upon clean, damp surfaces, free from running water, or upon properly consolidated fills, but never upon soft mud or dry porous earth. The concrete shall be compacted and worked in an approved manner into all corners and angles of the forms and around reinforcement and embedded fixtures in such a manner as to prevent segregation of the coarse aggregate. Construction of forms for the lifts of vertical walls shall be such as to make all parts of the walls easily accessible for the placement, spading and consolidation of the concrete as specified herein.
- (6) Vibration: All concrete shall be placed with the aid of mechanical vibrating equipment as approved by the Engineer. Vibration shall be transmitted directly to the concrete, and in no case shall it be transmitted through the forms. The duration of vibration at any location in the forms shall be held to the minimum necessary to produce thorough compaction.
- (7) Finish: All top surfaces, other than slabs, not covered by forms and which are not to be covered by additional concrete of fill shall receive a wood float finish without additional mortar. Care shall be taken that no excess water is present when this finish is made. Other surfaces shall be brought to finish elevations and left true and regular.
- (8) Construction Joints: Construction joints shall be formed as indicated in the drawings or as approved or directed by the Engineer. Where indicated or required, dowel rods shall be used. All concrete at the joint shall have been in place not less than twelve (12) hours, and longer if so directed by the Engineer, before concrete resting thereon is placed. Before placing is resumed, or commenced, all excessive water and laitance shall be removed and the concrete shall be cut away, where necessary, to insure a strong dense concrete at the joint. In order to secure adequate bond the surface of the concrete already in place shall be cleaned and roughened and shall then be spread with a 1/2 inch layer of mortar of the same cement sand ratio as is used in the concrete, immediately before the new concrete is deposited.
- (9) Existing Concrete Structures: In those instances where existing concrete structures are modified or extended, the concrete used in the modification shall contain an approved non-shrinkage additive. Concrete surfaces which will be in contact with new construction shall be roughened and cleaned prior to placing of the new concrete. These surfaces shall be wetted and painted with a thin coat of neat cement mortar, or cement epoxy, at the direction of the Engineer, immediately in advance of placing of concrete.

SD420.13 CURING AND PROTECTING:

- (1) Curing: All concrete shall be kept wet for a period of seven (7) days unless otherwise specifically prescribed by the Engineer, by covering with water, an approved water-saturated covering, or other approved method which will keep all surfaces continuously wet.
- (2) Membrane Curing: When, in the opinion of the Engineer, satisfactory results can be obtained by membrane curing, permission will be given to the Contractor to substitute an approved curing compound for the water curing specified. If a curing compound is used it shall be applied in two

(2) coats and it shall be of such composition that it will adhere to fresh, damp concrete and form a thoroughly bonded, dense, continuous, water-tight membrane which will not run or sag and will dry satisfactorily within three hours after application. The coverage shall not exceed 300 square feet per gallon per coat and shall be applied in a uniform coat with approved pressure-spraying equipment. The compound used shall contain at least 30 percent of non-volatile solids. Samples consisting of at least one gallon, of any compound proposed for use shall be sent to a laboratory designated by the Engineer, if required, at least 30 days previous to the date upon which it is proposed to use the material. If concrete has become dry, it shall be thoroughly moistened with water, immediately previous to application of the compound. When curing compound is used on surfaces to which new concrete is to be bonded, any compound film remaining at the expiration of the curing period shall be carefully removed by sand blasting or the adequate use of steel wire brooms or brushes.

- (3) Protection from the Sun: All concrete shall be adequately protected from injurious action of the sun in a manner satisfactory to the Engineer.
- (4) Protection in Cold and Freezing Weather: In cold weather concrete shall be mixed and placed only when the temperature is at least 40 deg. F and rising, unless permission for placement of concrete is obtained from the Engineer, in which event all materials shall be heated in a manner approved by the Engineer. In freezing weather, suitable means shall be provided for maintaining the concrete at a temperature of at least 50 deg. F for not less than 72 hours after placing, or until the concrete has thoroughly hardened. The methods of heating the materials and protecting the concrete shall be subject to approval of the Engineer. Salt, chemicals or other foreign materials shall not be mixed with the concrete for the purpose of preventing freezing.

SD420.14 FORMS:

- (1) Materials: Forms shall be of wood, steel or other approved material. All exposed surfaces shall be constructed with forms lined with plyboard masonite, steel or other smooth material specifically approved. Surfaces or not exposed may be formed with tongue-and-groove lumber or lined forms as mentioned above. The type, size, shape, quality and strength of all materials of which the forms are made shall be subject to the approval of the Engineer.
- (2) Construction: Forms shall be built true to line and grade, and shall be mortar-tight and sufficiently rigid to prevent displacement or sagging between supports. Responsibility for their adequacy shall rest with the Contractor. Form surfaces shall be smooth and free from Form surfaces shall be smooth and free from irregularities, dents, sags, or holes when used for permanently exposed faces. Bolts and rods used for internal ties shall be so arranged that, when the forms are removed, all metal will be not less than 2 inches from any concrete surface. Wire ties will not be permitted where the concrete surface will be exposed to weathering and discoloration will be objectionable. All forms will be so constructed that they can be removed without hammering or prying against the concrete. Unless otherwise indicated, suitable moulding shall be placed to bevel or round exposed edges, at expansion joints and any other points as may be required by the Engineer.
- (3) Coating: Forms, other than those having absorptive form lining for exposed surfaces shall be coated with a non-staining mineral oil which shall be applied shortly before the concrete is placed. Forms for unexposed surfaces may be thoroughly wetted in lieu of oiling, immediately before the placing of concrete except that in freezing weather oil shall be used.
- (4) Removal: Forms shall not be removed without the approval of the Engineer and all removal shall be accomplished in such manner as will prevent injury to the concrete. Forms shall not be removed before the expiration of the minimum number of days indicated below, except when specifically authorized by the Engineer. When, in the opinion of the Engineer, conditions on the work are such as to justify it, forms may be required to remain in place for longer or shorter periods.

Beams and slabs	10 days
Columns and piers	7 days
Walls and vertical faces	2 days

- (5) Form Lining for Buildings: In addition to the requirements for work specified above, the forms for walls of buildings which will be visible in the finished structure shall be lined with pressed wood sheets, absorptive form lining or approved equal. Such lining shall be applied directly to the sheeting. Forms for window and door jams, and their flat or arched soffits shall be lined also and the corner intersections chamfered. Jointing of the lining shall be neat and close and no patch pieces, cleats, nor blocking will be permitted. Overrun of lining shall be trimmed to secure proper fit to adjoining surfaces. Lining with bruises, imprints, or hammer marks shall not be used.

SD420.15 REINFORCEMENT:

- (1) General: The Contractor shall furnish and install all reinforcement, including rods, fabric and structural shapes, as indicated on the plans or otherwise required. All bar reinforcement shall be open hearth new billet steel of structural, intermediate, or hard grade or shall be rail concrete reinforcement. Billet steel shall conform to applicable ASTM Designation A615.

Rail Steel reinforcement shall conform to applicable ASTM Designation A-616 (bars produced by the piling method not acceptable) or the reinforcement may conform to the requirements of Federal Specification QQ-B71, and Amendment 1, dated December 1940. Unless otherwise indicated, all bars shall be Type B (deformed), Grade 2, 3, 4, or 5 wire mesh. All welded wire fabric reinforcement shall conform to ASTM Designation A-185-68. All reinforcement shall be when surrounding concrete is placed, entirely free from rust, scale, grease or other coating which might destroy or reduce its bond with concrete. Shop drawings, lists and placing details shall be furnished by the Contractor when required.

- (2) Minimum Spacing of Rods: The clear distance between parallel rods shall be not less than 1 1/2 times the diameter of round rods, or twice the side dimensions of square rods unless specifically authorized, shall in no case be less than one inch. Splices may be tied together if 45 Diameters lap is provided.

- (3) Protective Covering:

- (a) All main reinforcement in sewer conduits, culverts, wall and column footings and similar structures, embedded in earth or submerged in water shall be placed not less than 3 inches from any concrete surface, unless otherwise set forth.
- (b) All main reinforcement in beams, slabs, and wall or culverts and bridges, and similar structures of comparatively thin sections, exposed to the weather shall be placed not less than 2 inches from any concrete surface, unless otherwise set forth.
- (c) All main reinforcement in walls and slabs of buildings exposed to the weather and in fire-resistant construction, shall be placed not less than one inch from the surface in walls and slabs, 1 1/2" in floor beams, and 2" in girders and columns. In interior flat slab construction, the minimum cover may be reduced to 3/4 inch. For interior work where fire hazard does not exist, the main reinforcement shall be placed not less than 3/4 inch from the surface in walls and slabs, one inch on floor beams and 1 1/2 inches in girders and columns.
- (d) The covering of stirrups, spacer-rods, and similar secondary reinforcement may be reduced by the diameter of such rods. The above dimensions shall be measured from the face of the reinforcement to the face of the forms.

- (4) Splicing: Where splices in reinforcement, in addition to those indicated, are necessary, there shall be sufficient lap to transfer the stress by bond, as may be directed. Rods shall be lapped not less than 40 diameters and splices shall be staggered. The lapped end of rods shall be separated sufficiently or connected properly to develop the full strength of the rod. Adjacent shoots of mesh reinforcement shall be spliced by lapping not less than six inches, the lapped ends being securely wired together.
- (5) Supports: All reinforcement shall be secured in place true to the lines and grades indicated, by the use of metal or concrete supports, spacers or ties as approved by the Engineer. Such supports shall be of sufficient strength to maintain the reinforcement in place throughout the concreting operation, and shall be used in such a manner that they will not be exposed on the face of, nor in any way discolor or be noticeable in the surface of the finished concrete. The costs of furnishing and placing all supports, spacers, ties and/or other devices required shall be included in the contract prices for the various types of reinforcement specified.
- (6) Protection for Future Use: Exposed reinforcement intended for bonding with future work shall be protected from corrosion by heavy wrapping of burlap saturated with bituminous material.

SD420.16 EMBEDDED ITEMS: Before placing concrete, care shall be taken to determine that any embedded metal or wood parts are firmly and securely fastened in place as indicated. They shall be thoroughly clean and free from coating, rust, scale, oil, or any foreign matter. The embedding of wood in concrete shall be avoided whenever possible, metal being used instead. If wood is allowed, it shall be thoroughly wetted before the concrete is placed.

SD420.17 EXPANSION AND CONTRACTION JOINTS: Expansion and contraction joints shall be constructed at such points and of such dimensions as may be indicated on the drawings or required by the Engineer. The method and materials used shall be subject to the approval of the Engineer. Unless otherwise indicated on the drawings, or required by the Engineer, expansion joints shall be made by the use of an approved premoulded mastic expansion joint fill or 1/2 inch in thickness and of width as shown on the drawings.

- (1) Asphalt Mastic Strips (preformed) shall be composed of approximately 75% asphalt, 15% fibre and 10% mineral matter.
- (2) Mastic for Poured Joints shall be composed of refined asphaltic pyrobitumen and natural asphalt bitumens, with or without suitable plasticisers, and volatile solvent, contain at least 2.0% inert filler and show no tendency to separate or as shown on the drawings.
- (3) Waterstops for construction joints shall consist of a durable, elastic, cured rubber compound or polyvinyl chloride capable of effectively sealing joints in concrete against the infiltration of moisture, such as "Servicised" or equal, all subject to the approval of the Engineer.

SD420.18 SURFACE FINISH: All exposed concrete surfaces, except floors and roof decks shall receive a first rubbing to remove all blemishes. Where necessary, a second rubbing with a finer stone will be required.

SD420.19 MEASUREMENT AND PAYMENT: No separate measurement or payment for concrete will be made. The cost, thereof will be considered subsidiary to the item of the contract to which the work applies.

SECTION MP
MEASUREMENT AND PAYMENT

TECHNICAL SPECIFICATIONS

SECTION MP - MEASUREMENT AND PAYMENT

MP.1. GENERAL: This section of the specifications covers the components to be a portion of each pay item as may or may not be listed in the Unit Price Schedule and is furnished to aid the Contractor in preparing his bid. Of necessity, the items described as components of the various items are discussed in a general manner only, describing the major pieces of equipment and/or materials. Failure to list all items and/or appurtenances does not relieve the Contractor from furnishing all apparatus, devices, labor, or materials of whatever nature required for a complete and operating installation in accordance with the intent of the Drawings, approved Shop Drawings, and these Specifications.

The successful Contractor shall, as soon as possible after award of the Contract, submit a list itemizing the components of each Lump Sum Bid Item and their respective costs to be used as an aid in the preparation of partial payments.

MP.2. BID ITEM DESCRIPTION: Tabulated in the paragraphs below are descriptions of the various bid items listed in the proposal.

GENERAL:

1. Mobilization, Bonds & Insurance: Item shall consist of mobilizing all equipment necessary to perform the work as specified in the Contract Documents and furnishing all required bonds and insurance as specified in the Contract Documents. Measurement and payment for this item shall be on a lump sum basis.
2. Traffic Control & Barricades: Item shall consist of furnishing all tools, equipment, materials, and labor necessary to install and maintain traffic control and barricades in accordance with the latest revision of the Texas Manual of Uniform Traffic Control Devices. Measurement and payment for this item shall be on a lump sum basis.
3. Storm Water Pollution Prevention and Erosion Control: Item shall consist of all fees, tools, equipment, materials, and labor necessary to furnish, install, maintain, and remove all filter fabric fencing, hay bale dikes, and erosion control matting necessary to perform SWPP, to establish final stabilizing vegetation for erosion control, the development of a Storm Water Pollution Prevention Plan (SWP3), submitting and posting required notices, and performing maintenance and inspection per TCEQ requirements. Measurement and payment for this item shall be on a lump sum basis.
4. Construct 9" Thick Reinforced Concrete (Class "P") Pavement: Item shall consist of furnishing all materials, tools, equipment, and labor necessary to furnish and install concrete pavement in compliance with the Construction Plans and Technical Specifications. Item shall include any and all transporting, hauling, disposal, finishing, tooling, formwork, bracing, rubbing, steel reinforcement, dowels, joint materials, curing, and other work necessary. Measurement and payment shall be per square yard as shown in the Proposal.
5. Open Cut and Repair Asphalt Pavement: Item shall consist of furnishing all tools, equipment, materials, labor and incidentals required to open cut and repair existing asphalt surface. Item shall include all necessary sawcuts, removal and disposal of existing pavement, subgrade preparation, compaction, proofrolling, prime coat, asphalt base, tack coat, asphalt wearing course, and related appurtenances per the Construction Plans. Measurement and payment shall be by the square yard as shown in the Proposal.
6. Remove and Dispose of existing Concrete Bridge Approach Slab: Item shall consist of all furnishing all tools, equipment, materials, and labor required to remove and dispose of existing

concrete bridge approach slabs. Measurement and payment shall be by the square yard as shown in the Proposal.

7. Construct Reinforced Concrete Bridge Approach Slab: Item shall consist of all furnishing all tools, equipment, materials, labor and incidentals required to construct steel reinforced concrete bridge approach slabs as shown on the plans. Measurement and payment shall be by the square yard as shown in the Proposal.
8. Furnish and Install Steel Sheet Piling and Apply Protective Coating: Item shall consist of furnishing all tools, equipment, materials, labor and incidentals necessary to furnish and install steel sheet piling and to apply protective coating according to the plans. Measurement will be by the square foot of acceptable piling in place. Sheet piling driven below the elevation required by the plans or the elevation authorized by the Engineer will not be measured for payment. Payment shall be per square foot as shown in the Proposal. No payment will be made for cutoffs or splices of sheet piling.
9. Furnish and Install Stone Riprap: Item shall consist of furnishing all tools, equipment, materials, and labor necessary to furnish and install stone riprap according to the plans. Measurement and payment shall be per square yard as shown in the Proposal.
10. Furnish and Install Gabions: Item shall consist of furnishing and installing gabions according to the plans. Gabions will be measured in place by the cubic yard of stone-filled gabions. Payment shall be per cubic yard as shown in the Proposal. The price bid is full compensation for wire baskets, stone fill, lacing and fasteners, filter fabric, filter material, excavation, grading and backfill, materials, tools, equipment, labor and incidentals. Filter fabric and filter material, if used, will not be paid for directly but will be considered subsidiary to the Item.
11. Furnish and Install 4" Topsoil and Hydromulch: Item shall consist of furnishing all tools, equipment, materials, and labor necessary to provide 4" topsoil and hydromulch seed and fertilizer on all disturbed areas. Disturbed areas shall consist of all disturbed areas on the site, including, but not limited to, public rights-of-way, water, sewer, storm drainage, other utility backfills, and related areas. Measurement and Payment shall be per square yard as shown in the Proposal.