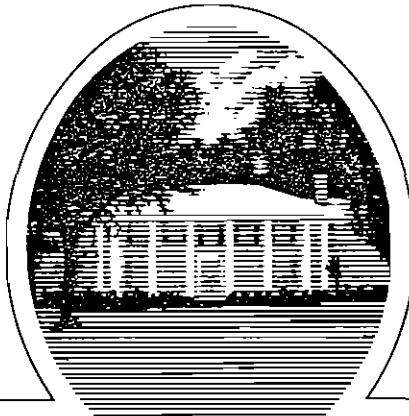


# CONTRACT DOCUMENTS

## VOSS ROAD AND DOOLEY ROAD SEWERS



T O W N O F  
**ADDISON**

**GINN, INC.**

CONSULTING ENGINEERS

DALLAS, TEXAS

1980

CONTRACT DOCUMENTS  
AND  
SPECIFICATIONS  
FOR

VOSS ROAD AND DOOLEY ROAD  
SEWERS

CITY OF ADDISON  
1980

GINN, INC.  
Consulting Engineers  
Dallas, Texas

ADVERTISEMENT FOR BIDS

Sealed proposals addressed to The City of Addison for Voss Road and Dooley Road Sewers will be received at the City of Addison's Town Hall (Council Chambers), 5300 Belt Line Road, until two (2) o'clock p.m., Tuesday, \_\_\_\_\_, and then publicly opened and read aloud.

The Information for Bidders, Proposal Forms, Form of Contract, Plans, Specifications, and Forms of Bid Bond, Performance and Payment Bond, and other contract documents may be examined at the following:

Ginn, Inc.  
4450 Sigma Road  
Suite 130  
Dallas, Texas 75234

Copies may be obtained at the office of Ginn, Inc., upon payment of \$50.00 per set.

The Owner reserves the right to waive any informalities or reject any or all bids.

Each bidder must deposit with his bid, security in the amount, form and subject to the conditions provided in the Information for Bidders.

Principal item of work included in this project is:

Construction of approximately 6,800 feet of 8" PVC SDR 35 Sewer Lines with manholes and appurtenances.

\_\_\_\_\_  
Date

\_\_\_\_\_  
C. J. Webster, City Manager

CITY OF ADDISON  
CONTRACT DOCUMENTS & SPECIFICATIONS  
FOR  
VOSS ROAD AND DOOLEY ROAD SEWERS

Information for Bidder	IB-1 thru 8
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## INFORMATION FOR BIDDERS

### 1. Defined Terms.

Terms used in these Instructions to Bidders which are in the General Conditions of the Construction Contract, have the meanings assigned to them in the General Conditions.

1.1 Owner: Wherever the word "OWNER" is used in the specifications and the Contract Documents, it shall be understood as referring to The City of Addison; Addison, Texas.

1.2 Engineer: Wherever the word "ENGINEER" is used in the specifications and Contract Documents, it shall be understood as referring to Ginn, Inc., 4450 Sigma Road, Suite 130; Dallas, Texas 75234.

1.3 Inspector: The authorized representative of the Engineer, assigned to supervise and inspect any or all parts of the work and the materials to be used therein.

1.4 Bidder: An individual, firm or corporation or any combination thereof, submitting a proposal.

1.5 Contractor: The individual, firm or corporation or any combination thereof, party of the second part, with which the contract is made by the City of Addison, Texas.

1.6 Superintendent: The representative of the Contractor authorized to receive and fulfill instructions from the Engineer and who shall supervise and direct the construction.

### 2. Copies of Bidding Documents.

2.1 Complete sets of the Bidding Documents in the number and for the deposit sum stated in the Advertisement may be obtained from Engineer. The deposit will be refunded to Bidders who submit a bona fide Bid and return the Contract Documents in good condition within ten days after opening of Bids. The deposit for the two lowest and/or best proposal will be retained until the required bonds have been furnished and the contract executed.

2.2 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.3 Owner and Engineer in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

3. Qualifications of Bidders.

To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit within five days of Owner's request written evidence of the types set forth in the Supplementary Conditions, such as financial data, previous experience and evidence of Bidder's qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the contract.

4. Examination of Contract Documents and Site.

4.1 Before submitting a Bid, each Bidder must (a) examine the Contract Documents thoroughly, (b) visit the site to familiarize himself with local conditions that may in any manner affect cost, progress or performance of the Work, (c) familiarize himself with federal, state and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work; and (d) study and carefully correlate Bidder's observations with the Contract Documents.

4.2 Reference is made to the Supplementary Conditions for the identification of those reports of investigations and test of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which have been relied upon by Engineer in preparing the Drawings and Specifications. Owner will make copies of such reports available to any Bidder requesting them. These reports are not guaranteed as to accuracy or completeness, nor are they part of the Contract Documents. Before submitting his Bid each Bidder will, at his own expense, make such additional investigations and tests as the Bidder may deem necessary to determine his Bid for performance of the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

4.3 On request, Owner will provide each Bidder access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of his Bid.

4.4 The lands upon which the Work is to be performed, rights-of-ways for access thereto and other lands designated for use by Contractor in performing the Work are identified in the Supplementary Conditions, General Requirements or Drawings.

4.5 The quantities of work or materials as set forth in the proposal form or on the plans are a calculated approximation and are for the purpose of comparing the Bids on a uniform basis. Payment will be made by the Owner to the Contractor only for the actual quantities of work performed or materials furnished in accordance with the Contract. The quantity of work to be done and materials to be furnished may be increased or decreased as hereinafter provided.

4.6 The submission of Bid will constitute an incontrovertible representation by the Bidder that he has complied with every requirement of this Article 4, and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

5. Interpretations.

All questions about the meaning or intent of the Contract Documents shall be submitted to Engineer in writing. Replies will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids will not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

6. Bid Security.

6.1 Bid Security shall be made payable to The City of Addison in an amount of five percent (5%) of the Bidder's maximum Bid price and in the form of certified or bank check or a Bid Bond issued by a Surety Company holding a permit from the State of Texas to act as surety.

6.2 The Bid Security of the Successful Bidder will be retained until such Bidder has executed the Agreement and furnished the required Contract Security, whereupon it will be returned; if the Successful Bidder fails to execute and deliver the Agreement and furnish the required Contract Security within fifteen (15) days of the Notice of Award, Owner may annul the Notice of Award and the Bid Security of that Bidder will be forfeited. The Bid Security of any Bidder whom Owner believes to have a reasonable chance of

6.2 (continued)

receiving the award may be retained by Owner until the sixty-first day after the Bid Opening or until a contract is awarded. Bid Security of other Bidders will be returned within seven (7) days of the Bid Opening.

6.3 Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

7. Contract Time.

The number of days within which, or the date by which, the Work is to be completed (the Contract Time) is set forth in the Bid Form and will be included in the Agreement. The Contract Time for this project is 120 calendar days (4 months).

8. Liquidated Damages.

Provisions for liquidated damages are set forth in the proposal. Liquidated damages for this project are \$100 dollars per day.

9. Substitute Material and Equipment.

The Contract, if awarded, will be on the basis of material and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or-equal" items. Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the "effective date of the Agreement." The procedure for submittal of any such application by Contractor and consideration by Engineer is set forth in the Special Conditions.

10. Subcontractor, etc.

10.1 If the apparent Successful Bidder, and any other Bidder so requested, will within seven (7) days after the day of the Bid Opening submit to Owner a list of all



10.1 (continued)

Subcontractors and other persons and organizations (including those who are to furnish the principal items of material and equipment) proposed for those portions of the Work as to which such identification is so required. Such list shall be accompanied by an experience statement with pertinent information as to similar projects and other evidence of qualification for each such Subcontractor, person and organization if requested by Owner. If Owner or Engineer after due investigation has reasonable objection to any proposed Subcontractor, other person or organization, either may before giving the Notice of Award request the apparent Successful Bidder to submit an acceptable substitute without an increase to Bid price. If the apparent Successful Bidder declines to make any such substitution, the Contract shall not be awarded to such Bidder, but his declining to make any such substitution will not constitute grounds for sacrificing his Bid Security. Any Subcontractor, other person or organization so listed and to whom Owner or Engineer does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer.

10.2 In contracts where the Contract Price is on the basis of Cost-of-the-Work Plus a Fee, the apparent Successful Bidder, prior to the Notice of Award, shall identify in writing to Owner those portions of the Work that such Bidder proposes to subcontract and after the Notice of Award may only subcontract other portions of the Work with Owner's written consent.

10.3 No Contractor shall be required to employ any Subcontractor, other person or organization against whom he has reasonable objection.

11. Bid Form.

11.1 The Bid Form is attached hereto; additional copies may be obtained from Engineer.

11.2 Bid Forms must be completed in ink or by typewriter. The Bid price of each item on the form must be stated in words and numerals; in case of a conflict, words will take precedence.

11.3 Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below signature.

11.4 Bids by partnership must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.

11.5 All names must be typed or printed below the signature.

11.6 The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form).

11.7 The address to which communications regarding the Bid are to be directed must be shown.

12. Submission of Bids.

Bids shall be submitted at the time and place indicated in the Invitation to Bid and shall be included in an opaque sealed envelope, marked with the Project title and name and address of the Bidder and accompanied by the Bid Security and other required documents. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face thereof.

13. Withdrawal of Bids.

If, within twenty-four hours after Bids are opened, any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of his Bid, that Bidder may withdraw his Bid and the Bid Security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the Work.

14. Opening of Bids.

14.1 The City of Addison, Texas (herein called the "Owner") invites all bids on the form attached hereto, all blanks of which must be appropriately filled in. Bids will be received by the Owner in the Council Chambers at Town Hall, City of Addison, until two (2) o'clock p.m., Tuesday, 1980, and then at said location publicly opened and read aloud. The envelopes containing the bids must be sealed, addressed to The City of Addison, and designated as Bid for Voss Road and Dooley Road Sewers.

14.2 When Bids are opened publicly they will be read aloud, and an abstract of the amounts of the base Bids and major alternates (if any) will be made available after the opening of Bids.

15. Bids to Remain Open.

All Bids shall remain open for sixty (60) days after the day of Bid Opening, but Owner may, in his sole discretion, release any Bid and return the Bid Security prior to that date.

16. Award of Contract.

16.1 Owner reserves the right to reject any and all Bids, to waive any and all informalities and to negotiate contract terms with the Successful Bidder, and the right to disregard all nonconforming, nonresponsive or conditional Bids. Discrepancies between words and figures will be resolved in favor of words. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

16.2 In evaluating Bids, Owner shall consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, and alternates and unit prices if requested in the Bid forms. It is Owner's intent to accept alternates (if any are accepted) in the order in which they are listed in the Bid form but Owner may accept them in any order or combination.

16.3 Owner may consider the qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the Work as to which the identity of Subcontractors and other persons and organizations must be submitted as provided in the Supplementary Conditions. Operating costs, maintenance considerations, performance data and guarantees of materials and equipment may also be considered by Owner.

16.4 Owner may conduct such investigations as he deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of Bidders, proposed Subcontractors and other person and organizations to do the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.

16.5 Owner reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to Owner's satisfaction.

16.6 If the contract is to be awarded it will be awarded to the lowest Bidder whose evaluation by Owner indicates to Owner that the award will be in the best interests of the Project.

16.7 If the contract is to be awarded, Owner will give the Successful Bidder a Notice of Award within sixty (60) days after the day of the Bid opening.

17. Performance and Other Bonds.

Paragraph 3.1 of the General Conditions set forth Owner's requirements as to performance and other Bonds. When the Successful Bidder delivers the executed Agreement to Owner it shall be accompanied by the required Contract Security.

18. Signing of Agreement.

When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by at least three unsigned counterparts of the Agreement and all other Contract Documents. Within fifteen (15) days thereafter Contractor shall sign and deliver at least three counterparts of the Agreement to Owner with all other Contract Documents attached. Within ten (10) days thereafter, Owner will deliver all fully signed counterparts to Contractor. Engineer will identify those portions of the Contract Documents not fully signed by Owner and Contractor and such identification shall be binding on all parties.

## GENERAL INSTRUCTIONS FOR BONDS

The surety on each bond must be a responsible surety company, which is qualified to do business in Texas and satisfactory to the Owner.

The name, including full Christian name, and residence of each individual party to the bond shall be inserted in the body thereof, and each such party shall sign the bond with his usual signature on the line opposite the scroll seal, and if signed in Maine, Massachusetts, or New Hampshire, an adhesive seal shall be affixed opposite the signature.

If the principals are partners, their individual names will appear in the body of the bond, with the recital that they are partners composing a firm, naming it, and all the members of the firm shall execute the bond as individuals.

The signature of a witness shall appear in the appropriate place, attesting the signature of each individual party to the bond.

If the principal or surety is a corporation, the name of the State in which incorporated shall be inserted in the appropriate place in the body of the bond, and said instrument shall be executed and attested under the corporate seal, the fact shall be stated, in which case a scroll or adhesive seal shall appear following the corporate name.

The official character and authority of the person or persons executing the bond for the principal, if a corporation, shall be certified by the secretary or assistant secretary according to the form attached hereto. In lieu of such certificate, records of the corporation as will show the official character and authority of the officer signing, duly certified by the secretary or assistant secretary, under the corporate seal, to be true copies.

The date of this bond must not be prior to the date of the Contract in connection with which it is given.

Amounts of bonds shall be as set forth in Paragraph 3.10 of the General Conditions.

PROPOSAL

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, Specifications, and the Plans 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, and will do all the work and furnish all the materials called for in the Contract and Specifications in the manner prescribed and according to the requirements of the Owner as herein set forth.

It is understood that the following quantities of work to be done at unit prices are approximate only, and are intended principally to serve as a guide in evaluating bids. Payments for such items will be made on the basis of the actual quantity incorporated in the work.

It is further agreed that the quantities of work to be done at unit prices and material to be furnished may be increased or diminished as may be considered necessary 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 owner, but not shown on the Plans or 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.

Bidder hereby agrees to commence work under this contract on or before a date to be specified in written "Notice to Proceed" by the Owner and to fully complete the project within 120 consecutive calendar days thereafter as stipulated in the Specifications. Bidder further agrees to pay as liquidated damages, the sum of \$100.00 for each consecutive calendar day thereafter as hereinafter provided in Paragraph 4.02 of the Special Conditions.

Accompanying this proposal is a Certified or Cashier's check payable to The City of Addison (Bid Bond) in the amount of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) which is five per cent (5%) of the greatest amount bid.

Bidder agrees to perform all the work described in the Specifications as shown on the Plans for the following unit prices:  
(Amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)

**BID FORM**

**PROJECT:** VOSS ROAD & DOOLEY ROAD SEWERS      **LOCATION:** ADDISON, TEXAS

ITEM NO	DESCRIPTION	APPROX. QUANTITY	UNIT	UNIT PRICE	UNIT PRICE WRITTEN	ITEM PRICE
1	8" PVC SEWER (6-8)	1,060	LF			
2	8" PVC SEWER (8-10)	2,243	LF			
3	8" PVC SEWER (10-12)	2,934	LF			
4	8" PVC SEWER (12-14)	570	LF			
5	6" PVC SEWER LATERAL	350	LF			
6	MANHOLES (6-8)	1	EA			
7	MANHOLES (8-10)	5	EA			
8	MANHOLES (10-12)	7	EA			
9	CLEANOUTS	3	EA			

**BID FORM**

**PROJECT:** VOSS ROAD & DOOLEY ROAD SEWERS      **LOCATION:** ADDISON, TEXAS

ITEM NO	DESCRIPTION	APPROX. QUANTITY	UNIT	UNIT PRICE	UNIT PRICE WRITTEN	ITEM PRICE
10	HOT MIX ASPHALTIC CONCRETE	200	TON			
<b>TOTAL BID PRICE</b>						



The above unit prices shall include all labor, materials, bailing, shoring, removal, overhead, profit, insurance, etc., to cover the finished work of the several kinds called for.

Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding. In the event the Owner elects to withdraw one or more of the deductive alternates, consideration will be in the following order:

NO DEDUCTIVE ALTERNATES

The Bidder agrees that this bid shall be good and may not be withdrawn for a period of 60 calendar days after the scheduled closing time for receiving bids.

Upon receipt of written notice of the acceptance of this bid, Bidder will execute the formal contract attached within 10 days and deliver a Surety Bond or Bonds as required by the General Conditions. The bid security attached in the sum of \_\_\_\_\_, \$ \_\_\_\_\_ is to become the property of the Owner in the event the contract and bond are not executed within the time above set forth, as liquidated damages for the delay and additional expense to the Owner caused thereby.

Respectfully submitted:

By: \_\_\_\_\_  
Title

\_\_\_\_\_  
Business Address

(Seal - if bid is by a  
corporation)

Bidder acknowledges receipt of the following addendum:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned,

\_\_\_\_\_  
As Principal, and \_\_\_\_\_ as Surety, are  
hereby held and firmly bound unto \_\_\_\_\_  
as Owner in the penal sum of \_\_\_\_\_  
for payment of which, well and truly to be made, we hereby  
jointly and severally bind ourselves, our heirs, executors,  
administrators, successors and assigns.

Signed, this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_.

The Condition of the above obligation is such that  
whereas the Principal has submitted to \_\_\_\_\_  
a certain Bid, attached hereto and hereby made a part hereof  
to enter into a contract in writing, for the \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NOW, THEREFORE,

- a. If said Bid shall be rejected, or in the alternate,
- b. If said Bid shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (Properly completed in accordance with said Bid) and shall furnish a bond for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Bid,

then this obligation shall be void, otherwise and same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

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

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

\_\_\_\_\_  
Principal (L.S.)

\_\_\_\_\_  
Surety

By: \_\_\_\_\_

\_\_\_\_\_  
Date

IMPORTANT - Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

# STANDARD FORM OF AGREEMENT

As Adopted By  
THE TEXAS SECTION OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS  
October 7, 1971

Revised November 17, 1928  
Revised April 15, 1932  
Revised October 27, 1934  
Revised October 19, 1945  
Revised April 8, 1954  
Revised April 21, 1960  
Revised October 7, 1971

Approved as to Legal Form by  
Legal Counsel

STATE OF TEXAS }  
COUNTY OF \_\_\_\_\_ }

THIS AGREEMENT, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_,  
A. D. 19\_\_\_\_, by and between \_\_\_\_\_

\_\_\_\_\_ of the County of \_\_\_\_\_ and State of Texas, acting through

\_\_\_\_\_ thereunto duly authorized so to do,  
Party of the First Part, hereinafter termed OWNER, and \_\_\_\_\_

\_\_\_\_\_ of the City of \_\_\_\_\_, County of \_\_\_\_\_  
and State of \_\_\_\_\_, 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:

and all extra work in connection therewith, under the terms as stated in the General Conditions of the Agreement and at his (or their) 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, in accordance with the conditions and prices stated in the Proposal attached hereto, and in accordance with the Notice to Contractors, General and Special Conditions of Agreement, Plans and other drawings and printed or written explanatory matter thereof, and the Specifications and addenda therefor, as prepared by \_\_\_\_\_

\_\_\_\_\_ herein entitled the ENGINEER, each of which has been identified by the CONTRACTOR and the ENGINEER, together with the CONTRACTOR'S written Proposal, the General Conditions of the Agreement, and the Performance and Payment Bonds hereto attached; all of which are made a part hereof and collectively evidence and constitute the entire contract.

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 substantially complete the same within \_\_\_\_\_ calendar days working 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.

THE OWNER agrees to pay the CONTRACTOR in current funds the price or prices shown in the proposal, which forms a part of this contract, such payments to be subject to the General and Special Conditions of the contract.

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

\_\_\_\_\_  
Party of the First Part (OWNER)  
By: \_\_\_\_\_  
ATTEST:  
\_\_\_\_\_

\_\_\_\_\_  
Party of the Second Part (CONTRACTOR)  
By: \_\_\_\_\_  
ATTEST:  
\_\_\_\_\_

PERFORMANCE BOND

STATE OF TEXAS  
COUNTY OF \_\_\_\_\_ }

KNOW ALL MEN BY THESE PRESENTS: That \_\_\_\_\_  
\_\_\_\_\_ of the City of \_\_\_\_\_  
County of \_\_\_\_\_, and State of \_\_\_\_\_, as  
principal, and \_\_\_\_\_  
authorized under the laws of the State of Texas to act as surety on bonds for principals, are held  
and firmly bound unto \_\_\_\_\_ (Owner),  
in the penal sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_)  
for the payment whereof, the said Principal and Surety bind themselves, and their heirs,  
administrators, executors, successors and assigns, jointly and severally, by these presents:

WHEREAS, the Principal has entered into a certain written contract with the Owner,  
dated the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, to

which contract is hereby referred to and made a part hereof as fully and to the same extent  
as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the  
said Principal shall faithfully perform said Contract and shall in all respects duly and faithfully  
observe and perform all and singular the covenants, conditions and agreements in and by said  
contract agreed and covenanted by the Principal to be observed and performed, and according to  
the true intent and meaning of said Contract and the Plans and Specifications hereto annexed,  
then this obligation shall be void; otherwise to remain in full force and effect;

“PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of (Article  
5160 for Public Work) (Article 5472d for Private Work)\* of the Revised Civil Statutes of Texas as  
amended and all liabilities on this bond shall be determined in accordance with the provisions of  
said Article to the same extent as if it were copied at length herein.”

Surety, for value received, stipulates and agrees that no change, extension of time, alteration  
or addition to the terms of the contract, or to the work performed thereunder, or the plans, speci-  
fications, or drawings accompanying the same, shall in anyway affect its obligation on this

-----  
\*Not applicable for federal work. See “The Miller Act,” 40 U.S.C. S270.

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 to be performed thereunder.

IN WITNESS WHEREOF, the said Principal and Surety have signed and sealed this instrument this \_\_\_\_\_ day of \_\_\_\_\_, 19 \_\_\_\_\_.

\_\_\_\_\_  
Principal

By \_\_\_\_\_

Title \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
Surety

By \_\_\_\_\_

Title \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

The name and address of the Resident Agent of Surety is:

\_\_\_\_\_

\_\_\_\_\_

PAYMENT BOND

STATE OF TEXAS                    }  
COUNTY OF \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS: That \_\_\_\_\_  
\_\_\_\_\_ of the City of \_\_\_\_\_,  
County of \_\_\_\_\_, and State of \_\_\_\_\_, as  
principal, and \_\_\_\_\_  
authorized under the laws of the State of Texas to act as surety on bonds for principals, are held  
and firmly bound unto \_\_\_\_\_ (Owner),  
in the penal sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_)  
for the payment whereof, the said Principal and Surety bind themselves and their heirs, adminis-  
trators, executors, successors and assigns, jointly and severally, by these presents:

WHEREAS, the Principal has entered into a certain written contract with the Owner,  
dated the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, to

which contract is hereby referred to and made a part hereof as fully and to the same extent as  
if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the  
said Principal shall pay all claimants supplying labor and material to him or a subcontractor  
in the prosecution of the work provided for in said contract, then, this obligation shall be void;  
otherwise to remain in full force and effect;

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Article 5160 of  
the Revised Civil Statutes of Texas as amended and all liabilities on this bond shall be determined in  
accordance with the provisions of said Article to the same extent as if it were copied at length herein.

Surety, for value received, stipulates and agrees that no change, extension of time, alteration  
or addition to the terms of the contract, or to the work performed thereunder, or the plans,  
specifications or drawings accompanying the same, shall in anywise 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 to be performed thereunder.

IN WITNESS WHEREOF, the said Principal and Surety have signed and sealed this instrument this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_\_.

\_\_\_\_\_  
Principal

By \_\_\_\_\_

Title \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
Surety

By \_\_\_\_\_

Title \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

The name and address of the Resident Agent of Surety is:

\_\_\_\_\_

\_\_\_\_\_

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**GENERAL CONDITIONS OF AGREEMENT**

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# GENERAL CONDITIONS OF AGREEMENT

## 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), Special 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 furnishes 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 which 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 any 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 ENGINEER or his representative. Whenever necessary, construction work shall be suspended to permit performance of this work, but such suspension will be as brief as practicable and the CONTRACTOR shall be allowed no extra compensation therefor. The CONTRACTOR shall give the ENGINEER ample notice of the time and place where lines and grades will be needed. All stakes, marks, etc., shall be carefully preserved by the CONTRACTOR, and in case of careless destruction or removal by him or his employees, such stakes, marks, etc., shall be replaced at the CONTRACTOR'S expense.

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.

2.11 SANITATION. Necessary sanitary 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 the 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 obligations to fully and properly perform the contract, including without limitations, 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.

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 BUILDINGS.** 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.

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 engineers 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 that he will 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 be 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, materialmen 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

- (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 INSURANCE.** The CONTRACTOR at his own expense shall purchase, maintain and keep in force such insurance as will protect him from claims set forth below which may arise out of or result from the CONTRACTOR'S operations under the Contract, whether such operations be by himself or by any Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- (1) Workmen's compensation claims, disability benefits and other similar employee benefit acts;
- (2) Claims for damages because of bodily injury, occupational sickness or disease, or death of his employees, and claims insured by usual bodily injury liability coverages;
- (3) Claims for damages because of bodily injury, sickness or disease, or death of any person other than his employees, and claims insured by usual bodily injury liability coverages; and
- (4) Claims for damages because of injury to or destruction of tangible property, including loss of use resulting therefrom.

**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.

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 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,

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 the 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 stipulations 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 the 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 the 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 after 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 which 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 additions, 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 rateable proportion of premiums on Performance and Payment Bonds and Maintenance Bonds, Public Liability and Property Damage and Workmen'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 or does not constitute Extra Work, or as to the payment therefor, 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 therefor (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 therefor. 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, and 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 owners. 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 deducting 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.

SPECIAL CONDITIONS

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## SPECIAL CONDITIONS

### SC-1 GENERAL

These Special Conditions supplement, modify, change, delete from and/or add to the Specifications and the "General Conditions of Agreement". Where any Article of the General Conditions is modified or any Paragraph, subparagraph or Clause thereof is modified or deleted by these supplements, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

### SC-2 DEFINITION OF TERMS

- A. Owner: Wherever the word "OWNER" is used in the Specifications and the Contract Documents, it shall be understood as referring to The City of Addison; Addison, Texas.
- B. Engineer: Wherever the word "ENGINEER" is used in the Specifications and Contract Documents, it shall be understood as referring to Ginn, Inc.; 4450 Sigma Road, Suite 130; Dallas, Texas 75234.
- C. Contractor: Wherever the word "CONTRACTOR" is used in the Specifications and Contract Documents, it shall be understood as denoting the General Contractor signing this Contract.

### SC-3 MODIFICATIONS OF GENERAL CONDITIONS OF AGREEMENT

The following designated items of the General Conditions of Agreement are modified as follows:

- A. Paragraph 2.06 - Lines and Grades is deleted in its entirety and the following substituted therefore.

The Engineer will establish bench marks and horizontal control points in close proximity to the Work. From these control points, the Contractor shall provide all surveying necessary to lay out the Work. Contractor shall be responsible for establishing all lines and grades necessary to control the Work and shall be responsible for the precise location of all facilities.

SC-3, A. (continued)

The Engineer may make checks as the work progresses to verify lines and grades established by the Contractor to determine the conformance of the completed work as it progresses with the requirements of the Contract Specifications and Drawings. Such checking by the Engineer shall not relieve the Contractor of his responsibility to perform all work in connection with the Contract Drawings and Specifications and the lines and grades given therein.

- B. Paragraph 3.09 - Protection Against Accident to Employees and the Public is modified by adding the following:

Contractor's attention is specifically directed to the Texas Occupational Safety Law.

The Contractor shall so conduct his operations as to offer the least possible obstruction and inconvenience to public traffic. After the "Notice to Proceed" is issued, the Contractor shall notify the Engineer, at the earliest possible date, of the starting of hauling of materials and any construction work which might in any way inconvenience or endanger traffic.

The Contractor shall provide and maintain flagmen at all points where his operations interfere in any manner with traffic flow. Flagmen shall be English speaking, courteous, well informed, physically and mentally able effectually to perform their duties in safeguarding and directing traffic and protecting the work, and shall be neatly attired and groomed at all times when on duty. Flagmen, when directing traffic, shall use standard flagging procedures set forth in the "Instructions to Flagmen" published by the Texas State Department of Highways and Public Transportation.

The Contractor shall provide, construct and maintain suitable barricades as shown on the Plans and elsewhere when directed by the Engineer. The Contractor shall provide and maintain such standard barricades or special barricades, signs, lights and flags at points along the project as may be necessary to protect the work and safeguard all traffic. All signs, barricades and working area layouts shall be provided and maintained in accordance with requirements of

SC-3, B. (continued)

Part VI of the Texas Manual on Uniform Traffic Control Devices, "Traffic Controls for Street and Highway Construction and Maintenance Operations." Signs and barricades to facilitate the flow of traffic will be the responsibility of the Contractor. The use of sufficient traffic cones in conjunction with necessary warning signs and barricades will be required to direct traffic.

No direct payment will be made for the work involved in carrying out the public safety measures herein provided, the cost thereof being included in the prices paid for the various contract items of work and no additional allowance will be made therefore.

C. Paragraph 3.10 - Performance and Payment Bonds is modified as follows:

1. With the execution and delivery of the Contract, the Contractor shall execute and furnish separate Performance and Payment Bonds, on the forms provided as follows:
  - a. Performance Bond. A Performance Bond in the amount of one hundred percent (100%) of the Contract price, or only increases or deletions therefrom due to contract modifications, guaranteeing faithful performance of the work and fulfillment of the obligations of the Contract. The Performance Bond shall guarantee that the Contractor shall repair and/or replace any defects in the work arising from defective or inferior workmanship or materials used therein, for a period of one (1) year from the date of final acceptance of the work by the Owner.
  - b. Payment Bond. A Payment Bond in the amount of one hundred percent (100%) of the Contract price, or any increases or deletions therefrom due to contract modifications, guaranteeing payment to all persons supplying labor and materials or furnishing equipment in the execution of the contract.

2. Performance and Payment bonds shall be from an approved surety company holding a permit from the State of Texas to act as surety or other surety or sureties acceptable to the Owner.

D. Paragraph 3.18 - Insurance is modified by the addition of the following:

Contractor's and Subcontractor's Public Liability, Vehicle Liability, and Property Damage Insurance.

As required under Paragraph 3.18 of the General Conditions, the Contractor's Public Liability Insurance and Vehicle Liability Insurance shall be in an amount not less than \$200,000.00 for injuries, including accidental death, to any one person, and subject to the same limit for each person, in an amount not less than \$500,000.00 on account of one accident, and Contractor's Property Damage Insurance in an amount not less than \$100,000.00 per accident and \$200,000.00 aggregate.

The Contractor shall either (1) require each of his subcontractors to procure and to maintain during the life of his subcontract, Subcontractor's Public Liability and Property Damage of the type and in the same amounts as specified in the preceding paragraph, or (2) insure the activities of his subcontractors in his own policy.

Builder's Risk Insurance. The Contractor will maintain Builder's Risk Insurance (fire and extended coverage) on a 100% completed value basis on the insurable portions of the project for the benefit of the Owner, the Contractor, and all subcontractors, as their interests may appear.

E. Section 4 - PROSECUTION AND PROGRESS is deleted in its entirety and the following substituted therefore:

4. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

4.01 TIME FOR COMPLETION. The time allotted for completion of all items of work for this project shall be 120 consecutive calendar days. It is hereby understood and mutually agreed, by and between the Contractor and the Owner, that the date of beginning and the time for completion as specified in the Contract of the work to be done hereunder are ESSENTIAL CONDITIONS of this contract;

and it is further mutually understood and agreed that the work embraced in this contract shall be commenced on a date to be specified in the Notice to Proceed.

The Contractor agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such a rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the Owner, that the time for the completion of the work described herein is a reasonable time for the completion of same, taking into consideration the average climatic range and usual conditions prevailing in this locality.

- 4.02 LIQUIDATED DAMAGES. If the said Contractor shall neglect, fail or refuse to complete the work within the time herein specified or any proper extension thereof granted by the Owner, then the Contractor does hereby agree, as a part consideration for the awarding of this Contract, to pay to the Owner ONE HUNDRED DOLLARS (\$100.00) FOR EACH CALENDAR DAY, not as penalty, but as liquidated damages for such breach of contract as hereinafter set forth, for each and every calendar day that the Contractor shall be in default after time stipulated in the Contract for completing the work.

The said amount is fixed and agreed upon by and between the Contractor and Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain, and said amount is agreed to be the amount of damages which the Owner would sustain, and said amount shall be retained from time to time by the Owner from current periodical estimates.

It is further agreed that time is of the essence of each and every portion of this Contract and of the Specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the Contract an

additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this Contract. Provided, that the Contractor shall not be charged with liquidated damages or any excess cost when the Owner determines that the Contractor is without fault and the Contractor's reasons for the time extension are acceptable to the Owner; Provided further, that the Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due:

- a. To any preference, priority or allocation order duly issued by the Government;
- b. To unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God, or of the public enemy, acts of the Owner, acts of another contractor in the performance of a contract with the owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and severe weather; and
- c. To any delays of subcontractors or suppliers occasioned by any of the causes specified in subsections (a) and (b) of this article; Provided further, that the Contractor shall within ten (10) days from the beginning of such delay, unless the Owner shall grant a further period of time prior to the date of final settlement of the Contract, notify the Owner, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify the Contractor within a reasonable time of its decision in the matter.



SC-4 CONTRACT EXECUTION AND ISSUANCE OF WORK ORDER

It is the intention of the Owner to notify the Successful Bidder in writing, within sixty (60) days after receiving bids, of his acceptance of the Proposal. The Contractor shall complete the execution of the required Bonds and Contract within ten (10) days of such notice. Upon completion of the execution of the Contract Documents the Owner will issue a "Notice to Proceed With Construction."

SC-5 STATE AND CITY SALES TAX

- A. The Contractor's attention is directed to Amendment No. 7 to Section 6a, Article 20.01, Chapter 20, Title 122A, Taxation-General of the Revised Civil Statutes of Texas. This amendment provides that all items used or consumed by a contractor, whether incorporated into the project or not, can be purchased free of State and City sales tax when the project is being performed for an exempt agency. Included are equipment rentals and other items which are consumed by the Contractor but are not incorporated into the project.
- B. 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.
- C. 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 supplier an exemption certificate in lieu of the tax, said exemption certificate complying with State Comptroller's ruling No. 95-0.07. Any such exemption certificate issued by the Contractor in lieu of the tax shall be subject to the provisions of the State Comptroller's ruling No. 95-0.09 as amended to be effective October 2, 1968.

SC-6 EXISTING STRUCTURES

The plans show the locations of all known surface and subsurface structures believed to be involved in this proposed construction. 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

SC-6 (continued)

compensation for extra work, 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 specifications, in which case the provisions in the General Conditions of Agreement for extra work shall apply.

SC-7 PROTECTION AND RESTORATION OF PROPERTY

The Contractor shall be responsible for the preservation from injury and damage, resulting directly or indirectly from the execution of the work under his Contract, of all public and private property adjacent to the work. He shall use every precaution to prevent the damage or destruction of buildings, poles, trees, shrubbery and lawns; also, underground structures, such as pipes, conduit, etc.; and all overhead structures, such as wires, cables, etc.; within or without the work area. He shall protect and carefully preserve all official survey monuments, properties and section markers or other similar markers until an authorized agent has witnessed or otherwise referenced their location and shall not remove them until directed.

When or where any direct or indirect damages or injury is done to public or private property by or on account of any act, omission, neglect or misconduct in the execution of the work or in consequences of the non-execution of same on the part of the Contractor, such property shall be restored at the Contractor's expense to a condition similar or equal to that existing before such damage or injury was done, he shall make good such damage or injury in an acceptable manner.

In case of failure on the part of the Contractor to restore such property, or make good such damage, or injury, the Engineer may upon twenty-four (24) hours written notice, proceed to repair, rebuild or otherwise restore such property as may be deemed necessary and the cost thereof shall be deducted from any moneys due the Contractor under the Contract.

SC-8

SC-8 REFERENCE SPECIFICATIONS

Reference to ASTM, or others as listed below, shall be considered as referring to the Specifications or Method of Test as set forth by those various organizations and shall be considered as part of these Specifications when designated as such. Abbreviations and meanings are as follow:

A.S.A.....American Standards Association  
A.S.T.M.....American Society of Testing Materials  
A.A.S.H.O...American Association of State Highway Officials  
A.C.I.....American Concrete Institute  
A.W.S.....American Welding Society  
A.W.W.A....American Water Works Association  
S.S.P.C.....Steel Structures Painting Council, Federal  
                    Specifications Treasury Department, Procurement  
                    Division, U. S. Government  
U.L.....Underwriters Laboratories  
N.E.M.A....National Electrical Manufacturers Association  
W.P.C.F....Water Pollution Control Federation  
T.H.D.....Texas Highway Department  
C.D.G.S....City of Dallas General Specifications

SC-9 SUBSURFACE CONDITIONS

Contractor shall make his own investigation of subsurface conditions. No claims for extra compensation due to unusual soil conditions that are found to exist will be allowed.

SC-10 SERVICE OF MANUFACTURER'S REPRESENTATIVE

The contract price for the Project shall include the cost of furnishing competent and experienced Engineers or superintendents who shall represent the manufacturers and shall assist the Contractor, when required, to install, adjust and test the equipment in conformity with the Contract Documents. After the equipment is placed in permanent operation by the Owner, such Engineer or superintendent shall make all adjustments and tests required by the Engineer to prove that such equipment is in proper and satisfactory operating condition, and shall instruct the Owner's representatives in the proper operation and maintenance of such equipment or system.

SC-11 PURCHASE OF OWNER'S SELECTED EQUIPMENT

The Owner will not receive separate bids on equipment items for this Project.

SC-12 SUBCONTRACTORS

The name and address of each supplier, manufacturer and subcontractor which the Contractor proposes to use on work under this Contract shall be submitted in writing to the Engineer within ten (10) days after receipt of the "Notice to Proceed."

SC-13 CONTRACTOR'S RESPONSIBILITY FOR UTILITIES AND SERVICES

The Contractor shall make his own investigations and be fully responsible for locating and taking care not to damage any gas, water, sewer, or telephone lines. The Contractor shall not begin any operations which may interfere with or impair the normal service being rendered by public utility operators. The Contractor will be held responsible for the protection of the property or service of public utilities within the limits of the work. In case that such physical properties conflict with the performance of the Contract, it shall be the Contractor's responsibility to anticipate such conflicts and to give advance notice thereof to the owners of the utility.

The Contractor will be responsible for any damages done by him to any utility structure whether owned by a public or private agency. Damage of whatever nature to the existing facilities shall be repaired immediately at the Contractor's own expense as directed by the Owner.

The Contractor shall be responsible for the relocation of any water, sewer, gas, telephone or other utility which interferes with the performance of the Contract. No extra claims for compensation will be allowed for any utility relocation.

Delays and interruptions to the work schedule caused by the adjustments or repairs of water, gas, telephone or other utility appurtenances and property will not be charged against the Contract time unless such delays be due to the negligence of the Contractor.

SC-14 MANUFACTURER'S DIRECTIONS

All manufactured articles, materials and equipment shall be applied, installed, connected, erected and used as directed by the manufacturers, unless herein specified to the contrary. Contractor shall furnish copies of all printed directions with the material.

SC-15 SANITARY FACILITIES AND DRINKING WATER

The Contractor shall provide at his own expense field toilets for the use of the employees and Engineer's forces. The facilities shall conform to the requirements of the Texas State Health Department and those of any other agencies having jurisdiction herewith. The field toilets shall be cleaned and scrubbed with a disinfectant at least once per day.

SC-16 GUARANTEE OF WORK

All work shall be guaranteed against defects resulting from the use of inferior materials, equipment or workmanship for one year from date of final completion and acceptance of the Project.

SC-17 FINAL INSPECTION

When the work is completed, the Contractor shall notify the Owner in writing at which date he will be ready for final test and inspection. Notice shall be given seven days in advance and verified by telephone 24 hours prior to the time set for inspection. After the Owner and Engineer are completely satisfied with the work, the Engineer shall make final measurements of all items and approve final estimate and advise the Owner to make final payment to the Contractor.

SC-18 PERMITS AND LICENSES

All permits and licenses of a temporary nature necessary for the prosecution of the work shall be secured and paid for by the Contractor.

SC-19 NOTICE OF REQUIREMENT FOR CERTIFICATION OF NON--  
SEGREGATED FACILITIES

Bidders are cautioned as follows: By signing the Contract for which these bids are solicited, the bidder will be deemed to have signed and agreed to the provisions of the "Certification of Non-segregated Facilities" as contained in the Specifications for this Project.

SC-20 AIRPORT NOTIFICATION

Prior to performing any construction on the airport, the Contractor shall notify and obtain clearance from the FAA Control Tower (239-3725) and the Addison Airport Manager (239-3761).

TECHNICAL SPECIFICATIONS

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TECHNICAL SPECIFICATIONS - SECTION I  
SANITARY SEWERS, MANHOLES & APPURTENANCES

1-01 SCOPE

The work covered under this section shall consist of furnishing all labor, tools, materials, equipment, incidentals, and performing all work necessary for the construction of sanitary sewers, complete in place with other related items conforming to these Specifications and in accordance with the details, lines and grades shown on the Contract Drawings.

1-02 MATERIALS

A. Pipe: The Contractor shall use PVC Sewer Pipe except where a specific pipe is called for on the Plans.

1. PVC Sewer Pipe: PVC Pipe and fittings shall meet the extra strength requirements of ASTM Specification D3034, SDR 35. Pipe shall have integral wall bell and spigot joints.

Joints: Joints for the PVC Pipe and fittings shall be compression rubber gasket joints. The bell shall consist of an integral wall section with factory installed ring securely locked in bell groove to provide positive seal under all installation conditions.

Fittings: Fittings and accessories shall be manufactured and furnished by the pipe supplier and have bell and/or spigot configuration identical to that of the pipe.

Stiffness: Minimum pipe stiffness at 5% deflection shall be 46 for all sizes when calculated in accordance with ASTM D-2412.

Seepage Collars shall be installed on PVC Sewer pipe at manholes. Collars shall be rubber gasketed asbestos-cement or approved equal.

- B. Manholes: Manholes shall be cast in place or pre-cast concrete sections in accordance with the Contract Drawings and either type shall conform to the following specifications:

Precast reinforced concrete manhole sections conforming to Specifications for Precast Reinforced Manhole Sections, ASTM Designation C-478, with the following additions:

All precast pipe shall be machine made by a process which will provide for uniform placement of zero slump concrete in the form and compaction by mechanical devices which will assure a dense concrete in the finished product, except that reducer cones may be wet-cast.

1. Cement Mortar: Cement Mortar for laying brick plastering shall be composed of one (1) part Portland Cement plus hydrated lime in an amount equal to ten percent (10%) of the cement, mixed with two (2) parts of masonry sand and water. Commercial mortar mix may be used at the Contractor's option, provided that the formula shown on bag and the brand is approved by the Engineer. All mortar shall be freshly made and used before obtaining initial set. Use of re-tempered mortar will not be permitted.
2. Portland Cement: Portland Cement shall conform to requirements of the ASTM Designation C-150 for Type 1 Cement.
3. Aggregates: Concrete aggregates shall conform to Specifications for Concrete Aggregates, ASTM Designation C-33 (latest revision). Aggregates shall consist of clean, hard, durable, uncoated particles, free of deleterious matter. Fine aggregate shall consist of natural sand, evenly graded from fine to coarse. Maximum size of coarse aggregate shall not be larger than 3/4 of minimum clear spacing between rebars or 1/8 of narrowest dimension of concrete mass.
4. Reinforcing Steel: Reinforcing steel shall be new stock, new billet steel, grade 40 or 60 conforming to ASTM Designation A-15 or Hard Grade rail steel conforming to ASTM Designation A-16 with deformations conforming to ASTM Designation A-305, sizes and requirements as noted on the Contract Drawings.



5. Concrete Mix: Concrete mix shall be designed so that the concrete will attain a minimum compressive strength of 3,000 pounds per square inch at 28 days. The maximum water/cement ratio shall be five (5) gallons per sack.
6. Concrete Bases: The Contractor shall provide all forms required to construct the concrete bases. The forms shall have reasonably smooth surfaces and be correctly aligned with grade and dimensions exactly set as shown on the Drawings. All forms shall be oiled with a non-staining mineral oil before concrete is placed. All formwork shall meet the approval of the Engineer before placing concrete.

The forms shall include chamfer strips for corners of finished concrete. Forms shall be removed in a manner which will prevent injury to the concrete. The forms shall not be removed for a period of 48 hours after pouring. The prior removal of forms shall be done only with the specific authorization of the Engineer.

Reinforcement shall be placed in position before concrete is deposited. In no case shall reinforcing steel be driven or forced into the concrete after it has taken its initial set.

Minimum thickness of concrete over reinforcement shall be as indicated on the Contract Drawings.

Reinforcing steel shall be in place and approved by the Engineer before any concrete is placed.

Concrete shall be placed upon undisturbed, clean surface, free from frost, ice, mud and water. Concrete shall be deposited in approximately horizontal layers 12 to 24 inches thick in such a manner as to preclude formation to "Cold Joints" or seams and planes of weakness within the section. Once concreting has started, it shall be carried on continuously to a conclusion.

Placing and depositing of concrete shall be carried on in such a manner as to not displace or damage the forms and/or reinforcement which might result in weak or distorted sections. The concrete shall be fully worked into place in tight or difficult locations by means of compacting with spades or by means of approved vibrating equipment.

All concrete shall be compacted with high frequency, internal, mechanical vibrating equipment supplemented by hand spading and tamping.

All concreting shall be adequately protected from injurious action of the sun, rain, frost, freezing, mechanical injury, or premature drying until adequately cured. Curing shall consist of maintaining the structure in a continually wet condition for at least seven days after placement, or by spraying with an approved curing compound, or covering with wet earth, straw, burlap, or other similar absorbent material kept saturated for the seven (7) day period.

All exposed surfaces of the concrete shall be free of cavities, honeycombs and other defects and shall be given a rubbed finish. The concrete shall be thoroughly saturated with water and the surfaces to be finished shall be rubbed with a medium coarse carborundum stone. The rubbing shall be continued until all form marks, projections and irregularities have been completely removed, all voids filled and a true and uniform surface has been obtained.

All foundation elevations shall conform to a tolerance of plus or minus one-quarter (1/4) inch; and dimensions and spacings of foundations to plus or minus one-quarter (1/4) inch.

7. Wall Thickness: Minimum wall thickness for the manhole risers shall be as listed under Wall "B" in the "Class Tables" of ASTM C76.
  8. Cones: Concentric cones shall be used for the top section of 48" manholes. Eccentric cones shall be used for 60" manholes unless otherwise specified.
  9. Manhole Brick: Brick shall be sound, hard and uniform in size and shape. Brick shall comply with ASTM Standard Specifications for Sewer Brick C-32-63 Grade AAA.
- C. Casing Pipe: Casing Pipe for the borings shall be 16 gage corrugated galvanized metal pipe conforming to THD Item 460. Casing Pipe shall be bituminous coated.

10. Joints for Precast Manhole: Joints shall conform to the joint specifications in ASTM C-478 with the following exception:

Pipe for the manhole riser shall be furnished with the groove not less than 1/2" and not more than 3/4" longer than the tongue to provide an innerseal space.

Jointing of sections for manhole may be made using asphaltic material.

11. Cast Iron Frames and Covers: Cast iron frames and covers shall be furnished and installed in accordance with the details in the plans. Materials shall conform to the current ASTM Specifications A-48, Class 30. Minimum weight of ring and cover shall be 400 pounds.

D. Miscellaneous:

1. Gray Iron Castings: Gray Iron Castings for frames, covers, and other purposes shall conform to the Standard Specifications for Gray Iron Castings, ASTM Designation A48, Class 25A. Castings shall be given a protective coating of coal tar pitch varnish or equal.
2. Bedding Material: The bedding materials for the sewers shall be a fine granular material resulting from the natural or mechanical disintegration of rock. Material may be classed as sand if 100% passes No. 4 sieve. The total of clay, shale or other substances shall not be more than 5%.
3. Gravel: All gravel on this project shall be crushed stone. This crushed stone shall meet the gradation requirements shown below:

Retained on 1 1/2" sieve	0 - 5%
Retained on 3/4" sieve	30 - 65%
Retained on 3/8" sieve	70 - 90%
Retained on No. 4 sieve	95 - 100%

## 1-03 CONSTRUCTION METHODS

### A. Excavation:

1. General: The Contractor shall perform all excavation of every description and of whatever substances encountered, to the depths indicated on the Plans or as otherwise specified. During excavation, material suitable for backfilling shall be piled in an orderly manner a sufficient distance from the banks of the trench to avoid overloading and to prevent slides or cave-ins. All excavated materials not required or suitable for backfill shall be removed and wasted as indicated on the Plans or as directed by the Engineer. Such grading shall be done as may be necessary to prevent surface water from flowing into trenches or other excavations, and any water accumulating therein shall be removed by pumping or by other approved method. Such sheeting and shoring shall be done as may be necessary for the protection of the work and for the safety of personnel, as required in the General Conditions.
  
2. Trenches: Trenches shall be of the necessary width for the proper laying of the pipe, and the banks shall be as nearly vertical as practicable. A 6" layer of bedding sand material shall be placed below, around, and above the pipe. The bedding material shall be accurately graded to provide uniform bearing and support for each section of the pipe on and at every point along its entire length, except for the portion of the pipe where it is necessary to excavate for pipe joints. Depressions of joints shall be dug after the trench bottom has been graded and, in order that the pipe rest upon the prepared bottom for as nearly its full length as practicable, shall be only of such length, depth, and width as required for properly making the particular type of joint.

Whenever wet or otherwise unstable soil that is incapable of properly supporting the pipe is encountered in the bottom of the trench, such soil shall be removed to the depth required and the trench backfilled to the proper grade with fine gravel or other suitable material, as hereinafter specified.

The width of the trench at and below the top of the pipe shall be such that the clear space between the barrel of the pipe and the trench wall shall not exceed 12 inches (12") on either side of the pipe. The width of the trench above that level may be as wide as necessary for sheeting and bracing and the proper performance of the work. The sewer pipe shall be laid so that at least the bottom quadrant of the pipe shall rest firmly on bedding material for as nearly the full length of the barrel as proper jointing operations will permit. This part of the excavation shall be done manually only a few feet in advance of the pipe laying by men skilled in this type of work.

3. Open Trenches: The amount opened in advance of pipe laying and the amount of pipe laid in advance of backfilling shall be as directed by the Engineer. If the work is stopped on any trench or excavation, and the excavation is left open for an unreasonable length of time in advance of construction, the Contractor shall, if so directed, refill such trench or excavation at his own expense and shall not again open said trench until he is ready to complete the work herein. Trenches shall not be left open over night.
4. Sheeting, Bracing and Shoring: The Contractor shall do all bracing, sheeting, and shoring necessary to perform and protect all excavations, as required for safety, or as directed. Material for sheet piling, sheeting, bracing and shoring, shall be furnished and driven or set in place by the Contractor.

All sheeting, sheet piling, braces or shores shall be driven or put in place by men especially skilled in such work, and shall be so arranged that if practical, they may be withdrawn as the excavations are backfilled, without injury to the structure and its appurtenances, and without injury to or settlement of adjacent structures and pavements.

Sheeting, sheet piling, bracing and shores shall be withdrawn and removed as the excavations are being backfilled, except where and to such an extent as the Engineer shall order, in writing, that the same be left in place, or where he shall permit the Contractor to leave the same in place, at the Contractor's own cost and request.

In withdrawing sheeting and sheet piling, special care shall be taken to insure that all voids or holes left by the plank as they are withdrawn are filled with satisfactory material and thoroughly rammed with thin tampers provided especially for that purpose.

The Contractor shall cut off any sheeting or sheet piling left in place whenever and at such points as the Engineer shall order and shall remove from the work the portion cut off.

In no case will extra compensation be allowed for furnishing, placing, or removing any sheeting, or bracing; but the cost of this work shall be included in the Unit Price Bid for installing the sewer pipe.

5. Dewatering: The Contractor shall perform all pumping and wellpointing necessary to perform the excavation and to maintain excavation in dry state during the work at no extra cost to the Owner. The cost of any dewatering shall be included in the Unit Price Bid for installing the sewer pipe.
  
6. Backfilling: The trenches shall not be backfilled until the system as installed conforms to the requirements specified. The trenches shall be carefully backfilled with the excavated materials, approved for backfilling, consisting of earth, loam, sandy clay, sand and gravel, or other approved materials, free from large clods of earth or stones, deposited in 6-inch (6") layers and thoroughly and carefully rammed until the pipe has a cover of not less than 2 feet (2'). Trenches across roadways, along berms of roadways, or in areas to be paved or subjected to traffic shall be entirely backfilled in 6-inch (6") layers, and each layer shall be compacted to a density at least equal to the density of the surrounding earth, and the surface shall be graded to conform with the surrounding ground surface. Along all other portions of the trenches, unless otherwise specified or indicated on the Drawings, the remainder of the backfill above the 2-foot (2') cover specified above shall be applied in 1-foot (1') layers and properly compacted and the surface shall be mounded over and left in a uniform and neat condition satisfactory to the Engineer.

Trenches improperly backfilled shall be re-opened to the depth required for proper compaction then refilled and compacted as specified, or the condition shall be otherwise corrected as permitted by the Engineer.

7. Test for Displacement of Sewers: Sewer mains will be checked by the Engineer to determine whether any displacement of the pipe has occurred after the trench has been backfilled to 2 feet (2') above the pipe and tamped as specified. The test will be as follows: A light will be flashed between manholes, or, if the manholes have not as yet been constructed, between the locations of the manholes, by means of a flashlight or by reflecting sunlight with a mirror. If the illuminated interior of the pipeline shows poor alignment, displaced pipe, or any other defects, the defects designated by the Engineer shall be remedied by the Contractor at his expense.

B. Pipe Laying: The bottom of the trench shall be shaped to give substantially uniform circumferential support to the lower fourth of each pipe. Pipe laying shall proceed upgrade with the spigot ends of bell-and-spigot pipe and tongue end of tongue-and-groove pipe pointing in the direction of flow. Each pipe shall be laid true to line and grade and in such manner as to form a close concentric joint with the adjoining pipe and to prevent sudden offsets of the flow line. As the work progresses, the interior of the sewer shall be cleared of all dirt and superfluous materials of every description. Where cleaning after laying is difficult because of small pipe size, a suitable swab or drag shall be kept in the pipe and pulled forward past each joint immediately after the jointing has been completed. If the maximum width of the trench at the top of the pipe, specified above, is exceeded for any reason other than by direction, the Contractor shall install, at no additional cost to the Owner, such concrete cradling, pipe encasement, or other bedding as may be required to satisfactorily support the added load of the backfill. Trenches shall be kept free of water and pipe shall not be laid when the condition of the trench or the weather is unsuitable for such work. At time when work is not in progress, open ends of pipe and fittings shall be securely and satisfactorily closed so that no trench water, earth, other substance will enter the pipe or fittings.

B. Manholes:

1. General: Manholes shall be constructed of concrete, cast in place or precast concrete pipe, with cast iron frames and covers, and in accordance with the Plans. The invert channels shall be smooth and semi-circular in shape conforming to the inside of the adjacent sewer section. Changes in direction of flow shall be made with a smooth curve of as large a radius as the size and grade of the channels and shall be formed directly in the concrete of the manhole base. The floor of the manhole outside the channels shall be smooth and shall slope towards the channels not less than 1" per foot nor more than 2" per foot. Free drop inside the manhole shall not exceed 2' measured from the invert of the inlet pipe to the top of the floor of the manhole outside the channels, and drop manholes shall be constructed whenever the free drop would otherwise be greater than 2'.
2. Jointing and Plastering: Mortar for jointing and plastering shall consist of 1 part Portland Cement and 2 parts fine sand. For brickwork lime may be added to the mortar in the amount of not more than 10% of the volume of cement. The joints shall be completely filled and shall be smooth and free from surplus mortar on the inside of the manhole.

- C. Pipe Connections to Manholes: When the plans indicate connections to existing or proposed manholes, these connections shall be water-tight and shall conform to a smooth and uniform flow line.

The cost of installation of tees, wyes, laterals, and cutting holes in manholes and completing the pipe connections shall be taken together to constitute a pay item under the contract unit price for connections to existing sewers.



- D. Borings: All Borings shall conform to the requirements of the State Department of Highways and Public Transportation as specified in Utility Accommodation Policy adopted July 1974.

The Boring shall consist of furnishing all materials, labor, tools, and equipment necessary for the complete installation of the casing pipe and the carrier pipe as shown on the Contract Drawings.

NOTICE: Contractor shall notify and obtain clearance from FAA Control Tower (239-3725) and the Addison Airport Manager (239-3761) prior to any construction.

- E. Cleaning and Restoration of Site: After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. The Contractor shall restore all disturbed areas to their original condition.

After all work is completed, the Contractor shall remove all tools and other equipment used by him, leaving the entire site free, clear, and in good condition.

Performance of the work described in this section is not payable directly, but shall be considered as a subsidiary obligation of the Contractor covered under the Contract Unit Price for the pipe.

- F. Bedding Material: A six inch (6") layer of sand bedding material shall be placed below, around and above the pipe. The bedding material shall be accurately graded to provide uniform bearing and support for each section of the pipe on and at every point along its entire length except for the portion of the pipe where it is necessary to excavate for pipe joints.

- G. Backfill Material: Sand shall be placed around and over the pipe to a minimum depth of 6" above the top of the pipe. Select backfill containing no rocks larger than 6" at its longest part shall be placed in the trench and compacted by jetting. Backfilling and jetting shall continue until no settling occurs.

#### 1-04 INFILTRATION AND EXFILTRATION TESTS

Leakage into or out of the sewers, manholes and other structures shall not exceed a rate of 50 gallons per day per inch of diameter per mile of sewer for any section between successive manholes. If in the opinion of the Engineer, infiltration appears excessive, the amount of leakage shall be measured by a suitable weir or as directed by the Engineer at the Contractor's expense. When the infiltration exceeds the specified amount, correction shall be made to the satisfaction of the Engineer. In addition to any infiltration test that may be required by the Engineer, the Contractor may be required, at his own expense, to perform an exfiltration test on sections of piping 200 - 300 feet long as selected by the Engineer. For this test, the lines shall be plugged on the upstream side of successive manholes and with all service connections plugged or capped, the Contractor shall fill the line from the upstream manhole with water to a depth of 3 feet or more. The trench excavation shall remain dewatered as required throughout the test. Loss of water from the upstream manhole during a 24-hour period shall not exceed the rate of 50 gallons per inch diameter per mile of sewer per day.

NOTE: Infiltration or exfiltration tests will be required on all sewer lines.

Air testing of all lines may be substituted for the above with the advance approval of the Engineer. Manholes will be tested by exfiltration.

1-05 MEASUREMENT

A. Sanitary Sewers: Sanitary sewer mains will be measured in linear feet along the center line of the pipe from center of manholes and from center of junction with existing main, plugged end, or clean-out. The total length of sanitary sewer thus measured will be separated into the various kinds and sizes of pipe for each increment of depth for the purpose of establishing the quantities of each pay item. Depth zones will be measured to the invert of pipe from ground line or from subgrade elevation whichever is lower.

No deduction in length of main will be made for diameter of manholes or for space occupied by wye branches and tees installed in the sewer main.

Wye branches and tees or special fittings will not constitute a pay item.

B. Manholes: Standard & Drop Manholes - Standard & Drop manholes will be measured as the number of completed and accepted units in place, and of increment depths indicated in the proposal. Increment depths shall be determined from the finished grade of the top of the completed unit to the invert of the outlet pipe.

C. Pipe Connections: Pipe connections to existing sewers and manholes shall not be measured separately.

D. Borings: Borings will be measured in linear feet along the center line of the pipe from the end of casing to end of casing. Carrier pipe shall not be measured separately but shall be included in the unit price bid per linear foot of casing pipe.

E. Bedding Material: Bedding material will not be measured separately but will be included in the Unit Price Bid per linear foot of pipe.

F. Asphalt: Asphalt will be measured by the ton delivered to the project.

- G. No Measurement will be made of subsidiary items of work and accessories, excavation, trenching, backfilling, replacing asphalt and disposal of surplus excavation and other incidentals included in the related pay items or called for in the Contract.

1-06 PAYMENT

- A. Sanitary Sewers: Payment will be made at the Contract Unit Prices bid per linear foot for the various types and sizes of Sanitary Sewers at the increment of depth installed, complete in place, and unless otherwise specified, shall include the restoration and repair of any pavement or street surface and sidewalks necessary to be cut out during construction of the sewer mains. The contract prices shall be full compensation for all trench excavation and backfill, bedding material, and for furnishing all materials, appurtenances, accessories, labor, tools and equipment necessary to complete the work.
- B. Manholes: Payment will be made at the Contract Unit Price Bid per unit for "Standard Manholes" and "Drop Manholes" for the various depths, complete in place and accepted. This price shall include all excavation equipment, tools, and incidentals necessary for the satisfactory completion of the work.
- C. Pipe Connections: Pipe connections to existing sewers shall not be paid for separately, but shall be included in the Unit Price Bid per linear foot of sewer pipe completed and accepted in place; which price shall be full compensation for furnishing all labor, materials, tools and equipment, and for backfilling the trench and unless otherwise specified for restoring any pavement or street surface encountered and sidewalks necessary for a complete installation.
- D. Boring: Payment will be made at the Contract Unit Price Bid per linear foot as completed and accepted in place; which price shall be full compensation for furnishing all labor, materials, tools and equipment and for backfilling the trench and unless otherwise specified, for restoring any pavement or street surface encountered and sidewalks necessary for a complete installation of the casing pipe and the carrier pipe.
- E. Bedding Material: No separate payment will be made.

- F. Asphalt: Payment for asphalt will be made at the Contract Unit Price Bid per ton. Payment will be full compensation for placing, rolling, compacting and incidental work necessary for the complete restoration of the asphalt road surfaces.
- G. No Payment will be made for any subsidiary items of work including, but not limited to, accessories, excavation, trenching, backfill, disposal of surplus excavation, restoration of property, or other incidentals included in the related pay items or called for in the Contract unless payment is in accordance with a written change order.

All sheeting, whether left in place or removed, and used by the Contractor in his operations, will not be paid for but shall be considered as included in the Contract Price Bid for sewers.