BOLIVAR CULVERT OUTFALLS

GALVESTON COUNTY

DARRELL APFFEL

JOE GIUSTI

MARK A. HENRY

STEPHEN D. HOLMES

KEN CLARK

MICHAEL SHANNON, P.E., CFM

THE STATE OF TEXAS

COUNTY OF GALVESTON

JULY, 2019

PRECIinct 1

CivilTech Engineering, Inc.
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TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL WILL CONSIST OF COMPLETE ROADWAY CLOSURES
FOR TYPE INSTALLATION ACROSS ROADS AND DRIVEWAYS, UTILIZE APPROVED
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ALL TRENCHES ACROSS ROADS AND DRIVEWAYS WILL BE COMPLETED IN
A SINGLE WORKING DAY. TRENCHES LEFT OPEN FOR MORE THAN 12
HOURS MUST BE PLASTIC OVER USING APPROVED STEEL PLATES.
FLEX BASE MAY BE USED FOR TEMPORARY PAVING AT ASPHALT PAVEMENTS FOR
NO LONGER THAN 28 CALENDAR DAYS.
GENERAL

1. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS BEFORE BEGINNING CONSTRUCTION.

2. THE CONTRACTOR SHALL PROVIDE SECURITY TO PROTECT THE PROJECT SITE, CONTRACTOR PROPERTY, EQUIPMENT, AND WORK.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING STREETS OF CONSTRUCTION DEBRIS AND DIRT AT CLOSE OF EACH WORK DAY.

4. THE CONDITION OF ADJACENT EXISTING ROADS AND/OR RIGHT-OF-WAY, UPON COMPLETION OF THE JOB SHALL BE AS GOOD AS OR BETTER THAN PRIOR TO STARTING WORK.

5. THE CONTRACTOR SHALL NOTIFY ALL PROPERTY OWNERS A MINIMUM OF 24 HOURS PRIOR TO BLOCKING DRIVEWAYS OR ENTERING UTILITY EASEMENTS.

6. INGRESS AND EGRESS SHALL BE PROVIDED FOR TRAFFIC DURING CONSTRUCTION. ACCESS TO ALL ADJACENT STRUCTURES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION DURATION.

7. THE CONTRACTOR SHALL REMOVE ANY AND ALL CONSTRUCTION MATERIALS, FENCES, POSTS, FENCES, TRENCHES, DREDGED MATERIALS, DIRT, ETC., AS NEEDED TO COMPLETE CONSTRUCTION.

8. THE USE OF ANY AND ALL CONSTRUCTION MATERIALS, FENCES, POSTS, FENCES, TRENCHES, DREDGED MATERIALS, DIRT, ETC., AS NEEDED TO COMPLETE CONSTRUCTION.

9. ANY MILE BOXES REQUIRING REMOVAL SHALL NOT BE RELOCATED SO THAT MAIL SERVICE IS NOT INTERRUPTED.

10. ANY MILE BOXES REQUIRING REMOVAL SHALL BE RELOCATED SO THAT MAIL SERVICE IS NOT INTERRUPTED.

11. ANY MILE BOXES REQUIRING REMOVAL SHALL BE RELOCATED SO THAT MAIL SERVICE IS NOT INTERRUPTED.

12. ANY MILE BOXES REQUIRING REMOVAL SHALL BE RELOCATED SO THAT MAIL SERVICE IS NOT INTERRUPTED.

13. CONSTRUCTION STAGING WILL BE PROVIDED BY THE CONTRACTOR.

14. THE COUNTY OR THE COUNTY'S SURVEYOR SHALL PROVIDE A BENCHMARK OR OTHER SURVEY POINTS.

15. THE CONTRACTOR SHALL MAINTAIN UPDATED REALIZED RECORD DRAWINGS ON SITE FOR INSPECTION BY THE ENGINEER.

16. THE REMOVAL OF ANY AND ALL UTILITY MESSAGES ON SITE AND OFF-SITE SHALL BE MADE.

17. THE REMOVAL OF ANY AND ALL UTILITY MESSAGES ON SITE AND OFF-SITE SHALL BE MADE.

18. ENTRANCE TO THE SITE SHALL BE PROTECTED FROM VEHICLES, TRUCKS, OR OTHER EQUIPMENT.

19. ANY UTILITY MESSAGES ON SITE AND OFF-SITE SHALL BE MADE.

20. ANY UTILITY MESSAGES ON SITE AND OFF-SITE SHALL BE MADE.

UTILITY

1. REMOVAL OF ALL ABANDONED UTILITIES WILL BE INCIDENTAL TO THE CONSTRUCTION REQUIRED FOR THE REMOVAL OF THE EXISTING UTILITIES.

2. EXISTING UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETELY LOCATING AND VERIFYING ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THE DRAWINGS. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES OCCURRING DUE TO HIS FAILURE TO EXACTLY LOCATE ALL EXISTING UTILITIES.

3. ANY CONFLICT WITH EXISTING UTILITY MESSAGES SHALL BE Brought TO THE ATTENTION OF THE ENGINEER IN A TIMELY MANNER SUCH THAT THE CONFLICT CAN BE RESOLVED BEFORE CONTINUING CONSTRUCTION ACTIVITIES.

STORM SEWER

1. NO JETTING OF SEEPING OR BACKFILL WILL BE ALLOWED.

2. CONTRACTOR SHALL COMPLY WITH THE CURRENT S.H.A. REGULATIONS AND STATE OF TEXAS LAW CONCERNING EXCAVATION, TRENCHING, AND SHORING.

3. GROUND DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. ANY EXISTING DRAINAGE STRUCTURES OR FACILITIES DANGEROUS DURING CONSTRUCTION SHALL BE RESTORED TO THE ORIGINAL CONDITION AT NO ADDITIONAL COST.

4. ALL REINFORCED CONCRETE PIPE MESSAGES FOR USE IN STORM SEWER SYSTEMS SHALL NOT BE SUBSTITUTED WITH PIPE MESSAGES.

TRAFFIC CONTROL

1. SIGNIFICANT TRAFFIC CONTROL IS NOT ANTICIPATED ON THIS PROJECT. THE CONTRACTOR'S MEANS OF TRAFFIC CONTROL SHALL BE SUBMITTED TO THE COUNTY FOR APPROVAL PRIOR TO INSTALLING TRAFFIC CONTROL DEVICES.

TREE PROTECTION

1. TREES SHALL BE PROTECTED FROM ALL CONSTRUCTION ACTIVITIES. FENCING OR OTHER PROTECTION MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER TO PROTECT THESE TREES IF CONSTRUCTION ACTIVITIES EXTEND TO WITHIN THE TREE'S PRIVILEGE.
STORM WATER QUALITY

THIS PROJECT PLEASURES LESS THAN 1 ACRE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION, INSPECTION, AND MAINTENANCE OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS. THE COST TO IMPLEMENT INSPECT, AND MAINTAIN THE SWPPP SHALL BE CONSIDERED INCIDENTAL TO THE SWPPP BID ITEMS.

PRIVATE UTILITY

CENTERPOINT ENERGY

CAUTION: UNDERGROUND GAS FACILITIES

LOCATIONS OF CENTERPOINT ENERGY MAIN LINES (TO INCLUDE CENTERPOINT ENERGY, INTRASTATE PIPELINE, LLC. WHERE APPROPRIATE) ARE SHOWN IN APPROXIMATE LOCATION ONLY, SERVICE LINES ARE USUALLY NOT SHOWN. OUR SIGNATURE ON THESE PLANS ONLY INDICATES THAT OUR FACILITIES ARE SHOWN IN APPROXIMATE LOCATION. IT DOES NOT IMPLY THAT 6 CONFLICT ANALYSIS HAS BEEN MADE. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT (713) 522-6552 OR 1-800-668-3144 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.

1. WHEN CENTERPOINT ENERGY PIPE LINE MARKINGS ARE NOT VISIBLE, CALL (713) 967-8057 (9:00 AM TO 4:30 P.M.) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.

2. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED BY USING NON-MECHANIZED EXCAVATION PROCEDURES.

3. WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.

THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

WARNING: OVERHEAD ELECTRIC LINES

OVERHEAD LINES MAY EXIST ON THE PROPERTY. THE LOCATION OF OVERHEAD LINES HAS NOT BEEN SHOWN ON THESE DRAWINGS AS THE LINES ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION, TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE, FORBIDS ACTIVITIES THAT OCCUR IN CLOSE PROXIMITY TO HIGH VOLTAGE LINES, SPECIFICALLY:

1. ANY ACTIVITY WHERE PERSON OR THINGS MAY COME WITHIN (16) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES.

2. OPERATING A CRANE, BULLDOZER, POWER SHOVEL, DRILLING RIG, FILE DRIVER, HOISTING EQUIPMENT, OR SIMILAR APPARATUS WITHIN 10 FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES.

PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY, TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL CENTERPOINT ENERGY AT (713) 267-2250.
NOTE:
TRENCH MAY NOT BE LEFT OPEN OVERNIGHT.
ROOTERS CROSSING MUST BE COMPLETED IN ONE DAY.

WASPPP LEGEND

[ ] SILT FENCE INLET
[ ] PROTECTION LIST

----- LINEAR SILT FENCE
**BULKHEAD OUTFALL DETAIL DAY 7, DAY 32, DAY 33**

**SHEET 19 OF 30**

**ELEVATION**

*NOTE: PROVIDE SINGLE LAYER OF 15 16 ROOFING FELT BETWEEN PROPOSED CONCRETE COLLAR AND ALL EXISTING GUMMED SURFACES. PLACE PROPOSED CONCRETE COLLAR DIRECTLY AGAINST STORM SEWER WITHOUT THE USE OF ROOFING FELT."

*"EXTEND PIPE TO LIMITS OF EXISTING ROCK RIP RAP WHERE RIP RAP IS PRESENT BEYOND DILINEATED."*

**GALVESTON COUNTY**
TABLE OF VARIABLE DIMENSIONS AND QUANTITIES FOR ONE HEADWALL

Values for one pipe:
- D: 24"
- H: 16" - 0"

ELEVATION

PLAN OF NON-SKEWED PIPES

E - 12"

GENERAL NOTES:
- Designed according to AASHTO LRFD
- Reinforcing steel shall be placed with the center of the outside layer of bars 3" from the surface of the concrete
- All reinforcing steel shall be Grade 60
- Bars shall have a minimum compressive strength of 3000 psi
- No bridge rails of any type may be mounted directly to these culvert headwalls

Omitted:
- Indicated slope is perpendicular to centerline pipe or pipe.
- For vehicle safety, curbs shall project no more than 3" above finished grade. Curbs heights shall be reduced, if necessary, to meet these requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.
- Quantities shown are for one structure and only one headwall.

GALVESTON COUNTY
TEMPORARY SEDIMENT CONTROL FENCE

SEDIMENT CONTROL FENCE USAGE GUIDELINES

A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2-year storm frequency may be used to calculate the flow rate to be intercepted.

Sediment control fence should be sized to filter a maximum flow through rate of 1000 gpm. Sediment control fences are not recommended to control erosion from a drainage area larger than 2 acres.

MINING JOINT KNOT WOVEN MESH (OPTION) DETAIL

GALVESTON COUNTY
THE COUNTY OF GALVESTON

RUFUS G. CROWDER, CPPO, CPPB
PURCHASING AGENT

GWEN MCLAREN, CPPB
ASST. PURCHASING AGENT

COUNTY COURTHOUSE
722 Moody (21st Street)
Fifth (5th) Floor
GALVESTON, TEXAS 77550
(409) 770-5371

August 14, 2019

PROJECT NAME: Bolivar Culvert Outfalls

BID NO: B191055

RE: ADDENDUM #1

To All Prospective Bidders:

The following information is being provided to aid in preparation of your bid submittal(s)

AMENDED OPENING DATE:
Bid #B191055, Bolivar Culvert Outfalls, originally scheduled to be opened on Thursday, August 22, 2019, at 2:00 P.M., has been rescheduled. The new deadline for submitting a bid is as follows:

Date: Thursday, August 29, 2019
Time: 2:15 P.M.

As a reminder, all questions regarding this bid must be submitted in writing to:

Rufus G. Crowder, CPPO CPPB
Galveston County Purchasing Agent
722 Moody, Fifth (5th) Floor
Galveston, Texas 77550
E-mail: purchasing.bids@co.galveston.tx.us

If you have any further questions regarding this bid, please address them to Rufus Crowder, CPPO CPPB, Purchasing Agent, via e-mail at purchasing.bids@co.galveston.tx.us, or contact the Purchasing Department at (409) 770-5371.

Please excuse us for any inconvenience that this may have caused.

Sincerely,

[Signature]

Rufus G. Crowder, CPPO CPPB
Purchasing Agent
Galveston County
August 22, 2019

PROJECT NAME: Bolivar Culvert Outfalls

SOLICITATION NO: ITB #B191055

RE: ADDENDUM #2

To All Prospective Bidders:

The following information is being provided to aid in preparation of your bid submittal(s)

Revised Documents:
The following revisions have been made to remove Bay 7, Bay 8 and Bay 10-1 from the scope of Bid #B191055, Bolivar Culvert Outfalls:

- Bid Form pages 87-88 – the quantities have been adjusted;
- Contract Award - page 91 – calendar days have been reduced to 180;
- Drawing sheets pages 1-27 in the original bid packet have been removed in their entirety and replaced with the revised set of Drawing Sheets 1-27 which are attached. Revisions were made to sheets 2, 5, 6, 9, 10, and 12.

Opening Date:
As a reminder the opening date is Thursday, August 29, 2019 at 2:15 p.m.

Question #1: What is the estimated cost?
Response: The Engineer’s estimated construction cost is $350,000.00.

Question #2: Line items call for 18” & 24” hdpe smooth lined pipe, is that the corrugated standard hdpe, can’t find specs?
Response: HDPE Smooth Lined Pipe (18”) and HDPE Smooth Lined Pipe (24”) should conform to SP 2505, High Density Polyethylene Pipe. SP 2505 is attached.
Question #3: Where, if any, will the addendums be posted, the Galveston County website doesn’t show any jobs posted?

Response: All addendums will be placed on the Galveston County website under the Purchasing tab.

Question #4: What is the spec on the HDPE culverts for this project? Are they ADS HP Storm, ADS N12 ASTM, ADS N12 AASHTO or something else?

Response: HDPE is covered under ASTM and AASHTO Specs. SP2505 is attached.

As a reminder, all questions regarding this bid must be submitted in writing to:

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Galveston County
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**TOTAL BASE BID** $________________________
Contract Award (continued)

Invitation to Bid, General Provisions, Special Provisions for Construction, Bid Forms, Vendor Qualification Packet, Non-Collusion Affidavit, Bid Proposal, Affidavit and Surety Forms, Lobbying Certification, Labor Standards/Prevailing Wage Requirements, Contractor's Local Opportunity Plan, Statement of Bidder's Qualifications, Contractor Certifications, Section 504 Certification "Policy of Nondiscrimination on the Basis of Disability", Bid Bond, Payment Bond, Performance Bond and Attorney Certification, Disaster Recovery Projects, Texas General Land Office Forms, Specifications and Plans attached to this Contract Award are all made a part of this Contract and collectively evidence and constitute the entire contract. Contractor shall furnish all materials, perform all of the work required to be done and do everything else required by these documents.

Time of Completion: The Contractor shall complete the work within __180__ Calendar Days of the issuance of the notice to proceed. The time set forth for completion of the work is an essential element of the Contract.

The Contract Sum: The County shall pay the Contractor for performance of the Contract, the sum of ___________________________Dollars and No/100 ($__________), payments to be made as described herein.

Performance Bond required: (x) yes ( ) no
Payment Bond required: (x) yes ( ) no

This Contract is issued pursuant to award made by Commissioners' Court on __________, 20__.

EXECUTED this ____ day of __________________, 20__.

COUNTY OF GALVESTON, TEXAS

BY: ____________________________
    MARK HENRY, County Judge

ATTEST:

______________________________
DWIGHT SULLIVAN, County Clerk

CONTRACTOR

BY: ____________________________
    ____________________________
    Signature

______________________________
Printed Name - Title
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6. THE CONTRACTOR SHALL NOTIFY ALL PROPERTY OWNERS A MINIMUM OF 24 HOURS PRIOR TO BLOCKING DRIVEWAYS OR ENTERING UTILITY EASEMENTS.
7. INGRESS AND EGRESS SHALL BE PROVIDED FOR TRAFFIC DURING CONSTRUCTION. ACCESS TO ALL ADJACENT STRUCTURES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION DURATION.
8. THE CONTRACTOR SHALL REMOVE AND REPLACE OR RECONSTRUCT EXISTING FENCES, POSTS, PLANTERS, TRASH CONTAINERS, CULVERTS, ETC. AS NECESSARY TO COMPLETE CONSTRUCTION. ANY ITEMS DAMAGED DURING CONSTRUCTION BY THE CONTRACTOR SHALL BE REPLACED WITH EQUAL OR BETTER AT NO EXTRA PAY. TREES, BUSHES, AND SHRUBBERY THAT ARE DESIGNATED TO REMAIN, BUT DAMAGED BY CONTRACTOR'S OPERATIONS, SHALL BE REPLACED AND WATERED THOROUGHLY WITHIN 72 HOURS OF REMOVAL. NO SEPARATE PAY.
9. ANY MAIL BOXES REQUIRING REMOVAL SHALL BE RELOCATED SO THAT MAIL SERVICE IS NOT INTERRUPTED.
10. PAVED SURFACES, PAVEMENT MARKERS AND MARKINGS SHALL BE PROTECTED FROM DAMAGE BY CONSTRUCTION EQUIPMENT.
11. IRON RODS DISTURBED DURING CONSTRUCTION ARE TO BE REPLACED BY A REGISTERED PUBLIC LAND SURVEYOR FOR THE ORIGINAL PROPERTY OWNER AT NO SEPARATE PAY.
12. CONSTRUCTION STAKING WILL BE PROVIDED BY THE CONTRACTOR.
13. THE COUNTY OR THE COUNTY'S SURVEYOR SHALL PROVIDE A BENCHMARK OR TEMPORARY BENCHMARK AND SURVEY CONTROLS.
14. THE CONTRACTOR SHALL MAINTAIN UPDATED REEL-LINED RECORD DRAWINGS ON SITE FOR INSPECTION BY THE ENGINEER.
15. THE REMOVAL OF ANY ABANDONED UTILITIES REQUIRED TO COMPLETE THE WORK SHALL BE INCIDENTAL AND NO SEPARATE PAY SHALL BE MADE.
16. IT IS THE CONTRACTOR'S RESPONSIBILITY TO STOCKPILE NECESSARY MATERIAL ON-SITE OR SECURED OFF-SITE AT NO ADDITIONAL EXPENSE TO GALVESTON COUNTY. ALL STORM SEWER, ROADWAY, AND CHANNEL EXCAVATION, IF SUITABLE, SHALL BE USED BEFORE BORROW IS BROUGHT ON-SITE. OFF-SITE BORROW IS NOT ANTICIPATED.
17. MANHOLES, JUNCTION BOXES, INLETS, AND RISERS ARE TO BE PRE-CAST ONLY UNLESS OTHERWISE SPECIFIED. SUBMIT SHOP DRAWINGS FOR APPROVAL.
18. EXCESS MATERIAL EXCAVATED TO CONSTRUCT THE PROPOSED PARKING LOTS, DRIVEWAYS, STORM SEWERS, ETC. SHALL BE PLACED ON-SITE AS GENERALLY SHOWN IN THE GRADING PLANS WITHIN FILL AREAS 1 & 2. FILL MATERIAL DEPOSITED WITHIN THESE AREAS SHALL GENERALLY CONFORM TO THE PROPOSED GRADES IN ORDER TO MAINTAIN POSITIVE DRAINAGE. ALL FILL MATERIAL SHALL BE COMPACTED IN ACCORDANCE WITH ARTICLE 132.30.1 - ORDINARY COMPACTION AND IS CONSIDERED SUBSIDIARY TO EXCAVATION.
19. ALL TOP SOIL SHALL BE STOCKPILED ON-SITE AT AN APPROVED LOCATION WITH FILTER FABRIC FENCING PLACED AROUND THE PERIMETER AT THE TOE OF THE STOCKPILE.
20. OMITTED

UTILITY
1. REMOVAL OF ALL ABANDONED UTILITIES WILL BE INCIDENTAL TO THE CONSTRUCTION REQUIRING THE REMOVAL OF THOSE UTILITIES.
2. EXISTING UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETELY FIELD LOCATING AND VERIFIYING ALL EXISTING UTILITIES. SHOWN OR NOT SHOWN ON THE DRAWINGS, CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES OCCURRING DUE TO HIS FAILURE TO EXACTLY LOCATE ALL EXISTING UTILITIES.
3. ANY CONFLICT WITH EXISTING UTILITIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN A TIMELY MANNER SUCH AS THE CONFLICT CAN BE RESOLVED BEFORE CONTINUING CONSTRUCTION ACTIVITIES.

STORM SEWER
1. NO JETING OF BEDDING OR BACKFILL WILL BE ALLOWED.
2. CONTRACTOR IS TO COMPLY WITH THE LATEST O.S.H.A. REGULATIONS AND STATE OF TEXAS LAW CONCERNING EXCAVATION, TRENCHING, AND SHORING, (AS SPECIFIED IN PART 1926, SUBP ART P "EXCAVATING, TRENCHING AND SHORING"
3. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. ANY EXISTING DRAINAGE STRUCTURE OR FACILITY DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO THE ORIGINAL CONDITION AT NO ADDITIONAL COSTS.
4. ALL REINFORCED CONCRETE PIPE INDICATED FOR USE IN STORM DRAINS WILL NOT BE SUBSTITUTED WITH HOPE PIPE.

TRAFFIC CONTROL
1. SIGNIFICANT TRAFFIC CONTROL IS NOT ANTICIPATED ON THIS PROJECT. THE CONTRACTOR'S MEANS OF TRAFFIC CONTROL SHALL BE PRESENTED TO THE COUNTY FOR APPROVAL PRIOR TO INSTALLING ANY TRAFFIC CONTROL DEVICES.

TREE PROTECTION
1. TREES SHALL BE PROTECTED FROM ALL CONSTRUCTION ACTIVITIES. FENCING OR ROOT PRUNING MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER TO PROTECT THESE TREES IF CONSTRUCTION ACTIVITIES EXTEND TO WITHIN THE TREE'S DROPP LINE. COST OF SUCH TREE PROTECTION MEASURES WILL BE CONSIDERED INCIDENTAL TO WORK ITEMS BEING PERFORMED.
STORM WATER QUALITY

THIS PROJECT DISTURBS LESS THAN 1 ACRE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION, INSPECTION, AND MAINTENANCE OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS. THE COST TO IMPLEMENT INSPECT, AND MAINTAIN THE SWPPP SHALL BE CONSIDERED INCIDENTAL TO THE SWPPP BID ITEMS.

PRIVATE UTILITY

CENTERPOINT ENERGY

CAUTION: UNDERGROUND GAS FACILITIES

LOCATIONS OF CENTERPOINT ENERGY MAIN LINES TO INCLUDE CENTERPOINT ENERGY, INTRASTATE PIPELINE, LLC. WHERE APPLICABLE) ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. OUR SIGNATURE ON THESE PLANS ONLY INDICATES THAT OUR FACILITIES ARE SHOWN IN APPROXIMATE LOCATION. IT DOES NOT IMPLY THAT A CONFLICT ANALYSIS HAS BEEN MADE. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT (713) 223-4567 OR 1-800-669-8344 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.

1. WHEN CENTERPOINT ENERGY PIPELINE MARKINGS ARE NOT VISIBLE, CALL (713) 967-8037 (7:00 AM TO 4:30 PM) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.

2. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED BY USING NON-MECHANIZED EXCAVATION PROCEDURES.

3. WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.

THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

WARNING: OVERHEAD ELECTRIC LINES

OVERHEAD LINES MAY EXIST ON THE PROPERTY. THE LOCATION OF OVERHEAD LINES HAS NOT BEEN SHOWN ON THESE DRAWINGS AS THE LINES ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE, FORBIDS ACTIVITIES THAT OCCUR IN CLOSE PROXIMITY TO HIGH VOLTAGE LINES, SPECIFICALLY:

1. ANY ACTIVITY WHERE PERSON OR THINGS MAY COME WITHIN (60 FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES); AND

2. OPERATING A CRANE, DERRICK, POWER SHOVEL, DRILLING RIG, PILE DRIVER, HOISTING EQUIPMENT, OR SIMILAR APPARATUS WITHIN 10 FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES.

PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURFED OFF OR REMOVED CALL CENTERPOINT ENERGY AT (713) 207-2222.
NOTE:
TRENCH MAY NOT BE LEFT OPEN OVERNIGHT.
ROADWAY CROSSING MUST BE COMPLETED IN ONE DAY.

SMPP LEGEND

SILT FENCE INLET PROTECTION 24 LF
--- LINEAR SILT FENCE

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GALVESTON COUNTY

CIVITECH

BOLIVAR DRAINAGE OUTFALLS
BAY 30 OUTFALL
PLAN AND PROFILE
10/18
EXIST 8"x20" TIMBER WHALER

EXIST 14"DIA TIMBER PILES

EXIST TIMBER SHEET PILING (10.5"x22.5")

3" CLR MIN (TYPE)

#4@12" O.C.
EA. WAY

EXIST PRE-CAST CONC SHEET PILING (8"x30")

3" CLR MIN (TYPE)

#4@12" O.C.
EA. WAY

PROP CONC COLLAR CL "C" CONC

E EXIST AND PROP PIPE

NOTES:
1. PROVIDE SINGLE LAYER OF 15 16 ROOFING FELT BETWEEN PROPOSED CONCRETE COLLAR AND ALL EXISTING BULKHEAD SURFACES.
2. PLACE PROPOSED CONCRETE COLLAR DIRECTLY AGAINST STORM SEWER WITHOUT THE USE OF ROOFING FELT.
3. EXTEND PIPE TO LIMITS OF EXISTING ROCK RIP RAP WHERE RIP RAP IS PRESENT BEYOND BULKHEAD.

ELEVATION
SCALE: 1/8"=1'-0"
GENERAL NOTES:
1. Reinforcement shall be placed in accordance with the requirements specified in the AASHTO LRFD Specifications.
2. All reinforcing steel shall be placed with a minimum distance of 1 1/2" from the surface of the concrete.
3. All reinforcing steel shall be grade 60.
4. All concrete shall be Class "C" and shall have a minimum compressive strength of 3000 psi.
5. No bridge rails of any type may be mounted directly to these culvert headwalls.

D. OMITTED
E. Indicated slope is perpendicular to centerline pipe or pipes.
F. For vehicle safety, curbs shall project no more than 3" above finished grade. Curbs located over the slope shall be reduced, if necessary, to meet these requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.
G. Quantities shown are for one structure and only one headwall.
**Temporary Sediment Control Fence**

- Filter fabric 2' x 10' or sandbags 10' x 20' for flood protection.
- Backfill and sandbags 5' x 5' or sandbags 10' x 20' for flood protection.

**Section A-A**

- Filter fabric 2' x 10' or sandbags 10' x 20' for flood protection.
- Backfill and sandbags 5' x 5' or sandbags 10' x 20' for flood protection.

- **Sediment Control Fence Usage Guidelines**
  - A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overtopping runoff. A 2-year storm frequency may be used to calculate the flow rate to be filtered.
  - Sediment control fence should be sized to filter a maximum flow rate of 100 GPM. Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.

**Galveston County**

**Type 3 Barricades**

1. Refer to the Complainant Work Zone Traffic Control Devices List (CATCD) for details of the Type 3 Barricades and all other materials used in the construction of Type 3 Barricades.
2. Type 3 Barricades shall be placed at the end of construction zones, close to the site.
3. Barricades should be placed not more than 30 feet in the direction toward which traffic must turn in ensuring, when both right and left turns are provided, the clearance required above the top of the barricades shall be at least 30 feet in both directions from the center of the barricades. The clearance required above the top of the barricades shall be at least 30 feet in both directions from the center of the barricades.
4. Striking posts, for right or left turns in the roadway, should strike the barricade at least 30 feet in both directions from the center of the barricades.
5. Barricades shall be placed parallel to traffic unless an additional zone is provided.
6. Barricades shall be 6' high and 6' wide, unless an additional zone is provided.

**Barricades shall not be placed in a high support.**

**Typical Stripping Detail for Barricade Rail**

- Stirrups may be located on the inside or outside of the barricade, but not more than 2 stirrups shall be placed on one barricade.

**Typical Panel Detail for Skid or Post Type Barricades**
SPECIAL ITEM 2505
HIGH DENSITY POLYETHYLENE PIPE

PART 1 – GENERAL

1.1 SUMMARY
Section includes requirements for high density corrugated polyethylene (HDPE) smooth lined (open profile) pipe for gravity sewers and drains, including fittings and appurtenances.

1.2 MEASUREMENT AND PAYMENT
This item will be measured by the foot. Pipe will be measured between the ends of the barrel along the flow line. This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2, "Plans Quantity Measurement". The price paid is full compensation for furnishing, hauling, placing, and joining of pipes; jointing materials; all connections to new or existing structures; cutting pipe ends, on skew or slope; and equipment, labor, tools, and incidentals.

1.3 REFERENCES
ASTM D 3350 – Polyethylene Plastics Pipe and Fittings Materials.
ASTM D 4976 – Polyethylene Plastics Molding and Extrusion Materials.
ASTM F 477 – Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
AASHTO M294 – Corrugated Polyethylene Pipe, 300- to 1500-mm Diameter.

PART 2 – PRODUCTS

2.1 PIPE AND FITTINGS
Provide HDPE pipe which conform to the requirements of cell classes 33500C or 335510C per ASTM D 3350 except that carbon black shall not exceed 5% for 12 inch through 60 inch diameters.

Furnish corrugated HDPE smooth lined gravity sewer pipe with integral bell and "o"-ring gasketed spigot (bell-n-spigot). The bell shall overlap a minimum of two corrugations of the spigot end when fully engaged. Join two straight cut pipe (not tapered) ends by either a double "o"-ring gasketed bell-bell coupler or an external double wide coupler with 4 stainless steel bands and tensioning locking mechanisms or approved equal.

Do not use HDPE pipe in applications requiring auguring of sewer pipe.
PART 3 – EXECUTION

3.1 INSTALLATION

Excavate, shape, bed, and backfill in accordance with the manufacturer’s recommended installation procedures and Item 400, “Excavation and Backfill for Structures”.

END OF SPECIAL ITEM 2505