



Municipal Wastewater Discharge

MWD 102

WQ MWD #: 10401 008

File Type: Permits

Volume: 002

Date: 1/1/2005 - 12/31/2006

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MWD/10401-008/PA

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 24, 2006

Mr. Wilfredo C. Rivera, Jr., P.E.
Naismith Engineering, Inc.
4501 Gollihar Road
Corpus Christi, Texas 78401

RECEIVED

AUG 30 2006

TCEQ
CENTRAL FILE ROOM

Re: City of Corpus Christi
Water and Sewer Improvements for Rose Acres Colonia
Texas Commission on Environmental Quality Permit No. 10401-008
WWPR Log No. 0806/117
CN600131858 RN101609915
Nueces County

Dear Mr. Rivera:

We have received the project summary transmittal letter dated August 9, 2006.

The rules which regulate the design, installation and testing of domestic wastewater projects are found in 30 TAC, Chapter 317, of the Texas Commission on Environmental Quality (TCEQ) rules titled, Design Criteria for Sewerage Systems.

Section 317.1(a)(3)(D), relating to case-by-case reviews, states in part that upon submittal of a summary transmittal letter, the executive director may approve of the project without reviewing a complete set of plans and specifications.

Under the authority of §317.1(a)(3)(D) a technical review of complete plans and specifications is not required. **However, the project proposed in the summary transmittal letter is approved for construction. Please note, that this conditional approval does not relieve the applicant of any responsibilities to obtain all other necessary permits or authorizations, such as wastewater treatment permit or other authorization as required by Chapter 26 of the Texas Water Code.** Below are provisions of the Chapter 317 regulations, which must be met as a condition of approval. These items are provided as a reminder. If you have already met these requirements, please disregard this additional notice.

1. You must keep certain materials on file for the life of the project and provide them to TCEQ upon request. These materials include an engineering report, test results, a summary transmittal letter, and the final version of the project plans and specifications. These materials shall be prepared and sealed by a Professional Engineer licensed in the State of Texas and must show substantial compliance with Chapter 317. All plans and specifications must conform to any waste discharge requirements authorized in a permit by the TCEQ. Certain specific items which shall be addressed in the engineering report are discussed in §317.1(c)-(d). Additionally, the engineering report must include all constants, graphs, equations, and calculations needed to show substantial compliance with Chapter 317. The items which shall be included in the summary transmittal letter are addressed in §317.1(a)(3)(D).

Mr. Wilfredo C. Rivera Jr., P.E.

Page 2

August 24, 2006

2. Any deviations from Chapter 317 shall be disclosed in the summary transmittal letter and the technical justifications for those deviations shall be provided in the engineering report. Any deviations from Chapter 317 shall be based on the best professional judgement of the licensed professional engineer sealing the materials and the engineer's judgement that the design would not result in a threat to public health or the environment.
3. Any variance from a Chapter 317 requirement disclosed in your summary transmittal letter is approved. If in the future, additional variances from the Chapter 317 requirements are desired for the project, each variance must be requested in writing by the design engineer. Then, the TCEQ will consider granting a written approval to the variance from the rules for the specific project and the specific circumstances.
4. Within 60 days of the completion of construction, an appointed engineer shall notify both the Wastewater Permits Section of the TCEQ and the appropriate Region Office of the date of completion. The engineer shall also provide written certification that all construction, materials, and equipment were substantially in accordance with the approved project, the rules of the TCEQ, and any change orders filed with the TCEQ. All notifications, certifications, and change orders must include the signed and dated seal of a Professional Engineer licensed in the State of Texas.

This approval does not mean that future projects will be approved without a complete plans and specifications review. The TCEQ will provide a notification of intent to review whenever a project is to undergo a complete plans and specifications review. Please be reminded of §317.1(a)(2) of the rules which states, "Approval given by the executive director...shall not relieve the sewerage system owner or the design engineer of any liabilities or responsibilities with respect to the proper design, construction, or authorized operation of the project in accordance with applicable commission rules."

If you have any questions or if we can be of any further assistance, please call me at (512) 239-4552.

Sincerely,



Louis C. Herrin, III, P.E.
Wastewater Permits Section (MC 148)
Water Quality Division
Texas Commission on Environmental Quality

LCH/ms

cc: TCEQ, Region 14 Office

SCD B OK

8-13-2006



NAISMITH ENGINEERING, INC.
ENGINEERING • ENVIRONMENTAL • SURVEYING
Est. 1949

MWD/10401-008/PA

0806/117

August 9, 2006

Wastewater Permitting, MC-148
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

RECEIVED
AUG 11 2006
WASTEWATER PLANS
AND SPECIFICATIONS

Re: Project Review Transmittal Letter
Permittee: Nueces County
Project Name: Water and Sewer Improvements for
Rose Acres Colonia

Permit # 10401-008

Mr. Louis Heron, P.E.:

The County of Nueces has plans to construct sanitary sewer and water improvements to serve Rose Acres Colonia. The purpose of this letter is to provide the TCEQ with the information necessary to comply with the requirements of §317.1(a) (3) (D) of the TCEQ's rules titled, Design Criteria for Sewerage Systems. The necessary information includes:

- 1. Engineering Firm: Naismith Engineering, Inc.
4501 Gollihar Rd.
Corpus Christi, Texas 78401
- 2. Design Engineer: Willie Rivera, P.E.
(TX P.E. #81549)
Phone No.: 361-814-9900
Fax No: 361-814-4401

PE Section
P/S

- 3. The City of Corpus Christi will be the Owner of the proposed improvements and will be responsible for operating and maintaining the improvements for the life of the system.
- 4. No variances from Chapter 317 were utilized in the design.

RECEIVED

AUG 30 2006

TCEQ
CENTRAL FILE ROOM

5. The proposed improvements have been designed in accordance with standard engineering practice. No innovative or non-conforming technologies have been proposed.
6. The plans and specifications which describe the project identified in this letter are in substantial compliance with all the requirements of Chapter 317.
7. Project Description: The County of Nueces plans to install approximately one (1) lift station, 3,396 linear feet of 8" sanitary sewer and 6,242 linear feet of PVC (ASTM 2241) force main to serve Rose Acres Colonia.

Should you have any questions or require any additional information regarding this project, please do not hesitate to contact us.

Very truly yours

NAISMITH ENGINEERING, INC.



Gabriel Hinojosa, E.I.T.
Engineer's Assistant

Cc: Program Manager, TCEQ Region 14 Office
Foster Crowell, Wastewater Director

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**WATER AND WASTEWATER SYSTEM
IMPROVEMENTS
(ROSE ACRES)
NUECES COUNTY, TEXAS**

IFB 2665-06

JULY, 2006

PREPARED FOR

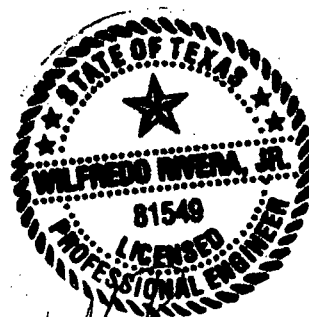
NUECES COUNTY COMMISSIONERS COURT

TERRY SHAMSIE	COUNTY JUDGE
PEGGY BANALES.....	PRECINCT 1
BETTY JEAN LONGORIA	PRECINCT 2
OSCAR ORTIZ.....	PRECINCT 3
CHUCK CAZALAS.....	PRECINCT 4

The preparation of these documents was funded in part by a grant from the Office of Rural Community Affairs

TEXAS COMMUNITY DEVELOPMENT PROGRAM (TCDP)
Contract No. 724135

**CONTRACT DOCUMENTS
AND SPECIFICATIONS**



NEI
NAISMITH ENGINEERING, INC.
 ENGINEERING • ENVIRONMENTAL • SURVEYING
 CORPUS CHRISTI, TEXAS

Wilfredo Rivera, Jr.
 07-17-06

Telephone: (512) 814-9900
Fax: (512) 814-4401

NEI Job No. 6744

MWD/10401-008/PA

SECTION 00099

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**WATER and WASTEWATER DISTRIBUTION SYSTEM IMPROVEMENTS
(ROSE ACRES)
NUECES COUNTY, TEXAS**

TCDP CONTRACT NO. 724135

**SECTION
NUMBER**

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SECTION 00100

NOTICE TO BIDDERS

IFB NO. 2665-06

WATER AND WASTEWATER SYSTEM IMPROVEMENTS FOR ROSE ACRES

Sealed bids will be received by the County of Nueces, Texas, Office of the Purchasing Agent, until 2:00 A.M. August 3, 2006 at the Nueces County Courthouse, 901 Leopard, Room 106, Corpus Christi, Texas 78401, for "**WATER AND WASTEWATER DISTRIBUTION SYSTEM IMPROVEMENTS FOR ROSE ACRES**" project.

Bids are invited for the construction of 810 LF of 8" Water Line; 4645 LF of 16" Water Line; 3396 LF of 8" Sanitary Sewer Line; 6242 LF of 4" Force Main; and 1 Wastewater Lift Station.

The bidder must submit a bid bond, cashier's check, or certified check for not less than five (5) percent of the maximum amount of the Bid

Potential bidders and subcontractors may obtain Contract Documents, Drawings and Specifications from the Office of the Purchasing Agent at the above address, upon paying a refundable deposit of \$25.00 per set.

Attention is called to the fact that not less than the Federally Determined Prevailing (Davis-Bacon) Wage Rates contained in the contract documents must be paid on this project. The successful Bidder must ensure that employees and applicants for employment are not discriminated against because of their race, color, religion, sex, or national origin.

Any contract awarded under this Invitation for Bids is expected to be funded in part by a Texas Community Development Program, Contract #724135. Neither the State of Texas nor any of its departments, agencies, or employees is or will be a party in this Invitation for Bids or any resulting contract. This contract is contingent upon release of funds from the Office of Rural Community Affairs (ORCA).

DIVISION 1
BIDDING AND CONTRACT DOCUMENTS

INSTRUCTIONS TO BIDDERS

Article I. Nature of Project.

The Commissioners Court of Nueces County (hereinafter called the "County") will accept sealed competitive bids for:

IFB NO. 2665-06
WATER & WASTEWATER SYSTEM IMPROVEMENTS
(ROSE ACRES)
August 4, 2006 - 2006 – 2:00 PM

in accordance with the Drawings, Specifications, and other Contract Documents prepared by Naismith Engineering (hereinafter called "Architect").

Time is of the essence. Failure to complete the Project within the contract time, except as such time may be extended by delays approved by County, will subject the bidder to whom the contract is awarded (herein after called the "Contractor") to liability for damages, as provided in the Conditions of the Contract.

Article II. Eligibility of Bidders.

Any bidder, in order to be eligible to bid, must be able to demonstrate to the satisfaction of the County and Engineer/Architect that he has the financial capacity to carry on the work until such time as he receives the first payment under the Contract, and that he is able to finance the work between payments until the construction is completed and accepted.

Article III. Issuing Bid Documents

Drawings and Specifications are on file in the office of the **Nueces County Purchasing Agent, Nueces County Courthouse, Room 106, 901 Leopard Street, Corpus Christi, Texas, 78401**, where they may be inspected by qualified bidders without charge.

Any potential bidder who desires to obtain a set of such Contract Documents and remove same from the County Purchasing office may do so upon deposit of the sum of \$25.00 per set. Upon return of such documents, in good condition, such deposit will be refunded.

Article IV. Examining Documents and Work Locations.

The bidder should examine the bid form, plans, specifications, and specified work locations before submitting a bid. Submitting a bid will be considered evidence that the Bidder has performed this examination. Failure of a bidder to acquaint himself adequately with the site and such conditions, facilities, difficulties, restrictions and requirements will not relieve bidder of his obligation to perform entire contract at the price set forth in his bid.

If applicable, borings, soil profiles, water elevations, and underground utilities shown on the plans were obtained for use of the County in the preparation of plans. This information is then provided for the Bidder's information only and the County makes no representation as to the accuracy of the data. Be aware of the difficulty of accurately classifying all material encountered in making foundation investigations, the possible erosion of stream channels and banks after survey data have been obtained, and the unreliability of water elevations other than for the date recorded.

Oral explanations and oral instructions given during the pre-bid process are not binding. Only requirements included in the bid and associated specifications and plans in subsequent County-issued addenda are binding.

If any bidder is in doubt as to the meaning of any part of the Drawings, Specifications, or other Contract Documents, or if he discovers what he considers to be a discrepancy, omission or conflict in such Contract Documents, he shall immediately contact **Nueces County Purchasing Department** and advise of such by written notice or request for an interpretation of same. If such written notice or request is delivered to **Nueces County Purchasing Department c/o Cora L. Goding Purchasing Agent, Nueces County Courthouse, 901 Leopard Street, Room 106, Corpus Christi, Texas 78401** prior to 72 hours before the time set for opening bids, the **Nueces County Purchasing Agent** shall issue a written addendum, forwarded to all persons who, to the knowledge of County, are prospective bidders, setting out any corrections to such Contract Document or Architect's interpretation thereof, as the case may be.

Article V. Preparing Bid

Submit the bid on the form provided by the County. A submitted Bid that alters the content of the form furnished by the County will be considered non-responsive. All entries must be in ink. All blank spaces in the Bid Form should be filled out completed, and all numbers set forth both in words and figures. If the bidder does not desire to bid on any part of the Bid or any alternate, he should insert the words "NONE" or "NO BID", with the understanding that it may be considered non responsive.

If the bid furnished with this project requires a bid on a unit price/estimated quantity basis, the Bidder shall enter a unit price in the space provided therefore and a total item price based upon the estimated quantities shown on the Unit Price Bid Form. Unit prices entered shall be the full price to County including materials, labor, services, rentals, overhead profit, etc., for the work described. Quantities shown reflect measurements taken from the Drawings and are assumed correct for bidding purposes. Final contract price will be based on actual quantities of work installed as determined by County and Contractor upon completion of the work. The official total base bid amount for this Bid will be determined by multiplying the unit bid prices for each pay item by the respective estimated quantities shown in this bid and then totaling all of the extended

amounts. In case of error the unit prices shall govern and computations will be checked for accuracy before award is made.

If the bid furnished with this project requires a bid on a lump sum basis, the Bidder shall enter the total price on the Lump Sum Bid Form. In addition, a schedule of values showing the breakdown of the total price will be filled out. The schedule of values will establish prices for the individual work so that if modifications to the contract are necessary, then the cost of the modifications is easily resolved. Lump Sum amount shown will control in determining the lowest and best bid.

When "Working Days" is an Item, submit the number of working days to be used to complete the Contract, or phases of the Contract shown on the plans. Include unit bid prices for each Item in the Item Group or Alternate Item Group. An Item left blank will constitute an incomplete bid and will be handled as prescribed in XIII, herein "Tabulating Bids."

Execute the Bid in ink. Provide the complete and correct name of the bidder submitting the Bid. The Bid must be signed by the person or persons authorized to bind the contract.

Verify whether addenda have been issued on a proposed Contract. Acknowledge all addenda. Enter the date or dates of the addendum notification letter or letters on the addenda acknowledgement page in the proposal form and shall constitute a part of this final contract. Failure to acknowledge and return all addenda disqualifies bidder's bid as a non-responsive bid. Bidder may call the County Purchasing office at 361-888-0426 to confirm the number of addenda issued, prior to submitting his bid.

All bids shall be computed exclusive of the Texas Sales Tax. That is, such tax shall not be added to the amount bid for the construction of such project.

If required by the Engineer/Architect, bidder shall submit with his Bid a list of the sub-contractors that he proposes to use in the construction of the project.

Article VI. Non-responsive Bids

A bid that has one or more of the deficiencies listed below is non-responsive and will not be considered.

- A. The Bid is not signed by the person or persons authorized to bind the contract.
- B. The bid guaranty does not comply with the requirements contained in Article VII, "Bid Security."
- C. The bid is in a form other than the official Bid Form issued to the Bidder or Bidders.
- D. The Bid was not in the hands of the letting official as per the time and location specified in the advertisement.
- E. The Bidder submits more than one Bid, under the same or different name, for a specific proposed contract. (A Bidder may submit a bid and

participate as a material supplier, subcontractor, or both to any or all bidders contemplating submitting a bid for this work)

- F. The Bidder fails to acknowledge or improperly acknowledges receipt of all addenda issued.
- G. The Bidder bids more than the maximum or less than the minimum number of allowable working days shown on the plans when working days are an Item.
- H. The Bidder modifies the County's bid form in a manner that alters the content of the County's bid form.
- I. The Bidder did not attend a specified mandatory pre-bid conference as required by law.
- J. The Bidder leaves the unit price bid amount in his/hers bid form blank.
- K. The Bidder's entry of unit price bid amount in the bid form is illegible.
- L. The sums of the quantities and unit price bid amount in the bid form are incorrect.
- M. Failure to provide Bid Security/Bond.

Article VII. Bid Security

A bid security, either in the form of a certified or cashier's check or bid bond, in the amount of at least five percent (5%) of the largest amount bid must accompany each Bid submittal.

- A. **Certified or Cashier's Check.** The Bid Security must be payable to Nueces County and must be a cashier's check or certified check drawn by or on a state or national bank, a savings and loan association, or a state or federally chartered credit union (collectively referred to as "bank"). The type of check must be indicated on the face of the instrument and the instrument must be valid for a minimum of 90 days. A check must be made payable at or through the institution issuing the instrument; be drawn by a bank and on a bank; or be payable at or through a bank. The County will not accept personal checks or other types of money orders as a bid security..
- B. **Bid Bond.** The bid bond must be on the form provided by the County, with powers of attorney attached, and in the amount specified on the bid bond form. The bond form must bear the impressed seal of the Surety Company and be signed by the Bidder and an authorized individual of the Surety Company. Bid bonds will only be accepted from surety companies authorized to execute a bond under and in accordance with state law.
- C. The Bid Security is to protect the County against the withdrawal of bids during the thirty (30) day period following the scheduled date for bid opening, and to further protect County against the failure, neglect or refusal of any bidder awarded a contract to execute the required Contract and furnish the required Performance and Payment Bonds within ten (10) days after notification of the acceptance of his bid.
- D. If any bidder withdraws his bid within thirty-day period he shall forfeit such Bid Security to County as liquidated damages for such default. If any bidder whose bid is accepted by County fails or refuses to furnish the required

Performance and Payment Bonds within the ten days after notice of such acceptance, he shall forfeit such Bid Security to County as liquidated damages for such default.

- E. The Bid Security of all bidders, except the three lowest, shall be returned promptly after the tabulation of bids. All Bid Guaranty will be returned at such time as the Construction Contract has been executed by the successful bidder and the required Performance and Payment Bonds have been furnished. However, if County fails to accept any bid within thirty (30) days after the date scheduled for opening bids and a bidder withdraws his bid, his security shall also be returned to him.

Article VIII. Delivery of Bid

Bids must be submitted in sealed opaque containers plainly marked showing the Project and Bid Number for which the Bid is intended, the type of Bid contained and the name and address of the bidder. **Bids are to be addressed to Nueces County Commissioners Court, and to be considered, must be delivered to the Nueces County Purchasing Department c/o Cora L. Goding, Purchasing Agent, First Floor, Room 106, Nueces County Courthouse, 901 Leopard Street, Corpus Christi, Texas 78401 not later than 2:00 P.M. August 4, 2006.**

No Bid or Modification to a Bid shall be made orally or by telephone, telegraph or facsimile transmission (fax).

When submitting by mail, place the envelope in another sealed envelope and address as indicated in the official advertisement. Bids that do not arrive in the hands of the Letting Official at the location described in the official advertisement, on or before the time and date set for the opening, will not be accepted.

Nueces County is not responsible for late delivery by mail, carrier, etc. Bidders planning to hand deliver Bids are advised that a security screening station operates in the Courthouse and delays may be anticipated in reaching the Purchasing Office. Nueces County cannot accept a Bid after the closing hour advertised. Late Bids will be considered void and unacceptable.

Article IX. Revising Bids

Revisions to Bids will be handled as follows:

- A. **Before Submission and prior to Bid Opening.** In ink, make desired changes, including interlineations, alterations, or erasures, and initial the changes to guarantee authenticity.
- B. **After Submission and prior to Bid Opening.** Withdraw the bid in accordance with Article X, "Withdrawing Bids" In ink, make desired changes and initial the changes. Resubmit to the letting official in accordance with Article VIII, "Delivery of Bid" The County will not make revisions to a Bid on behalf of a Bidder.

- C. **After Bid Opening.** Bid revisions are not allowed after the time of bid opening.

Article X. Withdrawing Bids

A Bid may be withdrawn by written fax or telegraphic request received by Purchasing Agent prior to the time fixed for bid opening. Two signed copies of any such telegraphic or fax withdrawal should be forwarded immediately to County in a sealed opaque container properly marked to identify the contents.

Article XI. Public Opening of Bids

Bids are opened and read publicly by the Purchasing Agent or its designated representative at the time and location specified in the official advertisement.

Article XII. Gratuities.

Do not offer County employees benefits, gifts, or favors. Failure to honor this policy may result in the termination of the Contract. Termination of the Contract will be in accordance with the General Conditions.

No Public Official shall have interest in this contract except in accordance with Vernon's Texas Codes Annotated, Local Government Code Title 5, subtitle C, Chapter 171.

Article XIII. Tabulating Bids.

- A. **Official Total Bid Amount:** The County will check the sum of the quantities and the unit prices bid in the Bid to determine the official total bid amount. The official total bid amount is the basis for determining the apparent low bidder. The total bid amounts will be compared and the results made public. If after checking the sums, the amounts are wrong, the Bid will be non-responsive.
- B. **Interpretation of Unit Prices:** The County will NOT make a documented determination of the unit bid price for tabulation purposes if a unit bid price is illegible. If illegible, the Bid will be a non-responsive bid.
- C. **Consideration of Unit Prices:** If a Bid has a regular and a corresponding alternate Item or group of Items, the Bid will be considered complete if:
- the regular item or group of regular items has unit prices entered, or
 - the alternate item or group of alternate items has unit prices entered.
 - the bid will be considered incomplete and non-responsive if:
 - a regular item or group of regular items is left blank, and
 - a corresponding alternate item or group of alternate items is left blank.
- D. **Consideration of Alternate Items:** If a unit price has been entered for both the regular item and a corresponding alternate item, the County will select

the option (regular or alternate) that results in the lowest cost to the County. The County will select the regular item or items or the alternate item or items at the County's discretion. (If both the regular and alternate bid results in the same cost to the County.)

Article XV. Tie Bids:

If two responsible bidders submit the lowest and best bid, the Commissioners Court shall decide between the two by drawing lots in a manner prescribed by the County Judge

Article XVI. Award of Contract:

The County reserves the right to reject any or all Bids, to accept the Bid or Bids it considers most advantageous, to waive irregularities or formalities in bidding, and to hold all Bids for thirty (30) days after the date scheduled for opening such Bids.

Before a contract is awarded, the apparent low bidder, upon request by the County, shall furnish to County all or any portion of the following:

- A. A verified statement of his financial condition during the three (3) month period prior to the bid opening, his experience record, a list of his proposed sub-contractors, a schedule of his equipment, and such other evidence of his ability to complete the Project in the manner and by the time specified in the Contract Documents as the County or Engineer/Architect may request.
- B. Detail price sheets (original and two copies) listing the general contract price of each portion of the work, together with a "breakdown" of prices for each of bidder's subcontractors. Such list of prices shall represent the true cost of the work to the County, including the bidder's profit, which shall be prorated over the term of the contract.
- C. A schedule or "breakdown" of all underground work, and similar items, that are not insurable, for the benefit of the County in determining accurate insurance values. If the apparent low bidder fails or refuses to furnish the information requested by Engineer/Architect or County, or, if after reviewing such information furnished, County determines that it is to its best interest to reject such apparent low bid, County may do so. In such event, County may consider, in order, the proposal and qualifications of each of the next lowest bidders who have not withdrawn their bids, or County may reject all bids.

The bidder whose bid is accepted by County under the IFB shall within ten (10) days after receipt of notice that his Bid has been accepted, execute a Construction Contract with County, and shall furnish the Performance and Payment Bonds described below, all on forms provided by County. Copies of such forms are on file at the office of County Purchasing Agent.

Article XVII. Performance and Payment Bonds:

The Contractor shall furnish a Performance Bond and a Payment Bond, as required by law, each in the amount of the full contract price, and each in the form promulgated by the County. Such bonds must be written by a company, or companies, acceptable to and approved by the County. The County will not accept a bond written by any company that does not meet all of the following requirements. Contractor will be responsible for bonding the entire job at the time of execution of the Construction Contract and shall include the premium for such bonds in his bid.

No additional safeguards will be required by County if the bonds meet all of the following requirements:

- A. The bond must be executed by a corporate surety or corporate sureties duly authorized and admitted to do business in the State of Texas and licensed by the State of Texas to issue surety bonds.
- B. The surety or sureties executing such bond must be listed in the most current issue of U.S. Department of Treasury Circular 570 (hereinafter called "Circular 570") as an acceptable surety to execute bonds for federal projects.
- C. The amount for which the bond is written shall not exceed the underwriting limitation prescribed by Circular 570 for the surety or sureties executing such bond.

Article XVIII. Wage Rate Determination:

The construction of this Project is subject to V.T.C.A., Government Code, Chapter 2258. Prevailing Wage Rates, the terms of which require that not less than the general prevailing rate of current per diem wages for work of a similar character in the locality in which the work is performed, and not less than the general prevailing rate of per diem for legal holidays and overtime work, shall be paid by Contractor to all laborers, workmen and mechanics employed under this Contract.

- *The hourly wage rate for legal holiday and overtime work shall be not less than one and one half (1 & ½) times the base hourly rate.*

County has ascertained that the general prevailing wage rate of per diem wages in this locality for each craft or type of workman or mechanic needed to carry out the Contract are those set out in Appendix A, attached hereto and made a part hereof.

Contractor shall forfeit as a penalty to County the sum of Sixty Dollars (\$60.00) for each laborer, workman or mechanic employed for each calendar day or part of the day that any such laborer, workman or mechanic is paid less than the wage rates stipulated for work done under this Contract, by Contractor, or by any of Contractor's subcontractors.

The rates specified are journeyman rates. Apprentices may be used on the Project and may be compensated at a rate determined mutual by the worker and employer, commensurate with the experience and skill of the worker but not at a rate less than sixty percent (60%) of the journeyman's wage rate as shown. At no time shall a journeyman supervise more than (1) apprentice. All apprentices shall be under the direct supervision of a journeyman working as a crew. Welders shall receive the wage rate prescribed for the craft performing the operation to which the welding is incidental.

Article XIX. Workers Compensation Certification.

Contractor shall certify in writing that he provides Workers Compensation insurance for all employees of the Contractor. The Contractor shall require all subcontractors to provide a similar certificate to the Contractor and the Contractor shall furnish such certificates to Nueces County

A Contractor shall:

- (1) Provide coverage for its employees providing services on a project, for the duration of the project based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements;
- (2) Provide a certificate of coverage showing workers' compensation coverage to the governmental entity prior to beginning work on the project;
- (3) Provide the governmental entity, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the contractor's current certificate of coverage ends during the duration of the project;
- (4) Obtain from each person providing services on a project, and provide the governmental entity:
 - a. a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and
 - b. no later than seven days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
- (5) Retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
- (6) Notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the contractor knows or should have known, of any change that materially affects the provisions of coverage of any person providing services on the project;

- (7) Post a notice on each project site informing all persons providing services on the project that they are required to be covered, and stating how a person may verify current coverage and report failure to provide coverage. This notice does not satisfy other posting requirements imposed by the Act or other commission rules. This notice must be printed with a title in at least 30-point bold type and text in at least 19-point normal type, and shall be in both English and Spanish and any other language common to the worker population. The text for the notices shall be the following text in Figure 2: 28 TAC 110.110(d) (7) of this section, provided by the commission on the sample notice without any additional words or changes; and
- (8) Contractually require each person with whom it contracts to provide services on a project to:
 - a. Provide coverage based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements for all of its employees providing services on the project, for the duration of the project;
 - b. Provide a certificate of coverage to the contractor prior to the beginning work on project;
 - c. include in all contracts to provide services on the project the language in subsection (e) (3) of this section;
 - d. provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
 - e. Obtain from each other person with whom it contracts, and provide to the contractor:
 - i. a certificate of coverage, prior to the other person beginning work on the project; and
 - ii. prior to the end of the coverage period, a new certificate of coverage showing extension of coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project; and
 - f. Retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
 - g. notify the governmental entity in writing by certified mail or personal delivery, within 30 days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and

- h. contractually require each other person with whom it contracts, to perform as required by subparagraphs (a) – (h) of this paragraph, with the certificate of coverage to be provided to the person for whom they are providing services.

(e)(3)

“By signing this contract or providing or causing to be provided a certificate of coverage, the person signing this contract is representing to the governmental entity that all employees of the person signing this contract who will provide services on the project will be covered by workers’ compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission’s Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.”

This rule is applicable for building or construction contracts advertised for bid by a government entity on or after September 1, 1994.

Article XX. Insurance:

The Contractor shall purchase and maintain in force at all times during the term of the Contract, until the Project is finally completed and accepted by County, the insurance as indicated below.

Bodily injury and property damage liability insurance in at least the following types with the minimum limits hereafter indicated, to wit:

- A. Contractor’s Comprehensive:
 - \$500,000 Bodily Injury - per occurrence
 - \$1,000,000 Bodily Injury - annual aggregate
 - \$500,000 Property Damage - each accident
 - \$500,000 Property Damage – aggregate
- B. Automobile Liability Covering:
 - Owned Automobiles
 - Non-owned Automobiles
 - including Hired Automobiles
 - and those of independent contractors.

Per	Per	Property Damage Per
<u>Person</u>	<u>Occurrence</u>	<u>Occurrence</u>
\$500,000	\$1,000,000	\$500,000

- C. Umbrella (excess liability policy) or additional limits on foregoing risks \$1,000,000.
- D. Builder’s Risk Insurance written on the Texas Standard Form for actual completed value, covering fire, extended coverage, vandalism and malicious mischief upon the entire structure on which the work of the Contract is to be

performed to the extent of 100% of the insurable value thereof, including items of labor and material connected therewith whether in or adjacent to the structure insured, materials in place or to be used as a part of the permanent construction, and temporary structures, miscellaneous materials and supplies incident to the work.

E. Workers Compensation Insurance Certificate

All insurance must be written by insurance companies which are rated in the A.M. Best Rating Guide – Property & Casualty with a policyholder's rating of A, and a financial size category of Class VII. A designated Project or Premises Endorsement (CG 25 01 11 85) which applies the general aggregate to the project must be provided. The County is to be named as additional insured in the policy and a waiver of subrogation shall be provided to the County. No policy shall contain any exclusion for explosion, collapse, or underground coverage.

The work shall not be commenced by Contractor until after the policy, or policies, evidencing the insurance coverage herein required, or certificates of such insurance providing that the insurer shall give County thirty(30) days written notice prior to cancellation, material revision or intention not to renew, have been filed with the County.

TCDP-T
INSTRUCTION TO BIDDERS FOR CONSTRUCTION
(ATTACHMENT 11-M)

Attachment 11-M

INSTRUCTION TO BIDDERS

FOR CONSTRUCTION

1. Use of Separate Bid Forms

These contract documents include a complete set of bid and contract forms which are for the convenience of the bidders and are not to be detached from the contract document, completed or executed. Separate bid forms are provided for your use.

2. Interpretations or Addenda

No oral interpretations will be made to any bidder. Each request for an interpretation shall be made in writing to the locality or engineer no less than seven (7) days prior to the bid opening. Each interpretation made will be in the form of an Addendum to the contract documents and will be distributed to all parties holding contract documents no less than five (5) days prior to the bid opening. It is, however, the bidder's responsibility to make inquiry as to any addenda issued. All such addenda shall become part of the contract documents and all bidders shall be bound by such addenda, whether or not received by the bidders.

3. Inspection of Site

Each bidder should visit the site of the proposed work and fully acquaint himself with the existing conditions there and should fully inform himself as to the facilities involved, the difficulties and restrictions attending the performance of the contract. The bidder should thoroughly examine and familiarize himself with the drawings, technical specifications and all other contract documents. The contractor by the execution of the contract shall in no way be relieved of any obligation under it due to his failure to receive or examine any form or legal document or to visit the site or acquaint himself with the conditions there existing. The city/county will be justified in rejecting any claim based on lack of inspection of the site prior to the bid.

4. Alternate bid items

No alternate bids or bid items will be considered unless they are specifically requested by the technical specifications.

5. Bids

- a. *All bids must be submitted on the forms provided and are subject to all requirements of the Contract Documents, including the Drawings.*
- b. *All bids must be regular in every respect and no interlineation, excisions or special conditions may be made or included by the bidder.*
- c. *Bid documents, including the bid, the bid bond, and the statement of bidders' qualifications shall be sealed in an envelope and clearly labeled with the words "Bid Documents", the project number, name of bidder and the date and time of bid opening.*

- d. *The locality may consider as irregular any bid on which there is an alteration of or departure from the bid form and, at its option, may reject any irregular bid.*
- e. *If a contract is awarded, it will be awarded to a responsible bidder on the basis of the lowest/best bid and the selected alternate bid items, if any. The contract will require the completion of the work in accordance with the contract documents.*

6. *Bid Modifications Prior to Bid Opening*

- a. *Any bidder may modify his bid by telegraphic communication at any time prior to the scheduled closing time for receipt of bids, provided such telegraphic communication is received by the locality prior to the closing time, and provided further, the locality is satisfied that a written confirmation of the telegraphic modification over the signature of the bidder was mailed prior to the closing time. The telegraphic communication should not reveal the bid price but should provide the addition, subtractions or other modifications so that the final prices or terms will not be known by the locality until the sealed bid is open. If written confirmation is not received within two (2) days from the closing time, no consideration will be given to the telegraphic modification.*
- b. *Likewise, any bidder may modify a bid by submitting a supplemental bid in person prior to the scheduled closing time for receipt of bids. Such supplemental bid should mention only additions or subtractions to the original bid so as to not reveal the final prices or terms to the locality until the sealed bid is open.*

7. *Bid Bond*

- a. *A bid bond in the amount of 5% of the bid issued by an acceptable surety shall be submitted with each bid. A certified check or bank draft payable to the locality or negotiable U.S. Government Bonds (as par value) may be submitted in lieu of the Bid Bond.*
- b. *The bid bond or its comparable, will be returned to the bidder as soon as practical after the opening of the bids.*

8. *Statement of Bidders Qualifications*

Each bidder shall submit on the form furnished for that purpose a statement of the bidder's qualifications. The locality shall have the right to take such steps as it deems necessary to determine the ability of the bidder to perform his obligations under the contract, and the bidder shall furnish the locality all such information and data for this purpose as it may request. The right is reserved to reject any bid where an investigation of the available data does not satisfy the locality that the bidder is qualified to carry out properly the terms of the contract.

9. *Unit Price*

The unit price for each of the several items in the bid shall include its pro rata share of overhead so that the sum of the products obtained by multiplying the quantity shown for each item by the unit price bid represents the total bid. Any bid not conforming to this requirement may be rejected as informal. Special attention is drawn to this condition, as the unit prices will be used to determine the amount of any change orders resulting from an increase or decrease in quantities.

10. *Corrections:*

Erasures or other corrections in the bid must be noted over the signature of the bidder.

11. Time for Receiving Bids

Bids received prior to the advertised hour of opening shall be kept securely sealed. The officer appointed to open the bids shall decide when the specified time has arrived and no bid received thereafter will be considered; except that when a bid arrives by mail after the time fixed for opening, but before the reading of all other bids is completed, and it is shown to the satisfaction of the locality that the late arrival of the bid was solely due to delay in the mail for which the bidder was not responsible, such bid will be received and considered.

12. Opening of Bids

The locality shall, at the time and place fixed for the opening of bids, open each bid and publicly read it aloud, irrespective of any irregularities therein. Bidders and other interested individuals may be present.

13. Withdrawal of Bids

Bidder may withdraw the bid before the time fixed for the opening of bids, by communicating his purpose in writing to the locality. Upon receipt of such notice, the unopened bid will be returned to the bidder. The bid guaranty of any bidder withdrawing his bid will be returned promptly.

14. Award of Contract/Rejection of Bids

- a. The contract will be awarded to the responsive, responsible Bidder submitting the lowest/best bid. The bidder selected will be notified at the earliest possible date. The locality reserves the right to reject any or all bids and to waive any informality in bids received where such rejection or waiver is in its interest.*
- b. The locality reserves the right to consider as unqualified to do the work any bidder who does not habitually perform with his own forces the major portions of the work involved in construction of the improvements embraced in this contract.*

15. Execution of Agreement/Performance and Payment Bonds

- a. Performance and Payment Bonds, Requires all prime contractors which enter into a formal contract in excess of \$25,000 with the State, any department, board, agency, municipality, county, school district or any division or subdivision thereof, to obtain a Payment Bond in the amount of the contract before commencing with work and a performance bond for public works contracts in excess of \$100,000.*
- b. The failure of the successful bidder to execute the agreement and supply the required bonds within ten (10) days after the prescribed forms are presented for signature, or within such extended period as the locality may grant, shall constitute a default and the locality may, at its option either award the contract to the next lowest responsible bidder, or re-advertise for bids. In either case, the locality may charge against the bidder the difference between the amount of the bid, and the amount for which a contract is subsequently executed irrespective of whether this difference exceeds the amount of the bid bond. If a more favorable bid is received through re-advertisement, the defaulting bidder shall have no claim against the locality for a refund.*

16. Wages and Salaries

17. Equal Employment Opportunity

Attention is called to the requirements for ensuring that employees and applicants for employment are not discriminated against because of their race, color, creed, sex, or national origin.

18. Project Completion Schedule

The contractor should be aware that award and notice to proceed of this contract is subject to several items being approved.

1. TxDOT permits have been submitted and we are awaiting approval.
2. The City of Corpus Christi must approve the final design prior to commencing the work.
3. Nueces County is in the process of finalizing a re-plat of a portion of colonia.
4. Nueces County is in the process of finalizing easement acquisition.

It is anticipated that a notice to proceed will be in September of this year.

SECTION 00102

NOTICE TO CONTRACTORS

"TEXAS HOUSE BILL 560 ATTACHMENT"

The Contract is amended to incorporate the provisions of the Texas House Bill 560 (copy attached). To the extent any General, Special or other provision of the Contract is inconsistent with or in conflict with House Bill 560, then the terms of House Bill 560 shall control.

LEGISLATIVE INFORMATION SYSTEM 73 (R)
BILL TEXT REPORT
HB 560 ENROLLED VERSION

AN ACT

relating to the payment of certain laborers, workers, and mechanics under public works contracts.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. Section 2, Chapter 45, General Laws, Acts of the 43rd Legislature, Regular Session, 1933 (Article 5159a, Vernon's Texas Civil Statutes), is amended as follows:

Sec. 2. (a) The public body awarding any contract for public work on behalf of the State, or on behalf of any county, city and county, city, town, district or other political subdivision thereof, or otherwise undertaking any public work, shall ascertain the general prevailing rate of per diem wages in the locality in which the work is to be performed for each craft or type of workman or mechanic needed to execute the contract, and shall specify in the call for bids for said contract, and in the contract itself, what the general prevailing rate of per diem wages in the said locality is for each craft or type of workman needed to execute the contract, also the prevailing rate for legal holiday and overtime work, and it shall be mandatory upon the contractor to whom the contract is awarded, and upon any subcontractor under him, to pay not less than the said specified rates to all laborers, workmen and mechanics employed by them in the execution of the contract. Failure of the awarding body to ascertain and specify in the call for the contract the prevailing wage rate in that locality relieves the contractor or subcontractor from liability under this Act. To ascertain the general prevailing wage rate, the public body shall either conduct a survey to determine the prevailing wage based upon the wages received by classes of laborers and mechanics employed on projects of a character similar to the contract work in the city, county or other political subdivision of the State in which the work is to be performed, or adopt the prevailing wage rate as determined by the U.S. Department of Labor in accordance with the Davis-Bacon Act, if the survey on which the Davis-Bacon rate was founded was conducted within three years prior to the bidding of the project.

(b) A contractor or subcontractor in violation of this Act is liable for ~~The contractor shall forfeit as a penalty.~~ That contractor or subcontractor shall pay to the State, county, or city with more than 10,000 residents ~~city and county, city, town,~~ district or other political subdivision on whose behalf the contract is made or awarded, Sixty Dollars (\$60.00) ~~Ten Dollars (\$10.00)~~ for each laborer, workman or mechanic employed, for each calendar day, or portion thereof, such laborer, workman or mechanic is paid less than the said stipulated rates for any work done under said contract, ~~by him, or by any subcontractor under him,~~ and the said public body awarding the contract shall cause to be inserted in the contract a stipulation to this effect. The money collected under this subsection shall be used by the awarding body to offset the costs incurred in the administration of this section.

(c) Upon receipt of a complaint by a laborer, workman, or mechanic or other pertinent information, the public body shall determine within 30 days whether good cause exists to believe that a contractor or subcontractor has committed a violation of this Act. The public body shall provide written notice of its determination to the contractor or subcontractor and any affected laborer, workman, or mechanic. The public body shall retain any amounts due under the contract pending a final determination of the violation.

LEGISLATIVE INFORMATION SYSTEM 73 (R)
BILL TEXT REPORT
HB 560 ENROLLED VERSION

(d) If the contractor or subcontractor and any affected laborer, workman, or mechanic fail to resolve the alleged violation by agreement within 14 days of the determination by the public body, the issues of the alleged violation, any penalties owed to the public body, and any amounts owed to any affected laborer, workman, or mechanic shall be submitted to binding arbitration in accordance with the provisions of the Texas General Arbitration Act (Art. 224 et seq., Revised Statutes). If the parties fail to agree upon an arbitrator within 10 days, the arbitrator shall be designated by the district court upon petition of any party. The decision and award of the arbitrator is final and binding upon all parties and may be enforced in any court of competent jurisdiction. The public body is not a party in the arbitration.

(e) The arbitrator shall assess and award all reasonable costs, including the arbitrator's fee, against the party or parties who fail to prevail in the proceeding. Costs may be assessed against the workman, laborer, or mechanic only if the arbitrator finds that the claim was frivolous. If the arbitrator does not find that the claim is frivolous and does not make an award to the laborer, workman, or mechanic, costs will be shared equally by the parties. If the arbitrator determines that a violation of the Act has occurred, the arbitrator shall assess and award penalties as provided in the Act and all amounts owed to the affected workman, laborer, or mechanic against the contractor or subcontractor.

(f) The public body shall use any amounts retained under this subsection to reimburse the laborer, workman, or mechanic for the amount owed to that person because of the failure to pay the person the general prevailing rate of per diem wages as provided in the arbitrator's award. The public body may adopt rules, orders, or ordinances relating to the manner in which the reimbursement is made to the laborer, workman, or mechanic. An office, agent, or employee of a public body is not liable in a civil action for any act or omission implementing or enforcing this Act unless the action was made in bad faith. The contractor is entitled to rely on a certificate by a subcontractor as to the payment of all sums due to those working for and under that subcontractor until the contrary has been determined.

(g) If the amounts withheld by, if any, the public body under Subsection (c) of this section are insufficient to fully reimburse the laborer, workman, or mechanic for amounts owed to that person under the terms of this Act, that person has a right of action against the contractor or subcontractor and the surety of that person to recover any amounts owed, reasonable attorney's fees and court costs.

(h) It shall be the duty of such public body awarding the contract, and its agents and officers, to take cognizance of complaints of all violations of the provisions of this Act committed in the course of the execution of the contract, and, when making payments to the contractor of monies becoming due under said contract, to withhold and retain ~~therefrom~~ all sums and amounts ~~which shall have been forfeited or required to be retained under this section pursuant to the herein said stipulation and the terms of this Act;~~ provided, however, that no sum shall be so withheld, retained or forfeited, except from the final payment, without a determination ~~full investigation~~ by the awarding body that good cause exists to believe that a violation has occurred.

(i) It shall be lawful for any contractor to withhold from any subcontractor under him sufficient sums to cover any amounts ~~penalties~~ withheld from him by the awarding body on account of the said subcontractor's failure to comply with the terms of this Act, and if payment has already

LEGISLATIVE INFORMATION SYSTEM 73 (R)
BILL TEXT REPORT
HB 560 ENROLLED VERSION

been made to the subcontractor, him the contractor may withhold the amount from any future payments owed to the subcontractor or recover from the subcontractor or the subcontractor's surety in a suit at law ~~him the amount retained or forfeited of the penalty or forfeiture in a suit at law.~~

SECTION 2. This Act takes effect September 1, 1993, and applies only to a public works contract entered on or after that date.

SECTION 3. The importance of this legislation and the crowded condition of the calendars in both houses create an emergency and an imperative public necessity that the constitutional rule requiring bills to be read on three several days in each house be suspended, and this rule is hereby suspended.

President of the Senate

Speaker of the House

I certify that H.B. No. 560 was passed by the House on May 11, 1993, by a non-record vote; and that the House concurred in Senate amendments to H.B. No. 560 on May 24, 1993, by a non-record vote; and that the House adopted H.C.R. No. 172 authorizing certain corrections in H.B. No. 560 on May 28, 1993.

Chief Clerk of the House

I certify that H.B. No. 560 was passed by the Senate, with amendments, on May 22, 1993, by a viva-voce vote; and that the Senate adopted H.C.R. No. 172 authorizing certain corrections in H.B. No. 560 on May 29, 1993.

Secretary of the Senate

SECTION 00104

**NOTICE TO CONTRACTORS
NEW RULE, 28 TAC 110.110
Requiring Requirements for Building or
Construction Projects for Governmental Entities**

Attached to this Document is material from the Texas Workers' Compensation Commission which is required to be included in building or construction Bid and Contract Documents, on and after September 1, 1994.

By way of summary, a new rule requires that Contractors, Subcontractors, and any others providing services (including deliveries to the job site) or work which relates to a building or construction project must be covered by Workers' Compensation Insurance (or authorized self-insurance). The rule requires that certain Workers' Compensation Insurance provisions must be included both in the Contract with the successful Bidder and in that Bidder's Contracts with others who will provide services or work which relates to a building or construction project.

Most significantly, the successful Bidder must:

- 1) Provide a Certificate of Coverage to the Owner before it may be awarded the Contract;
- 2) Obtain from each person providing services on a project, a Certificate of Coverage. Such a Certificate must be obtained by the successful Bidder, and provided to the Owner, before an individual may begin work on the project. This is so that the Owner will have on file Certificates of Coverage for all person providing services on the project;
- 3) Obtain, and provide to the Owner, updated Certificates showing extension of coverage if coverage expires during the term of the project;
- 4) Notify the Owner in writing, by Certified Mail or personal delivery, within ten (10) days after he knows or should know, of any change that materially affects the provision of coverage of any person providing services on the project; and,
- 5) Post the required notice at the job site.

This cover page is not intended to recite all of the requirements of the attached rule. The language of the rule controls and the attached material shall be deemed incorporated into both the Bid Documents and Contract concerning the project as if set out in full in each Document. Further, to the extent the attached material cannot be reconciled with provision already in either the Bid Documents or Contract, then the attached material shall control.

SECTION S00104A

TEXAS ADMINISTRATIVE CODE

**TITLE 28 INSURANCE - 1995
(Replaces 1994 Pamphlet)**

**Amendments Effective Through January 1, 1995
Under Authority of the Texas Secretary of State**

**§ 110.110 Reporting Requirements for Building or Construction Projects for
Governmental Entities**

(a) The following words and terms, when used in this rule, shall have the following meanings, unless the context clearly indicates otherwise. Terms not defined in this rule shall have the meaning defined in the Texas Labor Code, if so defined.

(1) Certificate of coverage ("certificate") - A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees (including those subject to a coverage agreement) providing services on a project, for the duration of the project.

(2) Building or construction - Has the meaning defined in the Texas Labor Code, §406.096(e)(1).

(3) Contractor - A person bidding for or awarded a building or construction project by a governmental entity.

(4) Coverage - Workers' compensation insurance meeting the statutory requirements of the Texas Labor Code, §401.011(44).

(5) Coverage agreement - A written agreement on Form TWCC-81, Form TWCC-82, form TWCC-83, or Form TWCC-84, filed with the Texas Workers' Compensation Commission which establishes a relationship between the parties for purposes of the Workers' Compensation Act, pursuant to the Texas Labor Code, Chapter 406, Subchapters F and G, as one of employer/employee and establishes who will be responsible for providing workers' compensation coverage for persons providing services on the project.

(6) Duration of the project - Includes the time from the beginning of work on the project until the work on the project has been completed and accepted by the governmental entity.

✓ (7) **Persons providing services on the project ("subcontractor" in §406.096 of the Act) - Includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes but is not limited to independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity furnishing persons to perform services on the project. "Services" includes but is not limited to providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.**

(8) **Project - Includes the provision of all services related to a building or construction contract for a governmental entity.**

(b) **Providing or causing to be provided a certificate of coverage pursuant to this rule is a representation by the insured that all employees of the insured who are providing services on the project are covered by workers' compensation coverage, that the coverage is based on proper reporting of classification codes and payroll amounts, and that all coverage agreements have been filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading certificates of coverage, or failing to provide or maintain required coverage, or failing to report any change that materially affects the provision of coverage may subject the contractor or other person providing services on the project to administrative penalties, criminal penalties, civil penalties, or other civil actions.**

(c) **A governmental entity that enters into a building or construction contract on a project shall:**

(1) **include in the bid specifications all the provisions of paragraph (7) of this subsection, using the language required by paragraph (7) of this subsection;**

(2) **as part of the contract, using the language required by paragraph (7) of this subsection, require the contractor to perform as required in subsection (d) of this section;**

(3) **obtain from the contractor a certificate of coverage for each person providing services on the project, prior to that person beginning work on the project;**

(4) **obtain from the contractor a new certificate of coverage showing extension of coverage:**

(A) before the end of the current coverage period, if the contractor's current certificate of coverage shows that the coverage period ends during the duration of the project; and

(B) no later than seven days after the expiration of the coverage for each other person providing services on the project whose current certificate shows that the coverage period ends during the duration of the project;

(5) retain certificates of coverage on file for the duration of the project and for three years thereafter;

(6) provide a copy of the certificates of coverage to the commission upon request and to any person entitled to them by law; and

(7) use the language contained in Figure 1 for bid specifications and contracts, without any additional words or changes, except those required to accommodate the specific document in which they are contained or to impose stricter standards of documentation.

Texas Workers' Compensation Commission

Figure 1: 28 TAC §110.110(c)(7)

Article _____

Workers' Compensation Insurance Coverage.

A. Definitions:

Certificate of coverage ("certificate") - A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.

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

Persons providing services on the project ("subcontractor" in §406.096) - includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services"

include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

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

 - (1) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and*
 - (2) no later than seven days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.*
- F. The contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.*
- G. The contractor shall notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.*
- H. The contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.*

- I. The contractor shall contractually require each person with whom it contracts to provide services on a project, to:**
- (1) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on the project, for the duration of the project;**
 - (2) provide to the contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;**
 - (3) provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;**
 - (4) obtain from each other person with whom it contracts, and provide to the contractor:**
 - (a) a certificate of coverage, prior to the other person beginning work on the project; and**
 - (b) a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;**
 - (5) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;**
 - (6) notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and**
 - (7) contractually require each person with whom it contracts, to perform as required by paragraphs (1)-(7), with the certificates of coverage to be provided to the person for whom they are providing services.**
- J. By signing this contract or providing or causing to be provided a certificate of coverage, the contractor is representing to the governmental entity that all employees of the contractor who will provide services on the project will be covered by workers'**

compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

K. The contractor's failure to comply with any of these provisions is a breach of contract by the contractor which entitles the governmental entity to declare the contract void if the contractor does not remedy the breach within ten days after receipt of notice of breach from the governmental entity.

(d) A contractor shall:

(1) provide coverage for its employees providing services on a project, for the duration of the project based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements;

(2) provide a certificate of coverage showing workers' compensation coverage to the governmental entity prior to beginning work on the project;

(3) provide the governmental entity, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the contractor's current certificate of coverage ends during the duration of the project;

(4) obtain from each person providing services on a project, and provide to the governmental entity:

(A) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and

(B) no later than seven days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(5) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;

(6) *notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project;*

(7) *post a notice on each project site informing all persons providing services on the project that they are required to be covered, and stating how a person may verify current coverage and report failure to provide coverage. This notice does not satisfy other posting requirements imposed by the Act or other commission rules. This notice must be printed with a title in a least 30-point bold type and text in at least 19-point normal type, and shall be in both English and Spanish and any other language common to the worker population. The text for the notices shall be the following text in Figure 2 of this section, provided by the commission on the sample notice, without any additional words or changes:*

Figure 2
Required Workers' Compensation Coverage

"The law requires that each person working on this site or providing services related to this construction project must be covered by workers' compensation insurance. This includes person providing, hauling, or delivering equipment or materials, or providing labor or transportation or other service related to the project, regardless of the identity of their employer or status as an employee."

"Call the Texas Workers' Compensation Commission at 512-440-3789 to receive information on the legal requirement for coverage, to verify whether your employer has provided the required coverage, or to report an employer's failure to provide coverage."

(8) *contractually require each person with whom it contracts to provide services on a project to:*

(A) *provide coverage based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements for all of its employees providing services on the project, for the duration of the project;*

(B) *provide a certificate of coverage to the contractor prior to that person beginning work on the project;*

(C) *include in all contracts to provide services on the project the language in subsection (e)(3) of this section;*

(D) *provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of*

coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(E) obtain from each other person with whom it contracts, and provide to the contractor:

(i) a certificate of coverage, prior to the other person beginning work on the project; and

(ii) prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(F) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;

(G) notify the governmental entity in writing by certified mail or personal delivery, within ten days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and

(H) contractually require each other person with whom it contracts to perform as required by subparagraphs (A)-(H) of this paragraph with the certificate of coverage to be provided to the person for whom they are providing services.

(e) A person providing services on a project, other than a contractor, shall:

(1) provide coverage for its employees providing services on a project, for the duration of the project based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements;

(2) provide a certificate of coverage as required by its contract to provide services on the project, prior to beginning work on the project;

(3) have the following language in its contract to provide services on the project: "By signing this contract or providing or causing to be provided a certificate of coverage, the person signing this contract is representing to the governmental entity that all employees of the person signing this contract who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage

agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions."

(4) provide the person for whom it is providing services on the project, prior to the end of the coverage period shown on its current certificate of coverage, a new certificate showing extension of coverage, if the coverage period shown on the certificate of coverage ends during the duration of the project;

(5) obtain from each person providing services on a project under contract to it, and provide as required by its contract:

(A) a certificate of coverage, prior to the other person beginning work on the project; and

(B) prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(6) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;

(7) notify the governmental entity in writing by certified mail or personal delivery of any change that materially affects the provision of coverage of any person providing services on the project and send the notice within ten days after the person knew or should have known of the change; and

(8) contractually require each other person with whom it contracts to:

(A) provide coverage based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements for all of its employees providing services on the project, for the duration of the project;

(B) provide a certificate of coverage to it prior to that other person beginning work on the project;

(C) include in all contracts to provide services on the project the language in paragraph (3) of this subsection;

(D) provide, prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage

period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(E) obtain from each other person under contract to it to provide services on the project, and provide as required by its contract:

(i) a certificate of coverage, prior to the other person beginning work on the project; and

(ii) prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the contract;

(F) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;

(G) notify the governmental entity in writing by certified mail or personal delivery, within ten days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and

(H) contractually require each person with whom it contracts to perform as required by subparagraphs (A)-(H) of this paragraph with the certificate of coverage to be provided to the person for whom they are providing services.

(f) If any provision of this rule or its application to any person or circumstance is held invalid, the invalidity does not affect other provisions or applications of this rule that can be given effect without the invalid provision or application, and to this end the provisions of this rule are declared to be severable.

(g) This rule is applicable for building or construction contracts advertised for bid by a governmental entity on or after September 1, 1994.

Source: The provisions of this §110.110 adopted to be effective September 1, 1994, 19 TexReg 5715.

SECTION 00105

UNIT PRICE BID FORM

IFB NO. 2665-06

Gentlemen:

This Bid is submitted by _____, whose address is _____, (hereafter called "Bidder"), for the **"WATER AND WASTEWATER SYSTEM IMPROVEMENTS FOR ROSE ACRES"** (hereinafter called the "Project").

The Bidder agrees to furnish for the Bid the amount of _____ Dollars (\$ _____), all labor, services, materials, tools, equipment and supervision necessary to the full and final completion of the Project, and everything incidental thereto, as shown on the Drawings, stated in the Specifications, or property inferable therefrom; all in accordance with the Contract Documents governing the construction of such Project prepared by the firm **Naismith Engineering, Inc.**

Bidder represents that, prior to preparing this Bid, he/she has carefully read the Contract Documents, examined the site of the Project and made an investigation such that he/she is fully informed of the conditions, facilities, difficulties, restrictions and requirements, which he/she will, or may, encounter in the completion of the Project in accordance with the terms of the Contract Documents. If any Addenda is issued, bidder will acknowledge receipt of all those issued in the appropriate table provided below: (List Addenda by Addendum Number and Date):

Addendum No.				
Date Received				

The undersigned bidder understands and agrees that the quantities of work as shown herein are approximate only and are subject to increase or decrease, and offers to do the work whether the quantities are increased or decreased, at the unit prices stated in the attached schedule of values.

Accompanying this Bid is a certified or cashier's check or bid bond payable to the order of Nueces County (hereinafter called "County"), for not less than five percent (5%) of the largest amount for which a contract can be awarded under this proposal.

Bidder agrees that if he is awarded the contract he will execute and deliver to the County, within ten (10) days after he is notified of the acceptance of his/her bid, a Contract for the construction of such Project, a Performance Bond and a Payment Bond, each in the form promulgated by the County. Should Bidder fail to execute such contract or furnish such Bonds within the prescribed time, Bidder agrees that the accompanying bid security

shall become the property of the County as liquidated damages for the additional delay and the expense which will be incurred by the County as a result thereof.

Bidder agrees that if his/her Bid is accepted by the County, he will complete all work called for under the Contract Documents on or before 120 working days after the date of the Notice to Proceed, and if the not completed by such time, he/she agrees to pay to County as liquidated damages, the sum of Two Hundred Dollars (\$200) for each working day after such time that the work remains incomplete, calculated in accordance with the provisions of the Contract Documents.

Bidder agrees that he/she will not withdraw his/her Bid for a period of thirty (30) days from the date scheduled for the opening bids as set forth in the Instruction to Bidders.

EXECUTED on _____, 2006

Bidder

(If Bidder is a corporation, complete the following)

ATTEST: _____

By: _____

Sole Owner, Partner or
President of Corporation

(Corporate Seal)

ATTEST:

Whose address is:

By: _____

Nueces County

BASE BID

Item No.	Est Qnty & Units	Description
1.	4645 LF	16" C-900 PVC Water Line , including, excavation, dewatering of the trench, location and protection of buried and overhead utilities, furnishing and installing pipe, driveway repairs, backfill, detection tape and tracer wire, compaction, final grading, protecting drainage & public, testing, traffic control, and sterilization of the pipeline as shown on the plans and as outlined in the specifications, complete in place.

\$ _____
Unit Price (Figures)

\$ _____
Unit Price (Figures in Written Words)

\$ _____
Total Price (Figures)

\$ _____
Total Price (Figures in Written Words)

2. 810 LF

8" C-900 PVC Water Line, including, excavation, dewatering of the trench, location and protection of buried and overhead utilities, furnishing and installing pipe, driveway repairs, backfill, detection tape and tracer wire, compaction, final grading, protecting drainage and public, testing, traffic control, and sterilization of the pipeline as shown on the plans and as outlined in the specifications, complete in place.

\$ _____
Unit Price (Figures)

\$ _____
Unit Price (Figures in Written Words)

\$ _____
Total Price (Figures)

\$ _____
Total Price (Figures in Written Words)

3. 135 LF

2" C-900 PVC Water Line, including, excavation, dewatering of the trench, location and protection of buried and overhead utilities, furnishing and installing pipe, driveway repairs, backfill, detection tape and tracer wire, compaction, final grading, protecting drainage and public, testing, traffic control, and sterilization of the pipeline as shown on the plans and as outlined in the specifications, complete in place.

\$ _____
Unit Price (Figures)

\$ _____
Unit Price (Figures in Written Words)

\$ _____
Total Price (Figures)

\$ _____
Total Price (Figures in Written Words)

<i>Item No.</i>	<i>Est Qty & Units</i>	<i>Description</i>
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4.	9 EA	16" D.I.M.J. Resilient Seated Gate Valve (Clow F6100) with Valve Box , including excavation and dewatering of the trench, location and protection of buried and overhead utilities, concrete blocking, restraints, furnishing and installing valve, operator and valve box, backfill, compaction and final grading, protection of public, as shown on the plans and as outlined in the specifications, complete in place.
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\$ _____
Unit Price (Figures)

\$ _____
Unit Price (Figures in Written Words)

\$ _____
Total Price (Figures)

\$ _____
Total Price (Figures in Written Words)

5.	3 EA	8" D.I.M.J. Resilient Seated Gate Valve (Clow F6100) with Valve Box , including excavation and dewatering of the trench, location and protection of buried and overhead utilities, concrete blocking, restraints, furnishing and installing valve, operator and valve box, backfill, compaction and final grading, protection of public, as shown on the plans and as outlined in the specifications, complete in place.
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\$ _____
Unit Price (Figures)

\$ _____
Unit Price (Figures in Written Words)

\$ _____
Total Price (Figures)

\$ _____
Total Price (Figures in Written Words)

6.	1 EA	3" D.I.M.J. Resilient Seated Gate Valve (Clow F6100) with Valve Box , including excavation and dewatering of the trench, location and protection of buried and overhead utilities, concrete blocking, restraints, furnishing and installing valve, operator and valve box, backfill, compaction and final grading, protection of public, as shown on the plans and as outlined in the specifications, complete in place.
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\$ _____
Unit Price (Figures)

\$ _____
Unit Price (Figures in Written Words)

\$ _____
Total Price (Figures)

\$ _____
Total Price (Figures in Written Words)

<i>Item No.</i>	<i>Est Qty & Units</i>	<i>Description</i>
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7.	10 EA	Fire Hydrant Assembly (Clow Medallion) , including excavation and dewatering of trench, location and protection of buried and overhead utilities, concrete blocking, restraint system, furnishing and installing fittings, valves, and pipe, compaction and final grading, as shown on the plans and as outlined in the specifications, complete in place
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\$ _____
Unit Price (Figures)

\$ _____
Unit Price (Figures in Written Words)

\$ _____
Total Price (Figures)

\$ _____
Total Price (Figures in Written Words)

8.	87 LF	8" Steel Casing Installed by Boring , (including excavation, dewatering of the trench, location and protection of buried and overhead utilities, traffic control, furnishing and installing steel casing, providing casing spacers and sealing ends of casing, roadway repairs, bedding, and backfill), as shown on the Drawings and as outlined in the Specifications, complete in place.
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\$ _____
Unit Price (Figures)

\$ _____
Unit Price (Figures in Written Words)

\$ _____
Total Price (Figures)

\$ _____
Total Price (Figures in Written Words)

9.	1 EA	8" D.I.M.J. 11.25° Bend with Restraints and Concrete Blocking , as shown on the plans and as outlined in the specifications, complete in place
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\$ _____
Unit Price (Figures)

\$ _____
Unit Price (Figures in Written Words)

\$ _____
Total Price (Figures)

\$ _____
Total Price (Figures in Written Words)

10.	1 EA	8" D.I.M.J. 90° Bend with Restraints and Concrete Blocking , as shown on the plans and as outlined in the specifications, complete in place
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\$ _____

\$ _____

<i>Item No.</i>	<i>Est Qty & Units</i>	<i>Description</i>
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Unit Price (Figures)	Unit Price (Figures in Written Words)
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\$ _____	\$ _____
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Total Price (Figures)	Total Price (Figures in Written Words)
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11.	1 EA	16" D.I.M.J. 45° Bend with Restraints and Concrete Blocking , as shown on the plans and as outlined in the specifications, complete in place
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\$ _____	\$ _____
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Unit Price (Figures)	Unit Price (Figures in Written Words)
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\$ _____	\$ _____
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Total Price (Figures)	Total Price (Figures in Written Words)
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12.	2 EA	16" D.I.M.J. 22.5° Bend with Restraints and Concrete Blocking , as shown on the plans and as outlined in the specifications, complete in place
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\$ _____	\$ _____
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Unit Price (Figures)	Unit Price (Figures in Written Words)
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\$ _____	\$ _____
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Total Price (Figures)	Total Price (Figures in Written Words)
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13.	1 EA	16" D.I.M.J. 11.25° Bend with Restraints and Concrete Blocking , as shown on the plans and as outlined in the specifications, complete in place
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\$ _____	\$ _____
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Unit Price (Figures)	Unit Price (Figures in Written Words)
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\$ _____	\$ _____
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Total Price (Figures)	Total Price (Figures in Written Words)
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14.	2 EA	16"x 8" D.I.M.J. Reducing Tee with Restraints and Concrete Blocking , as shown on the plans and as outlined in the specifications, complete in place
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\$ _____	\$ _____
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Unit Price (Figures)	Unit Price (Figures in Written Words)
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\$ _____	\$ _____
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Total Price (Figures)	Total Price (Figures in Written Words)
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<i>Item No.</i>	<i>Est Qty & Units</i>	<i>Description</i>
15.	1 EA	8" x 3" Reducing Tee with Restraints and Concrete Blocking , as shown on the plans and as outlined in the specifications, complete in place.
		\$ _____ Unit Price (Figures) \$ _____ Unit Price (Figures in Written Words)
		\$ _____ Total Price (Figures) \$ _____ Total Price (Figures in Written Words)
16.	1 EA	3" x 2" D.I.M.J. Reducer with Restraints , as shown on the plans and as outlined in the specifications, complete in place
		\$ _____ Unit Price (Figures) \$ _____ Unit Price (Figures in Written Words)
		\$ _____ Total Price (Figures) \$ _____ Total Price (Figures in Written Words)
17.	1 EA	16" Plug , as shown on the plans and as outlined in the specifications, complete in place
		\$ _____ Unit Price (Figures) \$ _____ Unit Price (Figures in Written Words)
		\$ _____ Total Price (Figures) \$ _____ Total Price (Figures in Written Words)
18.	1 EA	16" D.I.M.J. Long Pattern Sleeve with Restraints , as shown on the plans and as outlined in the specifications, complete in place
		\$ _____ Unit Price (Figures) \$ _____ Unit Price (Figures in Written Words)
		\$ _____ Total Price (Figures) \$ _____ Total Price (Figures in Written Words)
19.	48 EA	Single Water Service Connections (not including service line to house) , as shown on the Plans, including excavation, corporation stop, polyethylene pipe, meter coupling, furnishing and installing service

<i>Item No.</i>	<i>Est Qty & Units</i>	<i>Description</i>
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saddle, fittings, meter with meter box, cutoff valve, backfill and compacting, testing and sterilization, complete in place

\$ _____
Unit Price (Figures)

\$ _____
Unit Price (Figures in Written Words)

\$ _____
Total Price (Figures)

\$ _____
Total Price (Figures in Written Words)

20. 48 EA

Single Sanitary Sewer Service Connections, with/without Road Bore (not including service line to house), as shown on the Plans, including excavation, sch. 40 PVC casing, corporation stop, polyethylene pipe, meter coupling, furnishing and installing service saddle, fittings, meter with meter box, cutoff valve, backfill and compacting, testing and sterilization, complete in place

\$ _____
Unit Price (Figures)

\$ _____
Unit Price (Figures in Written Words)

\$ _____
Total Price (Figures)

\$ _____
Total Price (Figures in Written Words)

21. 6525 LF

4" Treated PVC Service Waste Water Line, including connection to existing wastewater source, excavation, dewatering of the trench, location and protection of buried and overhead utilities, furnishing and installing pipe, driveway repairs, backfill, compacting, final grading, protecting drainage, testing, and sterilization of the pipeline as shown on the plans and as outlined in the specifications, complete in

\$ _____
Unit Price (Figures)

\$ _____
Unit Price (Figures in Written Words)

\$ _____
Total Price (Figures)

\$ _____
Total Price (Figures in Written Words)

22. 6715 LF

3/4" Treated PVC Service Water Line (from meter to house), including connection to existing wastewater source, excavation, dewatering of the trench, location and protection of buried and overhead utilities,

<i>Item No.</i>	<i>Est Qty & Units</i>	<i>Description</i>
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furnishing and installing pipe, driveway repairs, backfill, compacting, final grading, protecting drainage, testing, and sterilization of the pipeline as shown on the plans and as outlined in the specifications, complete in

\$ _____
Unit Price (Figures)

\$ _____
Unit Price (Figures in Written Words)

\$ _____
Total Price (Figures)

\$ _____
Total Price (Figures in Written Words)

23. 1 LS

Storm Water Pollution Prevention Plan, as shown on the plans and as outlined in the specifications, complete in place.

\$ _____
Lump Sum Price (Figures)

\$ _____
Lump Sum Price (Figures in Written Words)

24. 1365 LF

8" Gravity Sanitary Sewer @ 0' – 5' Depth, (including excavation, backfill, bedding, seeding, dewatering, utility adjustments, connections, etc.), if applicable, as shown on the plans and as outlined in the specifications, complete in place.

\$ _____
Unit Price (Figures)

\$ _____
Unit Price (Figures in Written Words)

\$ _____
Total Price (Figures)

\$ _____
Total Price (Figures in Written Words)

25. 440 LF

8" Gravity Sanitary Sewer @ 5' – 7' Depth, (including excavation, backfill, bedding, seeding, dewatering, utility adjustments, connections, etc.), if applicable, as shown on the plans and as outlined in the specifications, complete in place.

\$ _____
Unit Price (Figures)

\$ _____
Unit Price (Figures in Written Words)

\$ _____
Total Price (Figures)

\$ _____
Total Price (Figures in Written Words)

26. 340 LF

8" Gravity Sanitary Sewer @ 7' – 9' Depth, (including excavation, backfill, bedding, seeding, dewatering, utility adjustments, connections, etc.), if applicable, as shown on the

<i>Item No.</i>	<i>Est Qty & Units</i>	<i>Description</i>
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plans and as outlined in the specifications, complete in place.
 \$ _____ \$ _____
 Unit Price (Figures) Unit Price (Figures in Written Words)

\$ _____ \$ _____
 Total Price (Figures) Total Price (Figures in Written Words)

27. 100 LF 8" Gravity Sanitary Sewer @ 9' – 11' Depth, (including excavation, backfill, bedding, seeding, dewatering, utility adjustments, connections, etc.), if applicable, as shown on the plans and as outlined in the specifications, complete in place.

\$ _____ \$ _____
 Unit Price (Figures) Unit Price (Figures in Written Words)

\$ _____ \$ _____
 Total Price (Figures) Total Price (Figures in Written Words)

28. 855 LF 8" Gravity Sanitary Sewer @ 11' – 13' Depth, (including excavation, backfill, bedding, seeding, dewatering, utility adjustments, connections, etc.), if applicable, as shown on the plans and as outlined in the specifications, complete in place.

\$ _____ \$ _____
 Unit Price (Figures) Unit Price (Figures in Written Words)

\$ _____ \$ _____
 Total Price (Figures) Total Price (Figures in Written Words)

29. 400 LF 8" Gravity Sanitary Sewer @ 13' – 15' Depth, (including excavation, backfill, bedding, seeding, dewatering, utility adjustments, connections, etc.), if applicable, as shown on the plans and as outlined in the specifications, complete in place.

\$ _____ \$ _____
 Unit Price (Figures) Unit Price (Figures in Written Words)

\$ _____ \$ _____
 Total Price (Figures) Total Price (Figures in Written Words)

30. 2135 LF Trench Safety, (for anticipated trench excavations in excess of five (5) feet deep, to comply with the trench safety specification requirements outlined in Section 02229), as shown on the Drawings and as outlined in the Specifications, complete in place.

\$ _____ \$ _____
 Unit Price (Figures) Unit Price (Figures in Written Words)

<i>Item No.</i>	<i>Est Qty & Units</i>	<i>Description</i>
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\$ _____	\$ _____
Total Price (Figures)	Total Price (Figures in Written Words)

31.	5	EA	Sanitary Sewer Manhole @ 0' – 5' Depth, 4' diameter as shown on the plans and as outlined in the specifications, complete in place.
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\$ _____	\$ _____
Unit Price (Figures)	Unit Price (Figures in Written Words)

\$ _____	\$ _____
Total Price (Figures)	Total Price (Figures in Written Words)

32.	1	EA	Sanitary Sewer Manhole @ 5' – 7' Depth, 4' diameter as shown on the plans and as outlined in the specifications, complete in place.
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\$ _____	\$ _____
Unit Price (Figures)	Unit Price (Figures in Written Words)

\$ _____	\$ _____
Total Price (Figures)	Total Price (Figures in Written Words)

33.	1	EA	Sanitary Sewer Manhole @ 7' – 9' Depth, 4' diameter as shown on the plans and as outlined in the specifications, complete in place.
------------	----------	-----------	--

\$ _____	\$ _____
Unit Price (Figures)	Unit Price (Figures in Written Words)

\$ _____	\$ _____
Total Price (Figures)	Total Price (Figures in Written Words)

34.	1	EA	Sanitary Sewer Manhole @ 9' – 11' Depth, 4' diameter as shown on the plans and as outlined in the specifications, complete in place.
------------	----------	-----------	---

\$ _____	\$ _____
Unit Price (Figures)	Unit Price (Figures in Written Words)

\$ _____	\$ _____
Total Price (Figures)	Total Price (Figures in Written Words)

35.	1	EA	Sanitary Sewer Manhole @ 11' – 13' Depth, 4' diameter as shown on the plans and as outlined in the specifications, complete in place.
------------	----------	-----------	--

\$ _____	\$ _____
Unit Price (Figures)	Unit Price (Figures in Written Words)

\$ _____	\$ _____
----------	----------

<i>Item No.</i>	<i>Est Qty & Units</i>	<i>Description</i>
-----------------	----------------------------	--------------------

Total Price (Figures) Total Price (Figures in Written Words)

36. 2 EA Sanitary Sewer Manhole @ 13' – 15' Depth, 4' diameter as shown on the plans and as outlined in the specifications, complete in place.

\$ _____ \$ _____
Unit Price (Figures) Unit Price (Figures in Written Words)

\$ _____ \$ _____
Total Price (Figures) Total Price (Figures in Written Words)

37. 4 EA Sanitary Sewer Connections To Manhole, as shown on the plans and as outlined in the specifications, complete in place.

\$ _____ \$ _____
Unit Price (Figures) Unit Price (Figures in Written Words)

\$ _____ \$ _____
Total Price (Figures) Total Price (Figures in Written Words)

38. 1 LS Electrical, Lift Station., as shown on the plans and as outlined in the Specifications, complete in place.

\$ _____
Lump Sum Price (Figures)

\$ _____
Lump Sum Price (Figures in Written Words)

39. 1 LS Controls, Lift Station., as shown on the plans and as outlined in the Specifications, complete in place.

\$ _____
Lump Sum Price (Figures)

\$ _____
Lump Sum Price (Figures in Written Words)

40. 1 LS Electrical service drops by utility provider (Lift Station), as shown on the plans and as outlined in the Specifications, complete in place.

\$ _____
Lump Sum Price (Figures)

<i>Item No.</i>	<i>Est Qty & Units</i>	<i>Description</i>
-----------------	----------------------------	--------------------

\$ _____
Lump Sum Price (Figures in Written Words)

41. 1 **LS** **Lift Station, and Appurtenances,** (including excavation, dewatering, pumps and motors, hardware and accessories, pipe and valves, fiberglass wet well, concrete, fencing, access drive, backfill, and trench safety) as shown on the Drawings and outlined in the Specifications, complete in place.

\$ _____
Lump Sum Price (Figures)

\$ _____
Lump Sum Price (Figures in Written Words)

42. 6242 **LF** **4" C900 DR14 PVC Forcemain,** (including excavation, fittings, restraints, dewatering of the trench, location and protection of buried and overhead utilities, furnishing and installing pipe, backfill, bedding, and testing), as shown on the Drawings and as outlined in the Specifications, complete in place.

\$ _____ Unit Price (Figures)	\$ _____ Unit Price (Figures in Written Words)
----------------------------------	---

\$ _____ Total Price (Figures)	\$ _____ Total Price (Figures in Written Words)
-----------------------------------	--

TOTAL BASE BID PRICE- (Items 1 through 42)

\$ _____
Total Price (In Figures)

\$ _____
Total Price (Figures in Written Words)

The Bidder agrees to complete all Base Bid work within 120 working days after receipt of Notice to Proceed.

The quantities shown on the Plans and Bid Form are for bidding purposes and to assist the OWNER in the evaluation of Bids. The OWNER, during the course of construction, will identify the items and limits of work to be actually performed. No work shall be performed on any section of work until directed by the OWNER. Final payment shall be for the quantity of work complete as measured in the field at completion of the project.

If at the time this contract is to be awarded, the lowest bid, submitted by a responsive, responsible Bidder who has satisfactorily demonstrated to the Owner his ability to complete the project, does not exceed the amount of funds then estimated by the Owner as available to finance the contract, the contract will be awarded on the base bid. If the bid exceeds the amount of funds then estimated by the Owner as available to finance the contract, he may reject all bids.

Amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in figures will govern. The above prices shall include all labor, materials, overhead, profit, insurance, etc., to cover the finished work of the several kinds called for, complete in place. The Bidder understands that the Owner reserves the right to reject any or all bids and waive any informality in the bidding process.

The Bidder agrees that this bid shall be good and may not be withdrawn for a period of ninety (90) calendar days after the scheduled closing time for receiving bids. The undersigned Bidder hereby declares that he agrees to do the work and that no representations made by the Owner are in any sense a warranty, but are mere estimates for the for he guidance of the Contractor.

Upon receipt of the notice of award of the bid, the Bidder will execute the formal contract attached within ten (10) days and will deliver a Performance and Payment Bond to insure payment for all labor and materials. The bid security attached, without endorsement, in the sum of no less than five percent (5%) of the total amount bid, is to become the property of the Owner, in the event the contract and bonds are not executed within the time above set forth, as liquidated damages for the delay and additional work caused thereby.

The undersigned agrees that if awarded the contract for the work he will guarantee the work against defects in materials and workmanship for a period of one (1) year following completion of the work and acceptance by the Owner. The contract and all bonds will be prepared in not less than six (6) counterparts (original signed) sets.

Respectfully submitted,

By: _____

Title: _____

SEAL – if bid is by corporation

(Business Address and Zip Code

NOTE: Bidders must complete and attach the required forms outlined in Section 01300, "Submittals"

Job No. 6744

00105 - 14

SECTION 00110

STATEMENT OF BIDDER'S QUALIFICATIONS

1. **PURPOSE:** To assist the Owner in determining the ability of each Bidder to properly fulfill the requirements of this proposed contract, the Bidder shall complete the following items. All questions must be answered and the data given must be clear and comprehensive. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information he desires. **This statement must be notarized.**

Name of Bidder: _____ Date Organized: _____
Address: _____
Phone Number: _____ Fax Number: _____
Date Incorporated: _____
Number of Years in contracting business under present name: _____
Phone Number: _____ Fax Number: _____
Type of work performed by your company: _____
Have you ever failed to complete any work awarded to you? _____
Have you ever defaulted on a contract? _____

Credit available: \$ _____ Bank reference: _____

2. **EXPERIENCE:** The Bidder shall give below a list of five (5) similar projects which he has completed within the last five (5) years.

A. Owner: _____
Address: _____
Project: _____
Date Completed: _____ Total Cost: _____

B. Owner: _____
Address: _____
Project: _____
Date Completed: _____ Total Cost: _____

C. Owner: _____
Address: _____
Project: _____
Date Completed: _____ Total Cost: _____

D. Owner: _____
Address: _____
Project: _____
Date Completed: _____ Total Cost: _____

E. Owner: _____
Address: _____
Project: _____
Date Completed: _____ Total Cost: _____

3. CONTRACTS ON HAND: The Bidder shall provide below a list of any contracts he currently has on hand:

4. EQUIPMENT AVAILABLE FOR THIS CONTRACT: The Bidder shall provide below a list of equipment available for use on this contract:

5. SUBCONTRACTORS: The Bidder shall provide below a tentative list of subcontractors proposed to work on the contract, and the portion of work to be performed by each.

The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Owner in verification of the recitals comprising this Statement of Bidder's Qualifications.

Executed this _____ day of _____, 20__.

By _____

Title _____

NON-COLLUSION AFFIDAVIT OF BIDDER

State of _____ §
County of _____ §

_____, being duly sworn, deposes and says that:

1. He/She is _____ of _____, the Bidder submitting the attached Proposal;
2. He/She is full informed respecting the preparation and contents of the attached Bid and any and all appurtenances thereof;
3. Such Bid is genuine and is not a collusive Bid;
4. Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with another Bidder, firm or person to submit a collusive Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix an overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the Owner or any other person interested in the proposed contract; and
5. The price or prices quoted in the attached Bid are fair and proper and are not tainted by any, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Name)

(Title) _____
(Date)

Subscribed and sworn to me this _____ day of _____, 2006

By: _____

Notary Public in and for _____ County, Texas

My commission expires _____

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____,
certify that I am the _____ Secretary of
the Corporation named as Principal in the attached Bond; that who signed the
said Bond on behalf of the Principal was then the _____ of
said Corporation; that I know his signature and his signature thereto is genuine;
and that said Bond was duly signed, sealed and attested for and in behalf of said
Corporation by authority of the governing body.

(Signed)

Title: _____

Date: _____

(Affix Corporate Seal)

BID BOND

KNOW ALL MEN BY THESE PRESENTS: That we the undersigned, _____
_____ as PRINCIPAL,
and _____ as SURETY, are held and
firmly bound unto the COUNTY OF NUECES, TEXAS, hereinafter called COUNTY, in
the penal sum of _____ Dollars (\$ _____),
lawful money of the United States, for the payment of which sum well and truly to be
made, we bind ourselves, our heirs, executors, administrators, successors, and
assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal
has submitted the accompanying Bid, dated the _____ day of _____, 20____,
which is hereto attached and made a part hereof for:

**IFB NO. 2665-06
WATER & WASTEWATER SYSTEM IMPROVEMENTS
(ROSE ACRES)**

NOW, THEREFORE, if the Principal shall not withdraw said Bid within the period
specified therein after the opening of the same, or, if no period be specified, within thirty
(60) days after the said opening, and shall within the period specified therefore, or if no
period be specified, within ten (10) days after the prescribed forms are presented to him
for signature, enter into written Contract with the COUNTY in accordance with the Bid
as accepted, and give bond with good and sufficient surety or sureties, as may be
required, for the faithful performance and proper fulfillment of such Contract, or in the
event of the withdrawal of said Bid within the period specified, or the failure to enter into
such Contract and give such bond within the time specified, if the Principal shall pay the
owner the difference between the amount specified in said Bid and the amount for
which the COUNTY may procure the required work or supplies or both, if the latter be in
excess of the former, then the above obligation shall be void and of no effect, otherwise
to remain in full force and virtue.

IN WITNESS WHEREOF, the above bound Parties have executed this instrument under their several seals this ___ the day of _____, 20 ____. The name and corporate seal of each corporate party hereto affixed and these presents signed by its undersigned representative, pursuant to authority of its governing body.

ATTEST:

(Principal) Secretary

Principal

(SEAL)

Business Address

Witness as to Principal

Business Address

ATTEST:

(Surety) Secretary

Surety

(SEAL)

By: _____
Attorney-in-Fact

Address

Witness as to Surety

Address

Attorney-in-Fact, State _____

(Power-of-attorney for person signing for Surety Company must be attached to bond.)

AGREEMENT

State of Texas §

County of Nueces §

This agreement made and entered into this _____ day of _____, 2006, by and between _____, a corporation organized and existing under the laws of the State of Texas, hereinafter called "Contractor" and **Nueces County**, Texas, hereinafter called "County".

WITNESSETH, that the Contractor and the County for the considerations stated herein mutually agree as follows:

ARTICLE I STATEMENT OF WORK

The Contractor shall furnish all supervision, technical personnel, labor, materials, machinery, tools, equipment and services, including utility and transportation services, and perform and complete all work required for the Project, namely **IFB NO. 2665-06 WATER & WASTEWATER SYSTEM IMPROVEMENTS (ROSE ACRES)** and required supplemental work for the project, all in strict accordance with the Contractual Documents, including all Addenda thereto, as prepared by **NAISMITH ENGINEERING, INC.**

ARTICLE II ENGINEER

Naismith Engineering, Inc., 4501 Gollihar Road, Corpus Christi, TX or his authorized representative, is hereinafter called "ENGINEER" and is to act as COUNTY'S representative, assume all duties and responsibilities and have the rights and authority assigned to Engineer in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

**ARTICLE III
THE CONTRACT PRICE**

The County will pay the Contractor for the performance of the Contract in current funds, for the total quantities of work performed at the prices stipulated on his Bid Form of this Contract Document for the several respective items of work in the amount of

_____ (\$ _____) completed subject to additions, deletions, and/or revisions as provided in the General Conditions of Agreement included in these Contract Documents.

**ARTICLE IV
CONTRACT TIME**

The Work will be completed within 120 working days after the date stated in the Notice to Proceed.

**ARTICLE V
CONTRACT**

The Executed Contract Documents shall consist of the following:

- | | |
|--------------------------------|-----------------------------|
| 1. This Agreement | 2. Signed Copy of Bid |
| 3. Advertisement for Bids | 4. Instructions to Bidders |
| 5. Standard General Conditions | 6. Technical Specifications |
| 7. Drawings | 8. Addenda |

THIS AGREEMENT, together with the other documents enumerated in ARTICLE V, which said other documents are fully a part of the Contract as if hereto attached or herein repeated, forms the Contract. In case of conflicts with any provision of any other component part, the provision of the component part first enumerated in this ARTICLE V shall govern, except as otherwise specifically stated.

RETAINAGE in the amount of five percent (5%) shall be withheld on all Partial Payments until Completion and Final Acceptance of the work by the Owner.

It is expressly understood by County and vendor, that from the date of award of vendor bid to one year after termination or expiration of contract term, it is prohibited for any county official or employee thereof, to receive gifts described by Section 5.02 of the County Personnel or Civil Service Rules, and or campaign or political contributions regardless of amount from vendor or principal owners of said vendor. County official is defined as those individuals described as county and precinct officers in Subchapter B of Chapter 152 of the Local Government Code. Vendor is furthermore prohibited from making political, campaign, or personal contributions to candidates for county and precinct office from the date of award of vendor bid to one year after termination or expiration of contract term. It is also prohibited for vendor to contribute to employee associations or for the benefit of groups of employees.

IN WITNESS WHEREOF, the parties hereto have caused this AGREEMENT to be executed in five (5) original copies on the day and year first above written.

COUNTY

CONTRACTOR

Nueces County

By: _____
Terry Shamsie

By: _____

Title: County Judge

Title: _____

ATTEST

By: Diana Barrera

By: _____

Title: Nueces County Clerk

Title: _____

CONTRACTOR'S CERTIFICATION

I, certify that I am the _____ of the corporation named as Contractor herein; that, who signed this Agreement on behalf of the Contractor was then of said corporation, that said Agreement was duly signed for and on behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

CONTRACTOR: _____

By: _____

(Seal)

Business Address: _____

CONTRACTOR CERTIFICATE OF INSURANCE
TO BE INSERTED AFTER EXECUTION OF CONTRACT

PERFORMANCE BOND

State of Texas §

KNOW ALL MEN BY THESE PRESENTS

County of Nueces §

That we, _____ Contractor, as Principal, and _____

_____, as Surety, are hereby held and

firmly bound unto **NUECES COUNTY**, hereinafter referred to as "COUNTY", in the full and

just sum of _____ (\$_____)

for the payment of which the said Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

The conditions of this obligation are such that: **WHEREAS, the Principal** entered into a certain, which Contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein, with the COUNTY, dated the ____ this day of _____, 2006, for the construction of:

IFB NO. 2665-06

**WATER & WASTEWATER SYSTEM IMPROVEMENTS
(ROSE ACRES)**

In accordance with the Drawings, Specifications and other Contract Documents thereto, prepared by **Naismith Engineering, Inc.**

NOW, THEREFORE, if the Principal shall promptly make payment to all claimants as defined in Paragraph C of Article 5160 Revised Civil Statutes of Texas, 1925, as amended by House Bill 344, Acts of the 56th Legislature, Regular Session, 1959, supplying labor and materials in the prosecution of the work provided for in said Contract, as well as any changes, extensions, deletions or modifications thereof which may be made by COUNTY, with or without notice to Surety, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

PROVIDED that any additions, deletion, alterations or changes which may be made in the terms of the Contract or in the Drawing, Specification or other Contract Documents, or in the work to be done thereunder, or the making by the COUNTY of any payment or pre-payment under Contract, or the giving by the County of an extension of time for the performance of the Contract, or the granting of any other forbearance on the part of either the COUNTY or the Principal to the other shall not in any way release the Principal or the Surety, or either of them, their heirs, executors, administrators, successors or assigns, from their liability or the liability of any of them hereunder, notice to the Surety of any such

addition, deletion, alteration, change, payment, pre-payment, extension or forbearance being hereby expressly waived.

PROVIDED FURTHER, that this bond is executed solely for the protection of the COUNTY pursuant to the provisions of Article 5160, Vernon's Civil Statutes of Texas, as amended, and all liabilities on this bond are to be determined in accordance with the provisions thereof.

EXECUTED on _____, 2006

PRINCIPAL (CONTRACTOR)

SURETY (Corporate Name)

By: _____

By: _____

ATTEST:

ATTEST:

By: _____
Principal

By: _____
Surety

PAYMENT BOND

State of Texas §

KNOW ALL MEN BY THESE PRESENTS

County of Nueces §

That we _____, Contractor, as Principal, and _____, as Surety, are hereby held and firmly bound unto Nueces County (hereafter called "COUNTY") in the full and just sum of _____, (\$ _____) for payment of which the said Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

The conditions of this obligation are such that: WHEREAS the Principal entered into a certain Contract, which Contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein, with the Owner dated _____, 2006, for the construction of;

**IFB NO. 2665-06
WATER & WASTEWATER SYSTEM IMPROVEMENTS
(ROSE ACRES)**

In accordance with the Drawings, Specifications and other Contract Documents thereto, prepared by **Naismith Engineering, Inc.**

NOW, THEREFORE, if the Principal shall promptly make payment to all claimants as defined in Paragraph C of Article 5160 Revised Civil Statutes of Texas, 1925, as amended by House Bill 344, Acts of the 56th Legislature, Regular Session, 1959, supplying labor and materials in the prosecution of the work provided for in said Contract, as well as any changes, extensions, deletions or modifications thereof which may be made by COUNTY, with or without notice to Surety, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

PROVIDED that any additions, deletion, alterations or changes which may be made in the terms of the Contract or in the Drawing, Specification or other Contract Documents, or in the work to be done thereunder, or the making by the COUNTY of any payment or

pre-payment under Contract, or the giving by the COUNTY of an extension of time for the performance of the Contract, or the granting of any other forbearance on the part of either the COUNTY or the Principal to the other shall not in any way release the Principal or the Surety, or either of them, their heirs, executors, administrators, successors or assigns, from their liability or the liability of any of them hereunder, notice to the Surety of any such addition, deletion, alteration, change, payment, pre-payment, extension or forbearance being hereby expressly waived.

PROVIDED FURTHER, that this bond is executed solely for the protection of the COUNTY pursuant to the provisions of Article 5160, Vernon's Civil Statutes of Texas, as amended, and all liabilities on this bond are to be determined in accordance with the provisions thereof.

EXECUTED on _____, 2006

PRINCIPAL (CONTRACTOR)

SURETY (Corporate Name)

By: _____

By: _____

ATTEST:

ATTEST:

By: _____

By: _____

Principal

Surety

SECTION 00206

CONTRACTOR'S LOCAL OPPORTUNITY PLAN

The _____ (Contractor) agrees to implement the following specific affirmative action steps directed at increasing the utilization of lower income residents and businesses within the jurisdiction of Nueces County.

- A. To ascertain from the County's TCDP official the exact boundaries of the project area and where advantageous, seek the assistance of local officials in preparing and implementing the affirmative action plan.
- B. To attempt to recruit from within the County the necessary number of lower income residents through: local advertising media, signs placed at the proposed site for the project, and community organizations and public or private institutions operating within and servicing the project area such as Service Employment and Redevelopment (SER), Opportunities Industrialization Center (OIC), Urban League, Concentrated Employment Program, Hometown Plan, or the U.S. Employment Service.
- C. To maintain a list of all lower income residents who have applied either on their own or on referral from any source, and to employ such persons, if otherwise eligible and if a vacancy exists.
- D. To insert this plan in all bid documents and to require all bidders on subcontracts to submit an affirmative action plan including utilization goals and the specific steps planned to accomplish these goals.
- E. To insure that subcontractors (greater than \$10,000) which are typically let on a negotiated rather than bid basis in areas other than the covered project area are also let on a negotiated basis, whenever feasible, in a covered project area.
- F. To formally contact unions, subcontractors, and trade associations to secure their cooperation in this effort.
- G. To insure that all appropriate project area business concerns are notified of pending sub-contractual opportunities.
- H. To maintain records, including copies of correspondence, memoranda, etc., which document that all of the above affirmative action steps have been taken.
- I. To appoint or recruit an executive official of the company or agency as Equal Opportunity Officer to coordinate the implementation of this plan.
- J. To maintain records concerning the amount and number of contracts,

subcontracts, and purchases which contribute to the objectives.

- K. To maintain records of all projected work force needs for all phases of the project by occupation, trade, skill level, and number of positions, and to update these projections based on the extent to which hiring meets these Local Opportunity Objectives.

As officers and representatives of the _____ (Contractor) we, the undersigned, have read and fully agree to this Plan, and become a party to the full implementation of the program and it's provisions.

Signature

Title

Date

Signature

Title

Date

CONTRACTOR CERTIFICATIONS
(SEGREGATED FACILITIES)

CERTIFICATION OF BIDDER REGARDING SECTION 3 AND SEGREGATED FACILITIES

Name of Contractor

Project Name and Number

The undersigned hereby certifies that:

- (a) Section 3 provisions are included in the Contract.**
- (b) A written Section 3 plan was prepared and submitted as part of the bid proceedings (if bid equals or exceeds \$10,000).**
- (c) No segregated facilities will be maintained as required by Title VI of the Civil Rights Act of 1964.**

Name and Title of Signer (Type or Print)

Signature

Date

CONTRACTOR CERTIFICATIONS (EQUAL OPPORTUNITY)

U.S. Department of Housing and Urban Development

CERTIFICATION OF BIDDER REGARDING EQUAL EMPLOYMENT OPPORTUNITY

INSTRUCTIONS

This certification is required pursuant to Executive Order 11246 (30 F.R. 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause, and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicates that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven (7) calendar days after bid opening. No contract shall be awarded unless such report is submitted.

CERTIFICATION BY BIDDER

NAME AND ADDRESS OF BIDDER (include ZIP Code)

1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.

Yes No

2. Compliance reports were required to be filed in connection with such contract or subcontract.

Yes No

3. Bidder has filed all compliance reports due under applicable instructions, including SF100.

Yes No

4. Have you ever been or are you being considered for sanction due to violation of Executive Order 11246, as amended?

Yes No

NAME AND TITLE OF SIGNER (Please type)

SIGNATURE

DATE

**CERTIFICATION OF CONTRACTOR REGARDING
SEGREGATED FACILITIES AND
AFFIRMATIVE ACTION**

The undersigned Contractor hereby certifies that:

1. No segregated facilities will be maintained or provided at any of his (Contractor's) establishments, as required by Title VI of the Civil Rights Act of 1964.

2. Affirmative action will be taken to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin.

NAME OF CONTRACTOR

DATE

BY: _____

*****END OF SECTION*****

**NUECES COUNTY
GENERAL CONDITIONS FOR
ROAD AND BRIDGE CONSTRUCTION CONTRACTS**

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Article I – Definition of Terms

1.1 Applicability. Wherever the following terms are used in these specifications or other Contract documents, the intent and meaning will be interpreted as shown below.

1.2 Abbreviations:

AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AI	Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALSA	American Lumber Standard Committee, Inc.
AMRL	AASHTO Materials Reference Laboratory
ANLA	American Nursery and Landscape Association
ANSI	American National Standards Institute
APA	APA-The Engineered Wood Association
API	American Petroleum Institute
APWA	American Public Works Association
AREMA	American Railway Engineering and Maintenance-of-Way Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASLA	American Society of Landscape Architects
ASNT	American Society for Nondestructive Testing
ASTM	American Society for Testing and Materials
AWC	American Wood Council
AWG	American Wire Gage
AWPA	American Wood-Preservers' Association
AWPI	American Wood Preservers Institute
AS	American Welding Society
AWWA	American Water Works Association
BMP	Best Management Practices
CFR	Code of Federal Regulations
CMP	Corrugated Metal Pipe
COE	U.S. Army Corps of Engineers
CRSI	Concrete Reinforcing Steel Institute
DMS	Departmental Material Specification
EIA	Electronic Industries Alliance
EPA	United States Environmental Protection Agency
FHWA	Federal Highway Administration, U.S. Department of Transportation
FSS	Federal Specifications and Standards (General Services Administration)
GSA	General Services Administration

ICEA	Insulated Cable Engineers Association
IEEE	Institute of Electrical and Electronics Engineers
IESNA	Illuminating Engineering Society of North America
IMSA	International Municipal Signal Association
ISO	International Organization for Standardization
ITE	Institute of Transportation Engineers
LRFD	Load Resistance Factor Design
MIL	Military Specifications
NCHRP	National Cooperative Highway Research Program
NEC	National Electrical Code (Published by NFPA)
NEMA	National Electrical Manufacturers Association
NEPA	National Environmental Policy Act
NESC	National Electrical Safety Code
NFPA	National Fire Protection Association
NIST	National Institute of Standards and Technology
NRMCA	National Ready Mixed Concrete Association
OSHA	Occupational Safety & Health Administration, U.S. Department of Labor
PCA	Portland Cement Association
PCI	Precast/Prestressed Concrete Institute
PSI	Pounds Per Square Inch
PPI	Plastics Pipe Institute
PS&E	Plans, Specifications, and Estimate
RCP	Reinforced Concrete Pipe
RPLS	Registered Public Land Surveyor
SAE	Society of Automotive Engineers
SFPA	Southern Forest Products Association
SI	International System of Units
SPIB	Southern Pine Inspection Bureau
SSPC	The Society for Protective Coatings
TAC	Texas Administrative Code
TXDOT	State Department of Highways & Public Transportation
TCEQ	Texas Commission on Environmental Quality
TDLR	Texas Department of Licensing and Regulation
TMUTCD	Texas Manual on Uniform Traffic Control Devices for Streets and Highways
UL	Underwriters Laboratory, Inc.
USC	United States Code
WRI	Wire Reinforcement Institute
WWPA	Western Wood Products Association

1.3 Actual Cost. Contractor's actual cost to provide labor, material, equipment, and project overhead necessary for the Work.

1.4 Addendum. Any supplemental information in the Contract Documents.

1.5 Advertisement. The public announcement required by law inviting bids for work to be performed or materials to be furnished.

- 1.6 Air Temperature.** The temperature measured in degrees Fahrenheit (°F) in the shade, not in the direct rays of the sun, and away from artificial heat.
- 1.7 Anticipated Profit.** Profit for work not performed.
- 1.8 Apparent Low Bidder.** The bidder determined to have the numerically lowest total bid as a result of the tabulation of bids by the County.
- 1.9 Arterial Highway.** A highway used primarily for through traffic and usually on a continuous route.
- 1.10 Award.** The Commissioners Court acceptance of a Contractor's bid for a proposed Contract that authorizes the County to enter into a Contract.
- 1.11 Bid Bond.** The security executed by the Contractor and the Surety furnished to the County to guarantee payment of liquidated damages if the Contractor fails to enter into an awarded Contract.
- 1.12 Bid Error.** A mathematical mistake made by the prime Contractor in the unit price entered into the proposal.
- 1.13 Bidder.** An individual, partnership, limited liability company, corporation, or joint venture submitting a bid for a proposed Contract.
- 1.14 Bridge.** A structure, including supports, erected over a depression or an obstruction, such as water, a highway, or a railway, having a roadway or track for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 ft. between faces of abutments, spring lines of arches, or extreme ends of the openings for multiple box culverts.
- 1.15 Certificate of Insurance.** A form approved by the County covering insurance requirements stated in the Contract.
- 1.16 Calendar Day.** A calendar day is defined as working day from Sunday through Saturday, including all holidays, regardless of weather conditions, material availability, or other conditions not under the control of the Contractor.
- 1.17 Change Order.** A change order means a written modification of the Contract between Nueces County and the Contractor, signed by the Owner and the Contractor.
- 1.18 Court.** Nueces County Commissioners Court.
- 1.19 Construction Contract.** A Contract entered into for the construction, reconstruction, or maintenance of a segment of the County roadway system.
- 1.20 Consultant.** The licensed professional engineer or engineering firm, or the architect or architectural firm, registered in the State of Texas and under contract to the County to perform professional services. The consultant may be the engineer or

architect of record or may provide services through and be subcontracted to the engineer or architect of record.

- 1.21 Contract.** Contract means the Contract Documents between Nueces County and the Contractor.
- 1.22 Contract Documents.** Contract Documents means the Nueces County-Contractor Agreement, the Conditions of the Contract (General, Supplementary General, and Special Conditions), the Drawings, the Specifications, the Bidding Documents, Advertisements, Invitation and Instruction to Bidders, Contractor's Proposal, Contract Award, and all Addenda issued prior to and any Change Orders issued after execution of the Contract.
- 1.23 Contract Time.** Contract Time means the period between the Date of Commencement and the date scheduled for substantial completion in the Contract Documents, as may be amended by Change Order.
- 1.24 Contractor.** The Contractor means the individual, corporation, company, partnership, firm or other organization that has contracted to perform the Work under the Contract with Nueces County.
- 1.25 Controlled Access Highway.** Any highway to or from which access is denied or controlled, in whole or in part, from or to abutting land or intersecting streets, roads, highways, alleys, or other public or private ways.
- 1.26 Control of Access.** The condition in which the right to access of owners or occupants of abutting land or other persons in connection with a highway is fully or partially controlled by public authority.
- 1.27 Control Point.** An established point shown on the plans to provide vertical and horizontal references for geometric control for construction.
- 1.28 Cross Sections.** Graphic representations of the original ground and the proposed facility at right angles to the centerline or base line.
- 1.29 Culvert.** Any structure, other than a bridge, providing an opening under a roadway for drainage or other purposes.
- 1.30 Cycle.** The unit used to measure activity necessary for performing all work within the right of way and work locations one time.
- 1.31 County.** Refers to Nueces County, Texas, which is a political subdivision of the State of Texas.
- 1.32 Date of Commencement.** Date of Commencement means the date designated in the Notice to Proceed that the Contractor shall commence the Work.
- 1.33 Detour.** A temporary route for traffic around a closed portion of a road.

- 1.34 Divided Highway.** A highway with separate roadways intended to move traffic in opposite directions.
- 1.35 Easement.** A real property right acquired by one party to use land belonging to another party for a specified purpose.
- 1.36 Engineer.** The County Engineer or the authorized representative of the County Engineer.
- 1.37 Expressway.** A divided arterial highway for through traffic with full or partial control of access and generally with grade separations at intersections.
- 1.38 Force Account.** Payment for directed work based on the actual cost of labor, equipment, and materials furnished with markups for project overhead and profit.
- 1.39 Freeway.** An expressway with full control of access.
- 1.40 Frontage Road.** A local street or road auxiliary to and located along an arterial highway for service to abutting property and adjacent areas and for control of access (sometimes known as a service road, access road or insulator road).
- 1.41 Hazardous Materials or Waste.** Hazardous materials or waste include but are not limited to explosives, compressed gas, flammable liquids, flammable solids, combustible liquids, oxidizers, poisons, radioactive materials, corrosives, etiologic agents, and other material classified as hazardous by 40 CFR 261, or applicable state and federal regulations.
- 1.42 Highway, Street, or Road.** General terms denoting a public way for purposes of vehicular travel, including the entire area within the right of way. Recommended usage in urban areas is highway or street; in rural areas, highway or road.
- 1.43 Independent Assurance Tests.** Tests used to evaluate the sampling and testing techniques and equipment used in the acceptance program. The tests are performed by the County and are not used for acceptance purposes.
- 1.44 Inspector.** The person assigned by the Engineer to inspect for compliance with the Contract any or all parts of the work and the materials used.
- 1.45 Intersection.** The general area where two or more highways, streets, or roads join or cross, including the roadway and roadside facilities for traffic movements within it.
- 1.46 Island.** An area within a roadway from which vehicular traffic is intended to be excluded, together with any area at the approach occupied by protective deflecting or warning devices.
- 1.47 Joint venture.** Any combination of individuals, partnerships, limited liability companies, or corporations submitting a single bid proposal.

- 1.48 Letting.** The receipt, opening, tabulation, and determination of the apparent low bidder.
- 1.49 Letting Official.** The Purchasing Agent or any County employee empowered by the Purchasing Agent to officially receive bids and close the receipt of bids at a letting.
- 1.50 Licensed Professional Engineer.** A person who has been duly licensed by the Texas Board of Professional Engineers to engage in the practice of engineering in the State of Texas; also referred to as a Professional Engineer.
- 1.51 Limits of Construction.** An area with established boundaries, identified within the roadway right of way and easements, where the Contractor is permitted to perform the work.
- 1.52 Local Street or Road.** A street or road primarily for access to residence, business, or other abutting property.
- 1.53 Major Item.** An Item of work included in the Contract that has a total cost equal to or greater than 5% of the original Contract or \$100,000.00, whichever is less.
- 1.54 Materially Unbalanced Bid.** A bid that generates a reasonable doubt that award to the bidder submitting a mathematically unbalanced bid will result in the lowest ultimate cost to the County.
- 1.55 Mathematically Unbalanced Bid.** A bid containing bid prices that do not reflect reasonable actual costs plus a reasonable proportionate share of the bidder's anticipated profit, overhead costs, and other indirect costs.
- 1.56 Median.** The portion of a divided highway separating the traffic lanes in opposite directions.
- 1.57 Milestone Date.** The date that a specific portion of the work is to be completed, prior to the completion date for all work under the Contract.
- 1.58 Nonhazardous Recyclable Material (NRM).** A material recovered or diverted from the nonhazardous waste stream for the purposes of reuse or recycling in the manufacture of products that may otherwise be produced using raw or virgin materials.
- 1.59 Nonresident Bidder.** A bidder whose principal place of business is not in Texas. This includes a bidder whose ultimate parent company or majority owner does not have its principal place of business in Texas.
- 1.60 Non-responsive Proposal.** A proposal that does not meet the criteria for acceptance contained in the proposal form.
- 1.61 Notice to Proceed.** Written notice to the Contractor to begin work. When applicable, the notice will include the date Contract working day charges will begin.

- 1.62 **Notification.** Either written or oral instruction to the Contractor concerning the work.
- 1.63 **Ozone Action Day.** A day predicted to have ozone levels equal to or exceeding the ozone standard. The Texas Commission on Environmental Quality predicts ozone action days based on predicted meteorology and current ozone levels.
- 1.64 **Pavement.** That part of the roadway having a constructed surface for the use of vehicular traffic.
- 1.65 **Pavement Structure.** Combination of surface course, and base course placed on a subgrade to support the traffic load and distribute it to the roadbed.
- A. **Surface Course.** Pavement structure layers designed to accommodate the traffic load. The top layer resists skidding, traffic abrasion, and the disintegrating effects of climate and is sometimes called the wearing course.
 - B. **Base Course.** One or more layers of specified material thickness placed on a subgrade to support a surface course.
 - C. **Subgrade.** The top surface of a roadbed upon which the pavement structure, shoulders, and curbs are constructed.
 - D. **Subgrade Treatment.** Modifying or stabilizing material in the subgrade.
- 1.66 **Payment Bond.** The security executed by the Contractor and the Surety, furnished to the County to guarantee payment of all legal debts of the Contractor pertaining to the Contract.
- 1.67 **Performance Bond.** The security executed by the Contractor and the Surety, furnished to the County to guarantee the completion of the work in accordance with the terms of the Contract.
- 1.68 **Plans.** The drawings approved by the Engineer including true reproductions of the drawings that show the location, character, dimensions, and details of the work and are a part of the Contract.
- 1.69 **Power of Attorney for Surety Bonds.** An instrument under corporate seal appointing an attorney-in-fact to act on behalf of a surety company in signing bonds.
- 1.70 **Project Specific Location (PSL).** A material source, plant, waste site, parking area, storage area, field office, staging area, haul road, or other similar location either outside the project limits or within the project limits but not specifically addressed in the PS&E.
- 1.71 **Proposal.** The offer of the bidder submitted on the prescribed form, including addenda issued, giving unit bid prices for performing the work described in the plans and specifications.

1.72 Proposal Form. The document issued by the County for a proposed Contract that includes:

- the specific locations, if known, and description of the proposed work;
- an estimate of the various quantities and kinds of work to be performed or materials to be furnished;
- a schedule of Items for which unit prices are requested;
- the number of working days within which the work is to be completed; and
- the special provisions and special specifications applicable to the proposed Contract.

1.73 Proposal Guaranty. The security designated in the proposal and furnished by the bidder as a guarantee that the bidder will enter into a Contract if awarded the work.

1.74 Quality Assurance (QA). Sampling, testing, inspection, and other activities conducted by the Engineer to determine payment and make acceptance decisions.

1.75 Quality Control (QC). Sampling, testing, and other process control activities conducted by the Contractor to monitor production and placement operations.

1.76 Ramp. A section of highway for the primary purpose of making connections with other highways.

1.77 Referee Tests. Tests requested to resolve differences between Contractor and Engineer test results. The referee laboratory is an independent geotechnical laboratory.

1.78 Regular Item. A bid Item contained in a proposal and not designated as an alternate bid Item.

1.79 Rental Rate Blue Book for Construction Equipment. Publication containing equipment rental rates.

1.80 Responsive Bid. A proposal that meets all requirements of the proposal form for acceptance.

1.81 Right-of-Way. A general term denoting land or property devoted to transportation purposes.

1.82 Roadbed. The graded portion of a highway prepared as foundation for the pavement structure and shoulders. On divided highways, the depressed median type and the raised median type highways are considered to have two roadbeds. Highways with a flush median are considered to have one roadbed.

1.83 Roadmaster. A railroad maintenance official in charge of a division of railway.

1.84 Roadside. The areas between the outside edges of the shoulders and the right-of-way boundaries. Unpaved median areas between inside shoulders of divided highways and areas within interchanges are included.

- 1.85 Roadway.** The portion of the highway used by the traveling public, including shoulders.
- 1.86 Shoulder.** That portion of the roadway contiguous with the traffic lanes for accommodation of stopped vehicles for emergency use or for lateral support of base and surface courses.
- 1.87 Sidewalk.** Portion of the right of way constructed exclusively for pedestrian use.
- 1.88 Special Provisions.** Additions or revisions to these Standard Specifications or special specifications.
- 1.89 Special Specifications.** Supplemental specifications applicable to the Contract, not covered by the Standard Specifications.
- 1.90 Specifications.** Directives or requirements issued or made pertaining to the method and manner of performing the work or to quantities and qualities of materials to be furnished under the Contract. References to TxDot Material Specifications, specifications of ASTM or AASHTO, or Bulletins and Manuals of TxDot, imply the latest standard or tentative standard in effect on the date of the proposal. Incorporation of subsequent changes to the above documents will be considered by the Engineer in accordance with Article 2, "Scope of Work," as appropriate.
- 1.91 Station.** A unit of measurement consisting of 100 horizontal feet.
- 1.92 Subcontract.** The agreement between the Contractor and subcontractor establishing the obligations of the parties for furnishing of materials and performance of the work prescribed in the Contract documents.
- 1.93 Subcontractor.** Subcontractor means a person or organization who, as an independent contractor, contracts directly or indirectly with the Contractor to perform part or all of the Contract between Nueces County and the Contractor. This term does not include the Engineer.
- 1.94 Subsidiary.** Materials, labor, or other elements that because of their nature or quantity have not been identified as a separate Item and are included within the Items on which they necessarily depend.
- 1.95 Substructure.** The part of the structure below the bridge seats or below the springing lines of arches. Parapets, backwalls, and wingwalls of abutments are considered as parts of the substructure.
- 1.96 Superintendent.** The representative of the Contractor authorized to receive and fulfill instructions from the Engineer and who will supervise and direct the work.
- 1.97 Superstructure.** The part of the structure above the bridge seats or above the springing lines of arches.
- 1.98 Supplemental Agreement.** Written agreement entered into between the Contractor and the County and approved by the Surety, covering alterations and changes in the

Contract. A supplemental agreement is used by the County whenever the modifications include assignment of the Contract from one entity to another or other cases as desired by the County.

1.99 Surety. The corporate body or bodies authorized to do business in Texas bound with and for the Contractor for the faithful performance of the work covered by the Contract and for the payment for all labor and material supplied in the prosecution of the work.

1.100 Surplus Materials. Any debris or material related to the Contract that is not incorporated into the work.

1.101 Traffic Lane. The strip of roadway intended to accommodate the forward movement of a single line of vehicles.

1.102 Traveled Way. The portion of the roadway for the movement of vehicles, exclusive of shoulders and auxiliary lanes.

1.103 Truck Owner-Operator. An individual who owns and operates one truck for hire.

1.104 Utility. Privately, publicly, or cooperatively owned lines, facilities, and systems for producing, transmitting, or distributing communications, power, heat, gas, oil, water, waste, or storm water that are not connected with the highway drainage, signal systems, or other products that directly or indirectly serve the public; the utility company.

1.105 Verification Tests. Tests used to verify accuracy of QC and QA and mixture design testing.

1.106 Wholly Owned Subsidiary. A legal entity owned entirely by the Contractor or Subcontractor.

1.107 Work. Work means all labor, plant, materials, facilities, and all other things, including the construction and services necessary or incidental to fulfill the Contractor's obligations for the Project in conformance with the Contract Documents.

1.108 Working Day. A working day is defined as a calendar day, not including Saturdays, Sundays, or legal holidays authorized in the list prepared by the County for contract purposes, in which weather or other conditions not under the control of the Contractor will permit the performance of the principal unit of work underway for a continuous period of not less than 7 hours between 7 a.m. and 6 p.m. For every Sunday or legal holiday, except the following holidays:

January 1st, the last Monday in May, July 4th, the first Monday in September, November 11, the fourth Thursday and Friday in November and two days in December for Christmas Holidays.

on which the Contractor chooses to work, one day will be charged against the contract working time when weather conditions will permit 7 hours of work as delineated above. The principal unit of work shall be that unit which controls the completion time of the contract. Nothing in this section shall be construed as prohibiting the Contractor from working on Saturdays or legal holidays, except the six listed above, if he so desires. Work on Sunday and on the six legal holidays listed above will not be permitted except in cases of extreme emergency or when the safety of the Contractor's forces and/or the traveling public would be significantly improved, and then only with the written permission of the Engineer. If Sunday work or work on the six legal holidays is permitted, working time will be charged on the same basis as week days.

The Engineer may suspend the work and the "Time Charge", in accordance with Item 6.4, on any holiday, on the day preceding the holiday or on the day following the holiday if the Engineer and the Contractor mutually agree the Contractor should not work. Such suspension shall be based upon (a) past experience as to the volume of holiday traffic that may be expected and (b) the hazard to the traveling public and/or Contractor's employees that project operations would present.

1.109 Work Order. Written notice to the Contractor to begin the work. The work order may include the work begin date.

1.110 Written Notice. Written notice is considered to have been duly given if document is delivered in person to the individual or member of the firm or to an officer of the corporation for who it is intended, if delivered at or sent by registered or certified mail to the last business address known to one who gives notice, or transmitted by fax machine, with a receipt retained to prove delivery. Notice is deemed effective when given rather than when received.

Article II – Scope of Work

2.1 Contract Intent. The intent of the Contract is to describe the completed work to be performed. Unless otherwise stated, the contractor will furnish materials, supplies, tools, equipment, labor, and other incidentals necessary for the proper prosecution and completion of the work in accordance with Contract documents.

2.2 Pre-Construction Conference. Prior to the issuance of a Notice to Proceed, a conference will be held, attended by the Engineer, Contractor, Subcontractors and others, as appropriate, to establish a working understanding among the parties as to the Work, schedules, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, maintaining required records and all other matters of importance to the Project and effective communications on the site.

2.3 Changes in the Work. The Engineer reserves the right to make changes in the work including addition, reduction, or elimination of quantities and alterations needed to complete the Contract. These changes will not invalidate the Contract nor release the Surety.

If the changes in quantities or the alterations do not significantly change the character of the work under the Contract, the altered work will be paid for at the Contract unit price. If the changes in quantities or the alterations significantly change the character of the work, the Contract will be amended by a change order. If no unit prices exist, this will be considered extra work and the Contract will be amended by a change order. The Contractor shall provide cost justification as requested, in an acceptable format. Payment will not be made for anticipated profits on work that is eliminated.

Nueces County and the Contractor shall agree upon the scope of work and the basis of payment for the change order before beginning the work. If there is no agreement, the Engineer may order the work to proceed under Section 7.5, "Force Account," or by making a fair and equitable adjustment to the Contract. In the case of an adjustment, the Engineer may consider modifying the compensation after the work is performed.

A significant change in the character of the work occurs when:

- the character of the work for any Item, as altered, differs materially in kind or nature from that in the Contract, or
- a major Item of work varies by more than 25% from the original Contract quantity.

When the quantity of work to be done under any major Article of the Contract is more than 125% of the original quantity stated in the Contract, then either party to the Contract may request an adjustment to the unit price on that portion of the work that is above 125%.

When the quantity of work to be done under any major Article of the Contract is less than 75% of the original quantity stated in the Contract, then either party to the Contract may request an adjustment to the unit price. If an adjusted unit price cannot be agreed upon, the Engineer may determine the unit price by multiplying the Contract unit price by the factor in Table 1.

Table 1
Quantity-based Price Adjustment Factors

% of Original Quantity	Factor
≥50 and <75	1.05
≥25 and <50	1.15
<25	1.25

If the changes require additional working days to complete the Contract, Contract working days will be adjusted in accordance with Article VI, "Prosecution and Progress."

In addition to the above, the total original contract price may not be increased by more than 25 percent unless the change order is necessary to comply with a federal or state statute, rule, regulation, or judicial decision enacted, adopted, or rendered after the contract was executed. The total original contract price may not be decreased by 18 percent or more without the consent of the Contractor.

2.4 Differing Site Conditions. The Contractor is responsible for having visited the Site and having ascertained pertinent local conditions such as location, accessibility, and general character of the Site, the character and extent of existing Work within and adjacent to the Site, and any other Work being performed thereon at the time of the submission of his proposal. Any failure to do so will not relieve the Contractor from responsibility for successfully performing the Work without additional expense to Nueces County.

During the progress of the work, differing subsurface or latent physical conditions may be encountered at the site.

The two types of differing site conditions are defined as:

- those that differ materially from those indicated in the Contract and
- unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the Contract.

If, in the performance of the Contract, subsurface, latent or concealed conditions at the Site are found to materially different from the information included in the bid documents, or if unknown conditions of an unusual nature are discovered differing materially from the conditions usually inherent in Work of the character shown and specified, Nueces County shall be notified in writing of such conditions before proceeding with the Work. If necessary, Nueces County will develop a solution and provide it to the Contractor. If the solution prompts changes to the Contract Amount and/or Time, the Contract may be adjusted under a Change Order.

2.5 Requests and Claims for Additional Compensation. The contractor will notify the Engineer in writing within 7 days of any intent to request additional compensation once there is knowledge of the basis for the request. An assessment of damages is not required to be part of this notice but is desirable. The intent of the written notice requirement is to provide the Engineer an opportunity to evaluate the request, and to keep an accurate account of the actual costs that may arise.

If written notice is not given, the Contractor waives the right to additional compensation, unless the circumstances could have reasonably prevented the Contractor from knowing the cost impact prior to performing the work. Notice of the request and the documentation of the costs will not be construed as proof or substantiation of the validity of the request. Submit the request in sufficient detail to enable the Engineer to determine the basis for entitlement, adjustment in the number of working days specified in the Contract, and compensation.

2.6 Maintenance of Traffic. The Contractor shall keep existing roadways open to traffic or construct and maintain detours and temporary structures for safe public travel in accordance with the approved traffic control plan and as specified in the Contract. Maintain the work in passable condition, including proper drainage, to accommodate traffic. Provide and maintain temporary approaches and crossings of intersecting highways in a safe and passable condition. Construct and maintain necessary access

to adjoining property as shown in the plans and as directed. Furnish, install, and maintain traffic control devices in accordance with the Contract. The cost of maintaining traffic will be paid for in accordance with the Contract. The Engineer will notify the Contractor if, in the opinion of the Engineer, the above requirements are not met. The County may perform the work necessary for compliance, but this does not change the legal responsibilities set forth in the Contract. The cost to the County will be deducted from money due or to become due to the Contractor.

2.7 Final Cleanup. Upon completion of the work, the Contractor shall:

- Remove litter, debris, objectionable material, temporary structures, and equipment from the work locations,
- Clean and restore property damaged by the Contractor's operations during the prosecution of the work,
- Leave the work locations in a neat and presentable condition. This work will not be paid directly but will be considered subsidiary to the Articles of the Contract,
- Remove from the right-of-way cofferdams, construction buildings, material and fabrication plants, temporary structures, excess materials, and debris resulting from construction,
- Where Work is in a stream, remove debris to the ground line of the bed of the stream,
- Leave stream channels and rights-of-way in a neat and presentable conditions,
- Clean structures to the flow line or the elevation of the outfall channel, whichever is higher,
- Dispose of all excess material in accordance with federal, state and local regulations.

Article III – Control of the Work

3.1 Authority of Engineer. The Engineer has the authority to observe, test, inspect, approve, and accept the work. The Engineer decides all questions about the quality and acceptability of materials, work performed, work progress, Contract interpretations, and acceptable Contract fulfillment. The Engineer has the authority to enforce and make effective these decisions.

The Engineer acts as a referee in all questions arising under the terms of the Contract. The Engineer's decisions will be final and binding.

3.2 Plans and Working Drawings. When required, the Contractor shall provide working drawings to supplement the plans with all necessary details not included in the Contract plans. The Contractor shall prepare and furnish working drawings in a timely manner and obtain approval, if required, before the beginning of the associated work. The Contractor shall have a licensed professional engineer sign, seal, and date the working drawings as appropriate.

The Contractor shall prepare working drawings using United States standard measures and in the English language. The routing of submittals for review and approval will be established at the pre-construction conference. The Contractor is responsible for the accuracy, coordination, and conformity of the various components and details of the working drawings. County approval of the Contractor's working drawings will not relieve the Contractor of any responsibility under the Contract. The work performed under this Article will not be measured or paid for directly, but will be subsidiary to Articles of the Contract. The Contractor shall verify all quantities of materials shown on the plans before ordering. The County will not pay for material rejected due to improper fabrication, excess quantity, or any other reasons within the Contractor's control. The County will only pay for material incorporated into the work in accordance with the Contract. Keep at least one copy of the Contract documents at the work locations at all times.

3.3 Conformity with Plans, Specifications, and Special Provisions. The Contractor shall furnish materials and perform work in reasonably close conformity with the lines, grades, cross sections, dimensions, details, gradations, physical and chemical characteristics of materials, and other requirements shown in the Contract.

Reasonably close conformity limits will be as defined in the respective Articles of the Contract or, if not defined, as determined by the Engineer. The Contractor shall obtain approval before deviating from the plans and approved working drawings. The Contractor will not perform work beyond the lines and grades shown on the plans or any extra work without written authority. Work performed beyond the lines and grades shown on the plans or any extra work performed without written authority is considered unauthorized and excluded from pay consideration.

A. Acceptance of Defective or Unauthorized Work. When work fails to meet Contract requirements, but is adequate to serve the design purpose, the Engineer will decide the extent to which the work will be accepted and remain in place. The Engineer will document the basis of acceptance in writing and may adjust the Contract price.

B. Correction of Defective or Unauthorized Work. When work fails to meet Contract requirements and is inadequate to serve the design purpose it will be considered defective. The Contractor shall correct, or remove and replace, the work at the Contractor's expense, as directed by the Engineer

The County has the authority to correct or to remove and replace defective or unauthorized work. The cost may be deducted from any money due or to become due to the Contractor.

3.4 Coordination of Plans, Specifications, and Special Provisions. The specifications, accompanying plans special provisions and supplemental agreements are essential parts of the Contract and a requirement in one is as binding as though occurring in all. They are intended to be cooperative and to describe and provide for a complete Work. In cases of disagreement, figured dimensions shall govern over scaled dimensions,

plans shall govern over standard and special specifications, and special provisions shall govern over both standard and special specifications and plans.

In order to facilitate its responsibilities for completion of the Work, in accordance with and as reasonably inferable from the Contract Documents, prior to commencing the Work, the Contractor shall examine and compare: the Contract Documents; information provided by the Engineer; relevant field measurements made by the Contractor; and any visible conditions at the Site affecting the Work.

If, in the course of the performance of the Work, the Contractor discovers any errors, omissions or inconsistencies in the Contract Documents; the Contractor shall promptly report them to the Engineer. It is recognized, however, that the Contractor is not acting in the capacity of a licensed design professional, and that the Contractor's examination is to facilitate construction and does not create an affirmative responsibility to detect errors, omissions, or inconsistencies or to ascertain compliance with applicable laws or regulations. Failure to promptly notify the Engineer will constitute a waiver of all claims for misunderstandings or ambiguities that result from the errors, omissions, or discrepancies.

3.5 Cooperation of Contractor. The Contractor shall cooperate with the Engineer, utilities, other Contractors, and railroads. All work associated with fulfilling this requirement is subsidiary to the various Articles of the Contract and no direct compensation will be made. The Contractor shall provide all information necessary to administer the Contract.

The Contractor shall designate in writing a competent, English-speaking resident Superintendent employed by the Contractor. The Superintendent must be experienced with the work being performed and capable of reading and understanding the Contract. The Contractor shall ensure the Superintendent is in attendance at the Site, available at all times and able to execute instructions and directions from the Engineer or authorized County representatives. The superintendent shall be satisfactory to Nueces County, and shall not be changed except with written approval of Nueces County unless he leaves the employment of the Contractor. The Engineer may suspend work if a Superintendent is not available or does not meet the above criteria; however, working day charges will not be suspended. The superintendent shall represent the Contractor at the Site and shall have full authority to act on behalf of the Contractor. All communications given to the superintendent shall be binding on the Contractor. All oral communications affecting Contract Time, Contract Sum, and Contract interpretation will be confirmed in writing to Nueces County.

The Contractor shall carry on the Work and adhere to the progress schedule during all disputes, disagreements or alternative resolution processes with Nueces County. No Work shall be delayed or postponed pending resolution of any disputes, disagreements or processes, except as Nueces County and the Contractor may agree in writing.

A. Cooperating with the Engineer. The Contractor shall cooperate with the Engineer in every way possible and respond promptly to instructions from the Engineer.

B. Cooperating with Utilities. The Contractor shall:

- Use established safety practices when working near utilities,
- Consult with the appropriate utilities before beginning Work,
- Notify the Engineer immediately of any utility conflicts. The Engineer will decide whether to adjust utilities or adjust the Work to eliminate or lessen the conflict. Unless otherwise shown on the plans, the Engineer will make necessary arrangements with the utility owner when utility adjustments are required,
- Use work procedures that protect utilities or appurtenances that in place during construction,
- Consider the potential for inaccurate locations,
- Cooperate with utilities to remove or rearrange utilities to avoid interruptions or duplicate work by the utilities,
- Provide access for utilities to the right-of-way,
- Immediately notify the appropriate utility of service interruptions resulting from damage due to construction activities,
- Cooperate with utilities until service is restored,
- Provide for continued fire hydrant service when necessary.

C. Cooperation Between Contractors. The Contractor shall cooperate and coordinate with other Contractors working within the within or adjacent to the project limits. The Contractor shall not interfere with the progress or completion of work by other Contractors.

D. Cooperation with Railroads. The Contractor shall plan and prosecute portions of the work involving a railway to avoid interference with or hindrance to the railroad company.

E. Cooperation with Other Entities. The Contractor shall cooperate with city or other governmental officials at all times where their jurisdictions applies.

3.6 Construction Surveying. Upon request, the Engineer will allow the Contractor to copy available earthwork cross sections, computer printouts or data files, and other information necessary to establish and control work. The Contractor shall maintain the integrity of control points, preserve all control points, stakes, marks, and right-of-way markers, and assume cost and responsibility of replacing disturbed control points, stakes, marks, and right-of-way markers. If the County repairs disturbed control points, stakes, marks, or right-of-way markers, the cost of repair may be deducted from money due or to become due to the Contractor. The Contractor shall replace right-of-way markers under the direction of a Registered Public Land Surveyor (RPLS). This work will be subsidiary to various Articles of the Contract.

The Engineer reserves the right to make measurements and surveys to determine the accuracy of the work and determine pay quantities. The Engineer's measurements and surveys do not relieve the Contractor's responsibility for accuracy of work. The Contractor shall allow the Engineer adequate time to verify the surveying. The Engineer will set control points for establishing lines, slopes, grades, and centerlines and for providing both vertical and horizontal control at maximum intervals of 1,500 ft. The Contractor shall use these control points as reference to perform the work. The Contractor will furnish materials, equipment, and qualified workforce necessary for the construction survey work, place construction points, stakes, and marks at intervals sufficient to control work to established tolerances, place construction stakes at intervals of no more than 100 ft., or as directed, and place stakes and marks so as not to interfere with normal maintenance operations.

3.7 Inspection. Inspectors are the authorized representatives of the Engineer. Inspectors are authorized to examine all work performed and materials furnished, including preparation, fabrication, and material manufacture. Inspectors inform the Contractor of failures to meet Contract requirements. Inspectors may reject work or materials and may suspend work until any issues can be referred to and decided by the Engineer. Inspectors cannot alter or waive Contract provisions, issue instructions contrary to the Contract, act as foremen for the Contractor, or interfere with the management of the work. Inspection or lack of inspection will not relieve the Contractor from the obligation to provide materials or perform the work in accordance with the Contract. The Contractor shall provide safe access to all parts of the work and provide information and assistance to the Engineer to allow a complete and detailed inspection. The Contractor shall give the Engineer sufficient notice to inspect the work. Work performed without suitable inspection, as determined by the Engineer, may be ordered removed and replaced at Contractor's expense. The Contractor shall remove or uncover portions of finished work as directed.

When a government entity, utility, railroad company, or other entity accepts or pays a portion of the Contract, that organization's representatives may inspect the work but cannot direct the Contractor. The right of inspection does not make that entity a party to the Contract and does not interfere with the rights of the parties to the Contract.

3.8 Final Acceptance.

A. Construction Contracts. Final acceptance is made when all work is complete and the Engineer, in writing, accepts all work for the work locations in the Contract. Final acceptance relieves the Contractor from further Contract responsibilities.

- 1. Work Completed.** Work completed must include work for vegetative establishment and maintenance, test, and performance periods and work to meet the requirements of Section 2.6, "Final Cleanup."
- 2. Final Inspection.** After all work is complete, the contractor shall submit a written request for final inspection. The final inspection will be made as soon

as possible, and not later than 10 calendar days after the request. No working day charges will be made between the date of the request and the final inspection. After the final inspection, if the work is found to be satisfactory, the Engineer will notify the Contractor in writing of the final acceptance of the work. If the final inspection finds any work to be unsatisfactory, the Engineer will identify in writing all deficiencies in the work requiring correction. The Contractor shall correct the deficiencies identified. Working day charges will resume if these deficiencies are not corrected within 7 calendar days, unless otherwise authorized by the Engineer. Upon correction, the Engineer will make an inspection to verify that all deficiencies have been satisfactorily corrected. The Engineer will provide written notice of the final acceptance.

3. Final Measurement. Final measurements and pay quantity adjustments may be made after final acceptance.

4. Removal of Barricades. The Contractor shall remove barricades upon final acceptance.

Article IV – Control of Materials

4.1 Source Control. The Contractor shall use only materials that meet Contract requirements. Unless otherwise specified or approved, the Contractor will use new materials for the work. The Contractor shall secure the Engineer's approval of the proposed source of materials to be used before their delivery. Materials can be approved at a supply source or staging area but may be re-inspected in accordance with Section 4.4, "Sampling, Testing, and Inspection."

4.2 Material Quality. The Contractor shall correct or remove materials that fail to meet Contract requirements or that do not produce satisfactory results. The Contractor shall reimburse Nueces County for cost incurred if additional sampling and testing is required by a change of source. Materials not meeting Contract requirements will be rejected and immediately removed, unless the Engineer approves defect corrections. Nueces County may remove and replace defective material and deduct the cost of testing, removal, and replacement, if the Contractor does not comply with this Article.

4.3 Manufacturer Warranties. The Contractor shall transfer to Nueces County warranties and guarantees required by the Contract or received as part of normal trade practice.

4.4 Sampling, Testing, and Inspection. The Contractor shall incorporate into the work only material that has been inspected, tested, and accepted by Nueces County. The Contractor shall remove, at the Contractor's expense, materials from the work locations that are used without prior testing and approval or written permission of the Engineer. The material requirements and standard test methods in effect at the time the proposed Contract is advertised govern. In addition to facilities and equipment required by the Contract, the Contractor shall furnish facilities and calibrated equipment required for tests to control the manufacture of construction Items. If

requested, provide a complete written statement of the origin, composition, and manufacture of materials. All materials used are subject to inspection or testing at any time during preparation or use. Material, which has been tested and approved at a supply source or staging area, may be re-inspected or tested before or during incorporation into the work, and rejected if it does not meet Contract requirements. Copies of test results are available upon request. The Contractor will not use material which, after approval, becomes unfit for use. Unless otherwise noted in the Contract, all testing must be performed within the United States and witnessed by the Engineer. If materials or processes require testing outside the contiguous 48 United States, the Contractor shall reimburse Nueces County for inspection expenses.

4.5 Plant Inspection and Testing. The Engineer may, but is not obligated to, inspect materials at the acquisition or manufacturing source. Material samples will be obtained and tested for compliance with quality requirements. Materials produced under County inspection are for County use only unless released in writing by the Engineer.

If inspection is at the plant, the Contractor shall meet the following conditions, unless otherwise specified:

- Cooperate fully and assist the Engineer during the inspection,
- Ensure the Engineer has full access to all parts of the plant used to manufacture or produce materials,
- In accordance with pertinent Items, provide a facility at the plant for use by the Engineer as an office or laboratory,
- Provide and maintain adequate safety measures and restroom facilities,
- Furnish and calibrate scales, measuring devices, and other necessary equipment.

The Engineer may provide inspection for periods other than daylight hours if:

- continuous production of materials for County use is necessary due to the production volume being handled at the plant; and
- the lighting is adequate to allow satisfactory inspection.

4.6 Storage of Materials. The Contractor shall store and handle materials to preserve their quality and fitness for the work. Store materials so that they can be easily inspected and retested. Place materials under cover, on wooden platforms, or on other hard, clean surfaces as necessary or when directed. The Contractor shall obtain approval to store materials on the right-of-way. Storage space off the right-of-way is at the Contractor's expense.

4.7 County-furnished Material. Nueces County will supply materials as shown on the plans. The cost of handling and placing materials supplied by the County will not be

paid for directly but is subsidiary to the Item in which they are used. The Contractor shall assume responsibility for materials upon receipt.

4.8 Use of Materials Found on the Right-of-Way. Material found in the excavation areas and meeting Nueces County's specifications may be used in the work. This material will be paid for at the Contract bid price and under the Item for which the material is used. The Contractor will not excavate or remove any material from within the right-of-way that is not within the limits of the excavation without written permission. If excavation is allowed within a right-of-way project specific location (PSL), the Contractor shall replace the removed material with suitable material at no cost to Nueces County, as directed.

4.9 Hazardous Materials. The Contractor shall use materials that are free of hazardous materials as defined in Article I, "Definition of Terms." The Contractor shall notify the Engineer immediately when a visual observation or odor indicates that materials in required material sources or on sites owned or controlled by the County may contain hazardous materials. Nueces County is responsible for testing and removing or disposing of hazardous materials not introduced by the Contractor on sites owned or controlled by the County. Unless otherwise shown in the Contract, the Contractor is not required to test, remediate, or remove hazardous materials that the Contractor did not introduce onto the work locations. The Engineer may suspend the work wholly or in part during the testing, removal, or disposition of hazardous materials on sites owned or controlled by the County. When a visual observation or odor indicates that materials delivered to the work locations by the Contractor may contain hazardous materials, the Contractor shall have an approved commercial laboratory test the materials for contamination, and remove, remediate, and dispose of any of these materials found to be contaminated. Testing, removal, and disposition of hazardous materials introduced onto the work locations by the Contractor will be at the Contractor's expense. Working day charges will not be suspended and extensions of working days will not be granted for activities related to handling hazardous material delivered by the Contractor.

4.10 Surplus Materials. The Contractor shall take ownership of surplus materials, unless otherwise shown on the plans or directed. Removal and disposal of materials will be in accordance with federal, state, and local regulations. If requested, the Contractor will provide an appropriate level of documentation to verify proper disposal. When materials are disposed of on private property, the Contractor will provide written authorization from the property owner for the use of the property for this purpose.

Article V – Legal Relationships and Responsibilities

5.1 Laws to be Observed. In the execution of the Contract Documents and the Work, the Contractor shall comply will all applicable Federal, State, and Local laws, including but not limited to, laws governing labor, equal employment opportunity, safety, environmental, protection, and prevailing wage rates. The Contractor shall make himself familiar with and, at all times, shall observe and comply with all Federal, State, and Local laws, ordinances, and regulations which in any manner

affect the conduct of the Work. The Contractor shall indemnify and save harmless Nueces County and its official representatives against any claim arising from violations of any such law, ordinance or regulation by himself, his Subcontractors and his employees. Except where expressly required otherwise by applicable laws and regulations, neither Nueces County nor the Engineer shall be responsible for monitoring the Contractor's compliance with any laws or regulations. This Contract is between the County and the Contractor only. No person or entity may claim third-party beneficiary status under this Contract or any of its provisions, nor may any non-party sue for personal injuries or property damage under this Contract.

5.2 Permits, Licenses, and Taxes. The Contractor shall make application, pay all fees and provide supporting documentation necessary to secure all permits and licenses; pay all charges, fees, and taxes; and give all notices necessary and incidental to the due and lawful prosecution of work, except for permits provided by the County and as specified in Section 5.17, "Preservation of Cultural and Natural Resources and the Environment." The Contractor has a continuing obligation throughout the term of the Contract to conduct his operations under duly issued permits and, in the event the Contractor loses or had revoked a necessary permit, the Contractor must take immediate steps to apply for and to receive another permit.

Nueces County qualifies for exemption from State and Local Sales and Use Taxes pursuant to the provisions of Chapter 151, Texas Tax Code. The Contractor may claim exemption from payment from applicable State taxes by complying with such procedures as may be prescribed by the State Comptroller of Public Accounts.

5.3 Patented Devices, Material, and Processes. The Contractor shall be responsible at all times for compliance with applicable patents or copyrights encompassing, in whole or in part, any design, device, material, or process utilized, directly or indirectly, in the performance of the Work.

Whether or not Nueces County has specified the use of a particular design, device, material or process, the Contractor shall pay all royalties and license fees and shall provide, prior to commencement of the Work hereunder, and at all times during the performance of same, for the lawful use of any design, device, material, or process covered by letters patent or copyright by suitable legal agreement with patentee, copyright holder or their duly authorized representatives.

The Contract shall indemnify and save harmless the County from any claims for infringement from the Contractor's use of any patented design, device, material, process, trademark, or copyright selected by the Contractor and used in connection with the work. The Contractor shall defend all suits or claims for infringement of any patent or copyright and shall indemnify and save harmless Nueces County against any costs, expenses, or damages that it may be obliged to pay, by reason of this infringement, at any time during the prosecution or after the completion of the work. Nueces County reserves the right to provide its own defense to any suit or claim of infringement of any patent or copyright, in which event the Contractor shall indemnify and save harmless Nueces County from all costs and expenses, including reasonable attorney's fees and judgments, arising from such defense.

5.4 Antitrust Claims. The Contractor hereby assigns to Nueces County any and all claims for overcharges associated with this Contract which arise under the antitrust laws of the United States, 15 U.S.C.A. Sec. 1 et. seq.

5.5 Venue for Suits and Governing Law. The venue for any suit brought for breach of Contract for this Project shall be in a court of competent jurisdiction in Nueces County, Texas. This Contract shall be governed by the laws of the State of Texas.

5.6 Restoring Surfaces Opened by Permission. The Contractor shall not authorize anyone to make an opening in the roadway for utilities, drainage, or any other reason without written permission from the Engineer. The Contractor shall repair all openings as directed. Costs associated with openings made with Contractor authorization but without Nueces County approval will not be paid.

5.7 Sanitary Provisions. The Contractor shall provide and maintain adequate, neat, and sanitary toilet accommodations for employees, including Nueces County employees, in compliance with the requirements and regulations of the Texas Department of State Health Services or other authorities having jurisdiction.

5.8 Public Safety and Convenience.

The Contractor shall:

- Manage construction to minimize disruption to traffic,
- Make every effort to ensure the safety and convenience of the public and property as provided in the Contract and as directed,
- Following the safety provisions of all applicable rules, codes, and regulations,
- Keep all portions of the highway open to traffic, unless otherwise shown on the plans,
- Maintain the roadway in a good and passable condition,
- Provide for ingress and egress to adjacent property in accordance with the Contract and as directed,
- Provide suitable drainage of the roadway and erect temporary structures are required,
- If at any time during construction, the approved plan of operation does not accomplish the intended purpose due to any condition affecting the safe handling of traffic, immediately make necessary changes, as directed, to correct the unsatisfactory conditions,
- Store all equipment not in use in a manner and at locations that will not interfere with the safe passage of traffic

If the Engineer determines that any of the requirements of this Article have not been met, the Engineer may take any necessary corrective action. However, this will not change the legal responsibilities set forth in the Contract. The cost for this work will be deducted from any money due or to become due to the Contractor.

5.9 Hauling and Loads on Roadways and Structures. The Contractor shall comply with federal and state laws concerning legal gross and axle weights. Except for the designated Interstate highway system, vehicles with a valid yearly overweight tolerance permit may haul materials to the work locations at the permitted load. The Contractor shall provide copies of the yearly overweight tolerance permits to the Engineer upon request. Construction equipment is not exempt from oversize or overweight permitting requirements on roadways open to the traveling public. The Contractor shall protect existing bridges and other structures that will remain in use by the traveling public during and after the completion of the Contract. Construction traffic on roadways, bridges, and culverts within the limits of the work, including any structures under construction that will remain in service during and after completion of the Contract, is subject to legal size and weight limitations. Additional temporary fill may be required by the Engineer for hauling purposes for the protection of certain structures. This additional fill will not be paid directly but will be subsidiary to the various bid items. The Contractor shall replace or restore to original condition any structure damaged by the Contractor's operations. The Engineer may allow equipment with oversize or non-divisible overweight loads to operate without a permit within the work locations on pavement structures not open to the traveling public. The Contractor shall submit for approval any traffic control plans needed to ensure public safety. Nueces County will make available to the Contractor any available plans and material reports for existing structures.

A. Overweight Construction Traffic Crossing Structures. The Engineer may allow crossing of a structure not open to the public within the work locations, when divisible or non-divisible loads exceed legal weight limitations, including limits for load-posted bridges. The Contractor shall obtain written permission to make these crossings. The Contractor shall submit for approval a structural analysis by a licensed professional engineer indicating that the excessive loads should be allowed. The Contractor shall provide a manufacturer's certificate of equipment weight that includes the weight distribution on the various axles and any additional parts such as counterweights, the configuration of the axles, or other information necessary for the analysis. The Contractor shall submit the structural analysis and supporting documentation sufficiently in advance of the move to allow for review by the Engineer. Permission may be granted if the Engineer finds that no damage or overstresses in excess of those normally allowed for occasional overweight loads will result to structures that will remain in use after Contract completion. The Contractor shall provide temporary matting or other protective measures as directed. Schedule loads so that only one vehicle is on any span or continuous unit at any time. The Contractor shall use barricades, fences, or other positive methods to prevent other vehicular access to structures at any time the overweight load is on any span or continuous unit.

B. Construction Equipment Operating on Structures. Cranes and other construction equipment that exceed legal weight limits may be allowed

on structures. Before any operation that may require placement of equipment on a structure, the Contractor shall submit for approval a detailed structural analysis prepared by a licensed professional engineer. Submit the structural analysis and supporting documentation sufficiently in advance of the use to allow for review by the Engineer and include all axle loads and configurations, spacing of tracks or wheels, tire loads, outrigger placements, center of gravity, equipment weight, and predicted loads on tires and outriggers for all planned movements, swings, or boom reaches. The analysis must demonstrate that no overstresses will occur in excess of those normally allowed for occasional overweight loads.

C. Hauling Divisible Overweight Loads on Pavement Within the Work Locations. The Engineer may allow divisible overweight loads on pavement structures within the work locations not open to the traveling public. The Contractor shall obtain written approval before hauling the overweight loads and include calculations to demonstrate that there will be no damage or overstress to the pavement structure.

5.10 Barricades, Warning and Detour Signs, and Traffic Handling. The Contractor shall provide, install, move, replace, maintain, clean, and remove all traffic control devices as shown on the plans and as directed. If details are not shown on the plans, the Contractor shall provide devices and work in accordance with the TMUTCD and as directed. When authorized or directed, the Contractor shall provide additional signs or traffic control devices not required by the plans. If an unexpected situation arises that causes the Contractor to believe that the traffic control should be changed, the Contractor shall make all reasonable efforts to promptly contact the Engineer. The Contractor shall take prudent actions until the Engineer can be contacted. If the Engineer determines that any of the requirements of this Article have not been met, the Engineer may take any necessary corrective action. However, this will not change the legal responsibilities set forth in the Contract. The cost for this work will be deducted from any money due or to become due to the Contractor. The Engineer may authorize or direct in writing the removal or relocation of barricades. When barricades are removed before final acceptance, traffic control in accordance with the TMUTCD may be used for minor operations as approved. The removal or relocation of barricades does not imply final acceptance.

5.11 Using Explosives. The Contractor shall not endanger life or property. When required by the plans or requested, the Contractor shall provide a written blasting plan. Nueces County has the right to reject the blasting plan. The Contractor shall store all explosives securely and clearly mark all storage places with "DANGER – EXPLOSIVES." The Contractor shall store, handle, and use explosives and highly flammable material in compliance with federal, state, and local laws, ordinances, and regulations. The Contractor assumes liability for property damage, injury, or death resulting from the use of explosives. The Contractor shall give at least a

48-hr. advance notice to the appropriate road master before doing any blasting work involving the use of electric blasting caps within 200 ft. of any railroad track.

5.12 Protecting Adjacent Property. The Contractor shall protect adjacent property from damage by any process of construction. If any damage results from an act or omission on the part of or on behalf of the Contractor, the Contractor shall take corrective action to restore the damaged property to a condition similar or equal to that existing before the damage was done.

5.13 Responsibility for Damage Claims. The Contractor shall indemnify and save harmless Nueces County and its agents and employees from all suits, actions, or claims and from all liability and damages for any injury or damage to any person or property due to the Contractor's negligence in the performance of the work and from any claims arising or amounts recovered under any laws, including workers' compensation and the Texas Tort Claims Act. The Contractor shall indemnify and save harmless Nueces County and assume responsibility for all damages and injury to property of any character occurring during the prosecution of the work resulting from any act, omission, neglect, or misconduct on the Contractor's part in the manner or method of executing the work; from failure to properly execute the work; or from defective work or material.

Pipelines and other underground installations that may or may not be shown on the plans may be located within the right-of-way. The Contractor shall indemnify and save harmless Nueces County from any suits or claims resulting from damage by the Contractor's operations to any pipeline or underground installation. At the pre-construction conference, the Contractor shall submit the scheduled sequence of work to the respective utility owners so that they may coordinate and schedule adjustments of their utilities that conflict with the proposed work.

If the Contractor asserts any claim or brings any type of legal action (including an original action, third-party action, or cross-claim) against Nueces County, any Commissioner or individual employee of the Nueces County for any cause of action or claim for alleged negligence arising from the Contract, the Contractor will be ineligible to bid on any proposed Contract with Nueces County during the pendency of the claim or legal action.

5.14 Responsibility for Hazardous Materials. Upon encountering any previously unknown potentially hazardous waste materials, or other materials potentially contaminated by hazardous waste, the Contractor shall immediately stop work in and secure the affected area, and notify the Engineer. All subcontracts shall expressly bind all Subcontractors to the same duty. On receiving such the notice, the Engineer shall promptly engage qualified experts to make such investigations and conduct such tests as may be reasonably necessary to determine the existence or extent of any environmental hazard. As soon as possible, upon completion of this investigation, the Engineer shall issue a written report to the Contractor identifying the material or materials found and indicating any necessary steps to treat, handle, transport, or dispose of the material. Nueces County may hire third-party

contractors to perform any or all such steps. Should compliance with the Engineer's instructions result in an increase in the Contractor's cost of performance, or delay the Work, an adjustment in the contract price or time may be claimed in a Change Order. The Contractor shall fully indemnify, save and hold harmless Nueces County from any costs, losses, damages or liabilities resulting from its failure, or the failure of its Subcontractors, to comply strictly with these provisions. The Contractor shall be responsible for coordinating the exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in connection with laws and regulations.

The Contractor shall indemnify and save harmless Nueces County and its agents and employees from all suits, actions, or claims and from all liability and damages for any injury or damage to any person or property arising from the generation or disposition of hazardous materials introduced by the Contractor on any work done by the Contractor on County owned or controlled sites. The Contractor shall indemnify and save harmless Nueces County and its representatives from any liability or responsibility arising out of the Contractor's generation or disposition of any hazardous materials obtained, processed, stored, shipped, etc., on sites not owned or controlled by the County. The Contractor shall reimburse Nueces County for all payments, fees, or restitution the County is required to make as a result of the Contractor's actions.

5.15 Contractor's Responsibility for Work. Until final acceptance of the Contract, the Contractor shall take every precaution against injury or damage to any part of the work by the action of the elements or by any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall protect all materials to be used in the work at all times, including periods of suspension. When any roadway or portion of the roadway is in suitable condition for travel, it may be opened to traffic as directed by Nueces County. Opening of the roadway to traffic does not constitute final acceptance.

- A. Until final acceptance, the Contractor is responsible for all work constructed under the Contract. Nueces County will be responsible for the cost for repair of damage to existing roadways and structures not caused by the Contractor's operations.
- B. **Detours.** The Contractor will be responsible for the cost of maintenance of detours constructed under the Contract. Nueces County will not be responsible for the cost of maintenance of existing streets and roadways used for detours or handling traffic.
- C. **Relief from Maintenance.** The Engineer may relieve the Contractor from responsibility of maintenance as outlined in this Section. This relief does not release the Contractor from responsibility for defective work or constitute final acceptance.

1. Isolated Work Locations. For isolated work locations, when all work is completed, including work for Section 2.6, "Final Cleanup," the Engineer may relieve the Contractor from responsibility for maintenance.

2. Work Except for Vegetative Establishment and Test Periods. When all work for all or isolated work locations has been completed, including work for Section 2.6, "Final Cleanup," with the exception of vegetative establishment and maintenance periods and test and performance periods, the Engineer may relieve the Contractor from responsibility for maintenance of completed portions of work.

3. Work Suspension. When all work is suspended for an extended period of time, the Engineer may relieve the Contractor from responsibility for maintenance of completed portions of work during the period of suspension.

5.16 Work Near Railroads

A. General. If the work crosses or is in close proximity to a railroad, the Contractor will not interfere with the use or operation of the railroad company's trains or other property. The Contractor will assign responsible supervisory personnel to ensure that tracks and adjacent areas are clear of debris, road materials, and equipment. If the work requires construction within 25 ft. horizontally of the near rail or if the tracks may be subject to obstruction due to construction operations, the Contractor shall notify the Engineer and Road Master at least 3 days before performing work. The railroad company will provide flaggers during this work. If railroad flaggers will be needed longer than 2 consecutive days, the Contractor shall request them at least 30 days before performing work within the railroad right-of-way. The Contractor shall not store material or equipment in the Railroad's right-of-way. The Contractor shall not place any forms or temporary false work within 8.5 ft. horizontally from the centerline or 22 ft. vertically above the top of rails of any track, unless otherwise shown on the plans.

B. Temporary Crossings. If a temporary crossing is needed, the Contractor shall obtain permission from the railroad company before crossing the tracks. The Contractor shall execute the "Agreement for Contractor's Temporary Crossing" if required by the Railroad Company, ensure that the tracks are left clear of equipment and debris that would endanger the safe operation of railroad traffic, provide a crossing guard on each side of the crossing to direct equipment when hauling across the tracks, and stop construction traffic a safe distance away from the crossing upon the approach of railroad traffic.

Work for temporary crossings will not be paid for directly, but is subsidiary to the Articles of the Contract.

- 5.17 Personal Liability of Public Officials.** Nueces County employees are agents and representatives of the County and will incur no liability, personal or otherwise, in carrying out the provisions of the Contract or in exercising any power or authority granted under the Contract.
- 5.18 Abatement and Mitigation of Excessive or Unnecessary Noise.** The Contractor shall minimize noise throughout all phases of the Contract. The Contractor shall place mobile and stationary equipment to cause the least disruption of normal adjacent activities.
- 5.19 Preservation of Cultural and Natural Resources and the Environment.** If the Contractor initiates changes to the Contract and the County approves the changes, the Contractor is responsible for obtaining clearances and coordinating with the appropriate regulatory agencies.
- A. Cultural Resources.** The Contractor shall take precaution to avoid distributing primitive records and antiquities of archaeological, paleontological or historical significance. No objects of this nature shall be disturbed without written permission of Nueces County and the Texas Historical Commission. When such objects are uncovered unexpectedly, the Contractor shall stop all Work in close proximity and notify Nueces County and the Texas Historical Commission of their presence and shall not disturb them until written permission and permit to do so is granted. All primitive rights and antiquities, as defined in Chapter 191, Texas Natural Resource Code, discovered on Nueces County property shall remain the property of Nueces County. If it is determined by Nueces County, in consultation with the Texas Historical Commission, that exploration or excavation of primitive records or antiquities on the Project Site is necessary to avoid loss, the Contractor shall cooperate in salvage work attendant to preservation. If the Work stoppage or salvage work causes an increase in the Contractor's cost of, or time required for, performance of the Work, the Contractor may file with Nueces County a Change Order.
- B. Texas Pollutant Discharge Elimination System (TPDES) Permits and Storm Water Pollution Prevention Plans (SW3P).** The County will file the Notice of Intent (NOI) and the Notice of Termination (NOT) for work shown on the plans in the right-of-way. Adhere to all requirements of the SW3P.
- C. Work in Waters of the United States.** For work in the right-of-way, the County will obtain any required Section 404 permits from the U.S. Army Corps of Engineers before work begins. Adhere to all agreements, mitigation plans, and standard best management practices required by the permit. When Contractor-initiated changes in the construction method changes the impacts to waters of the U.S., the contractor must obtain new or revised Section 404 permits, at no additional cost.
- D. Work in Navigable Waters of the United States.** For work in the right-of-way, the County will obtain any required Section 9 permits from the U.S. Coast

Guard before work begins. Adhere to the stipulations of the permits and associated best management practices. When Contractor-initiated changes in the construction method changes the impacts to navigable waters of the U.S., the contractor must obtain new or revised Section 9 permits, at no additional cost.

- E. Work Over the Recharge or Contributing Zone of Protected Aquifers.** Make every reasonable effort to minimize the degradation of water quality resulting from impacts relating to work over the recharge or contributing zones of protected aquifers, as defined and delineated by the TCEQ. Use best management practices and perform work in accordance with Contract requirements.
- F. Project Specific Locations.** For all project specific locations (PSLs) on or off the right-of-way (material sources, waste sites, parking areas, storage areas, field offices, staging areas, haul roads, etc.), signing the Contract certifies compliance with all applicable laws, rules, and regulations pertaining to the preservation of cultural resources, natural resources, and the environment as issued by the following or other agencies:
- Occupational Safety and Health Administration,
 - Texas Commission on Environmental Quality,
 - Texas Department of Transportation,
 - Texas Historical Commission,
 - Texas Parks and Wildlife Department,
 - Texas Railroad Commission,
 - U.S. Army Corps of Engineers,
 - U.S. Department of Energy
 - U.S. Department of Transportation,
 - U.S. Environmental Protection Agency,
 - U.S. Federal Emergency Management Agency, and
 - U.S. Fish and Wildlife Service.

All Subcontractors must comply with applicable environmental laws, rules, regulations, and requirements in the Contract, maintain documentation of certification activities including environmental consultant reports, Contractor documentation on certification decisions and contacts, and correspondence with the resource agencies. All Subcontractors shall provide documentation upon request.

Obtain written approval from the Engineer for all PSLs in the right-of-way not specifically addressed in the plans. Prepare an SW3P for all Contractor facilities, such as asphalt or concrete plants located within County right-of-way. Comply with all TCEQ permit requirements for portable facilities, such as concrete batch plants, rock crushers, asphalt plants, etc. Address all environmental issues, such as Section 404 permits, wetland delineation, endangered species consultation requirements, or archeological and historic site impacts. Obtain all permits and clearances in advance.

5.18 The Contractor's Responsibility for Jobsite Safety. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. It shall be the duty and the responsibility of the Contractor and all his Subcontractors to be familiar and comply with all requirements of Public Law 91-956, w9 U.S.C. § 651 et.seq, the Occupational Safety and Health Act of 1970 (OSHA), and all amendments thereto, and to enforce and comply with all provisions of the Act. The Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property to protect them from damage, injury or loss, and shall erect and maintain all necessary safeguards for such safety and protection.

In any emergency affecting the safety of persons or property, the Contractor shall act reasonably to prevent damage, injury, or loss. The Contractor shall give the Engineer prompt notice if the Contractor believes that any significant changes in the Work or variations from Contract Documents have been caused by its emergency response. Any additional compensation or extension of time claimed by the Contractor resulting from emergency work shall be considered upon submission of a Change Order by the Contractor.

Authorized agents of the Contractor shall respond immediately to call out any time of day or night when circumstances warrant the presence of the Contractor to protect the Work or adjacent property from damage, restriction, or limitation, or to take such action pertaining to the Work as may be necessary to provide for the safety of the public. Should the Contractor fail to respond, Nueces County is authorized to direct other forces to take action as necessary and Nueces County may deduct any cost of remedial action from the funds due the Contractor under the Contract.

5.19 Environmental Regulations. At all times, the Contractor shall conduct his activities in compliance with applicable laws and regulations relating to the environment, and its protection. Nueces County is responsible for obtaining and maintaining permits related to storm water run-off. The Contractor covenants to conduct his operations consistent with storm water run-off permit conditions. The Contractor shall be responsible for any hazardous materials brought to the site by the Contractor, Subcontractors, Suppliers, or anyone else from whom the Contractor is responsible. No hazardous materials shall be incorporated into the Work without prior approval of Nueces County.

Article VI – Prosecution and Progress

6.1 Prosecution of Work. Before starting work, the Contractor shall schedule a pre-construction conference with the Engineer. The Contractor shall prosecute the work continuously to completion within the working days specified. The Contractor shall notify the Engineer at least 24 hr. before beginning work or before beginning any new operation. The Contractor will not start new operations to the detriment of work already begun. The Contractor shall minimize interference to traffic.

6.2 Progress Schedules. The Contractor's schedules are subject to review and approval. Before starting work on a construction Contract, the Contractor shall prepare and submit a progress schedule based on the sequence of work and traffic control plan shown in the Contract. At a minimum, prepare the progress schedule as a bar chart. Include all planned work activities and sequences and show Contract completion within the number of working days specified. Incorporate major material procurements, known utility relocations, and other activities that may affect the completion of the Contract in the progress schedule. Show a beginning date, ending date, and duration in number of working days for each activity. Show an estimated production rate per working day for each work activity.

The Contractor shall submit an updated progress schedule monthly, unless otherwise shown in the Contract or as directed. Update the progress schedule by adding actual progress made during the previous update period, including approved changes to the sequence of work and the traffic control plan. If an updated progress schedule indicates the Contract will not be completed within the number of working days specified, notify the Engineer in writing whether the Contractor will revise the progress schedule to meet the number of working days specified or exceed the number of working days specified. Notify the Engineer in writing of proposed major changes in the progress schedule. Major changes are those that may affect compliance with the Contract requirements or that change the critical path or controlling Item of work. The Engineer reserves the right to reject these proposed changes.

No direct compensation will be made for fulfilling these requirements, as this work is considered subsidiary to the Articles of the Contract.

6.3 Computation of Contract Time for Completion. Time charges will begin 15 calendar days after the date of the written authorization to begin work or as otherwise stated in the authorization. The Engineer may consider increasing the number of working days under extraordinary circumstances.

A. Working Day Charges. Working days will be charged in accordance with Section 6.3.1., "Standard Workweek," unless otherwise shown on the plans. Working days will be computed and charged in accordance with one of the following, as shown in the Contract:

1. Standard Workweek. Working days will be charged Monday through Friday, excluding national or state holidays, if weather or other conditions permit the performance of the principal unit of work underway, as determined by the Engineer, for a continuous period of at least 7 hours between 7:00 A.M. and 6:00 P.M., unless otherwise shown in the Contract. The Contractor has the option of working on Saturdays or state holidays. Provide sufficient advance notice to the Engineer when scheduling work on Saturdays. Work on Sundays and national holidays will not be permitted without written permission of the Engineer. If work requiring an Inspector to be present is performed on a Saturday, Sunday, or holiday, and weather or other conditions permit the performance of work for 7 hours between 7:00 A.M. and 6:00 P.M., a working day will be charged.

2. Calendar Day. Working days will be charged Sunday through Saturday, including all holidays, regardless of weather conditions, material availability, or other conditions not under the control of the Contractor.

B. Nighttime Work. Nighttime work is allowed only when shown on the plans or directed or allowed by the Engineer. Nighttime work is defined as work performed from 30 minutes after sunset to 30 minutes before sunrise. When nighttime work is allowed or required and daytime work is not allowed, working day charges will be made when weather and other conditions permit the performance of the principal unit of work underway, as determined by the Engineer, for a continuous period of at least 7 hr. for the nighttime period, unless otherwise shown in the Contract.

C. Time Statements. The Engineer will furnish the Contractor a monthly time statement. The Contractor shall review the monthly time statement for correctness. Report protests in writing, no later than 30 calendar days after receipt of the time statement, providing a detailed explanation for each day protested. Not filing a protest within 30 calendar days will indicate acceptance of the working day charges and future consideration of that statement will not be permitted.

6.4 Temporary Suspension of Work or Working Day Charges. The Engineer may suspend the work, wholly or in part, and will provide notice and reasons for the suspension in writing. The Contractor shall suspend and resume work only as directed in writing.

When part of the work is suspended, the Engineer may suspend working day charges only when conditions not under the control of the Contractor prohibit the performance of critical activities. When all of the work is suspended for reasons not under the control of the Contractor, the Engineer will suspend working day charges.

6.5 Failure to Complete Work on Time. The time established for the completion of the work is an essential element of the Contract. If the Contractor fails to complete the work within the number of working days specified, working days will continue to be charged. Failure to complete the Contract within the number of working days specified, including any approved additional working days, will result in liquidated damages for each working day charged over the number of working days specified in the Contract. The dollar amount specified in the Contract will be deducted from any money due or to become due the Contractor for each working day the Contract or work order remains incomplete. This amount will be assessed not as a penalty, but as liquidated damages.

6.6 Abandonment of Work or Default of Contract. The Engineer may declare the Contractor to be in default of the Contract if the Contractor:

- fails to begin the work within the number of days specified,
- fails to prosecute the work to assure completion within the number of days specified,

- fails to perform the work in accordance with the Contract requirements,
- neglects or refuses to remove and replace rejected materials or unacceptable work,
- discontinues the prosecution of the work without the Engineer's approval,
- makes an unauthorized assignment of the contract,
- fails to resume work that has been discontinued within a reasonable number of days after notice to do so,
- is uncooperative, disruptive or threatening, or
- fails to conduct the work in an acceptable manner.

The Engineer will give notice in writing to the Contractor and the Surety of the intent to declare the Contractor in default. If the Contractor does not proceed as directed within 10 days after the notice, Nueces County may, upon written notice, declare the Contractor to be in default of the Contract. The County will also provide written notice of default to the Surety. Working day charges will continue until completion of the Contract.

Nueces County will determine the method used for the completion of the remaining work as outlined below:

- A. Contracts with Performance Bonds.** Nueces County will, without violating the Contract, demand that the Contractor's Surety complete the remaining work in accordance with the terms of the original Contract. A completing Contractor will be considered a subcontractor of the Surety. Nueces County reserves the right to approve or reject proposed Subcontractors. Work may resume after Nueces County receives and approves certificates of insurance. The Surety is responsible for making every effort to expedite the resumption of work and completion of the Contract. Working day charges will resume 30 days after contract default, unless otherwise approved by the Engineer. Nueces County may complete the work utilizing any or all materials at the work locations that it deems suitable and acceptable. Any costs incurred by Nueces County for the completion of the work under the Contract will be the responsibility of the Surety.
- B. Contracts without Performance Bonds.** Nueces County will determine the most expeditious and efficient way to complete the work, and recover damages from the Contractor.

6.7 Termination of Contract. Nueces County may terminate the Contract in whole or in part whenever:

- the Contractor is prevented from proceeding with the work due to an order of any federal authority; or
- the Contractor is prevented from proceeding with the work by reason of a preliminary, special, or permanent restraining court order where the issuance of the restraining order is primarily caused by acts or omissions of persons or agencies other than the Contractor; or
- the Commissioners Court determine that termination of the Contract is in the best interest of Nueces County or the public. This includes but is not limited to

the discovery of significant hazardous material problems, right-of-way acquisition problems, or utility conflicts that would cause substantial delays or expense to the Contract.

- A. Procedures and Submittals.** The Engineer will deliver to the Contractor a notice of termination specifying the extent of the termination and the effective date.

Upon notice, the Contractor shall immediately proceed in accordance with the following:

- stop work as specified in the notice;
- place no further subcontracts or orders for materials, services, or facilities, except as necessary to complete a critical portion of the Contract, as approved by the Engineer;
- terminate all subcontracts to the extent they relate to the work terminated;
- complete performance of the work not terminated;
- settle all outstanding liabilities and termination settlement proposals resulting from the termination for public convenience of the Contract;
- create an inventory report, including all acceptable materials and products obtained for the Contract that have not been incorporated in the work that was terminated (include in the inventory report a description, quantity, location, source, cost, and payment status for each of the acceptable materials and products); and
- take any action necessary, or that the Engineer may direct, for the protection and preservation of the materials and products related to the Contract that are in the possession of the Contractor and in which Nueces County has or may acquire an interest.

- B. Settlement Provisions.** Within 60 calendar days of the date of the notice of termination, submit a final termination settlement proposal, unless otherwise approved. The Engineer will prepare a change order that reduces the affected quantities of work and adds acceptable costs for termination. No claim for loss of anticipated profits will be considered. Nueces County will pay reasonable and verifiable termination costs including:

- all work completed at the unit bid price and partial payment for incomplete work;
- the percentage of Item 500, "Mobilization," equivalent to the percentage of work complete or actual cost that can be supported by cost records, whichever is greater;
- expenses necessary for the preparation of termination settlement proposals and support data;
- the termination and settlement of subcontracts;
- storage, transportation, restocking, and other costs incurred necessary for the preservation, protection, or disposition of the termination inventory; and
- other expenses acceptable to Nueces County.

If the Contractor fails to submit the proposal within the time allowed, Nueces County may determine the amount due to the Contractor and make compensation.

If the Contractor and Nueces County fail to agree on the settlement amount, the Contractor may file a formal claim with the County in accordance with Section 2.4, "Requests and Claims for Additional Compensation."

Materials that have been inspected, tested, and accepted for incorporation into the work will be purchased from the Contractor at the actual cost as shown by receipts and actual cost records. The Engineer will designate the location where the materials will be delivered. A 5% markup on these costs will be allowed for administrative costs.

The Contractor shall maintain and make available all Contract cost records to the extent necessary to determine the validity and amount of each item claimed.

Termination of a Contract, as stated above, will not relieve the Contractor or the Surety of the responsibility of replacing defective work as required by the Contract.

6.8 Subcontracting. The Contractor shall not sublet any portion of a construction Contract without the Engineer's written approval. A subcontract does not relieve any responsibility under the Contract and bonds. The Contractor shall ensure that all subcontracted work complies with all governing labor provisions. The Contractor shall perform work with the contractor's own organization on at least 30% of the total original Contract, excluding any specialty Items as determined by the Engineer. Specialty Items are those that require highly specialized knowledge, abilities, or equipment not usually available in the contracting firm expected to bid on the proposed Contract as a whole.

Specialty Items will be shown on the plans or as determined by the Engineer. Bid cost of specialty Items performed by Subcontractors will be deducted from the total original Contract cost before computing the required amount of work to be performed by the Contractor's own organization.

The term "perform work with own organization" includes only:

- workers employed and paid directly by the Contractor or wholly owned subsidiary;
- equipment owned by the Contractor or wholly owned subsidiary;
- rented or leased equipment operated by the Contractor's employees or wholly owned subsidiary's employees;
- materials incorporated into the work if the majority of the value of the work involved in incorporating the material is performed by the Contractor's own organization, including a wholly owned subsidiary's organization; and
- labor provided by staff leasing firms licensed under Chapter 91 of the Texas Labor Code for non-supervisory personnel if the Contractor or wholly owned

subsidiary maintains direct control over the activities of the leased employees and includes them in the weekly payrolls.

When staff leasing firms provide materials or equipment, they are considered Subcontractors. In these instances, the Contractor shall submit staff leasing firms for approval as a subcontractor.

Copies of cancelled checks and certified statements may be required to verify compliance with the requirements of this Section.

The Contractor shall enter into written agreements with all Subcontractors and suppliers which specifically bind the Subcontractors and suppliers to the applicable terms and conditions of the Contract Documents for the benefit of Nueces County. Nueces County reserves the right to specify that certain requirements shall be adhered to by all Subcontractors and sub-subcontractors as indicated in other portions of the Contract Documents and these requirements shall be made a part of the agreement between the Contractor and Subcontractor or supplier.

The Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, suppliers, and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with the Contractor. The Contractor will require all Subcontractors, suppliers, and such other persons and organizations performing or furnishing any of the Work to communicate with Nueces County through the Contractor.

6.9 Workers and Equipment. Unless otherwise specified in the Supplementary Conditions, the Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing startup, and completion of the Work.

The Contractor shall provide competent, suitably qualified personnel to survey, lay out and construct the Work as required by the Contract Documents. The Contractor shall at all times maintain good discipline and order at the Site.

At the written request of the Engineer, the Contractor shall immediately remove from the work locations any employee or representative of the Contractor or a subcontractor who, in the opinion of the Engineer, does not perform work in a proper and skillful manner or who is disrespectful, intemperate, disorderly, uncooperative, or otherwise objectionable. The Contractor shall not reinstate these individuals without the written consent of the Engineer.

The Engineer may suspend the work without suspending working day charges until the Contractor complies with these requests.

Article VII – Measurement and Payment

7.1 Measurement of Quantities. The Engineer will measure all completed work using United States standard measures, unless otherwise specified.

- A. Linear Measurement.** Unless otherwise specified, all longitudinal measurements for surface areas will be made along the actual surface of the roadway and not horizontally. No deduction will be made for structures in the roadway having an area of 9 sq. ft. or less. For all transverse measurements for areas of base courses, surface courses, and pavements, the dimensions to be used in calculating the pay areas will be the neat dimensions and will not exceed those shown on plans, unless otherwise directed.
- B. Volume Measurement.** Transport materials measured for payment by volume in approved hauling vehicles. Affix a permanent legible number on the truck and trailer. Furnish information necessary to calculate the volume capacity of each vehicle. The Engineer may require verification of volume through weight measurement. Use body shapes that allow the capacity to be verified. Load and level the load to the equipment's approved capacity. Loads not hauled in approved vehicles may be rejected.
- C. Weight Measurement.** Transport materials measured for payment by weight or truck measure in approved hauling vehicles. Furnish certified measurements, tare weights, and legal gross weight calculations for all haul units. Affix a permanent, legible number on the truck and on the trailer to correspond with the certified information. Furnish certified weights of loaded haul units transporting material if requested. The material will be measured at the point of delivery. The cost of supplying these volume and weight capacities is subsidiary to the pertinent Item. The Engineer may reject loads and suspend hauling operations for overloading.
- 1. Hauling on Routes Accessible to the Traveling Public.** For payment purposes on haul routes accessible to the traveling public, the net weight of the load will be calculated as follows:
 - If the gross vehicle weight is less than the maximum allowed by state law, including applicable yearly weight tolerance permit, the net weight of the load will be determined by deducting the tare weight of the vehicle from the gross weight.
 - If the gross vehicle weight is more than the maximum allowed by state law, including applicable yearly weight tolerance permit, the net weight of the load will be determined by deducting the tare weight of the vehicle from the maximum gross weight allowed.
 - 2. Hauling on Routes Not Accessible to the Traveling Public.** For payment purposes on haul routes that are not accessible to the traveling public where advance permission is obtained in writing from the Engineer,

- If the gross vehicle weight is less than the maximum allowed by the Engineer, including applicable yearly weight tolerance permit, the net weight of the load will be determined by deducting the tare weight of the vehicle from the gross weight.
- If the gross vehicle weight is more than the maximum allowed by the Engineer, the net weight of the load will be determined by deducting the tare weight of the vehicle from the maximum gross weight allowed.

7.2 Plans Quantity Measurement. Plans quantities may or may not represent the exact quantity of material moved, handled, or placed during the execution of the Contract. The estimated quantities are designated as final payment quantities, unless revised by the governing specifications or this Article.

If the quantity measured as outlined under "Measurement" varies by more than 5% from the total estimated quantity for an individual Item originally shown in the Contract, an adjustment may be made to the quantity of authorized work done for payment purposes. The party to the Contract requesting the adjustment will provide field measurements and calculations showing the revised quantity. When approved, this revised quantity will constitute the final quantity for which payment will be made. Payment for revised quantity will be made at the unit price bid for that Item, except as provided for in Section 2.2, "Changes in the Work."

A revised quantity established by change order will be considered to be the new plans quantity.

7.3 Scope of Payment. Payment of the Contract unit price is full compensation for all materials, equipment, labor, tools, and supplies necessary to complete the Item of work under the Contract. Until final acceptance in accordance with Section 3.8, "Final Acceptance," assume liability for completing the work according to the plans and specifications and any loss or damage arising from the performance of the work or from the action of the elements, infringement of patent, trademark, or copyright, except as provided elsewhere in the Contract.

Payment of progress estimates will in no way affect the Contractor's obligation under the Contract to repair or replace any defective parts in the construction or to replace any defective materials used in the construction and to be responsible for all damages due to defects if the defects and damages are discovered on or before final inspection and acceptance of the work.

7.4 Payment for Extra Work. Payment for extra work directed, performed, and accepted will be made in accordance with Section 2.2, "Changes in the Work."

7.5 Force Account. The Engineer may provide for payment for extra work under Section 2.2, "Changes in the Work," on the force account basis, which includes compensation for the use of small tools, overhead expense, and profit. The Engineer shall execute a change order to establish labor and equipment rates and material costs

to determine an estimated cost for the proposed work. Payment for extra work directed on a force account basis will be as follows:

- A. Labor.** Compensation will be made for payroll rates for each hour that the labor and foremen, or others approved by the Engineer, are actually engaged in the work. In no case will the rate of wages be less than the minimum shown in the Contract for a particular category. An additional 25% of the above sum will be paid for overhead, superintendence, profit, and small tools.
- B. Insurance and Taxes.** An additional 55% of the labor cost, excluding the 25% compensation provided in Section 7.5.A, "Labor," will be paid as compensation for all insurance and taxes including the cost of premiums on public liability and workers compensation insurance, Social Security, and unemployment insurance taxes.
- C. Materials.** Compensation will be made for materials associated with the work based on actual delivered invoice costs, less any discount. An additional 25% of this sum will be paid as compensation for overhead and profit.
- D. Equipment.** Transportation cost for mobilizing equipment will be included if the equipment is mobilized from an off-site location. Payment will be made for the established equipment hourly rates for each hour that the equipment is involved in the work. An additional 15% will be paid as compensation for profit and overhead not included in the rates.

If a rate has not been established for a particular piece of equipment in the *Rental Rate Blue Book*, the Engineer will allow a reasonable hourly rate, as agreed upon in writing before work is begun. This price will include operating costs.

Nueces County reserves the right to withhold payment for low production or lack of progress.

- 1. Contractor Owned Equipment.** For Contractor owned machinery, trucks, and power tools, or other equipment that are necessary for use on "Force Account" work, use the *Rental Rate Blue Book* as modified by the following to establish hourly rates. Use the rates in effect for each section of the *Rental Rate Blue Book* at the time of use.

Compute the hourly rates as follows:

$$H = \frac{M \times R1 \times R2}{176} + OP$$

Where H = Hourly Rate

M = Monthly Rate

R1 = Rate Adjustment Factor

R2 = Regional Adjustment Factor

OP = Operating Costs

Payment for equipment will be made for the actual hours used in the work. Payment will not be made for time lost for equipment breakdowns, time spent to repair equipment, or time after equipment is no longer needed.

2. Equipment Not Owned by the Contractor. If equipment is rented exclusively for force account work from a third party not owned by the Contractor, payment will be made at the invoice daily rental rate for each day the equipment is needed for the work. Nueces County reserves the right to limit the daily rate to comparable *Rental Rate Blue Book* rates. When the invoice specifies that the rental rate does not include fuel, lubricants, repairs, and servicing, the *Rental Rate Blue Book* hourly operating cost for each hour the equipment is operated will be added.

- E. **Subcontracting.** Additional compensation will be made for extra work performed by Subcontractors under Section 2.2, "Changes in the Work," on the force account basis or based on actual invoice costs. An additional 5% compensation will be paid on subcontracted work for administrative cost and profit.
- F. **Law Enforcement.** For off-duty law enforcement, an additional 5% of the invoice cost for labor and equipment will be paid for administrative costs, superintendence, and profit.
- G. **Bond Cost.** An additional 1% of the total labor, material, equipment, and subcontracted compensation, including the additional compensation percentages provided by Sections A through F above, will be paid for the increase in bond cost due to the force account work.
- H. **Cost Records.** The Contractor shall maintain daily records of extra work completed on the force account basis. Provide copies of these records daily, signed by the Contractor's representative, for verification by Nueces County. Request payment for extra work performed on the force account basis, including copies of all applicable invoices, no later than the 10th day of the month following the month in which the work was performed.

If the Engineer directs extra work to be performed on a force account basis, and the estimated cost is less than \$10,000, the Contractor shall submit for approval an invoice including the actual cost for materials, equipment, labor, tools, and incidentals necessary to complete the extra work. Also include on the invoice additional compensation allowed in this Article.

7.6 Progress Payments. The Engineer will prepare a monthly estimate of the amount of work performed, including materials in place. Payment of the monthly estimate is determined at the Contract Item prices less any withholdings or deductions in accordance with the Contract. Progress payments may be withheld for failure to comply with the Contract.

A. Retainage. For any Contract, 5% retainage will be withheld from monthly payment requests.

B. Final Retainage Release. The remaining retainage will be released after all submittals are received and final quantities have been determined.

C. Payment Provisions for. The Contractor shall pay the subcontractor for work performed within 10 days after receiving payment for the work performed by the subcontractor. Also, pay any retainage on a subcontractor's work within 10 days after satisfactory completion of the entire subcontractor's work. Completed subcontractor work includes vegetative establishment, test, maintenance, performance, and other similar periods that are the responsibility of the subcontractor.

For the purpose of this Section, satisfactory completion is accomplished when:

- The subcontractor has fulfilled the Contract requirements of both Nueces County and the subcontract for the subcontracted work, including the submittal of all information required by the Specifications and Nueces County; and
- The work done by the subcontractor has been inspected and approved by Nueces County and the final quantities of the subcontractor's work have been determined and agreed upon.

The inspection and approval of a subcontractor's work does not eliminate the Contractor's responsibilities for all the work as defined in Section 5.13, "Contractor's Responsibility for Work."

Nueces County may pursue actions against the Contractor, including withholding of estimates and suspending the work, for noncompliance with the subcontract requirements of this Section upon receipt of written notice with sufficient details showing the subcontractor has complied with contractual obligations as described in this Article.

These requirements apply to all tiers of Subcontractor. The Contractor shall incorporate the provisions of this Article into all subcontract agreements.

7.7 Payment for Material on Hand. If payment for material on hand (MOH) is desired, request compensation for the invoice cost of acceptable nonperishable materials that have not been used in the work prior to the request, and that have been delivered to the work location or are in acceptable storage places. Nonperishable materials are those that do not have a shelf life or whose characteristics do not materially change when exposed to the elements. Include only materials that have been sampled, tested, approved, or certified, and are ready for incorporation into the work. Only materials which are completely constructed or fabricated on the Contractor's order for a specific Contract and are so marked and on which an approved test report has been issued are eligible. Payment for material on hand may include the following types of

Items: concrete traffic barrier, precast concrete box culverts, concrete piling, reinforced concrete pipe and illumination poles. Any repairs required after fabricated materials have been approved for storage shall require approval of the Engineer prior to being made and shall be made at the Contractor's expense. Include only those materials that have an invoice cost of at least \$1,000 in the request for material on hand payment.

If the request is acceptable, the Engineer will include payment for MOH in a progress payment. Payment for MOH does not constitute acceptance of the materials. Payment will not exceed the actual cost of the material as established by invoice, or the total cost for the associated Item less reasonable placement costs, whichever is less. Materials for which the Contractor does not have a paid invoice within 60 days will not be eligible for payment and will be removed from the estimate. Payment may be limited to a portion of the invoice cost or unit price if shown elsewhere in the Contract. Payment for precast products fabricated or constructed by the Contractor for which invoices or freight bills are not available may be made based on statements of actual cost.

Provide certification that "Payment has not been previously received from the County for all materials included in any request for MOH payment." Materials for which the Contractor does not provide certification will not be eligible for payment.

By submitting a request for MOH payment, the Contractor expressly authorizes the County to audit MOH records, and to perform process reviews of the record-keeping system. If the County determines noncompliance with any of the requirements of this provision, the County may exclude payment for any or all MOH for the duration of the Contract.

Maintain all records relating to MOH payment until final acceptance. Provide these records to the Engineer upon request.

7.8 Final Payment. When the Contract has been completed, all work has been approved, final acceptance has been made in accordance with Section 3.8, "Final Acceptance," and Contractor submittals have been received, the Engineer will prepare a final estimate for payment showing the total quantity of work completed and the money owed the Contractor.

Article VIII- Miscellaneous Provisions

8.1 Remedies and Rights. Duties and obligations imposed by the contract documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

8.2 Remedies and Rights. No action or failure to act by county shall constitute a waiver of a right or duty afforded under the contract, nor shall such action or failure to act constitute approval of acquiescence in a breach thereunder, except as may be specifically agreed in writing.

8.3 Governing Law. This Contract shall be governed by the Laws of the State of Texas.

8.4 Venue for Suits and Governing Law. The venue for any suit brought for a breach of contract for this project or any suit brought against the county for this project shall be in a court of competent jurisdiction in Nueces County, Texas. This provision does not waive the county's defense of sovereign immunity.

8.5 Survival of Obligation. All representations, indemnifications, warranties and guarantees made in accordance with the Contract Documents, will survive final payment, completion and acceptance of the work, as well as termination for any reason. All duties imposed upon the Contractor by reason of termination shall survive the termination of the contract.

8.6 No Third Party Beneficiaries. The parties do not intend, nor shall any clause be interpreted to create in any third party, any obligations to, or right of benefit by such third party under these Contract Documents from either the County or Contractor.

8.7 Entire Agreement. These Contract Documents supersede in full all prior discussions and agreements (oral or written) between the parties relating to the subject matter hereof and constitute the entire agreement.

8.8 Assignment. This Contract may not be assigned by either party. Except either party may, upon written notice to the other party, may assign this Contract to a present or future affiliate or successor, provided that any such assignment by the Contractor shall be contingent on the County's determination that the assignee is qualified to perform the work, is in good standing with the County of Nueces, and is otherwise eligible to do business with the County of Nueces.

8.9 Severability. If any provision, sentence, clause or article of this Contract is found to be invalid or unenforceable for any reason, the remaining provisions shall continue in effect as if the invalid or unenforceable provision were not in the Contract. All provisions, sentences, clauses, and articles of this contract are severable for this purpose.

8.10 Parties Bound. Execution of this Contract by each party binds the entity represented as well as its employees, agents, successors and assigns to its faithful performance.

TCDP
GENERAL CONTRACT CONDITIONS
(ATTACHMENT 11-N)

Attachment 11-N.
GENERAL CONTRACT CONDITIONS
for Construction

1. Contract and Contract Documents

- (a) *The project to be constructed pursuant to this contract will be financed with assistance from the TCDP and is subject to all applicable Federal and State laws and regulations.*
- (b) *The Plans, Specifications and Addenda, hereinafter enumerated in Paragraph 1 of the Supplemental General Conditions shall form part of this contract and the provisions thereof shall be as binding upon the parties hereto as if they were herein fully set forth.*

2. Definitions

Whenever used in any of the contract Documents, the following meanings shall be given to the terms here in defined:

- (a) *The term "Contract" means the Contract executed between the (County of Nueces), hereinafter called the Locality and (Name of Construction Co.), hereinafter called Contractor, of which these GENERAL CONDITIONS, form a part.*
- (b) *The term "Project Area" means the area within which are the specified Contract limits of the Improvements contemplated to be constructed in whole or in part under this contract.*
- (c) *The term "Engineer" means (Naismith Engineering, Inc.), Engineer in charge, serving the Locality with architectural or engineering services, his successor, or any other person or persons, employed by the Locality for the purpose of directing or having in charge the work embraced in this Contract.*
- (d) *The term "Contract Documents" means and shall include the following: Executed Contract, Addenda (if any), Invitation for Bids, Instructions to Bidders, Signed Copy of Bid, General Conditions, Special Conditions, Technical Specifications, and Drawings (as listed in the Schedule of Drawings).*

3. Supervision By Contractor

- (a) *Except where the Contractor is an individual and gives his personal supervision to the work, the Contractor shall provide a competent superintendent, satisfactory to the Local Public Agency and the Engineer, on the work at all times during working hours with full authority to act for him. The Contractor shall also provide an adequate staff for the proper coordination and expediting of his work.*
- (b) *The Contractor shall lay out his own work and he shall be responsible for all work executed by him under the Contract. He shall verify all figures and elevations before proceeding with the work and will be held responsible for any error resulting from his failure to do so.*

4. Subcontracts

- (a) *The Contractor shall not execute an agreement with any subcontractor or permit any subcontractor to perform any work included in this contract until he has verified the subcontractor as eligible to participate in federally funded contracts.*
- (b) *No proposed subcontractor shall be disapproved by the city/county except for cause.*
- (c) *The Contractor shall be as fully responsible to the city/county for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them.*
- (d) *The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work and required compliance by each subcontractor with the applicable provisions of the Contract.*
- (e) *Nothing contained in the Contract shall create any contractual relation between any subcontractor and the Locality.*

5. *Fitting and Coordination of Work*

The Contractor shall be responsible for the proper fitting of all work and for the coordination of the operations of all trades, subcontractors, or material suppliers engaged upon this Contract.

6. *Payments to Contractor*

(a) *Partial Payments*

- 1) *The Contractor shall prepare his requisition for partial payment as of the last day of the month and submit it, with the required number of copies, to the Engineer for his approval. The amount of the payment due the Contractor shall be determined by adding to the total value of work completed to date, the value of materials properly stored on the site and deducting (1) ten percent (10%) of the total amount, to be retained until final payment and (2) the amount of all previous payments. The total value of work completed to date shall be based on the estimated quantities of work completed and on the unit prices contained in the agreement. The value of materials properly stored on the site shall be based upon the estimated quantities of such materials and the invoice prices. Copies of all invoices shall be available for inspection of the Engineer.*
- 2) *Monthly or partial payments made by the Locality to the Contractor are moneys advanced for the purpose of assisting the contractor to expedite the work of construction. The Contractor shall be responsible for the care and protection of all materials and work upon which payments have been made until final acceptance of such work and materials by the Locality. Such payments shall not constitute a waiver of the right of the Locality to require the fulfillment of all terms of the Contract and the delivery of all improvements embraced in this Contract complete and satisfactory to the Locality in all details.*

(b) *Final Payment*

- 1) *After final inspection and acceptance by the Locality of all work under the Contract, the Contractor shall prepare his requisition for final payment which shall be based upon the careful inspection of each item of work at the applicable unit prices stipulated in the Agreement. The total amount of the final payment due the*

Contractor under this contract shall be the amount computed as described above less all previous payments.

2) The Locality before paying the final estimate, shall require the Contractor to furnish releases or receipts from all subcontractors having performed any work and all persons having supplied materials, equipment (installed on the Project) and services to the Contractor, if the Locality deems it necessary in order to protect its interest. The Locality may, if it deems such action advisable, make payment in part or in full to the Contractor without requiring the furnishing of such releases or receipts and any payments made shall in no way impair the obligations of any surety or sureties furnished under this Contract.

3) Any amount due the Locality under Liquidated Damages, shall be deducted from the final payment due the contractor.

(c) Payments Subject to Submission of Certificates

Each payment to the Contractor by the Locality shall be made subject to submission by the Contractor of all written certifications required of him and his subcontractors.

(d) Withholding Payments

The Locality may withhold from any payment due the Contractor whatever is deemed necessary to protect the Locality, and if so elects, may also withhold any amounts due from the Contractor to any subcontractors or material dealers, for work performed or material furnished by them. The foregoing provisions shall be construed solely for the benefit of the Locality and will not require the Locality to determine or adjust any claims or disputes between the Contractor and his subcontractors or material dealers, or to withhold any moneys for their protection unless the Locality elects to do so. The failure or refusal of the Locality to withhold any moneys from the Contractor shall in no way impair the obligations of any surety or sureties under any bond or bonds furnished under this Contract.

7. Changes in the Work

(a) The Locality may make changes in the scope of work required to be performed by the Contractor under the Contract without relieving or releasing the Contractor from any of his obligations under the Contract or any guarantee given by him pursuant to the Contract provisions, and without affecting the validity of the guaranty bonds, and without relieving or releasing the surety or sureties of said bonds. All such work shall be executed under the terms of the original Contract unless it is expressly provided otherwise. Additionally, all such change orders must be approved by the Locality and the project engineer before submitting to ORCA for approval and prior to execution with the construction contractor.

(b) Except for the purpose of affording protection against any emergency endangering health, life, limb or property, the Contractor shall make no change in the materials used or in the specified manner of constructing and/or installing the improvements or supply additional labor, services or materials beyond that actually required for the execution of the Contract, unless in pursuance of a written order from the Locality authorizing the Contractor to proceed with the change. No claim for an adjustment of the Contract Price will be valid unless so ordered.

(c) If applicable unit prices are contained in the Agreement, the Locality may order the Contractor to proceed with desired unit prices specified in the Contract; provided that

In case of a unit price contract the net value of all changes does not increase the original total amount of the agreement by more than twenty-five percent (25%) or decrease the original the total amount by eighteen percent (18%).

(d) Each change order shall include in its final form:

- 1) A detailed description of the change in the work.*
- 2) The Contractor's proposal (if any) or a confirmed copy thereof.*
- 3) A definite statement as to the resulting change in the contract price and/or time.*
- 4) The statement that all work involved in the change shall be performed in accordance with contract requirements except as modified by the change order.*
- 5) The procedures as outlined in this Section for a unit price contract also apply in any lump sum contract.*

8. Claims for Extra Cost

- (a) If the Contractor claims that any instructions by Drawings or otherwise involve extra cost or extension of time, he shall, within ten days after the receipt of such instructions, and in any event before proceeding to execute the work, submit his protest thereto in writing to the Locality, stating clearly and in detail the basis of his objections. No such claim will be considered unless so made.*
- (b) Claims for additional compensation for extra work, due to alleged errors in ground elevations, contour lines, or bench marks, will not be recognized unless accompanied by certified survey data, made prior to the time the original ground was disturbed, clearly showing that errors exist which resulted, or would result, in handling more material, or performing more work, than would be reasonably estimated from the Drawings and maps issued.*
- (c) Any discrepancies which may be discovered between actual conditions and those represented by the Drawings and maps shall be reported at once to the Locality and work shall not proceed except at the Contractor's risk, until written instructions have been received by him from the Locality.*
- (d) If, on the basis of the available evidence, the Locality determines that an adjustment of the Contract Price and/or time is justifiable, a change order shall be executed.*

9. Termination, Delays, and Liquidated Damages

- (a) Right of the Locality to Terminate Contract.*
- (b) In the event that any of the provisions of this contract are violated by the Contractor, or by any of his subcontractors, the Locality may serve written notice upon the Contractor and the Surety of its intention to terminate the contract. The notices shall contain the reasons for such intention to terminate the contract, and unless such violation or delay shall cease and satisfactory arrangement of correction be made within ten days, the contract shall, upon the expiration of said ten (10) days, cease and terminate. In the event of any such termination, the Locality shall immediately serve notice thereof upon the Surety and the Contractor. The Surety shall have the right to take over and perform the contract. Provided, however, that if the Surety does not commence performance thereof within ten (10) days from the date of the mailing to*

such Surety of notice of termination, the Locality may take over the work and complete the project by bid/contract or by force account at the expense of the Contractor and his Surety shall be liable to the Locality for any excess cost incurred. In such event the Locality may take possession of and utilize in completing the work, such materials, appliances, and plant as may be on the site of the work and necessary therefore.

(c) Liquidated Damages for Delays.

(d) If the work is not completed within the time stipulated in the applicable bid for Lump Sum or Unit Price Contract provided, the Contractor shall pay to the Locality as fixed, agreed, and liquidated damages (it being impossible to determine the actual damages occasioned by the delay) the amount of Two Hundred Fifty Dollars (\$250.00) for each calendar day of delay, until the work is completed. The Contractor and his sureties shall be liable to the Locality for the amount thereof.

(e) Excusable Delays.

- 1) The right of the Contractor to proceed shall not be terminated nor shall the Contractor be charged with liquidated damages for any delays in the completion of the work due to:*
- 2) Any acts of the Government, including controls or restrictions upon or requisitioning of materials, equipment, tools, or labor by reason of war, national defense, or any other national emergency;*
- 3) Any acts of the Locality;*
- 4) Causes not reasonably foreseeable by the parties to this Contract at the time of the execution of the Contract which are 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 another Contractor in the performance of some other contract with the Locality, fires, floods, epidemics, quarantine, restrictions, strikes, freight embargoes, and weather of unusual severity such as hurricanes, tornadoes, cyclones and other extreme weather conditions.*
- 5) Provided, however, that the Contractor promptly notifies the Locality within ten (10) days in writing of the cause of the delay. Upon receipt of such notification, the Locality shall ascertain the facts and the cause and extent of delay. If, upon the basis of the facts and the terms of this contract, the delay is properly excusable, the Locality shall extend the time for completing the work for a period of time commensurate with the period of excusable delay.*

10. Assignment or Novation

The Contractor shall not assign or transfer, whether by an assignment or novation, any of its rights, duties, benefits, obligations, liabilities, or responsibilities under this Contract without the written consent of the Locality; provided, however, that assignments to banks or other financial institutions may be made without the consent of the Locality. No assignment or novation of this Contract shall be valid unless the assignment or novation expressly provides that the assignment of any of the Contractor's rights or benefits under the Contract is subject to a prior lien for labor performed, services rendered, and materials, tools, and equipment supplied for the performance of the work under this Contract in favor of all persons, firms, or corporations rendering such labor or services or supplying such materials, tools, or equipment.

11. Disputes

- (a) *All disputes arising under this Contract or its interpretation except those disputes covered by FEDERAL LABOR STANDARDS PROVISIONS whether involving law or fact or both, or extra work, and all claims for alleged breach of contract shall, within ten (10) days of commencement of the dispute, be presented by the Contractor to the Locality for decision. Any claim not presented within the time limit specified in this paragraph shall be deemed to have been waived, except that if the claim is of a continuing character and notice of the claim is not given within ten (10) days of its commencement, the claim will be considered only for a period commencing ten (10) days prior to the receipt of the Locality.*
- (b) *The Contractor shall submit in detail his claim and his proof thereof.*
- (c) *If the Contractor does not agree with any decision of the Locality, he shall in no case allow the dispute to delay the work but shall notify the Locality promptly that he is proceeding with the work under protest.*

12. Technical Specifications and Drawings

Anything mentioned in the Technical Specifications and not shown on the Drawings or vice versa, shall be of like effect as if shown on or mentioned in both. In case of difference between Drawings and Technical Specifications, the Technical Specifications shall govern. In case of any discrepancy in Drawings, or Technical Specifications, the matter shall be immediately submitted to the Locality, without whose decision, said discrepancy shall not be adjusted by the Contractor, save only at his own risk and expense.

13. Shop Drawings

- (a) *All required shop drawings, machinery details, layout drawings, etc. shall be submitted to the Engineer in 6 copies for approval sufficiently in advance of requirements to afford ample time for checking, including time for correcting, resubmitting and rechecking if necessary. The Contractor may proceed, only at his own risk, with manufacture or installation of any equipment or work covered by said shop drawings, etc. until they are approved and no claim, by the Contractor, for extension of the contract time shall be granted by reason of his failure in this respect.*
- (b) *Any drawings submitted without the Contractor's stamp of approval will not be considered and will be returned to him for proper resubmission. If any drawings show variations from the requirements of the Contract because of standard shop practice or other reason, the Contractor shall make specific mention of such variation in his letter of transmittal in order that, if acceptable, suitable action may be taken for proper adjustment of contract price and/or time; otherwise the Contractor will not be relieved of the responsibility for executing the work in accordance with the Contract even though the drawings have been approved.*
- (c) *If a shop drawing is in accordance with the contract or involves only a minor adjustment in the interest of the Locality not involving a change in contract price or time; the engineer may approve the drawing. The approval shall not relieve the Contractor from his responsibility for adherence to the contract or for any error in the drawing.*

14. Requests for Supplementary Information

It shall be the responsibility of the Contractor to make timely requests of the Locality for any additional information not already in his possession which should be furnished by the Locality under the terms of this Contract, and which he will require in the planning and execution of the work. Such requests may be submitted from time to time as the need approaches, but each shall be filed in ample time to permit appropriate action to be taken by all parties involved so as to avoid delay. Each request shall be in writing, and list the various items and the latest date by which each will be required by the Contractor. The first list shall be submitted within two weeks after Contract award and shall be as complete as possible at that time. The Contractor shall, if requested, furnish promptly any assistance and information the Engineer may require in responding to these requests of the Contractor. The Contractor shall be fully responsible for any delay in his work or to others arising from his failure to comply fully with the provision of this section.

15. Materials and Workmanship

- (a) Unless otherwise specifically provided for in the technical specifications, all workmanship, equipment, materials and articles incorporated in the work shall be new and the best grade of the respective kinds for the purpose. Where equipment, materials, articles or workmanship are referred to in the technical specifications as "equal to" any particular standard, the Engineer shall decide the question of equality.*
- (b) The Contractor shall furnish to the Locality for approval the manufacturer's detailed specifications for all machinery, mechanical and other special equipment, which he contemplates installing together with full information as to type, performance characteristics, and all other pertinent information as required, and shall likewise submit for approval full information concerning all other materials or articles which he proposes to incorporate.*
- (c) Machinery, mechanical and other equipment, materials or articles installed or used without such prior approval shall be at the risk of subsequent rejection.*
- (d) Materials specified by reference to the number or symbol of a specific standard, shall comply with requirements in the latest revision thereof and any amendment or supplement thereto in effect on the date of the Invitation for Bids, except as limited to type, class or grade, or modified in the technical specifications shall have full force and effect as though printed therein.*
- (e) The Locality may require the Contractor to dismiss from the work such employee or employees as the Locality or the Engineer may deem incompetent, or careless, or insubordinate.*

16. Samples, Certificates and Tests

- (a) The Contractor shall submit all material or equipment samples, certificates, affidavits, etc., as called for in the contract documents or required by the Engineer, promptly after award of the contract and acceptance of the Contractor's bond. No such material or equipment shall be manufactured or delivered to the site, except at the Contractor's own risk, until the required samples or certificates have been approved in writing by the Engineer. Any delay in the work caused by late or improper submission of samples or certificates for approval shall not be considered just cause for an extension of the contract time.*
- (b) Each sample submitted by the Contractor shall carry a label giving the name of the Contractor, the project for which it is intended, and the name of the producer. The accompanying certificate or letter from the Contractor shall state that the sample*

complies with contract requirements, shall give the name and brand of the product, its place of origin, the name and address of the producer and all specifications or other detailed information which will assist the Engineer in making a prompt decision regarding the acceptability of the sample. It shall also include the statement that all materials or equipment furnished for use in the project will comply with the samples and/or certified statements.

- (c) Approval of any materials shall be general only and shall not constitute a waiver of the Locality's right to demand full compliance with Contract requirements. After actual deliveries, the Engineer will have such check tests made as he deems necessary in each instance and may reject materials and equipment and accessories for cause, even though such materials and articles have been given general approval. If materials, equipment or accessories which fail to meet check tests have been incorporated in the work, the Engineer will have the right to cause their removal and replacement by proper materials or to demand and secure such reparation by the Contractor as is equitable.*
- (d) Except as otherwise specifically stated in the Contract, the costs of sampling and testing will be divided as follows:
 - 1) The Contractor shall furnish without extra cost, including packing and delivery charges, all samples required for testing purposes, except those samples taken on the project by the Engineer;*
 - 2) The Contractor shall assume all costs of re-testing materials which fail to meet contract requirements;*
 - 3) The Contractor shall assume all costs of testing materials offered in substitution for those found deficient;*
 - 4) The Locality will pay all other expenses.**

17. Permits and Codes

- (a) The Contractor shall give all notices required by and comply with all applicable laws, ordinances, and codes of the Local Government. All construction work and/or utility installations shall comply with all applicable ordinances, and codes including all written waivers. Before installing any work, the Contractor shall examine the drawings and technical specifications for compliance with applicable ordinances and codes and shall immediately report any discrepancy to the Locality. Where the requirements of the drawings and technical specifications fail to comply with such applicable ordinances or codes, the Locality will adjust the Contract by Change Order to conform to such ordinances or codes (unless waivers in writing covering the difference have been granted by the governing body or department) and make appropriate adjustment in the Contract Price or stipulated unit prices.*
- (b) Should the Contractor fail to observe the foregoing provisions and proceed with the construction and/or install any utility at variance with any applicable ordinance or code, including any written waivers (notwithstanding the fact that such installation is in compliance with the drawings and technical specifications), the Contractor shall remove such work without cost to the Locality.*
- (c) The Contractor shall at his own expense, secure and pay for all permits for street pavement, sidewalks, shed, removal of abandoned water taps, sealing of house*

connection drains, pavement cuts, buildings, electrical, plumbing, water, gas and sewer permits required by the local regulatory body or any of its agencies.

- (d) *The Contractor shall comply with applicable local laws and ordinances governing the disposal of surplus excavation, materials, debris and rubbish on or off the Project Area and commit no trespass on any public or private property in any operation due to or connected with the Improvements contained in this Contract.*
- (e) *The Contractor will be required to make arrangements for and pay the water, electrical power, or any other utilities required during construction.*
- (f) *During construction of this project, the Contractor shall use every means possible to control the amount of dust created by construction. Prior to the close of a day's work, the Contractor, if directed by the Locality, shall moisten the bank and surrounding area to prevent a dusty condition.*

18. Care of Work

- (a) *The Contractor shall be responsible for all damages to person or property that occur as a result of his fault or negligence in connection with the prosecution of the work and shall be responsible for the proper care and protection of all materials delivered and work performed until completion and final acceptance.*
- (b) *The Contractor shall provide sufficient competent watchmen, both day and night, including Saturdays, Sundays, and holidays, from the time the work is commenced until final completion and acceptance.*
- (c) *In an emergency affecting the safety of life, limb or property, including adjoining property, the Contractor, without special instructions or authorization from the Locality is authorized to act at his discretion to prevent such threatened loss or injury, and he shall so act. He shall likewise act if instructed to do so by the Locality.*
- (d) *The Contractor shall avoid damage as a result of his operations to existing sidewalks, streets, curbs, pavements, utilities (except those which are to be replaced or removed), adjoining property, etc., and he shall at his own expense completely repair any damage thereto caused by his operations.*
- (e) *The Contractor shall shore up, brace, underpin, secure, and protect as maybe necessary, all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of the site, which may be in any way affected by the excavations or other operations connected with the construction of the improvements included in this Contract. The Contractor shall be responsible for the giving of any and all required notices to any adjoining or adjacent property owner or other party before the commencement of any work. The Contractor shall indemnify and save harmless the Locality from any damages on account of settlements or the loss of lateral support of adjoining property and from all loss or expense and all damages for which the Locality may become liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.*

19. Accident Prevention

- (a) *No laborer or mechanic employed in the performance of this Contract shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health or safety as determined under construction safety and health standards promulgated by the Secretary of Labor.*
- (b) *The Contractor shall exercise proper precaution at all times for the protection of persons and property and shall be responsible for all damages to persons or property, either on or off the site, which occur as a result of his prosecution of the work.*
- (c) *The Contractor shall maintain an accurate record of all cases of death, occupational disease, or injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment on work under the Contract. The Contractor shall promptly furnish the Locality with reports concerning these matters.*
- (d) *The Contractor shall indemnify and save harmless the Locality from any claims for damages resulting from property damage, personal injury and/or death suffered or alleged to have been suffered by any person as a result of any work conducted under this contract.*
- (e) *The Contractor shall provide trench safety for all excavations more than five feet deep prior to excavation. All OSHA Standards for trench safety must be adhered to by the Contractor.*
- (f) *The contractor shall at all times conduct his work in such a manner as to insure the least possible inconvenience to vehicular and pedestrian traffic. At the close of the work each day, all streets where possible in the opinion of the Locality, shall be opened to the public in order that persons living in the area may have access to their homes or businesses by the use of the streets. Barricades, warning signs, and necessary lighting shall be provided to the satisfaction of the Locality at the expense of the Contractor.*

20. Sanitary Facilities

The Contractor shall furnish, install and maintain ample sanitary facilities for the workmen. As the needs arise, a sufficient number of enclosed temporary toilets shall be conveniently placed as required. Drinking water shall be provided from an approved source, so piped or transported as to keep it safe and fresh and served from single service containers or satisfactory types of sanitary drinking stands or fountains. All such facilities and services shall be furnished in strict accordance with existing and governing health regulations.

21. Use of Premises

- (a) *The Contractor shall confine his equipment, storage of materials, and construction operations to the contract limits as shown on the drawings and as prescribed by ordinances or permits, or as may be desired by the Locality, and shall not unreasonably encumber the site or public rights of way with his materials and construction equipment.*
- (b) *The Contractor shall comply with all reasonable instructions of the Locality and all existing state and local regulations regarding signs, advertising, traffic, fires, explosives, danger signals, and barricades.*

22. Removal of Debris, Cleaning, Etc.

The Contractor shall, periodically or as directed during the progress of the work, remove and legally dispose of all surplus excavated material and debris, and keep the Project Area and public rights of way reasonably clear. Upon completion of the work, he shall remove all temporary construction facilities, debris and unused materials provided for work, and put the whole site of the work and public rights of way in a neat and clean condition.

23. Inspection

- (a) All materials and workmanship shall be subject to inspection, examination, or test by the Locality and Engineer at any and all times during manufacture or construction and at any and all places where such manufacture or construction occurs. The Locality shall have the right to reject defective material and workmanship or require its correction. Unacceptable workmanship shall be satisfactorily corrected. Rejected material shall be promptly segregated and removed from the Project Area and replaced with material of specified quality without charge. If the Contractor fails to proceed at once with the correction of rejected workmanship or defective material, the Locality may by contract or otherwise have the defects remedied or rejected materials removed from the Project Area and charge the cost of the same against any Monies which may be due the Contractor, without prejudice to any other rights or remedies of the Locality.*
- (b) The Contractor shall furnish promptly all materials reasonably necessary for any tests which may be required. All tests by the Locality will be performed in such manner as not to delay the work unnecessarily and will be made in accordance with the provisions of the technical specifications.*
- (c) The Contractor shall notify the Locality sufficiently in advance of back filling or concealing any facilities to permit proper inspection. If any facilities are concealed without approval or consent of the Locality, the Contractor shall uncover for inspection and recover such facilities at his own expense, when so requested by the Locality.*
- (d) Should it be considered necessary or advisable by the Locality at any time before final acceptance of the entire work to make an examination of work already completed by uncovering the same, the Contractor shall on request promptly furnish all necessary facilities, labor, and material. If such work is found to be defective in any important or essential respect, due to fault of the Contractor or his subcontractors, the Contractor shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the actual cost of labor and material necessarily involved in the examination and replacement, shall be allowed the Contractor and he shall, in addition, if completion of the work of the entire Contract has been delayed thereby, be granted a suitable extension of time on account of the additional work involved.*
- (e) Inspection of materials and appurtenances to be incorporated in the improvements included in this Contract may be made at the place of production, manufacture or shipment, whenever the quantity justifies it, and such inspection and acceptance, unless otherwise stated in the technical specifications, shall be final, except as regards (1) latent defects, (2) departures from specific requirements of the Contract, (3) damage or loss in transit, or (4) fraud or such gross mistakes as amount to fraud. Subject to the requirements contained in the preceding sentence, the inspection of materials as a whole or in part will be made at the Project Site.*
- (f) Neither inspection, testing, approval nor acceptance of the work in whole or in part, by the Locality or its agents shall relieve the Contractor or his sureties of full*

responsibility for materials furnished or work performed not in strict accordance with the Contract.

24. Review by Locality

The Locality and its authorized representatives and agents shall have access to and be permitted to observe and review all work, materials, equipment, payrolls, personnel records, employment conditions, material invoices, and other relevant data and records pertaining to this Contract, provided, however that all instructions and approval with respect to the work will be given to the Contractor only by the Locality through its authorized representatives or agents.

25. Final Inspection

When the Improvements included in this Contract are substantially completed, the Contractor shall notify the Locality in writing that the work will be ready for final inspection on a definite date which shall be stated in the notice. The Locality will make the arrangements necessary to have final inspection commenced on the date stated in the notice, or as soon thereafter as is practicable.

26. Deduction for Uncorrected Work

If the Locality deems it not expedient to require the Contractor to correct work not done in accordance with the Contract Documents, an equitable deduction from the Contract Price will be made by agreement between the Contractor and the Locality and subject to settlement, in case of dispute, as herein provided.

27. Insurance

The Contractor shall not commence work under this contract until he has obtained all the insurance required under this paragraph and such insurance has been approved by the Locality.

- (a) **Compensation Insurance:** The Contractor shall procure and shall maintain during the life of this contract Worker's Compensation Insurance as required by the State of Texas for all of his employees to be engaged in work at the site of the project under this contract and, in case of any such work sublet, the Contractor shall require the subcontractor similarly to provide Worker's Compensation Insurance for all of the employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Worker's Compensation Insurance.
- (b) **Contractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance:** The Contractor shall procure and shall maintain during the life of this contract Contractor's Public Liability Insurance, Contractor's Property Damage Insurance and Vehicle Liability Insurance in the following amounts: (See Special Conditions)
- (c) **Proof of Insurance:** The Contractor shall furnish the Locality with certificates showing the type, amount, class of operations covered, effective dates and date of expiration of policies. Such certificates shall also contain substantially the following statement: "The insurance covered by this certificate will not be canceled or materially altered, except after ten (10) days written notice has been received by the Locality."

28. Warranty of Title

No material, supplies, or equipment to be installed or furnished under this Contract shall be purchased subject to any chattel mortgage or under a conditional sale, lease-purchase or other agreement by which an interest is retained by the seller or supplier. The Contractor shall warrant good title to all materials, supplies, and equipment installed or incorporated in the work and upon completion of all work, shall deliver the same together with all improvements and appurtenances constructed or placed by him to the Locality free from any claims, liens, or charges. Neither the Contractor nor any person, firm, or corporation furnishing any material or labor for any work covered by this Contract shall have any right to a lien upon any improvement or appurtenance. Nothing contained in this paragraph, however, shall defeat or impair the right of persons furnishing materials or labor to recover under any law permitting such persons to look to funds due the Contractor in the hands of the Locality. The provisions of this paragraph shall be inserted in all subcontracts and material contracts and notice of its provisions shall be given to all persons furnishing materials for the work when no formal contract is entered into for such materials.

29. Warranty of Workmanship and Materials

Neither the final certificate of payment nor any provision in the Contract nor partial or entire use of the improvements included in this Contract by the Locality or the public shall constitute an acceptance of work not done in accordance with the Contract or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The Contractor shall promptly remedy any defects in the work and pay for any damage to other work resulting therefrom which shall appear within a period of 12 months from the date of final acceptance of the work.

30. Compliance with Air and Water Acts

(a) In compliance with the Clean Air Act, as amended, 41 U.S.C. Sec. 7401 et. seq., and the regulations of the Environmental Protection Agency with respect thereto, the Contractor agrees that:

- 1) Any facility to be utilized in the performance of this contract or any subcontract shall not be a facility listed on the EPA List of Violating Facilities pursuant to 40 CFR 15.20.
- 2) He will comply with all requirements of Section 114 of the Clean Air Act, as amended.
- 3) Materials utilized in the project shall be free of any hazardous materials, except as may be specifically provided for in the specifications.

(b) If the Contractor encounters existing material on sites owned or controlled by the Locality or in material sources that are suspected by visual observation or smell to contain hazardous materials, the Contractor shall immediately notify the Engineer and the Locality. The Locality will be responsible for testing for and removal or disposition of hazardous materials on sites owned or controlled by the Locality. The Locality may suspend the work, wholly or in part during the testing, removal or disposition of hazardous materials on sites owned or controlled by the Locality.

31. Equal Employment Opportunity

(a) The Contractor will not discriminate against any employee or the applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or

national origin. Such action shall include, but not be limited to the following: employment, promotion, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the owner.

- (b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.*
- (c) The Contractor will cause the foregoing provisions to be inserted in all subcontracts for any work covered by this contract so that such provisions will be binding upon each subcontractor, provided that the foregoing provisions shall not apply to contracts or subcontracts for standard commercial supplies or raw materials.*
- (d) The Contractor shall take affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions.*
- (e) Contractors are encouraged to participate in voluntary associations which assist in fulfilling their affirmative action obligations.*
- (f) The Contractor is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority.*
- (g) The Contractor shall not use the affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.*
- (h) The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts.*
- (i) Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents.*

32. Affirmative Action for Handicapped Workers

The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is qualified. The Contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices such as the following: employment, promotion, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

33. Section 109 of the Housing and Community Development Act of 1974

No person in the United States shall on the ground of race, color, national origin, or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under this title.

34. The Provision of Local Training, Employment, and Business Opportunities

- (a) *To the greatest extent feasible opportunities for training and employment be given lower income residents of the project area and contracts for work in connection with the project be awarded to business concerns which are located in, or owned in substantial part by persons residing in the area of the project.*
- (b) *The Contractor will include this clause in every subcontract for work in connection with the project.*

35. Non Segregated Facilities

The Contractor certifies that he does not and will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not and will not permit his employees any segregated facilities at any of his establishments, or permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. As used in this paragraph the term "segregated facilities" means any waiting rooms, work areas, rest rooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise.

36. Job Offices

- (a) *The Contractor and his subcontractors may maintain such office and storage facilities on the site as are necessary for the proper conduct of the work. These shall be located so as to cause no interference to any work to be performed on the site. The Locality shall be consulted with regard to locations.*
- (b) *Upon completion of the improvements, or as directed by the Locality, the Contractors shall remove all such temporary structures and facilities from the site, and leave the site of the work in the condition required by the Contract.*

37. Partial Use of Site Improvements

The Locality may give notice to the Contractor and place in use those sections of the improvements which have been completed, inspected and can be accepted as complying with the technical specifications and if in its opinion, each such section is reasonably safe, fit, and convenient for the use and accommodation for which it was intended, provided:

- (a) *The use of such sections of the Improvements shall in no way impede the completion of the remainder of the work by the Contractor.*
- (b) *The Contractor shall not be responsible for any damages or maintenance costs due directly to the use of such sections.*
- (c) *The period of guarantee stipulated in the Section 132 hereof shall not begin to run until the date of the final acceptance of all work which the Contractor is required to construct under this Contract.*

38. Contract Documents and Drawings

The Local Public Agency will furnish the Contractor without charge 3 copies of the Contract Documents, including Technical Specifications and Drawings. Additional copies requested by the Contractor will be furnished at cost.

39. Contract Period

The work to be performed under this contract shall commence within the time stipulated by the Locality in the Notice to Proceed, and shall be fully completed within 180 calendar days thereafter.

40. Liquidated Damages

Since the actual damages for any delay in completion of the work under this contract are impossible to determine, the Contractor and his Sureties shall be liable for and shall pay to the Locality the sum of Two Hundred Fifty Dollars (\$ 250.00) as fixed, agreed and liquidated damages for each calendar day of delay from the above stipulated time for completion.

EJCDC

STANDARD GENERAL CONDITIONS

(FOR ITEMS NOT COVERED IN TCDP ATTACHMENT 11-N)

SECTION 01012

SPECIAL CONDITIONS

1. **INSURANCE:** The Contractor shall maintain such insurance as will protect him from claims which may arise from and during operations under this contract, including Owner's property under care, custody and control of the Contractor. All policies, when applicable, must name the owner as an additional insured and must have a waive of subrogation in favor of the owner. Thirty days notice of cancellation is required, and a copy of such insurance shall be filed with the owner. The insurance shall remain in force for the life of the contract. A certificate evidencing such insurance shall be filed with the Owner concurrent with the execution of the contract. As a minimum, the contractor shall provide the following insurance in the prescribed amounts:

Public Liability Insurance	\$2,000,000
Property Damage Insurance	\$1,000,000
Vehicle Liability Insurance	\$1,000,000
Worker's Compensation Insurance,	\$1,000,000
Texas Statutory, Benefits	
Employer's Liability	

The certificate holder on these insurance policies shall be the Owner. The Contractor's attention is directed to the General Conditions section of these contract documents for other requirements regarding insurance. In case of conflict with the insurance requirements of the General Conditions, the above insurance requirements shall take priority.

2. **SCHEDULE OF VALUES:** The Contractor shall submit to the Engineer within ten (10) calendar days after issuance of the Notice to Proceed a schedule of values used to develop his Bid. This schedule shall be based on the items contained in Section 00105, "Proposal". The Contractor shall include the Unit price items outlined in Section 00105 in sufficient detail to allow Engineer to verify quantities for the Contractor's monthly pay estimates. After this Schedule of Values is approved by the Engineer, it will be transferred to the "Estimate for Partial Payment" which shall be submitted to the Engineer as the Contractor's monthly payment request.
3. **PARTIAL PAYMENTS:** The Contractor shall submit to the Engineer periodic Estimates for Partial Payment on the form contained in Section 01027 – "Estimate of Partial Payment," as outlined in the "Standard General Conditions of the Construction Contract." These estimates shall cover work completed through the end of each month and should reach the Engineer no later than the 5th of each month. The Engineer will review the quantities on the estimate and, if acceptable, will forward these to the Owner for payment. If the quantities are not acceptable to the Engineer, the Engineer and the Contractor will agree on acceptable quantities

before submitting the estimate to the Owner. A retainage of ten percent (10%) will be withheld from all partial payments when the contract amount is less than \$400,000. A retainage of five percent (5%) will be withheld from all partial payments when the contract is \$400,000 or above. This retainage will be released after the Contractor has completed the requirements of this contract.

- 4. SCHEDULE AND SEQUENCE OF CONSTRUCTION:** The Contractor shall submit to the Engineer a work plan based only on working days. This plan must detail the schedule of work and must be submitted to the Engineer at least three (3) working days prior to the pre-construction meeting.

The plan must indicate the schedule of the following work items:

- A. Initial Schedule: Submit to the Engineer three (3) days prior to the Pre-Construction Meeting an initial construction progress schedule for review.
- B. Items to Include: Show complete sequence of construction by activity, identifying work of separate stages and other logically grouped activities. Identify the first work day of each week.
- C. Submittal Dates: Indicate submittal dates required for all submittals.
- D. Re-Submission: Revise and resubmit as required by the Engineer.
- E. Periodic Update: Submit Updated Construction Progress Schedule to show actual progress of each stage by percentage against initial Schedule with each monthly estimate.

- 5. PAYMENT FOR MATERIALS AND EQUIPMENT:** Payment for materials and equipment shall be made only after these materials and equipment have been delivered to the jobsite. Payment will not be made for materials stored any place other than the jobsite.

- 6. EXCAVATION, REMOVAL, AND DISPOSAL/SALVAGE OF MATERIALS:** The excavated areas behind curbs and adjacent to sidewalks must be filled with "clean dirt." "Clean dirt" is defined as dirt that is capable of providing a good growth of grass when applied with seed/sod and fertilizer. The dirt must be free of debris, caliche, asphalt, concrete, and any other material that detracts from its appearance or hampers the growth of grass. Excess excavated material, broken asphalt, concrete, broken culverts, and other unwanted material becomes the property of the Contractor and must be removed from the site by the Contractor. The cost of all hauling is considered subsidiary; therefore, no direct payment will be made to the Contractor.

- 7. AREA ACCESS AND TRAFFIC CONTROL:** Sufficient traffic control measures must be used to assure a safe condition and to provide a minimum of inconvenience to motorists. All weather access must be provided to all residents and businesses at all times during construction. The Contractor must provide temporary driveways and/or

roads of approved material during wet weather. The Contractor must maintain a stockpile on the Project site to meet the demands of inclement weather.

The Contractor will be required to schedule his operations so as to cause minimum adverse impact on the accessibility of adjoining properties. This may include, but is not limited to, working driveways in half widths, construction of temporary ramps, etc.

The Contractor shall comply with the Uniform Manual of Traffic Control Devices. All costs for traffic control are considered subsidiary; therefore, no direct payment will be made to the Contractor.

8. **COOPERATION WITH PUBLIC AGENCIES:** The Contractor shall cooperate with all public and private agencies with facilities operating within the limits of the project. The Contractor shall provide a forty-eight (48) hour notice to any applicable agency when work is anticipated to proceed in the vicinity of any facility by using the Texas One-Call System 1-800-669-8344, the Lone Star Notification Company at 1-800-669-8344, and the Southwestern Bell Locate Group at 1-800-828-5127.
9. **CONSTRUCTION STAKING:** The drawings depict lines, slopes, grades, sections, measurements, bench marks, baselines, etc. that are normally required to construct a project of this nature. The major controls and bench marks required for setting up a project will be provided by the Owner. Construction staking shall be performed by the Contractor

If, during construction, it is necessary to disturb or destroy a control point or bench mark, the Contractor shall provide the Engineer 48 hours notice so that alternate control points can be established. Control points or bench marks damages as a result of the Contractor's negligence will be restored by the Owner at the expense of the Contractor.

If, for whatever reason, it is necessary to deviate from proposed line and grade to properly execute the work, the Contractor shall obtain approval of the Engineer prior to deviation. If, in the opinion of the Engineer, the required deviation would necessitate a revision to the drawings, the Contractor shall provide supporting measurements as required for the Engineer to revise the drawings.

The Contractor shall tie in or reference all valves and manholes, both existing and proposed, for the purpose of adjusting valves and manholes at the completion of the paving process. Also, the Engineer may require that the Contractor furnish a maximum of two (2) personnel for the purpose of assisting the measuring of the completed work.

10. **MAINTENANCE OF SERVICES:** The Contractor shall take all precautions in protecting existing utilities, both above and below ground. The Drawings show as much information as can be reasonably obtained from existing as-built drawings, base maps, utility records, etc. and from as much field work as normally deemed necessary for the construction of this type of project with regard to the location and nature of underground utilities, etc. However, the accuracy and completeness of such

information is not guaranteed. It is the Contractor's sole and complete responsibility to locate such underground features sufficiently in advance of his operations to preclude damaging the existing facilities. If the Contractor encounters utility services along the line of this work, it is his responsibility to maintain the services in continuous operation at his own expense.

In the event of damage to underground utilities, whether shown in the drawings, the Contractor shall make the necessary repairs to place the utilities back in service to construct the work as intended at no increase in the Contract price. All such repairs must conform to the requirements of the company or agency that owns the utilities.

11. WAGE RATES: The general prevailing minimum hourly wage rates for Nueces County, Texas shall apply. The Contractor and any subcontractor must not pay less than the specified wage rates to all laborers, workmen, and mechanics employed by them in the execution of the Contract. The Contractor and each subcontractor must keep an accurate record showing the names and classifications of all laborers, workmen, and mechanics employed by them in connection with the project and showing the actual wages paid to each worker.

One and one-half (1 ½) times the specified hourly wage must be paid for all hours worked in excess of 40 hours in any one week and for all hours worked on Sundays or holidays.

12. TIME OF COMPLETION: The Contractor shall commence work within ten (10) calendar days after receipt of written notice from the Owner or designee ("Engineer") to proceed.

For each working day that any work remains incomplete after the time specified in the Contract for completion of the work or after such time period as extended pursuant to other provisions of this Contract, \$250.00 per working day will be assessed against the Contractor as liquidated damages. Said liquidated damages are not imposed as a penalty but as an estimate of the damages that the Owner will sustain from delay in completion of the work, which damages by their nature are not capable of precise proof. Liquidated damages may be withheld and deducted from monies otherwise due the Contractor in the amount of liquidated damages due the Owner.

13. WATER: The responsibility shall be upon the Contractor to provide and maintain, at his own expense, an adequate supply of water for his use for construction as well as domestic consumption. Water for the project may be purchased from Rincon Water Supply Corporation at Rincon's standard water rates. No additional payment will be allowed for any water purchased. Before final acceptance, temporary connections and piping installed by the Contractor shall be removed in a manner satisfactory to the Owner. Water required for testing will be obtained as outlined in Sections 02672 – "Hydrostatic Test of Waterlines."

14. SANITARY FACILITIES: The Contractor shall maintain adequate sanitary facilities on the jobsite at all times. The Contractor shall submit information about the type of facilities to the Engineer for approval. After completion of the project, the Contractor shall remove the sanitary facilities and clean the project site.

15. ELECTRICITY: All electric current required by the Contractor shall be furnished by the Contractor. All temporary connections for electricity shall be subject to approval by the Owner. All temporary lines will be furnished, installed, connected and maintained by the Contractor in a workmanlike manner satisfactory to the Owner and in compliance with the requirements of the National Electrical Code and all local ordinances. They shall be removed by the Contractor in like manner at his expense prior to completion of the construction.

16. TESTING AND CERTIFICATION: All tests required under this item must be done by a recognized testing laboratory selected by the Owner. The cost of the laboratory testing will be borne by the Owner. In the event that any test fails, that test must be done over after corrective measures have been taken, and the cost of retesting will be borne by the Contractor and deducted from the payment to the Contractor. The Contractor must provide all applicable certifications to the Owner and Engineer.

17. SAFETY: The Contractor shall comply with all of the Owner's safety regulations and shall observe the requirements of the Occupational Safety and Health Act (OSHA). The Contractor shall comply with all procedures prescribed by the Owner for control and safety of persons visiting the job site. It is the Contractor's responsibility to take whatever steps necessary to assure the safety of individuals working on or visiting the site.

The Owner calls the Contractor's attention to the necessity for his proper storage, use and disposal of all materials; proper use and storage of tools and devices; and proper control of construction procedures to assure the health and safety of workmen and of others having access to the job site. It is the Contractor's responsibility to obtain from the manufacturers, and sellers or distributors of material, tools, and devices all requirements for proper and safe usage, storage, and disposal, and to follow these requirements and recommendations carefully. Particular attention is called to the use of paints, thinners, solvents, caulking or patching materials, chemical grouts, and surface treatment materials.

For first aid instructions contact a physician, activate the Emergency Medical System by dialing 9-1-1 on your telephone or contact Christus Spohn Memorial Hospital, Corpus Christi, Texas, 361-902-4000, or Emergency Services direct line, 361-902-4151, or the Poison Control Center, Galveston, Texas (713) 654 - 1701.

18. UTILITY SYSTEMS AND TRAFFIC CONTROL: Where the Contractor's work requires changes in operation of an existing utility system, or where traffic patterns must be interrupted or changed, he shall contact the Owner or responsible agency prior to beginning work. Directions given by the Owner or responsible agency shall be carefully followed, including requirements for signing, lighting, flagmen, working

hours, and all other concerns. Particular attention is directed to work involving streets or public utilities having a direct affect on public health and safety, for instance utility service or road access to hospitals, clinics, fire stations, police stations, or other emergency services.

19. **LAYOUT:** The Contractor shall lay out the work from Owner's established base line or lines and bench marks.
20. **QUALITY OF ARTICLES, MATERIALS, AND EQUIPMENT:** Articles, materials, and equipment to be incorporated into the work under this contract shall be new and unused.
21. **WORKMANSHIP:** Workmanship shall be of the highest type and shall be performed by mechanics skilled in their trade.
22. **PLANT:** The Contractor agrees to keep on the job sufficient plant to meet the requirements of the work. The plant shall be in satisfactory operating condition and capable of safely and efficiently performing the work as set forth in the specifications. The plant shall be subject to inspection by the Owner and Rincon Water Supply Corporation at all times.
23. **TESTING AND INSPECTION:** Testing and inspection shall be performed as outlined in plans and specifications. Retesting required by failure to pass initial testing shall be paid for by the Contractor.
24. **NATIONAL SANITATION FOUNDATION:** All pipes, pumps, valves, tanks, paint coatings, gaskets, lubricants, and any other appurtenances that will come in contact with the potable water must be approved by the American National Standards Institute/National Sanitation Foundation (ANSI/NSF) Standard 61.
25. **PROTECTION OF PROPERTY:** The Contractor shall preserve in operating condition all active utilities traversing or adjoining the construction site. Utilities or appurtenances, driveways, drainage structures, roadways or other improvements which are damaged by the Contractor shall be replaced to original condition at no cost to the Owner or utility Owner. No materials are to be burned on the site without the approval of the Owner and the appropriate air quality agency. Contractor shall notify all utility and pipeline owners shown on the drawings to have their lines or cables located before excavating near the line or cable. A minimum of 48 hours notice shall be provided. Contractor shall notify all property owners a minimum of 48 hours before beginning work on their property. All driveways shall be reopened within 4 hours of being closed.
26. **ACCESS TO THE WORK:** The Contractor shall provide for access to the work at all times for the Owner, the Owner's Engineer, and their authorized representatives. He shall provide facilities for proper inspection by the above persons and shall exclude no portion of the work from such inspection.

27. PERMITS: In the prosecution of the work, the Contractor shall comply with all permit conditions and lawful instructions and requirements of the federal and state agencies having jurisdiction in the areas involved. Such permit conditions and lawful instructions addressed to the Owner which relate to the construction work included in the contract shall be complied with. The Contractor shall prepare and submit the EPA Notice of Intent and Notice of Termination forms and comply with the requirements of the Storm Water Pollution Prevention Plan.

28. FINAL CLEANUP: Upon completion of the work and before acceptance and final payment, the Contractor shall remove rubbish, unused materials, and temporary structures from the limits of the project and restore, in a manner acceptable to the Owner, all property, both public and private that has been damaged during the prosecution of the work. The Contractor shall grade and level all portions of the work where the surface of the natural ground or street surface has been disturbed during construction, and shall leave the site of the work in a neat and presentable condition, free from ruts and holes. No extra payment will be made for this work, its cost being included in established bid items. Materials cleared from the limits of the project shall not be deposited on adjacent property unless prior approval is obtained from the property owner involved.

29. REPAIRS TO EXISTING ROADWAYS AND DRIVEWAYS: The Contractor shall repair all roadways and driveways which require removal or cutting or which are damaged in any way. The driveways shall be repaired using the same materials as the original roadway or driveway. (As an example if a driveway consisted of 8" of compacted caliche and 2" of hot-mix asphaltic pavement, the repairs shall be 8" of compacted caliche and 2" of hot-mix asphaltic pavement.) All surfaces of the existing pavement shall be cut smoothly prior to installation of the new pavement. Maximum width of cut shall be 2'-0".

30. PRECONSTRUCTION CONFERENCE: The Contractor and his on-site project superintendent shall attend a preconstruction meeting.

31. A-C PIPE REMOVAL: *All removal work, transportation, filing of correct paperwork and disposal of the A-C pipe shall comply with all Local, State, and Federal regulations and requirements.*

A. When the connection is made to the existing AC pipe, the Contractor shall remove only the sections of A-C pipe necessary to complete the connection. Cutting of the A-C pipe or allowing asbestos fibers to become loose will not be allowed. The pipe shall be removed by breaking the A-C coupling at the end of the pipe joint. The Contractor shall remove the complete pipe couplings as well as the pipe joints as necessary to complete the connection. All parts of the A-C pipe and couplings shall be encapsulated within two eight (8) mil thick polyethylene sleeves. The ends of the sleeves shall be taped closed for the sleeves to completely enclose

the A-C pipe. Any loose fibers of the A-C pipe shall be collected and placed in the polyethylene sleeves using protective gloves and other materials to properly protect the workers from coming into contact with asbestos fibers. Any damage to the polyethylene shall be repaired using polyethylene and tape to keep the A-C pipe completely enclosed.

B. The pipe shall be transported to a landfill approved to dispose of asbestos materials. The landfill operator shall be informed that the material is asbestos cement. The Contractor shall obtain the proper paperwork from the landfill operator, provide the required information, and pay fees required for disposal in the landfill. The paperwork for proper disposal of the asbestos cement pipe shall be submitted to the Engineer.

32. NOTICE TO PROCEED: The notice to proceed with the construction of this project will not be issued until final review/acceptance is received from the Texas Department of Housing and Community Affairs.

33. GUARANTEE: Neither the final acceptance certificate of payment nor any provision in the contract documents, nor partial or entire occupancy of the premises by the Owner shall constitute an acceptance of the work not done in accordance with the contract documents or relieve the Contractor of the responsibility for faulty materials or workmanship. The Contractor shall remedy any defects in their form, which shall appear within a period of one (1) year from the date of final acceptance of work unless a longer period is specified. The Owner will give notice of observed defects with reasonable promptness. The Contractor shall have his Performance Bond so written that the one (1) year guarantee period is covered by the Performance Bond.

34. ARCHEOLOGICAL DISCOVERIES: No activity which may affect a State Archeological Landmark is authorized until the Owner has complied with the provisions of the Antiquities Code of Texas. The Owner has previously coordinated with the appropriate agencies and impacts to know cultural or archeological deposits have been avoided or mitigated. However, the Contractor may encounter anticipated cultural or archeological deposits during construction.

If archeological sites or historic structures are discovered after construction operations are begun, the Contractor shall immediately cease operations in that particular area and notify the Owner and the Texas Historical Commission, (512-463-6096). The Contractor shall take reasonable steps to protect and preserve the discoveries until they have been inspected by the Owner's representative. The Owner will promptly coordinate with the Texas Historical Commission and any other appropriate agencies to obtain the necessary approvals or permits to enable the work to continue. The Contractor shall not resume work in the area of the discovery until authorized to do so by the Owner.

35. ENDANGERED SPECIES: No activity is authorized that is likely to jeopardize the continued existence of a threatened or endangered species as listed or proposed for listing under the Federal Endangered Species Act (ESA), and/or the State of Texas

parcs and Wildlife Code on Endangered Species, or to destroy or adversely modify the habitat of such species.

If a threatened or endangered species is encountered during construction, the Contractor shall immediately cease work in the area of the encounter and notify the Owner, who will immediately implement actions in accordance with the ESA and applicable State statutes. These actions shall include reporting the encounter to the U.S. Fish and Wildlife Service and the Texas Parks and Wildlife Department, obtaining any necessary approvals or permits to enable the work to continue, or implement other mitigative actions. The Contractor shall not resume construction in the area of the encounter until authorized to do so by the Owner.

*** END OF SECTION ***

SECTION 01027

ESTIMATE FOR PARTIAL PAYMENT

Project Title: WATER AND WASTEWATER DISTRIBUTION SYSTEM IMPROVEMENTS FOR ROSE ACRES TCDP CONTRACT NO. 724135	
Owner: NUECES COUNTY COMMISSIONERS COURT	
Owner Project Number:	NEI Project Number: 6744

Contractor:	
Estimate No. 1	For the Pay Period:
Date of Contract Award:	Date Contract Begun:
Original Contract Amount: \$	Original Contract Days: Calendar Days
Total Change Order Amount: \$	Change in Contract Days: Calendar Days
Adjusted Contract Amount: \$	Adjusted Contract Days: Calendar Days

ORIGINAL CONTRACT WORK/SCHEDULE OF VALUES

ITEM NO.	DESCRIPTION	BID QTY	UNIT	QTY OR % COMPT TO DATE	CONTRACT PRICE	TOTAL AMOUNT
						\$0.00
AMOUNT OF ORIGINAL CONTRACT ITEMS COMPLETED TO DATE						

CONTRACT CHANGE ORDERS

Item No. and Description	Change Amount	Change in Days	Percent Complete	Amount Completed
1.				
2.				
3.				
4.				
5.				
6.				
AMOUNT OF CHANGE ORDER ITEMS COMPLETED TO DATE				\$0.00

SUMMARY OF WORK PERFORMED

A.	Amount of Original Contract Items Completed to Date \$0.00
B.	Amount of Change Order Items Completed to Date \$0.00
C.	Materials Stored at Close of Period (Schedule Must be Attached) + Bond \$0.00
D.	Less Amount Retained in Accordance with Contract (5%) \$0.00
E.	Net Amount Earned on Contract to Date (A + B + C - D) \$0.00
F.	Total Payments Previously Authorized \$0.00
G.	LIQUIDATED DAMAGES WITHHELD \$0.00
H.	BALANCE DUE THIS STATEMENT (E - F - G) \$0.00

CONTRACT STATUS

PAY ESTIMATE	DAYS	CONTRACT	AMOUNT
			\$
			\$
			\$
TOTAL CONTRACT DAYS CHARGED:		TOTAL PAYMENT (AUTHORIZED):	\$
CURRENT CONTRACT DAYS		CONTRACT BALANCE:	\$
CONTRACT DAYS REMAINING:			

CERTIFICATION OF CONTRACTOR: According to the best of my knowledge and belief, I certify that all items and amounts shown on the face of this Estimate For Partial Payment are correct, that all work has been performed and/or material supplied in full accordance with the requirements of the referenced Contract, and/or duly authorized deviations, substitutions, alterations, and/or additions, that the foregoing is a true and correct statement of the Contract account up to and including the last day of the period covered by this Estimate and that no part of the "Balance Due This Payment" has been received.

By: _____
CONTRACTOR

Date: _____

CERTIFICATION OF ENGINEER: I certify that I have checked and verified the above and foregoing Estimate for Partial Payment, and that to the best of my knowledge and belief it is a true and correct statement of work performed and/or material supplied by the Contractor, and that partial payment claimed and requested by the Contractor is correctly computed on the basis of work performed and/or material supplied to this date.

By: _____
ENGINEER

Date: _____

APPROVAL FOR PAYMENT: This Estimate for Partial Payment is approved for payment.

By: _____
OWNER

Date: _____

SECTION 01150

**TEXAS CERTIFICATE OF EXEMPTION
FOR STATE SALES TAX ON MATERIALS**

This Contract will be issued by an organization which qualifies for exemption of State Sales Tax for all materials consumed or incorporated into the finished project under the provision of Rule 3.322 of the Texas Sales, Excise and Use Tax.

Purchaser's name

Street address

City, state, zip code

I claim an exemption from payment of Sales and Use Taxes for the purchase of taxable items for the project described below:

Description of items (or an attached order or invoice) to be purchased:

I claim this exemption for the following reason: _____

I understand that I will be liable for payment of Sales Tax which may become due for failure to comply with the provisions of the State, City, County and/or Metropolitan Transit Authority/City Transit Department Sales and Use Tax laws and Comptroller rules regarding exempt purchases. Liability for the Tax will be determined by the price paid for the taxable items purchased or the Fair Market Rental Value for the period of time used.

I understand that it is a misdemeanor to give an Exemption Certificate to the supplier for taxable items which I know, at the time of purchase, will be used in a manner other than that expressed in this Certificate and, upon conviction, may be fined up to \$500 per offense.

Supplier: _____

Street address: _____

City, State, Zip Code: _____

Purchaser's
Signature: _____

Title: _____

Phone: _____

Date: _____

This Certificate does not require a number to be valid.

Sales and Use Tax Exemption Numbers or Tax Exempt Numbers do not exist.

This Certificate should be furnished to the supplier. Do not send the completed Certificate to the Comptroller of Public Accounts.

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.1 SCOPE

This section consists of an itemized list of documents, samples, and other materials to be submitted by the Contractor for the approval of the Engineer. This list is compiled solely to assist the Contractor in meeting the individual submittal requirements outlined in the technical specifications and is not represented as complete in any way.

1.2 BID SUBMITTALS

Each bidder shall submit the following items in his bid:

- A. Section 00105, "Proposal": The Bidder shall submit the entire section.
- B. Section 00110, "Statement of Bidder's Qualifications": The Bidder shall submit the entire section.
- C. Section 00111, "Non-Collusion Affidavit of Bidder". The Bidder shall submit the entire section.
- D. Section 00101, "Instructions to Bidders": As outlined in Paragraph 1.6 of this section, the bidder shall submit a bid security in the form of cash, a certified check, bank draft, negotiable U.S. Government Bonds, or a satisfactory bid bond executed by the bidder and an acceptable surety, in the amount of five percent (5%) of the total bid.
- E. TCDP Contractor's Certification (Segregated Facilities)
- F. TCDP Contractor's Certification (Equal Opportunity)

1.3 CONTRACT SUBMITTALS

After the Owner has Executed the Contract with the Successful Bidder, the Contractor shall submit the following items:

- A. Section 00115, "Agreement": The Contractor shall execute and submit six (6) original sets of this section.
- B. Section 00150, "Performance Bond": The Contractor shall execute, as outlined in the Contract Documents, and submit six (6) original sets.

- C. Section 00152, "Payment Bond": The Contractor shall execute, as outlined in the Contract Documents, and submit six (6) original sets.
- D. Section 01012, "Special Conditions": The Contractor shall furnish to the Owner the following items:
 - 1. Insurance Certificates: As outlined in Item 3, the Contractor shall furnish insurance certificates, showing the type, amount, class of operations covered, effective dates, and date of expiration for the following insurance policies:
 - a. Public Liability Insurance
 - b. Property Damage Insurance
 - c. Vehicle Liability Insurance
 - d. Workers Compensation Insurance

Such certificates shall name Nueces Commissioners Court as the certificate holder.

1.4 SHOP DRAWING SUBMITTAL PROCEDURES

The Contractor shall follow the procedure outlined below when processing submittals:

- A. Quantity: The Contractor shall transmit three (3) copies of each submittal to be retained by the Engineer. Any copies required by the Contractor must be submitted in addition to the these three (3) sets.
- B. Reproduces: In addition to the three (3) copies required above, the Contractor shall also submit one (1) reproducible transparency for all shop drawings which are larger than 11" X 17". Transparencies are not required for smaller drawings.
- C. Submittal Transmittal Forms: The Contractor shall use the Submittal Transmittal Form attached at the end of this Section. Sequentially number each transmittal form. Resubmittals shall have the original submittal number with an alphabetic suffix. On the submittal form identify the Contractor, the Subcontractor or supplier; pertinent Drawing sheet and detail number(s), and specification Section number, as appropriate.
- D. Contractor's Stamp: Apply Contractor's stamp, appropriately signed or initialed certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.

- E. Scheduling: Schedule the submittals to expedite the Project, and deliver to the Engineer for approval. Coordinate the submission of related items.
- F. Marking: Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this Project.
- G. Variations: Identify any proposed variations from the Contract Documents and any Product or system limitations which may be detrimental to successful performance of the completed Work.
- H. Space Requirements: Provide adequate space for Contractor and Engineer review stamps.
- I. Resubmittals: Revise and resubmit submittals as required and clearly identify all changes made since previous submittal.
- J. Distribution: Distribute copies of reviewed submittals to Subcontractors and suppliers. Instruct parties to promptly report any inability to comply with provisions.
- K. Record Drawings: Mark any changes in the work on the shop drawings kept at the project site. After construction is complete, revise and resubmit shop drawings with project as-builts.

1.5 CONSTRUCTION PROGRESS SCHEDULES

- A. Initial Schedule: Submit an initial construction progress schedule within ten (10) days after the date the Notice to Proceed for the Engineer's review.
- B. Items to Include: Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Identify the first work day of each week.
- C. Re-Submission: Revise and resubmit as required by the Engineer.
- D. Submittal Dates: Indicate submittal dates required for all submittals.

1.6 SAMPLES

Submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for Owner's selection. Coordinate sample submittals for interfacing work.

1.7 MANUFACTURER'S INSTRUCTIONS

- A. Instructions: When specified in individual specification Sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, adjusting, and finishing, in quantities specified for Product Data.
- B. Conflicts: Identify conflicts between manufacturers' instructions and the Contract Documents and Specifications.

1.8 MANUFACTURER'S CERTIFICATES

- A. Conformance: Indicate that material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- B. Acceptance: Certificates may be recent or previous test results on material or Product, but must be acceptable to the Engineer.

1.9 SHOP DRAWINGS

- A. The Contractor shall submit details and data for approval of all materials found in the plans and/or specifications.

1.10 OPERATION AND MAINTENANCE MANUALS

- A. General: Submit Operation and Maintenance (O & M) data which is specifically applicable to the scope of work of this project and a complete and concise depiction of the provided equipment or product. Data containing extraneous information that has to be sorted through to find applicable instructions will not be accepted. Present information in sufficient detail to clearly explain user O&M requirements at the system, equipment and component level. Include an index preceding each submittal.

1. Number of Manuals to be Submitted: Furnish **two (2) draft copies** of the Operations and Maintenance Manuals for review and approval first, and **six (6) final copies** explaining the proper installation, operation, and maintenance for each piece of equipment supplied.

2. Time of Submittal: Draft copies of Manuals shall be submitted after receipt of approval of shop drawings, and final copies no later than 30 days prior to delivery of equipment.

- B. Format of Manual

1. Manual to be compiled in three ring, hard cover, and heavy duty binders with title of the contents printed on the front cover or inserted in a see-through pocket, as well as the binder backing.
2. Provide each manual with a project name, volume number, number of volumes in the set, project number, date, and a complete index for all volumes in the set. Each binder shall have an index outlining all information in the set of volumes. The index shall indicate the volume and section for each piece of equipment.
3. Manual shall be composed of 8.5" x 11" sheets. Drawings may be 11" x 17" folded to 8.5" x 11". The manual shall be a maximum of 4" thick. If 8.5" x 11" or 11" x 17" is not practical, drawings may be inserted into an envelope into the appropriate section.
4. Manuals shall be customized to describe the equipment actually furnished. Manufacturers pre-printed literature may be accepted provided it has been modified by underlining the specific model used.
5. The front of each section shall have a cover sheet indicating the Contractor performing the installation, local suppliers name, address and phone number of each piece of equipment in the section.

C. Operation and Maintenance Data

1. General Equipment Description: A short illustrated (if necessary) description of the equipment is to be provided.
2. Safety Precautions: List personnel hazards and equipment or product safety precautions for all operating conditions.
3. Environmental Conditions: Include a list of environmental conditions (temperature, humidity, and other relevant data) for each product or piece of equipment under which it is best suited to operate.
4. Storage Requirements: Requirements for storage of the equipment and parts shall be provided.
5. Operating Instructions: Include specific instructions, procedures, and illustrations for the following phases of operation:

- a. Normal Operations: Include control diagrams with data to explain operation and control of equipment.
- b. Servicing Requirements: Include instructions for services to be performed such as adjustments and inspection.
- c. Corrective Maintenance:
 - Troubleshooting Guides and Diagnostic Techniques: Include step-by-step procedures to promptly isolate the cause of typical malfunctions. Describe clearly why the check out is performed and what conditions are to be sought. Identify tests or inspections and test equipment required to determine whether parts and equipment may be reused or require replacement.
 - Maintenance and Repair Procedures: Include instructions and list tools required to restore product or equipment to proper condition or operating standards.
 - Removal and Replacement Instructions: Include step by-step procedures and list required tools and supplies for removal and replacement of components, accessories, and attachments. Provide tolerances, dimensions, settings and adjustments required.

6. Maintenance Summary

- a. General: All Operations and Maintenance Manuals are to include a Maintenance Summary Section. Manuals will not be accepted for review without this section. The Maintenance Summary Section is to be a typed document prepared by the equipment manufacturer specifically **for the equipment furnished.**
- b. Specific Instructions:

- Equipment Item: Include generic name for equipment along with service and specification reference.
- Manufacturer: List manufacturer's physical address for shipping and receiving and mailing address (if different from physical address). Include telephone number and facsimile telephone number.
- Equipment Identification Number(s): Provide list of equipment serial numbers cross referenced to equipment tag numbers in tabular form. When multiple items are provided, list each item separately.
- Total Weight: Note the assembled weight of the equipment.
- Nameplate Data: Reproduce the nameplate data exactly as it appears on the equipment. For driven equipment, include the driver nameplate data.
- Manufacturer's Local Representative: Provide the name, address, and phone numbers of the local representative.
- Maintenance Requirements:
 - ◆ Maintenance Operation: List briefly each maintenance operation required to maintain warranty in effect and refer to specific information in manufacturer's standard maintenance manual. This shall include manufacturer's schedule for routine preventive maintenance and inspections required to ensure proper and economical operation and to minimize corrective maintenance and repair.
 - ◆ List required frequency of each maintenance operation.
 - ◆ Refer by symbol to lubricant list.

- Lubricant List: List each recommended lubricant by symbol, noting generic type of lubricant, and a minimum of two manufacturers.
- Spare Parts: Include recommendations regarding what spare parts and supplies, if any, should be maintained on site for routine maintenance and repair to ensure continued service or operation without unreasonable delays.
- Contractor's Job Order: Identify contractor's purchase order number.
- Closest Service Technician: Identify the closest, factory trained, and authorized, service technician by name, address and telephone number. Include page number if applicable.
- Closest Parts and Service Center: List closest factory authorized parts and service center, the physical address for shipping and receiving and mailing address (if different from physical address). Include telephone number and facsimile telephone number.

7. Drawings:

- a. General Arrangement Drawings: More detailed drawings describing the equipment shall be included in this section.
- d. Wiring Diagrams and Control Diagrams: Wiring diagrams and control diagrams shall be point-to-point drawings of wiring and control circuits including factory-field interfaces. Provide a complete and accurate depiction of the actual job specific wiring and control work. On diagrams number electrical and electronic wiring and the terminals for each type, identically to actual installation numbering. (The Contractor shall coordinate the preparation of these diagrams.) Furnish control schematics reproduced from control schematics shown on the Contract Drawings

with modifications as required, but not redrawn or redesigned in another format.

- c. Parts Identification: Provide identification and coverage for all parts of each component and accessory of the end items subject to replacement. Include special hardware requirements, such as requirement to use high-strength bolts and nuts. Identify parts by make, model, serial number, and source of supply to allow reordering without any further identification required. Provide clear and legible illustrations, drawings, and exploded views to enable easy identification of the items. When illustrations and separate listing shall show the index, reference, or key number which will cross-reference the illustrated part to be the listed part. Parts shown in the listings shall be grouped by components.

8. Appendices: Provide information not specified in the preceding paragraphs but pertinent to the maintenance or operation of the product or equipment as follows:

- e. Electrical Items Data: List of all protective relays, breaker types, cable and fuse sizes and settings (where applicable) with the following additional information:

- Protective Relays: Provide information on the relay type used and time current curves.
- Breakers: Provide catalog numbers and breaker trip curves.
- Cables: Provide cable size, cable type and length of each cable installed.
- Power Fuses: Provide fuse catalog number, rating and fuse curve.

- f. Test Data: Documentation of field functional tests and performance test described in the specifications shall be included. Include the test results and calibration reports of all equipment.

- g. Renewal Parts Bulletin: Include parts lists pertinent to the components used in the installation.
- h. Calibration Data Sheet: Provide all calibration data sheets including set points.
- i. Warranty Information: List and explain the various warranties and include the servicing and technical precautions prescribed by the manufacturers or contract documents to keep warranties in force.
- j. Testing Equipment and Special Tool Information: Include information on test equipment required to perform specified tests and on special tools needed for the operation, maintenance, and repair of components.

TCDP002

**PROPOSED CONTRACTS BREAKDOWN AND
ESTIMATED PROJECT WORKFOECE BREAKDOWN**

SECTION TCDP002

PROPOSED CONTRACTS BREAKDOWN

Type of Contracts	No. of Contracts	Apprx. Total Dollar Amount	Estimated No. to Local Business	Estimated \$ Amount to Local Business

ESTIMATED PROJECT WORKFORCE BREAKDOWN

Work Classifications	Total Estimated Positions	No. of Positions Currently Filled	No. of Positions Not Filled	No. of Positions to Fill with L/M Residents
Totals				

TCDP
FEDERAL LABOR STANDARDS PROVISIONS
(ATTACHMENT 11-A)

Attachment 11-A:
Federal Labor Standards Provisions

---to be inserted into every construction contract funded with grant funds---

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

A. 1. (i) Minimum Wages. All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR Part 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)(a) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage rate and fringe benefits therefore only when the following criteria have been met.

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140).

(c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140).

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of an laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140).

2. Withholding. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract, in the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

3. (i) Payrolls and basic records. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates or contributions or costs anticipated for bona fide fringe benefits or cash equivalents there of the types described in Section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017).

(ii)(a) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR Part 5.5(a)(3)(i). This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-0014-1), U. S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149).

(b) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be maintained under 29 CFR Part 5.5(a)(3)(i) and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph A.3.(ii)(b) of this section.

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph A.3.(i) of this section available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR Part 5.12.

(4) Apprentices and Trainees.

(i) **Apprentices.** Apprentices will be permitted to work at least than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) **Trainees.** Except as provided in 29 CFR 5.16, trainees will not be permitted to work at least than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. the ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee

rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) **Equal employment opportunity.** The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor will insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as HUD or its designee may be appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

7. Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements. All rulings and interpretations of the David-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

10. (i) Certification of Eligibility. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1010, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part "Whoever, for the purpose of ... influencing in any way the action of such Administration... makes, utters or publishes any statement, knowing the same to be false... shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

11. Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

B. Contract Work Hours and Safety Standards Act. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set

forth in subparagraph (1) of this paragraph, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of eight hours or in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in subparagraph (1) of this paragraph.

(3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety

(1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 (formerly part 1518) and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (Public Law 91-54, 83 Stat.96).

(3) The Contractor shall include the provisions of this Article in every subcontract so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontract as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

TCDP-T
WAGE RATE DECISION



Office of Rural Community Affairs
Community Development Block Grant Program
P O Box 12877
Austin TX 78711

WAGE DECISION ISSUANCE

Grantee Name: Nueces County

Contract Number 724135

Wage Decision Information :

Bid Description: county and the city of Corpus Christi shall provide first-time water service and first-time sewer service to the Rose Acres area

Applicable Wage
Decision Issued:

TX 39

(attached)

Location of Project (City, County):

City: Nueces County

Effective Date:

6/13/2003

County: NUECES

Requesting LSO: Carlos Colina-Vargas

892-1653

Colina-Vargas & Assoc.

P.O. Box 161540

Austin TX 78716

Date Issued: 7/5/2006

APPROVED BY:

Julie Hartley

DBG Staff-ORCA

original to: Carlos Colina-Vargas, Colina-Vargas & Assoc.

copy to: Clarissa Martinez-Torres, Regional Coordinator

Attachment 11-F:

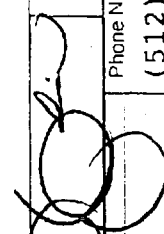
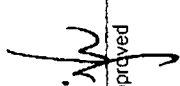
RECEIVED

Request for Wage Decision and Response to Request

JUN 30 2006

(Davis Bacon Act as Amended and Related Statutes)

Office of Rural Community Affairs
 Standards Administration
 Wage and Hour Division

<p>FOR DEPARTMENT USE</p> <p>Response To Request _____</p> <p><input checked="" type="checkbox"/> Use area decision issued for this area</p> <p>TX 39</p> <p>Published: 6-13-03</p> <p><input type="checkbox"/> The attached decision noted below is applicable to this project _____</p>		<p>Mail Your Request To:</p> <p>Office of Rural Community Affairs ATTN: Texas Community Development Program P.O. Box 12877 Austin, Texas 78711</p>	
<p>Requesting Officer (Typed name and signature)  Carlos Colina-Vargas, LSO</p>		<p>E-Mail Address connie_colina@yahoo.com</p>	
<p>Department, Agency, or Bureau NUECES COUNTY</p>		<p>Phone Number (512) 892-1653</p>	
<p>Date of Request 6-30-2006</p>		<p>Estimated Advertising Date 6-07-2006</p>	
<p>Prior Decision Number (if any) N/A</p>		<p>Estimated Bid Opening Date 6-24-2006</p>	
<p>Address to which wage decision should be mailed (Print or type) Carlos Colina-Vargas, LSO CC-V & Associates P. O. Box 161540 Austin, Texas 78716</p>		<p>Type of Work <input type="checkbox"/> Bidg. <input type="checkbox"/> Highway <input type="checkbox"/> Resid. <input checked="" type="checkbox"/> Heavy</p>	
<p>Decision Number _____</p>		<p>TCDP Contract Number 724 135</p>	
<p>Date of Decision _____</p>		<p>Location of Project (City, County, State, Zip Code) NUECES COUNTY - TEXAS</p>	
<p>Expires _____</p>		<p>Description of Work (Be specific) (Print or type) WATER STEM IMPROVEMENTS AND SEWER SYSTEM IMPROVEMENTS PROJECT Installation of water transmission lines, sewer collector lines and water and sewer connections.</p>	
<p>Supersedes Decision Number _____</p>		<p>Approved </p>	



**CARLOS COLINA-VARGAS, AICP
 & ASSOCIATES**

Urban Planning and Management Consultants

General Wage Decision Number TX 39

Date: June 13, 2003

State: TEXAS

Construction Type: HEAVY

County(ies): NUECES

SAN PATRICKO

HEAVY CONSTRUCTION PROJECTS (including Sewer and Water Line Construction and Drainage Projects)

SUTX2052A 12/01/1987

	Rate:	Fringes
CARPENTERS (Excluding Form Setting)	\$ 9.05	
CONCRETE FINISHER	7.56	
ELECTRICIAN	13.37	2.58
LABORERS:		
Common	5.64	
Utility	7.68	
POWER EQUIPMENT OPERATORS:		
Backhoe	9.21	
Motor Grader	8.72	

WELDERS -- Receive rate prescribed for craft performing operation to which welding is incidental.

END OF GENERAL DECISION

**TCDP005
ATTORNEY REVIEW CERTIFICATION**

SECTION TCDP005

ATTORNEY'S REVIEW CERTIFICATION

I, the undersigned, _____, the duly authorized and
Acting Legal Representative of the _____
_____, do hereby certify as follows:

I have examined the attached Contract(s) and Surety Bonds and am of the opinion that each of the Agreements may be duly executed by the proper parties, acting through their duly authorized Representatives; that said Representatives have full power and authority to execute said Agreements on behalf of the respective parties; and, that the Agreements shall constitute valid and legally binding obligations upon the parties executing the same in accordance with terms, conditions and provisions thereof.

Attorney's Signature

Date

Printed Attorney's Name

DIVISION 2

SITework

SECTION 02002

STORM WATER POLLUTION PREVENTION

1. EROSION CONTROLS: The Contractor shall utilize stabilization practices and structural controls for erosion control measures as soon as any construction begins. Construction will be halted prior to and during major weather events such as heavy rains. Stabilization practices will include preserving existing vegetation whenever possible.

Permitting associated with the project includes Texas Commission on Environmental Quality (TCEQ) Construction Site Storm water Permit, Notice of Intent (NOI) for Storm water Discharges associated with Construction Activities under the TPDES Construction General Permit (TXR 150000). This permit is required for construction activities including clearing, grading, and excavation activities that disturb greater than 5 acres total land area.

The Contractor shall control dust blowing and movement on construction sites and roads to prevent loss of soil surface, to reduce onsite and offsite damage, to prevent health hazards, and to improve traffic safety. The Contractor shall implement dust control measures immediately whenever dust can be observed blowing on the project site. One or more of the following methods shall be utilized by the Contractor for controlling dust: 1) Mulches bound with chemical binders such as Curasol, Terratack, or approved equal; 2) Temporary vegetative cover; 3) Spray-on adhesives on mineral soils when not used by traffic; 4) Irrigation by water sprinkling; 5) Barriers using solid board fences, snow fences, burlap fences, crate walls, bales of hay, or similar materials.

The Contractor shall install silt fencing as detailed in the Storm water Pollution Prevention Plan. After construction has permanently ceased on the site, areas with no surface cover will be allowed to revegetate naturally.

2. TOPSOILING: When top soiling, the Contractor shall maintain erosion and sedimentation control systems, such as dikes, swales, grade stabilization structures, waterways, and sediment basins operational.

3. PROTECTION OF TREES: The Contractor shall protect trees designated to remain in construction areas. Heavy equipment, vehicular traffic, and stockpiles of construction materials, including topsoil, are not permitted within the drip line of any tree to be retained. Tree trunks, exposed roots, and limbs or trees designated to be retained, which are damaged during construction operations, shall be cared for by a licensed tree expert. Specimen trees shall be boxed or fenced.

4. WASHING AREAS: The Contractor shall not wash vehicles such as ready mix concrete or dump trucks and other construction equipment at locations where the runoff will flow directly into a watercourse or storm conveyance system. Special areas shall be designated for washing vehicles. These areas shall be located where the wash water will spread out and evaporate or infiltrate directly into the ground, or where the runoff

can be collected in a temporary holding or seepage basin. Wash areas shall have gravel or crushed stone bases to minimize mud generation.

5. MAINTENANCE AND INSPECTION: The Contractor will maintain erosion control devices on site and maintain structural erosion control practices. Contractor shall make site inspections every thirty (30) days and after every rainfall event, during construction. This includes cleaning out sediments collected by silt fencing and perimeter dikes when 50% of the device capacity is exceeded, or when designated by the owner's inspector. The Contractor will clean paved surfaces that have been covered by runoff at the earliest date possible after rainfall events. In addition, erosion control devices should be repaired no later than seven (7) calendar days after surrounding exposed ground has sufficiently dried. Areas adjacent to streams and drainage ditches have priority.

The site shall be inspected by the owner's inspector every 14 days or before anticipated weather events. Areas that should be inspected include disturbed areas, areas used for storing materials, structural controls, areas where vehicles enter and exit sites, and areas that have been temporarily stabilized. The inspector will evaluate the condition and proper function of erosion control devices, identify maintenance requirements and identify any additional corrective measures needed. A summary report of the inspection should then be completed. This report should contain the names of the personnel conducting the inspection, the dates of the inspection and any problems or incidences of non-compliance. If necessary the Pollution Prevention Plan should be augmented to include any recommendations made in the inspection report.

6. EQUIPMENT MAINTENANCE AND REPAIR: The Contractor shall conduct maintenance and repair of construction machinery and equipment on confined areas specially designated for that purpose. Such designated areas should be located and designated so that oils, gasoline, grease, solvents, and other potential pollutants cannot be washed directly into receiving streams or storm water conveyance systems. The Contractor shall provide these areas with adequate waste disposal receptacles for liquid as well as solid waste. Maintenance areas should be inspected and cleaned daily.

At locations throughout the site where designated equipment maintenance areas are not feasible, the Contractor shall take care during each individual repair or maintenance operation to prevent potential pollutants from becoming available to be washed into streams or storm sewer conveyance systems. Temporary waste disposal receptacles shall be provided by the Contractor as necessary.

The Contractor shall be responsible for monitoring all onsite vehicles and equipment for leaks and perform regular preventative maintenance to reduce the chance of leakage. Petroleum products shall be stored in tightly sealed containers which are clearly labeled.

7. WASTE COLLECTION AND DISPOSAL: The Contractor shall not discharge solid materials, including building materials, into waters of the U.S. including any drainage areas, streams, water bodies, or bays. The Contractor shall formulate a

plan for the collection and disposal of waste materials on the construction site. This plan shall designate locations for trash and waste receptacles and establish a special collection schedule. Methods for ultimate disposal of waste shall be specified and carried out in accordance with applicable local, state, and federal health and safety regulations. Special provisions shall be made for the collection disposal of liquid wastes and toxic or hazardous materials. The Contractor shall keep receptacles and other waste collection areas neat and orderly to the extent possible. Waste shall not be allowed to overflow its container or accumulate for excessively long periods of time. Trash collection points shall be located where they will least likely be affected by concentrated storm water runoff.

8. CONSTRUCTION CHEMICALS AND SPILLS: The Contractor shall isolate sites where chemicals, cements, solvents, paints or other potential water pollutants are stored to areas where they will not cause runoff pollution.

The Contractor shall store toxic and/or other hazardous chemicals and materials, such as pesticides, paints, and acids, in accordance with manufacturer's guidelines. The Contractor shall protect groundwater resources from leaching by placing a plastic mat, packed clay, tar paper, or other impervious material on any areas where toxic and/or hazardous liquids are to be opened and stored.

The Contractor shall use and store pesticides used during construction in accordance with manufacturer's guidelines and with local, state and federal regulations. Overuse shall be avoided and great care shall be taken to prevent accidental spillage. Pesticide containers shall never be washed in or near flowing streams or storm water conveyance systems.

Immediately after discovery, the Contractor shall clean and treat spills of toxic and/or hazardous substances in accordance with local, state, and federal regulations.

The Contractor will clearly post on-site, the manufacturer's recommended methods for spill cleanup and Contractor's personnel will be made aware of the procedures and the location of the information and cleanup supplies. Any spills should be immediately contained to avoid spill runoff to drainage areas, streams, or water bodies, or excavation and construction areas. All spills should be immediately reported to the project owner or owner representative.

The Contractor shall keep materials and equipment necessary for spill cleanup in the materials storage area onsite. Equipment and materials shall include but are not limited to brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand sawdust, and plastic and metal trash containers specifically for this purpose.

9. SANITARY FACILITIES: The Contractor shall provide the construction site with adequate sanitary facilities for workers in accordance with applicable health regulations.

10. FILTER FABRIC SPECIFICATIONS: This item describes the installation of erosion and sedimentation control filter fabric fences utilized during construction.

Woven or Non-Woven Geotextile filter fabric made of Polypropylene, Polyethylene, Ethylene, or Polyamide material.

- 10.1. Grab strength shall be 100 psi minimum in any principal direction when testing in accordance with ASTM test procedure D-1682;*
- 10.2. Mullen burst strength shall be 200 psi minimum when tested in accordance with ASTM test procedures D-3786;*
- 10.3. Equivalent standard sieve opening size shall be between 80 and 140 or the size required for the native soil and any off-site materials used on the project;*
- 10.4. Water flow rate shall be a minimum of 10 ga/min/ft² at 50 mm constant head as determined by multiplying permittivity in Sec-1 as determined by ASTM test procedure D-4491; and*
- 10.5. The filter fabric shall contain ultraviolet ray inhibitors and stabilizers as necessary to provide an expected useable life equivalent to the anticipated duration of construction.*

11. ACCESS ROADS: *The Contractor shall provide stabilized access roads and entrances. Vehicles leaving the construction area shall have their tires cleaned to remove sediment prior to entrance onto public right-of-way. Washing shall occur on stabilized areas that drain into sediment traps.*

Stabilized construction access shall be at least 14 feet wide for one-way traffic and 20 feet wide for two-way traffic. Provide geotextile fabric as a permeable separator to prevent mixing of coarse aggregate used to construct the stabilized construction access with the underlying soil. The stabilized construction access length shall be a minimum of 50 feet and the depth shall be a minimum of 8 inches. Alternative stabilized construction access systems include cement stabilized soil, wood mats, mud mats, and steel mats.

The stabilized construction access shall be inspected daily and maintained with additional similar materials to bring the access system to originally constructed condition.

SECTION 02110

SITE CLEARING, GRUBBING AND STRIPPING

1. DESCRIPTION: This Section shall govern all work necessary for clearing, grubbing, and stripping of objectionable matter required to complete the Project.

Site clearing, grubbing and stripping shall include removing and disposing of trees, stumps, brush, roots, vegetation, logs, rubbish, humus, rubble, and other objectionable matter from the Project site.

2. CONSTRUCTION METHODS: The site shall be cleared of all trees, stumps, brush, roots, vegetation, logs, rubbish, humus and other objectionable matter.

Areas which underlie proposed roadways, embankments and structures shall be cleared and stripped of all trees, brush, roots, vegetation, logs, rubbish, humus and other objectionable matter encountered within the top six inches (6") of the soil. Tree stumps and roots shall be grubbed to a minimum depth of two feet (2') below natural ground or the proposed finish grade, which ever is greater.

All holes created by these operations, except those to be immediately excavated, shall be backfilled and tamped. Upon completion of site clearing, grubbing and stripping the site shall be bladed to drain and prevent the ponding of water.

All material cleared, grubbed and stripped from site under this operation shall become the Contractor's responsibility. The material shall be disposed of either at a disposal site indicated on the drawings or, if no site shown, at a site obtained by the Contractor and approved by the Engineer.

3. MEASUREMENT: Unless specified otherwise in the Special Provisions or provided for in the Proposal, site clearing, grubbing and stripping shall be measured by the acre. The item shall include, but not be limited to, the removing and disposing of objectionable matter from the site as indicated above.

4. PAYMENT: The work performed in conformance with this Section shall be considered subsidiary to the Project.

***** END OF SECTION *****

SECTION 02221

EXCAVATION AND BACKFILL FOR STRUCTURES

1. **DESCRIPTION:** This Section shall control all work required for excavation and backfilling for structures. The work shall include necessary pumping, bailing drainage, sheathing and finish grading adjacent to the structure. The work shall also include, unless otherwise indicated, the disposal of excess excavated material as well as the removal and disposal of existing structures encountered in the excavation.

2. **MATERIALS:** Suitable material removed from the excavation shall be used for the backfill of structures, unless otherwise indicated by the Plans and/or Special Conditions. Suitable material shall be free of clods, muck, lumber, organic material, trash and other extraneous material.

Select material, when required, shall be free of clods, organic and foreign material, and shall have a Plasticity Index (PI) of 15 or less and a Liquid Limit (LL) of 35 or less.

Cement stabilized material, when required, shall consist of "clean concrete sand" mixed with a minimum of two (2) sacks of Portland Cement per cubic yard.

3. **CONSTRUCTION METHODS:** The excavation shall conform to the lines and grades shown on the Plans. Topsoil, the top 6" on the site, shall be excavated and stockpiled separately. Stockpiles of materials shall be placed in such a manner that they will not endanger the integrity of the trench by direct pressure of overloading the bank and in a manner that is not detrimental to completion of the work. The bottom of the excavation shall be firm, stable, undisturbed soil of uniform density. Disturbed or loose soil shall be removed or recompacted in place. When unsuitable material is encountered, it shall be removed to a maximum depth of two (2') feet and replaced with suitable material, laid in uniform layers and compacted by rolling or tamping to provide a suitable foundation for the structure.

The Contractor shall provide pumping, bailing or other method of dewatering as required to complete and maintain the excavation to the required grades. All excavations shall be accomplished meeting all requirements of OSHA Safety and Health Standards, Part 1926, Subpart P.

The Contractor shall contact all known utility companies with facilities within the site whose installations may be affected. All known utilities shall be located and exposed by the Contractor prior to commencing the excavation. The Contractor shall safeguard, protect from damage and support, if necessary, existing utilities uncovered or encountered during the work. Should existing utilities conflict with the actual structure, the Engineer, upon adequate notice, shall direct the Contractor to relocate the structure or arrange by Change Order to adjust the utility.

Backfill of the structure shall be accomplished by placing suitable material in 8 inch maximum horizontal uniform loose lifts. Material shall be moisture conditioned and mechanically compacted by rolling or tamping to 95% standard proctor density at plus or minus 3% of the optimum moisture content.

In lieu of mechanical compaction, backfill to within 3 feet of the finish grade can be compacted by water consolidation (jetting) when approved by the Engineer and materials are suitable. When used, backfill shall be placed in 3 foot maximum loose lifts and consolidated by jetting. Flooding is not allowed. The top 3 feet of backfill shall be mechanically compacted as described above. Topsoil excavated from the site shall be placed in the final lift unless located in an area to receive pavement, additional embankment or structure.

Excess and unsuitable material from the excavation shall be disposed of by the Contractor. Upon completion, the site shall be uniformly graded to drain or to the grades provided in the Plans.

4. MEASUREMENT: Excavation and backfill for structures will not be measured separately unless otherwise stated in the Special Conditions and/or the Proposal.

5. PAYMENT: No separate payment shall be made for excavation and backfill for structures. All labor, equipment and materials required shall be considered subsidiary to structure for which the excavation is required.

***** END OF SECTION *****

SECTION 02224

**EXCAVATION, EMBANKMENT AND PREPARATION
OF SUBGRADE FOR PAVED AREAS**

PART 1 - GENERAL

1.1 Scope

- A. *The work covered by this Section of the specifications consists in furnishing all plant, labor, equipment, supplies and materials; and in performing operations in connection with excavation, construction of embankment, preparation of sub-grade including spot reinforcement, and grading including all hauling, wetting, rolling, and other operations pertaining thereto for paved areas, complete.*
- B. *The work shall be completed in strict accordance with this section of the specifications and in conformity with the lines, grades and typical cross sections shown on the drawings, and subject to the terms and conditions of the Contract.*

1.2 Related Work

Refer to the following sections of these specifications for related work:

- A. *Section 02110, "Clearing and Grubbing"*
- B. *Section 02526, "Flexible Base – Caliche"*
- C. *Section 02485, "Seeding"*

1.3 Applicable Standard

The latest revision of the following standard of American Association of State Highway and Transportation Officials (AASHTO) forms a part of these specifications for determining and controlling the degree of compaction and density for sub-grades:

- T99 *"Standard Method of Test for the Compaction and Density of Soil."*

1.4 Definitions

- A. *General Excavation: General excavation consists of excavating and grading for paving; excavating all unsuitable material, regardless of character, from the sub-grade; and disposing of all excavated materials, as specified, and in conformity with the lines, grades, cross sections, dimensions shown on drawings. General excavation shall include any excavation or grading required to produce in place, complete, the materials necessary for embankment and fills, and to replace unsatisfactory materials from other excavation or grading operations.*
- B. *Embankment: This item consists of placing in embankments and in miscellaneous backfills, including the backfills around structures, the materials excavated under the items unclassified excavation, classified excavation, all in accordance with the specified requirements and in conformity with the lines, grades, cross sections, and dimensions shown on the drawings.*
- C. *Sub-grade Preparation: This item consists of the dressing, shaping, wetting, and compacting as required, of the sub-grade to the full width of the area in accordance with the specified requirements, and in conformity with the lines, grades, and cross sections shown on the drawings.*
- D. *Ditches: The item "ditches" shall be interpreted to mean all gutters, side ditches, diversion ditches, and outlet and other ditches in connection with surface drainage, whether the excavation is dry or wet.*

1.5 Measurement and Payment

If no item for "Excavation, Embankment and Preparation of Sub-grade for Paved Areas" is provided for in Section 00105, "Proposal," no separate measurement and payment will be made for this work, and the work shall be considered subsidiary to the project.

PART 2 - PRODUCTS

2.1 Utilization of Excavated Materials

- A. *All suitable excavated materials shall be utilized, insofar as practicable, in the formation of embankment, sub-grade, shoulders, slopes, bedding, site grading, and for such other purposes as directed by the Engineer.*
- B. *No excavated material shall be wasted without the authorization of the Engineer.*

2.2 Embankment and Backfill Material

Embankments and backfill shall be constructed of suitable materials free from muck, trees, tree boles, stumps, standing or matted roots, and rubbish and shall be approved by the Engineer.

PART 3 - EXECUTION

3.1 Existing Service Lines and Utility Structures

- A. *Particular attention shall be paid to areas where utility trenches are located within the roadway.*
- B. *All existing service lines and utility structures uncovered or encountered during all classes of excavation, and during all operations incidental to all grading work, construction of embankments, and backfilling shall be safeguarded and protected from damage, and supported if necessary, as specified or indicated on the drawings, or as directed by the Engineer.*

3.2 General

- A. *The work shall be performed in such manner and sequence that suitable materials may be selected, removed separately, deposited in the roadway within limits and at elevations required or stockpiled for future use.*
- B. *The correct moisture density relationship shall be maintained until the sub-grade is covered by the base material.*
- C. *Areas behind curbs and adjacent to sidewalks and driveways shall be backfilled and compacted within forty-eight (48) hours of completion of concrete work.*
- D. *The top four inches (4") shall be clean excavated material or topsoil. It shall be free of concrete, asphalt, shell, caliche, debris and any other material which detracts from its appearance or hampers the growth of grass.*

3.3 Preparing Ground Surface for Embankment

- A. *The area of work shall be cleared, grubbed and stripped in conformance with Section 02110, "Clearing and Grubbing" of these Specifications.*
- B. *Sloped ground surfaces, steeper than one vertical to four horizontal, on which embankment is to be placed, shall be plowed, steeped, or broken up in such a manner that the embankment material will bond with the existing surface, and as directed or approved by the Engineer. Where so directed by*

the Engineer, or when needed for the preparation, the surface shall be wetted and compacted.

3.4 Formation of Earth Embankments

- A. Embankments shall be formed of approved material, placed in horizontal layers. Earth or friable materials shall be placed in successive layers of loose material not more than eight inches in depth. Each layer shall be spread uniformly by the use of a road machine or other approved device and rolled with an approved tamping or three-wheeled power roller until thoroughly compacted to 90 percent of maximum density obtained at optimum moisture content, except for the upper eight inches which will be prepared in accordance with Section 02526, "Flexible Base - Caliche."
- B. Where rock is to be incorporated in fills or portions of fills composed largely of earth or friable materials, the rock shall be reduced to six inch maximum size. The upper layer containing rock shall be covered with a layer of earth or other approved material, not less than six inches in compacted depth, to provide a satisfactory sub-grade having no rock six inches or larger within six inches of the finished sub-grade.
- C. The number of rollers used shall be proportioned to the rate at which embankment material is placed, but shall in no case be less than one roller, maintained in normal operation, each 150 cubic yards or less of material placed per hour.

3.5 Sub-grade Preparation

- A. After the sub-grade has been shaped to line, grade, and cross section, it shall be rolled with an approved power roller weighing not less than ten tons, until thoroughly compacted, as determined by the Engineer. This operation shall include a reshaping and wetting required along with the rolling of the sub-grade, to obtain proper compaction.
- B. All soft or otherwise unsuitable materials below sub-grade elevation in roadway cuts shall be removed and replaced with suitable materials from excavation or borrow, or with the materials specified for spot sub-grade reinforcement, as approved by the Engineer.
- C. All boulders or ledge stones encountered in the excavation shall be removed or broken off to a depth of not less than six inches below the sub-grade. The resulting area and all other low sections, holes, or depressions shall be brought to the required grade with material approved by the Engineer, and the entire sub-grade shaped to line, grade, and cross section and thoroughly compacted as herein provided.

- D. *Sub-grade compaction shall be extended to include the shoulders for a distance of at least one foot beyond edges of the base course, or pavement.*
- E. *Except as otherwise provided, the upper six inches of the sub-grade in every area shall be compacted in accordance with the drawings or a minimum 92% - 95% percent of the maximum density obtained at optimum moisture content.*
- F. *Irregularities exceeding one-half inch (1/2") in sixteen feet (16') shall be corrected.*

3.6 Finishing Slopes and Surfaces

- A. *The surface of all areas of earth and other materials shall be finished to a reasonable smooth and compact surface substantially in accordance with the surface lines and cross sections shown, or the elevations indicated, on the drawings, or as directed by the Engineer.*
- B. *The degree of finish for grading slopes shall be that ordinarily obtainable from either blade-grader or scraper operations, or by hand-shovel operations, as the Contractor may elect, subject to the approval of the Engineer. When so specified, the accuracy of finish obtained by the use of the templates and string-line or hand-raking methods will be required in the case of shoulders, gutters, and similar areas.*
- C. *All gutters and ditches shall be so finished that they will drain readily.*
- D. *The surface of areas to be turfed shall be finished to a smoothness suitable for the application of turfing materials.*

3.7 Sub-grade Protection

- A. *During construction, embankments and excavations shall be kept shaped and drained. Ditches and drains along the sub-grade shall be maintained in such manner as to drain effectively at all times. Where ruts of two inches or more in depth occur in the sub-grade, the sub-grade shall be brought to grade, reshaped if required, and recompacted prior to the placing of base course or surfacing.*
- B. *The storage or stock-piling of materials on the sub-grade will not be permitted.*
- C. *No base course surfacing, or pavement shall be laid until the sub-grade has been checked and approved, and in no case shall any base course, surfacing, or pavement be placed on a muddy sub-grade.*

3.8 Disposal of Excess Material

- A. *Unsuitable and excess material shall be disposed of either at a disposal site indicated on the drawings or, if no site shown, at a site obtained by the Contractor and approved by the Engineer.*

- B. *Material authorized to be wasted shall be disposed of as directed by the Engineer, and in such manner as not to obstruct the flow characteristics of any stream or to impair the efficiency or appearance of any structure. No excavated material shall be deposited at any time in a manner that may endanger a partly finished structure by direct pressure, by overloading banks contiguous to the operations or that may in any other way be detrimental to the complete work.*

*** END OF SECTION ***

SECTION 02226

TRENCH EXCAVATION AND BACKFILL

1. **DESCRIPTION:** This specification shall govern all work necessary for the excavation and backfill for underground utilities, conduits, pipelines, storm sewers and appurtenances.

2. **CONSTRUCTION METHODS:** Unless otherwise specified on the plans or permitted by the Engineer, all trench excavation shall be constructed in an open cut. All trenching operations shall be accomplished meeting all requirements of OSHA Safety and Health Standards, Part 1926, Subpart P and Specification Section 02229 "Trench Safety". Adequacy of the sheathing, bracing and trench side slopes shall be the responsibility of the Contractor.

Trenches shall have a minimum width equal to the outside diameter of the pipe plus twelve inches (12"), unless otherwise approved by the Engineer. Trenches, below a point one foot (1') above the pipe, shall have a maximum width of twenty-four inches (24"), unless otherwise approved by the Engineer. Where space allows the trench may be sloped back or benched from one foot (1') above the top of pipe. Where space does not allow or unstable soil conditions are encountered, the trench walls shall be braced or shored at the Contractor's expense. All bracing and shoring installed shall be removed as the excavation is backfilled.

Materials from the excavation shall be placed in such a manner that does not endanger the work, and causes a minimum inconvenience to the properties adjacent to or along the line of work. Excavated material found to be unsuitable or in excess of the amount required for the backfill and site grading, shall be disposed of by the Contractor. Desirable topsoil, sod or vegetation shall be placed and stored separately.

The trench bottom shall be undercut a minimum depth sufficient to accommodate the class of bedding indicated in the plans and specifications.

Where soil encountered at established grade for the trench bottom is unstable or unsuitable material, it shall be removed to a depth of two feet (2') below the bottom of trench. Such excavation shall be carried at least one foot (1') beyond the horizontal limits of the pipe or structure on all sides. All unstable soil so removed and areas where unauthorized over excavation occurs, shall be replaced with suitable stable material. Suitable material shall be placed in uniform layers eight inches (8") deep or as directed by the Engineer, wetted if necessary, and compacted by mechanical tamping as required to provide a stable foundation for the structure.

Pipe or conduit shall not be constructed or laid in a trench in the presence of water. Water shall be removed from the trench prior to laying the pipe or conduit. The trench shall be relatively dry (no standing water) and have a firm bed. The trench shall be

maintained in such dewatered condition until the trench has been backfilled. The method for removal of water shall be determined by the Contractor and approved by the Engineer. Removal of water may be accomplished by bailing, pumping, well-points or other method, as conditions warrant.

When structures or foundations are encountered in the excavation, such obstructions shall be removed for the full width of the trench and to a depth of one foot (1') below the bottom of the trench. The bottom of the trench shall be restored to grade by backfilling and compacting by the methods described for unstable and unsuitable materials

Where the trench cuts through a storm or sanitary sewer known to be abandoned, these sewers shall be cut flush with sides of the trench and blocked with a concrete plug in a manner satisfactory to the Engineer.

For all underground utilities, conduits, pipelines, storm sewers and appurtenances to be constructed in embankment, the embankment shall first be constructed to an elevation not less than one foot (1') above the top of the pipe or conduit. Excavation for the pipe or conduit shall be made after approval of the embankment.

The Contractor shall inform utility owners sufficiently in advance of the work to enable such utility owners to reroute, provide temporary detours, or to make other adjustments to utility lines in order that the Contractor may proceed with his work with a minimum of delay. The Contractor shall not hold the Owner liable for any expense due to delay or additional work because of conflicts with utilities.

The Contractor shall conduct his work such that a reasonable minimum of disturbance to existing utilities will result. Where required, the Contractor shall provide support and protection to existing utilities to avoid damage and maintain continued service. Utilities, if broken, shall be restored promptly by the Contractor as directed by the affected utility company. When active sanitary sewer lines are cut in the trenching operations, means shall be provided to maintain flow from the service until the lines shall be restored or repaired.

No valve, switch or control on an existing utility system shall be operated by the Contractor without approval of the utility company.

All property or improvements, trees, lawns, fences, structures, sidewalks, curbs and gutters etc. shall be protected unless their removal is authorized by the Engineer. Restitution and restoration for damage to existing property shall be the responsibility of the Contractor, unless removal is authorized by the Engineer.

Existing culverts to remain and mailboxes in the line of proposed construction shall be carefully removed by the Contractor. Upon completion of the backfill operation culvert pipes shall be replaced to their original line and grade and mail boxes reset in their original condition and location.

The Contractor shall not have more the two hundred feet (200') of open trench left behind the trenching operation that is not backfilled and compacted as required by the plans and specifications. Trenches shall be backfilled the same day as excavated unless otherwise authorized by the Engineer. Trenches may remain left open enough at the end of a day's lay to allow operations to proceed the following day without digging out the end of the pipe. Trenches left open shall not be located in the traveled way of existing roadways and shall be properly marked and barricaded in conformance with the requirements of the Texas Manual on Uniform Traffic Control Devices.

The bedding shall be as specified on the Plans. If no bedding is shown, the trench bottom shall be shaped to conform to the pipe and backfill shall conform to the requirements of initial backfill.

The initial backfill, from the top of the bedding to one foot (1') above the pipe, shall be select material from the excavation at or about its optimum moisture content, free of large hard lumps, rock fragments or other debris. The backfill shall be placed in the trench evenly on both sides of the pipe for the full width of the trench, in layers not to exceed six inches (6") (loose measurement), and thoroughly compacted by mechanical tampers to a density comparable to the adjacent undisturbed soil.

The backfill for that portion of trench over one foot (1) above the pipe conduit shall be selected excavated material at or about its optimum moisture content, free of hard lumps, rock fragments, or other debris, placed in layers not more than six inches (6") in depth (loose measurement), wetted if required and thoroughly compacted by use of mechanical tampers to the natural bank density unless otherwise specified.

Flooding of backfill is not allowed. Jetting of backfill will be allowed in sandy soils and in soils otherwise approved by the Engineer. When jetting, select excavated material shall be placed in layers of not more than three feet (3') in depth and jetted until all settlement ceases. After the backfill has settled and as directed by the Engineer, the process will be repeated to a point three feet (3') below road base or natural ground as applicable. After a period of not less than twenty-four (24) hours, the last three feet (3') of backfill shall be placed in layers of not more than six inches (6") and compacted by use of mechanical tampers to the natural back density unless otherwise specified.

When cement stabilized backfill is required on the plans, trenches shall be backfilled to the elevations shown with cement stabilized sand containing a minimum of two (2) sacks of standard Type I Portland cement per cubic yard of sand.

3. MEASUREMENT: Unless specified otherwise in the special provisions or provided for in the proposal Trench Excavation and Backfill shall not be measured.

4. PAYMENT: The work performed in conformance with this specification shall be considered subsidiary to the work and shall not be paid for separately unless otherwise provided for.

***** END OF SECTION *****

SECTION 02229

TRENCH SAFETY

1. **DESCRIPTION:** This specification section supplements the regulations of the Occupational Safety and Health Administration and the laws of the State of Texas.

A. Trench Excavation: All trench excavations of five feet or greater in depth and which require any person be located in the trench excavation, for any reason, will first be protected by the trench safety methods developed by the Contractor and shall comply with all applicable OSHA requirements as herein specified. Such protection shall be provided at all locations as indicated in the Plans, and at all other locations where a trench depth of five feet or greater may be required.

B. Contractor Responsibilities: Contractor shall be solely responsible for design and implementation of a trench safety program. The Contractor shall comply with the current requirements of the Occupational Safety and Health Administration, Part 1926, sub-part P. of the Code of Federal Regulations, and all other applicable regulations during the progression of constructing this project.

C. Trench Safety Foreman: The Contractor shall appoint a Trench Safety Foreman who will be on site at any and all times while trenching or excavation is being performed. The Contractor shall submit a letter to the Engineer naming the Trench Safety Foreman prior to the Pre-Construction Trench Safety Conference. The Contractor shall notify the Engineer at least seven (7) days in advance of any change in the Trench Safety Foreman.

D. Pre-Construction Trench Safety Conference: A Trench Safety Conference will be scheduled and held prior to proceeding with trench excavations as described above. Those whose attendance is required are the Engineer, the Contractor, the Trench Safety Foreman, and those employees expected to work on the project.

2. **MEASUREMENT:** Trench safety shall be measured along the centerline of pipe installed at a depth, to bottom of pipe, of five (5') feet and greater.

3. **PAYMENT:** Payment for trench safety shall be in accordance with the unit price submitted in Section 00105, "Proposal".

***** END OF SECTION *****

SECTION 02260

SITE GRADING

PART 1 - GENERAL

1.1 Description

These specifications shall govern all work necessary for backfill and grading of the site to complete the project.

1.2 Related Work

Refer to the following sections of these specifications for related work:

- A. *Section 02110, "Clearing and Grubbing"*
- B. *Section 02221, "Excavation for Structures"*

1.3 Measurement and Payment

If no item for "Site Grading" is provided for in Section 00105, "Proposal", no separate measurement will be made for this work and the work shall be considered subsidiary to the project

PART 2 - PRODUCTS

Fill material shall be uniform as to material, density, and moisture content. Fill shall be free of large clods, large rocks, organic matter, and other objectionable material.

PART 3 - EXECUTION

3.1 Construction Methods

- A. *Prior to site grading, the site shall be cleared in accordance with Section 02110, "Clearing and Grubbing." Unless specified otherwise on drawings, the existing surface shall be loosened by scarifying or plowing to a depth of not less than 6 inches. The loosened material shall be recompacted with fill.*
- B. *No fill, that is placed by dumping in a pile or windrow, shall be incorporated into a layer in that position; all such piles and windrows shall be moved by blading or similar method. All fill shall be placed in layers approximately parallel to the finish grade and in layers not in excess of 6 inches of uncompacted depth, unless indicated otherwise on drawings.*
- C. *The fill shall be compacted to a density which approximates that of natural ground unless indicated otherwise on drawings.*

- D. *The Engineer may order proof rolling to test the uniformity of compaction. All irregularities, depressions, and soft spots which develop shall be corrected by the Contractor.*

- E. *Shape and grade the site to conform to the proposed elevations and contours shown on the drawings and as directed by the Engineer. Finish grading shall achieve a tolerance of 0.1' above or below the proposed elevations and contours.*

- F. *Excess material from excavation, that is not incorporated into the site as fill, shall become property of the Contractor and shall be disposed of away from the job site, unless indicated otherwise on the drawings.*

*** END OF SECTION ***

SECTION 02485

SEEDING

PART 1 - GENERAL

1.1 Scope

- A. *This specification shall govern all work necessary for furnishing all material and labor for growing and maintaining, until the work is accepted by the Owner, new grass on the areas disturbed by the construction activities of the Contractor, at locations as shown on the drawings, and as required to complete the project.*
- B. *The Contractor shall provide all labor, materials and equipment required by this specification. All areas disturbed by construction of gravity sanitary sewers, manholes, force mains, lift stations, and waterlines, service connections, water connections to the existing system shall be seeded.*
- C. *Water required for maintenance of seeded areas shall be provided by the Contractor.*

1.2 Related Work

Refer to the following sections of these specifications for related work:

- A. *Section 02110, "Clearing and Grubbing"*
- B. *Section 02221, "Excavation and Backfill for Structures"*
- C. *Section 02224, "Excavation, Embankment, and Preparation for Sub-grade for Paved Areas"*
- D. *Section 02226, "Trench Excavation and Backfill"*
- E. *Section 02260, "Site Grading"*

1.3 Submittals

- A. *Refer to Section 01300, "Submittals" for other requirements.*
- B. *Seed Analysis: The Vendor shall supply to the Engineer copies of the official seed analysis or official seed tags.*
- C. *Water Analysis: Submit water analysis data if test is performed.*

1.4 Inspection and Test

- A. *Water: In the event there is a question about the suitability of the water used, the Contractor at his own expense, shall have an analysis made by an approved laboratory to determine the nature and concentration of impurities present.*

1.5 Measurement and Payment

If no item for "Seeding" is provided for in Section 00105, "Proposal," no separate measurement and payment will be made for this work, and the work shall be considered subsidiary to the project.

PART 2 - PRODUCTS

2.1 Seed

All seed used shall be labeled in accordance with U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act in effect on the date of invitation for bids. All seed shall be furnished in sealed standard containers unless exception is granted in writing by the Engineer. Seed which has become wet, moldy, or otherwise damaged in transit or in storage will not be acceptable. The type of seed by weight shall be as follows, and the seed shall be planted at the rate per acre as indicated below.

*Type of Seed..... Common Coastal Bermuda
Application Rate Required Per Acre50 lbs./acre*

Weed seed shall not exceed 10 percent by weight of the total coastal bermuda seed in the mixture. Johnson grass, nutgrass or other noxious weed seed will not be allowed.

2.2 Cellulose Fiber Mulch

Cellulose fiber mulch should be applied to areas where finished grades have been attained and area has been cleared of all vegetation. If the area is on predominantly sandy soil or on slopes greater than 3:1, then a tackifier (glue) shall be applied at a rate of 1/2 pound per 1,000 sf. Cellulose fiber mulch should be mixed as follows for a 1,000 sf area:

Fifty (50) Pounds Virgin Wood Cellulose Fibre

Two (2) Pounds Hulled Common Bermuda Seed

Ten (10) Pounds 19-19-19 Granular Fertilizer or Equal

2.3 Fertilizer

All fertilizer used shall be delivered in bags or containers with clearly marked analysis. A granulated fertilizer shall be used with an analysis of 10-20-10. These figures represent the percent of nitrogen, phosphoric acid, and potash nutrients respectively, as determined by the methods of the Association of Official Agricultural Chemists. The rate of application shall be not less than 350 lb/acre (7.23 lb per 100 sq yd). In the event it is necessary to substitute a fertilizer with a different analysis, it shall be granulated fertilizer with a lower concentration. The total nutrients applied per unit area shall not be less than the specified amount of each nutrient.

2.4 Water

Water shall be free from oils, acids, alkalies, and salts, and other substances which may inhibit grass growth. The water source shall be subject to approval prior to use.

PART 3 - EXECUTION

3.1 General

- A. The seeding work shall be accomplished to such an extent that satisfactory growth results are obtained. The Engineer may at his own discretion, stop any phase of the work, if in the opinion of the Engineer, the desired growth rates are not obtained.
- B. All seeding operations shall be conducted by broadcast seeding or cellulose fiber mulch across the areas disturbed by the construction activities.
- C. Seeding and spreading fertilizer shall be accomplished as specified herein on areas disturbed by construction. Fertilizer shall be distributed over entire area seeded in the quantities specified.
- D. Equipment necessary for the proper handling and spreading of the seed shall be on hand, in good condition, and shall be approved before the work is started. The Contractor shall demonstrate to the Engineer before starting work that the application of the materials required will be made at the specified rates.
- E. After seeding the seeded area shall be fertilized and watered.

3.2 Seed Bed Preparation

Prior to planting, the area to be seeded shall be graded and shaped. Grades on the areas to be seeded shall be maintained in a true and even condition. Maintenance shall include any necessary repairs to previously graded areas.

3.3 Planting Seed

- A. *Seeding Rates: The Contractor shall conduct seeding equipment calibration tests in the presence of the Engineer as a means of determining the coverage per load to plant the seed at the specified rates. If unplanted skips and areas are noted after germination and growth of the grass, the Contractor shall be required to seed the unplanted areas with additional seed at no additional cost to the Owner.*
- B. *Seeding: The equipment to be used and the methods of broadcast seeding shall be subject to inspection and approval of the Engineer prior to commencement of planting operations.*

3.4 Fertilization

Apply commercial fertilizer within 7 days of seeding applying 1.5 pounds of nitrogen per 1000 square feet. For 15-5-10 fertilizer use 400 pounds per acre. Incorporate fertilizer with the soil distributing thoroughly to a depth of 3 inches by discing or other approved method. Fertilized areas shall be watered within 24 hours after applying fertilizer.

3.5 Watering

All areas seeded shall be kept moist for the first 30 days with a fine spray irrigation system (temporary or permanent) which should be in place prior to seeding or mulching.

3.6 Maintenance

- A. *General: Maintenance shall begin immediately following completion of seeding and continue until final acceptance by Engineer. It shall be the responsibility of the Contractor to maintain all areas during and after seeding for a period of three weeks and to provide 90 percent establishment of seeded areas. Maintenance shall include protection, watering, replanting, maintaining existing grades and repair of erosion damage, mowing, and the application of fertilizers, herbicides and pesticides, if deemed necessary by the Engineer.*

- B. *Watering: The Contractor shall be responsible for watering the newly seeded areas for a period of three weeks or thereafter until contract is closed. During the first week after seeding, the Contractor shall water the seeded area once daily. For the following two week period, the Contractor shall water the seeded area once every two days. Water application rates shall be at least 4000 gal/ac or sufficient to thoroughly soak the ground surface and promote proper seed germination and subsequent grass growth.*
- C. *Replanting: If necessary, the Engineer will designate areas to be replanted. Areas on which a stand of growing grass is not present in a reasonable length of time (Coastal Bermuda grass seed should be germinating in six to eight days) shall be prepared, reseeded and watered at no additional cost to the Owner. Replanting required because of faulty operations or negligence on the part of the Contractor shall be performed without cost to the Owner.*
- D. *Maintenance of Grades and Repair of Erosion Damage: It shall be the responsibility of the Contractor to maintain the original grades of the slopes after commencement of the seeding operation and during the three week maintenance period following the seeding operation. Any damage to the finished surface from Contractor's operations shall be promptly repaired. In the event erosion occurs from rainfall or other causes such damage shall be promptly repaired. Ruts, ridges, tracks, and other surface irregularities shall be corrected and areas replanted where required prior to acceptance.*

*** END OF SECTION ***

SECTION 02500

CONCRETE SLABS AND SIDEWALKS

PART 1 - GENERAL

1.1 Scope

The work covered by this section of the specifications consists of furnishing all plant, labor, equipment, supplies, and materials in connection with the construction of concrete slabs and sidewalks.

1.2 Related Work

Refer to the following sections of these specifications for related work:

- A. Section 02110, Clearing and Grubbing
- B. Section 02221, Excavation and Backfill for Structures
- C. Section 02260, Site Grading
- D. Section 02485, Seeding

1.3 Definition

- A. Concrete Slab: Unless otherwise shown on the drawings, concrete slabs are defined as 4" thick concrete pavement of dimensions as shown the drawings, and having beams for support.
- B. Concrete Sidewalks: Unless otherwise shown on the drawings, concrete sidewalks are defined as 4 feet wide and 4" thick concrete pavement having beams for support.

1.4 Measurement and Payment

If no item for "Concrete Slabs and Sidewalks" is provided for in Section 00105, "Proposal", no separate measurement and payment will be made for this work, and the work shall be considered subsidiary to the project.

PART 2 - PRODUCTS

2.1 Materials

All materials used during construction shall be new materials as follows:

- A. Concrete: All concrete shall be 3000 psi, 28-day compressive strength, meeting the requirements outlined in Section 03250, Reinforced Concrete

Construction of the specifications.

- B. Reinforcing Steel: All reinforcing steel shall be grade 60 meeting the requirements outlined in Section 03250, Reinforced Concrete Construction of the specifications.
- C. Joint Sealant: Polyurethane, conforming to ASTM C 920.

PART 3 - EXECUTION

3.1 Construction Methods

- A. Preparation of Subgrade: All boulders, organic material, soft clay, spongy material, and any other objectionable material shall be removed and replaced with approved material. The subgrade shall be properly shaped, and uniformly compacted to conform with the grades shown on the drawings. A 2" layer of sand bedding shall be placed on the compacted subgrade prior to pouring concrete.
- B. Formwork: The forms for the concrete shall be of wood or metal, straight, free from warps or kinks and of sufficient strength to support the concrete loading. They shall be staked securely enough to resist the pressure of the concrete without spring. When ready for the concrete to be placed, they shall not vary from the approved line and grade and shall be kept so until the concrete has set.
- C. Expansion Joints: Three-fourth (3/4") inch traverse expansion shall be placed at the locations shown on the drawings. For sidewalks, the expansion joints shall be placed at intervals not to exceed forty (40') feet. The expansion joints shall be constructed with three-fourth (3/4") Redwood and shall be sealed using joint sealing compound. Unless otherwise noted on the drawings, #4 smooth dowels, 18" long shall be placed at 12" center to center spacing. One end of the dowels shall have a slip joint. The sidewalks shall be scored to a depth of one half (1/2") inch as spacing equal to the width of the sidewalk.
- D. Placing Concrete: All concrete shall be placed in accordance with Section 03250, Reinforced Concrete Construction of the specifications. Just prior to placing the concrete, the subgrade shall be moistened. The concrete shall be placed in the forms and thoroughly tamped in place so that all honeycombs will be eliminated and sufficient mortar will be brought to the surface. The surface shall have a light broom finish.
- E. Backfill: Upon removing the formwork, all the areas around the concrete shall be backfilled using the existing material. The backfill shall be graded in such a manner as to drain effectively at all times.

*** END OF SECTION ***

SECTION 02511

HOT MIX ASPHALTIC CONCRETE PAVEMENT

1. **DESCRIPTION:** Hot Mix Asphaltic Concrete Pavement shall be produced, transported, and applied in accordance with the 1993 "Standard Specifications for Construction of Highways, Streets and Bridges" of the Texas Department of Transportation; Item 340, paragraphs 340.1 and 340.6 inclusive.

2. **SPECIFIC REQUIREMENTS:**

- A. **Tack Coat:** Tack coat shall be RS-2 and shall be installed in accordance with the manufacturer's written instructions at a rate recommended by the manufacturer.
- B. **Prime Coat:** Prime Coat shall be MC-30 and shall be installed in accordance with the manufacturer's written instructions at a rate recommended by the manufacturer.
- C. **Aggregate:** Shall be a crushed limestone.
- D. **Asphaltic Material:** Shall be of such grade and from such source known to produce asphaltic concrete meeting these specifications. Grade and source are subject to the approval of the Engineer.
- E. **Paving Mixture:** Grading of Mineral Aggregate: Shall be Type "B" (Fine Graded Base or Leveling-up Course). Shall be Type "D" (Fine Graded Surface Course).
- F. **Thickness:** Minimum thickness Type "D" shall be 2" after compaction unless otherwise noted on the plans.
- G. **Stability:** Not less than 42 test method TxDOT Bulletin C-14;
- H. **Density:** Optimum 95, Minimum 93, Maximum 96, all percent; test method ASTM D 2041-71.
- I. **Rolling and Compacting:** Shall be adequate to produce the minimum density specified, and shall comply with the requirements of Item 210.1 - 210.3 and Item 213.1 - 213.3 of the Texas Department of Transportation Specifications previously referenced.

3. JOINTS TO EXISTING PAVEMENT: The pavement shall be saw cut and shall match the grade of the existing pavement.

4. MAINTENANCE DURING CONSTRUCTION: The Contractor shall be required to maintain at his own expense the existing roadway within the limits of the project in good condition satisfactory to the Engineer from the time he first starts work until all work shall have been completed. Maintenance shall include immediate repairs of any defect that may occur in the existing pavement, which work shall be done by the Contractor at his own expense and repeated as often as may be necessary to keep the area continuously intact. Repairs are to be made in a manner to insure restoration of a uniform surface and durability of the part repaired. Faulty work shall be replaced.

5. MEASUREMENT AND PAYMENT: HMAC will not be measured separately. Payment shall be included in the unit price bid item Pavement Repair submitted in Section 00105. "Proposal".

*** END OF SECTION ***

SECTION 02526

FLEXIBLE BASE

1. **DESCRIPTION:** This section shall govern all materials and work required to furnish and place Flexible Base in conformance with the line grade and cross section shown on the Plans or otherwise specified by the Engineer.

2. **MATERIAL:** Flexible base shall consist of argillaceous limestone, calcareous or calcareous clay particles, with or without stone, conglomerate, gravel or sand, and free of vegetation. The material source shall be approved by the Engineer, unless otherwise specified or allowed by the Engineer. The material shall be screened crushed in such a manner that a uniform product will be produced to meet the following requirement:

Gradation limits:	(Before & after compaction) %
Passing 2 1/2" sieve	100
Passing 2" sieve	95-100
Passing 1" sieve	65-90
Passing 3/4" sieve	60-80
Passing 40 mesh	15-50

A representative sample of the material (Raw Caliche) shall be slaked for twenty-four (24) hours and then the washed minus 40 material shall have:

Liquid Limit (L.L.)	45 max.
Plasticity Index (P.I.)	16 max.

A representative sample of the material shall be tested in accordance with ASTM C-131-81 for abrasion loss. The maximum loss shall not exceed fifty-five percent (55%).

Crushed limestone base, when specified in the plans, shall meet the requirements of Texas Department of Transportation 1993 Standard Specifications for Construction of Highways and Bridges, Item 247 for Flexible Base Type A, Grade 1.

The Engineer may accept recent tests as proof of compliance with the above material specifications. The Owner, at their discretion, may engage an independent testing laboratory to verify conformance to the requirements of this Specification.

3. **CONSTRUCTION METHODS:** All subgrade work, including stabilization, rolling, compaction, and fine grading, shall be completed and accepted prior to placing of base materials. The surface of the subgrade shall be finished true to line and grade as established and in conformity with the typical section shown on the plans.

Base material shall be delivered in approved vehicles and spread the same day if possible (no later than the next day).

Piles and windrows shall be broken down to the bottom and all nests of coarse or loose material shall be corrected.

Material shall be spread and shaped to the line grade and typical cross section shown on the Plans. When the total depth of base required is greater than eight inches (8"), it shall be constructed in multiple lifts of equivalent thickness. Completed lifts shall not exceed eight inches (8").

When the Plans require that base be lime stabilized, the material shall be treated and process in conformance with the specification. Lime stabilized base shall be shaped and rolled after mixing and allowed to cure at least forty-eight (48) hours before compaction. Moisture content must be maintained in the material during the forty-eight (48) hour period.

Prior to compaction, flexible base shall be scarified, aerated, moisture conditioned, bladed and shaped to the line grade and typical section specified on the Plans. All areas of segregated course of fine materials shall be corrected or removed and replaced with well graded material.

Flexible base shall be sprinkled or aerated to optimum moisture, and compacted in layers uniform density, minimum 98% Proctor (AASHTO T-99-57, Method D) unless otherwise noted on the Plans. Mechanical tamps shall be used in areas inaccessible to rollers.

On completion of compaction, the surface shall be smooth and conform to lines, grades, and sections shown on the Plans. Areas with any deviation in excess of one-fourth inch (1/4") in cross section and in length of sixteen feet (16') measure longitudinally, shall be corrected by loosening, adding or removing material, reshaping, and recompacting by sprinkling and rolling. The maximum moisture shall be one hundred fifteen percent (115%) optimum and the minimum moisture eight-five percent (85%) optimum.

Moisture and density shall be maintained until the paving is complete. Material that loses the required stability, density or finish prior to placement of the next course, shall be reworked and retested at the Contractor's expense.

4. MEASUREMENT: Unless otherwise specified in the Special Provisions or provided for in the Proposal, flexible base shall be measured by the square yard of completed surface area for the thickness and grade specified.

5. PAYMENT: The work performed in conformance with this Specification will not be measured separately. Payment shall be included in the unit price bid item Pavement Repair submitted in Section 00105. "Proposal".

***** END OF SECTION *****

SECTION 02558

ASPHALTIC TACK COAT

1. DESCRIPTION: This item shall consist of an application, on the completed base, of asphaltic material, which shall be applied in accordance with these specifications and the plans for this work.

2. MATERIALS: The asphaltic material used for the tack coat shall be MC-30, and shall comply with the requirements of the Engineering Fabric Manufacturer's recommendations for material and application rates.

3. CONSTRUCTION METHODS: When, in the opinion of the Engineer, the base is thoroughly dry and is satisfactory to receive the coat, the surface shall be cleaned by sweeping or other approved methods. The asphaltic material shall then be applied to the cleaned base at the approximate rate indicated on the plans between the limits of 0.18 and 0.20 gallons per square yard of surface area. The application shall be made with an approved type of self-propelled pressure distributor so constructed and operated as to distribute the material evenly and smoothly in the quantity specified or directed.

4. WARNING TO CONTRACTORS: Attention is directed to the fact that these materials are very flammable. The utmost care shall be taken to prevent open flames from coming in contact with the asphaltic material or the gases from same. The Contractor shall be responsible for any fires or accidents which may result from heating the asphaltic materials.

No traffic, hauling, or placement of any subsequent courses shall be permitted over the freshly applied prime coat until authorized by the Engineer.

5. MEASUREMENT AND PAYMENT: Measurement and payment for asphaltic tack coat is subsidiary and cost shall be included in accordance with the unit price submitted in Section 00105, "Proposal".

*** END OF SECTION ***

SECTION 02635

PRESSURE WATER PIPE INSTALLATION

1. **SCOPE:** This specification covers the requirements for labor, equipment, and material necessary to install pressure water line for use in water supply and distribution systems. The CONTRACTOR shall use trained and experienced personnel to install the piping and valves. The waterline shall be "staked" by trained surveyors prior to installation of any pipe. Reference points shall be provided by the OWNER's representative.

2. INSPECTION

2.1. **Inspection of Material at Delivery Point:** When received from the carrier and at the time of unloading, the Contractor and Inspector shall inspect all pipe and accessories for loss or damage in transit. No shipment of material should be accepted by the Contractor unless proper exceptions are made on the receipt obtained by the carrier, at the time of delivery, as to loss and/or damage. CONTRACTOR shall notify OWNER's Inspector of all pipe delivery to allow the Inspector to inspect the pipe.

2.2. **Field Inspection of Material and Workmanship:** All laying, jointing, testing for defects and for leakage under pressure, and disinfection, shall be performed in the presence of the Owner's Engineer or his authorized inspector, and shall be subject to his approval before acceptance.

2.3. **Disposition of Defective Material:** All material found during the progress of the work to have cracks, flaws, or other defects will be rejected by the Owner's Engineer or his authorized inspector and the Contractor shall promptly remove such defective material from the site of the work.

3. CONTRACTOR'S RESPONSIBILITY FOR MATERIAL

3.1. **Responsibility for Material Furnished by Contractor:** The Contractor shall be responsible for all material furnished by him. All such material which is defective in manufacture or has been damaged in transit or has been damaged after delivery shall be replaced by the Contractor at his expense.

3.2. **Responsibility for Safe Storage:** The Contractor shall be responsible for the safe storage of all material furnished to or by him and accepted by him until it has been incorporated in the completed project.

4. HANDLING OF PIPE AND ACCESSORIES

4.1. **Handling and Care:** Pipe and accessories shall, unless contrary instructions are received, be unloaded at the point of delivery, hauled to, and distributed at the site of the project by the Contractor. They shall at all times be

handled with care to avoid damage. Whether moved by hand, skidways or hoists, material shall not be dropped or bumped against pipe or accessories already on the ground or against any other object on the ground. The pipe manufacturer will assist the Contractor in implementing proper handling procedures. The Contractor shall be responsible for any damage resulting from improper handling or care.

4.2. Distribution at Site of Work: In distributing material at the site of the work, each piece shall be unloaded opposite or near the place where it is to be laid in the trench.

4.3. Materials Kept Clean: The interior of all pipe and accessories shall be kept free from dirt and foreign matter at all times.

4.4. Standing Water: Pipe shall never be installed in a trench where there is standing water.

5. ALIGNMENT AND GRADE

5.1. General: All pipe shall be laid and maintained to the required lines and grades. Fittings and valves shall be at the required locations and with joints centered, spigots home and all valve stems plumb.

5.2. Protecting Underground and Surface Structures: Temporary support, adequate protection and maintenance of all underground and surface utility structures, drains, sewers, and other obstructions encountered in the progress of the work shall be furnished by the Contractor at his own expense. The CONTRACTOR shall repair any damage to all underground or surface pipelines, structures, etc.

5.3. Obstructions Caused by Other Utility Structures: Where the grade or alignment of the pipe is obstructed by existing utility structures such as conduits, ducts, pipes, branch connections to main sewers, or main drains, the obstruction shall be permanently supported, relocated, removed or reconstructed by the Contractor in cooperation with the Owner of such utility structures.

5.4. Deviation With Engineers Consent: Deviation from the required line or grade as shown on the plans shall be made only with prior approval of the Engineer.

5.5. Subsurface Explorations: Whenever necessary to determine the locations of existing underground utility structures, the Contractor, after an examination of available records and upon the written order of the Engineer, shall make all explorations and excavations for such purpose.

6. TRENCH EXCAVATION AND BACKFILL: Refer to Section 02226, "Trench Excavation and Backfill".

7. **THRUST BLOCKING:** Pipe ends, changes in direction, valves and all other fittings shall be thoroughly blocked by means of poured concrete, which shall extend the full width of the trench and from the bottom of the trench to a minimum of three (3) times the diameter of the pipe. Blocking shall bear against the fitting and shall be poured against undisturbed or tightly compacted earth. If the Contractor has cut the ditch beyond the end of the pipe, he shall extend the block one-half (1/2) width of the trench into each side wall of the trench and thoroughly compact the earth behind the block. Minimum thickness of the blocking shall be eight (8) inches, and reinforcing may be required by the Engineer if the block is not poured against undisturbed earth. Concrete shall be Class N-25, with a minimum compressive strength of 2500 psi at 28 days. The area bearing against undisturbed earth shall be as shown on the plans.
8. **LOWERING PIPE AND ACCESSORIES INTO TRENCH**
- 8.1. **General:** Proper implements, tools, and facilities satisfactory to the Engineer shall be provided and used by the Contractor for the safe and efficient execution of the work. All pipe, fittings, valves, and accessories shall be carefully lowered into the trench by means of derrick, ropes, or other suitable equipment in such manner as to prevent damage to pipe and fittings. Under no circumstances shall pipe or accessories be dropped or dumped into the trench.
- 8.2. **Inspection of Pipe and Accessories:** The pipe and accessories shall be inspected, by both the Contractor and Inspector, for defects prior to lowering into trench. Any defective, damaged, or unsound pipe shall be repaired or replaced.
- 8.3. **Pipe Kept Clean:** All foreign matter or dirt shall be removed from the interior of pipe before lowering into position in the trench. Pipe shall be kept clean by means approved by the Engineer during and after laying. Pipe ends shall be tightly plugged overnight, and provisions made to avoid flotation of pipe until final backfill is placed.
- 8.4. **Disinfection:** When taking bacteriological tests is impossible, the Contractor shall wipe any item that will contact the water with a chlorine solution. The chlorine solution will contain a minimum of 50 mg/L chlorine. In addition, the Contractor shall place 5 pounds of HTH, 65% chlorine, in the pipe ahead of a connection, valve, or any place where the waterline has been open.
9. **UTILITY LINE MARKING TAPE:** Detectable underground marking tape, meeting OSHA regulation 1926.956 (c)(1), shall be installed over ALL utility lines. The detectable marking zone tape shall bear the printed identification of the Utility Line below it, such as "CAUTION - BURIED WATER LINE BELOW". Tape shall be permanently printed. Surface Printing will not be acceptable. The tape shall be constructed of material that will provide maximum color contrast and visibility in all types and colors of soil. The tape shall meet APWA color code. The tape shall be lineguard III underground detectable tape or approved equal.

The detectable marking tape shall be buried 6 inches over the top of the waterline. After placing sand embedment, the tape shall be placed in the backfill and allowed to settle in place with the backfill. Tape may be installed by any other method approved by the Engineer.

10. **TRACER WIRE:** *All non-metallic pipe installed underground shall have a tracer wire installed along the length of the pipe. The wire shall be placed adjacent to, but not touching, the pipe, and in no case shall it be wrapped around the pipe. A maximum distance from the pipe to the wire is one (1) foot. Tracer wire shall be 14 gauge minimum, copper single-conductor wire with insulation and shall be continuous along the pipeline passing through the inside of each valve box.*

11. **WATERLINE MARKERS:** Waterline markers shall be provided on both sides of each county road, state highway, railroad track, and drainage ditch crossing for the main waterlines.

11.1. **MARKERS:** The markers shall consist of a Carsonite Fiberglass "T" Post - minimum diameter of 4" - and a fiberglass sign. The post shall be 8' long and shall be buried a minimum of 3'. The top of the post shall be notched to allow the sign to be placed against a flat surface. The sign shall be constructed of a composition of fiber reinforced fiberglass, marble, and thermosetting polymers. The signs shall be 6" high, 12" long, and 0.135 inches thick. The sign shall be resistant to U.V. degradation. The sign shall be manufactured by Carsonite or approved equal.

11.2. **LETTERING:** The sign shall be white with black letters. The letters shall be as follows:

CAUTION WATERLINE	(Larger Letters)
CITY OF CORPUS CHRISTI	(Larger Letters)
CALL (361) 857-1888 BEFORE	(Smaller Letters)
DIGGING IN THIS AREA	(Smaller Letters)

11.3. **ATTACHMENT:** The signs shall be attached to the posts using 2 stainless steel wood screws, No. 14 by 1-1/2".

11.4. **PAYMENT:** The waterline markers will not be paid for separately, but their cost shall be included in the unit cost of the water pipeline.

12. **FILLING WATERLINES:** Each completed valved section of waterline shall be filled with an approved water. As a valved section of the waterline installation is completed, the line shall be filled, and a minimum of twenty (20) pounds per square inch maintained on the waterline. The water shall not be added until at least 200 feet of pipe have been installed past a gate valve. The water shall be flushed from the pipe before placing the waterline into service and disinfection procedures of Section 02674, "Sterilizing the Waterline" shall be followed.

13. **CROSSING OF ROADS, RAILWAYS, DRIVEWAYS, OR IMPROVEMENTS:** The CONTRACTOR shall remove, replace, and restore to original condition, elevation, and location, all roads and other existing improvements encountered during construction. Ingress and egress to property and along the county and state roads shall be maintained by the CONTRACTOR. Blocking of a county or state road will not be permitted.

Repair of a main waterline crossing an asphalt/concrete driveway shall be paid for using a maximum of a three (3) feet wide ditch repair and the actual length of the pavement. The existing pavement shall be saw cut, the pipe will be laid, backfill shall be placed and properly compacted and the pavement will be replaced with new construction matching the existing. Property OWNERS shall be notified of construction a minimum of 24 hours in advance.

Repair of a service waterline crossing an asphalt/concrete road or driveway shall be paid for using a maximum of eighteen (18) inches wide ditch repair and the actual length of the asphalt. The existing pavement shall be saw cut, the pipe will be laid, backfill shall be placed and properly compacted and the pavement will be replaced with new construction matching the existing. Property OWNERS shall be notified of construction a minimum of 24 hours in advance.

Backfill and repair of all roads shall be in accordance with the Plans and Specifications. The CONTRACTOR shall comply with all applicable safety regulations and shall perform the work safely. The CONTRACTOR shall install the proper safety barricades at the road crossings. All travelways with the exception of state roads are to be open cut.

Adequate barricades, warning signs, lighting, and covers will be employed for safety and traffic flow. All excess dirt shall be removed and disposed of by the CONTRACTOR using an approved method.

14. **CONNECTIONS TO EXISTING WATERLINES:** The CONTRACTOR shall not connect the new waterline to any existing waterline until all testing and disinfection requirements have been completed. The CONTRACTOR shall provide the ENGINEER a minimum of 48 hours notice prior to starting any connection to an existing line. Once a connection is started, work will continue on the connection until it is completed. Work will not stop for meals, breaks, night, etc. A qualified superintendent shall be on the site at all times.
15. **SEPARATION OF WATER AND SEWER LINES:** The new waterline installation shall comply with the TCEQ requirements for separation of water and sewer lines.
16. **PAYMENT:** Payment shall be subsidiary to PVC Pressure Pipe.

SECTION 02636
WATER SERVICE LINES (S-87)

1. DESCRIPTION

This specification shall govern all work necessary for furnishing and installing water service lines required to complete the project. Water Service lines are those lines from the City main to the meter at the property line

2. MATERIALS

GENERAL

Service fittings shall have a minimum of 150 psi working pressure rating, unless indicated otherwise.

Fittings and materials shall be in accordance with the applicable provisions of AWWA C-800.

All service connections to PVC mains shall require service clamps without exceptions. Service connections to DIP mains shall require service clamps, unless indicated otherwise on the drawings.

SERVICE CLAMP

Service clamps shall be of the Double Strap or Full Body Bronze Saddle with I.P. thread taps that provide full support around the circumference of the pipe and a minimum working pressure rating of 200 psi. The saddle shall have a bearing area of sufficient width along the axis of the pipe, 2" minimum, so that the pipe will not be distorted. Saddles shall not: (1) have lugs that will dig into the pipe when the saddle is tightened, (2) have a U-bolt type of strap that does not provide sufficient bearing area, (3) have a clamping arrangement that is not fully contoured to the outside diameter of the pipe.

Clamps shall be comparable to:

Ford S71, Rockwell 323, Clow 3407 & 3408

CORPORATION STOP

Corporation Stop shall be of brass with I.P. thread inlet and Muller 110 Compression connection outlet designed for type K copper pipe and be comparable in design to the following:

Muller H-15028 for 3/4" & 1" sizes

Muller H-15023 for 1 1/2" & 2" sizes

ANGLE METER STOP

Angle Meter Stop shall have a Teflon coated bronze ball which rotates within two Buna-N rubber seats. Inlet shall be packed joint for Type K copper and be comparable in design to the following:

For BA43-332 for 3/4" & BA43-444 for 1"

Brass gate valve req. for 1 1/2" and 2" sizes

SERVICE LINE

Service line shall be of type K copper tube.

Other products of comparable featured and equal quality may be substituted for the above items with approval of the Engineer.

3. CONSTRUCTION METHODS

See Section, "Excavation and Backfill for Utilities and Sewers".

Service lines shall be placed by the Contractor as indicated on the drawings and as directed by the Engineer.

Relocation of existing meters and change overs to the new system shall be done only under the direct supervision of the City Water Department.

4. MEASUREMENT

Service lines shall be measured with the units indicated in the proposal for each size of service line indicated in the proposal.

5. PAYMENT

Payment for service lines shall include but not be limited to the following: copper tubing, corporation stop, service clamp, angle meter stop, trenching, testing, flushing, clean-up, site restoration, all labor, all equipment, and incidentals required for the proper installation.

SECTION 02641

PIPE RESTRAINT SYSTEM

1. **GENERAL:** This specification shall govern the design, manufacture, fabrication and installation of Restraint systems for Ductile Iron and PVC Pipe for water supply and transmission. All material shall be new. The system shall be Ford Uni-Flange Series 1500-SA.
2. **MATERIAL REQUIREMENTS:** The system shall incorporate a series of machined serrations (not "as cast") on the inside diameter to provide positive restraint, exact fit 360 degrees contact and support of the pipe wall. Restraint device shall be manufactured of high strength Ductile Iron Material (ASTM A536) for smaller size pipe or high-grade steel for larger size pipe. Bolts and connecting hardware shall be of high strength, low alloy material in accordance with ANSI/AWWA C111/A21.11. Bolts shall be hot-dipped galvanized or stainless steel. The devices shall meet or exceed the requirements of Uni-B-13-94.
3. **INSTALLATION:** The restraint devices shall be installed at Mechanical Joint Fittings and at ductile iron and PVC pipe joints as noted. The devices shall be installed in accordance with manufacturer's recommendations. Each device shall be wrapped in two layers of polyethylene sheets. The minimum downstream and upstream requirements for placing joint restraints (at bell & spigot connections) shall be as recommended by the manufacturer for the proposed laying conditions. Minimum allowable lengths are shown on construction plans.
4. **INSTRUCTIONS:** The manufacturer shall submit detailed instructions for the installation of the restraint system including torque required for each bolt in the system.
5. **MEASUREMENT AND PAYMENT:** The pipe restraints will not be measured separately. The cost for the pipe restraints shall be paid for as outlined in Section 105-Proposal.

SECTION 02642

DUCTILE IRON PIPE AND FITTINGS

1. **DESCRIPTION:** Ductile Iron Pipe shall be designed and manufactured in accordance with AWWA C-150, AWWA C-151, and C-115, latest revision. Ductile Iron Pipe shall be Class 50 for Push-on Joint or Mechanical Joint and Class 53 for Flanged Joint. All pipe must be new.
2. **DESIGN REQUIREMENTS:** All pipe shall be designed for the following minimum conditions:
 - A. **Working Pressure:** Working pressure shall be One hundred fifty (150) pounds per square inch (psi).
 - B. **Surge Allowance:** Surge allowance shall be One hundred (100) psi. For design purposes, surge allowance shall be added to the working pressure.
 - C. **Laying Condition:** The pipe shall have a Type 2 laying condition consisting of a flat bottom trench with backfill consolidated to centerline of pipe
 - D. **Cover:** Minimum cover shall be three feet (3'-0") or as shown on plans.
 - E. **Design Loading:** Pipe shall be designed to withstand AASHTO H-20 Truck loading.
3. **JOINTS:** Ductile Iron Pipe shall have Rubber Gasket Joints in accordance with AWWA C-111, latest revision with the exception that gaskets containing asbestos material or natural rubber will not be permitted. Buried pipe may be either Mechanical Joint or Push-on Joint. Pipe above ground shall be Flanged.
4. **FITTINGS:** Fittings for 4" and larger pipe shall be ductile iron epoxy coated (inside and out) complying with the requirements of the latest revision of AWWA Standard C110. Fittings 12" and smaller may be compact fittings meeting the requirements of AWWA Standard C153. Fittings shall be either flanged or mechanical joint, as shown on the plans. Bolts for flanged fittings shall be stainless steel. Bolts for mechanical joint fittings shall be standard ductile iron "T" bolts. All flanged joints shall be made using full face synthetic rubber gaskets. Natural red rubber gaskets will not be allowed for either flanged or mechanical joint connections. All pipe and fittings shall be certified for use in potable water systems by the National Sanitation Foundation (NSF).
5. **COATING AND LINING:** Buried pipe shall be bituminous coated outside. All buried ductile iron pipe shall be encased in two (2) layers of 8 mil thick polyethylene encasement as outlined in Section 02643, "Polyethylene Sleeve".

All above ground piping shall be primed and painted. The paint system shall be a three (3) coat system, having a minimum total mil thickness of 8.5, as recommended by the paint manufacturer for the intended use. Pre-approved manufacturers are *Tnemec and Carboling*. Proposed paint systems shall be submitted to the Engineer for final approval. Primer for flanged piping shall be applied at the point of manufacture.

All ductile iron pipe and fittings for waterlines shall be cement mortar lined on the inside in accordance with AWWA C104.

6. FLANGED PIPING: All Flanged pipe shall comply with AWWA C-115, latest revision. Pipe barrel shall be made in accordance with AWWA C-115, latest revision, and nominal thickness of pipe shall not be less than Class 53. All flanges shall be Ductile Iron and rated for working pressure of two hundred fifty (250) psi.

7. TESTING AND INSPECTION:

A. Hydrostatic Testing: All pipe shall be hydrostatically proof tested at five hundred (500) psi after manufacture.

B. Certifications: The Manufacturer will furnish Owner sworn certificates that pipe and joints have been manufactured, tested, and inspected in accordance with applicable specifications.

C. Independent Test Certificates: At the Owner's option, the Engineer may direct the pipe manufacturer to furnish test certificates from an independent testing laboratory certifying that pipe conforms to the applicable specifications.

8. WALL CASTINGS: Mechanical Joint Wall Sleeves will be utilized when possible. They shall be made of cast iron or ductile iron, as specified, and they shall allow for flexibility and field adjustment. Mechanical Joint Wall Sleeves shall be one static casting as manufactured by American Cast Iron Pipe Co. or equal as approved by Engineer. Fabricated Wall Castings shall have cast or ductile iron wall collars and shall be welded on both sides. Screwed-on bells will not be accepted.

9. INSTALLATION: The pipe shall be laid to the lines and grades specified by the Engineer. After the pipe has been laid, sand backfill shall be brought up uniformly on each side of the pipe and mechanically tamped to a point six (6) inches above the pipe. Care shall be exercised to see that the sand is well tamped under the pipe before bringing backfill up on the sides of the pipe. No voids or loose material under the pipe will be permitted. This sand backfill shall be mechanically tamped.

After this mechanically tamped backfill has been placed, the remainder of the trench shall be backfilled and this portion of the backfill material shall be water consolidated. The material used shall be free from rocks or boulders or other unsatisfactory materials.

10. BONDING: A positive means of electrical conductivity across Push-on Joints and

Mechanical Joint shall be provided for ductile iron pipe. The bond shall be "Electro-Bond" as manufactured by U.S. Pipe or approved equal. The bond shall use a 1/16" x 3/4" copper strip with welded and bolted connections. The bond shall be capable of carrying 500 to 600 amps for extended periods of time without overheating. The copper shall be Type 122 deoxidized conforming to ASTM B-152, latest revision, and the bolts and nuts shall be silicon bronze. The bond shall withstand expansion or contraction movement of the pipe.

11. MEASUREMENT AND PAYMENT: The work performed in conformance with this Specification will not be measured separately. Payment shall be as submitted in Section 00105. "Proposal".

SECTION 02643

POLYETHYLENE SLEEVE

1. **GENERAL:** All ductile or cast iron water system appurtenances laid below ground shall be wrapped in black polyethylene sheet as outlined below.

2. **PLACEMENT ON PIPE:** All ductile or cast iron pipe laid below ground shall be encased in two (2) layers of black 8 mil polyethylene sheet placed on each joint as it is being laid, in accordance with AWWA Standard C-105, Method C, latest revision. The sheets shall be of sufficient size to provide a 12" lap at all longitudinal and transverse joints. Sheets shall be of virgin black polyethylene. The sheets shall be taped together at intervals along the joints, leaving at least 90% of the joint open.

Care shall be taken to avoid tearing or puncturing the sheet during installation and during placing and compaction of backfill. Tears and punctures shall be repaired with eight (8) mil black polyethylene sheet and/or tape.

3. **PLACEMENT ON FITTINGS AND VALVES:** Fittings and valves which are to be buried shall be loose wrapped with two layers of eight (8) mil black polyethylene sleeves or sheet. The sheet or sleeve shall be taped to the valve or fitting wherever operating parts must project. Tears and Punctures shall be repaired as outlined in Item 2, above.

4. **MATERIAL:** Polyethylene sheets shall have a minimum thickness of 8 mils. Tape shall be standard duct tape.

5. **MEASUREMENT AND PAYMENT:** The work performed in conformance with this Specification will not be measured separately. Payment shall be included in the individual bid items in Section 00105. "Proposal".

SECTION 02644

STEEL PIPE FOR CASING

1. **CONTROLLING SPECIFICATION:** Steel pipe to be furnished under this contract shall conform to the requirements of American National Standards Institute (ANSI) B 36.10.
2. **Steel Casing:** Casing pipe, shall comply with the requirements of ANSI B36.10, latest revision, Standard for Welded and Seamless Pipe. Used pipe, in good condition (without pits) will be accepted, but must be inspected and approved by the Owner's Inspector. The minimum wall thickness shall be 0.3125 inches for 16" diameter pipe.
3. **METHOD OF CONSTRUCTION:** Casing pipe shall be installed in accordance with the construction plans. Casing pipe which is to be installed by open cut procedures shall be in accordance with the plans and Specification Section 02226 "Trench Excavation and Fill".
4. **INSTALLATION:** All sections of the steel casing shall be completely welded *together. No openings in the connection between sections of pipe will be permitted. Molded rubber end seals shall be sized to securely attach to the exterior of casing and carrier pipe to prevent water, dirt and debris from entering the annular space between the installed pipe. Install in accordance with the manufacturer's written instructions and as shown in the plans and details. The casing pipe specified is the minimum size allowed.*
5. **CASING SPACERS:** *Casing spacers shall be used to install carrier pipe inside the encasement pipe. Casing spacers shall be sized to securely fasten on to the carrier pipe barrel O.D. and shall be furnished with a minimum runner height to prevent the pipe from resting or sliding on its bell during and after installation. Positioning of spacers shall ensure that the carrier pipe is adequately supported throughout its length to provide support around the periphery of the pipe should the pipe twist as it is pushed through the casing. The spacers shall be of a projection type that has a minimum number of projections (runners) around the circumference totaling the number of diameter inches. For example, 8" pipe shall have a minimum of 8 projections and 18" pipe shall have a minimum of 18 projections.*

Casing spacers shall use double backed tape to fasten tightly onto the carrier pipe so that the spacers do not move during the installation. Written installation instructions shall be provided with each shipment. Casing spacers shall have a maximum span of 10 feet dependent on the total load anticipated with the pipe full of liquid. *Spacers at each end shall not be further than 12-inches from the end*

of the casing regardless of the size of casing and carrier or type of spacer used. The maximum load shall not exceed the load limits per spacer listed by manufacturer. ***A minimum of three (3) casing spacers per pipe is required for each joint.*** Spacer runners shall have minimum height that clears the pipe bell or as otherwise indicated on plans.

All casing spacer hardware including screws, bolts, nuts, etc. shall be stainless steel. Casing spacers shall be projection type totally non-metallic spacers constructed of performed sections of high-density polyethylene. Spacers shall be ISO 9002 certified for strength and quality. Projection type spacers shall be RACI type spacers by Raci Spacers North America Inc. or approved equal.

6. **MEASUREMENT AND PAYMENT:** Steel pipe for casings and casing spacers shall be measured and paid for as outlined in Section 00105 – Proposal. No additional payment will be allowed for a larger diameter or thicker wall casing pipe than specified.

SECTION 02649

PVC PRESSURE PIPE - WATERLINE

1. **GENERAL:** This specification covers the requirements for Rigid Polyvinyl Chloride (PVC) Pressure Pipe, through twelve inch (12") diameter, for use in the water supply and distribution system. All pipe, fittings, gaskets, lubricants, and solvent materials shall be approved for use in potable water systems by the National Sanitation Foundation (NSF), Standard 61. The manufacturer shall submit the NSF certification with the submittal data. All pipes shall be suitable for use as a pressure conduit for potable water.
2. **MATERIALS:** Four inch (4") through twelve inch (12") PVC pipe shall meet the requirements of the latest revision of ASTM D2241 and shall be furnished in cast-iron pipe equivalent outside diameters with synthetic rubber gasket joints as listed in above referenced standard.
3. **PIPE:** All pipes shall be suitable for use as a pressure conduit for potable water. Pipe shall have an integral bell with synthetic rubber gasket which are locked in place and spigot joints. Four inch (4") and larger pipe shall meet the requirements of Uni-Bell Standard Uni-B-1.
 - A. **Pressure Class:** All pipes shall be minimum Class 160, with a SDR of 26, unless otherwise specified on the plans. (DR or SDR designates the ratio of the outside diameter to the wall thickness.)
 - B. **Couplings:** The pipe shall be joined using integral bell and spigot couplings. The bell shall consist of an integral wall section with a synthetic rubber gasket ring that meets the requirements of the latest revision of ASTM D3139, "Joints for Plastic Pressure Pipes Using Flexible Elastometric Seals". The bell section shall be designed to be at least as strong as the pipe wall. Natural rubber rings will not be acceptable.
 - C. **Joint Length:** Pipe shall have a standard laying length of twenty (20) feet, \pm one (1) inch, for all sizes. At least ninety (90) percent of the total footage of pipe of any class and size shall be furnished in standard lengths. The remaining ten (10) percent may be furnished in random lengths. Random lengths will not be less than ten (10) feet long.
4. **PRESSURE TESTING:** Each standard and random length of pipe shall be tested to four (4) times the pressure class of the pipe for a minimum of five (5) seconds. The integral bell shall be tested with the pipe.
5. **DELIVERY:** Each load of pipe delivered to the job site will be checked by the inspector to assure that it meets specifications. When a load of pipe is found to have inadequate wall thickness or tolerances greater than specified, randomly selected

samples of the pipe shall be immediately forwarded to an approved testing laboratory with instructions to check the pipe for conformance with applicable product standards, ASTM specifications, and other specifications for the specific contract. When the testing laboratory reports concur that the pipe does not meet the specifications, it is to be understood that all of the defective pipe delivered to the site will be immediately removed and replaced by the contractor at no additional cost to the owner.

6. **INSTALLATION:** PVC pipe shall be installed in accordance with the requirements of Section 02635, "Pressure Water Pipe Installation", and with the Uni-Bell Plastic Pipe Association guide for installation of PVC pressure pipe for municipal water distribution systems.

7. **FITTINGS:** Fittings shall be ductile iron fittings complying with the requirements of Section 02642, "Ductile Iron Pipe and Fittings". All ductile iron fittings for waterlines shall be cement mortar lined on the inside in accordance with AWWA C104.

8. **MEASUREMENT AND PAYMENT:** The installation of the PVC Pressure Pipe – Waterline shall be linear feet horizontally as shown on the plans. Payment shall be included in the unit price bid item PVC Pressure Pipe – Waterline submitted in Section 00105. "Proposal".

SECTION 02652

FIRE HYDRANT ASSEMBLIES

1. **GENERAL:** All fire hydrant assemblies shall conform to the requirements of AWWA Standard C-502, latest revision, and shall meet all the requirements of the National Board of Fire Underwriters. Also they shall meet the requirements for connection sizes and locations.
2. **FIRE HYDRANTS:** Fire hydrants shall have two (2) - two and one-half inch (2-1/2") hose connections and one (1) - four and one-half inch (4-1/2") pumper connection. All openings shall have National Standard Threads. Hydrants shall have a minimum five and one-quarter inch (5 1/4") main valve opening and a minimum seven inch (7") inside barrel diameter. All hydrants shall be furnished with a break-away safety flange. Hydrants shall have a compression seated main valve that closes with the water pressure. Fire hydrants shall be Clow "Medallion".
3. **CONNECTION TO MAIN:** Each hydrant shall be connected to the main with a six inch (6") branch controlled by an independent six inch (6") gate valve. The fire hydrant assembly shall include the hydrant, gate valve, valve box, and connecting piping, fittings, and blocking. Piping shall comply with the requirements in Section 02649, "PVC Pressure Pipe".
4. **GENERAL LOCATION:** Fire hydrants shall be located in such a manner as to provide complete accessibility, and also in such a manner that the possibility of damage from vehicles or of injury to pedestrians will be minimized. In no case will it be permissible to make an excessively long run with the branch to place the minimum number of fire hydrants in a given area to comply with the Fire Underwriters requirements as to locations.
5. **LOCATION WITH REFERENCE TO CURB LINES:** When placed behind curb, the fire hydrant barrel shall be set so that no portion of the pumper or hose nozzle cap will be less than six inches (6") nor more than twelve inches (12") from the face of the curb, or less than twenty feet (20') from the curb line intersection of any street. If set between streets the hydrant shall be placed in the manner designated by the Engineer.
6. **LOCATION WITH REFERENCE TO SIDEWALK:** When set in the lawn space between the curb and the sidewalk or between the sidewalk and the property line, no portion of the hydrant or nozzle cap shall be within six inches (6") of the sidewalk.
7. **POSITION OF NOZZLES:** All hydrants shall stand plumb and shall have their nozzles parallel with or at right angles to the curb, with the pumper nozzle pointing normal to the curb. They shall conform to the established grade, with nozzles at least twenty inches (20") above the ground.

8. DRAINAGE OF HYDRANT: Where hydrants are set in impervious soil a drainage pit two feet (2') in diameter and two feet (2') in depth shall be excavated below each hydrant and filled compactly with coarse gravel or broken stone mixed with coarse sand, under and around the bowl of the hydrant and to a level six inches (6") above the waste opening. No hydrant drainage pit shall be connected to a sewer.

9. WASHING AND STERILIZING FITTINGS: Valves, hydrants and fittings shall be stored on timbers and kept clean. Where soil or other substance has come in contact with the water surfaces of the fittings, the interior shall be washed and sterilized with an approved sterilizing agent.

10. MEASUREMENT AND PAYMENT: Measurement and payment for fire hydrant assemblies shall be in accordance with the unit price submitted in Section 00105, "Proposal".

SECTION 02653

RESILIENT SEATED GATE VALVES

1. **GENERAL:** *This specification covers all valves, valve operators, valve boxes, fittings, and thrust blocking required for this job.*

2. **GATE VALVES AND OPERATORS:** *Shall be wedge resilient seated, non-rising stem, o-ring valves complying with AWWA Standard C-509, latest revision. The valves shall have NSF, Standard 61, and approval for potable water systems. Buried valves shall be loose wrapped in two (2) layers of eight (8) mil thick black polyethylene before backfill is placed. (Clow Model No. F6100)*
 - A. **Applications:** *Valves used in underground service shall have mechanical joint connections and operators that terminate in a standard square operating nut. Valves used in above ground service shall have flanged joint connections and be furnished with a standard handwheel.*

 - B. **Operation:** *Gate valves shall be opened by turning counter-clockwise.*

 - C. **Materials:** *Gate valves shall be epoxy coated inside and outside. Valves containing asbestos materials or natural rubber gaskets will not be allowed.*

3. **VALVE ACCESSORIES AND DETAILS:** *An adjustable cast iron valve box and cover shall be set over each buried valve, complete with cover marked "Water" and similar to Tyler Pipe Catalogue No. 6850 and 6860 screw type series.*
 - A. **Drawings of Valves:** *Before shipping, the Supplier shall submit detailed drawings, specifications, and installation and maintenance instructions for the approval of the Engineer.*

 - B. **Valve Joints and Bolts:** *All valves shall be either mechanical joint or flanged, as detailed on the plans. All flanged valve bolts shall be either galvanized or stainless steel. Mechanical Joint valves shall have standard ductile iron "T" bolts, and shall be furnished with the restrained mechanical joint rings. All flanged joints shall be made using full face synthetic rubber gaskets. Natural red rubber gaskets and gaskets containing asbestos materials will not be allowed for either flanged or mechanical joint connections.*

4. **MEASUREMENT AND PAYMENT:** *Gate valves installed shall be measured separately. Gate Valves installed shall be paid for as specified in the proposal.*

SECTION 02655

CHECK VALVES – OUTSIDE LEVER AND WEIGHT

PART 1 - GENERAL

1.1 Scope

A. This specification shall govern all work necessary to furnish, install and place into satisfactory operation the swing check valves required for the wastewater pump stations.

1.2 Submittals

A. Submit five (5) sets of detailed drawings, specifications, installation instructions and maintenance instructions.

B. Refer to section 01300 "Submittals" for other requirements.

1.3 Measurement and Payment

A. If no item for "Check Valves – Outside Lever and Weight" is provided for in Section 00105, "Proposal", no separate measurement and payment will be made for this work, and the work shall be considered subsidiary to the appropriate bid item.

PART 2 - PRODUCTS

2.1 Valve Design

A. The check valves shall be in accordance with AWWA C508 and prevent the return of fluid through the valve upon pump shut-off. It shall have a heavy cast iron body with bronze clapper disc seated by a bronze clapper arm against a bronze seat ring. The clapper shall be secured to a stainless steel shaft, which turns in bronze bushings. The valve shall have 125 lb. flanged ends. The valve shall be furnished with outside lever and weight.

B. The valve shall allow removal and replacement of the internal working parts without removing the valve from the line.

2.2 Manufacturer

A. The valve shall be Clow Figure No. F-5382 Style 106 LW, or approved equal.

PART 3 - EXECUTION

3.1 Installation

- A. *Install all valves in accordance with the manufacturer's recommendations.*

3.2 Painting

- A. *Check valves (outside lever and weight) shall be painted with a three (3) coat coal tar epoxy system, having a minimum total thickness of 8.5 mils. Proposed paint systems shall be submitted to Engineer for approval.*

3.3 Field Service

- A. *The manufacturer's field representative shall check the installation, adjust valves and assist with initial start-up of the system.*

*** END OF SECTION ***

Section 02663

UTILITY LINE MARKING TAPE

1. **GENERAL:** Detectable underground marking tape shall be provided the length of the pipeline.
2. **TAPE:** Detectable underground marking tape meeting OSHA regulation 1926.956 (c)(1), shall be installed over ALL utility lines. The detectable marking zone tape shall bear the printed identification of the Utility Line below it, such as "CAUTION - BURIED WATER LINE BELOW". Tape shall be Permanently Printed. Surface Printing will not be acceptable. The tape shall be constructed of material, which will provide maximum color contrast and visibility in all types and colors of soil. The tape shall meet APWA color code. The tape shall be lineguard III underground detectable tape or approved equal.
3. **INSTALLATION:** The detectable marking tape shall be buried 18" inches. After placement of the pipe, the tape shall be placed in the backfill and allowed to settle in place with the backfill. Tape may be installed by any other method approved by the Engineer.
4. **PAYMENT:** The detectable underground marking tape will not measured or paid for separately, but its cost shall be included in the unit cost of the pipeline.

SECTION 02670

HYDROSTATIC TEST OF WASTEWATER FORCE MAINS

PART 1 - GENERAL

1.1 Scope

This section of the Specifications covers the requirements for the hydrostatic test of wastewater force mains.

1.2 Related Work

Refer to the following sections of these specifications for related work:

- A. Section 02740, "PVC Pressure Pipe for Sanitary Sewer Force Main"*

1.3 Guarantee

- A. The pipe Contractor shall guarantee the pipeline against leaks and breaks due to defective materials or workmanship, for a period of one (1) year from the date of completion of the contract. Damage or leaks due to the acts of God or from sabotage and/or vandalism occurring after the pipeline has been accepted and placed in operation are specifically excepted from this guarantee.*
- B. When defective material and workmanship are discovered requiring repairs to be made under this guarantee, all such repair work shall be done by the Contractor at his own expense within five (5) days after written notice of any leaks has been given him by the Owner. Should the Contractor fail to repair such leaks within five (5) days thereafter, the Owner may make the necessary repairs and charge the Contractor with the actual cost of all labor and material required. In emergencies demanding immediate attention, the Owner shall have the right to repair the same and charge the Contractor with the actual cost of all labor and materials required.*

1.4 Measurement and Payment

If no item for "Hydrostatic Test of Wastewater Force Mains" is provided for in Section 00105, "Proposal," no separate measurement and payment will be made for this work, and the work shall be considered subsidiary to the project.

PART 2 - PRODUCTS

2.1 Water for Testing

- A. The Contractor may draw water from a fire hydrant with the approval of the owner and making sure that no cross-connection occurs.*

- B. The water will be supplied at a rate which will allow the Owner to adequately furnished water service to the remainder of its distribution system, at the nearest convenient connection approved by the Engineer.**
- C. Water for one testing, one flushing and one filling or a volume equal to three times the volume of the pipeline shall be furnished by the Owner at a nearby connection. If additional water is required because of breaks, leaks, etc. the contractor shall purchase the water from the Owner at current water rates.**

2.2 Testing Apparatus

The testing apparatus shall consist of a low volume, high head pump, a pressure gauge with a minimum diameter of 4" and 5 pound numbered marking and individual markings at each 1 pound, a water meter capable of registering at least 0.1 gallons of water, and an in-line check valve, located between the pump and the shut-off valve. The Engineer shall inspect the testing apparatus prior to its connection to the wastewater system.

PART 3 - EXECUTION

3.1 Preparation

After each section of pipe has been installed, it shall be blind flanged or capped. The Contractor shall install a minimum of one (1) tap on each end of the section of pipe. The taps shall be sized adequately to fill and/or flush the line in a timely manner. Each tap shall be fitted with a shut off valve. In addition, the Contractor shall install any taps necessary to evacuate entrapped air from the line. At the line fill connection, the Contractor shall provide a pressure gauge above the ground between the shut-off valve and the waterline. The piping shall be installed to insure that no cross connection exists. The Contractor shall be responsible for furnishing all fittings, pipe, meter, etc., to connect from the water source to the water meter, and then to the force main.

3.2 Filling the Line

Once the testing apparatus has been approved by the Engineer, the contractor may fill the line. The line pressure shall be brought up to test value (100 psi) slowly over a period of twenty-four (24) hours before detailed testing begins. The Engineer shall be notified before filling any section of the pipe.

3.3 Expelling Air

Before applying the specified test pressure, all air shall be expelled from the pipe. If additional taps are necessary to expel this air, they shall be made at appropriate points and tightly plugged after the test is completed. All exposed pipes, fittings, valves, and joints will be examined carefully during the test. All joints showing visible leaks shall be made tight, or shall be cut out and replaced, at the Contractor's expense, as directed by the Engineer. Any cracked or defective pipe fittings, or valves discovered in consequence of this pressure test, shall be removed and replaced by the Contractor with sound material and the test shall be repeated until

satisfactory to the Engineer.

3.4 Test Pressure

The test pressure shall be one hundred and twenty five pounds per square inch (125 psi).

3.5 Duration of Test

The pipeline shall be held at the test pressure for a minimum of eight (8) hours during which time the leakage determination shall be made.

3.6 Leakage

Suitable means shall be provided by the Contractor for determining the quantity of water lost by leakage under test pressure. No pipe installation will be accepted until, or unless, this leakage is less than the value indicated by the following equation:

$$L = \frac{(N) (D) (P)^{0.5}}{7400}$$

where, L = maximum allowable leakage, in gallons/hour
 N = number of joints in tested length
 D = nominal diameter of pipeline, in inches
 P = mean test pressure, in psi

Should any test of combined sections of pipe installed disclose leakage greater than the specified limit, the Contractor shall at his own expense, locate and repair the defective joints until the leakage is within the specified allowance. Repairs and test shall be repeated until the line shows no defects and is accepted by the Engineer. Some pipe materials will absorb appreciable quantities of water after first being put under pressure, and this volume will show as "leakage" until the absorption capacity of the pipe material is satisfied.

*** END OF SECTION ***

SECTION 02672

HYDROSTATIC TEST OF WATER LINE

1. **SCOPE:** This item covers the requirements for the hydrostatic test of the water lines.

2. **MAKING TEST:** The Contractor shall install the new pipelines and install temporary caps or plugs on each pipe end and temporarily block the ends of the new piping. Testing against a new valve or any existing valve will not be allowed. The test shall only be conducted against caps or plugs. After the pipe has been laid, all newly laid pipe, or any section of it, shall be filled and subjected to hydrostatic test pressure as specified below. The line pressure shall be brought up to the stabilization pressure shown below and held for a period of twenty-four (24) hours. The Engineer shall be notified before filling any section of the pipe. A pressure gage with a minimum diameter of 4" and 5 pound numbered marking and individual markings at each 1 pound shall be furnished by the Contractor. The Contractor shall also furnish a pressure pump with drive and a meter which will measure 0.10 gallon to perform the hydrostatic test.

Before applying the specified test pressure, all air shall be expelled from the pipe. If additional taps are necessary to expel this air, they shall be made at appropriate points and tightly plugged after the test is completed. All exposed pipes, fittings, valves, and joints will be examined carefully during the test. All joints showing visible leaks, drips, seeps, etc. shall be made tight, or shall be cut out and replaced, at the Contractor's expense, as directed by the Engineer. Any cracked or defective pipe, fittings, or valves discovered in consequence of this pressure test, shall be removed and replaced by the Contractor with sound material and the test shall be repeated until satisfactory to the Engineer.

PRESSURE TEST TABLE		
PIPE MATERIAL & CLASS	STABILIZATION LINE PRESSURE TO HOLD FOR 24 HOURS (POUNDS PER SQUARE INCH)	8 HOUR TEST PRESSURE
<i>All Ductile Iron</i>	100	140
<i>All PVC</i>	100	140

3. **DURATION OF TEST:** The pressure shall be raised to the test pressure shown above and held for two hours. The test shall then be begun. The pipeline shall be held at that pressure for a minimum of eight (8) hours during which time

the leakage determination shall be made.

4. LEAKAGE: *A meter capable of measuring to 0.10 gallons shall be provided by the Contractor for determining the quantity of water lost by leakage under test pressure.*

4.1. PVC OR DUCTILE IRON PIPE: *No PVC or D.I. pipe installation will be accepted until, or unless, the leakage is less than the value indicated by the following formula:*

$$L = \frac{NxDx(P)^{(1/2)}}{7400}$$

where: L = max. allowable leakage, in gallons/hour

N = number of joints in tested length

D = nominal diameter of pipeline, in inches

P = mean test pressure, in pounds/sq. inch

For example, the value of L for one mile of 24" nominal diameter pipeline with joints every 32 feet and a mean test pressure of 120 psi would be 5.9 gallons per hour. This is equivalent to a leakage rate of 5.9 gallons per day per mile per inch of nominal diameter.

4.2. REPAIRS: *Should any test of combined sections of pipe laid disclose leakage greater than the specified limit, the Contractor shall at his own expense, locate and repair the defective joints until the leakage is within the specified allowance. Repairs and test shall be repeated until the line shows no defects and is accepted by the Engineer. Some pipe materials will absorb appreciable quantities of water after first being put under pressure, and this volume will show as 'leakage' until the absorption capacity of the pipe material is satisfied.*

Any visible leaks, seeps, drips, etc., shall be repaired even though the pressure test may be successful.

5. WATER FOR TESTING: *The Owner shall furnish water for one test and one flushing. Additional water for testing, flushing and filing may be purchased from City of Aransas Pass. The Contractor shall provide all necessary piping, valves, etc., for the testing. The Contractor shall provide an air gap between the City's water lines and the pipe being tested.*

6. GUARANTEE: *The pipe Contractor shall guarantee the pipeline against leaks and breaks due to defective materials or workmanship, for a period of one (1) year from the date of completion of the contract. Damage or leaks due to the acts of God or from sabotage and/or vandalism occurring after the pipeline has been accepted and placed in operation are specifically not a part of this guarantee.*

When defective material and workmanship are discovered requiring repairs to be

made under this guarantee, all such repair work shall be done by the Contractor at his own expense within five (5) days after written notice of any leaks has been given him by the Owner. Should the Contractor fail to repair such leaks within five (5) days thereafter, the Owner may make the necessary repairs and charge the Contractor with the actual cost of all labor and material required. In emergencies demanding immediate attention, the Owner shall have the right to repair the same and charge the Contractor with the actual cost of all labor and materials required.

7. MEASUREMENT AND PAYMENT: *Testing will not be measured or paid for as a separate item, but shall be included in the linear foot unit price of the pipe as outlined in Section 105 – Proposal.*

SECTION 02674

STERILIZING THE WATERLINE

1. **SCOPE:** *This specification covers the sterilization of the waterline piping before it is placed into service. The new piping consists of piping, valves and appurtenances. The connections to the existing system cannot be made until the new piping has been successfully pressure and bacteriological tested.*

2. **PROCESS:** *The Contractor shall disinfect all piping by use of calcium hypochlorite or other approved sterilizing agent. The contractor shall make a mixture of water and calcium hypochlorite having a minimum residual of 50 mg/l free chlorine. All piping, valves, and appurtenances shall be cleaned using drinking water. After the entire interior of each item is clean, the 50 mg/l chlorine water mixture shall be applied to all interior components.*

In addition, one-half (1/2) pound of calcium hypochlorite shall be placed inside each 8" or smaller pipe connection; and one (1) pound of calcium hypochlorite shall be placed inside each 10" and larger pipe connection.

All new waterline pipe be bacteriological tested. Two sets of samples, taken twenty-four (24) hours apart are required for each line. All of the samples must pass the bacteriological test and be approved for drinking water. If the samples do not pass as approved, the lines shall be flushed of all water and disinfected again and bacteriological tests repeated until all tests are successful.

3. **MEASUREMENT AND PAYMENT:** *Sterilization of the piping will not be measured separately and shall be included in the cost of the linear foot unit price of the pipe and connection line items as outlined in Section 105 - Proposal.*

SECTION 02675

CONNECTIONS TO EXISTING WATER SYSTEM

1. **GENERAL:** All of the new water lines shall be installed as shown on the plans and temporarily terminated at a location near the connection - within a distance of approximately ten feet (10'). The new lines must successfully pass the disinfection and pressure tests. After the lines have passed the testing requirements and the chlorine residual has been reduced to below 5 mg/l, the Contractor shall meet with the Owner, County of Nueces, and Engineer to plan the installation of the connections. The City of Corpus Christi must supply drinking water to its customers, and the existing pipelines can only be removed from service for very short periods of time. The water users served by the water system that will be affected by loss of water during the connections shall be notified of each loss of water service before a connection will be allowed to start. The maximum time allowed for any connection shall be seven (7) hours.

1.1. All work performed in making the connections must be done to protect the drinking water system. The inside of new piping, fittings, valves, etc. must be clean and no foreign objects are allowed inside the new or existing piping. Additional amounts of chlorine must be added as the new water piping is being installed. The insides of the new treated water piping, fittings and valves must be wiped with a mixture of chlorine and water before the connection is completed.

1.2 Only the City of Corpus Christi shall operate the existing valves. The Contractor will need to provide manpower to help open and close the valves as directed by the City. Some of the valves are many years old, and the valves may not completely stop the water flow. The Contractor shall have sufficient pumping capacity on the connection site to handle any water flow through the leaking valves plus any ground water. It is expected that the connections will be begun during the early morning hours to allow dewatering of existing water lines. The actual connection shall be started at 12:00 midnight and must be completed by 7:00 A.M. the same day.

1.3 Once a connection has begun there will be no stopping of work until the connection has been completed and the valves, that were closed to perform the connection, have been opened and the water system is placed into service. There will be no work stopping for breaks, eating, smoking, resting, etc. The Contractor shall schedule a meeting with the City of Corpus Christi representative and Engineer to plan and discuss the requirements of each connection at least 48 hours prior to the time of starting a connection. Service connection owners who will have their water service temporarily stopped must be notified that their water is to be temporarily out of service during the connection work.

1.4 Before any connection to the existing piping is begun, the Contractor shall excavate the existing piping to determine the outside diameter of the pipe and the type of pipe material. This information shall be used to determine the correct gaskets required in order to properly connect to the existing pipe. All required items (including pipe, fittings, cutters, wrenches, backhoe, lifting equipment, connection pieces, bolts, nuts, gaskets, etc.) necessary for completing the connection installation will be at the location of connection and checked by the Owner's and City of Corpus Christi Representative's prior to beginning any work. The Contractor shall have a minimum of two (2) pumps for dewatering existing pipe lines and for ground water on the project site and ready for pumping prior to starting a connection. The Contractor shall have back-up pumps on the site ready for operation should a pump fail. The Contractor shall also have a back-up for all wrenches, saws, bolts, gaskets, cutters, etc. before a connection will be allowed to start. The Contractor shall provide gravel, crushed stone, or a similar material for each connection in order to provide a firm work area. If possible the Contractor shall take measurements and cut pipe sections prior to starting the connections.

1.5 Each connection shall be excavated prior to beginning the connections to show all of the existing piping that will require connections. The Contractor shall furnish all construction warning signs, barricades, lighting, and safety features necessary to protect the piping and the public. All signs shall comply with the latest requirements of the Texas Department of Transportation.

- 2. PIPE REMOVAL: All removal work, transportation, filing of correct paperwork and disposal of the A-C pipe shall comply with all Local, State, and Federal regulations and requirements.**

2.1 When the connection is made to the existing AC pipe, the Contractor shall remove only the sections of A-C pipe necessary to complete the connection. Cutting of the A-C pipe or allowing asbestos fibers to become loose will not be allowed. The pipe shall be removed by breaking the A-C coupling at the end of the pipe joint. The Contractor shall remove the complete pipe couplings as well as the pipe joints as necessary to complete the connection. All parts of the A-C pipe and couplings shall be encapsulated within two eight (8) mil thick polyethylene sleeves. The ends of the sleeves shall be taped closed for the sleeves to completely enclose the A-C pipe. Any loose fibers of the A-C pipe shall be collected and placed in the polyethylene sleeves using protective gloves and other materials to properly protect the workers from coming into contact with asbestos fibers. Any damage to the polyethylene shall be repaired using polyethylene and tape to keep the A-C pipe completely enclosed.

2.2 The pipe shall be transported to a landfill approved to dispose of asbestos materials. The landfill operator shall be informed that the

material is asbestos cement. The Contractor shall obtain the proper paperwork from the landfill operator, provide the required information, and pay fees required for disposal in the landfill. The paperwork for proper disposal of the asbestos cement pipe shall be submitted to the Engineer.

2.3 The new fittings and bends installed with the new piping shall have concrete thrust blocking installed. The concrete blocking for the bends and fittings shall be constructed with 25 square feet of soil bearing area.

2.4 The abandoned A-C pipe shall be left in place, and the ends shall be sealed with a minimum of twelve inches (12") thick concrete for a plug.

- 3. MEASUREMENT AND PAYMENT: The pipe connections will be measured and paid for as outlined in Section 105 - Proposal. The removal of AC pipe will not be paid separately, but the cost will be included in the connection costs.*

Section 02720

**VACUUM TESTING OF SANITARY SEWER
MANHOLE AND STRUCTURES**

1. DESCRIPTION

This specification governs all work and materials necessary to perform vacuum testing of new or existing sanitary sewer manholes. Manholes may be tested after installation with all connections (existing and/or proposed) in place. Vacuum testing may be performed prior to or after backfilling by the installer. Final acceptance in accordance with the requirements of this specification will consist of vacuum testing of the completed and installed structure (manhole) in place to include manhole/adjustment rings and manhole casting.

2. MATERIALS

Vacuum testing shall consist of a minimum of the following:

- (a) Engine
- (b) Vacuum Pump
- (c) Hose
- (d) Test Head device capable of sealing opening in manhole casting as required.
- (e) Pneumatic test plugs - these plugs shall have a sealing length equal to or greater than the diameter of the connecting pipe to be sealed.

3. PROCEDURE

- (a) The test head shall be placed at the top of the manhole in accordance with the manufacturer's recommendations.
- (b) A vacuum of 10 in. of mercury shall be drawn on the manhole, the valve on the vacuum line of the test head closed, and the vacuum pump shut off. The time shall be measured for the vacuum to drop to 9 in. of mercury.
- (c) The manhole shall pass if the time for the vacuum reading to drop from 10 in. of mercury to 9 in. of mercury meets or exceeds the values indicated in Table 1.
- (d) If the manhole fails the initial test, necessary repairs shall be made by an approved method. The manhole shall then be retested until a satisfactory test is obtained.

TABLE 1 Minimum Test Times for Various Manhole Diameters (ASTM C1244)

Depth (Ft)	Diameter, in.				
	42	48	54	60	72
Time, s					
8	17	20	23	26	33
10	21	25	29	33	41
12	25	30	35	39	49
14	30	35	41	46	57
16	34	40	46	52	67
18	38	45	52	59	73
20	42	50	53	65	81
22	46	55	64	72	89
24	51	59	64	78	97
26	55	64	75	85	105
28	59	69	81	91	113
30	68	74	87	98	121

4. TESTING AND CERTIFICATION

- (a) Testing shall be done by the Contractor and witnessed by the Engineer or his representative. All manholes and structures shall be tested as finished and completed for final acceptance.
- (b) ANY DEFECTIVE WORK OR MATERIALS shall be corrected or replaced by the Contractor and retested. This shall be repeated until all work and materials are acceptable.

5. MEASUREMENT AND PAYMENT

No direct payment will be made to the Contractor for work, equipment, labor, materials, etc. required in providing vacuum testing for manholes. Such items shall be considered subsidiary to pay items applicable for Standard Sanitary Sewer Manholes and Structures complete and in place.

SECTION 02722

GRAVITY SANITARY SEWERS

PART 1 - GENERAL

1.1 Scope

- A. These specifications cover the requirements for labor, equipment, and material necessary to furnish materials, excavate, lay or place, shore, dewater, backfill, and perform other operations necessary for the installation of all gravity sanitary sewers of the various dimensions.
- B. The material to be installed shall be unplasticized polyvinyl chloride (PVC) gravity sewer pipe and fittings for use in the conveyance of municipal wastewater and sludge.
- C. The Contractor shall take all necessary precautionary measures to insure the proper protection and repair of all existing water, sewer and gas pipes, and telephone and electric conduits, etc., the removal of all trees, roots, and anything which may be encountered in making the excavations to the lines and grades shown on the drawings and as staked by the Engineer.
- D. However, the Contractor shall locate and protect all underground utilities, including notification of all pipeline and cable owners and "one call" numbers.
- E. Where any information pertaining to the character of the subsurface formations to be encountered in the excavation work is needed by the Contractor, he shall make borings at his own expense, and it is expressly understood that the Owner does not assume any responsibility for any subsurface formations to be encountered along the trenching or other excavations.

1.2 Related Work

Refer to the following sections of these specifications for related work:

- A. Section 02226, "Trench Excavation and Backfill".
- B. Section 02229, "Trench Safety for Excavations".
- C. Section 02260, "Site Grading"
- D. Section 02738, "Fiberglass Manholes"

1.3 Applicable Standards

The latest revision of the following ASTM standard specifications form a part of these specifications for determining the material and installation requirements of gravity sanitary sewers:

C 828 "Practice for Low-Pressure Air Test of Vitrified Clay Pipe Lines"

D 1785 "Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedule 40, 80, 120"

D 2321 "Standard Practice for Underground Installation of thermoplastic Pipe for Sewers and Other Gravity-Flow Applications"

D 2665 "Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings"

D 3034 "Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings"

D 3212 "Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals"

F 477 "Elastomeric Seals (Gaskets) for Joining Plastic Pipe"

F 679 "Standard Specifications for Poly(Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings"

F 789 "Standard Specifications for Type PS-46 Poly(Vinyl Chloride) (PVC) Plastic Gravity Flow sewer Pipe and Fittings"

1.4 Submittals

A. Shop Drawings:

1. Submit detailed submittal data including installation details, bill of materials, and instructions for installation for all gravity sanitary sewer and accessories.
2. Refer to Section 01300, "Submittals" for other requirements.

1.5 Guarantee

- A. The Contractor shall guarantee the pipe line against leaks and breaks due to defective materials or workmanship for a period of one (1) year from the date of completion and acceptance by the Owner. Damage or leaks due to acts of God or from sabotage and/or vandalism occurring after the pipe line

has been accepted and placed in operation are specifically excepted from this guarantee.

- B. When defective material and/or workmanship are discovered, requiring repairs to be made under this guarantee, all such repair work shall be completed by the Contractor at the Contractor's expense within five (5) days after written notice of the required work by the Owner. Should the Contractor fail to perform the required work under the guarantee conditions, the Owner may make the necessary repairs and charge the Contractor with the actual cost of labor and material required. In emergencies demanding immediate attention, the Owner shall have the right to repair the same and charge the Contractor with the actual cost of all labor and material required.
- C. The Contractor will be responsible for damages caused by, and the replacement of failed, unspecified, or unapproved materials.

1.6 Measurement and Payment

Measurement and Payment for "Gravity Sanitary Sewers" shall be in accordance with Section 00105, "Proposal".

PART 2 - PRODUCTS

2.1 Pipe

- A. Pipes 6" and larger diameter shall be unplasticized polyvinyl chloride (PVC) plastic gravity sewer pipe made from clean, virgin, approved PVC compound.
- B. Any pipe designated as sewer main shall be PVC conforming to ASTM Specification D 3034, having an SDR rating of 26 minimum. When SDR other than 26 is required, it shall be indicated on the drawings. It shall be a product manufactured and sold specifically for municipal sanitary sewer service.
- C. Service line and lines smaller than 4" shall be Schedule 40 PVC conforming to ASTM Specification D 2665. It shall be a product manufactured and sold specifically for use as a Drain, Waste, or Vent (DWV) pipe.
- D. The ratio of outside diameter to pipe wall thickness for sewer main pipe shall not be less than required under ASTM D 3034, ASTM F 679, or ASTM F 789. The ratio of outside diameter to pipe wall thickness for service lines shall not be less than required under ASTM D 1785 and ASTM D 2665 for schedule 40 PVC.
- E. Joints for PVC pipe and fittings shall be compression rubber gasket joints conforming to the material and performance requirements of ASTM D 3212

and ASTM F 477. Pipe bells shall be integral with the wall sections. Joints shall be sealed with rubber rings.

2.2 Fittings and Accessories

- A. Standard fittings and accessories required shall be manufactured and furnished by the pipe supplier. They shall conform to the material and performance requirements of the pipe, and shall have joint configurations identical to that of the pipe.
- B. Couplings used for service re-connections shall be as follows:
 - 1. Coupling shall be capable of adapting from a main line PVC WYE to a Schedule 40 PVC Service Line as shown on the drawing at the end of this section. Couplings shall conform to ASTM Specification D 2665. It shall be a product manufactured and sold specifically for use with Drain, Waste, or Vent (DWV) pipe.
 - 2. Coupling shall be capable of adapting from a 4" Schedule 40 PVC Service Line to a 4" Vitrified Clay Pipe.

PART 3 - EXECUTION

3.1 Flow Maintenance

It shall be the Contractor's responsibility to maintain the flow of sewage either through the existing sewer or drain to which the new sewer or drain will connect or by diversion pumping required by the Engineer. Cost of flow diversion shall be subsidiary to the construction of the gravity sanitary sewer.

3.2 Inspection and Storage of Materials

- A. Pipes and fittings shall be subject to inspection and rejection on account of any visible cracks, thin spots, evidences of shipping damage or other damage.
- B. All rejected pipe shall be removed from the job site and replaced by the Contractor with pipe which meets the requirement of the specifications.
- C. Sewer pipe and other materials delivered to the job site in advance of their use shall be stored in a manner satisfactory to the Engineer.
- D. If sewer pipe is placed along side the line of construction, it shall be done in such manner as to prevent any unnecessary inconvenience to the public or interfere with adjacent property, and after permission of the Engineer.

3.3 Alignment

- A. The Contractor shall verify locations of all existing piping in the vicinity of the alignment of the new sewers prior to finalizing the alignment.
- B. The Contractor shall bring to the attention of the Engineer of any conflict with existing piping not identified in the drawings.
- C. While installing the new sewers the Contractor shall conform with the requirements of the Texas Natural Resource Conservation Commission Rule 317.13. Appendix E - Separation Distances which is excerpted at the end of this Section of the Specifications for reference.

3.4 Excavation and Backfill

- A. Excavation and backfill shall conform to the requirements of Section 02226, "Trench Excavation and Backfill," and as further required herein and/or detailed on the drawings.
- B. The Contractor shall make such provisions for dewatering excavations as are necessary to complete the construction required in a safe and workmanlike manner, allowing for adequate protection of adjacent properties and inspection of the construction. The Contractor shall file with the Engineer his proposed method for dewatering.
- C. Trench safety measures shall comply with the requirements of Section 02229 - "Trench Safety", as further required by the Occupational Safety and Health Administration and the laws of the State of Texas.
- D. Trenches shall be kept free from water until the pipe has been satisfactorily laid.

3.5 Installation

- A. The construction of all sewer pipe lines shall begin at the lower or outlet end, or at the low point in the line. When construction involves the building of the main sewer pipe lines having one or more laterals or tributary lines, the construction of the laterals or tributary lines shall not be started until the main sewer has been complete to the point where the lateral or tributary line connects with the main sewer line.
- B. Sewer appurtenances shall be constructed as soon as the sewer which they serve is constructed to their locations. The postponing of the construction of appurtenances until the sewer line has been completed, or the construction of appurtenances in advance of the construction of the sewer line, will not be permitted. All connections to existing sewers shall be done in a manner acceptable to the Engineer.

- C. The Contractor shall immediately remove any surface or seepage water or water from the sewer pipe lines, drains, trenches, ditches, or other surfaces which may accumulate during the progress of the work by providing the necessary ditches, temporary drain lines or by pumping, bailing, or any other means to attain the desired relief. The Contractor shall have available at all times during the progress of the work, such pumps and other equipment as is necessary to do the work herein required. All equipment must be maintained in good working condition during the process of completing the work.
- D. The dead end of all sewers, wyes, tees, etc., shall be closed with approved stoppers cemented in place when shown on the drawings or required by the Engineer.
- E. Tight fitting stoppers or bulkheads shall be securely placed in or across the end of all sewer lines when construction is stopped temporarily, or at the end of a day's work. Such closures need not be water tight.
- F. Each pipe shall be laid to the line and grade given by the Engineer in such manner as to form a close concentric joint with the adjoining pipe and prevent sudden off-sets of the flow line. Joints shall be made in the manner specified by the manufacturer.
- G. The interior of the sewer shall, as the work progresses, be cleared of all dirt and superfluous materials of every description. On small pipe sewers, where cleaning after laying may be difficult, a swab or drag shall be kept in the pipe line and pulled forward past each joint immediately after its completion.
- H. TEE or WYE branches or junctions shall be installed at the places shown on plans or designated by the Engineer.
- I. Joints shall be made in accordance with the requirements of the pipe specifications. Where sewer line is within 10' of a City water system line, all sewer joints shall be of a pressure type equivalent to those used in water main construction. When crossing a water line, a 20' joint of pipe (150 psi minimum) shall be centered on the water line.

3.6 Inspection

- A. The completed sanitary sewer system shall be cleaned of all excess mortar, joint sealant, and other debris prior to inspection.
- B. The sewer line will be visually inspected by shining a light between manholes and/or by physical passage in accordance with the Engineer's instructions where space permits.

- C. Any misaligned, displaced, or broken pipe and any signs of infiltration discovered by these inspection methods shall be corrected by the Contractor.

3.7 Testing

In addition to visual inspection, the following tests shall be performed by the Contractor for the Owner or Owner's Representative, prior to acceptance of the sanitary sewer:

- A. Air Test: A low pressure air test shall be conducted on the gravity sewer line between two (2) consecutive manholes, according to ASTM C 828, and as modified below:
1. The test section of the sewer line shall be plugged at each end. One of the plugs used at the manhole must be tapped and equipped for an air inlet connection for filling the line from a portable air compressor.
 2. All plugs shall be properly braced against the internal pressure to prevent air leakage by slippage and blowouts.
 3. One end of an air hose shall be connected to the tapped plug selected for the air inlet, and the other end to a portable air control device arranged to control the air entry rate to the test section of the sewer and monitor the air pressure in the line. The air control device shall include a shut-off valve, a pressure regulating valve, a pressure reduction valve, and a monitoring pressure gauge having a pressure range of 0 - 15 psi and an accuracy of plus or minus 0.04 psi.
 4. Another air hose shall be connected between the air compressor and the air control device. The compressor shall be started to supply air to the test section slowly, filling the pipe until a pressure of approximately 4.0 psig plus 0.433 psig for each foot of groundwater level that is present above the invert of the pipe is achieved. The air pressure must be regulated to prevent the pressure inside the pipe from exceeding 15.0 psig.
 5. The pressure shall be allowed to stabilize to a pressure greater than the 3.5 psig starting pressure (adjusted above the groundwater pressure mentioned above) during a stabilization period of 5 minutes. If leakage is detected at any cap or plug, release the pressure in the test section and secure the leak, then start the test again by supplying air. When it is necessary to bleed off air to tighten or repair a faulty plug, a new 5 minute interval must be allowed for stabilization of pressure after the pipe has been refilled.

6. After the stabilization period, the air pressure shall be reduced to 3.5 psig plus adjustment for the ground water pressure at the invert of the sewer before starting the test. The air release valve shall be shutoff and timing with a stop watch shall be started. The time for the gage pressure to reach 2.5 psig above groundwater pressure adjustment shall be noted ending the timing exercise. The time required for the pressure to drop from 3.5 to 2.5 psig will be recorded in seconds.
7. If the time (in seconds) for the air pressure to drop 1.0 psig is greater than that calculated from the Equation given below, the pipe section tested shall have passed. On the contrary, if this time is less than the calculated time for the designated pipe size, the section of pipe tested shall not have passed.

Pipe Diameter (inches)	Min Time (seconds)	Length for Min Time (feet)	Time for Longer Lengths (seconds)
6	340	398	0.855 (L)
8	454	298	1.520 (L)
10	567	239	2.374 (L)
12	680	199	3.419 (L)
15	850	159	5.342 (L)
18	1020	133	7.693 (L)
21	1190	114	10.471 (L)
24	1360	100	13.676 (L)
27	1530	88	17.309 (L)
30	1700	80	21.369 (L)
33	1870	72	25.856 (L)

$$T = (0.085 \cdot D \cdot K) / Q$$

Where,

- T = Time for pressure to drop 1.0 pound per square inch gauge in seconds,
- K = $0.000419 \cdot D \cdot L$, or = 1.0, whichever is greater,
- D = Average inside diameter of pipe, in inches,
- L = Length of sewer line of same pipe size being tested, in feet
- Q = Rate of air loss

= 0.0015 cubic feet per minute per square foot internal surface area.

8. Should any section of line fail to pass the air test, the Contractor shall, at his own expense, locate and repair all defects and retest the pipe section until satisfactory results are obtained.
- B. Deflection Testing: The Contractor shall perform deflection tests on the completed gravity sanitary sewer system. The test shall be conducted after the final backfill has been in place at least 30 days. The Contractor shall notify the engineer a minimum of 48 hours before performing the required test. All material, labor and equipment required to complete the test must be provided by the Contractor. The test shall be performed as follows:
1. The test shall be accomplished using a mandrel having a diameter equal to 95 percent of the inside diameter of the pipe.
 2. The mandrel shall be pulled through the pipe without the use of a mechanical device.

*** END OF SECTION ***

Texas Natural Resource Conservation Commission

Design Criteria for Sewerage Systems

§317.13. *Appendix E - Separation Distances.* The following rules apply to separation distances between potable water and wastewater treatment plants, and waterlines and sanitary sewers.

- (a) Water line/new sewer line separation. When new sanitary sewers are installed, they shall be installed no closer to waterlines than nine feet in all directions. Sewers that parallel waterlines must be installed in separate trenches. Where the nine foot separation distance cannot be achieved, the following guidelines will apply:
- (1) Where a sanitary sewer parallels a waterline, the sewer shall be constructed of cast iron, ductile iron or PVC meeting ASTM specifications with a pressure rating for both the pipe and joints of 150 psi. The vertical separation shall be a minimum of two feet between outside diameters and the horizontal separation shall be a minimum of four feet between outside diameters. The sewer shall be located below the waterline.
 - (2) Where a sanitary sewer crosses a waterline and the sewer is constructed of cast iron, ductile iron or PVC with a minimum pressure rating of 150 psi, an absolute minimum distance of 6 inches between outside diameters shall be maintained. In addition the sewer shall be located below the waterline where possible and one length of the sewer pipe must be centered on the waterline.
 - (3) Where a sewer crosses under a waterline and the sewer is constructed of ABS truss pipe, similar semi-rigid plastic composite pipe, clay pipe or concrete pipe with gasketed joints, a minimum two foot separation distance shall be maintained. The initial backfill shall be cement stabilized sand (two or more bags of cement per cubic yard of sand) for all sections of sewer within nine feet of the waterline. This initial backfill shall be from one quarter diameter below the centerline of the pipe to one pipe diameter (but not less than 12 inches) above the top of the pipe.
 - (4) Where a sewer crosses over a waterline all portions of the sewer within nine feet of the waterline shall be constructed of cast iron, ductile iron, or PVC pipe with a pressure rating of at least 150 psi using appropriate adapters. In lieu of this procedure the new conveyance may be encased in a joint of 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at 5 feet intervals with spacers or be filled to the springline with washed sand. The encasement pipe should be centered on the crossing and both ends sealed with cement grout or manufactured seal.

- (b) Water line/manhole separation. Unless sanitary sewer manholes and the connecting sewer can be made watertight and tested for no leakage, they must be installed so as to provide a minimum of nine feet of horizontal clearance from an existing or proposed waterline. Where the nine foot separation distance cannot be achieved, a carrier pipe as described in subsection (a) (4) of this section may be used where appropriate.

SECTION 02738

FIBERGLASS MANHOLES

PART 1 - GENERAL

1.1 Scope

- A. This specification shall govern all work necessary for construction of manholes composed of fiberglass reinforced plastic walls.

1.2 Related Work:

Refer to the following sections of these specifications for related work:

- A. Section 02739, "Manhole Rings and Covers"
- B. Section 03250, "Reinforced Concrete Construction".

1.3 Measurement & Payment:

- A. Measurement and Payment shall be in accordance with Section "00105, "Proposal". Depth of manholes shall be measured in feet from the flow line of the manhole to the top of the manhole cover. Payment shall be for fiberglass manholes complete in place, including excavation, dewatering, concrete foundation, fiberglass manhole, backfill, ring and cover, concrete collars and any appurtenance detailed in the Drawings and Specifications. Drop connections on manholes shall be paid for separately.

PART 2 – PRODUCTS:

2.1 Description:

- A. The fiberglass reinforced composite manhole shall be filament wound and constructed of isophthalic polyester resin, glass fiber reinforcement, and natural graded sand. The manhole will be manufactured in two (2) pieces and factory joined to form a single, complete manhole. The top manhole section shall consist of a concentric, dome shaped reducer; the reducer will have a twenty-two and one-half inch (22 ½") interior diameter manway opening expanding to a forth-eight inch (48") diameter base in a vertical distance of eighteen inches (18"). The reducer will have a four-inch (4") vertical waterstop around the manway opening, and a five-inch (5") horizontal collar for the construction of a masonry or concrete adjustment collar. The bottom section shall consist of a forth-eight inch (48") interior

diameter pipe. Sections shall be joined at the factory with resin and glass reinforcement and shall be watertight. The minimum wall thickness shall be 1/2 inch.

- B. The manhole shall be able to withstand a 16,000 pound vertical dynamic wheel load (H-20), lateral forces from earth loading, and ground water, without damage.

2.2 Resin:

- A. Resin for fiberglass manholes shall be unsaturated isophthalic polyester and shall meet, as a minimum, the following tests:

<u>Property</u>	<u>Test Method</u>	<u>Requirement</u>
Acid Number	ASTM D465-59	Maximum = 15
Hydroxyl Number		Maximum = 30
Solids Content	ASTM D1259-61	Maximum = 50%
Flexural Strength	ASTM D790-70	Minimum = 10 ksi

The following requirements are determined when testing the resin without any reinforcing material included:

Flexural E-modulus	ASTM D790-70	Minimum = 400 ksi
Elongation at Rupture	ASTM D790-70	Minimum = 2 1/2%
Heat Distortion Temperature	ASTM D648-61	Minimum = 167°F
Weight Change after 28 Days Storing in Distilled Water	ASTM D570-63	Maximum = +150 mg per sample
Surface Hardness (Barcol)	ASTM D2583-67	Minimum = 80% of Resin Normal

Reinforcement shall be fiberglass mat, continuous roving, chopped roving and/or roving fabric. Fiberglass shall be Type "E" and have a finish compatible with the resin used. Fillers shall not degrade the resin chemical resistant properties. Additives, catalyst, and promoters may be added as required but shall not affect the strength or durability of the manhole.

2.3. Laminate:

- A. (Cured composite including glass fiber reinforcement.) Cured laminate will meet the following conditions:

<u>Properties</u>	<u>Test Method</u>	<u>Requirement</u>
Glass Content (% by weight)	ASTM D2584-68	20 to 70%
Compressive Strength	D695-69	Minimum = 12 ksi
Flexural Strength	D790-70	Minimum = 12 ksi
Flexural E-modulus	ASTM D790-70	Minimum = 700 ksi
Surface Hardness	ASTM D2583-67	Min. 80% of Resin's Normal Value

2.4. Concrete Base:

- A. Concrete base (invert) shall be constructed of reinforced concrete in accordance with "Reinforced Concrete Construction" Specification Section 03250.

PART 3 – EXECUTION:

3.1 Construction Methods:

- A. All manhole work shall be completed and finished in a careful and workmanlike manner, special care being given to sealing the joints around all pipe that extend through the wall of the manhole. The bottom of the manhole shall be completed by installing sufficient additional concrete to shape or form the bottom of the manhole to conform with the requirements as shown on the plans.

3.2 Excavation:

- A. The Contractor shall do all necessary excavation for the construction or installation of the various manholes. Such excavations shall be of sufficient size as to permit the proper installation of the manhole base and wall forms, and allow room for the stripping of such forms. Manufacturers recommendations for site preparation and working space shall be followed where fiberglass reinforced plastic manholes are to be installed in the sewer pipe trench. Care shall be taken to insure that the excavation is not carried to a greater depth than required. If necessary the walls of the excavated area shall be shored. Shoring shall be braced in such a manner as to insure support of the walls and in addition permit the construction or

installation of the manhole itself without necessitating the removal of any shoring until such time as the entire manhole is completed. No shoring shall be left or backfilled around unless authorized by the Engineer. Shoring shall remain in place for a minimum twenty-four (24) hours after concrete work has been completed.

3.3 Backfilling:

- A. The backfilling around the outside of manholes shall commence as soon as the concrete has been allowed to cure the required time and the forms and shoring have been removed. Such backfill shall be placed in layers of not more than six inches (6") and shall be thoroughly tamped before the next layer is installed. Suitable material from the trench excavation may be used for backfilling around manholes. Suitable material shall be free of rocks or clods of clay in excess of 4" in size. It is anticipated that the backfilling shall be either hand or mechanically tamped. Regardless of method used, care must be exercised to insure that the backfill is thoroughly compacted.

3.4 Drop Manholes:

- A. Drop manholes shall consist of constructing a standard sanitary sewer manhole with standard drop connections as shown in the plans. All materials used in the drop connection shall conform to the requirements of the pertinent specification.

***** END OF SECTION *****

SECTION 02739

MANHOLE RINGS AND COVERS

PART 1 - GENERAL

1.1 Scope

This specification shall govern all work necessary to furnish and install manhole rings and covers.

1.2 Related Work

Refer to the following sections of these specifications for related work:

- A. Section 02738, "Fiberglass Manholes".

1.3 Measurement And Payment

- A. If no item for "Manhole Rings and Covers" is provided for in Section 00105 "Proposal", no separate measurement and payment will be made for this work and the work shall be considered subsidiary to the project.

PART 2 - PRODUCTS

2.1 Castings

- A. The castings for manhole rings and covers shall be as specified herein and as detailed on the plans. They shall be grey-iron castings boldly filleted at angles and the joints of the angles shall be sharp and perfect. The castings shall be true to pattern, form, and dimensions; free from cracks, sponginess, blow holes, or other pouring faults affecting their strength and value for the service intended. Surface of the castings shall be free from sand and shall be reasonable smooth. Runners, risers, fins and other cast-on pieces shall be removed from the surfaces. Seating surfaces shall be machined.
- B. All manhole rings and covers shall have a clear opening of no less than twenty-two and one-half inches (22 1/2"), a height of five inches (5") and a minimum weight for ring and cover of two hundred ninety-eight (298) pounds. The seating surface of the ring shall be machined to secure a snug fit.

PART 3 - EXECUTION

3.1 Construction Methods

- A. Manhole rings and covers shall be carefully placed, as detailed on the plans, to lines and grades shown on the plans or as altered by the Engineer.

***** END OF SECTION *****

SECTION 02740

SANITARY SEWER FORCE MAIN

PART 1 - GENERAL

1.1 Scope

- A. This specification shall govern all work necessary to furnish and install sanitary sewer force mains.

1.2 Related work

Refer to the following sections of these specifications for related work:

- A. Section 02670, "Hydrostatic Tests for Force Main."
- B. Section 02643, "Polyethylene Sleeve."

1.3 Measurement and Payment

Measurement and payment for sanitary sewer force main shall be in accordance with Section 00105, "Proposal."

PART 2 - PRODUCTS

2.1 Buried Pipe

- A. 12" PVC pipe shall be 160 psi with SDR of 26, unless otherwise specified, meeting the requirements of ASTM C900 with synthetic rubber gaskets conforming to ASTM F-477. 16" PVC pipe shall be 165 psi with SDR of 25, unless otherwise specified, meeting the requirements of ASTM C905 with synthetic rubber gaskets conforming to ASTM F-477.
- B. Pipe shall be joined using integral ball and spigot. The ball shall consist of an integral wall section with a synthetic rubber gasket ring that meets the requirements of the latest revision of ASTM F-477, "Elastomeric Seals (Gaskets) for Joining Plastic Pipe." The bell section shall be designed to be at least as strong as the pipe wall. Natural rubber rings will not be allowed.
- C. Pipe shall have a standard laying length of twenty (20) feet for all sizes. At least ninety percent (90%) of the total footage of pipe of any class and size shall be furnished in standard lengths. The remaining ten percent (10%) may be furnished in random lengths. Random lengths will not be less than ten (10') long.

2.2 Exposed Pipe

- A. Ductile iron pipe shall meet the requirements of AWWA C151 or C115, with mechanical restrained or flanged joints. Flanged pipe shall be Class 53.

2.3 Fittings

- A. Fittings larger than 3" shall be ductile iron, mechanical joint or flanged (if exposed), with a minimum working pressure of 250 psi and meeting applicable requirements of AWWA C110, C111 or C115, latest revisions. Compact fittings meeting AWWA C153 are allowed. Fittings should be provided with transition gaskets when required.
- B. Fittings shall have an asphaltic coating inside and out, meeting the requirements of AWWA, C153, C110 and C104, latest revisions.

2.4 Accessories

- A. Ductile iron pipe and fittings shall be encased with polyethylene sleeve in accordance with Section 02643, "Polyethylene Sleeve."

PART 3- EXECUTION

3.1 Installation of PVC Pipe

- A. PVC pipe shall be installed in accordance with the Uni-Bell Plastic Pipe Association guide for installation of PVC pressure pipe.

3.2 Installation of Ductile Iron Pipe

- A. Ductile iron pipe shall be installed in accordance with the Ductile Iron Pipe Research Association Installation Guide and AWWA C-600.

3.3 General Requirements

- A. All work shall be done in a workmanlike manner, in accordance with drawings and specifications.
- B. Prior to construction, the Contractor shall submit, for approval, certificates of inspection in duplicate to the Engineer from the pipe and fittings manufacturer(s) that materials supplied have been inspected at the plant and meet the requirements of this specification.
- C. It shall be the responsibility of the Contractor to keep on hand extra fittings and pipe, as he may deem necessary to make adjustments due to unknown obstructions, or to replace defective materials without delay to

the project. When defective materials are discovered, they shall be immediately marked and removed from job site.

- D. All pipe and fittings shall be clearly marked with trademark of manufacturer, batch number, location of plant, ASTM/ANSI/AWWA designation, size, pressure rating, class/SDR, and pressure rating.
- E. Green sewer marking tape, minimum 2" wide, shall be continuously applied along the top of the force main. The tape shall be labeled "Pressure Sewer Line."

3.3 Materials

- A. Concrete: Concrete shall have a minimum compressive strength of 2000 psi.
- B. Bedding Sand for Encasement: Sand shall be granular soil of low plasticity such that 100% pass a #4 sieve and no more than 10% pass a #200 sieve and the PI shall not exceed 10. Soils with a Unified Classification of SW and SP, or ASSHTO Classification of A3 and some A2, soil shall be required.

3.4 Construction Methods

- A. Handling and Storage of Materials:
 - 1. General: The Contractor shall be responsible for the safe storage of all material furnished to or by him and accepted by him until it has been incorporated in the completed project.
All material found during the progress of the work to have cracks, flaws or other defects will be rejected, and the Contractor shall remove such defective material from the site of the work.
 - 2. Unloading and Distribution of Materials at Work Site: Pipe and other materials shall be unloaded at point of delivery, hauled to, and distributed at the job site by the Contractor. Materials shall at all times be handled with care and in accordance with manufacturer's recommendations. Care shall be taken not to scratch PVC pipe. Excessive scratching shall be considered cause for rejection of PVC pipe. Materials may be unloaded opposite or near the place where it is to be installed provided that it is to be incorporated into the work within ten days. The Contractor shall not distribute material in such a manner as to cause undue inconvenience to the public.
 - 3. Storing Materials: Materials that are not to be incorporated into the work within 10 days shall be stored on platforms. The interior of

pipes and accessories shall be kept free from dirt and foreign matter.

B. Installation

1. Alignment and Grade: All pipes shall be laid and maintained to the required line and grade.

Temporary support and adequate protection of all underground and surface utility structures encountered in the progress of the work shall be furnished by the Contractor.

Where the grade or alignment of the pipe is obstructed by existing utility structures such as conduits, ducts, pipes, connections to sewers or drains, the obstruction shall be permanently supported, relocated, removed, or reconstructed by the Contractor at the Contractor's expense, in cooperation with the owners of such utility structures.

Force Mains shall be laid with no less than 36 inch cover, unless indicated otherwise in the drawings. Greater depths will be permitted when required to avoid conflicts with existing structures.

Lines shall be laid to grade which permit entrapped air to flow to a high point for release through an air release valve as shown on the drawings. The Contractor shall investigate well in advance of pipe laying for conflicts which may necessitate the readjustment of planned line and grade.

2. Trench Excavation and Backfill: See Standard Specification Section 02226 "Trench Excavation and Backfill" and drawings.
3. Force Main Connection to Existing Manhole: Where new force main is connected to existing manhole, the manhole shall be prepared to receive the proposed force main and restored after connection. Manhole inverts shall be repaved as necessary to provide a smooth flowing system.
4. Polyethylene Encasement: All metallic pipe, valves and fittings, except those which occur in encasement pipe or in concrete valve boxes, shall be wrapped in polyethylene. See Standard Specification Section 02643 "Polyethylene Sleeve."
5. Sand Encasement: Sand shall be granular soil of low plasticity such that 100% pass a #4 sieve and no more than 10% pass a #200 sieve and the PI shall not exceed 10. Soils with a Unified Classification of SW and SP, or AASHTO Classification of A3 and some A2 soil shall be required.

6. Pre-Placement Inspection: Prior to lowering into trench, all pipe and accessories shall be inspected for defects. All foreign matter or dirt shall be removed from the interior of pipe, prior to lowering into trench. Pipe shall be kept clean at all times during the laying.
7. Jointing Pipe and Fittings: All pipes and fittings shall be made up in accordance with manufacturer's recommendation. Pipe deflection shall not exceed 75% of the maximum amount recommended by the manufacturer.
8. Concrete Thrust Blocks: Thrust backing shall be applied at all bends, tees, incomplete crosses and blow-offs, except at restrained fittings. The size and shape of the thrust blocking shall be as shown on the plans. Materials for the backings shall be minimum 2,000 psi concrete and shall be placed between solid ground and the fittings to be anchored. The sizes of thrust blocking is indicated on the drawings.

The backing shall be placed so that the pipe and fitting joints will be accessible for repair.

Temporary thrust blocks or other means of carrying thrust loads generated by hydrostatic testing shall be provided at all ends of lines to be tested. Details of the end connections and method of temporary blocking shall be submitted to the Engineer for approval.

After satisfactory completion of the hydrostatic test, this temporary blocking shall be removed so that connections may be made with existing lines. This work is subsidiary and no separate payment will be made for it.

9. Restrained Joints and Fittings: Metal harness, tie rods and clamps or restrained fittings shall be used to prevent movement when soil conditions will not withstand thrust blocking. Steel rods and clamps shall be stainless steel.

***** END OF SECTION *****

SECTION 02760

SANITARY SERVICE LINES

1. SCOPE

This specification governs all work and materials necessary to construct the Sanitary Service Lines required to complete the project.

2. MATERIALS

Pipe and fittings for sanitary service lines shall be PVC in accordance with ASTM D2665 and ASTM D3311 with a minimum size of 4 inches. Solvent cement for PVC shall comply with ASTM D2564. No co-mingling of different materials except through the use of proper adapters. Adapters shall have a stainless steel or fiberglass shear ring.

3. CONSTRUCTION METHODS

Where possible, service tees or wyes shall be placed along the main as required for services (no taps).

The minimum size pipe for services shall be 4" diameter for residential, and 6" for commercial and double connections. Minimum slopes for 4" and 6" pipes shall be 1/8 (S=1.0%) and 1/16 (S=0.5%) inches per foot respectively. Sanitary sewer service lines shall cross under water mains where possible.

The Contractor shall be responsible for establishing alignment and maintaining grade for the proposed service.

Trenches shall be excavated in such a manner that will minimize damage to surface vegetation. After installation, the excavated material shall be tamped into the trench and the surface restored to a condition acceptable to the Engineer. Lines shall be bored, jetted, or jacked under sidewalks, driveways, and other such improved surfaces; unless authorized by the Engineer.

4. MEASUREMENT AND PAYMENT

Sanitary Service Lines shall be measured as indicated in the "Proposal". Payment shall include all labor, materials, equipment, trench safety and incidentals necessary for Sanitary Service Lines required to complete the project.

***** END OF SECTION *****

DIVISION 3
CONCRETE

SECTION 03250

REINFORCED CONCRETE CONSTRUCTION

1. **GENERAL:** This section includes materials, mixing, proportioning, transporting, sampling, testing, placing, finishing and curing of all plain and reinforced cast-in-place, normal-weight concrete.

All structures shall be constructed in accordance with the details shown on the plans.

2. **QUALITY ASSURANCE:** Materials and work shall conform to the requirements of standards, codes and recommended practices required in this section.

The following standards and codes shall apply:

ASTM A 185	"Standard Specification for Welded Steel Wire Fabric for Concrete Reinforcement"
ASTM A 615	"Standard Specification for Deformed and Plain Billet-Steel Concrete Reinforcement"
ASTM C 31	"Standard Method of Making and Curing Concrete Test Specimens in the Field"
ASTM C 33	"Standard Specification for Concrete Aggregates"
ASTM C 39	"Test Method for Compressive Strength of Concrete Specimens"
ASTM C 94	"Standard Specification for Ready-Mixed Concrete"
ASTM C 138	"Standard Test Method for Unit Weight, Yield, and Air Content (Gravimetric) of Concrete"
ASTM C 143	"Standard Test Method for Slump of Portland Cement Concrete"
ASTM C 150	"Standard Specification for Portland Cement"
ASTM C 156	"Standard Test Method for Water Retention by Concrete Curing Materials"

ASTM C 171	"Standard Specification for Curing Concrete"
ASTM C 172	"Standard Method for Sampling Fresh Concrete"
ASTM C 231	"Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method"
ASTM C 260	"Standard Specifications for Air-Entraining Admixtures for Concrete"
ASTM C 304	"Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete"
ASTM C 305R	"Report on Hot Weather Concreting"
ASTM C 306R	"Report on Cold Weather Concreting"
ASTM C 309	"Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete"
ASTM C 494	"Standard Specifications for Chemical Admixtures for Concrete"
ASTM C 920	"Specification for Elastomeric Joint Sealants"
ASTM D 1751	"Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction, (Nonextruding and Resilient Bituminous Types)"
ASTM D 1752	"Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction"
ASTM E 329	"Standard Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials Used in Construction"
ACI 211.1	"Recommended Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete"
ACI 214	"Recommended Practice for Evaluation of Strength Test Results of Concrete"
ACI 301	"Specifications for Structural Concrete in Buildings"

ACI 315	"Manual of Standard Practice for Detailing Reinforced Concrete Structures"
ACI 318	"Building Code Requirement for Reinforced Concrete"
ACI 347	"Recommended Practice for Concrete Formwork"
CRSI	Concrete Reinforcing Steel Institute "Manual of Standard Practice for Reinforcing Concrete Construction"
NRCA	National Ready-Mixed Concrete Association "Checklist for Certification of Ready-Mixed Concrete Production Facilities"

3. TESTING AND INSPECTION: Materials and operations will be tested and inspected as the work progresses. All parties will make every effort to discover defective work at the earliest possible time for their mutual convenience. Late discovery of a defect or defects will not obligate the Owner to accept them. Testing agencies and the facility or facilities used shall currently meet the requirements of ASTM E 329.

3.1. The following services shall be performed by the designated testing agency and paid for by the Owner.

3.1.1. Secure composite samples in accordance with ASTM C 172.

3.1.2. Mold and cure three (3) specimens in accordance with ASTM C 31 from each strength test required.

3.1.3. Test specimens in accordance with ASTM C 39, one (1) at seven (7) days and two (2) at twenty-eight (28) days.

3.1.4. Make one strength test for each 50 cubic yards or fraction thereof, of each mix design of concrete placed in any one day.

3.1.5. Determine slump of concrete sample for each strength test in accordance with ASTM C 143.

3.1.6. Determine total air content for each strength test in accordance with ASTM C 231.

3.1.7. Determine temperature, unit weight, yield and air content, (ASTM C 138), for each strength test.

The Engineer may vary the quantity of tests noted above to meet his requirements for the particular job.

3.2. The Contractor shall provide and pay for the following testing services to be performed by a testing agency acceptable to the Owner:

3.2.1. When requested, qualification of proposed materials and the establishment of mix designs in accordance with the referenced standards and codes.

3.2.2. Testing services needed or required by him. To facilitate testing and inspection, the Contractor shall furnish:

3.2.2.1. Labor to assist testing agency personnel in obtaining and handling samples at the jobsite.

3.2.2.2. Notification to the testing agency in advance of operations to allow for assignment of testing personnel and scheduling of testing work.

3.2.2.3. Adequate facilities for proper curing of concrete test specimens on the project site in accordance with ASTM C 31.

4. EVALUATION AND ACCEPTANCE: The strength level of the concrete will be satisfactory if the averages of all sets of three (3) consecutive strength test results equal or exceed specified strength. If the 28 day strength is between 1 and 100 psi below the minimum required, \$50 per cubic yard will be deducted from the amount due the Contractor. The Engineer has the right to reject any concrete work not conforming to required lines, details, dimensions, tolerances, strengths, or other requirements of the plans and specifications. Rejected concrete work shall be demolished, removed, disposed of, and replaced, by methods approved by the Engineer.

5. SUBMITTALS: The Building Contractor shall submit to the Engineer the following:

5.1. Proposed concrete mix design.

5.2. When requested, samples of materials proposed including names, sources and descriptive material.

5.3. Certification as to compliance with referenced standards and codes, as required by the Engineer.

5.4. Reinforcing steel schedule and layouts.

6. **MATERIALS:**

6.1. **Portland Cement**, Type I conforming to ASTM C 150. Cement shall correspond to that upon which the selection of concrete proportions was based.

6.1.1. Only one brand and manufacturer of approved cement shall be used for exposed concrete.

6.1.2. Type III cement shall be used only with prior written approval from the Engineer.

6.2. **Aggregates**, conforming to ASTM C 33. Local aggregates not complying with this standard may be used providing it can be shown by special test or a record of past performance these aggregates produce concrete of adequate strength and durability.

6.2.1. **Fine aggregate**, clean, sharp, natural sand, free from loam, clay lumps, organic material or deleterious substances, within allowable standards.

6.2.2. **Coarse aggregate**, clean, uncoated, graded aggregate containing no clay, mud, loam, organic material or foreign matter.

6.3. **Water** shall be clean, of potable quality and with a maximum TDS of 1500 mg/liter.

6.4. **Concrete admixtures**, provide admixtures produced and serviced by established, reputable manufacturer, used in compliance with manufacturers recommendations.

6.4.1. **Air-entraining admixtures**, conforming to ASTM C 260, MB-AE 10, or MB-VR, manufactured by Master Builders or equivalent.

6.4.2. **Water-reducing, set-controlling admixture**, conforming to ASTM C 494, Type A (water reducing), Type B, (retarding), Type C (accelerating), Type D (water-reducing and retarding), Type E (water-reducing and accelerating). Type F admixture usage in high slump concrete requires prior written approval by Engineer. No calcium chloride additives are permitted.

When requested, a qualified concrete technician employed by the manufacturer shall be available to assist in proportioning concrete materials for optimum use, to advise on proper use of the admixture and adjustment of concrete mix proportions to meet jobsite and climatic conditions.

6.5. Reinforcement shall be provided in accordance with the working drawings.

6.5.1. **Reinforcing steel**, unless otherwise stated, shall be Grade 60, conforming to ASTM A 615.

6.6. Metal Accessories shall conform to requirements of the Concrete Reinforcing Steel Institute (CRSI), "Manual of Standard Practice for Reinforcing Concrete Construction."

6.7. Expansion and Contraction Joints shall be completed utilizing the following materials or as noted on the plans.

6.7.1. **Material**, conforming to ASTM D 1751.

6.7.2. **Sealant**, polyurethane, conforming to ASTM C 920. Sonneborne SL - 1 shall be used for all horizontal surfaces, and Vulkem 45 shall be used for all other surfaces.

6.7.3. **Backer Rod**, shall be closed cell polyolefin, round, provide air gap between backer rod and joint material.

6.7.4. **Waterstop**, shall be placed as shown on the plans and/or as stated in Section 01012, "Special Conditions."

6.8. Curing Materials, exceeding requirement of ASTM C 309, "Masterseal" manufactured by Master Builders, or approved equal. Material shall provide water retention not exceeding loss of 0.55 kg/m² in 72 hours when tested in accordance with ASTM C 156.

7. SELECTION OF PROPERTIES:

7.1. General: Concrete shall be composed of Portland cement, fine aggregate, coarse aggregate, water, Pozzoloth admixture, and as specified, air-entraining admixture. Proportions of ingredients shall produce concrete that will work readily into corners and angles of forms, bond to reinforcement, without segregation or excessive bleed water forming on the surface. Proportioning of materials shall be in accordance with ACI 211.1.

Proportions of ingredients shall be selected by past field experience or, in lieu of past performance, laboratory trial mixes to produce placeability, durability, specified strength and properties specified.

7.2. Required Average Strength Above Specified Strength: Determinations of required average strength (f_{cr}) shall be in accordance with ACI 318 and ACI 301, and evaluations of compressive strength results of field concrete shall be in accordance with ACI 214.

8. CONCRETE QUALITIES REQUIRED:

8.1. Compressive Strength: Specified Compressive (f'_c) Strength at 28 days shall be 4,000 psi or greater, unless noted otherwise in the plans.

8.2. Slump:

8.2.1. Consolidation by vibration, not to exceed 4 in.

8.2.2. Consolidation by other methods, not to exceed 5 in.

8.2.3. Slump shall be determined by ASTM C 143.

8.3. Aggregate Size: Maximum size of coarse aggregate shall not exceed:

8.3.1. One-fifth narrowest dimension between forms

8.3.2. Three-fourths minimum clear spacing between reinforcing bars

8.3.3. One-third the thickness of slabs

8.4. Control of Set: Concrete shall be adjusted to produce the required rate of hardening for varied climatic and jobsite conditions.

8.4.1. Under 50°F (10°C) ambient temperature - Accelerate (Type C or Type E admixture).

8.4.2. Over 80°F (27°C) ambient temperature - Retard (Type B or D admixture ASTM C 494).

8.4.3. Between 50°F (10°C) and 80°F (27°C) - Normal Rate of Hardening (Type A admixture - ASTM C 494).

9. **FORMWORK:** Forms used to confine and shape concrete to required dimensions shall have sufficient strength to withstand forces from placement, vibration, and sufficient rigidity to maintain specified tolerances. Form material or lining shall be adequate to give the surface finish noted on the plans.

Design, engineering and construction of the formwork shall be the responsibility of the contractor.

Formwork shall be designed for loads, lateral pressure and allowable stresses in accordance with ACI 347.

All tolerances, preparation of form surfaces, removal of forms, reshoring and removal strength shall be in accordance with ACI 301. (Fillets required at all sharp corners).

10. **JOINTS AND EMBEDDED ITEMS:**

10.1. **Construction Joints:** Construction Joints not shown on working drawings shall be made and located to least impair strength of structure, and shall be approved by the Engineer.

Reinforcement shall be continued across joints, keys and inclined dowels provided as directed by the Engineer. Joints shall be cleaned and roughened as required prior to pouring.

10.2. **Expansion and Contraction Joints:** Premolded joint filler shall conform to ASTM D 1751.

10.3. **Other Embedded Items:** Other Embedded Items as shown on the Plans including sleeves, inserts, anchors and embedded items required for adjoining work or support shall be placed prior to placement of concrete.

11. **PRODUCTION OF CONCRETE:** Concrete shall be ready-mixed, batched, mixed and transported in accordance with ASTM C 94.

Plant equipment and facilities shall conform to the "Checklist for Certification of Ready-Mixed Concrete Production Facilities" of the National Ready-Mixed Concrete Association.

12. **PLACING:**

12.1. Preparation: The Building Contractor shall provide access for delivery, provide sufficient equipment and manpower to rapidly place all concrete.

12.1.1. Work shall be in accordance with ACI 304.

12.1.2. Formwork shall have been complete and debris removed from within forms.

12.1.3. Expansion joint material, anchors and all embedded items shall have been positioned.

12.1.4. Subgrades shall be sprinkled sufficiently to eliminate water loss from concrete.

12.2. Addition of Water: No water shall be added to the concrete once it has been delivered to the site.

12.3. Conveying: Concrete shall be placed rapidly by methods which prevent segregation or loss of quality.

12.4. Placement: Concrete shall be deposited continuously or, when continuous placement is not possible, construction joints shall be located as approved by the Engineer. Concrete shall be placed as nearly as possible to its final position. Avoid rehandling.

Concrete shall be consolidated by vibration, spading, rodding, or forking. Work concrete around reinforcement, embedded items and into corners; eliminate air or stone pockets and other causes of honeycombing, pitting or planes of weakness.

Internal vibration shall have a minimum frequency of 8000 v/min with amplitude to consolidate effectively.

Vibrators shall be operated by competent workmen. Use of vibrators to transport concrete shall not be allowed. Vibrators shall be inserted and withdrawn approximately every 18 inches for 5 to 15 seconds each time.

Floor slab and roll-off container surfaces shall be brought to a steel trowel finish.

12.5. Joints: IMPORTANT! Forklifts will primarily use the finished pavement surface. The CONTRACTOR shall form joints such that panel tops are flush across joints. NO EXCEPTIONS!

13. WEATHER CONDITIONS:

13.1. Cold Weather: Concrete shall conform to ACI Committee 306R Report. The following minimum concrete temperatures as placed and maintained shall apply, depending on section size and dimensions:

<u>Section Size</u> <u>Min. Dimension - Inches</u>	<u>Minimum</u> <u>Concrete Temperature</u>
Less than 12	55°F (13°C)
12 - 36	50°F (10°C)
36 - 72	45°F (7°C)
More than 72	40°F (4°C)

Water heated to above 140°F (60°C) shall be combined with the aggregates before cement is added. Cement shall not be added to water or aggregates having a temperature greater than 90°F (32°C).

When outdoor temperature is less than 40°F (4°C), temperature of the concrete in place shall be maintained at not less than 40°F for the required curing time. When the temperature is 45° and falling, no concrete shall be placed.

Arrangements shall be made before placement to maintain required temperature without injury from excessive heat.

13.2. Hot Weather: Temperature of concrete delivered at jobsite shall be determined. Temperature of ingredients shall be cooled before mixing to prevent concrete temperature in excess of 94°F (34°C), Hot Weather Concreting in accordance with ACI 305 Committee Report.

Provisions shall be made for windbreaks, shading, fog spraying, sprinkling or wet cover when necessary.

14. CURING AND PROTECTION: Immediately following placement, concrete shall be protected from premature drying, hot and cold temperatures, rain, flowing water and mechanical injury.

Material and method of curing shall be approved by the Engineer. Final curing shall continue for not less than 7 days.

Approved methods include: ponding or continuous sprinkling, continuously wet mats, sand kept continuously wet and liquid membrane-forming compounds.

14.1. Applications of waterproof sheet material shall conform to ASTM C 171. Material shall maintain a maximum moisture loss of 0.55 kg/m² tested in accordance with ASTM C 156.

14.2. Applications of membrane-forming compounds shall conform to ASTM C 309.

15. **FORM REMOVAL:** Forms shall not be removed until concrete has obtained a strength adequate to support its own weight plus any superimposed loads that might be placed thereon. In general, side forms shall be left in place 2 days and bottom forms, 7 days to assist in proper curing. Curing compound shall be applied to formed surfaces immediately upon form removal. Removal of form ties and patching of holes left or minor surface defects shall be accomplished at this time.

16. **SURFACE FINISHES:**

16.1. **Horizontal Surfaces:** Unless otherwise noted on the plans, finish shall be smooth, steel troweled. Dusting with cement is not permitted.

16.2. **Vertical Surfaces:** Surfaces normally exposed to view, following completion of the structure, shall be rubbed finish unless otherwise noted on the plans. Other surfaces shall be smooth reflecting use of sound plywood, steel or lined forms and proper repair following form removal.

17. **DEFECTIVE WORK:** If defects are judged by the Engineer to be repairable, they shall be so repaired immediately after form removal. If defects involve bulging of forms, misalignment, excessive honeycombing (aggregate pockets), other surface defects which are judged by the Engineer not to be repairable, the defective work shall be removed and replaced by the Building Contractor. No extra compensation will be allowed for required repair or replacement.

DIVISION 9

FINISHES

SECTION 09901

CLEANING AND PAINTING

PART 1 - GENERAL

1.1 Scope

The work to be completed under this section of these specifications shall include furnishing all materials, equipment, tools, labor and incidentals necessary for the cleaning, painting, and coating of the exposed new equipment, tanks, piping, valves, concrete, and accessories.

1.2 Submittals

The Contractor shall submit the following items to the Engineer, prior to application of any paint materials:

- A. Paint Systems, Coatings, and Products: The Contractor shall submit detailed information on the paint systems, coatings, and products.
- B. Colors: The Contractor shall submit samples of standard paint colors for the finish paint. The Owner will select the colors of the paint.

1.3 Guarantee

The Contractor shall guarantee the work required under these specifications for a period of one year from the date of completion and project acceptance by the Owner of his work, to the extent that he will repair any defects, of which he is notified during the period, which may appear because of faulty design, workmanship, or material furnished under these specifications.

1.4 Measurement and Payment

If no item for "Cleaning and Painting" is provided for in Section 00105, "Proposal", no separate measurement and payment will be made for this work, and the work shall be considered subsidiary to the project.

PART 2 - PRODUCTS

2.1 Paint Manufacturer

- A. Paint products shall be manufactured by Tnemec Coatings Inc. (1235 Belvin Street, San Marcos, Texas, (512) 392-3500) or approved equal.

2.2 System A

- A. Type of Surface: Pre-painted ferrous metal

- B. Type of Structure: Miscellaneous ferrous metal, pumps, motors, piping, fittings, and valves etc.
- C. Exposure Condition: Non-submerged, exterior
- D. Surface Preparation: All surfaces shall be dry, clean and free of all contaminants. Remove all loosely adhering paint by hand or power tool cleaning as per SSPC-SP2 or SP3. Apply a test patch to ensure compatibility. Color coding of piping to be accomplished with colored, 2" vinyl tape wrapped around pipe @ 8' centers and at valves and fittings.
- E. Painting System:
 - a. First Coat: Tnemec Series 50-330 Poly-Ura-Prime applied at 2.0 – 3.0 dry mils.
 - b. Second Coat: Tnemec Series 75-Color Endura-Shield IV applied at 3.0 – 5.0 dry mils. Total dry film thickness shall be 6.0 mils minimum.

2.3 System B

- A. Type of Surface: Exterior exposed ductile iron pipe
- B. Surface Preparation: Clean all surfaces as per SSPC-SP1 Solvent Cleaning. Measure surface profile in accordance with ASTM D4417, Method C. If surface profile is less than 1.5 mils, abrasive blast as per SSPC-SP7 Brush-Off Blast Cleaning. If surface profile is greater than 1.5 mils, clean as per SSPC-SP3 Power Tool Cleaning.
- C. Painting System:
 - a. Prime Coat: Tnemec Series 140 Pota-Pox Plus - 6.0 – 8.0 dry mils.
 - b. Finish Coat: Tnemec Series 75 Endura-Shield - 3.0 – 5.0 dry mils.

2.4 System C

- A. Type of Surface: Submerged or buried ductile iron pipe
- B. Surface Preparation: Clean all surfaces as per SSPC-SP1 Solvent Cleaning. Measure surface profile in accordance with ASTM D4417, Method C. If surface profile is less than 1.5 mils, abrasive blast as per SSPC-SP7 Brush-Off Blast Cleaning. If surface profile is greater than 1.5 mils, clean as per SSPC-SP3 Power Tool Cleaning.
- C. Painting System:

- a. Prime Coat: Tnemec Series 140 Pota-Pox Plus - 6.0 – 8.0 dry mils.
- b. Finish Coat: Tnemec Series 140 Pota-Pox Plus - 6.0 – 8.0 dry mils.

2.5 Coating Manufacturer

- A. Concrete coating products shall be manufactured by Polibrid Coatings, Inc. (6700 FM 802, Brownsville, Texas, (956) 831-7818) or approved equal.

2.6 System A

- A. Type of Surface: New Concrete
- B. Surface Preparation: Concrete shall be abrasive blast cleaned to satisfy ASTM D-4259 "Abrading Concrete". Concrete shall be free of all crusts, soft or weak matter, loose aggregates and all other contaminants. Any rough edges shall be rounded by chipping, wire brushing or other acceptable methods. If any expansion joints exist filler compound must be flush or lower than concrete surface. Wet blasting is allowed provided that water does not delay application of materials, however water blasting alone is not permitted. Acid etching is not acceptable.
- C. Coating System:
 - a. Prime Coat: Polibrid 705 - 40 dry mils.
 - b. Finish Coat: Polibrid 705 - 40 dry mils. Total dry film thickness shall be 80 mils.

PART 3 - EXECUTION

3.1 Protection of Equipment

All pumps, motors, controls, electrical, electrical equipment and meters, existing or new, shall be protected from sandblasting, solvents, etc. and all cleaning procedures. Any damage to existing equipment shall be repaired or replaced at Contractor's expense promptly and to the satisfaction of the Owner.

3.2 Cleaning

- A. All bolts, nuts, sharp edges, corners, rough welds, etc. should be ground to a 1/8" radius.

- B. The Contractor shall coat all blast-cleaned surfaces the same day the surfaces are cleaned. Any surface not coated the same day will require reblast cleaning before coating is permitted.

3.3 Painting

The exposed piping, valves, and accessories shall be painted in accordance with the approved paint manufacturer's written instructions and material safety instructions with special attention to the following:

- A. Weather Conditions: No paint shall be applied when the surrounding air temperature, as measured in the shade, is below 55° F. No paint shall be applied when the temperature of the surface to be painted is below 50° F or less than 5° F above the dew point. Paint shall not be applied to wet or damp surfaces, or when the humidity exceeds 85 percent, or when the wind speed exceeds 20 mph.
- B. Prime Coat: The prime coat shall be installed in accordance with the manufacturer's instructions. All bolts and nuts shall have an additional prime coating applied by brushing.
- C. Final Coat: The final coat shall be installed in accordance with the manufacturer's instructions. The Contractor shall install the final coat over within the amount of time recommended by the paint manufacturer. No water shall be allowed to enter the piping for a minimum period of three (3) days following completion of the coating system. This time period may be extended if so required by the paint manufacturer.
- D. Touch-up Painting: Prior to acceptance of painting the Contractor will be required to touch-up all painted surfaces that have been damaged due to construction activities, using the same paint product that has been used at the time of the original painting.

3.4 Coating

The coating shall be spray applied by qualified technicians, using plural-component, high-pressure, airless spray equipment. This equipment must be approved by the manufacturer. The equipment must be capable of spraying the mixed material at a fluid pressure of 2,500 psi. The new concrete shall be coated in accordance with the approved coating manufacturer's written instructions and material safety instructions with special attention to the following:

- A. Weather Conditions: No coating shall be applied when the surrounding air temperature, as measured in the shade, is below 40° F. No coating shall be applied when the temperature of the surface to be coated is less than 5° F above the dew point. Coating shall not be applied to wet or damp surfaces, or when the humidity exceeds 95 percent. If fog is present or rain is imminent, no coating shall be applied.

- B. Prime Coat: The prime coat shall be installed in accordance with the manufacturer's instructions.
- C. Final Coat: The final coat shall be installed in accordance with the manufacturer's instructions. The Contractor shall install the final coat within the amount of time recommended by the coating manufacturer.
- E. Patching and Repair: Prior to acceptance of coating the Contractor will be required to repair all coated surfaces that have been damaged due to construction activities, using the same coating product that has been used at the time of the original painting. Repair area will need to be prepared, the surface must be abraded to remove coatings. A maximum of 12 fl. oz. of material shall be hand mixed and applied using brush or putty knife to damaged area.
- F. Placement in Service: The coating shall be placed into service upon clearing inspection, and after the allowable cure time. The minimum cure time is 1 hour at 85°F, 2 hours at 72°F, or 4 hours at 60°F.

*** END OF SECTION ***

DIVISION 15
MECHANICAL

SECTION 15102

SUBMERSIBLE PUMPS

PART 1 - GENERAL

1.1 Scope

- A. *This specification shall govern the work necessary for furnishing, installing and placing into initial operation the submersible, non-clog sewage pumps complete with access frame covers, guide bars and brackets, lifting accessories for raising and lowering pumps, electrical controls and other items required for a complete installation. The pump manufacturer, through the Contractor, shall be responsible for proper electrical protection and control function as may be necessary to maintain and preserve the special pump warranty requirements of this section.*

- B. *The pumps shall be designed for handling a raw unscreened domestic wastewater. The equipment shall be designed such that the pump unit can be automatically and firmly connected to the discharge piping when lowered into place on a mating discharge connection permanently installed in the wet pit. The pump shall be easily removable for inspection or service, requiring no bolts, nuts, or other fastening to be disconnected. There shall be no need for personnel to enter the wet pit for inspection or maintenance of the pump. Pumps, motors and accessories shall be designed for watertight operation with continuous submergence under 65 feet of water and a maximum liquid temperature of 100 degrees F.*

1.2 Guarantee

- A. *In addition to the general guarantee required elsewhere in these specifications, the pump manufacturer shall furnish the Owner a written guarantee to warrant the pumps and all components against defects in workmanship and material for a period of five (5) years or 10,000 hours operation under normal use and service. The pump manufacturer will pay the following share of the cost of all replacement parts and labor from the date of shipment of each pump unit. Pumps repaired under warranty will be returned to the Owner freight prepaid.*

	Time After Shipment		
Months:	0 - 18	19 - 39	40 - 60
Hours:	0 - 3,000	3,000 - 6,500	6,500 - 10,000
Warranty:	100%	50%	25%

The warranty shall be in printed form and previously published as the manufacturer's standard warranty for all similar units manufactured. The Contractor shall provide storage and maintenance during construction as instructed by the manufacturer in order to assure full warranty to the Owner.

1.3 Operating Conditions

A. Lift Station #1

- Manufacturer, model: _____
- Discharge connection flange: _____
- Pump outlet: _____
- Motor horsepower: The Pump shall not overload the motor at any point through the operating range of the pump, but in no case shall be less than 5 hp.
- Performance Curve Operating Points:
100.0 gpm, _____ ft tdh, _____ hyd eff
_____ gpm, _____ ft tdh, _____ hyd eff
- Motor eff minimum: _____ full load, _____
- Motor full load current: _____ amps
- Motor voltage: _____
- Maximum rpm: _____
- Number of pumps required: 2

1.4 Certified Pump Curves:

- A. The pump manufacturer shall furnish certified pump curves of previously tested pump/motor units of identical design, size, and horsepower as those to be furnished for each of the three phases. Catalog curves are not acceptable. Pump curves shall include head, input KW, and wire to water efficiency versus capacity and shall show the model, impeller, test date and customer. Failure to provide acceptable data from previous testing will require the pump manufacturer to provide individually certified pump test curves for the units to be provided

1.5 Submittals:

- A. The pump supplier, through the Contractor, shall submit for approval six (6) sets of the pump manufacturers detailed drawings, technical specifications, curves, motor data, and other information necessary to confirm compliance with all sections of these specifications. The submittal shall also include wiring schematics, layout drawings, bill of materials and component descriptive data for all control panels to be furnished. Absence of data will be considered as non compliance and basis for disapproval. Any

exceptions to these specifications shall be specifically listed and described. Exceptions discovered after installation shall be cause for rejection.

1.6 Operation and Maintenance:

- A. The pump supplier shall furnish six (6) sets of complete operation and maintenance instructions, pump curves, parts lists, wiring schematics and start up reports for the Contractor to include in the project O & M manuals.

1.7 Quality Assurance:

- A. Single Source Responsibility: The submersible pumps and accessories shall be furnished by a single manufacturer who is fully experienced, reputable, and qualified in the manufacture of the submersible pumps to be furnished.
- B. Manufacturer's Experience: The manufacturer shall have experience in the design, manufacturing, supplying and commissioning of the equipment of the type specified for this project. The equipment quoted shall be of a proven design and shall be referenced by at least five (5) installations of similar size, having been in successful operation for a period of not less than five (5) years.
- C. Acceptable Manufacturers: The submersible pumps shall be as manufactured by ITT Flygt Corporation, of Trumbull, Connecticut, or equal.

PART 2 - PRODUCTS

2.1 Pump Design

- A. The submersible pumps shall be designed and constructed in accordance with normally accepted practice and methods.
- B. The pumps shall be automatically and firmly connected to the discharge connection guided by no less than two guide bars extending from the top of the station, working platform or floor to the discharge connection.

2.2 Pump Construction

- A. Castings: Major pump components shall be of close grained ASTM A-48, Class 35B, grey cast iron construction. The castings shall be with smooth surfaces devoid of blow holes or other irregularities.
- B. Volute: The pump volute shall be single-piece grey cast iron, ASTM, A48 Class 35, and of the non-concentric design with smooth passages large enough to pass any solids that may enter the impeller. Minimum inlet and discharge size shall be as specified.
- C. Impellers: All impellers shall be gray cast iron, Class 35, dynamically balanced, double shrouded, long thrulet with no acute turns and capable of handling solids, fibrous material and other matter normally found in raw domestic wastewater. Mass moment of inertia calculations shall be provided by the manufacturer upon request. Impellers shall be single vane with keyed and/or allen head bolt locking fit to the motor shaft. All impellers shall be coated with alkyd resin primer.
- D. Wear Ring: A wear ring system shall be used to provide efficient sealing between the volute and impeller. The wear ring system shall consist of a stationary ring made of nitrile rubber molded with a steel ring insert and drive fitted to the volute inlet and a rotating stainless steel wear ring shrink fitted to the impeller hub. (Rotation ring is not required for pumps less than 15 HP)
- E. Mechanical Seal: Pump shall be provided with a mechanical seal system consisting of two totally independent seal assemblies operating in an oil chamber between the pump volute and motor chamber for seal lubrication and cooling. The lower seal shall act as the primary unit to prevent entry of pumped liquid to the oil chamber. The upper seal shall act as a secondary unit to prevent pumped liquid or oil from entering the motor stator. The seal system shall allow continuous pump operation with the pump and motor exterior totally dry and shall not be dependent on pumped liquid for cooling.

Each seal unit shall consist of a positive driven rotating ring, a stationary ring and an independent spring to maintain interface contact. The seal assemblies shall not require maintenance or adjustment shall be easily inspected, shall be separately replaceable and shall not be dependent on operating pressure differential for proper sealing. Conventional or cartridge type double mechanical seals utilizing a common spring system shall not be acceptable. Shaft seals without positively driven rotating members or systems requiring a pressure differential to offset external pressure and to effect sealing shall not be accepted.

The lower seal for all pumps shall have tungsten carbide rotating and stationary rings. The upper seal for pumps 20 hp and larger shall also have tungsten carbide rotating and stationary rings. For pumps smaller than 20

HP, the upper seal may be furnished with a tungsten carbide stationary ring and a carbon-rotating ring. Ceramic seal faces are not acceptable.

The pump/motor housing shall be designed to allow simple access for seal inspection. Pumps 20 hp and larger shall be equipped with tapped plugs to allow inspection for leakage in the oil housing and motor stator housing without pump disassembly. Separate oil chamber drain plugs shall also be provided. Oil shall be FDA approved, environmentally friendly, white paraffin based lubricant.

- F. Shaft: Pump shafts shall be single piece extending through the pump and motor. Extension couplings shall not be acceptable. Pumps designed such that the shaft is not exposed to pumped liquid may utilize C1034 carbon steel shaft material. If any portion of the shaft is exposed to pumped liquid, the entire shaft material shall be 431 stainless steel. Shaft sleeves of dissimilar metals shall not be used.
- G. Fasteners: All exposed nuts or bolts shall be AISI type 304 stainless steel. All exterior metal surfaces coming into contact with the pumpage, shall be protected by a factory applied spray coating of alkyd primer and a synthetic resin enamel finish.
- H. O-rings: All O-rings shall be of Nitrile Rubber.
- I. Lifting handle: The lifting handle shall be of galvanized steel.
- J. Cooling System: Motors shall be capable of being sufficiently cooled by the surrounding environment or pumped media without requiring a water cooling jacket.
- K. Bearings: Bearings shall be equipped with permanently lubricated bearings with a system B-10 life of 40,000 hours. Upper bearings shall be single row deep groove ball or roller bearing. Lower bearings for pumps 60 hp and smaller shall be double row angular contact ball bearings.
- L. Guide Bracket: A sliding guide bracket shall be provided as an integral part of the pump unit and shall be bolted to a machined surface on the volute. Bracket design shall allow raising and lowering the pump without binding of the bracket and guide bars. When lowered into place, the guide bracket shall connect to a machined lip on the discharge connection to automatically align pump and discharge connections and support the total pump weight. No adjustments shall be necessary for assuring proper alignment and no supplemental fasteners, clamps, spool pieces, gaskets or devices of any kind other than bolting to the pump volute shall be required. The guide bracket shall be Class 35 cast iron with the same protective coating as the pump.

- M. Discharge Connection: A discharge connection shall be provided as an integral part of the pump assembly and shall be Class 35 gray cast iron with the same protective coating as the pump. The discharge connection shall be permanently anchored to the wet well floor. A 125 psi ASA flange shall be provided for connection to discharge piping. Minimum discharge flange diameter shall be as indicated below and in the Plans. The connection inlet shall be tapered and machined to receive, and provide a metal-to-metal seal with the pump volute discharge flange. **O-rings, diaphragms or seat rings of dissimilar metal shall not be required and will not be accepted as equal to a machined, cast iron, metal fit.** Integrally cast bosses shall be provided on the discharge connection to receive, support and permanently align the guide bars. Discharge connections design shall allow total support of the pump guide bars and discharge piping, and no more than one 90 degree turn shall be allowed between the connection inlet and discharge.
- N. Pump Connection to Discharge Piping: Installation of the pump unit to the discharge connection shall be the result of a simple linear downward motion of the pump unit guided by no less than two guide bars. No other motion of the pump unit, such as tilting or rotating shall be required. No portion of the pump unit, including legs or supplemental attachments, shall bear directly on the floor of the wet pit.

2.3 Motor

- A. Construction: Pump motors shall be NEMA Design B squirrel-cage induction type with the stator and rotor housed in an air-filled watertight chamber. Motors 40 hp and smaller shall be dual voltage suitable for operation with 230 or 460 volt, three phase power. The stator winding, stator leads and insulating paper shall be moisture resistant NEMA Class F and shall be dipped and baked a minimum of three times in Class F varnish for a total temperature rating of 155C. The stator unit shall be heat-shrink fitted into the stator housing. Use of bolts, pins, or other fastening devices requiring penetration of the stator housing shall not be acceptable. The rotor bars and short circuit rings shall be of aluminum. The motor shall be designed for **continuous duty** in 40C ambient air and capable of fifteen (15) starts per hour. Thermal switches embedded in the stator windings shall be used to monitor stator temperature. The switches shall be normally closed and set to open at 125 C. Automatic reclosing shall occur when stator temperature cools to 95C. Motors 10 hp and smaller shall be air cooled. Motors 15 hp and larger shall be equipped with an internal water jacket which encircles the stator housing and utilizes circulation of the pumped liquid. Cooling water channels and ports shall be non-clogging by virtue of their dimensions. Cooling systems requiring separate source cooling water will not be acceptable.

- B. Power Cable Entry & Connection: The power cable entry seal design shall preclude specific torque requirements to insure a watertight seal and shall allow simple, field changing of power cables without affecting pump or motor warranty. The cable entry assembly shall consist of seal flange designed and machined to provide precise compression of a single, cylindrical, elastomer grommet flanked by stainless steel washers all having a close tolerance fit against the outside diameter of the cable and the inside diameter of the entry body. The sealing flange shall bolt to a machined surface on the pump and the compression washer shall bear against a machine shoulder in the entry body. Compression by the entry body shall provide a strain relief function separate from the cable sealing function.

A separate junction chamber shall be provided inside the pump for connection of power cable to stator leads. The junction chamber shall be sealed by a nonmetallic plate, or terminal board, bolted to a machined surface and utilizing an o-ring to obtain a watertight seal. Penetrations of the sealing plate or terminal board for stator leads shall be separately sealed to prevent moisture or contamination that might enter through the cable, cable entry or during field change of cables from entering the motor stator housing. Pumps 20 hp and larger shall be furnished with threaded, compression type binding posts mounted in a terminal board. Pumps 10 hp and smaller shall have screwed compression type terminal strips. All pumps 40 hp and less shall be capable of field reconnection for operation with 230 or 460 volt three phase power.

- C. Power Cable: All pump power cables shall be multi-conductor externally jacketed with oil resistant chloroprene rubber. Internal individual conductor insulation shall be ethylene propylene rubber (DuPont Nordel) and shall be color coded to identify each power and control lead. Conductor sizing shall comply with N.E.C. requirements and cables for pumps 40 hp and smaller shall be suitably sized for operation with 230 or 460 volt power. Power cables shall comply with N.E.C. requirements for portable use in Class II hazardous areas. The cable shall be specifically designed for submersible pump service and shall be identified as such by external marking as type SPC (Submersible Pump Cable).

2.4 Accessories

- A. General: The pump manufacturer shall furnish all station hardware and accessories for use with the pumps furnished or for any future requirements or revisions as may be indicated in the Plans or other sections of the Contract Specifications. All items furnished shall be guaranteed suitable for the intended use and shall be warranted against defective workmanship, materials and excessive corrosion for a period of one year after final acceptance by the Owner. All fabricated items inside the wet well shall be stainless steel or aluminum as indicated below. In no case shall any steel

other than 300 Series stainless be used for any fabricated item installed below the normal operating water level.

- B. Access Covers: To insure compatibility, all access covers in structures containing submersible pumps shall be provided by the supplier of the submersible pumps. The access frame and cover shall have 1/4" thick one piece, mill finish, extruded aluminum channel frame, incorporating a continuous concrete anchor. Door panels shall be 1/4" aluminum diamond plate, reinforced to withstand a live load of 300 lb/sf. Doors shall open to 90 degrees and automatically lock with a stainless steel hold open arm with an aluminum release handle. The aluminum access cover shall have a built in neoprene cushion/gasket to provide a "watertight seal." When closed, doors shall be flush with the frame and equipped for padlocking. Lifting handle, hinges and all fastening hardware shall be stainless steel. Unit shall be guaranteed against defects in material and/or workmanship for a period of 5 years.
- C. Guide Bars: The guide system shall consist of no less than two bars. Each bar shall be standard Schedule 40 wall thickness pipe to assure future availability for replacement. Guide bars shall be 2 inch for pumps 2 hp and smaller unless otherwise indicated on the Plans. Guide bars spanning 20 feet or less between upper and lower supports shall not require intermediate bracing. Guide bar material shall be stainless steel, type 304.
- D. Guide Bar Supports & Brackets: Lower guide bar supports shall be male bosses integrally cast as part of the discharge connection to assure permanent and non-adjustable alignment of the pump and guide bars. Upper guide bar support shall be bolted to the access opening concrete or cover frame as indicated on the plans.

Intermediate supports, when required, shall be bolted to the station discharge pipe at a point not less than half the distance between the station floor and top deck. The guide bar support system shall allow removal and replacement of guide bars without intermediate supports, and the upper section of bars with intermediate supports, without need to enter the wet well. A guide bar supports shall utilize male bosses and not sockets which might fill with debris. Upper and intermediate brackets shall be fabricated of 304 stainless steel. In addition to provisions for guide bar support, upper brackets shall be furnished with hooks for hanging the pump lifting device and power cable support.

- E. Float Cable Racks: Level sensor floats shall be suspended in the wet well from a cable rack as indicated on the Plans. Each rack shall be provided with six, 3/16 inch diameter hooks over which the level sensor cables shall be looped. The cable rack shall be 304 stainless steel.

- F. Power Cable Supports: A stainless steel, or nonmetallic cable grip shall be provided for each pump power or pilot cable. The grip shall have a loop on one end which will hang from a hook provided on the upper guide bar bracket.
- G. Hardware: All nuts, bolts, washers, anchor bolts, or any attachment hardware used inside the wet well shall be 304 stainless steel.
- H. Lifting Assembly: Each pump shall be provided with a lifting chain or cable as indicated on the Plans. Lifting chain and attachment hardware shall be 304 or 316 stainless steel and shall provide a minimum system working load rating of 150% pump weight. Lifting cables shall be 316 stainless steel, plastic coated and shall provide a system minimum working load rating of 200% pump weight.

PART 3 - EXECUTION

3.1 Installation and Field Testing:

- A. After the pumps have been completely installed and wired, the Contractor shall remove the pumps to the wet pit top deck and an authorized service representative of the pump manufacturer shall inspect each pump for proper installation. As part of this inspection, the manufacturer's service representative shall:
 - Megger stator and power cable
 - Measure and record stator and power cable resistance
 - Check for proper rotation
 - Check power supply voltage
 - Measure motor no load current
 - Check level control operation, and sequence

During this initial inspection, the manufacturer's service representative shall review recommended operation and maintenance procedure and warranty with the Owner's personnel.

3.2 Initial Operation:

- A. After initial inspection, the Contractor shall lower the pumps into place in the wet pit and provide water for an initial operation check. The manufacturer's service representative shall supervise lowering and connection of the pumps to the discharge connection confirming proper guide bar and discharge connection alignment. The service representative shall then perform an initial operation check of each pump including:
 - Motor current in each phase
 - Supply voltage with one and two pumps running

- Vibration
- Discharge connection seating

3.3 Operating Test:

- A. On request by the Engineer, all pumps shall be subject the following test as proof of design. These shall be performed by the Contractor and as directed by an authorized engineer of the pump manufacturer.

3.5 Run Dry:

- A. Discharge piping shall be disconnected to allow recirculation of water through the pump and back to the wet well. Liquid level shall be maintained at the pump volute top with the motor totally dry. Test period shall be up to 24 hours as directed by the Engineer.

3.6 Report:

- A. On completion of initial inspection and operation checks, the pump manufacturer shall furnish the Engineer with a written report of findings and data determined with regard to the pumps, motors, accessories, level control and electrical protection devices. This report shall bear the stamp of a Registered Professional Engineer employed or retained by the pump supplier to indicate engineering review and approval of field test data. A copy of the report shall be included in the operation and maintenance manuals.

*** END OF SECTION ***

SECTION 16000

ELECTRICAL SPECIFICATIONS

1. General:

A. All work shall conform to the National Electrical Code 2002, Ordinances of the City of Ingleside, Texas, and to the Drawings and these Specifications.

B. The scope of work entails installation of electrical power and control systems for operation of pumps and equipment, lights and miscellaneous and other work to provide a complete operational system for the Lift Stations.

C. Utility Service to the sites is 120/240 Volts, 3-Phase, 4-wire, delta, grounded. The high leg shall be the AB@ phase and shall be identified with Orange. Conduit and conductors must be extended from the lift station to the Utility Transformer. Contractor shall coordinate with the Utility for Electrical Service, and pay all fees and charges.

D. Substitution of Materials or Construction Methods may not be done without written approval of the engineer. The engineer must be furnished lists of materials proposed for approval, along with complete diagrams and catalog data, for review, before any approval can be considered.

2. Materials:

Submit for review and approval, catalog data and other information on electrical equipment to be used on the project.

A. Raceways:

1. Conduit shall be sched. 40 PVC with cement welded joints. Bends shall be made with factory bends or by heating the conduit in a "bending box" with controlled heat; bending with torch or flame heat will not be accepted. Where connected to conduit above ground, an expansion fitting shall be installed at 8 inches above the ground.

2. Conduit fittings shall be PVC or Malleable Cast with hubs. PVC fittings shall have bronze or stainless steel inserts for machine screws for installing devices and covers; sheet metal screws into plastic is not acceptable. Hubs for entry to fiberglass or other equipment enclosures, shall be made into the sides or bottom of the enclosures, and entries into the sides of the enclosures shall have AO@ ring seals to prevent entry of moisture. Die-Cast Aluminum Zinc fittings and Boxes shall not be used.

3. Flexible Conduit shall be heavy wall non-metallic liquidtight flexible conduit (Carlson "Carflex" or equal).

4. Small pull and junction boxes shall be PVC or Aluminum with threaded conduit entries or with slip holes with watertight Hubs (T&B or Crouse-Hinds HUB fittings, or Meyers type STA or STAG or SSTG; [Meyers type ST is not acceptable]). Boxes shall be NEMA 4; cover shall be gasketed and have S.S. Cover Bolts.

B. Conductors:

1. Single conductor wire shall be Stranded Copper Conductors with type THW-2 or XHHW insulation and shall be color coded. Conductors #8 and smaller shall have colored insulation. Conductors larger than #8 may be color coded with solid colored insulation or with 2" wide bands of colored tape located within 6" of wire entry into the enclosure and within 3" of the termination of the wire. Color of Neutral and Ground conductors shall be continuous. Color scheme shall be:

120/240 V.

Phase A	Black
Phase B	Orange
Phase C	Red
Neutral	White (Continuous color)
Ground	Green (Continuous color)

At the Main Breaker and at the Starters, phase rotation shall be A-B-C, left to right.

2. Signal conductor shall be # 16 AWG, Shielded, Twisted Pair, with outer Jacket: Belden # 1030A or Dekoron # 1852-68600. Three conductor, Triad cable shall be # 16 AWG, Shielded twisted Triad conductors, with outer Jacket: Belden # 1031A or Dekoron # 1862-68600.

C. Supports and Hardware:

1. Mounting hardware shall be Stainless Steel or Hot Dip Galvanized bolts, nuts and washers. Anchors in concrete shall be Stud Anchors (Hilti ^AKB[@] or Red-Head ^AJS[@] or ^AWS[@]). Anchors in Concrete at the Lift Stations shall be Epoxy Adhesive Anchors with SS Anchors (Hilti ^AHVA[@] or Red-Head ^ACHEM[@]).

2. Mounting Channel shall be Aluminum (Unistrut # P1000EA or B-Line # B22A). Fittings shall be Aluminum or Stainless Steel. Fastener hardware shall be stainless steel. Stainless steel threads shall be coated with Anit-Seize Compound to prevent stainless steel nuts seizing on the bolts. Fitting catalog numbers are for standard Unistrut fittings, but Aluminum or S.S. components shall be used. If a particular fitting is not available from any manufacturer, a similar Aluminum or S.S. fitting which will achieve the same result will be acceptable.

Mounting Timber supports shall be Wolmanized Wood as identified on the

drawings. In horizontal members for mounting equipment, the bolt heads and flat washers (Joslyn J7812/J1088) shall be recessed into the wood. Vertical stub pole may be either a short utility pole, or may be an 8"x8"x10' wolmanized timber set into the ground 4 ft. min.

Service Pole shall be 25 ft., class 3, SYP wood pole, per REA Specifications with Creosote/Coal tar treatment with manufacturer=s stamp at 10' from the butt end.

D. Service Disconnect, Fixtures, Wiring Devices, Surge Arresters.

1. Service Disconnect shall be 60 amp, 3 pole, 42klsc, Circuit Breaker in NEMA 4X Stainless Steel enclosure. Breakers shall be rated for 250 volts, 65K lsc. Breakers shall be Cutler Hammer or Square D. A 4 pole tap block (Ferraz-Shawmut # 66073/66570) shall be installed below the circuit breaker for connection of the conductors to the Starters and to the control panel.

2. Lighting Fixture shall be 70 watt HPS Dusk-to-Dawn type with photocell.

3. Receptacles shall be Ground Fault Interrupters (Leviton # 6599-I). Receptacle Covers shall be Weatherproof with Plugs installed: TayMac deep cover # 20510.

4. Surge Arrester at the Main Disconnect at the Lift Station shall be Joslyn # 1452-21 for 120/240 v., 3f , 4W. Arrester shall be mounted through the rear of the enclosure below the breaker so the leads can be shortened with not more than 2" slack conductor. The face of the arrester shall be readily visible.

5. Coordinate with the Utility for the type of Meter Socket. Meter enclosure shall be aluminum, or stainless steel. Painted steel shall not be used.

E. MOTORS

1. Motors shall be Submersible, NEMA Design B, as specified with the Pumps.

F. MOTOR CONTROLS.

1. Motor Combination Starter units shall be Electronic Trip NEMA rated Starters with Motor Circuit Protector type circuit breakers, 42klsc. Starters shall have 120 volt coils. Starters and Breaker Units shall be as indicated on the One Line Diagrams. The starters shall provide overload protection, loss of phase protection. Protection shall not require overload heaters. Each starter shall have 2 N.O. & 2 N.C. auxiliary contacts. Overload Reset shall be in the front of the door at each starter unit. Operating handle shall have an auxiliary switch to open the control circuit when the MCP is opened.

Substitution of equipment shall require protective devices to provide Phase Sequence and Phase Loss protection for each control panel, and Ground Fault Protection for each motor. Enclosure shall be NEMA 4X Stainless Steel.

Starters shall be Square D 8539/H2, or Cutler Hammer Advantage.

G. CONTROLS

1. Level Controls at the Lift Stations shall be a sealed mercury switch in a plastic float with 14/2 type SJO cord, length as required +5 ft. The floats shall be suspended from a Stainless Steel Rack attached to the concrete at the manhole cover.

2. Level sensor shall be a Submersible Level Transmitter, to provide a 4-20mA output from 0-10 PSI: Ametek # 575SB0010NLS-25 or KOBOLD # KPW-010-1-1-W-L25 (verify the length of the cable at each lift station and provide at least 5 ft. spare cable on each sensor). Sensor cable shall be pulled into the conduit with the cables to the float switches and the sensor shall lie on the bottom of the pump well. In the control box, the cable shall extend up at least 8" and then be turned down at least 2" before the jacket is cut off, and the cable shall be installed without kinks to ensure equalizing air pressure to the transmitter.

3. Control Panel Enclosure shall be a NEMX 4X enclosure of Stainless Steel or Fiberglass. The door shall be blank and all controls shall be mounted in an aluminum interior hinged dead-front panel. The enclosure shall have an interior aluminum mounting panel. The Panel shall contain the Radio, RTU/PLC, power supply, relays, terminal blocks, etc. Provide terminal connections for all wires leaving the enclosure. Provide an additional 10% free space for equipment which may be added in the future. A padlockable hasp shall be provided on the enclosure.

4. Auxiliary Control Relays shall be DPDT, 10 amp contacts, 120 VAC or 24 VDC coil as required, IDEC # RH2B-UL, with mounting socket.

5. A power supply shall provide 120VAC/24VDC for power to the RTU/PLC, and to the pressure transmitter circuits. The 24VDC shall have a Battery Back-up to power the system for 1 hour on loss of utility power. A separate power supply shall provide 120VAC/13VDC for power to the Radio, and shall have a Battery Back-up to power the radio for 1 hour on loss of utility power. As an alternate, the 24VDC power supply and battery may be increased in capacity with a 24VDC/13VDC power supply for the radio.

6. In one phase of each pump a Transducer is installed to indicate the current to the Motor. This value is sent to the Master Controller and verifies that the pump is running and what current the pump is drawing. If a pump should be running, but no current is flowing, an alarm is given and the alternate pump is turned on. Transducer shall be sized for approx 150% of motor FLA and shall provide a 4-20mA signal proportional to the current in the line. Transducers shall be Dwyer (Love) model CT40-100, or equal.

7. The RTU/PLC shall be Control Microsystems "ScadaPack" to control the pumps, and to receive and transmit, via the radio, signals from the Master Control Station. The lift station will receive/send control and data inputs (discrete inputs): each pump **Aon** indication (from **Aa** contact on the starter), pump trouble alarm from each pump/starter, high water level signal, **AStop** commands from the Master Controller; (analog inputs): water level in the wet well, electrical current for each motor.

8. The Radio shall be Microwave Data Systems model MDS-9810, spread spectrum radio, transmitting in the 900 MHZ range to match the existing radio system, and shall not require any FCC license for operation. The antenna shall be Decible Products Yagi Antenna DB499K designed for the 896-960 MHZ band and fabricated of high strength welded aluminum alloy. Antenna shall withstand 125 mph winds. The lead-in cable shall be 1/2" foam flex Heliac coaxial cable with type N connectors.

The lead-in cable shall have a broadband coaxial surge protector (Polyphaser model IS-B50) with type N connectors for connection to the coaxial cable.

The antenna shall be solidly grounded to earth with # 6 stranded conductor connected to a 5/8" x 8' copperclad ground rod with a heavy connector.

Antenna shall be mounted at the top of the pole, and aimed toward the Antenna Pole at the Wastewater Plant.

3. Installation:

A. Exposed conduit shall be run in straight lines aligned with construction lines. Conduits into the manhole shall be run to drain to the manhole, and shall extend far enough so that cables are easily reached through the manhole cover.

B. At all locations where conduits enter the control panel or starters, the conduit shall be sealed with duxseal to prevent passage of air through the conduit. Conduits from the lift station to the control panel shall have two seals in each conduit.

C. Wire connections of conductors of # 10 AWG and smaller shall be made with twist-on spring connectors such as Scotch Lock or Wire Nuts. Wire connections of conductors larger than # 10 shall be made with two bolt clamps (Burndy type KVS) or with heavy copper **AC** crimp fittings (Burndy # YC-C or T&B # 54755 series). Mechanical Lugs shall be heavy copper type with Allen wrench clamps (T&B "LOCKTITE" lugs). All wires entering the control panel shall be connected to terminal blocks and not to other electrical devices.

D. In addition to the ground wire in the cables to the motors, a green #2 ground wire shall be installed in the conduit to the manhole with the control cables, and attached to provide a secure ground to the Manhole Cover Frame, the cable support bracket, the pump guide rails, and any other metal components at the Manhole cover area.

E. The Cables to the Motors in the Lift Station shall be terminated in a PVC terminal box below the starters. The conduit between the terminal box and the starter shall be sealed with 1" thick foam sealant at both the starter and the terminal box. Two 1/2" ø holes shall be drilled in the conduit below the terminal box (above the expansion fitting). At the bottom of the terminal box, the space around the cable shall be sealed with duxseal.

F. Color Code, or mark with permanent machine printed labels, all conductors as indicated above. Where two or more conductors of the same color are in the same conduit they shall be individually identified with marker labels.

G. Control Panel shall be properly aligned when mounted on the supports, so that doors close in proper alignment without force.

H. All Fasteners shall be corrosion proof: Stainless Steel, Bronze, or Hot Dip Galvanized. Sheet Metal Screws shall NOT be used with PVC box covers. Such use will require replacement of the box, even if all wires have been pulled!

4. RTU/PLC Computer operation:

A. At each lift station, the level sensor shall provide a 4-20mA signal which indicates the water level in the wet well. The RTU at the lift station controls the operation of the pumps, and sends a signal to the future Computer at the city water office to indicate the water level. The local RTU alternates the pumps when both pumps are off, and turns on/off the lead and lag pumps at the water levels indicated. The bottom float switch turns off both pumps if the water level drops to 15" above the floor to prevent cavitation of the pumps, if the RTU fails. The upper float switch sends an alarm via the RTU, and turns on a red light at the pump station, and turns on the pumps, if the water level rises above the setting.

B. From the Current Sensor on one line of each pump, the motor current will be sent to the Master Station, and displayed on the screen with the Pump Run light. If the pump is supposed to run, but the motor current does not rise, the motor has a problem and the alternate pump is run, and an alarm is given.

C. Programming of the RTU/PLC shall be done by a programmer selected by the City.

D. All required Software shall be provided, and shall be licensed to the City of Ingleside.
All equipment shall be registered in the name of the City of Ingleside.

*** END OF SECTION ***

MWD/10401-008/PA

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 3, 2005

Mr. D. Brent Moore, P.E.
Shiner Mosely and Associates, Inc.
555 N. Carancahua Suite 1650
Corpus Christi, Texas 78478

Re: City of Corpus Christi
Corpus Christi Marina Development Project
Texas Commission on Environmental Quality Permit No. 10401-008
WWPR Log No. 1005/016
CN600131858 RN101609915
Nueces County

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TCEQ
CENTRAL FILE ROOM

Dear Mr. Moore:

We have received the project summary transmittal letter dated September 29, 2005.

The rules which regulate the design, installation and testing of domestic wastewater projects are found in 30 TAC, Chapter 317, of the Texas Commission on Environmental Quality (TCEQ) rules titled, Design Criteria for Sewerage Systems.

Section 317.1(a)(3)(D), relating to case-by-case reviews, states in part that upon submittal of a summary transmittal letter, the executive director may approve of the project without reviewing a complete set of plans and specifications.

Under the authority of §317.1(a)(3)(D) a technical review of complete plans and specifications is not required. **However, the project proposed in the summary transmittal letter is approved for construction. Please note, that this conditional approval does not relieve the applicant of any responsibilities to obtain all other necessary permits or authorizations, such as wastewater treatment permit or other authorization as required by Chapter 26 of the Texas Water Code.** Below are provisions of the Chapter 317 regulations, which must be met as a condition of approval. These items are provided as a reminder. If you have already met these requirements, please disregard this additional notice.

1. You must keep certain materials on file for the life of the project and provide them to TCEQ upon request. These materials include an engineering report, test results, a summary transmittal letter, and the final version of the project plans and specifications. These materials shall be prepared and sealed by a Professional Engineer licensed in the State of Texas and must show substantial compliance with Chapter 317. All plans and specifications must conform to any waste discharge requirements authorized in a permit by the TCEQ. Certain specific items which shall be addressed in the engineering report are discussed in §317.1(c)-(d). Additionally, the engineering report must include all constants, graphs, equations, and calculations needed to show substantial compliance with Chapter 317. The items which shall be included in the summary transmittal letter are addressed in §317.1(a)(3)(D).

Mr. D. Brent Moore, P.E.
Page 2
November 3, 2005

2. Any deviations from Chapter 317 shall be disclosed in the summary transmittal letter and the technical justifications for those deviations shall be provided in the engineering report. Any deviations from Chapter 317 shall be based on the best professional judgement of the licensed professional engineer sealing the materials and the engineer's judgement that the design would not result in a threat to public health or the environment.
3. Any variance from a Chapter 317 requirement disclosed in your summary transmittal letter is approved. If in the future, additional variances from the Chapter 317 requirements are desired for the project, each variance must be requested in writing by the design engineer. Then, the TCEQ will consider granting a written approval to the variance from the rules for the specific project and the specific circumstances.
4. Within 60 days of the completion of construction, an appointed engineer shall notify both the Wastewater Permits Section of the TCEQ and the appropriate Region Office of the date of completion. The engineer shall also provide written certification that all construction, materials, and equipment were substantially in accordance with the approved project, the rules of the TCEQ, and any change orders filed with the TCEQ. All notifications, certifications, and change orders must include the signed and dated seal of a Professional Engineer licensed in the State of Texas.

This approval does not mean that future projects will be approved without a complete plans and specifications review. The TCEQ will provide a notification of intent to review whenever a project is to undergo a complete plans and specifications review. Please be reminded of §317.1(a)(2) of the rules which states, "Approval given by the executive director...shall not relieve the sewerage system owner or the design engineer of any liabilities or responsibilities with respect to the proper design, construction, or authorized operation of the project in accordance with applicable commission rules."

If you have any questions or if we can be of any further assistance, please call me at (512) 239-4552.

Sincerely,



Louis C. Herrin, III, P.E.
Wastewater Permits Section (MC 148)
Water Quality Division
Texas Commission on Environmental Quality

LCH/ms

cc: TCEQ, Region 14 Office



SHINER MOSELEY AND ASSOCIATES, INC.
ENGINEERS & CONSULTANTS

MMD/10401-008/PA
1005/ale

SCA OK
10/25/2005

September 29, 2005

J200.40190.11

Mr. Louis C. Herrin III, P.E.
TCEQ – MC 148
P.O. Box 13087
Austin, Texas 78711-3087

RECEIVED

OCT 03 2005

WASTEWATER PLANS
AND SPECIFICATIONS

RE: CHAPTER 317 SUMMARY TRANSMITTAL LETTER

Permittee: City of Corpus Christi
Permit Number: USACE Permit #23726
Project Name: Corpus Christi Marina Development Project
County: Nueces

Dear Mr. Herrin:

The purpose of this letter is to provide the TCEQ with the information necessary to comply with the requirements of §317.1(a)(3)(D) of the TCEQ's rules entitled, Design Criteria for Sewerage Systems. The necessary information includes:

1. The engineering consulting firm is:
Shiner Moseley & Associates, Inc.
555 N. Carancahua, Suite 1650
Corpus Christi Texas, 78478
2. The Project Manager is:
Brent Moore, P.E.
Phone (361) 857-2211
Fax (361) 857-7234
3. The City of Corpus Christi proposes to own, operate and maintain the project through its design life.
4. A 5-ft section of potable water piping will parallel a sanitary sewer line with a horizontal separation distance of 4 ½-ft at three locations. These three locations are where the water and sewer pipes merge (to within 4 ½-ft) before penetrating the concrete bulkhead. These three locations are shown clouded on Attachment "B" as Variance 1, Variance 2, and Variance 3. We propose to encapsulate the two pipes in these locations with cement stabilized sand to minimize the risk of line cross contamination.
5. We are requesting the use of a vacuum sewer system to service Floating Docks E, F, G, and H (USACE Permit #23726) on the Peoples Street T-head. The installation of a gravity sewer system would not be feasible for a floating dock system. Although this

system is considered nonconforming according to Chapter 317.1(a)(4)(C), vacuum sewer systems are commonly used at marinas with floating docks.


6. Except as disclosed in Item 4 of this letter, the plans and specifications which describe the project identified in this letter are in substantial compliance with all the requirements of Chapter 317. Any deviations from Chapter 317 which are a part of the project are based on the best professional judgment of the professional engineer who prepared the project plans, specifications and final engineering design report for this project.
7. This project involves the expansion and development of the Corpus Christi Marina, specifically the west side of the Peoples Street T-head (Peoples St. T-head is located just east of the intersection of Peoples St. and Shoreline Blvd.). Generally, the project will increase and improve upon the current services and facilities for the existing marina tenants with additional dockage, Floating Docks E, F, G, and H. The docks are necessary due to the increasing age of the existing facilities and to accommodate an increased demand for larger boat slips (both locally and nationally). Area lighting, electricity, and potable water will be provided to each slip via a series of separate conduits that all terminate into pre-manufactured pedestals. Separately, vacuum sewage services will be provided via a series of conduits extending from each slip to a central pump, from the pump to a sanitary sewer manhole, and from the manhole to the lift station. This central vacuum system will allow marina users to dock their vessels in the slips, and call marina personnel for pump out service. ~~The marina personnel will provide the hose connection from the vessel to the "on dock" vacuum system and will administer the services. Two-inch diameter PVC pressure piping will transport the sewage from the dock to the pump and discharge the sewage into a sewer manhole.~~ An inspection was performed on the sewer manhole revealing that the added sewage flow can be accommodated by the existing lines. Furthermore, all lines will be hydrostatically tested according to AWWA M23 prior providing service.

Additional project information can be found in Attachment "A".

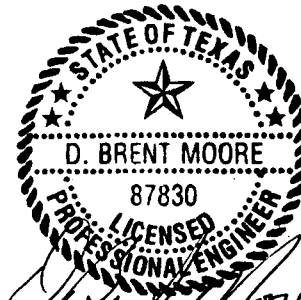
We look forward to receiving a confirmation as soon as possible, so that we may begin construction in January 2006. If you have any questions regarding this project, please contact Brent Moore, P.E., Phone (361) 857-2211, Fax: (361) 857-7234, Email: BMoore@ShinerMoseley.com


Sincerely,

SHINER MOSELEY AND ASSOCIATES, INC.


Brent Moore, P.E.
Project Manager

cc: Mr. Sinoel Contreras - TCEQ




9/30/05

ATTACHMENT A
CORPUS CHRISTI MARINA DEVELOPMENT PROJECT
CITY OF CORPUS CHRISTI PROJECT NO. 3297

THE SANITARY SEWER COMPONENTS OF THE PROJECT INCLUDE:

■ Individual suction port hydrants will be provided at each set of slips.

- Dock E – 9 suction port hydrants
- Dock F – 22 suction port hydrants
- Dock G – 21 suction port hydrants
- Dock H – 20 suction port hydrants

■ Ball valves at each hydrant control their use.

■ The 2-inch diameter pressure pipe suction and discharge lines will be DR 26 (IPS-OD) per ASTM Standard D2241.

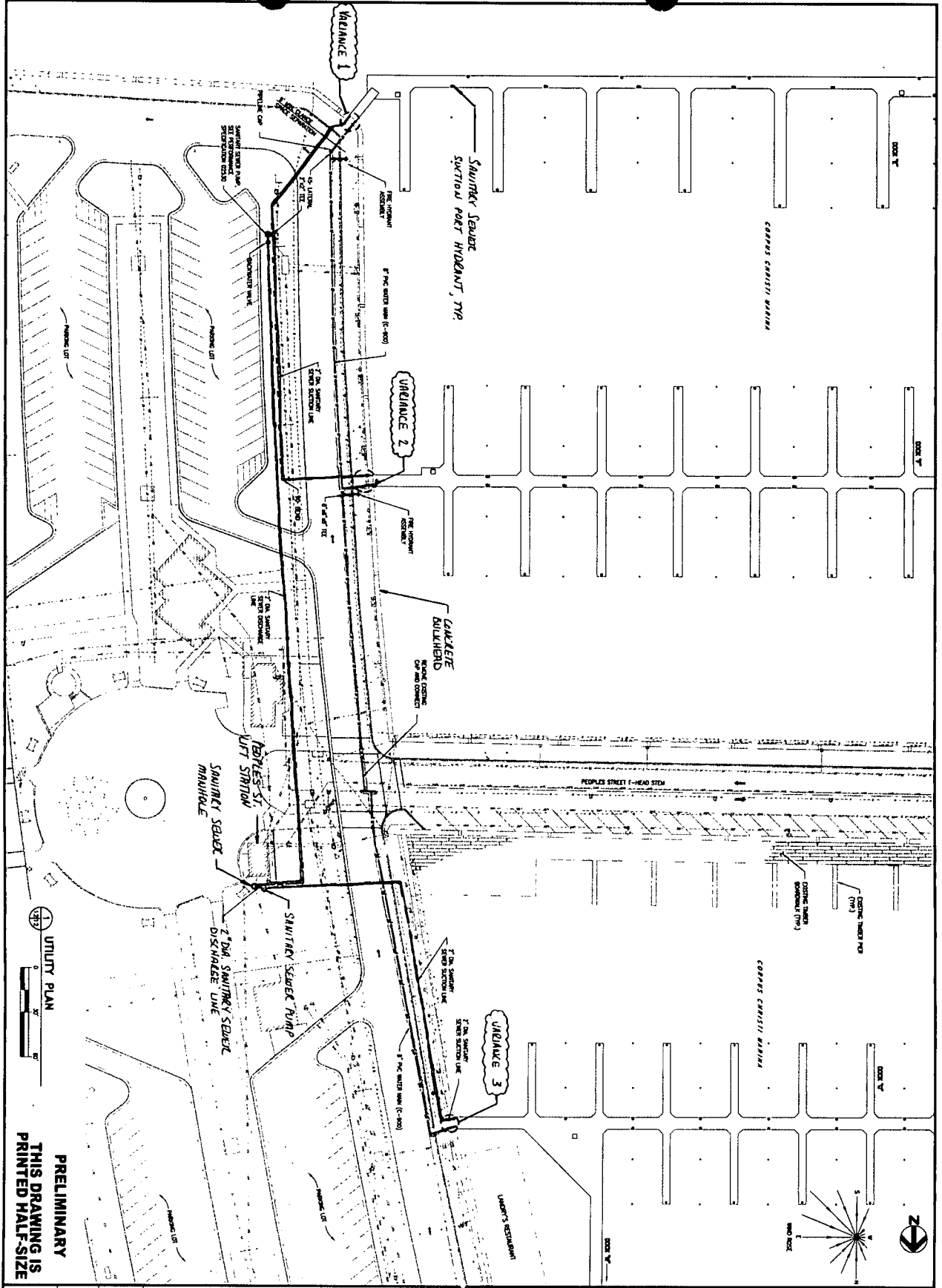
- All fittings will be Class 150 PVC fittings with special transition gaskets for adapting IPS-OD pipe and complying with ASTM Standards D1598 and D 2837.
- A peristaltic vacuum pump shall be used to transport the waste from the vessels to the sewer vault.
- Isolation valves will be installed between the first hydrant and the pump to allow service to one dock in the event repairs are required to a different dock.

■ Backwater valves will be installed between the pump and the wet well to prevent any backflow from the wet well to the pump.

■ Each of the lines will be hydrostatically tested at 150 psig according to AWWA M23 before the lines go into service.



- There is a 5' section of sewer line that parallels a potable water line with a horizontal separation of 4'-6". We propose to encapsulate both lines in cement stabilized sand to minimize the risk of line cross contamination.
- Contractor's Quality Control Manager, Pump Manufacturer's Representative, and Engineer will be onsite for hydrostatic test.

J:\SMCAD\Projects\2004\40190\dwg\01\DOCKS-E-F-G-12.dwg 8/31/2005 11:51 AM



PRELIMINARY
THIS DRAWING IS
PRINTED HALF-SIZE

REVISION NO.	DATE	BY	DESCRIPTION	REVISION NO.	DATE	BY	DESCRIPTION

SHEET 12 of 38 RECORD DRAWING NO. BAF 239 CITY PROJECT 1 2004	CORPUS CHRISTI MARINA DEVELOPMENT PROJECT PHASE III - DOCKS E, F, G, AND H UTILITY PLAN - SANITARY SEWER AND POTABLE WATER SUPPLY	 City of CORPUS CHRISTI TEXAS Department of Engineering Services	 SHINER MOSELEY AND ASSOCIATES, INC. ENGINEERS & CONSULTANTS 355 North Carmichael Street, Suite 1650 Corpus Christi, Texas 78478	THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW AND IS NOT INTENDED TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES. ENGINEER: G BRENT MOORE LICENSE NO.: 87830 DATE: 08/30/05	CORPUS CHRISTI PROJECT NO. 2004019002
---	---	--	---	---	---

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*



MWD/10401-008/PA

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 29, 2005

Mr. Foster Crowell
City of Corpus Christi
P.O. Box 9277
Corpus Christi, Texas 78469-9277

RE: City of Corpus Christi
Permit No. WQ0010401008

This letter is your notice that the Texas Commission on Environmental Quality (TCEQ) executive director has issued final approval of the above-named application.

You may file a **motion to overturn** with the chief clerk. A motion to overturn is a request for the commission to review the TCEQ executive director's approval of the application. Any motion must explain why the commission should review the TCEQ executive director's action.

A motion to overturn must be received by the chief clerk within 23 days after the date of this letter. An original and 11 copies of a motion must be filed with the chief clerk in person or by mail. The Chief Clerk's mailing address is Office of the Chief Clerk (MC 105), TCEQ, P.O. Box 13087, Austin, Texas 78711-3087. On the same day the motion is transmitted to the chief clerk, please provide copies to Stephanie Bergeron, Environmental Law Division Director (MC 173), and Blas Coy, Public Interest Counsel (MC 103), both at the same TCEQ address listed above. If a motion is not acted on by the commission within 45 days after the date of this letter, then the motion shall be deemed overruled.

Individual members of the public may seek further information by calling the TCEQ Office of Public Assistance, toll free, at 1-800-687-4040.

Sincerely,

A handwritten signature in cursive script, appearing to read "LaDorna Castañuela".

LaDorna Castañuela
Chief Clerk

LDC/tm

cc: Blas Coy, TCEQ Public Interest Counsel (MC 103)

RECEIVED
AUG 01 2005
TCEQ
CENTRAL FILE ROOM

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 29, 2005

Mr. Foster Crowell, Wastewater Director
City of Corpus Christi
P.O. Box 9277
Corpus Christi, Texas 78469

Re: City of Corpus Christi, Permit No. WQ0010401008
(RN 101609915; CN 600131858)

Dear Mr. Crowell:

Enclosed is a copy of the above referenced permit for a wastewater treatment facility issued on behalf of the Executive Director pursuant to Chapter 26 of the Texas Water Code.

Self-reporting or Discharge Monitoring Forms and instructions will be forwarded to you from the Water Quality Management Information Systems Team so that you may comply with monitoring requirements. For existing facilities, revised forms will be forwarded if monitoring requirements have changed.

Enclosed is a "Notification of Completion of Wastewater Treatment Facilities" form. Use this form when the facility begins to operate or goes into a new phase. The form notifies the agency when the proposed facility is completed or when it is placed in operation. This notification complies with the special provision incorporated into the permit.

Should you have any questions, please contact Mr. David U. Akoma of the Texas Commission on Environmental Quality's Wastewater Permitting Section at (512) 239-4671 or if by correspondence, include MC 148 in the letterhead address below.

Sincerely,

A handwritten signature in cursive script that reads "L'Oreal W. Stepney".

L'Oreal W. Stepney, Director
Water Quality Division

LWS/DUA/lh

Enclosures

cc: TCEQ, Region 14

ED SUBDELEGATION CHECKLIST

alc



PLEASE INITIAL IF THIS IS A PRIORITY ONE PERMIT

ED SUBDELEGATION COORDINATOR

ms Transmittal (cover letter) is attached and has been prepared in the correct format.

TEAM LEADER

Y EPA RESPONSE 7/12/05

W PUBLIC COMMENTS RECEIVED

W/A RTC FILED (If applicable)

W NO HEARING REQUEST/RFR RCVD DURING THE 2ND COMMENT PERIOD

✓ WQMP 2/2/99

✓ COMPLIANCE HISTORY RECEIVED ON 4/30/05

PERMIT WRITER: CHECK THE FOLLOWING REGARDING THE PERMIT

✓ COMPLIANCE HISTORY REVIEWED

Average Rating

N/A SENT TO ERC PART C

-ISSUES: _____

-RESOLUTION: _____

N/A THE PERMITTEE HAS RECEIVED CHANGES TO THE PERMIT

N/A THE PERMIT HAS A PRETREATMENT PROGRAM SUBSTANTIAL MODIFICATION (IF YES):

____ Send to ERC Part D

____ This substantial modification has been reviewed and is ready to be signed (signature page and modification package)

DA
J.W. Adams
Permit Writer Signature

7/19/05
Date

____ Pretreatment Coord Signature

____ Date

✓ THIS PERMIT HAS BEEN REVIEWED AND IS READY TO ISSUE

____ THIS PERMIT CANNOT BE ISSUED FOR THE FOLLOWING REASON: _____

Fisigvator
Team Leader Signature 7/21/05
Date

Henry C. Sexton
Special Assistant Signature 7/22/05
Date

10401-008
Permit Number

CHIEF CLERK'S OFFICE

2005 JUL 22 PM 3:57

LOWAERS
OF ENVIRONMENTAL
QUALITY

TEAM



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1445 ROSS AVENUE
DALLAS, TEXAS 75202-2733

MWD/W00010401008/PA

JUL 07 2005

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (7000 0520 0022 2557 4166)

Mr. Chris Linendoll, E.I.T., Section Manager
Wastewater Permitting Section (MC-148)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

RECEIVED
JUL 12 2005
WATER QUALITY DIVISION

Re: Review of Draft Permit
TPDES Permit No. TX0047104
Texas State Permit No. 10401-008
City of Corpus Christi

RECEIVED
AUG 31 2010
TCEQ
CENTRAL FILE ROOM

Dear Mr. Linendoll:

Thank you for the opportunity to review the draft permit transmitted in the letter from Mr. Firoj Vahora (TCEQ) to Ms. Evelyn Rosborough (EPA) dated May 20, 2005, and received on May 24, 2005. As part of the implementation of the Region 6 NPDES Permits State Oversight Streamlining Procedure, EPA declines review of this draft permit at this time. EPA reserves the right to review this permit should additional issues arise and to provide additional comments and/or objection prior to the close of the public comment period. Provided no additional comment and/or objection is forwarded to TCEQ prior to the end of the public comment period, TCEQ is free to proceed with issuance of this permit.

Thank you for your cooperation. If you have any questions, please contact me at VOICE: 214-665-6635, FAX: 214-665-2191, or EMAIL: schwab.kay@epa.gov.

Sincerely yours,

Kay Schwab (6WQ-PO)
State Program Coordinator
Oversight Team
NPDES Permits Branch

cc: David U. Akoma, Municipal Permits Team
Wastewater Permitting Section (MC 148)
TCEQ, P.O. Box 13087
Austin, Texas 78711-3087

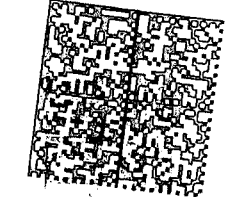
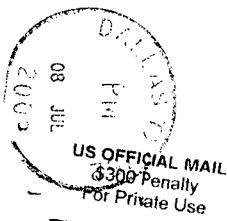


United States
 Environmental Protection Agency
 Region 6
 445 Ross Avenue, Suite 1200
 Dallas, Texas 75202-2733

6000-04

Official Business
 Penalty for Private Use \$300
 An Equal Opportunity Employer

Mr. Chris Linendoll, E.I.T., Manager
 Wastewater Permitting Section (MC-148)
 Texas Commission on Environmental Quality
 P. O. Box 13087
 Austin, TX 78711-3087



HASLER
 JUL 08 2005
 \$4.42
 US POSTAGE
 FIRST CLASS
 MAILED FROM 75202
 031404140T0018

RECEIVED
 PLACE STICKER AT TOP OF ENVELOPE
 TO THE RIGHT OF RETURN ADDRESS.
 FOLD AT DOTTED LINE
CERTIFIED MAIL

TCEQ MAIL

75202-2733-0520-0022-255744166

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*



MWD/10401-008/PA

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 6, 2005

RECEIVED

JUN 08 2005

TCEQ
CENTRAL FILE ROOM

Mr. Steve R. Synovitz, P.E.
Goldston Engineering, Inc.
210 South Carancahua, Suite 200
P.O. Box 2886
Copus Christi, Texas 78403-2886

Re: City of Corpus Christi
Laguna Madre WWTP - Aeration System Rehabilitation
Texas Commission on Environmental Quality Permit # 10401-008
WWPR Log No. 0505/094
CN600131858 RN101609915
Nueces County

Dear Mr. Synovitz:

We have received the project summary transmittal letter dated January 28, 2005.

The rules which regulate the design, installation and testing of domestic wastewater projects are found in 30 TAC, Chapter 317, of the Texas Commission on Environmental Quality (TCEQ) rules titled, Design Criteria for Sewerage Systems.

Section 317.1(a)(3)(D), relating to case-by-case reviews, states in part that upon submittal of a summary transmittal letter, the executive director may approve of the project without reviewing a complete set of plans and specifications.

Under the authority of §317.1(a)(3)(D) a technical review of complete plans and specifications is not required. **However, the project proposed in the summary transmittal letter is approved for construction. Please note, that this conditional approval does not relieve the applicant of any responsibilities to obtain all other necessary permits or authorizations, such as wastewater treatment permit or other authorization as required by Chapter 26 of the Texas Water Code.** Below are provisions of the Chapter 317 regulations, which must be met as a condition of approval. These items are provided as a reminder. If you have already met these requirements, please disregard this additional notice.

1. You must keep certain materials on file for the life of the project and provide them to TCEQ upon request. These materials include an engineering report, test results, a summary transmittal letter, and the final version of the project plans and specifications. These materials shall be prepared and sealed by a Professional Engineer licensed in the State of Texas and must show substantial compliance with Chapter 317. All plans and specifications must conform to any waste discharge requirements authorized in a permit by the TCEQ. Certain specific items which shall be addressed in the engineering report are discussed in §317.1(c)-(d). Additionally, the engineering report must include all constants, graphs, equations, and calculations needed to show substantial compliance with Chapter 317. The items which shall be included in the summary transmittal letter are addressed in §317.1(a)(3)(D).

Mr. Steve R. Synovitz, P.E.

Page 2

June 6, 2005

2. Any deviations from Chapter 317 shall be disclosed in the summary transmittal letter and the technical justifications for those deviations shall be provided in the engineering report. Any deviations from Chapter 317 shall be based on the best professional judgement of the licensed professional engineer sealing the materials and the engineer's judgement that the design would not result in a threat to public health or the environment.
3. Any variance from a Chapter 317 requirement disclosed in your summary transmittal letter is approved. If in the future, additional variances from the Chapter 317 requirements are desired for the project, each variance must be requested in writing by the design engineer. Then, the TCEQ will consider granting a written approval to the variance from the rules for the specific project and the specific circumstances.
4. Within 60 days of the completion of construction, an appointed engineer shall notify both the Wastewater Permits Section of the TCEQ and the appropriate Region Office of the date of completion. The engineer shall also provide written certification that all construction, materials, and equipment were substantially in accordance with the approved project, the rules of the TCEQ, and any change orders filed with the TCEQ. All notifications, certifications, and change orders must include the signed and dated seal of a Professional Engineer licensed in the State of Texas.

This approval does not mean that future projects will be approved without a complete plans and specifications review. The TCEQ will provide a notification of intent to review whenever a project is to undergo a complete plans and specifications review. Please be reminded of §317.1(a)(2) of the rules which states, "Approval given by the executive director...shall not relieve the sewerage system owner or the design engineer of any liabilities or responsibilities with respect to the proper design, construction, or authorized operation of the project in accordance with applicable commission rules."

If you have any questions or if we can be of any further assistance, please call me at (512) 239-4552.

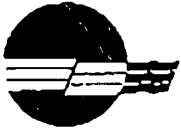
Sincerely,



Louis C. Herrin, III, P.E.
Wastewater Permits Section (MC 148)
Water Quality Division
Texas Commission on Environmental Quality

LCH/ms

cc: TCEQ, Region 14 Office



GOLDSTON ENGINEERING, INC.

FAX COVER SHEET

ATTENTION: Louis Herrin

COMPANY: TCEQ

FAX NUMBER: 512-239-4430

PHONE: 512-239-4552

REFERENCE: Laguna Madre WWT

JOB NUMBER: 902024-04 / 7169
CEI CITY

DATE: 5/6/05

NO. OF PAGES: 0 (INCL. COVER)

FROM: STEVE SYNOUZZ

E-MAIL ADDRESS: _____

GOLDSTON ENGINEERING, INC.

PHONE (361) 888-8100 Ext. 127

FAX (361) 888-8600

REPLY REQUESTED:

E-MAIL BY MAIL

BY PHONE BY FAX

NO REPLY NECESSARY

ORIGINAL TO FOLLOW BY MAIL:

YES NO

NOTES: P.E. Seal & info & permit # per
your request.

cc: Jeff Caffey - APAT

CONFIDENTIALITY NOTICE:

This facsimile transmission and the documents accompanying it may contain confidential information belonging to the sender which is protected by certain privileges. The information is intended only for delivery to the individual or entity named herein. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution, or the taking of any action in reliance on the contents of this transmission is strictly prohibited. If you have received this transmission in error, please notify us immediately by telephone to arrange the return of the documents.

210 S. Carancahua, P. O. Box 2886 • Corpus Christi, Texas 78403 • (361) 888-8100

Please visit our website at <http://www.goldstonengr.com>

MWD/10401-008/PA
2505/094

*ACFOR
5/15/2005*



GOLDSTON ENGINEERING, INC.

210 South Carancahua - P.O. Box 2886
Corpus Christi, TX 78403-2886
Phone (361) 888-8100 - Fax (361) 888-8600
e-mail: gei@goldstonenr.com

January 28, 2005

A02024-04

Mr. Luis Herrin
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087
Phone: (512) 239-4552

**Re: Laguna Madre WWTP - Aeration System Rehabilitation
City Project # 7169**

Dear Mr. Herrin:

Goldston Engineering, Inc. has a design contract with the City of Corpus Christi to prepare plans to rehabilitate the Laguna Madre Wastewater Treatment Plant aeration system. Please accept this letter as a summary transmittal letter for the project.

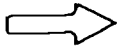
Additional required information is as follows:

- (i) The design firm is:
Goldston Engineering, Inc.
210 S. Carancahua, Suite 200
Corpus Christi, TX 78403;
- (ii) The names, phone numbers and facsimile numbers of the design engineers are:
Steve Synovitz, P.E. (Civil)
(361) 888-8100 ext. 127 (Phone)
(361) 888-8600 (Fax);

Jeff Caffey, P.E. (Mechanical)
(817) 806-1700 (Phone)
(817) 589-0072 (Fax);
- (iii) The project name is: **Laguna Madre WWTP - Aeration System Rehabilitation** (City Project # 7169); it is located in the City of Corpus Christi in Nueces County, Texas;

Mr. Luis Herrin,
January 28, 2005
Page 2 of 2

- (iv) The name of the entity which proposes to own, operate and maintain the project through its design life is the City of Corpus Christi;
- (v) The permit name and number of the relevant wastewater treatment facility is:
Laguna Madre Wastewater Treatment Plant
EPA Permit #: TX0047104
- (vi) The project scope includes installing a new stainless steel air distribution system above-ground, which replaces an existing below-grade ductile iron system; replacing the existing steel blower intake filter hoods with stainless steel intake filter hoods; minor site work including removal and salvage of existing ductile iron piping and fittings and grouting of below-grade piping as well as concrete paving; and installation of a new fine bubble diffuser system in the re-aeration and mixing basins to replace the existing coarse bubble diffuser system.



We are enclosing, for your files, a copy of the bid set plans that we recently submitted to the City. If you have any commentary, please let us know.

If you have any questions or if we can provide any additional information, please call me at (361) 888-8100, ext. 127. Thank you for your time.

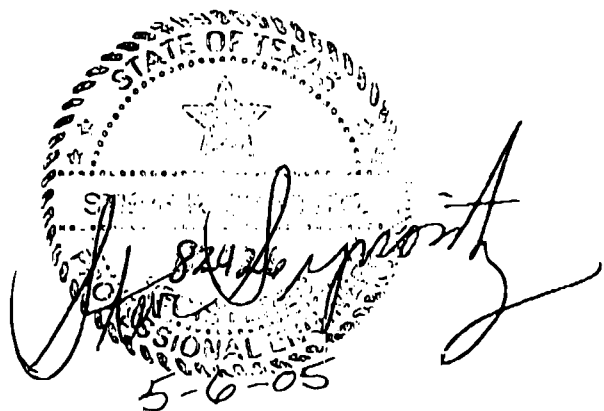
Sincerely,

GOLDSTON ENGINEERING, INC.

Steve Synovitz, P.E.
Senior Project Manager

cc: Tom Bacon, P.E. City of Corpus Christi
Joe Trejo, P.E. City of Corpus Christi

Enclosures



API FILE COPY
DATE RECEIVED: MAY 04 2005
PROJECT/PROPOSAL NO.
FILE HEADING:
OFFICE:

FAX TRANSMITTAL

DATE: 5-4-05 NUMBER OF PAGES (including this cover sheet): 3

TO: Name Jeff Carey, P.E.
Organization Goldston Engineering, Inc.
FAX Number 817-589-0072

FROM: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Name Louis C. Herrin, III, P.E.
Division/Region Water Quality
Telephone Number (512) 239-4552
FAX Number (512) 239-4430

NOTES:

We have received your transmittal letter for Permit # Kagira Mdr WWTTP
dated 1-28-05. The attached checklist notes the deficiencies that have been found
in your permit. Please submit the corrections by fax within two business days to assure your
permit is processed in a timely manner. Fax all information to Louis Herrin, III at (512) 239-
4430. Thank you for your cooperation in this matter. If you have questions, you may contact
me at (512) 239-4552.

Sincerely,

Louis C. Herrin, III, P.E.
Wastewater Permits Section (MC 148)
Water Quality Division



RECEIVED

FEB 02 2005

WASTEWATER PLANS
AND SPECIFICATIONS

MWD/10461-008/PA

Called 4/12/05-



GOLDSTON ENGINEERING, INC.

210 South Carancahua - P.O. Box 2886
Corpus Christi, TX 78403-2886

Phone (361) 888-8100 - Fax (361) 888-8600
e-mail: gel@goldstonengr.com

January 28, 2005

A02024-04

Mr. Luis Herrin
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087
Phone: (512) 239-4552

Re: ~~Laguna Madre WWTP - Aeration System Rehabilitation~~
City Project # 7169

Dear Mr. Herrin:

Goldston Engineering, Inc. has a design contract with the City of Corpus Christi to prepare plans to rehabilitate the Laguna Madre Wastewater Treatment Plant aeration system. Please accept this letter as a summary transmittal letter for the project.

Additional required information is as follows:

- (i) The design firm is:
Goldston Engineering, Inc.
210 S. Carancahua, Suite 200
Corpus Christi, TX 78403;
- (ii) The names, phone numbers and facsimile numbers of the design engineers are:
Steve Synovitz, P.E. (Civil)
(361) 888-8100 ext. 127 (Phone)
(361) 888-8600 (Fax);

Jeff Caffey, P.E. (Mechanical)
(817) 806-1700 (Phone)
(817) 589-0072 (Fax);
- (iii) The project name is: **Laguna Madre WWTP - Aeration System Rehabilitation (City Project # 7169)**; it is located in the City of Corpus Christi in Nueces County, Texas;

Deficiencies Checklist

- Permittee Name
- Permit Number
- Project Name
- County
- Variance/Innovative
- P.E. Seal/ P.E. Information
- Project Description

APPLICATION AVAILABILITY VERIFICATION FORM

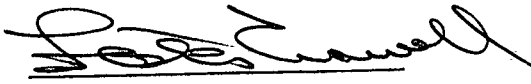
Applicant Name: City Of Corpus Christi
Permit No.: WQ0010401008 CCO# 45250

RECEIVED
CHIEF CLERKS OFFICE
2005 JUN 17 10:22:31

APPLICATION AVAILABILITY (you must check one box):

- I certify that the permit application was made available for review and copying at a public place in the county where the facilities are or will be located in accordance with the provisions of 30 TAC §39.405(g)(1).
- I certify that a copy of the complete permit application (including any subsequent revisions to the application), draft permit and the executive director's preliminary decision were made available for review and copying at a public place in the county where the facilities are or will be located in accordance with the provisions of 30 TAC §39.405(g)(2) as of the date of this verification.

Location where documents were made available:
2726 Holly Road, Corpus Christi, Texas 78415

Signed by: 

Title: Wastewater Director

Company: City of Corpus Christi

Date: 6-13-05

TCEQ-OFFICE OF THE CHIEF CLERK
MC-105 Attn: Notice Team
PO BOX 13087
AUSTIN TX 78711-3087

APPLICANT NAME: CITY OF CORPUS CHRISTI
PERMIT NO.: WQ0010401008 CCO# 45250
NOTICE OF APPLICATION AND PRELIMINARY DECISION

**AFFIDAVIT OF PUBLICATION FOR
A NEWSPAPER WITHIN A MUNICIPALITY
WATER QUALITY PERMITS**

2005 JUN 17 PM 2:31
CHIEF CLERKS OFFICE
OFFICE OF ENVIRONMENTAL
QUALITY

STATE OF TEXAS §
COUNTY OF NUECES §

Before me, the undersigned authority, on this day personally appeared
SHARON WILLINGHAM, who being by me duly

(name of newspaper representative)

sworn, deposes and says that (s)he is the REVNUUE MANAGER
(title of newspaper representative)

of the CORPUS CHRISTI CALLER TIMES; that said newspaper is
(name of newspaper)

a newspaper of general circulation in CORPUS CHRISTI, Texas;
(Name of Municipality)

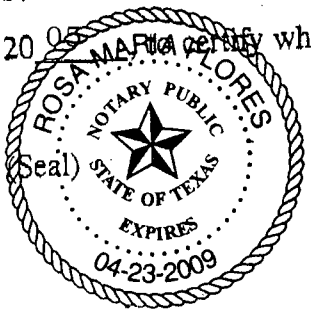
that the attached notice was published in said newspaper on the following date:

JUNE 03, 2005

Sharon Willingham
Newspaper Representative's Signature

Subscribed and sworn to before me this the 9th day of JUNE,

20 05 which witness my hand and seal of office.



Rosa Maria Flores
Notary Public in and for the State of Texas

ROSA MARIA FLORES
Print or Type Name of Notary Public

My Commission Expires 04-23-09

TCEQ-OFFICE OF THE CHIEF CLERK
MC-105 Attn: Notice Team
PO BOX 13087
AUSTIN TX 78711-3087

APPLICANT NAME: CITY OF CORPUS CHRISTI WQ0010401008
PERMIT NO.: WQ0010401008 CCO# 45250
NOTICE OF APPLICATION AND PRELIMINARY DECISION

AFFIDAVIT OF PUBLICATION FOR RENEWALS

CHIEF CLERKS OFFICE

2005 JUN 17 PM 2:31

TEXAS
COMMISSIONER OF
PUBLIC INFORMATION
COUNTY

STATE OF TEXAS §

COUNTY OF NUECES §

Before me, the undersigned authority, on this day personally appeared
SHARON WILLINGHAM, who being by me duly
(name of newspaper representative)

sworn, deposes and says that (s)he is the REVNUUE MANAGER
(title of newspaper representative)

of the CORPUS CHRISTI CALLER TIMES; that said newspaper is
(name of newspaper)

regularly published in NUECES County, Texas, and is the
newspaper of largest circulation in ***see below County/Countries, Texas;

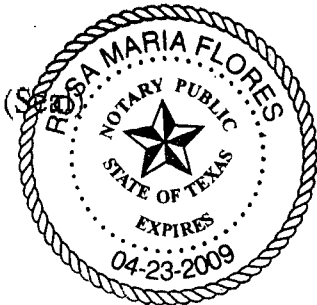
that the attached notice was published in said newspaper on the following date:

JUNE 03, 2005

Sharon Willingham

Newspaper Representative's Signature

Subscribed and sworn to before me this the 9th day of JUNE,
20 05, to certify which witness my hand and seal of office.



Rosa Maria Flores

Notary Public in and for the State of Texas

ROSA MARIA FLFOES

Print or Type Name of Notary Public

My Commission Expires 04-23-09

***ARANSAS, BEE, BROOK, DUVAL, JIM HOGG, JIM WELLS, KARNES, KENEDY, KLEBERG, LIVE OAK,
NUECES, REFUGIO, SAN PATRICIO, VICTORIA, AND WEBB

**TEXAS COMMISSION
ON
ENVIRONMENTAL
QUALITY**



**NOTICE OF
APPLICATION AND
PRELIMINARY
DECISION FOR WATER
QUALITY TPDES
PERMIT RENEWAL
FOR MUNICIPAL
WASTEWATER**

PERMIT NO.
WQ0010401008

**APPLICATION AND
PRELIMINARY
DECISION.** City of
Corpus Christi, P.O. Box
9277, Corpus Christi
78469-9277, has applied
to the Texas Commission
on Environmental Quality
(TCEQ) for a renewal of
TPDES Permit No.
WQ0010401008, which
authorizes the discharge
of treated domestic
wastewater at an annual
average flow not to
exceed 3,000,000 gallons
per day. This application
was submitted to the
TCEQ on September 15,
2004.

The facility is located at
201 Jester Street, the
Encinal Peninsula
adjacent to the Laguna
Madre, approximately 0.5
mile southeast of the
intersection of Jester
Street and State Highway
358 in the City of Corpus
Christi in Nueces County,
Texas. The treated
effluent is discharged via
pipeline to Laguna Madre
in Segment No. 2491 of
the Bays and Estuaries.
The designated uses for
Segment No. 2491 are
exceptional aquatic life
uses, oyster waters and
contact recreation.

The TCEQ executive
director has completed
the technical review of the
application and prepared
a draft permit. The draft
permit, if approved, would
establish the conditions
under which the facility
must operate. The
executive director has
made a preliminary
decision that this permit, if
issued, meets all statutory
and regulatory
requirements. The permit
application, fact sheet
and draft permit are
available for viewing and
copying at the City of
Corpus Christi Water
Utility Building, 2726 Holly
Road, Corpus Christi,
Texas.

**PUBLIC COMMENT/
PUBLIC MEETING.** You
may submit public
comments or request a
public meeting about
this application. The
purpose of a public
meeting is to provide the
opportunity to submit
written or oral comment
or to ask questions about
the application. Generally,
the TCEQ will hold a
public meeting if the

executive director
determines that there is a
significant degree of
public interest in the
application or if requested
by a local legislator. A
public meeting is not a
contested case hearing.

**Written public
comments and requests
for a public meeting
should be submitted to
the Office of the Chief
Clerk, MC 105, TCEQ,
P.O. Box 13087, Austin,
TX 78711-3087 within 30
days of the date of
newspaper publication
of the notice.**

**OPPORTUNITY FOR A
CONTESTED CASE
HEARING.** After the
deadline for public
comments, the executive

director will consider the
comments and prepare a
response to all relevant
and material, or
significant public
comments. The
response to comments,
along with the executive
director's decision on
the application, will be
mailed to everyone who
submitted public
comments or who
requested to be on a
mailing list for this
application. If
comments are received,
the mailing will also
provide instructions for
requesting a contested
case hearing or
reconsideration of the
executive director's
decision. A contested
case hearing is a legal
proceeding similar to a
civil trial in a state district
court.

A contested case hearing
will only be granted based
on disputed issues of fact
that are relevant and
material to the
Commission's decision
on the application.
Further, the Commission
will only grant a hearing
on issues that were
raised during the public
comment period and not
withdrawn. Issues that
are not raised in public
comments may not be
considered during a
hearing. **The TCEQ may
act on this application
to renew a permit
without providing an
opportunity for a
contested case hearing
if certain criteria are
met.**

**EXECUTIVE DIRECTOR
ACTION.** The executive
director may issue final
approval of the
application unless a
timely contested case
hearing request or a
timely request for
reconsideration is filed. If
a timely hearing request
or request for
reconsideration is filed,
the executive director will
not issue final approval of
the permit and will
forward the application
and requests to the
TCEQ Commissioners for
their consideration at a

scheduled Commission
meeting.

MAILING LIST. In
addition to submitting
public comments, you
may ask to be placed on
a mailing list to receive
future public notices
mailed by the Office of
the Chief Clerk. You may
request to be added to:
(1) the mailing list for this
specific application; (2)
the permanent mailing list
for a specific applicant
name and permit number,
and/or (3) the permanent
mailing list for a specific
county. Clearly specify
which mailing list(s) to
which you wish to be
added and send your
request to the TCEQ
Office of the Chief Clerk
at the address above.
Unless you otherwise
specify, you will be
included only on the
mailing list for this specific
application.

INFORMATION. If you
need more information
about this permit
application or the
permitting process,
please call the TCEQ
Office of Public
Assistance, Toll Free, at 1-
800-687-4040. General
information about the
TCEQ can be found at
our web site at
www.tceq.state.tx.us.

Further information may
also be obtained from
City of Corpus Christi at
the address stated above
or by calling Mr. Harish N.
Shah, P.E. at (361) 826-
1805.

Issued: May 25, 2005



City of Corpus Christi

WASTEWATER DEPARTMENT

PO Box 9277
Corpus Christi
Texas 78469-9277
Phone 361-826-1800
Fax 361-826-1715
www.cctexas.com

Certified Mail No.: 7001 0360 0000 5051 3335

June 13, 2005

REC'D JUN 17 PM 2:31
CHIEF CLERK'S OFFICE
OFFICE OF THE CHIEF CLERK

TCEQ
Office of the Chief Clerk, MC 105
Attention: Notice Team
P. O. Box 13087
Austin, Texas 78711-3087

Subject: Original publisher's affidavit an original newspaper clipping of the published notice, and availability verification form for the Laguna Madre Wastewater Treatment Plant

Reference: TPDES Permit Number: 10401-008
EPA ID Number: TX0047104
(CN600131858, RN101609915, CCO# 45250)

Gentlemen:

We are submitting herewith the original publisher's affidavit, an original newspaper clipping of the published notice, and availability verification form for the Laguna Madre Wastewater Treatment Plant. If you need any additional information, please feel free to contact Harish N. Shah, P.E. at (361) 826-1805 or fax the information to Harish N. Shah, P.E. at (361) 826-4334.

Sincerely,

Foster Crowell
Wastewater Director

Attachments: 2 Affidavits
Original Clipping of the newspaper
Verification form

CC: File
Harish N. Shah, P.E.

hms/fc
filename: CA\Harish\TREATMENT PLANTS\LAGUNA MADRE\2005coverlt6 613.doc



Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Margaret Hoffman, *Executive Director*



MWD/10401-008/PA

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 20, 2005

CERTIFIED MAIL

Ms. Evelyn Rosborough (6WQ-CA)
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue
Dallas, Texas 75202

Re: City of Corpus Christi
TPDES Draft Permit No. WQ0010401008, (TX0047104)
(CN600131858; RN101609915)

Dear Ms. Rosborough:

Enclosed is the draft proposed permit, Fact Sheet and Executive Director's Preliminary Decision and application material for the draft TPDES Permit No. WQ0010401008 as required under the TCEQ/EPA Memorandum of Agreement. Please review and provide any written comments, objections (general or interim) or recommendations with respect to the draft permit within forty-five days from the receipt of this draft permit to me.

If you need additional information or have any questions, please call Mr. David Akoma of my staff by telephone at (512) 239-1444, by e-mail at dakoma@tceq.state.tx.us, by fax at 512/239-4430 or if by correspondence, include MC 148 in the letterhead address following his name. Thank you for your cooperation in this matter.

Sincerely,

A handwritten signature in black ink that reads "Firoj Vahora".

Firoj Vahora, Team Leader
Municipal Permits Team
Wastewater Permitting Section
Water Quality Division

FV/DUA/mam

Enclosures

RECEIVED
JUN 22 2005
TCEQ
CENTRAL FILE ROOM

7003 1680 0000 4268 1901

**U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)**

For delivery information visit our website at www.usps.com®

OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Postmark
Here

Sent To

Street, Apt. No.,
or PO Box No.
City, State, ZIP+4

PS Form 3800, June 2002

See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Evelyn Rosborough (6WQ-CA)
U. S. Environmental Protection Agency
Region 6
1445 Ross Avenue
Dallas, Texas 75202

2. Article Number
(Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

- A. Signature Agent
X *Evelyn Rosborough* Addressee
- B. Received by (Printed Name) C. Date of Delivery
- D. Is delivery address different from item 1? Yes
If YES, enter delivery address below: No

MAY 24 2005

3. Service Type
- Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.
4. Restricted Delivery? (Extra Fee) Yes

7003 1680 0000 4268 1901

PS Form 3811, August 2001

Domestic Return Receipt

102595-02-M-1540

SENDER
TCEQ: MC 105.....
CITY OF CORPUS CHRISTI
45250
WQ0010401008
CN600131858

1. Article Addressed to:

HARISH N SHAH PE WASTEWATER ENGINEER
CITY OF CORPUS CHRISTI
PO BOX 9277
CORPUS CHRISTI TX 78469-9277

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *Raul Mendez* Agent
 Addressee

B. Received by (Printed Name) C. Date of Delivery
Raul Mendez 4/5/01

D. Is delivery address different from item 1? Yes No
If YES, enter delivery address below: No

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

2. Article Number
(Transfer from service label):

7002 0860 0005 1976 9482

WQ STANDARD MAIL LIST

APPLICANT:

HARISH N SHAH
CITY OF CORPUS CHRISTI
PO BOX 9277

Other Applicant Representatives:

CORPUS CHRISTI TX 69192

PERMIT #: WQ0010401008

BASIN:

REGION: 14

COUNTY: NUECES

PERMITTEE:

CITY OF CORPUS CHRISTI

TO BE PUBLISHED BY: HARISH N SHAH

DATE NOTICE MAILED:

MAY 25 2008

CCO #: 45250

NOTICE TECH INITIALS: DELLISON

LONG NEWS SERVICE
P O Box 12368
AUSTIN TX 78711

TEXAS LEGISLATIVE SERVICE
P O BOX 100
AUSTIN TX 78767

ENVIRONMENTAL PROTECTION AGENCY
ATTN: JACK FERGUSON
CHIEF, PERMIT SECTION
1445 ROSS AVE
DALLAS TX 75202-2733

US ENVIRONMENTAL PROTECTION AGENCY
REGION 6 (only notices with TPDES language)
ATTENTION: EVELYN ROSBOROUGH (6WQ-CA)
1445 ROSS AVENUE
DALLAS TX 75202

ALAN ALLEN EXECUTIVE DIRECTOR
SPORTSMEN'S CLUBS OF TEXAS INC
311 VAUGHN BUILDING
AUSTIN TX 78701

TEXAS CENTER FOR POLICY STUDIES
ATTN: CYRUS REED & MARY E KELLY
44 EAST AVE STE 306
AUSTIN TX 78701-4334

RAY ROGERS
STATEWIDE SIERRA CLUB
3110 BARRON ROAD
COLLEGE STATION TX 77845

CITIZENS TO SAVE LAKE WACO
ATTN WANDA GLAZE PRESIDENT
178 LEUTWYLER LANE
WACO TX 76712

NATIONAL WILDLIFE FEDERATION
ATTN: MYRON J HESS
44 EAST AVE, STE 200
AUSTIN TX 78701

CHRISTOPHER BROWN
WATER PROJECTS ATTORNEY
NATIONAL WILDLIFE FEDERATION
44 EAST AVE STE 200
AUSTIN TX 78701-4385

TEXAS PARKS AND WILDLIFE DEPT

ATTN: PATRICIA L. RADLOFF
COASTAL FISHERIES DIVISION - FPP
4200 SMITH SCHOOL RD
AUSTIN TX 78744
INTERAGENCY MAIL

RAILROAD COMMISSION OF TEXAS
ENVIRONMENTAL SERVICES
ATTN LELSEY L. SAVAGE DIRECTOR
INTERAGENCY MAIL

OFFICE OF THE ATTORNEY GENERAL
NATURAL RESOURCES DIVISION
ATTN KAREN CORNELL
INTERAGENCY MAIL

TEXAS HISTORICAL COMMISSION
ATTN STATE HISTORICAL PRESERVATION
OFFICER AND STATE ARCHEOLOGIST
INTERAGENCY MAIL

WATER DEVELOPMENT BOARD
ATTN JAN BEFFORD
INTERAGENCY MAIL

TEXAS DEPARTMENT OF AGRICULTURE
ATTN RICHARD EYSTER
OFFICE OF RISK ASSESSMENT & TOXICOLOGY
INTERAGENCY MAIL

TEXAS DEPARTMENT OF HEALTH
ATTN DR. JOHN VILLANACCI
INTERAGENCY MAIL (WQ, MSW, IHW)

DIANE GARCIA, COUNCIL SECRETARY
COASTAL COORDINATION COUNCIL
GENERAL LAND OFFICE
1700 N CONGRESS AVE ROOM 617
AUSTIN TX 78701-1495
INTERAGENCY MAIL (ONLY NOTICES WITH CMP
LANGUAGE)

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 25, 2005

Harish N Shah
City Of Corpus Christi
Po Box 9277
Corpus Christi TX 78469-9277

RE: Applicant Name: City Of Corpus Christi
Facility Location: Nueces County
Permit Number: WQ0010401008
Type of Authorization: Renewal

Dear Harish N Shah :

We have completed the technical review of the above referenced application and have prepared a preliminary decision and draft permit.

You are now required to publish another notice of your proposed activity. To help you meet the requirements associated with this notice, we have included the following items:

- Notice for Newspaper Publication
- Instructions for Public Notice
- Affidavit of Publication
- Application Availability Verification Form

Please note that it is VERY IMPORTANT that you follow ALL directions in the ENCLOSED INSTRUCTIONS. If you do not, you may be required to republish the notice. One of the most common mistakes we see is the unauthorized changing of notice wording or font. If you have any questions, please contact us before you proceed with publication.

The following items and time limitations are also described in the enclosed instructions. However, due to their importance, we want to highlight them for you.

1. Publish the enclosed notice within **45 calendar days** after the date of this cover letter.
2. Place a copy of your complete application (including any subsequent revisions) and the executive director's preliminary decision as contained in the technical summary

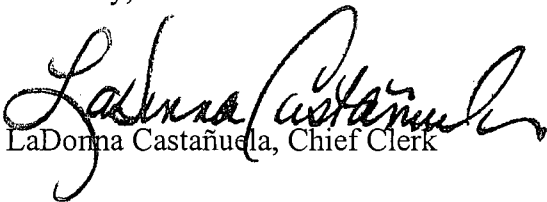
and/or fact sheet, and the draft permit, in a public place in the county where the facility is or will be located. These copies must be accessible to the public for review and copying and remain in place until the commission has taken action on the application or the commission refers issues to the State Office of Administrative Hearings.

3. Return an original newspaper clipping of the notice, which shows publication date and newspaper name, to the Office of the Chief Clerk within **10 business days** after notice is published in the newspaper.
4. Return the original enclosed Affidavit of Publication to the Office of the Chief Clerk within **30 calendar days** after the notice is published in the newspaper.
5. Return the Application Availability Verification Form to the Office of the Chief Clerk within **10 business days** after the end of the comment period.

If you do not comply with all requirements described in the instructions, further processing of your application may be suspended or the agency may take other actions.

If you have any questions regarding publication requirements, please contact the Office of the Chief Clerk at 512-239-3300.

Sincerely,



LaDonna Castañuela, Chief Clerk

Enclosures (3)

Texas Commission on Environmental Quality



INSTRUCTIONS FOR PUBLIC NOTICE

For Water Quality Permit

NOTICE OF APPLICATION AND PRELIMINARY DECISION

We have completed the technical review of your application and issued a preliminary decision. You must comply with the following instructions:

Please Review Notice

We have included in the notice all of the information which we believe is necessary. Please read it carefully and notify us immediately if it contains any errors or omissions. You are responsible for ensuring the accuracy of all information published. You may not change the text of the notice or affidavit of publication without prior approval from the TCEQ.

Newspaper Notice

- You must publish the enclosed Notice of Application and Preliminary Decision within **45 calendar** days after the date this information was mailed to you (see date of cover letter).
- You must publish the enclosed Notice of Application and Preliminary Decision at your expense.
- For renewal applications, you must publish in the same newspaper in which you published the Notice of Receipt of Application and Intent to Obtain Permit.
- For all other applications, you must publish at least once in a newspaper regularly published or circulated within each county where the proposed facility or discharge is located and in each county affected by the discharge (see cover letter for further information relating to affected counties).
- You must publish this notice in one issue of any applicable newspaper.
- The bold text of the enclosed notice must be printed in the newspaper in a font style or size that distinguishes it from the rest of the notice (i.e., **bold**, *italics*). **Failure to do so may require re-notice.**

Proof of Publication

- You must submit **original newspaper clippings** of the published notices which show the date of publication and the name of the newspaper to the Office of the Chief Clerk within **10 business days** after the date of publication.
- You must submit an **original publisher's affidavit** to the Office of the Chief Clerk within **30 calendar days** after the date of publication. **You must use the enclosed affidavit form. The affidavit must clearly identify the applicant's name and permit number.**
- You are encouraged to submit the affidavit with the original newspaper clipping described above; however, the affidavit must be submitted no later than **30 calendar days** after publication of notice.
- The **original publisher's affidavit** and an **original newspaper clipping of the published notice** must be mailed to:
TCEQ
Office of the Chief Clerk, MC 105
Attn: Notice Team
P.O. Box 13087
Austin, Texas 78711-3087
- Please ensure that the affidavit and newspaper clipping you send to the Chief Clerk are **originals** and that all blanks on the affidavit are filled in correctly. Photocopies of newspaper clippings and affidavits will not be accepted.

Failure to Publish and Submit Proof of Publication

If you fail to publish the notice or submit proof of publication *on time*, then the TCEQ may suspend further processing on your application or take other actions.

Application in a Public Place

- You must provide a copy of the complete application (including any subsequent revisions), the executive director's preliminary decision (as contained in the technical summary and/or fact sheet), and the draft permit at a public place for review and copying by the public. This place must be in the county in which the facility is located or proposed to be located.
- A public place is one that is publicly owned or operated (ex: libraries, county courthouses, or city halls).
- This copy must be accessible to the public for review and copying beginning on the first day of newspaper publication and remain in place until the commission has taken action on the application or the commission refers issues to the State Office of Administrative Hearings.
- If the application is submitted to the TCEQ with information marked as confidential, you are required to indicate which specific portions of the application are not being made available to the public. These portions of the application must be accompanied with the following statement: "Any request for portions of this application that are marked as confidential must be submitted in writing, pursuant to the Public Information Act, to the TCEQ Public Information Coordinator, MC 197, P.O. Box 13087, Austin, Texas 78711-3087".

- You must submit verification of application availability to the Office of the Chief Clerk within **10 business days** after the end of the comment period.

General Information

When contacting the Commission regarding this application, please refer to the permit number at the top of the Notice of Application and Preliminary Decision.

If you have questions or need assistance regarding publication of this notice, please contact the Office of the Chief Clerk at (512) 239-3300.

TCEQ-OFFICE OF THE CHIEF CLERK
MC-105 Attn: Notice Team
PO BOX 13087
AUSTIN TX 78711-3087

APPLICANT NAME: CITY OF CORPUS CHRISTI WQ0010401008
PERMIT NO.: WQ0010401008 CCO# 45250
NOTICE OF APPLICATION AND PRELIMINARY DECISION

AFFIDAVIT OF PUBLICATION FOR RENEWALS

STATE OF TEXAS §

COUNTY OF _____ §

Before me, the undersigned authority, on this day personally appeared

_____, who being by me duly
(name of newspaper representative)

sworn, deposes and says that (s)he is the _____
(title of newspaper representative)

of the _____; that said newspaper is
(name of newspaper)

regularly published in _____ County, Texas, and is the
newspaper of largest circulation in _____ County/Countries, Texas;
that the attached notice was published in said newspaper on the following date:

_____.

Newspaper Representative's Signature

Subscribed and sworn to before me this the _____ day of _____,
20_____, to certify which witness my hand and seal of office.

(Seal)

Notary Public in and for the State of Texas

Print or Type Name of Notary Public

My Commission Expires _____

TCEQ-OFFICE OF THE CHIEF CLERK
MC-105 Attn: Notice Team
PO BOX 13087
AUSTIN TX 78711-3087

APPLICANT NAME: CITY OF CORPUS CHRISTI
PERMIT NO.: WQ0010401008 CCO# 45250
NOTICE OF APPLICATION AND PRELIMINARY DECISION

**AFFIDAVIT OF PUBLICATION FOR
A NEWSPAPER WITHIN A MUNICIPALITY
WATER QUALITY PERMITS**

STATE OF TEXAS §

COUNTY OF _____ §

Before me, the undersigned authority, on this day personally appeared

_____, who being by me duly
(name of newspaper representative)

sworn, deposes and says that (s)he is the _____
(title of newspaper representative)

of the _____; that said newspaper is
(name of newspaper)

a newspaper of general circulation in _____, Texas;
(Name of Municipality)

that the attached notice was published in said newspaper on the following date:

_____.

Newspaper Representative's Signature

Subscribed and sworn to before me this the _____ day of _____,
20_____, to certify which witness my hand and seal of office.

(Seal)

Notary Public in and for the State of Texas

Print or Type Name of Notary Public

My Commission Expires _____

APPLICATION AVAILABILITY VERIFICATION FORM

Applicant Name: City Of Corpus Christi
Permit No.: WQ0010401008 CCO# 45250

APPLICATION AVAILABILITY (*you must check one box*):

- I certify that the permit application was made available for review and copying at a public place in the county where the facilities are or will be located in accordance with the provisions of 30 TAC §39.405(g)(1) .

- I certify that a copy of the complete permit application (including any subsequent revisions to the application), draft permit and the executive director's preliminary decision were made available for review and copying at a public place in the county where the facilities are or will be located in accordance with the provisions of 30 TAC §39.405(g)(2) as of the date of this verification.

Location where documents were made available:

Signed by: _____

Title: _____

Company: _____

Date: _____

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



NOTICE OF APPLICATION AND PRELIMINARY DECISION FOR WATER QUALITY TPDES PERMIT RENEWAL FOR MUNICIPAL WASTEWATER

PERMIT NO. WQ0010401008

APPLICATION AND PRELIMINARY DECISION. City of Corpus Christi, P. O. Box 9277, Corpus Christi, Texas 78469-9277, has applied to the Texas Commission on Environmental Quality (TCEQ) for a renewal of TPDES Permit No. WQ0010401008, which authorizes the discharge of treated domestic wastewater at an annual average flow not to exceed 3,000,000 gallons per day. This application was submitted to the TCEQ on September 15, 2004.

The facility is located at 201 Jester Street, the Encinal Peninsula adjacent to the Laguna Madre, approximately 0.5 mile southeast of the intersection of Jester Street and State Highway 358 in the City of Corpus Christi in Nueces County, Texas. The treated effluent is discharged via pipeline to Laguna Madre in Segment No. 2491 of the Bays and Estuaries. The designated uses for Segment No. 2491 are exceptional aquatic life uses, oyster waters and contact recreation.

The TCEQ executive director has completed the technical review of the application and prepared a draft permit. The draft permit, if approved, would establish the conditions under which the facility must operate. The executive director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The permit application, fact sheet and draft permit are available for viewing and copying at the City of Corpus Christi Water Utility Building, 2726 Holly Road, Corpus Christi, Texas.

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting about this application. The purpose of a public meeting is to provide the opportunity to submit written or oral comment or to ask questions about the application. Generally, the TCEQ will hold a public meeting if the executive director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

Written public comments and requests for a public meeting should be submitted to the Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 within 30 days of the date of newspaper publication of the notice.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for public comments, the executive director will consider the comments and prepare a response to all relevant and material, or significant public comments. **The response to comments, along with the executive director's decision on the application, will be mailed to everyone who submitted public comments or who requested to be on a mailing list for this application. If comments are received, the mailing will also provide instructions for requesting a contested case hearing or reconsideration of the executive director's decision.** A contested case hearing is a legal proceeding similar to a civil trial in a state district court.

A contested case hearing will only be granted based on disputed issues of fact that are relevant and material to the Commission's decision on the application. Further, the Commission will only grant a hearing on issues that were raised during the public comment period and not withdrawn. Issues that are not raised in public comments may not be considered during a hearing. **The TCEQ may act on this application to renew a permit without providing an opportunity for a contested case hearing if certain criteria are met.**

EXECUTIVE DIRECTOR ACTION. The executive director may issue final approval of the application unless a timely contested case hearing request or a timely request for reconsideration is filed. If a timely hearing request or request for reconsideration is filed, the executive director will not issue final approval of the permit and will forward the application and requests to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

MAILING LIST. In addition to submitting public comments, you may ask to be placed on a mailing list to receive future public notices mailed by the Office of the Chief Clerk. You may request to be added to: (1) the mailing list for this specific application; (2) the permanent mailing list for a specific applicant name and permit number; and/or (3) the permanent mailing list for a specific county. Clearly specify which mailing list(s) to which you wish to be added and send your request to the TCEQ Office of the Chief Clerk at the address above. Unless you otherwise specify, you will be included only on the mailing list for this specific application.

INFORMATION. If you need more information about this permit application or the permitting process, please call the TCEQ Office of Public Assistance, Toll Free, at 1-800-687-4040. General information about the TCEQ can be found at our web site at www.tceq.state.tx.us.

Further information may also be obtained from City of Corpus Christi at the address stated above or by calling Mr. Harish N. Shah, P.E. at (361) 826-1805.

Issued: **MAY 25 2005**

SUZIE CANALES CHAIR
CITIZENS FOR ENVIRONMENTAL JUSTICE
STE 2506
5757 S STAPLES ST
CORPUS CHRISTI TX 78413-3732

MR BUCHANAN EASLEY
4020 SUMMIT CT
FAIRVIEW TX 75069-1183

ROCKY FREUND
NUECES RIVER AUTHORITY
UNIT 5865
6300 OCEAN DR
CORPUS CHRISTI TX 78412-5700

MARGARET GARRETT
SOUTH TEXAS COMMERCIAL FISHERIES/CONN
BROWN HARBOR INDUSTRY
PO BOX 1322
ARANSAS PASS TX 78335-1322

BOB GRIMES
VALERO CORPUS CHRISTI REFINERY
PO BOX 9370
CORPUS CHRISTI TX 78469-9370

DAVID JENSEN
TEXAS A&M UNIVERSITY-CORPUS CH
NRC STE 1100
6300 OCEAN DR
CORPUS CHRISTI TX 78412-5700

DENNY LARSON
REFINERY REFORM CAMPAIGN WEST COAST
222 RICHLAND AVE
SAN FRANCISCO CA 94110-5842

C & C KIM MCGUIRE
CITY OF CORPUS CHRISTI
PO BOX 9277
CORPUS CHRISTI TX 78469-9277

CATHERINE A SKUROW PE
CAS ENGINEERING SERVICES INC
607B 8TH ST
PORTLAND TX 78374-2050

Nueces County IP

THE HONORABLE ABEL HERRERO JR
TEXAS HOUSE OF REPRESENTATIVES
DISTRICT 34 ROOM E2.816
TEXAS STATE CAPITOL

THE HONORABLE JUAN HINOJOSA
TEXAS SENATE
DISTRICT 20 ROOM 3S.3
TEXAS STATE CAPITOL

THE HONORABLE VILMA LUNA
TEXAS HOUSE OF REPRESENTATIVES
DISTRICT 33 ROOM E1.304
TEXAS STATE CAPITOL

THE HONORABLE GENE SEAMAN
TEXAS HOUSE OF REPRESENTATIVES
DISTRICT 32 ROOM E2.406
TEXAS STATE CAPITOL

MR DAVID H BINDER DDS
545 SOUTH COMMERCIAL
ARANSAS PASS TX 78336

MR CLAYTON HAMMOND
DIXON ENGINEERING
5541 BEAR LN STE 112
CORPUS CHRISTI TX 78405

MR STEVE HICKS
APPLIED PETROLEUM TECHNOLOGY
2935 CACTUS RD
CORPUS CHRISTI TX 78415

MR DAVID JENSEN ASSOC
DIRECTOR
NSCS-TX A & M UNIVERSITY
6300 OCEAN DR
CORPUS CHRISTI TX 78412-6300

MR GERALD E SMITH
GOLDSTON ENGINEERING INC
PO BOX 2886
CORPUS CHRISTI TX 78403-2886

MR MIKE SULLIVAN
CORE LABORATORIES
1733 NORTH PADRE ISLAND DR
CORPUS CHRISTI TX 78408

ASSISTANT DISTRICT ATTORNEY
901 LEOPARD ST
CORPUS CHRISTI TX 78401-3606

COASTAL BEND COUNCIL OF GOVERNMENT
PO BOX 9909
CORPUS CHRISTI TX 78469-9909

CORPUS CHRISTI CHAMBER OF COMMERCE
1201 N SHORELINE BLVD
CORPUS CHRISTI TX 78401-1536

GALVESTON DISTRICT
PO BOX 1229
GALVESTON TX 77553-1229

NUECES COUNTY HEALTH AUTHORITY
PO BOX 9727
CORPUS CHRISTI TX 78469

NUECES COUNTY JUDGE
901 LEOPARD ST
CORPUS CHRISTI TX 78401

NUECES COUNTY WCID #4
315 S 9TH ST
PORT ARANSAS TX 78373-5207

NUECES RIVER AUTHORITY
PO BOX 349
UVALDE TX 78802-0349

PUBLIC HEALTH DISTRICT
PO BOX 9727 CORPUS CHRISTI-NUECES CO
CORPUS CHRISTI TX 78469-9727

SAN PATRICIO MUNICIPAL WATER DISTRICT
PO BOX 940
INGLESIDE TX 78362-0940

US ARMY CORPS OF ENGINEERS
PO BOX 1229
GALVESTON TX 77553-1229

ENVIRONMENTAL MANAGER
PORT OF CORPUS CHRISTI AUTHORITY
PO BOX 1541
CORPUS CHRISTI TX 78403-1541

FIELD SUPERVISOR
US FISH & WILDLIFE SERVICE
6300 OCEAN DR
CORPUS CHRISTI TX 78412-5503

PUBLIC HEALTH REGION 11
DEPARTMENT OF STATE HEALTH SERVICES
1233 AGNES ST
CORPUS CHRISTI TX 78401

PUBLIC HEALTH REGION 11
TEXAS DEPARTMENT OF STATE HEALTH
SERVICES
601 W SESAME DR
HARLINGEN TX 78550-7962

CMG BUTTERY MD
1702 HORNE DR
CORPUS CHRISTI TX 78416-1902

CITY OF CORPUS CHRISTI
MAYOR
PO BOX 9277
CORPUS CHRISTI TX 78469-9277

CITY OF CORPUS CHRISTI
HEALTH OFFICIAL
NINA M SISLEY DIRECTOR
PO BOX 9727
CORPUS CHRISTI TX 78469

7002 0860 0005 1976 9482

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

TCEQ: MC 105.....
CITY OF CORPUS CHRISTI
45250

Return (Endorsement) WQ0010401008

Restricted (Endorsement) CNG00131858

Total Post HARISH N SHAH PE WASTEWATER ENGINEER

Sent To CITY OF CORPUS CHRISTI
PO BOX 9277

Street, Apt. or PO Box CORPUS CHRISTI TX 78469-9277

City, State,

PS Form 3800, April 2002

See Reverse for Instructions

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INTEROFFICE MEMORANDUM

To: LaDonna Castañuela, Chief Clerk

Date: 5-19-05

Thru: Firoj Vahora, Team Leader
Wastewater Permitting Section

From: Louise Hause
Customer Information and Assistance Team
Water Quality Division

Subject:

Permit No. WQ 0010401008 (EPA ID No.) TX 0047104

CN No. 600131858 **RN No.** 101609915

Applicant: City of Corpus Christi

Transmittal of an application for issuance of notice for a Texas Pollutant Discharge Elimination System (TPDES) Permit

Transmitted herewith for re-filing with the Texas Commission on Environmental Quality (TCEQ) is an application and draft permit for a TPDES permit. The application contains all the information deemed necessary by the Executive Director of the Commission. If you have any questions, please contact Mr. by telephone at (512) 239-.

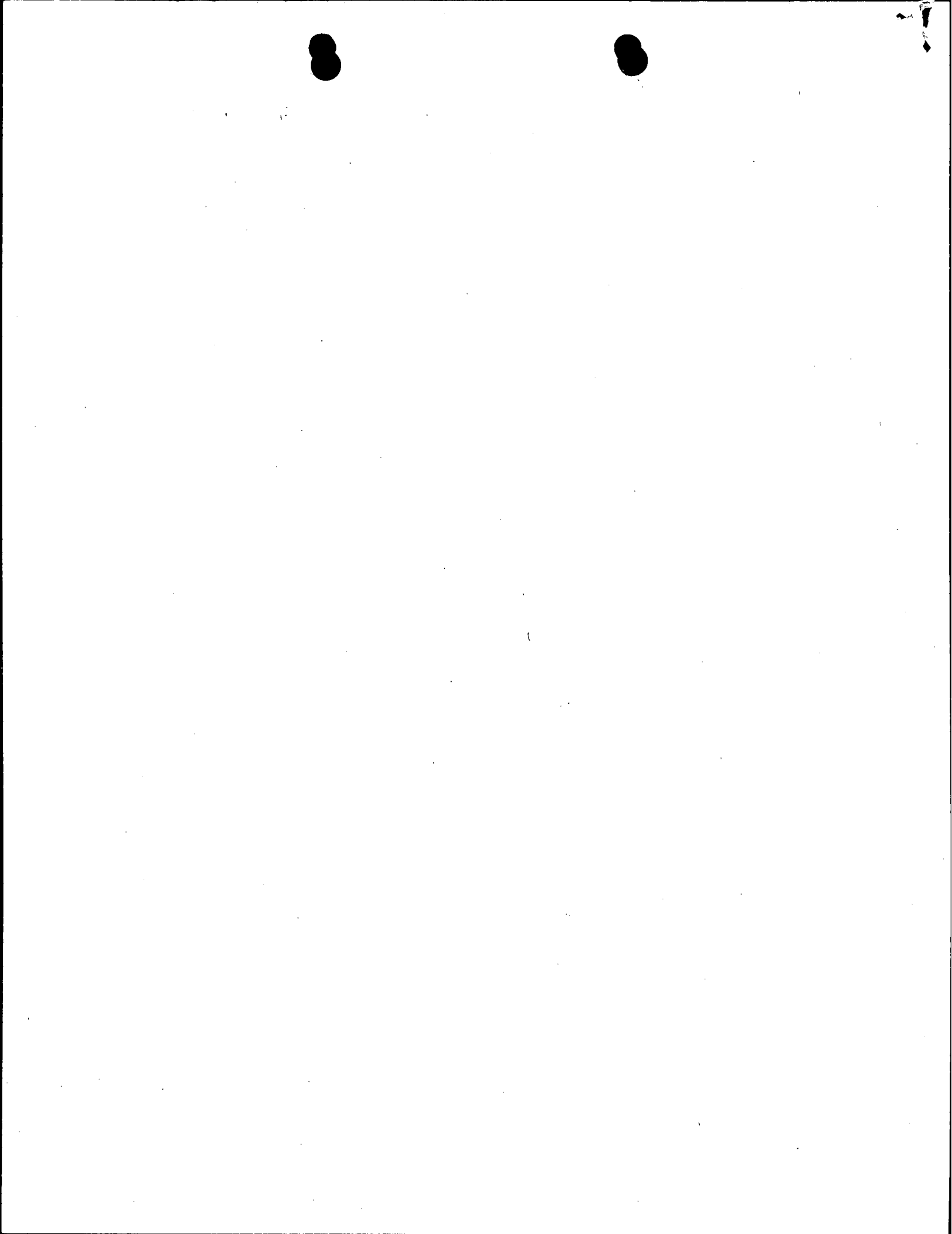
APPLICATION

TYPE:

- | | | | |
|-------------------------------------|--|---|------------|
| <input type="checkbox"/> | New | Type: <input checked="" type="checkbox"/> | Domestic |
| <input type="checkbox"/> | Major Amendment | <input type="checkbox"/> | Industrial |
| <input checked="" type="checkbox"/> | Renewal | | |
| <input type="checkbox"/> | Minor Amendment | | |
| <input type="checkbox"/> | Minor Modification | | |
| <input type="checkbox"/> | New TPDES Permit for which there is an active State Permit | | |
| <input type="checkbox"/> | Staff Initiated Amendment | | |

The application file contains the following documents needed by the Chief Clerk for further processing:

- draft permit
- notice of application to be issued and mailed by Chief Clerk
- instructions for further processing of application by Chief Clerk



Processing of the application by the Chief Clerk needs to be completed as indicated below:

Issue the notice: for public comments (interim notice for TPDES transition only)
(notice previously published in the newspaper and no major changes to the draft permit have been made other than shell and boiler plate)

giving opportunity to comment and request hearing (full notice requirements)
(Previous notice was issued and mailed but never published; or, first time filing of draft with OCC; or major changes were made to the draft permit requiring a new notice to giving opportunity to request hearing)

Mail by certified mail, the items indicated by an (*) to the Services indicated below:

Need Notice Only	Notice Waived	Need draft permit, application and notice	Not Applicable	Agencies
<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	*National Marine Fisheries Service (Coastal Areas)
<input type="checkbox"/> <small>(only applies to new & major amend)</small>	<input checked="" type="checkbox"/> <small>(only applies to renewals & minor amend)</small>	<input type="checkbox"/>	<input type="checkbox"/>	Texas Historical Commission
X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	U.S. Fish & Wildlife Services
X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*U.S. Army Corp of Engineers
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	*State or Federal Affected Indian Reservation: _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	Advisory Council on Historical Preservation
X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Designated 208 Planning Agency
X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EPA
<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	Texas Parks & Wildlife Department
<input type="checkbox"/> <small>(only applies to new & major amend)</small>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <small>(only applies to renewals & minor amend)</small>	Adjacent Landowner's List
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Attached list of Industrial Users identified in an application of a POTW
X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EPA area mailing list
X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TCEQ standard mailing list (county, city, comments, etc.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other _____



1-1

Notice Instructions with Comment Period:

- Send notice to applicant with instructions to publish in the newspaper.

(The facility is classified by EPA as a Major and notice was published giving opportunity to request hearing, but they must publish the interim short notice giving opportunity to request public meeting/public comments.) Or (Notice has never been published so publishing in the newspaper giving opportunity to request hearing is needed.)

- Comment period is 30 days from the date the notice was published in the newspaper.
- Send notice **not requiring** them to publish in the newspaper - only mailed notice.

(Facilities classified by EPA as a minor are not required to publish the interim short notice if the previous full notice had been published - only mailed notice is required).

- Comment period is 30 days from the date the notice is mailed.
- Comment period is 10 days from the date the notice is mailed (minor modification only)

- Publish notice in the Texas Register

(applies only to facilities classified by EPA as major with minor amendment application)

- Comment period is 30 days from the date the notice is published in the Texas Register.

-
- EPA was mailed draft on 5-20-05; EPA has 45 days from date of receipt to file comments

Or

- EPA waived review of draft

-
- Hearing Requests were previously received;
If draft permit was subject to EPA's review, notify Industrial/Municipal Permit Team Leader that the item is ready to be set on **Commissioner's Agenda**; Permitting will verify that EPA's comment period has expired and no changes are necessary.

Or

- No Hearing Requests were previously received;
If draft permit was subject to EPA's review, notify Industrial/Municipal Permit Team Leader that the item is ready to be set on **Executive Director's Agenda** for final approval; Permitting will verify that EPA's comment period has expired and no changes are necessary.

-
- Special processing required**

- Since notice was previously mailed, include the attached "special letter" with the notice.

-
- Once permit is issued and final processing is complete:**

- After **final** action by the Executive Director/Commission (issued, denied, remanded to ED) the permit file needs to be returned to the Registration, Review and Reporting, Applications Team within five days after permit issuance.

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Margaret Hoffman, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 20, 2005

CERTIFIED MAIL

Ms. Evelyn Rosborough (6WQ-CA)
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue
Dallas, Texas 75202

Re: City of Corpus Christi
TPDES Draft Permit No. WQ0010401008, (TX0047104)
(CN600131858; RN101609915)

Dear Ms. Rosborough:

Enclosed is the draft proposed permit, Fact Sheet and Executive Director's Preliminary Decision and application material for the draft TPDES Permit No. WQ0010401008 as required under the TCEQ/EPA Memorandum of Agreement. Please review and provide any written comments, objections (general or interim) or recommendations with respect to the draft permit within forty-five days from the receipt of this draft permit to me.

If you need additional information or have any questions, please call Mr. David Akoma of my staff by telephone at (512) 239-1444, by e-mail at dakoma@tceq.state.tx.us, by fax at 512/239-4430 or if by correspondence, include MC 148 in the letterhead address following his name. Thank you for your cooperation in this matter.

Sincerely,

A handwritten signature in black ink that reads "Firoj Vahora". The signature is stylized and includes a long horizontal flourish extending to the right.

Firoj Vahora, Team Leader
Municipal Permits Team
Wastewater Permitting Section
Water Quality Division

FV/DUA/mam

Enclosures

ATTACHMENT 1

EPA - REGION 6
NPDES PERMIT CERTIFICATION CHECKLIST

In accordance with the MOA established between the State of Texas and the United States Environmental Protection Agency, Region 6, the Texas Commission on Environmental Quality submits the following draft Texas Pollutant Discharge Elimination System (TPDES) permit for Agency review.

Major	Minor	POTW	Private Domestic	Non-POTW
Facility Name	City of Corpus Christi			
SIC Code	4952			
Type of operation	Domestic Wastewater Permit			
NPDES Permit No.	TX0047104	TPDES Permit No.	WQ0010401008	
Segment No.	2491	Basin	Bays and Estuaries	
Receiving Water	via pipeline to Laguna Madre in Segment No. 2491 of the Bays and Estuaries			

Permit Action: New

Renewal WITH changes

Renewal w/out changes X
(permit and WQS)

Major Amendment with renewal
Amendment/Modification

WITHOUT renewal, proceed
directly to question 22, below

Answer the following:

- | | Yes | No | N/A |
|---|-----|----|-----|
| 1. Are there known or potential interstate water issues associated with this permit? | | X | |
| 2. Is there known or potential third-party interest/environmental concern regarding this permit action? | | X | |
| 3. Does this facility discharge to a 303(d) listed waterbody segment?
If YES, does the facility discharge any of the pollutant(s) of concern identified in the 303(d) listing? | X | X | |
| 4. Is this permit consistent with the approved WQMP? | X | | |
| 5. Does the facility discharge to a waterbody segment which has a finalized TMDL?
If YES, does the permit implement the TMDL consistent with the WLAs? | | X | X |
| 6. Does the fact sheet document the rationale for the inclusion/omission of permit conditions for each 303(d) listed pollutant of concern or TMDL pollutant? | X | | |
| 7. Has a priority watershed of critical concern been identified by the U. S. Fish and Wildlife Service for this segment? | X | | |

ATTACHMENT 1
 EPA - REGION 6
 NPDES PERMIT CERTIFICATION CHECKLIST
 Page 2 of 2

	Yes	No	N/A
8. Does this permit authorize ammonia discharges > 4.0 mg/l at the edge of the mixing zone?		X	
9. Does this permit require testing for Whole Effluent Toxicity in accordance with the state's standard practices and implementation plan?	X		
10. If this facility has completed and implemented a Toxicity Reduction Evaluation (TRE), has any subsequent toxicity been identified?		X	
11. Does this permit propose to grant a variance request (<i>WQS, FDF, etc.</i>) or does it incorporate a proposed or final approval of a variance request?		X	
12. If a POTW is ≥ 5 MGD, does it have an approved Pretreatment Program?			X
13. Since the last permit issuance, has the POTW had a new Pretreatment Program approved or a Pretreatment Program modification approved?		X	
14. Does this permit contain authorization for wet weather related peak-flow discharges?		X	
15. Does this permit include a bypasses of any treatment unit or authorize overflows in the system?		X	
16. Does this permit include provisions for effluent trading?		X	
17. Does this permit contain specific issues on which EPA and the state are not in agreement regarding the permitting approach?		X	
18. Is this facility subject to a national effluent limitations guideline? Please specify:		X	
19. Does this permit contain "first-time" implementation of a new federal guideline, policy, regulation, etc.? Please specify:		X	
20. Is this a new facility or an expansion of an existing facility? For an EXISTING facility, if any limits have been removed or are less stringent than those in the previous permit, is it in accordance with the anti-backsliding regulations?		X	
21. Does this permit incorporate any exceptions to the standards or regulations?		X	
22. If this is a permit modification/amendment? Please specify:		X	

Name: David Akoma

Date: April 12, 2005

MWD/10401-008/PA

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 9, 2005

Mr. Steve Synovitz, P.E.
Goldston Engineering, Inc.
210 South Carancahua
Corpus Christi, Texas 78403

Re: City of Corpus Christi
Laguna Madre WWTP- Aeration System Rehabilitation
Texas Commission on Environmental Quality Permit # 10401-008
WWPR Log No. 0505/021
CN600131858 RN101609915
Nueces County

RECEIVED

MAY 19 2005

TCEQ
CENTRAL FILE ROOM

Dear Mr. Synovitz:

We have received the project summary transmittal letter dated January 28, 2005.

The rules which regulate the design, installation and testing of domestic wastewater projects are found in 30 TAC, Chapter 317, of the Texas Commission on Environmental Quality (TCEQ) rules titled, Design Criteria for Sewerage Systems.

Section 317.1(a)(3)(D), relating to case-by-case reviews, states in part that upon submittal of a summary transmittal letter, the executive director may approve of the project without reviewing a complete set of plans and specifications.

Under the authority of §317.1(a)(3)(D) a technical review of complete plans and specifications is not required. **However, the project proposed in the summary transmittal letter is approved for construction. Please note, that this conditional approval does not relieve the applicant of any responsibilities to obtain all other necessary permits or authorizations, such as wastewater treatment permit or other authorization as required by Chapter 26 of the Texas Water Code.** Below are provisions of the Chapter 317 regulations, which must be met as a condition of approval. These items are provided as a reminder. If you have already met these requirements, please disregard this additional notice.

1. You must keep certain materials on file for the life of the project and provide them to TCEQ upon request. These materials include an engineering report, test results, a summary transmittal letter, and the final version of the project plans and specifications. These materials shall be prepared and sealed by a Professional Engineer licensed in the State of Texas and must show substantial compliance with Chapter 317. All plans and specifications must conform to any waste discharge requirements authorized in a permit by the TCEQ. Certain specific items which shall be addressed in the engineering report are discussed in §317.1(c)-(d). Additionally, the engineering report must include all constants, graphs, equations, and calculations needed to show substantial compliance with Chapter 317. The items which shall be included in the summary transmittal letter are addressed in §317.1(a)(3)(D).

Mr. Steve Synovitz, P.E.
Page 2
May 9, 2005

2. Any deviations from Chapter 317 shall be disclosed in the summary transmittal letter and the technical justifications for those deviations shall be provided in the engineering report. Any deviations from Chapter 317 shall be based on the best professional judgement of the licensed professional engineer sealing the materials and the engineer's judgement that the design would not result in a threat to public health or the environment.
3. Any variance from a Chapter 317 requirement disclosed in your summary transmittal letter is approved. If in the future, additional variances from the Chapter 317 requirements are desired for the project, each variance must be requested in writing by the design engineer. Then, the TCEQ will consider granting a written approval to the variance from the rules for the specific project and the specific circumstances.
4. Within 60 days of the completion of construction, an appointed engineer shall notify both the Wastewater Permits Section of the TCEQ and the appropriate Region Office of the date of completion. The engineer shall also provide written certification that all construction, materials, and equipment were substantially in accordance with the approved project, the rules of the TCEQ, and any change orders filed with the TCEQ. All notifications, certifications, and change orders must include the signed and dated seal of a Professional Engineer licensed in the State of Texas.

This approval does not mean that future projects will be approved without a complete plans and specifications review. The TCEQ will provide a notification of intent to review whenever a project is to undergo a complete plans and specifications review. Please be reminded of §317.1(a)(2) of the rules which states, "Approval given by the executive director...shall not relieve the sewerage system owner or the design engineer of any liabilities or responsibilities with respect to the proper design, construction, or authorized operation of the project in accordance with applicable commission rules."

If you have any questions or if we can be of any further assistance, please call me at (512) 239-4552.

Sincerely,



Louis C. Herrin, III, P.E.
Wastewater Permits Section (MC 148)
Water Quality Division
Texas Commission on Environmental Quality

LCH/ms

cc: TCEQ, Region 14 Office



*TCEQ
5-5-05*

GOLDSTON ENGINEERING, INC.

210 South Garanhua - P.O. Box 2886
Corpus Christi, TX 78403-2886

Phone (361) 888-8100 • Fax (361) 888-8600
e-mail: gei@goldstonengr.com

*MIND | 10901-008/PA
0508/021*

Post-it® Fax Note	7671	Date	4/12/05	# of pages	2
To	GREG CHARLES		From	STEVE SYNOWITZ	
Co./Dept.	TCEQ		Co.	GEI	
Phone #			Phone #	361-888-8100 X127	
Fax #	512-239-4430		Fax #	361-888-8600	

January 28, 2005

A02024-04

Mr. Luis Herrin
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087
Phone: (512) 239-4552

**Re: Laguna Madre WWTP - Aeration System Rehabilitation
City Project # 7169**

Dear Mr. Herrin:

Goldston Engineering, Inc. has a design contract with the City of Corpus Christi to prepare plans to rehabilitate the Laguna Madre Wastewater Treatment Plant aeration system. Please accept this letter as a summary transmittal letter for the project.

Additional required information is as follows:

- (i) The design firm is:
Goldston Engineering, Inc.
210 S. Caranhua, Suite 200
Corpus Christi, TX 78403;
- (ii) The names, phone numbers and facsimile numbers of the design engineers are:
Steve Synowitz, P.E. (Civil)
(361) 888-8100 ext. 127 (Phone)
(361) 888-8600 (Fax);

Jeff Caffey, P.E. (Mechanical)
(817) 806-1700 (Phone)
(817) 589-0072 (Fax);
- (iii) The project name is: **Laguna Madre WWTP - Aeration System Rehabilitation** (City Project # 7169); it is located in the City of Corpus Christi in Nueces County, Texas;

Mr. Luis Herrin,
January 28, 2005
Page 2 of 2

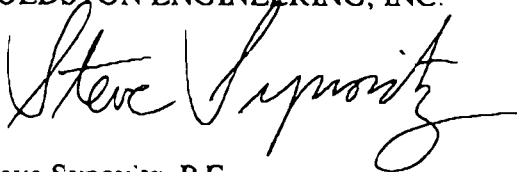
- (iv) The name of the entity which proposes to own, operate and maintain the project through its design life is the City of Corpus Christi;
- (v) The permit name and number of the relevant wastewater treatment facility is:
Laguna Madre Wastewater Treatment Plant
EPA Permit #: TX0047104
- (vi) The project scope includes installing a new stainless steel air distribution system above-ground, which replaces an existing below-grade ductile iron system; replacing the existing steel blower intake filter hoods with stainless steel intake filter hoods; minor site work including removal and salvage of existing ductile iron piping and fittings and grouting of below-grade piping as well as concrete paving; and installation of a new fine bubble diffuser system in the re-aeration and mixing basins to replace the existing coarse bubble diffuser system.

We are enclosing, for your files, a copy of the bid set plans that we recently submitted to the City. If you have any commentary, please let us know.

If you have any questions or if we can provide any additional information, please call me at (361) 888-8100, ext. 127. Thank you for your time.

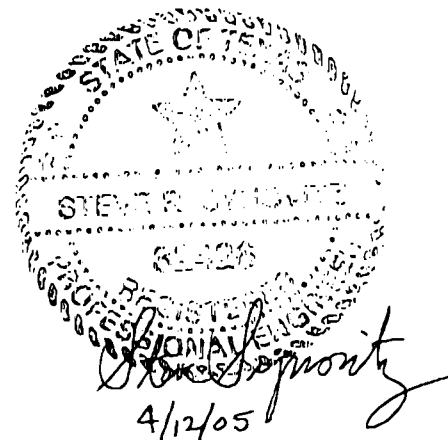
Sincerely,

GOLDSTON ENGINEERING, INC.

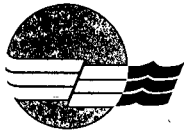


Steve Synovitz, P.E.
Senior Project Manager

cc: Tom Bacon, P.E.	City of Corpus Christi
Joe Trejo, P.E.	City of Corpus Christi



Enclosures



GOLDSTON ENGINEERING, INC.

210 South Carancahua • P.O. Box 2886
Corpus Christi, TX 78403-2886
Phone (361) 888-8100 • Fax (361) 888-8600
e-mail: gei@goldstonengr.com

RECEIVED

FEB 02 2005

WASTEWATER PLANS
AND SPECIFICATIONS

M WD/104401-008/PA

called 4/12/05-

January 28, 2005

A02024-04

Mr. Luis Herrin
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087
Phone: (512) 239-4552

**Re: Laguna Madre WWTP - Aeration System Rehabilitation
City Project # 7169**

Dear Mr. Herrin:

Goldston Engineering, Inc. has a design contract with the City of Corpus Christi to prepare plans to rehabilitate the Laguna Madre Wastewater Treatment Plant aeration system. Please accept this letter as a summary transmittal letter for the project.

Additional required information is as follows:

- (i) The design firm is:
Goldston Engineering, Inc.
210 S. Carancahua, Suite 200
Corpus Christi, TX 78403;
- (ii) The names, phone numbers and facsimile numbers of the design engineers are:
Steve Synovitz, P.E. (Civil)
(361) 888-8100 ext. 127 (Phone)
(361) 888-8600 (Fax);

Jeff Caffey, P.E. (Mechanical)
(817) 806-1700 (Phone)
(817) 589-0072 (Fax);
- (iii) The project name is: **Laguna Madre WWTP - Aeration System Rehabilitation** (City Project # 7169); it is located in the City of Corpus Christi in Nueces County, Texas;

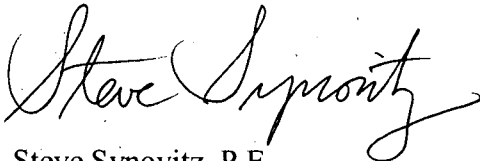
- (iv) The name of the entity which proposes to own, operate and maintain the project through its design life is the City of Corpus Christi;
- (v) The permit name and number of the relevant wastewater treatment facility is:
Laguna Madre Wastewater Treatment Plant
EPA Permit #: TX0047104
- (vi) The project scope includes installing a new stainless steel air distribution system above-ground, which replaces an existing below-grade ductile iron system; replacing the existing steel blower intake filter hoods with stainless steel intake filter hoods; minor site work including removal and salvage of existing ductile iron piping and fittings and grouting of below-grade piping as well as concrete paving; and installation of a new fine bubble diffuser system in the re-aeration and mixing basins to replace the existing coarse bubble diffuser system.

We are enclosing, for your files, a copy of the bid set plans that we recently submitted to the City. If you have any commentary, please let us know.

If you have any questions or if we can provide any additional information, please call me at (361) 888-8100, ext. 127. Thank you for your time.

Sincerely,

GOLDSTON ENGINEERING, INC.



Steve Synovitz, P.E.
Senior Project Manager

cc: Tom Bacon, P.E. City of Corpus Christi
Joe Trejo, P.E. City of Corpus Christi

Enclosures

Compliance History

Customer/Respondent/Owner-Operator:	CN600131858 City of Corpus Christi	Classification: AVERAGE	Rating: 1.930
Regulated Entity:	RN101609915 LAGUNA MADRE	Classification: AVERAGE	Site Rating: 0.37
ID Number(s):	WASTEWATER	PERMIT	TX0047104
	WASTEWATER	PERMIT	TPDES0047104
	WASTEWATER	PERMIT	WQ0010401008
	WASTEWATER LICENSING	LICENSE	WQ0010401008
	STORMWATER	PERMIT	TXR05L506
Location:	201 JESTER ST, CORPUS CHRISTI, TX, 78418		Rating Date: 9/1/04 Repeat Violator: NO
TCEQ Region:	REGION 14 - CORPUS CHRISTI		
Date Compliance History Prepared:	April 30, 2005		
Agency Decision Requiring Compliance History:	Permit - Issuance, renewal, amendment, modification, denial, suspension, or revocation of a permit.		
Compliance Period:	September 14, 2004 to September 15, 2004		

TCEQ Staff Member to Contact for Additional Information Regarding this Compliance History

Name: David Akoma Phone: (512) 239-1444

Site Compliance History Components

- | | |
|--|------------|
| 1. Has the site been in existence and/or operation for the full five year compliance period? | Yes |
| 2. Has there been a (known) change in ownership of the site during the compliance period? | No |
| 3. If Yes, who is the current owner? | <u>N/A</u> |
| 4. If Yes, who was/were the prior owner(s)? | <u>N/A</u> |
| 5. When did the change(s) in ownership occur? | <u>N/A</u> |

Components (Multimedia) for the Site :

- A. Final Enforcement Orders, court judgements, and consent decrees of the state of Texas and the federal government.
N/A
- B. Any criminal convictions of the state of Texas and the federal government.
N/A
- C. Chronic excessive emissions events.
N/A
- D. The approval dates of investigations. (CCEDS Inv. Track. No.)
N/A
- E. Written notices of violations (NOV). (CCEDS Inv. Track. No.)
N/A
- F. Environmental audits.
N/A
- G. Type of environmental management systems (EMSs).
N/A
- H. Voluntary on-site compliance assessment dates.
N/A
- I. Participation in a voluntary pollution reduction program.
N/A
- J. Early compliance.
N/A

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

For proposed Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0010401008, (TX0047104) to discharge to waters in the State.

Issuing Office: Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711

Applicant: City of Corpus Christi
P. O. Box 9277
Corpus Christi, Texas 78469-9277

Prepared By: David Akoma
Wastewater Permitting Section (MC 148)
Water Quality Division
(512) 239-1444

Date: April 12, 2005

Permit Action: Renewal

1. EXECUTIVE DIRECTOR RECOMMENDATION

The executive director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The proposed permit includes an expiration date of July 1, 2009 according to 30 TAC Section 305.71, Basin Permitting.

2. APPLICANT ACTIVITY

The applicant has applied to the Texas Commission on Environmental Quality (TCEQ) for a renewal of the existing permit that authorizes the discharge of treated domestic wastewater at an annual average flow not to exceed 3.0 million gallons per day. The existing wastewater treatment facility serves the City of Corpus Christi.

3. FACILITY AND DISCHARGE LOCATION

The plant site is located at 201 Jester Street, the Encinal Peninsula adjacent to the Laguna Madre, approximately 0.5 mile southeast of the intersection of Jester Street and State Highway 358 in the City of Corpus Christi in Nueces County, Texas.

The treated effluent is discharged via pipeline to Laguna Madre in Segment No. 2491 of the Bays and Estuaries. The designated uses for Segment No. 2491 are exceptional aquatic life uses, oyster waters and contact recreation.

4. TREATMENT PROCESS DESCRIPTION AND SEWAGE SLUDGE DISPOSAL

The Laguna Madre Wastewater Treatment Facility is an activated sludge process plant operated in the contact stabilization mode. Treatment units include lift station, mechanical bar screen, grit chamber, aeration basin, two reaeration basins, two final clarifiers, five aerobic digesters, two chlorine contact chambers, sludge drying beds, a prethickener, and a belt filter press. The facility is in operation.

Sludge generated from the treatment facility is hauled by a registered transporter and disposed of at a TCEQ permitted landfill, J. C. Elliot Landfill, Permit No. 423-A, in Nueces County. The draft permit authorizes the disposal of sludge only at a TCEQ registered or permitted land application site, commercial land application site or co-disposal landfill.

5. INDUSTRIAL WASTE CONTRIBUTION

The City of Corpus Christi - Laguna Madre Wastewater Treatment Facility does not receive significant contributions of industrial wastewater.

6. SUMMARY OF SELF-REPORTED EFFLUENT ANALYSES

The following is a summary of the applicant's Monthly Effluent Report data for the period from January 2003 through December 2004. The average of Daily Avg value is computed by averaging of all 30-day average values for the reporting period for each parameter.

<u>Parameter</u>	<u>Average of Daily Avg</u>
Flow, MGD	1.9
BOD ₅ , mg/l	4.4
TSS, mg/l	4.0

7. PROPOSED PERMIT CONDITIONS AND MONITORING REQUIREMENTS

The proposed effluent limitations and monitoring requirements for those parameters that are limited in the draft permit are as follows:

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The annual average flow of effluent shall not exceed 3.0 million gallons per day (MGD); nor shall the average discharge during any two-hour period (2-hour peak) exceed 6,250 gallons per minute (gpm).

<u>Parameter</u>	<u>30-Day Average</u>		<u>7-Day Average</u>	<u>Daily Maximum</u>
	mg/l	lbs/day	mg/l	mg/l
BOD(5-day)	20	500	30	45
TSS	20	500	30	45
DO (minimum)	2.0	N/A	N/A	N/A

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per week by grab sample. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

The effluent shall contain a chlorine residual of at least 1.0 mg/l after a detention time of at least 20 minutes (based on peak flow) and shall be monitored daily by grab sample. The permittee shall dechlorinate the chlorinated effluent to less than 0.1 mg/l chlorine residual and shall monitor chlorine residual daily by grab

sample after the dechlorination process. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.

<u>Parameter</u>	<u>Monitoring Requirement</u>
Flow, MGD	Continuous
BOD	Two/week
TSS	Two/week
DO	Two/week

B. SEWAGE SLUDGE REQUIREMENTS

The draft permit authorizes the disposal of sludge only at a TCEQ registered or permitted land application site, commercial land application site or co-disposal landfill. Sludge Provisions are included in the draft permit according to the requirements of 30 TAC Chapter 312, Sludge Use, Disposal and Transportation.

C. PRETREATMENT REQUIREMENTS

Permit requirements for pretreatment are based on TPDES regulations 30 TAC Chapter 315 which references 40 CFR Part 403, "General Pretreatment Regulations for Existing and New Sources of Pollution." The permit includes specific requirements that establish responsibilities of local government, industry and the public to implement the standards to control pollutants which pass through or interfere with treatment processes in publicly owned treatment works or which may contaminate the sewage sludge. These requirements are appropriate for a facility of this size and complexity.

The permittee has a pretreatment program which was approved by the EPA on January 11, 1985 and subsequently modified on September 24, 1993. This permit has appropriate pretreatment language for a facility of this size and complexity. The permittee is required, under the conditions of the approved pretreatment program, to prepare annually a list of Industrial Users which during the preceding twelve months were in significant noncompliance with applicable pretreatment requirements for those facilities covered under the program which receive industrial wastewaters. This list is to be published annually in the largest daily newspaper in the municipality during the month of January. The permittee is under a continuing duty to: establish and enforce specific local limits to implement the provisions of 40 CFR § 403.5 develop and enforce local limits as necessary, and modify the approved POTW pretreatment program as necessary to comply with federal, state and local law, as amended.

The pretreatment program language has not changed significantly from the current permit and current pretreatment program requirements will continue until permit expiration.

D. WHOLE EFFLUENT TOXICITY (BIOMONITORING) REQUIREMENTS

- (1) The draft permit includes 7-day chronic saltwater biomonitoring requirements as follows. The permit requires five dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 3 %, 5 %, 6 %, 8 %, and 11 %. The low-flow effluent concentration (critical dilution) is defined as 8 % effluent.

- (a) Chronic static renewal 7-day survival and growth test using the mysid shrimp (Mysidopsis bahia). The frequency of the testing is once per quarter.
 - (b) Chronic static renewal 7-day larval survival and growth test using the inland silverside (Menidia beryllina). The frequency of the testing is once per quarter.
- (2) The draft permit includes the following minimum 24-hour acute saltwater biomonitoring requirements at a frequency of once per six months:
- (a) Acute 24-hour static toxicity test using the mysid shrimp (Mysidopsis bahia).
 - (b) Acute 24-hour static toxicity test using the inland silverside (Menidia beryllina).

E. SUMMARY OF CHANGES FROM APPLICATION

None.

F. SUMMARY OF CHANGES FROM EXISTING PERMIT

Effluent limitations and monitoring requirements in the draft permit remain the same as the existing permit requirements. The 7-day chronic saltwater biomonitoring testing frequency for (*Mysidopsis bahia* and *Menidia Beryllina*) has been changed to once per quarter for both species.

The Standard Permit Conditions, Sludge Provisions, Other Requirements, Pretreatment Requirements and Biomonitoring sections of the draft permit have been updated.

8. DRAFT PERMIT RATIONALE

A. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

Regulations promulgated in Title 40 of the Code of Federal Regulations (CFR) require technology-based limitations be placed in wastewater discharge permits based on effluent limitations guidelines, where applicable, and/or on best professional judgment (BPJ) in the absence of guidelines.

Effluent limitations for maximum and minimum pH are in accordance with 40 CFR Part 133.102©) and 30 TAC Section 309.1(b).

B. WATER QUALITY SUMMARY AND COASTAL MANAGEMENT PLAN

(1) WATER QUALITY SUMMARY

The treated effluent is discharged via pipeline to Laguna Madre in Segment No. 2491 of the Bays and Estuaries. The designated uses for Segment No. 2491 are exceptional aquatic life uses, oyster waters and contact recreation. The effluent limitations in the draft permit will maintain and protect the existing instream uses. All determinations are preliminary and subject to additional review and/or revisions.

A watershed of high priority has been identified in Segment No. 2491 in Nueces County. The piping plover, *Charadrius melodus* Ord, a threatened aquatic dependent species, is found in the watershed of Segment 2491; **however, the facility is not a petroleum facility and its discharge is not expected to have an effect on the piping plover.** This determination is based on the United States Fish and Wildlife

Service's (USFWS) biological opinion on the State of Texas authorization of the Texas Pollutant Discharge Elimination System (TPDES; September 14, 1998, October 21, 1998 update). To make this determination for TPDES permits, TCEQ and EPA only considered aquatic or aquatic dependent species occurring in watersheds of critical concern or high priority as listed in Appendix A of the USFWS biological opinion. The determination is subject to reevaluation due to subsequent updates or amendments to the biological opinion. The permit does not require EPA review with respect to the presence of endangered or threatened species.

Segment 2491 is contained on the current list for depressed dissolved oxygen in specific areas: around the mouth of Baffin Bay, around the mouth of the Arroyo Colorado, near the upper end of the Padre Island National Seashore, and the upper Laguna Madre near Packery Channel Park. This facility is therefore no longer discharging into a listed area and can be evaluated using standard analytical methodologies. The effluent limitations incorporated in the draft permit is adequate to prevent treated domestic wastewater discharge from contributing to the impaired portions of the segment.

The effluent limitations and/or conditions in the draft permit comply with the Texas Surface Water Quality Standards, 30 TAC Sections 307.1 - 307.10, effective April 30, 1997.

(2) CONVENTIONAL PARAMETERS

Effluent limitations for the conventional effluent parameters (i.e., Biochemical Oxygen Demand or Carbonaceous Biochemical Oxygen Demand, Ammonia Nitrogen, etc.) are based on stream standards and waste load allocations for water quality limited streams as established in the Texas Water Quality Standards and the water quality management plan.

The effluent limitations in the draft permit have been reviewed for consistency with the State of Texas Water Quality Management Plan (WQMP). The proposed effluent limitations are contained in the approved WQMP. A Waste Load Evaluation for the segment has not been completed for Segment No. 2491.

The effluent limitations in the draft permit meet the requirements for secondary treatment and the requirements for disinfection according to 30 TAC Chapter 309, Subchapter A: Domestic Wastewater Effluent Limitations.

(3) COASTAL MANAGEMENT PLAN

The Executive Director has reviewed this action for consistency with the goals and policies of the Texas Coastal Management Program (CMP) in accordance with the regulations of the Coastal Coordination Council (CCC) and has determined that the action is consistent with the applicable CMP goals and policies.

C. WATER QUALITY-BASED EFFLUENT LIMITATIONS/CONDITIONS

(1) GENERAL COMMENTS

The Texas Surface Water Quality Standards (30 TAC Chapter 307) state that "surface waters will not be toxic to man, or to terrestrial or aquatic life." The methodology outlined in the "Implementation of the Texas Commission on Environmental Quality Standards via Permitting" is designed to insure compliance with 30 TAC Chapter 307. Specifically, the methodology is designed to insure that no source will be allowed to discharge any wastewater which: (1) results in instream aquatic toxicity; (2)

causes a violation of an applicable narrative or numerical state water quality standard; (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

(2) AQUATIC LIFE CRITERIA

(a) SCREENING

Water quality-based effluent limitations are calculated from marine aquatic life criteria found in Table 2 of the Texas Surface Water Quality Standards (30 TAC Chapter 307).

Acute marine criteria are applied at the zone of initial dilution (ZID) and chronic marine criteria are applied at the aquatic life mixing zone. The ZID for discharges into bays, estuaries, and wide tidal rivers is defined as 50 feet from the point where the discharge enters Laguna Madre. The aquatic life mixing zone for discharges into bays, estuaries, and wide tidal rivers is defined as a radius of 200 feet from the point where the discharge enters Laguna Madre.

TCEQ practice is to establish minimum estimated effluent dilutions at the ZID and aquatic life mixing zone for discharges which are less than 10 MGD into bays, estuaries, and wide tidal rivers with a 200 foot mixing zone. These minimum effluent dilutions are:

ZID: 30% Aquatic Life Mixing Zone: 8%

Wasteload allocations (WLAs) are calculated using the above estimated effluent dilutions, criteria outlined in the Texas Surface Water Quality Standards, and partitioning coefficients for metals (when appropriate and designated in the implementation procedures). The WLA is the end-of-pipe effluent concentration which can be discharged, when after mixing in the receiving stream, instream numerical criteria will not be exceeded. From the WLA, a long term average (LTA) is calculated using a log normal probability distribution, a given coefficient of variation (0.6), and a 99th percentile confidence level. The lower of the two LTAs (acute and chronic) is used to calculate a daily average and daily maximum effluent limitation for the protection of aquatic life using the same statistical considerations with the 99th percentile confidence level and a standard number of monthly effluent samples collected (12).

TCEQ practice for determining significant potential is to compare the reported analytical data against percentages of the calculated daily average water quality-based effluent limitation. Permit limitations are required when analytical data reported in the application exceeds 85 percent of the calculated daily average water quality-based effluent limitation. Monitoring and reporting is required when analytical data reported in the application exceeds 70 percent of the calculated daily average water quality-based effluent limitation.

(b) PERMIT ACTION

Analytical data reported in the application was screened against calculated water quality-based effluent limitations for the protection of aquatic life. Reported analytical data does not exceed 70 percent of the calculated daily average water quality-based effluent limitation for aquatic life protection.

(3) AQUATIC ORGANISM BIOACCUMULATION CRITERIA

(a) SCREENING

Water quality-based effluent limitations for the protection of human health are calculated using consumption of marine fish tissue criteria found in Table 3 of the Texas Surface Water Quality Standards (30 TAC Chapter 307). Marine fish tissue bioaccumulation criteria are applied at the human health mixing zone for discharges into bays, estuaries and wide tidal rivers. The human health mixing zone for discharges into bays, estuaries and wide tidal rivers is defined as a 400 foot radius from the point where the discharge enters Laguna Madre. TCEQ practice is to establish a minimum estimated effluent dilution at the human health mixing zone for discharges which are less than 10 MGD into bays, estuaries, and wide tidal rivers with a 200 foot aquatic life mixing zone. This minimum effluent dilution is:

Human health mixing zone: 4%

Water quality-based effluent limitations for human health protection against the consumption of fish tissue are calculated using the same procedure as outlined for calculation of water quality-based effluent limitations for aquatic life protection. A 99th percentile confidence level in the long term average calculation is used with only one long term average value being calculated.

Significant potential is again determined by comparing reported analytical data against 70 percent and 85 percent of the calculated daily average water quality-based effluent limitation.

(b) PERMIT ACTION

Reported analytical data does not exceed 70 percent of the calculated daily average water quality-based effluent limitation for human health protection.

(4) DRINKING WATER SUPPLY PROTECTION

(a) SCREENING

Water Quality Segment No. 2491 which receives the discharge from this facility is not designated as a public water supply. Screening reported analytical data of the effluent against water quality-based effluent limitations calculated for the protection of a drinking water supply is not applicable.

(b) PERMIT ACTION

None.

(5) WHOLE EFFLUENT TOXICITY (BIOMONITORING) CRITERIA

(a) SCREENING

TCEQ has determined that there may be pollutants present in the effluent which may have the potential to cause toxic conditions in the receiving stream. Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity.

The existing permit includes 7-day chronic saltwater biomonitoring requirements. A summary of the chronic biomonitoring testing for the facility indicates that from May 1998 to March 2004 the permittee conducted 7-day chronic tests using *Mysidopsis bahia* and *Menidia beryllina* with no reported significant toxicity.

(b) PERMIT ACTION

The test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge. This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body.

Analytical data submitted with the application does not indicate violation of any numerical water quality-based effluent limitation for aquatic life protection; therefore, minimum biomonitoring conditions required for EPA classified major facilities are proposed in the draft permit.

Please note that the minimum biomonitoring testing is performed quarterly for both the vertebrate and the invertebrate test species with the possibility of reduction after one (1) year. Quarterly testing is needed to adequately assess the variability and toxic potential of effluents. Below this minimum frequency, the chance of missing toxic events increases.

(6) WHOLE EFFLUENT TOXICITY CRITERIA (24 - HOUR ACUTE)

(a) SCREENING

The existing permit includes 24-hour acute saltwater biomonitoring language. A summary of the biomonitoring testing for the facility indicates that from March 1997 to March 2004 the permittee conducted 24-hour acute toxicity tests using *Mysidopsis bahia* and *Menidia beryllina* with no reported significant toxicity.

(b) PERMIT ACTION

The draft permit includes 24-hour 100% acute biomonitoring tests for the life of the permit.

9. WATER QUALITY VARIANCE REQUESTS

No variance requests have been received.

10. PROCEDURES FOR FINAL DECISION

When an application is declared administratively complete, the Chief Clerk sends a letter to the applicant advising the applicant to publish the Notice of Receipt of Application and Intent to Obtain Permit in the newspaper. In addition, the Chief Clerk instructs the applicant to place a copy of the application in a public place for review and copying in the county where the facility is or will be located. This application will be in a public place throughout the comment period. The Chief Clerk also mails this notice to any interested persons and, if required, to landowners identified in the permit application. This notice informs the public about the application, and provides that an interested person may file comments on the application or request a contested case hearing

This notice sets a deadline for making public comments. The applicant must place a copy of the Executive Director's preliminary decision and draft permit in the public place with the application. This notice sets a deadline for public comment.

Any interested person may request a public meeting on the application until the deadline for filing public comments. A public meeting is intended for the taking of public comment, and is not a contested case proceeding.

After the public comment deadline, the Executive Director prepares a response to all significant public comments on the application or the draft permit raised during the public comment period. The Chief Clerk then mails the Executive Director's Response to Comments and Final Decision to people who have filed comments, requested a contested case hearing, or requested to be on the mailing list. This notice provides that if a person is not satisfied with the Executive Director's response and decision, they can request a contested case hearing or file a request to reconsider the Executive Director's decision within 30 days after the notice is mailed.

The Executive Director will issue the permit unless a written hearing request or request for reconsideration is filed within 30 days after the Executive Director's Response to Comments and Final Decision is mailed. If a hearing request or request for reconsideration is filed, the Executive Director will not issue the permit and will forward the application and request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting. If a contested case hearing is held, it will be a legal proceeding similar to a civil trial in state district court.

If the Executive Director calls a public meeting or the Commission grants a contested case hearing as described above, the Commission will give notice of the date, time, and place of the meeting or hearing. If a hearing request or request for reconsideration is made, the Commission will consider all public comments in making its decision and shall either adopt the Executive Director's response to public comments or prepare its own response.

For additional information about this application contact David Akoma at (512) 239-1444.

11. ADMINISTRATIVE RECORD

The following items were considered in developing the proposed permit draft:

A. PERMIT(S)

TPDES Permit No. WQ0010401008 issued September 12, 2001.

B. APPLICATION

Application received on September 15, 2004 and additional information received on October 19, 2004.

C. MEMORANDA

Interoffice memoranda from the Water Quality Assessment Section of the TCEQ Water Quality Division.
Interoffice memorandum from the Pretreatment Team of the TCEQ Water Quality Division.

D. MISCELLANEOUS

Federal Clean Water Act, Section 402; Texas Water Code Section 26.027; 30 TAC Chapters 305, 309, 312, 319, 30; Commission policies; and EPA guidelines.

Texas Surface Water Quality Standards, 30 TAC Sections 307.1 - 307.10 (21 TexReg 9765, 4/30/97).

"Procedures to Implement the Texas Surface Water Quality Standards," Texas Commission on Environmental Quality, January 2003.

State of Texas 2000 Clean Water Act Section 303(d) List, Texas Natural Resource Conservation Commission, December 2002.

"TNRCC Guidance Document for Establishing Monitoring Frequencies for Domestic and Industrial Wastewater Discharge Permits," Document No. 98-001.000-OWR-WQ, May 1998.

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: *4/14/05*
Dww Firoj Vahora, Team Leader
Municipal Team, Wastewater Permitting Section

Date: April 12, 2005

From: David Akoma, Municipal Permits Team

APPLICANT: City of Corpus Christi
TPDES PERMIT NO: WQ0010401008

PLANT NAME: Laguna Madre WWTP
EPA ID NO: TX0047104

TOXICITY MEMO: 11/04/04 & 12/16/04

ASSIGN DATE: 12/27/04

STANDARDS MEMO: 11/01/04

TECH COMPLETE DATE: 04/12/05

MODELING MEMO: 11/15/04

PRETREATMENT MEMO: 12/21/04

ADMIN COMPLETE DATE: 10/27/05

RFI LETTER DATE: (Modeling Memo 11/15/04)

RESPONSE LETTER DATE: 04/04/05

PERMIT TYPE

PUBLIC DOMESTIC

Discharge (TPDES)

MAJOR (≥ 1 MGD)

PERMIT ACTION

Renewal

PERMIT PACKAGE

YES NO

- Transmittal letter to applicant
- Transmittal letter to EPA
- Technical Summary/SOB and ED Preliminary Decision
(prepare only if have hearing requests and/or need to schedule on commission agenda)
- Fact Sheet and ED Preliminary Decision for major TPDES Permit
- Permit Draft
- Biomonitoring Requirements for major TPDES Permit
- Pretreatment Requirements (only for POTWs)
- EPA REVIEW CHECKLIST
- FACILITY PROCESS FORM (saved to I:\wq\mini\tracs forms)
- TEX-TOX Printout in file
- NOTICE for admin complete on or after 9/1/99
- CAPTION (also saved in I:\EVERYONE\wq\CAPTION)
- MAJOR/MINOR DETERMINATION (if needed to change to major from minor designation)
- LOCATED IN THE COASTAL ZONE (if located in coastal zone, include **CMP Threshold Review Sheet**)
- SPELLCHECK: DRAFT PERMIT/TECH SUM/SOB/FACT SHEET/NOTICE/LETTER(S)
- SCHEDULE FOR ERC Part A: All major permits (including renewals, major and minor amendments and new applications) need to be scheduled for ERC**
- Located in the Edwards Aquifer area: NO
- COMPLIANCE HISTORY:**
 - No enforcement orders; does not need to go to ERC Part C.
 - Enforcement Order(s); ERC Part C on _____
 - No changes to the draft permit needed based on discussion at ERC
 - Changes to the draft permit made based on discussion at ERC

COMMENTS: City of Corpus Christi has applied for a renewal of TPDES Permit No. WQ0010401008, which authorizes the discharge of treated domestic wastewater at an annual average flow not to exceed 3,000,000 gallons per day. The facility is located at 201 Jester Street, the Encinal Peninsula adjacent to the Laguna Madre, approximately 0.5 mile southeast of the intersection of Jester Street and State Highway 358 in the City of Corpus Christi in Nueces County, Texas.

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Margaret Hoffman, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 21, 2005

Mr. Foster Crowell, Wastewater Director
City of Corpus Christi
P. O. Box 9277
Corpus Christi, Texas 78469-9277

Re: City of Corpus Christi - Proposed TPDES Permit No. WQ0010401008, (TX0047104)
(CN600131858; RN101609915)

Dear Mr. Crowell:

Enclosed for your review and comment is a copy of a draft proposed permit, fact sheet and statement of basis/technical summary for the above-referenced operation. This draft permit is subject to further staff review and modification; however, we believe it generally includes the terms and conditions that are appropriate to your discharge. **Please read the entire draft carefully as there may be changes from the existing permit and note the following:**

1. The draft permit will be issued to expire July 1, 2009 in accordance with 30 TAC Section 305.71, Basin Permitting.
2. The Standard Permit Conditions, Sludge Provisions, Other Requirements, Pretreatment Requirements and Biomonitoring sections of the draft permit have been updated.

Also enclosed for your review and comment is a copy of the draft second notice, the Notice of Application and Preliminary Decision, that was prepared for your application. Please review this notice and provide comments if there are any inaccuracies or any information that is not consistent with your application. Please do not publish the notice at this time; after the draft permit is filed with the Office of the Chief Clerk, you will receive instructions for publishing this notice in a newspaper from the Office of the Chief Clerk.

Please read the enclosed "Draft Permit Form" and submit your comments prior to the deadline that is indicated on the form. If your comments are not received by the deadline, the draft permit will be transferred to the Office of the Chief Clerk and comments received after this date will not be considered. Please see the enclosed form for further details.

Mr. Foster Crowell, Wastewater Director
Page 2

If you have any comments or questions, please contact me at (512) 239-1444, or if by correspondence, include MC 148 in the letterhead address following my name.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Akoma". The signature is written in a cursive style with a large initial "D" and a long, sweeping underline.

David Akoma, Permit Coordinator
Municipal Permits Team
Wastewater Permitting Section (MC 148)
Water Quality Division
Texas Commission on Environmental Quality

Enclosures

cc: TCEQ Region 14

AGENDA CAPTION FOR PERMIT NO. WQ0010401008

City of Corpus Christi has applied for a renewal of TPDES Permit No. WQ0010401008, which authorizes the discharge of treated domestic wastewater at an annual average flow not to exceed 3,000,000 gallons per day. The facility is located at 201 Jester Street, the Encinal Peninsula adjacent to the Laguna Madre, approximately 0.5 mile southeast of the intersection of Jester Street and State Highway 358 in the City of Corpus Christi in Nueces County, Texas.

MUNICIPAL EPA REVIEW CHECKLIST

Permittee Name: City of Corpus Christi

Permit Number: TPDES Permit No. WQ0010401008, TX0047104

NOTE: Minor amendments, endorsements, and minor modifications (except for pretreatment) are exempt from EPA review. For renewal, amendment or new applications, check any items that apply to determine if permit application is subject to EPA review:

PLEASE CHECK ALL THE APPLICABLE BELOW: ✓

Draft permit authorizes:

YES NO

- | | | |
|---|---|--|
| ✓ | - | discharge from a designated major facility |
| ✓ | - | discharge from a POTW with an approved pretreatment program |
| ✓ | - | discharge from a facility with an average flow \geq 1.0 MGD |
| ✓ | - | discharge to a critical concern species watershed |
| ✓ | - | discharge that includes a request for a water quality variance |
| ✓ | - | storm water discharge to high priority species watershed |
| ✓ | - | prior to a final TMDL, new permit or expanded discharge to an impaired listed 303(d) listed segment, and which has the potential to discharge any pollutant which is causing or contributing to the impairment. |
| ✓ | - | after a final TMDL, new permit or expanded discharge to an impaired listed 303(d) listed segment where the TMDL does not allocate the loadings described in the draft permit |
| ✓ | - | after a final TMDL, a permit with effluent limits which allow loadings in excess of those prescribed by the TMDL for the segment |
| ✓ | - | after a final TMDL, a permit that allows more than a 3-year schedule for an existing facility to be in compliance with final effluent limits based on the TMDL allocation (new facilities have to be compliant upon discharge) |
| ✓ | - | discharge directly to territorial seas of the United States (from the coastline to 3 miles out but not including Bays and Estuaries) |
| ✓ | - | discharge or sewage sludge management that may affect another state or Mexico. For sewage sludge management, "may affect" means, accepts sewage sludge from another state or Mexico. For discharge, it means a discharge within 3 miles of a boundary with a another state or Mexico. |
| ✓ | - | discharge from a Class I sludge management facility. (A Class I facility is a POTW or combination of POTWs operated by the same authority with a design flow of >5 MGD and that have IUs and are required to have an approved pretreatment program or are subject to pretreatment standards, OR any other treatment works treating domestic sewage sludge classified as a Class I sludge management facility by the Regional Administrator in conjunction with the TCEQ.) |

If any column is marked "YES", EPA must receive a copy of the full permit package.

If all columns are marked "NO", EPA does not need to review the draft permit.

Permit Writer: David Akoma

Date: April 12, 2005

TRACS FACILITY EXTENSION - TREATMENT PROCESS

PERMIT NO. WQ0010401008

PERMITTEE City of Corpus Christi

Plant Name Laguna Madre WWTP

Renewal Final

LIQUID TREATMENT PROCESSES

Primary Treatment

- 01 Pumping raw materials ✓
- 02 Preliminary treatment - bar screen ✓
- 03 Preliminary treatment - grit removal
- 04 Preliminary treatment - comminutors
- 05 Preliminary treatment - others
- B1 Imhoff tank
- 06 Scum removal
- 07 Flow equalization basins
- 08 Preaeration
- 09 Primary sedimentation
- D2 Septic tank
- A5 Facultative lagoon

Secondary Treatment

- 10 Trickling filter - rock media
- 11 Trickling filter - plastic media
- 12 Trickling filter - redwood slats
- 13 Trickling filter - other media
- 14 Activate sludge - conventional
- 15 Activate sludge - complete mix
- 16 Activate sludge - contact stabilization
- 17 Activated sludge - extended aeration ✓
- F9 Activated sludge - Seq. Batch Reactor
- 18 Pure oxygen activate sludge
- 19 Bio-Disc (rotating biological filter)
- 20 Oxidation ditch
- 21 Clarification using tube settlers
- G1 Clarification using microscreens
- 22 Secondary clarification ✓
- B6 Constructed wetlands
- E5 Natural treatment
- E6 Overland flow

Advanced Treatment - Biological

- 23 Biological nitrification - separate stage
- 24 Biological nitrification - combined
- 25 Biological denitrification
- 26 Post aeration (reaeration) ✓

Advanced Treatment-Physical/Chemical

- 27 Microstrainers - primary
- 28 Microstrainers - secondary
- D1 Dunbar beds
- 29 Sand filters
- 30 Mix media filters (sand and coal)
- 31 Other filtrations
- B2 Bubble diffuser (compressor)
- 32 Activated carbon - granular
- B3 Mechanical surface aerator
- 33 Activated carbon-powered
- 34 Two stage lime treatment of raw wastewater
- 35 Two stage tertiary lime treatment
- 36 Single stage lime treatment of raw wastewater
- 37 Single stage tertiary lime treatment
- 38 Recarbonation
- 39 Neutralization

- 40 Alum addition to primary
- 41 Alum addition to secondary
- 42 Alum addition to separate state tertiary
- 43 Ferri-chloride addition to primary
- 44 Ferri-chloride addition to secondary
- 45 Ferri-chloride addition to separate stage tertiary
- 46 Other chemical additions
- 47 Ion exchange
- 48 Breakpoint chlorination
- 49 Ammonia stripping
- 50 Dechlorination ✓

Disinfection

- 51 Chlorination for disinfection ✓
- 52 Ozonation for disinfection
- 53 Other disinfection
- D3 Ultra violet light

Land Treatment

- 54 land treatment of primary effluent
- 55 Land treatment of secondary effluent
- 56 land treatment of intermediate effluent (less than secondary)

Other Treatment

- 57 Stabilization ponds
- 58 Aerated lagoons
- 59 Outfall pumping
- 60 Outfall diffuser
- 61 Effluent to other plants
- 62 Effluent outfall ✓
- 63 Other treatment
- B4 Evapo-transpiration beds
- 64 Recalcination
- A5 Facultative lagoons
- D4 Pressure dosing system
- D5 Percolation system

Disposal Method

- A7 Irrigation - public access
- A8 Irrigation - agricultural
- B4 Evapo-transpiration beds
- B6 Constructed wetlands
- C1 Irrigation - pastureland
- D4 Pressure dosing system
- D5 percolation system
- D8 Other reuse method
- E1 Evaporation/playa
- E2 Discharge only ✓
- E3 Discharge and (use other #)
- E4 Injection well(s)

SLUDGE TREATMENT PROCESSES

- 65 Aerobic digestion - air ✓
- 66 Aerobic digestion - oxygen
- 67 Composting
- 68 Anaerobic digestion
- 69 Sludge lagoons
- 70 Heat treatment - dryer
- 71 Chlorine oxidation of sludge

- 72 Lime stabilization
- 73 Wet air oxidation
- 74 Dewatering -sludge drying beds, sand ✓
- F2 Dewatering -sludge drying bed, vacuum assisted
- 75 Dewatering-mechanical -vacuum filter
- 76 Dewatering - mechanical-centrifuge
- 77 Dewatering - mechanical-filter press ✓
- 78 Dewatering - others
- 79 Gravity thickening
- 80 Air flotation thickening ✓
- D6 Sludge holding tank

Incineration

- 81 Incineration - multiple hearth
- 82 Incineration - fluidized beds
- 83 Incineration - rotary kiln
- 84 Incineration - others
- 85 Pyrolysis
- 86 Co-incineration with solid waste
- 87 Co-pyrolysis with solid waste
- 88 Co-incineration - others

Disposal

- 89 Co-disposal landfill ✓
- D7 Sludge-only monofill
- 90 Land application (permitted)
- 91 Commercial land application (register) ✓
- 92 Trenching
- B5 Transport to another WWTP
- F3 Transport to Regional compost facility
- 94 Other sludge handling
- 95 Digest gas utilization facilities
- E7 Commercial land application (permit)
- F4 Dedicated land disposal
- F5 Marketing and distribution - composted
- F6 marketing and distribution-noncomposted

MISCELLANEOUS

- 96 Control/lab/maintenance buildings
- 97 Fully automated using digital control(computer)
- 98 Fully automated using analog control
- 99 Semi-automated plant
- A1 Manually operated and controlled plant
- A2 Package plant
- A3 Semi-package plant
- A4 Custom built plant
- A7 Irrigation - public access
- A8 Irrigation - agriculture
- A9 Effluent storage ponds (irrigation)
- C1 Irrigation - pastureland
- D8 Other reuse method
- D9 Emergency holding ponds
- E1 Evaporation or playa
- E8 Monitoring wells
- E9 Biomonitoring ✓
- F7 Stormwater (SSO)
- F8 Unconventional

PERMIT WRITER: David Akoma
Municipal Permits Team
Wastewater Permitting Section, Water Quality Division

April 12, 2005
Date

**CMP THRESHOLD REVIEW SHEET
MUNICIPAL WASTEWATER DISCHARGE PERMITS**

PERMITTEE: City of Corpus Christi
TPDES PERMIT NO. WQ0010401008
SEGMENT NAME: Laguna Madre
SEGMENT NO: 2491
COUNTY: Nueces

SECTION A

- NO 1. This new permit would authorize the discharge of a flow greater than or equal to 5.0 Million Gallons per Day (MGD) into a tidally influenced segment (see Appendix A).
- NO 2. This new permit would authorize the discharge of a flow greater than or equal to 1.0 MGD into a priority segment (see Appendix B).
- NO 3. This amended permit would authorize an increase in the discharge flow to a flow greater than or equal to 5.0 MGD into a tidally influenced segment (see Appendix A).
- NO 4. This amended permit would authorize an increase in the discharge flow to a flow greater than or equal to 1.0 MGD into a priority segment (see Appendix B).

IF "YES" TO ANY OF THE ABOVE,

THEN THE PERMIT ACTION IS CONSIDERED ABOVE THRESHOLD, COMPLETE SECTION B.

IF NO TO ALL OF THE ABOVE,

THEN THE PERMIT ACTION IS CONSIDERED BELOW THRESHOLD, STOP HERE.

David Akoma
PERMIT WRITER

04/12/05
DATE

SECTION B

1. The IOM from standards states that "no significant degradation of high quality receiving waters is anticipated" (if receiving water has a designated high quality aquatic life use).
2. The IOM from standards states that "no loss of designated uses is anticipated."
3. The draft permit complies with all applicable provisions of 30 TAC 307, 309, and 319.

PERMIT WRITER

DATE

ANALYSES OF LIMITS FOR TOXIC MATERIALS IN WASTEWATER DISCHARGES
'TEXTOX' 2.3

TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION

WATERSHED MANAGEMENT DIVISION
PERMITTING SECTION
04-12-05

CONDITIONS/ASSUMPTIONS

TSS : 13.00

HARDNESS : 0.00

pH : 0.00

CHLORIDE : N/A

PERMITTEE : CITY OF CORPUS CHRISTI
PERMIT # : 10401-008

PREPARED BY: DAVID AKOMA

SEGMENT NUMBER : 2491
SEGMENT NAME : LAGUNA MADRE

THESE ANALYSES ARE
BASED ON

AQUATIC LIFE
HUMAN HEALTH

CRITERIA

PERCENTAGE OF EFFLUENT FOR HUMAN HEALTH : 4.00%

PERCENTAGE OF EFFLUENT AT EDGE OF ZID : 30.00%

PERCENTAGE OF EFFLUENT AT EDGE OF MIXING ZONE : 8.00%

WASTEWATER FLOW TO CALCULATE AQUATIC LIFE : 0.00 MGD

WASTEWATER FLOW TO CALCULATE HUMAN HEALTH : 0.00 MGD

7 DAY, 2 YEAR LOW FLOW : 0.00 CFS

HARMONIC MEAN FLOW : 0.00 CFS

THE RECEIVING WATER IS BAY OR WIDE TIDAL RIVER
SALTWATER FISH TISSUE STANDARDS APPLY

TDS	ANN AVG:	DLY AVG:	DLY MAX:	mg/l
-----	----------	----------	----------	------

COMMENTS: _____

AQUATIC LIFE TOXIC LIMITS

CITY OF CORPUS CHRISTI, 10401-008

POLLUTANT	DAILY AVERAGE $\mu\text{g}/\text{l}$	DAILY MAXIMUM $\mu\text{g}/\text{l}$	MAL $\mu\text{g}/\text{l}$
ALDRIN	2.0384	4.3125	0.05
ALUMINUM	0.0000	0.0000	30.00
ARSENIC	233.6320	494.2826	10.00
CADMIUM	71.5322	151.3367	1.00
CARBARYL	961.1840	2033.5253	5.00
CHLORDANE	0.0448	0.0949	0.15
CHLORPYRIFOS	0.0172	0.0365	0.05
CHROME (TRI)	0.0000	0.0000	10.00
CHROME (HEX)	560.4375	1185.6875	10.00
COPPER	29.2151	61.8088	10.00
CYANIDE	8.7808	18.5771	20.00
4-4-DDT	0.0112	0.0237	0.10
DEMETON	1.1209	2.3714	0.20
DICOFOL	0.0000	0.0000	20.00
DIELDRIN	0.0213	0.0451	0.10
DIURON	0.0000	0.0000	0.00
ENDOSULFAN I (alpha)	0.0533	0.1128	0.10
ENDOSULFAN II (beta)	0.0533	0.1128	0.10
ENDOSULFAN SULFATE	0.0533	0.1128	0.10
ENDRIN	0.0258	0.0545	0.10
GUTHION	0.1121	0.2371	0.10
HEPTACHLOR	0.0404	0.0854	0.05
HEXACHLOROCYCLOHEXANE	0.2509	0.5308	0.05
LEAD	168.6545	356.8134	5.00
MALATHION	0.1121	0.2371	0.10
MERCURY	3.2928	6.9664	0.20
METHOXYCHLOR	0.3363	0.7114	2.00
MIREX	0.0112	0.0237	0.20
NICKEL	147.9555	313.0215	10.00
PCB (TOTAL)	0.3363	0.7114	1.00
PARATHION	0.0000	0.0000	0.10
PHENANTHRENE	12.0736	25.5435	10.00
PENTACHLOROPHENOL	23.7395	50.2244	50.00
SELENIUM	884.3520	1870.9760	10.00
SILVER (TOTAL EQUIVALENT)	8.6962	18.3980	2.00

AQUATIC LIFE TOXIC LIMITS

CITY OF CORPUS CHRISTI, 10401-008

POLLUTANT	DAILY AVERAGE $\mu\text{g}/\text{l}$	DAILY MAXIMUM $\mu\text{g}/\text{l}$	MAL $\mu\text{g}/\text{l}$
TOXAPHENE	0.0022	0.0047	5.00
TRIBUTYLTIN	0.3763	0.7962	0.01
2-4-5-TRICHLOROPHENOL	134.5050	284.5650	50.00
ZINC	274.2412	580.1973	5.00

AQUATIC LIFE WORKSHEET

CITY OF CORPUS CHRISTI, 10401-008

POLLUTANT	% DISSOLVED	ACUTE CRIT		WLAA		LTAA		DLY AVG	
		CHRON	CRIT	WLAC	LTAC	DLY	MAX	DLY	MAX
ALDRIN	100.00	1.3000	0.0000	4.333	1.387	2.0384		4.3125	
ALUMINUM	100.00	0.0000	0.0000	0.000	0.000	0.0000		0.0000	
ARSENIC	100.00	149.0000	78.0000	496.667	158.933	233.6320		494.2826	
CADMIUM	100.00	45.6200	10.0200	152.067	48.661	71.5322		151.3367	
CARBARYL	100.00	613.0000	0.0000	2043.333	653.867	961.1840		2033.5253	
CHLORDANE	100.00	0.0900	0.0040	0.300	0.096	0.0448		0.0949	
CHLORPYRIFOS	100.00	0.0110	0.0056	0.037	0.012	0.0172		0.0365	
CHROME (TRI)	100.00	0.0000	0.0000	0.000	0.000	0.0000		0.0000	
CHROME (HEX)	100.00	1100.0000	50.0000	3666.667	1173.333	560.4375		1185.6875	
COPPER	87.32	16.2700	4.3700	62.107	19.874	29.2151		61.8088	
CYANIDE	100.00	5.6000	5.6000	18.667	5.973	8.7808		18.5771	
4-4-DDT	100.00	0.1300	0.0010	0.433	0.139	0.0112		0.0237	

AQUATIC LIFE WORKSHEET

CITY OF CORPUS CHRISTI, 10401-008

POLLUTANT	% DISSOLVED	ACUTE CRIT		WLA		LTA		DLY	
		CHRON	CRIT	WLAC	WTAA	LTAC	LTAA	AVG	MAX
DEMETON	100.00	0.0000	0.1000	0.000	1.250	0.000	0.763	1.1209	2.3714
DICOFOL	100.00	0.0000	0.0000	0.000	0.000	0.000	0.000	0.0000	0.0000
DIELDRIN	100.00	0.7100	0.0019	2.367	0.024	0.757	0.014	0.0213	0.0451
DIURON	100.00	0.0000	0.0000	0.000	0.000	0.000	0.000	0.0000	0.0000
ENDOSULFAN I (alpha)	100.00	0.0340	0.0087	0.113	0.109	0.036	0.066	0.0533	0.1128
ENDOSULFAN II (beta)	100.00	0.0340	0.0087	0.113	0.109	0.036	0.066	0.0533	0.1128
ENDOSULFAN SULFATE	100.00	0.0340	0.0087	0.113	0.109	0.036	0.066	0.0533	0.1128
ENDRIN	100.00	0.0370	0.0023	0.123	0.029	0.039	0.018	0.0258	0.0545
GUTHION	100.00	0.0000	0.0100	0.000	0.125	0.000	0.076	0.1121	0.2371
HEPTACHLOR	100.00	0.0530	0.0036	0.177	0.045	0.057	0.027	0.0404	0.0854
HEXACHLOROCYCLOHEXANE	100.00	0.1600	0.0000	0.533	0.000	0.171	0.000	0.2509	0.5308
LEAD	37.22	140.0000	5.6000	1253.891	188.084	401.245	114.731	168.6545	356.8134

AQUATIC LIFE WORKSHEET

CITY OF CORPUS CHRISTI, 10401-008

POLLUTANT	% DISSOLVED	ACUTE CRIT		WLAA		LTAA		DLY AVG	
		CHRON CRIT		WLAC	LTAC	DLY	MAX	DLY	MAX
MALATHION	100.00	0.0000	0.0000	0.000	0.000	0.000	0.000	0.1121	0.2371
MERCURY	100.00	2.1000	1.1000	7.000	13.750	2.240	8.387	3.2928	6.9664
METHOXYCHLOR	100.00	0.0000	0.0300	0.000	0.375	0.000	0.229	0.3363	0.7114
MIREX	100.00	0.0000	0.0010	0.000	0.013	0.000	0.008	0.0112	0.0237
NICKEL	100.00	119.0000	13.2000	396.667	165.000	126.933	100.650	147.9555	313.0215
PCB (TOTAL)	100.00	10.0000	0.0300	33.333	0.375	10.667	0.229	0.3363	0.7114
PARATHION	100.00	0.0000	0.0000	0.000	0.000	0.000	0.000	0.0000	0.0000
PHENANTHRENE	100.00	7.7000	4.6000	25.667	57.500	8.213	35.075	12.0736	25.5435
PENTACHLOROPHENOL	100.00	15.1400	9.5600	50.467	119.500	16.149	72.895	23.7395	50.2244
SELENIUM	100.00	564.0000	136.0000	1880.000	1700.000	601.600	1037.000	884.3520	1870.9760
SILVER (TOTAL EQUIVALENT)	41.47	2.3000	0.0000	18.487	0.000	5.916	0.000	8.6962	18.3980
TOXAPHENE	100.00	0.2100	0.0002	0.700	0.002	0.224	0.002	0.0022	0.0047

AQUATIC LIFE WORKSHEET

CITY OF CORPUS CHRISTI, 10401-008

POLLUTANT	% DISSOLVED	ACUTE CRIT		WLAA		LTAA		DLY AVG	
		CHRON CRIT		WLAC	LTAC	DLY	MAX		

TRIBUTYL TIN	100.00	0.2400	0.800	0.256	0.3763
		0.0430	0.538	0.328	0.7962

2-4-5-TRICHLOROPHENOL	100.00	259.0000	863.333	276.267	134.5050
		12.0000	150.000	91.500	284.5650

ZINC	56.03	98.0000	582.996	186.559	274.2412
		89.0000	1985.457	1211.129	580.1973

POLLUTANT	DLY AVG μg/l	70% DLY AVG μg/l	85% DLY AVG μg/l
ALDRIN	2.0384	1.4269	1.7326
ALUMINUM	0.0000	0.0000	0.0000
ARSENIC	233.6320	163.5424	198.5872
CADMIUM	71.5322	50.0725	60.8023
CARBARYL	961.1840	672.8288	817.0064
CHLORDANE	0.0448	0.0314	0.0381
CHLORPYRIFOS	0.0172	0.0121	0.0147
CHROME (TRI)	0.0000	0.0000	0.0000
CHROME (HEX)	560.4375	392.3063	476.3719
COPPER	29.2151	20.4506	24.8328
CYANIDE	8.7808	6.1466	7.4637
4-4-DDT	0.0112	0.0078	0.0095
DEMETON	1.1209	0.7846	0.9527
DICOFOL	0.0000	0.0000	0.0000
DIELDRIN	0.0213	0.0149	0.0181
DIURON	0.0000	0.0000	0.0000
ENDOSULFAN I (alpha)	0.0533	0.0373	0.0453
ENDOSULFAN II (beta)	0.0533	0.0373	0.0453
ENDOSULFAN SULFATE	0.0533	0.0373	0.0453
ENDRIN	0.0258	0.0180	0.0219
GUTHION	0.1121	0.0785	0.0953
HEPTACHLOR	0.0404	0.0282	0.0343
HEXACHLOROCYCLOHEXANE	0.2509	0.1756	0.2132
LEAD	168.6545	118.0582	143.3564
MALATHION	0.1121	0.0785	0.0953
MERCURY	3.2928	2.3050	2.7989
METHOXYCHLOR	0.3363	0.2354	0.2858
MIREX	0.0112	0.0078	0.0095
NICKEL	147.9555	103.5689	125.7622
PCB (TOTAL)	0.3363	0.2354	0.2858
PARATHION	0.0000	0.0000	0.0000
PHENANTHRENE	12.0736	8.4515	10.2626
PENTACHLOROPHENOL	23.7395	16.6177	20.1786
SELENIUM	884.3520	619.0464	751.6992
SILVER (TOTAL EQUIVALENT)	8.6962	6.0873	7.3918

POLLUTANT	DLY AVG $\mu\text{g}/\text{l}$	70% DLY AVG $\mu\text{g}/\text{l}$	85% DLY AVG $\mu\text{g}/\text{l}$
TOXAPHENE	0.0022	0.0016	0.0019
TRIBUTYLTIN	0.3763	0.2634	0.3199
2-4-5-TRICHLOROPHENOL	134.5050	94.1535	114.3293
ZINC	274.2412	191.9688	233.1050

HUMAN HEALTH TOXIC LIMITS

CITY OF CORPUS CHRISTI, 10401-008

POLLUTANT	DAILY AVERAGE $\mu\text{g/l}$	DAILY MAXIMUM $\mu\text{g/l}$	MAL $\mu\text{g/l}$
ALDRIN	0.7451	1.5763	0.05
ALPHA-HEXACHLOROCYCLOHEXANE	22.7280	48.0845	0.05
ARSENIC	N/A	N/A	10.00
BARIUM	N/A	N/A	10.00
BENZENE	7108.9199	15039.9600	10.00
BENZIDINE	0.0786	0.1663	50.00
BENZO (a) ANTHRACENE	N/A	N/A	10.00
BENZO (a) PYRENE	N/A	N/A	10.00
BETA-HEXACHLOROCYCLOHEXANE	79.6336	168.4765	0.05
BIS (CHLOROMETHYL) ETHER	36.2281	76.6459	0.00
CADMIUM	N/A	N/A	1.00
CARBON TETRACHLORIDE	4135.4775	8749.2070	10.00
CHLORDANE	0.7280	1.5401	0.15
CHLOROBENZENE	112717.3984	238470.1406	10.00
CHLOROFORM	276393.4375	584750.7500	10.00
CHROMIUM	N/A	N/A	10.00
CRYSENE	N/A	N/A	10.00
CRESOLS	1063296.2500	2249558.7500	10.00
CYANIDE (free)	N/A	N/A	20.00
4-4-DDD	6.8013	14.3892	0.10
4-4-DDE	1.2406	2.6248	0.10
4-4-DDT	1.2030	2.5452	0.10
2-4-D	N/A	N/A	10.00
DANITOL	16.4394	34.7799	0.00
DIBROMOCHLOROMETHANE	349840.8750	740139.5625	10.00
1-2-DIBROMOETHANE	26.2825	55.6045	2.00
DIELDRLIN	0.0273	0.0578	0.10
P-DICHLOROBENZENE	N/A	N/A	10.00
1-2-DICHLOROETHANE	40876.2891	86479.7734	10.00
1-1-DICHLOROETHYLENE	1992.5482	4215.5273	10.00
DICOFOL	4.9216	10.4123	20.00
DIOXINS-FURANS*	17.5000	50.6152	10.00

* DIOXINS-FURANS LIMITS EXPRESSED AS ANNUAL AVERAGE AND DAILY MAX
ALL DIOXIN-FURANS VALUES ARE LISTED IN PICOGRAMS/LITER

HUMAN HEALTH TOXIC LIMITS

CITY OF CORPUS CHRISTI, 10401-008

POLLUTANT	DAILY AVERAGE $\mu\text{g}/\text{l}$	DAILY MAXIMUM $\mu\text{g}/\text{l}$	MAL $\mu\text{g}/\text{l}$
ENDRIN	N/A	N/A	0.10
FLUORIDE	N/A	N/A	500.00
GAMMA HEXACHLOROCYCLOHEXANE	365.6992	773.6902	0.05
HEPTACHLOR	0.4101	0.8677	0.05
HEPTACHLOR EPOXIDE	168.1533	355.7529	1.00
HEXACHLOROBENZENE	0.2939	0.6218	10.00
HEXACHLOROBUTADIENE	255.6477	540.8601	10.00
HEXACHLOROETHANE	2142.9292	4533.6802	20.00
HEXACHLOROPHENE	1.2133	2.5669	10.00
LEAD	353.5524	747.9919	5.00
MERCURY	0.8544	1.8077	0.20
METHOXYCHLOR	N/A	N/A	2.00
METHYL ETHYL KETONE	%20202696	%42741760	50.00
MIREX	0.4306	0.9111	0.20
NITRATE-N	N/A	N/A	1000.00
NITROBENZENE	16439.3770	34779.9063	10.00
N-NITROSODIETHYLAMINE	174.9888	370.2144	20.00
N-NITROSO-DI-N-BUTYLAMINE	306.9139	649.3213	20.00
PCB	0.0308	0.0651	1.00
PENTACHLOROBENZENE	25.2572	53.4352	20.00
PENTACHLOROPHENOL	3093.0637	6543.8286	50.00
PYRIDINE	303803.8125	642741.3750	20.00
SELENIUM	N/A	N/A	10.00
1-2-4-5-TETRACHLOROBENZENE	34.5193	73.0306	20.00
TETRACHLOROETHYLENE	41730.7266	88287.4609	10.00
TOXAPHENE	1.0151	2.1475	5.00
SILVEX	N/A	N/A	2.00
2-4-5-TRICHLOROPHENOL	91629.8750	193856.4063	50.00
TRICHLOROETHYLENE	N/A	N/A	10.00
1-1-1-TRICHLOROETHANE	N/A	N/A	10.00
TOTAL TRIHALOMETHANES	N/A	N/A	10.00
VINYL CHLORIDE	2153.1826	4555.3726	10.00

POLLUTANT	DLY AVG $\mu\text{g}/\text{l}$	70% DLY AVG $\mu\text{g}/\text{l}$	85% DLY AVG $\mu\text{g}/\text{l}$
ALDRIN	0.7451	0.5215	0.6333
ALPHA-HEXACHLOROCYCLOHEXANE	22.7280	15.9096	19.3188
ARSENIC	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A
BENZENE	7108.9199	4976.2439	6042.5819
BENZIDINE	0.0786	0.0550	0.0668
BENZO (a) ANTHRACENE	N/A	N/A	N/A
BENZO (a) PYRENE	N/A	N/A	N/A
BETA-HEXACHLOROCYCLOHEXANE	79.6336	55.7435	67.6885
BIS (CHLOROMETHYL) ETHER	36.2281	25.3597	30.7939
CADMIUM	N/A	N/A	N/A
CARBON TETRACHLORIDE	4135.4775	2894.8343	3515.1559
CHLORDANE	0.7280	0.5096	0.6188
CHLOROBENZENE	112717.3984	78902.1789	95809.7887
CHLOROFORM	276393.4375	193475.4063	234934.4219
CHROMIUM	N/A	N/A	N/A
CRYSENE	N/A	N/A	N/A
CRESOLS	1063296.2500	744307.3750	903801.8125
CYANIDE (free)	N/A	N/A	N/A
4-4-DDD	6.8013	4.7609	5.7811
4-4-DDE	1.2406	0.8685	1.0545
4-4-DDT	1.2030	0.8421	1.0226
2-4-D	N/A	N/A	N/A
DANITOL	16.4394	11.5076	13.9735
DIBROMOCHLOROMETHANE	349840.8750	244888.6125	297364.7438
1-2-DIBROMOETHANE	26.2825	18.3977	22.3401
DIELDRIN	0.0273	0.0191	0.0232
P-DICHLOROBENZENE	N/A	N/A	N/A
1-2-DICHLOROETHANE	40876.2891	28613.4023	34744.8457
1-1-DICHLOROETHYLENE	1992.5482	1394.7838	1693.6660
DICOFOL	4.9216	3.4451	4.1833
DIOXINS-FURANS*	17.5000	12.2500	14.8750
ENDRIN	N/A	N/A	N/A
FLUORIDE	N/A	N/A	N/A
GAMMA HEXACHLOROCYCLOHEXANE	365.6992	255.9895	310.8444

POLLUTANT	DLY AVG μg/l	70% DLY AVG μg/l	85% DLY AVG μg/l
HEPTACHLOR	0.4101	0.2871	0.3486
HEPTACHLOR EPOXIDE	168.1533	117.7073	142.9303
HEXACHLOROBENZENE	0.2939	0.2057	0.2498
HEXACHLOROBUTADIENE	255.6477	178.9534	217.3005
HEXACHLOROETHANE	2142.9292	1500.0504	1821.4898
HEXACHLOROPHENE	1.2133	0.8493	1.0313
LEAD	353.5524	247.4867	300.5196
MERCURY	0.8544	0.5981	0.7263
METHOXYCHLOR	N/A	N/A	N/A
METHYL ETHYL KETONE	%20202696	%14141887.2	%17172291.6
MIREX	0.4306	0.3014	0.3660
NITRATE-N	N/A	N/A	N/A
NITROBENZENE	16439.3770	11507.5639	13973.4704
N-NITROSODIETHYLAMINE	174.9888	122.4922	148.7405
N-NITROSO-DI-N-BUTYLAMINE	306.9139	214.8398	260.8768
PCB	0.0308	0.0215	0.0261
PENTACHLOROBENZENE	25.2572	17.6800	21.4686
PENTACHLOROPHENOL	3093.0637	2165.1446	2629.1042
PYRIDINE	303803.8125	212662.6688	258233.2406
SELENIUM	N/A	N/A	N/A
1-2-4-5-TETRACHLOROBENZENE	34.5193	24.1635	29.3414
TETRACHLOROETHYLENE	41730.7266	29211.5086	35471.1176
TOXAPHENE	1.0151	0.7106	0.8628
SILVEX	N/A	N/A	N/A
2-4-5-TRICHLOROPHENOL	91629.8750	64140.9125	77885.3938
TRICHLOROETHYLENE	N/A	N/A	N/A
1-1-1-TRICHLOROETHANE	N/A	N/A	N/A
TOTAL TRIHALOMETHANES	N/A	N/A	N/A
VINYL CHLORIDE	2153.1826	1507.2278	1830.2052

HUMAN HEALTH WORKSHEET

CITY OF CORPUS CHRISTI, 10401-008

POLLUTANT	% DISSOLVED	CRITERIA	WLA	LTA	DLY AVG DLY MAX
ALDRIN	100.00	0.022	0.545	0.507	0.7451 1.5763
ALPHA-HEXACHLOROCYCLOHEXANE	100.00	0.665	16.625	15.461	22.7280 48.0845
ARSENIC	100.00	0.000	0.000	0.000	0.0000 0.0000
BARIUM	100.00	0.000	0.000	0.000	0.0000 0.0000
BENZENE	100.00	208.000	5200.000	4836.000	7108.9199 15039.9600
BENZIDINE	100.00	0.002	0.058	0.053	0.0786 0.1663
BENZO(a)ANTHRACENE	100.00	0.000	0.000	0.000	0.0000 0.0000
BENZO(a)PYRENE	100.00	0.000	0.000	0.000	0.0000 0.0000
BETA-HEXACHLOROCYCLOHEXANE	100.00	2.330	58.250	54.172	79.6336 168.4765
BIS(CHLOROMETHYL)ETHER	100.00	1.060	26.500	24.645	36.2281 76.6459
CADMIUM	100.00	0.000	0.000	0.000	0.0000 0.0000
CARBON TETRACHLORIDE	100.00	121.000	3025.000	2813.250	4135.4775 8749.2070

HUMAN HEALTH WORKSHEET

CITY OF CORPUS CHRISTI, 10401-008

POLLUTANT	% DISSOLVED	CRITERIA	WLA	LTA	DLY AVG DLY MAX
CHLORDANE	100.00	0.021	0.532	0.495	0.7280 1.5401
CHLOROBENZENE	100.00	3298.000	82450.000	76678.500	112717.3984 238470.1406
CHLOROFORM	100.00	8087.000	202175.000	188022.750	276393.4375 584750.7500
CHROMIUM	100.00	0.000	0.000	0.000	0.0000 0.0000
CRYSENE	100.00	0.000	0.000	0.000	0.0000 0.0000
CRESOLS	100.00	31111.000	777775.000	723330.750	%1063296.25 %2249558.75
CYANIDE (free)	100.00	0.000	0.000	0.000	0.0000 0.0000
4-4-DDD	100.00	0.199	4.975	4.627	6.8013 14.3892
4-4-DDE	100.00	0.036	0.907	0.844	1.2406 2.6248
4-4-DDT	100.00	0.035	0.880	0.818	1.2030 2.5452
2-4-D	100.00	0.000	0.000	0.000	0.0000 0.0000
DANITOL	100.00	0.481	12.025	11.183	16.4394 34.7799

HUMAN HEALTH WORKSHEET

CITY OF CORPUS CHRISTI, 10401-008

POLLUTANT	% DISSOLVED	CRITERIA	WLA	LTA	DLY AVG DLY MAX
DIBROMOCHLOROMETHANE	100.00	10236.000	255900.000	237987.000	349840.8750 740139.5625
1-2-DIBROMOETHANE	100.00	0.769	19.225	17.879	26.2825 55.6045
DIELDRIN	100.00	0.001	0.020	0.019	0.0273 0.0578
P-DICHLOROBENZENE	100.00	0.000	0.000	0.000	0.0000 0.0000
1-2-DICHLOROETHANE	100.00	1196.000	29900.000	27807.000	40876.2891 86479.7734
1-1-DICHLOROETHYLENE	100.00	58.300	1457.500	1355.475	1992.5482 4215.5273
DICOFOL	100.00	0.144	3.600	3.348	4.9216 10.4123
DIOXINS-FURANS*	100.00	0.000	0.000	0.000	17.5000 50.6152
ENDRIN	100.00	0.000	0.000	0.000	0.0000 0.0000
FLUORIDE	100.00	0.000	0.000	0.000	0.0000 0.0000
GAMMA HEXACHLOROCYCLOHEXANE	100.00	10.700	267.500	248.775	365.6992 773.6902
HEPTACHLOR	100.00	0.012	0.300	0.279	0.4101 0.8677

HUMAN HEALTH WORKSHEET

CITY OF CORPUS CHRISTI, 10401-008

POLLUTANT	% DISSOLVED	CRITERIA	WIA	LTA	DLY AVG DLY MAX
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HEPTACHLOR EPOXIDE	100.00	4.920	123.000	114.390	168.1533 355.7529
HEXACHLOROBENZENE	100.00	0.009	0.215	0.200	0.2939 0.6218
HEXACHLOROBUTADIENE	100.00	7.480	187.000	173.910	255.6477 540.8601
HEXACHLOROETHANE	100.00	62.700	1567.500	1457.775	2142.9292 4533.6802
HEXACHLOROPHENE	100.00	0.036	0.888	0.825	1.2133 2.5669
LEAD	37.22	3.850	258.615	240.512	353.5524 747.9919
MERCURY	100.00	0.025	0.625	0.581	0.8544 1.8077
METHOXYCHLOR	100.00	0.000	0.000	0.000	0.0000 0.0000
METHYL ETHYL KETONE	100.00	591111.000	%14777775	%13743331	%20202696 %42741760
MIREX	100.00	0.013	0.315	0.293	0.4306 0.9111
NITRATE-N	100.00	0.000	0.000	0.000	0.0000 0.0000
NITROBENZENE	100.00	481.000	12025.000	11183.250	16439.3770 34779.9063

HUMAN HEALTH WORKSHEET

CITY OF CORPUS CHRISTI, 10401-008

POLLUTANT	% DISSOLVED	CRITERIA	WLA	LTA	DLY AVG DLY MAX
N-NITROSODIETHYLAMINE	100.00	5.120	128.000	119.040	174.9888 370.2144
N-NITROSO-DI-N-BUTYLAMINE	100.00	8.980	224.500	208.785	306.9139 649.3213
PCB	100.00	0.001	0.022	0.021	0.0308 0.0651
PENTACHLOROBENZENE	100.00	0.739	18.475	17.182	25.2572 53.4352
PENTACHLOROPHENOL	100.00	90.500	2262.500	2104.125	3093.0637 6543.8286
PYRIDINE	100.00	8889.000	222225.000	206669.250	303803.8125 642741.3750
SELENIUM	100.00	0.000	0.000	0.000	0.0000 0.0000
1-2-4-5-TETRACHLOROBENZENE	100.00	1.010	25.250	23.483	34.5193 73.0306
TETRACHLOROETHYLENE	100.00	1221.000	30525.000	28388.250	41730.7266 88287.4609
TOXAPHENE	100.00	0.030	0.743	0.691	1.0151 2.1475
SILVEX	100.00	0.000	0.000	0.000	0.0000 0.0000
2-4-5-TRICHLOROPHENOL	100.00	2681.000	67025.000	62333.250	91629.8750 193856.4063

HUMAN HEALTH WORKSHEET

CITY OF CORPUS CHRISTI, 10401-008

POLLUTANT	% DISSOLVED	CRITERIA	WLA	LTA	DLY AVG DLY MAX
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TRICHLOROETHYLENE	100.00	0.000	0.000	0.000	0.0000 0.0000
1-1-1-TRICHLOROETHANE	100.00	0.000	0.000	0.000	0.0000 0.0000
TOTAL TRIHALOMETHANES	100.00	0.000	0.000	0.000	0.0000 0.0000
VINYL CHLORIDE	100.00	63.000	1575.000	1464.750	2153.1826 4555.3726



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Detailed Reports



Results are based on data extracted on MAR-25-2005

Measurements and Violations

FACILITY NAME (1):	CORPUS CHRISTI, CITY OF (LAGUN	NPDES :	TX0047104
FACILITY NAME (2):	A MADRE)	LIMIT TYPE :	5 = FINAL
PIPE NUMBER :	001	SEASON NUM :	0
REPORT DESIGNATOR :	A	PARAMETER CODE:	00300 = OXYGEN, DISSOLVED (DO)
PIPE SET QUALIFIER :	9	MONITORING LOCATION :	1 = EFFLUENT GROSS VALUE
MODIFICATION NUM :	0		

MONITORING PERIOD END DATE	DISCHARGE IND	QTY MAXIMUM	QTY AVERAGE	CONC MAXIMUM	CONC AVERAGE	CONC MINIMUM	RNC DETECTION CODE	RN DETEC DA
31-DEC-2004						4.0		
30-NOV-2004						4.3		
31-OCT-2004						3.6		
30-SEP-2004						3.7		
31-AUG-2004						3.7		

31-JUL-2004						3.9		
30-JUN-2004						4.0		
31-MAY-2004						3.7		
30-APR-2004						4.0		
31-MAR-2004						5.2		
29-FEB-2004						4.3		
31-JAN-2004						5.2		
31-DEC-2003						5.0		
30-NOV-2003						4.9		
31-OCT-2003						4.1		
30-SEP-2003						4.0		

31-AUG-2003						4.2		
31-JUL-2003						4.0		
30-JUN-2003						4.0		
31-MAY-2003						4.0		
30-APR-2003						4.0		
31-MAR-2003						4.3		
28-FEB-2003						5.		
31-JAN-2003						5.3		
31-DEC-2002						4.3		
30-NOV-2002						4.2		
31-OCT-2002						4.0		

30-SEP-2002						4.0		
31-AUG-2002						4.0		
31-JUL-2002						3.8		
30-JUN-2002						4.0		
31-MAY-2002						3.2		
30-APR-2002						4.0		
31-MAR-2002						5.1	N = RPT- NONRECEIPT OF DMR/CS RPT	20-M 200
28-FEB-2002						5.2		
31-JAN-2002						5.1		
31-DEC-2001						5.3		
30-NOV-2001						2.6		
31-OCT-2001						4.1		

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FACILITY NAME (1): CORPUS CHRISTI, CITY OF (LAGUN
FACILITY NAME (2): A MADRE)
PIPE NUMBER : 001
REPORT DESIGNATOR : A
PIPE SET QUALIFIER : 9
MODIFICATION NUM : 0

NPDES : TX0047104
LIMIT TYPE : 5 = FINAL
SEASON NUM : 0
PARAMETER CODE: 00310 = BOD, 5-DAY (20 DEG. C)
MONITORING LOCATION : 1 = EFFLUENT GROSS VALUE

MONITORING PERIOD END DATE	DISCHARGE IND	QTY MAXIMUM	QTY AVERAGE	CONC MAXIMUM	CONC AVERAGE	CONC MINIMUM	RNC DETECTION CODE	RN DETEC DA
31-DEC-2004			153	21	9			
30-NOV-2004			314	27	14			
31-OCT-2004			233	25	13			
30-SEP-2004			112	11	6			
31-AUG-2004			48	5	3			
31-JUL-2004			62	5	4			
30-JUN-2004			120	31	6			
31-MAY-2004			80	5	3			

30-APR-2004			111	7	3			
31-MAR-2004			45	7	3			
29-FEB-2004			36	3	2			
31-JAN-2004			54	6	4			
31-DEC-2003			51	6	3			
30-NOV-2003			51	6	3			
31-OCT-2003			48	4	2			
30-SEP-2003			53	7	3			
31-AUG-2003			38	5	3			
31-JUL-2003			39	4	2			
30-JUN-2003			33	3	2			

31-MAY-2003			38	3	3			
30-APR-2003			39	3	3			
31-MAR-2003			30	10	4			
28-FEB-2003			.65	8	4			
31-JAN-2003			60	4	3 X			
31-DEC-2002			95	14	5			
30-NOV-2002			106	8	3			
31-OCT-2002			67	10	3			
30-SEP-2002			46	3	3			
31-AUG-2002			44	4	3			
31-JUL-2002			34	3	2			

30-JUN-2002			32	4	3			
31-MAY-2002			35	5	3			
30-APR-2002			43	4	3			
31-MAR-2002			67	8	4		N = RPT- NONRECEIPT OF DMR/CS RPT	20-M 201
28-FEB-2002			88	23	6			
31-JAN-2002			74	10	5			
31-DEC-2001			89	12	5			
30-NOV-2001			35	4	3			
31-OCT-2001			61	4	4			

FACILITY NAME (1): CORPUS CHRISTI, CITY OF
(LAGUN

NPDES : TX0047104

FACILITY NAME (2): A MADRE)

LIMIT TYPE : 5 = FINAL

PIPE NUMBER : 001

SEASON NUM : 0

**REPORT
DESIGNATOR :** A

PARAMETER CODE: 00400 = PH

PIPE SET QUALIFIER : 9

**MONITORING
LOCATION :** 1 = EFFLUENT GROSS
VALUE

MODIFICATION NUM : 0

MONITORING PERIOD END	DISCHARGE IND	QTY MAXIMUM	QTY AVERAGE	CONC MAXIMUM	CONC AVERAGE	CONC MINIMUM	RNC DETECTION	RN DETEC
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DATE						CODE	DA
31-DEC-2004				7.6		7.0	
30-NOV-2004				7.6		7.0	
31-OCT-2004				7.4		7.0	
30-SEP-2004				7.5		6.9	
31-AUG-2004				7.5		7.0	
31-JUL-2004				7.0		7.4	
30-JUN-2004				7.4		6.8	
31-MAY-2004				7.5		6.9	
30-APR-2004				7.4		6.8	
31-MAR-2004				7.4		7.0	
29-FEB-2004				7.4		6.8	

31-JAN-2004				7.3		6.8		
31-DEC-2003				7.2		6.9		
30-NOV-2003				7.3		6.8		
31-OCT-2003				7.2		6.9		
30-SEP-2003				7.3		6.9		
31-AUG-2003				7.2		7.0		
31-JUL-2003				7.4		7.0		
30-JUN-2003				7.3		7.0		
31-MAY-2003				7.4		7.2		
30-APR-2003				7.5		7.1		
31-MAR-2003				7.5		6.7		

28-FEB-2003				7.4		6.9		
31-JAN-2003				7.4		7.0		
31-DEC-2002				7.4		6.8		
30-NOV-2002				7.2		6.6		
31-OCT-2002				7.1		6.6		
30-SEP-2002				7.2		6.6		
31-AUG-2002				7.4		6.7		
31-JUL-2002				7.2		6.6		
30-JUN-2002				7.1		6.7		
31-MAY-2002				7.1		6.6		
30-APR-2002				7.4		6.8		
							N = RPT-	

31-MAR-2002				7.2		6.7	NONRECEIPT OF DMR/CS RPT	20-M 201
28-FEB-2002				7.33		6.9		
31-JAN-2002				7.3		7.0		
31-DEC-2001				7.3		7.0		
30-NOV-2001				7.2		6.6		
31-OCT-2001				7.8		6.7		

FACILITY NAME (1): CORPUS CHRISTI, CITY OF (LAGUN) **NPDES :** TX0047104
FACILITY NAME (2): A MADRE) **LIMIT TYPE :** 5 = FINAL
PIPE NUMBER : 001 **SEASON NUM :** 0
REPORT DESIGNATOR : A **PARAMETER CODE:** 00530 = SOLIDS, TOTAL SUSPENDED
PIPE SET QUALIFIER : 9 **MONITORING LOCATION :** 1 = EFFLUENT GROSS VALUE
MODIFICATION NUM : 0

MONITORING PERIOD END DATE	DISCHARGE IND	QTY MAXIMUM	QTY AVERAGE	CONC MAXIMUM	CONC AVERAGE	CONC MINIMUM	RNC DETECTION CODE	RN DETEC DA
31-DEC-2004			98	11	6			
30-NOV-2004			265	29	10			
31-OCT-2004			213	20	11			

30-SEP-2004			50	5	3			
31-AUG-2004			39	4	3			
31-JUL-2004			49	6	3			
30-JUN-2004			55	5	3			
31-MAY-2004			69	6	3			
30-APR-2004			141	11	4			
31-MAR-2004			35	3	2			
29-FEB-2004			42	5	3			
31-JAN-2004			56	10	4			
31-DEC-2003			83	22	6			
30-NOV-2003			50	6	3			

31-OCT-2003			51	5	3			
30-SEP-2003			63	10	3			
31-AUG-2003			34	3	2			
31-JUL-2003			32	2	2			
30-JUN-2003			28	2	2			
31-MAY-2003			28	2	2			
30-APR-2003			38	4	2			
31-MAR-2003			26	6	3			
28-FEB-2003			57	6	3			
31-JAN-2003			54	13	3			
31-DEC-2002			81	9	4			

30-NOV-2002			81	4	2			
31-OCT-2002			67	7	3			
30-SEP-2002			46	4	3			
31-AUG-2002			34	4	2			
31-JUL-2002			27	2	2			
30-JUN-2002			33	4	3			
31-MAY-2002			37	5	3			
30-APR-2002			42	4	3			
31-MAR-2002			62	10	4		N = RPT- NONRECEIPT OF DMR/CS RPT	20-M 200
28-FEB-2002			51	7	3			
31-JAN-2002			37	4	2			

31-DEC-2001			57	6	3		
30-NOV-2001			39	4	3		
31-OCT-2001			33	3	2		

FACILITY NAME (1): CORPUS CHRISTI, CITY OF (LAGUN

NPDES : TX0047104

FACILITY NAME (2): A MADRE)

LIMIT TYPE : 5 = FINAL

PIPE NUMBER : 001

SEASON NUM : 0

REPORT DESIGNATOR : A

PARAMETER CODE: 50050 = FLOW, IN CONDUIT OR THRU TREATMENT PLANT

PIPE SET QUALIFIER : 9

MONITORING LOCATION : 1 = EFFLUENT GROSS VALUE

MODIFICATION NUM : 0

MONITORING PERIOD END DATE	DISCHARGE IND	QTY MAXIMUM	QTY AVERAGE	CONC MAXIMUM	CONC AVERAGE	CONC MINIMUM	RNC DETECTION CODE	RN DETEC DA
31-DEC-2004		2.2	1.9					
30-NOV-2004		5.4	2.4					
31-OCT-2004		3.4	2.3					
30-SEP-2004		3.2	2.2					
31-AUG-2004		2.0	1.8					

31-JUL-2004		2.2	2.0					
30-JUN-2004		3.1	2.2					
31-MAY-2004		7.6	3.1					
30-APR-2004		8.3	2.4					
31-MAR-2004		2.1	1.8					
29-FEB-2004		2.2	1.8					
31-JAN-2004		2.0	1.8					
31-DEC-2003		2.0	1.8					
30-NOV-2003		2.2	2.0					
31-OCT-2003		3.2	2.4					
30-SEP-2003		4.9	2.4					
31-AUG-2003		1.9	1.8					

31-JUL-2003		2.7	1.9					
30-JUN-2003		1.9	1.7					
31-MAY-2003		2.0	1.8					
30-APR-2003		2.4	1.9					
31-MAR-2003		3.1	2.1					
28-FEB-2003		4.2	2.2					
31-JAN-2003		3.7	2.2					
31-DEC-2002		4.4	2.2					
30-NOV-2002		9.4	3.1					
31-OCT-2002		6.6	2.7					
30-SEP-2002		2.876	2.157					

31-AUG-2002		2.3	1.8					
31-JUL-2002		2.7	1.8					
30-JUN-2002		2.5	1.7					
31-MAY-2002		1.8	1.6					
30-APR-2002		2.0	1.7					
31-MAR-2002		2.056	1.793				N = RPT- NONRECEIPT OF DMR/CS RPT	20-M 20t
28-FEB-2002		1.948	1.736					
31-JAN-2002		2.544	1.812					
31-DEC-2001		2.224	1.989					
30-NOV-2001		5.504	2.030					
31-OCT-2001		1.9	1.7					

FACILITY NAME (1): CORPUS CHRISTI,
CITY OF (LAGUN
FACILITY NAME (2): A MADRE)
PIPE NUMBER : 001
REPORT DESIGNATOR : A
PIPE SET QUALIFIER : 9
MODIFICATION NUM : 0

NPDES : TX0047104
LIMIT TYPE : 5 = FINAL
SEASON NUM : 0
PARAMETER CODE: 50050 = FLOW, IN CONDUIT OR THRU TREATMENT PLANT
MONITORING LOCATION : P = SEE COMMENTS BELOW

MONITORING PERIOD END DATE	DISCHARGE IND	QTY MAXIMUM	QTY AVERAGE	CONC MAXIMUM	CONC AVERAGE	CONC MINIMUM	RNC DETECTION CODE	RN DETEC DA
31-DEC-2004		2153						
30-NOV-2004		5903						
31-OCT-2004		3889						
30-SEP-2004		4167						
31-AUG-2004		2083						
31-JUL-2004		1944						
30-JUN-2004		3819						
31-MAY-2004		6597						
30-APR-2004		6400						

31-MAR-2004		2083						
29-FEB-2004		2569						
31-JAN-2004		1944						
31-DEC-2003		1806						
30-NOV-2003		2292						
31-OCT-2003		3403						
30-SEP-2003		4028						
31-AUG-2003		1806						
31-JUL-2003		3542						
30-JUN-2003		1806						
31-MAY-2003		1944						

30-APR-2003		2014						
31-MAR-2003		3681						
28-FEB-2003		4421						
31-JAN-2003		3681						
31-DEC-2002		4722						
30-NOV-2002		6875						
31-OCT-2002		6875						
30-SEP-2002		3125						
31-AUG-2002		2083						
31-JUL-2002		3750						
30-JUN-2002		1667						
31-MAY-2002		1736						

30-APR-2002		1805						
31-MAR-2002		2083					N = RPT- NONRECEIPT OF DMR/CS RPT	20-M 200
28-FEB-2002		1806						
31-JAN-2002		2083						
31-DEC-2001		2014						
30-NOV-2001		6458						
31-OCT-2001		2083					N = RPT- NONRECEIPT OF DMR/CS RPT	20-D 200

FACILITY NAME (1): CORPUS CHRISTI,
CITY OF (LAGUN

NPDES : TX0047104

FACILITY NAME (2): A MADRE)

LIMIT TYPE : 5 = FINAL

PIPE NUMBER : 001

SEASON NUM : 0

**REPORT
DESIGNATOR :** A

PARAMETER CODE: 50050 = FLOW, IN CONDUIT OR THRU
TREATMENT PLANT

**PIPE SET
QUALIFIER :** 9

**MONITORING
LOCATION :** Y = ANNUAL AVERAGE

**MODIFICATION
NUM :** 0

MONITORING PERIOD END DATE	DISCHARGE IND	QTY MAXIMUM	QTY AVERAGE	CONC MAXIMUM	CONC AVERAGE	CONC MINIMUM	RNC DETECTION CODE	RN DETEC DA
31-DEC-2004			2.1					
30-NOV-2004			2.1					

31-OCT-2004			2.1					
30-SEP-2004			2.1					
31-AUG-2004			2.1					
31-JUL-2004			2.1					
30-JUN-2004			2.1					
31-MAY-2004			2.0					
30-APR-2004			2.0					
31-MAR-2004			1.9					
29-FEB-2004			1.9					
31-JAN-2004			2.0					
31-DEC-2003			2.0					

30-NOV-2003			2.0					
31-OCT-2003			2.1					
30-SEP-2003			2.2					
31-AUG-2003			2.1					
31-JUL-2003			2.1					
30-JUN-2003			2.1					
31-MAY-2003			2.1					
30-APR-2003			2.1					
31-MAR-2003			2.0					
28-FEB-2003			2.1					
31-JAN-2003			2.0					

31-DEC-2002			2.0					
30-NOV-2002			2.0					
31-OCT-2002			1.9					
30-SEP-2002			1.8					
31-AUG-2002			1.8					
31-JUL-2002			1.8					
30-JUN-2002			1.8					
31-MAY-2002			1.8					
30-APR-2002			1.7					
31-MAR-2002			1.7				N = RPT- NONRECEIPT OF DMR/CS RPT	20-M 201
28-FEB-2002			1.7					

31-JAN-2002			1.7					
31-DEC-2001			1.7					
30-NOV-2001			1.636					
31-OCT-2001			1.6				N = RPT- NONRECEIPT OF DMR/CS RPT	20-D 20

FACILITY NAME (1): CORPUS CHRISTI, CITY OF (LAGUN
FACILITY NAME (2): A MADRE)
PIPE NUMBER : 001
REPORT DESIGNATOR : A
PIPE SET QUALIFIER : 9
MODIFICATION NUM : 0

NPDES : TX0047104
LIMIT TYPE : 5 = FINAL
SEASON NUM : 0
PARAMETER CODE: 50060 = CHLORINE, TOTAL RESIDUAL
MONITORING LOCATION : A = DISINFECT,PRCS CMPLT

MONITORING PERIOD END DATE	DISCHARGE IND	QTY MAXIMUM	QTY AVERAGE	CONC MAXIMUM	CONC AVERAGE	CONC MINIMUM	RNC DETECTION CODE	RN DETEC DA
31-DEC-2004				0.03				
30-NOV-2004				0.04				
31-OCT-2004				0.03				
30-SEP-2004				0.04				

31-AUG-2004				0.04				
31-JUL-2004				0.03				
30-JUN-2004				0.03				
31-MAY-2004				0.04				
30-APR-2004				0.05				
31-MAR-2004				0.05				
29-FEB-2004				0.03				
31-JAN-2004				0.04				
31-DEC-2003				0.04				
30-NOV-2003				0.05				
31-OCT-2003				0.04				
30-SEP-2003				0.05				

31-AUG-2003				0.06				
31-JUL-2003				0.06				
30-JUN-2003				0.05				
31-MAY-2003				0.05				
30-APR-2003				0.05				
31-MAR-2003				0.06				
28-FEB-2003				0.03				
31-JAN-2003				0.04				
31-DEC-2002				0.05				
30-NOV-2002				0.07				
31-OCT-2002				0.04				

30-SEP-2002				0.07				
31-AUG-2002				0.05				
31-JUL-2002				0.05				
30-JUN-2002				0.06				
31-MAY-2002				0.05				
30-APR-2002				0.04				
31-MAR-2002				0.03			N = RPT- NONRECEIPT OF DMR/CS RPT	20-M 200
28-FEB-2002				0.04				
31-JAN-2002				0.02				
31-DEC-2001				0.03				
30-NOV-2001				0.04				

31-OCT-2001				0.02				
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FACILITY NAME (1): CORPUS CHRISTI, CITY OF (LAGUN
FACILITY NAME (2): A MADRE)
PIPE NUMBER : 001
REPORT DESIGNATOR : A
PIPE SET QUALIFIER : 9
MODIFICATION NUM : 0
NPDES : TX0047104
LIMIT TYPE : 5 = FINAL
SEASON NUM : 0
PARAMETER CODE: 50060 = CHLORINE, TOTAL RESIDUAL
MONITORING LOCATION : B = PRIOR TO DISINFECT

MONITORING PERIOD END DATE	DISCHARGE IND	QTY MAXIMUM	QTY AVERAGE	CONC MAXIMUM	CONC AVERAGE	CONC MINIMUM	RNC DETECTION CODE	RNC DETECTION DATE
31-DEC-2004						1.4		
30-NOV-2004						1.4		
31-OCT-2004						1.1		
30-SEP-2004						1.1		
31-AUG-2004						1.1		
31-JUL-2004						1.4		
30-JUN-2004						1.2		

31-MAY-2004						1.1		
30-APR-2004						1.1		
31-MAR-2004						1.0		
29-FEB-2004						1.1		
31-JAN-2004						1.5		
31-DEC-2003						1.2		
30-NOV-2003						1.4		
31-OCT-2003						1.1		
30-SEP-2003						1.0		
31-AUG-2003						1.5		
31-JUL-2003						1.0		

30-JUN-2003						1.0		
31-MAY-2003						1.1		
30-APR-2003						1.1		
31-MAR-2003						1.0		
28-FEB-2003						1.3		
31-JAN-2003						1.3		
31-DEC-2002						1.5		
30-NOV-2002						1.1		
31-OCT-2002						1.0		
30-SEP-2002						1.0		
31-AUG-2002						1.2		
31-JUL-2002						1.1		

30-JUN-2002						1.0		
31-MAY-2002						1.1		
30-APR-2002						1.0		
31-MAR-2002						1.3	N = RPT- NONRECEIPT OF DMR/CS RPT	20-M 200
28-FEB-2002						1.5		
31-JAN-2002						1.8		
31-DEC-2001						1.6		
30-NOV-2001						1.0		
31-OCT-2001						1.0		

FACILITY NAME (1): CORPUS CHRISTI,
CITY OF (LAGUN

NPDES : TX0047104

FACILITY NAME (2): A MADRE)

LIMIT TYPE : 5 = FINAL

PIPE NUMBER : SLD

SEASON NUM : 0

**REPORT
DESIGNATOR :** F

**PARAMETER
CODE:** 49030 = COMPLIANCE W/PART 258
SLUDGE REQUIREMENT

**PIPE SET
QUALIFIER :** 9

**MONITORING
LOCATION :** + = SLUDGE

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Municipal Permits Team
Wastewater Permitting Section

Date: April 4, 2005

From: *mark* Mark A. Rudolph, Water Quality Assessment Team
Water Quality Assessment Section

Subject: City of Corpus Christi Wastewater Permit Renewal (#10401-008, TX0047104)
Discharge to the Laguna Madre (Segment 2491)

This memo supersedes the one issued November 15, 2004.

The 2002 303(d) has recently been finalized and replaces the 2000 list. Segment 2491 is contained on the current list for depressed dissolved oxygen in specific areas: around the mouth of Baffin Bay, around the mouth of the Arroyo Colorado, near the upper end of the Padre Island National Seashore, and the upper Laguna Madre near Packery Channel Park. This facility is therefore no longer discharging into a listed area and can be evaluated using standard analytical methodologies.

An analysis of this discharge was conducted using a Continuously Stirred Tank Reactor (CSTR) model.

Based on model results, the existing permitted effluent set of 20 mg/L BOD₅, 20 mg/L TSS, modeled with 12 mg/L Ammonia-Nitrogen and 2 mg/L DO is adequate to ensure that the dissolved oxygen level in the receiving water will be maintained above the criterion (5 mg/L).

Coefficients and kinetics used in the model are a combination of standardized default, site-specific, and estimated values. The results of this evaluation can be reexamined upon receipt of information which conflicts with the assumptions employed in this analysis.

The effluent limits recommended above have been reviewed for consistency with the State of Texas Water Quality Management Plan (WQMP). The proposed limits are contained in the approved WQMP. A Waste Load Evaluation has not been completed for this segment .