

# AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE	OF	PAGES
---------------------	------	----	-------

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
-------------------------------	-------------------	----------------------------------	--------------------------------

6. ISSUED BY <span style="float: right;">CODE</span>	7. ADMINISTERED BY (If other than Item 6) <span style="float: right;">CODE</span>
---	--

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)	(X)	9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
		10A. MODIFICATION OF CONTRACT/ORDER NO.
		10B. DATED (SEE ITEM 11)
CODE		FACILITY CODE

### 11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers  is extended,  is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment your desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

### 13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED
16B. UNITED STATES OF AMERICA  (Signature of Contracting Officer)	16C. DATE SIGNED

1. The specifications and drawings for Invitation No. DACW64-02-B-0002, Dredging, Main Channel in Matagorda Bay and Natural Bay Bottom Route in Matagorda County, Texas, advertised 19 October 2001, and for which bids are rescheduled to be opened on 19 December 2001, are hereby modified as follows:

**BID OPENING DATE IS HEREBY RESCHEDULED FOR 2:00 PM LOCAL TIME IN ROOM 175, JADWIN BUILDING, 17 JANUARY 2002.**

(a) Specifications.

(1) BIDDING SCHEDULE, Pages 00010-1 and 00010-2. - The enclosed Bidding Schedule, Pages 00010-1 and 00010-2 supersedes that issued with this Invitation.

(2) SECTION 01330, SUBMITTAL PROCEDURES. - The enclosed new SECTION 01330 entitled SUBMITTAL PROCEDURES shall be added to this Invitation.

(3) SECTION 02379, GEOTEXTILE TUBES. - The enclosed new SECTION 02379 entitled GEOTEXTILE TUBES shall be added to this Invitation.

2. This amendment shall be attached to, and become a part of, the specifications.

3 Encls

1. Bid Sched
2. Section 01330
3. Section 02379

## INSTRUCTIONS

Instructions for items other than those that are self-explanatory, are as follows:

(a) Item 1 (Contract ID Code). Insert the contract type identification code that appears in the title block of the contract being modified.

(b) Item 3 (Effective date).

- (1) For a solicitation amendment, change order, or administrative change, the effective date shall be the issue date of the amendment, change order, or administrative change.
- (2) For a supplemental agreement, the effective date shall be the date agreed to by the contracting parties.
- (3) For a modification issued as an initial or confirming notice of termination for the convenience of the Government, the effective date and the modification number of the confirming notice shall be the same as the effective date and modification number of the initial notice.
- (4) For a modification converting a termination for default to a termination for the convenience of the Government, the effective date shall be the same as the effective date of the termination for default.
- (5) For a modification confirming the contracting officer's determination of the amount due in settlement of a contract termination, the effective date shall be the same as the effective date of the initial decision.

(c) Item 6 (Issued By). Insert the name and address of the issuing office. If applicable, insert the appropriate issuing office code in the code block.

(d) Item 8 (Name and Address of Contractor). For modifications to a contract or order, enter the contractor's name, address, and code as shown in the original contract or order, unless changed by this or a previous modification.

(e) Item 9, (Amendment of Solicitation No. - Dated), and 10, (Modification of Contract/Order No. - Dated). Check the appropriate box and in the corresponding blanks insert the number and date of the original solicitation, contract, or order.

(f) Item 12 (Accounting and Appropriation Data). When appropriate, indicate the impact of the modification on each affected accounting classification by inserting one of the following entries.

(1) Accounting classification \_\_\_\_\_  
Net increase \$ \_\_\_\_\_

(2) Accounting classification \_\_\_\_\_  
Net decrease \$ \_\_\_\_\_

NOTE: If there are changes to multiple accounting classifications that cannot be placed in block 12, insert an asterisk and the words "See continuation sheet".

(g) Item 13. Check the appropriate box to indicate the type of modification. Insert in the corresponding blank the authority under which the modification is issued. Check whether or not contractor must sign this document. (See FAR 43.103.)

(h) Item 14 (Description of Amendment/Modification).

(1) Organize amendments or modifications under the appropriate Uniform Contract Format (UCF) section headings from the applicable solicitation or contract. The UCF table of contents, however, shall not be set forth in this document

(2) Indicate the impact of the modification on the overall total contract price by inserting one of the following entries:

(i) Total contract price increased by \$ \_\_\_\_\_

(ii) Total contract price decreased by \$ \_\_\_\_\_

(iii) Total contract price unchanged.

(3) State reason for modification.

(4) When removing, reinstating, or adding funds, identify the contract items and accounting classifications.

(5) When the SF 30 is used to reflect a determination by the contracting officer of the amount due in settlement of a contract terminated for the convenience of the Government, the entry in Item 14 of the modification may be limited to --

(i) A reference to the letter determination; and

(ii) A statement of the net amount determined to be due in settlement of the contract.

(6) Include subject matter or short title of solicitation/contract where feasible.

(i) Item 16B. The contracting officer's signature is not required on solicitation amendments. The contracting officer's signature is normally affixed last on supplemental agreements.

File 7348S

INVITATION NO. DACW64-02-B-00

**GULF INTRACOASTAL WATERWAY,  
TEXAS, MAIN CHANNEL IN MATAGORDA  
BAY AND NATURAL BAT BOTTOM  
ROUTE IN MATAGORDA COUNTY,  
TEXAS, DREDGING**

**BIDDING SCHEDULE  
(TO BE ATTACHED TO STANDARD FORM 1442)**

Item No.	Description	Estimated Quantity	Unit	Unit Price	Estimated Amount
<b><u>SCHEDULE NO. 1</u></b>					
0001	Mobilization and Demobilization	1	L.S.	\$ _____	\$ _____
0002	Dredging (Sections Nos. 1 and 2)	205,000	C.Y.	\$ _____	\$ _____
<b>TOTAL SCHEDULE NO. 1</b>					\$ _____
<b><u>OPTION</u></b>					
0003	Geotextile Tubes	1,000	L.F.	\$ _____	\$ _____
0004	Surveys	1	L.S.	\$ _____	\$ _____
0005	Dredging (Section No. 3)	8,000	C.Y.	\$ _____	\$ _____
<b>TOTAL OPTION</b>					\$ _____
<b>TOTAL SCHEDULE NO. 1 AND OPTION</b>					\$ _____

**NOTE:** If the Option is exercised by the Government, it will be exercised at time of the Contract Award. The Option item shall be bid as the price to perform the work as defined on the drawings and as specified. If the Option is exercised, the Contractor will be paid in accordance with the applicable Option Item as bid.

00010-1

(To Accompany Amendment No. 0002 to Invitation No. DACW64-02-B-0002)

**BIDDING SCHEDULE (Cont'd)**  
**(TO BE ATTACHED TO STANDARD FORM 1442)**

**1. ARITHMETIC DISCREPANCIES (EFARS 52.214-5000).**

(a) For the purpose of initial evaluation of bids, the following will be utilized in resolving arithmetic discrepancies found on the face of bidding schedule as submitted by the bidder:

- (1) Obviously misplaced decimal points will be corrected;
- (2) Discrepancy between unit price and extended price, the unit price will govern;
- (3) Apparent errors in extension of unit prices will be corrected;
- (4) Apparent errors in addition of lump-sum and extended prices will be corrected.

(b) For the purpose of bid evaluation, the Government will proceed on the assumption that the bidder intends his bid to be evaluated on the basis of the unit prices, the totals arrived at by resolution of arithmetic discrepancies as provided above and the bid will be so reflected on the abstract of bids.

(c) These correction procedures shall not be used to resolve any ambiguity concerning which bid is low.

**2. MODIFICATIONS (CESWG).** If a modification to a bid based on unit prices is submitted, which provides for a lump sum adjustment to the total estimated cost, the application of the lump sum adjustment of each unit price in the bid schedule must be stated. If it is not stated, the bidder agrees that the lump sum adjustment shall be applied on a pro rata basis to every unit price in the bid schedule.

**3. EVALUATION OF OPTIONS (JUL 1990)(FAR 52.217-5).** Except when it is determined in accordance with FAR 17.2006(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the options.

**SECTION TABLE OF CONTENTS**

**GENERAL REQUIREMENTS**

**SECTION 01330 - SUBMITTAL PROCEDURES**

<b><u>PARAGRAPH</u></b>	<b><u>TITLE</u></b>	<b><u>PAGE NOS.</u></b>
<b>PART 1 - GENERAL</b>		
1.1	SUBMITTALS . . . . .	01330-01
1.2	SUBMITTAL CLASSIFICATION. . . . .	01330-01
1.3	APPROVED SUBMITTALS . . . . .	01330-01
1.4	DISAPPROVED SUBMITTALS. . . . .	01330-02
1.5	WITHHOLDING OF PAYMENT . . . . .	01330-02
 <b>PART 2 - PRODUCTS (Not Applicable)</b>		
 <b>PART 3 - EXECUTION</b>		
3.1	GENERAL . . . . .	01330-02
3.2	SUBMITTAL REGISTER (ENG FORM 4288). . . . .	01330-02
3.3	SCHEDULING . . . . .	01330-03
3.4	TRANSMITTAL FORM (ENG FORM 4025) . . . . .	01330-03
3.5	SUBMITTAL PROCEDURE . . . . .	01330-03
3.6	CONTROL OF SUBMITTALS . . . . .	01330-03
3.7	GOVERNMENT APPROVED SUBMITTALS . . . . .	01330-03
3.8	INFORMATION ONLY SUBMITTALS. . . . .	01330-03
3.9	STAMPS. . . . .	01330-03

**SECTION 01330 - SUBMITTAL PROCEDURES**

**PART 1 - GENERAL**

**1.1 SUBMITTALS.** The submittals described below are those required and further described in other Sections of the specifications. Submittals required by the CONTRACT CLAUSES and other non-technical parts of the contract are not included in this Section.

1.1.1 SD-01 Data. Submittals which provide calculations, descriptions, or documentation regarding the work.

1.1.2 SD-13 Certificates. Statement signed by an official authorized to certify on behalf of the manufacturer of a product, system or material, attesting that the product, system or material meets specified requirements. The statement must be dated after the award of the contract, must state the Contractor's name and address, must name the project and location, and must list the specific requirements which are being certified.

1.1.3 SD-14 Samples. Samples, including both fabricated and unfabricated physical examples of materials, products, and units of work as complete units or as portions of units of work.

1.1.4 SD-18 Records. Documentation to record compliance with technical or administrative requirements.

**1.2 SUBMITTAL CLASSIFICATION.** Submittals are classified as follows:

1.2.1 Government Approved: (GA). Governmental approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the CONTRACT CLAUSE entitled SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, they are considered to be "shop drawings."

1.2.2 For Information Only: (FIO). All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the CONTRACT CLAUSE referred to above.

**1.3 APPROVED SUBMITTALS.** The approval of submittals by the Contracting Officer shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control requirements of this contract is responsible for dimensions, the design of adequate connections and

details, and satisfactory construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

**1.4 DISAPPROVED SUBMITTALS.** The Contractor shall make all corrections required by the Contracting Officer and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the CONTRACT CLAUSE entitled CHANGES shall be given promptly to the Contracting Officer.

**1.5 WITHHOLDING OF PAYMENT.** Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

## **PART 2 - PRODUCTS (Not Applicable)**

## **PART 3 - EXECUTION**

**3.1 GENERAL.** The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those listed when deemed necessary to adequately describe the work covered in the respective Sections. Units of weights and measures used on all submittals shall be the same used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control System Manager and each item shall be stamped, signed, and dated by the Contractor's Quality Control System Manager indicating the action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals including parts list; certifications; warranties; and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

**3.2 SUBMITTAL REGISTER (ENG FORM 4288).** At the end of this Section is one set of ENG Form 4288 listing items of equipment and materials for which submittals are required by the specifications; this list may not be all inclusive and additional submittals may be required. Columns "d" through "r" have been completed by the Government; the Contractor shall complete columns "s" through "u" and return five (5) completed copies to the Contracting Officer for approval within 30 calendar days after Notice to Proceed. The approved submittal register will become the scheduling document and will be used to control submittals throughout the life of the contract. The submittal register and the progress schedules shall be coordinated.

**3.3 SCHEDULING.** Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time (a minimum of 15 calendar days exclusive of mailing time) shall be allowed and shown on the register for review and approval. No delays damages or time extensions will be allowed for time lost in late submittals.

**3.4 TRANSMITTAL FORM (ENG FORM 4025).** The sample transmittal form (ENG Form 4025) attached to this Section shall be used for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms will be furnished to the Contractor. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the specification paragraph or sheet number of the contract drawings pertinent to the data submitted for each item.

**3.5 SUBMITTAL PROCEDURE.** Submittals shall be made as follows:

3.5.1 Procedures. Five (5) copies of all submittals shall be sent to the Contracting Officer.

3.5.2 Deviations. For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025 shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

**3.6 CONTROL OF SUBMITTALS.** The Contractor shall carefully control its procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

**3.7 GOVERNMENT APPROVED SUBMITTALS.** Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated.

**3.8 INFORMATION ONLY SUBMITTALS.** Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work. This does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

**3.9 STAMPS** used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

**CONTRACTOR**

**(Firm Name)**

\_\_\_\_\_ **Approved**

\_\_\_\_\_ **Approved with corrections** as noted on submittal data and/or attached sheets(s).

**SIGNATURE:** \_\_\_\_\_

**TITLE:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

-- o O o --





## INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.
2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmittals mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.
3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288-R for each entry on this form.
4. Submittals requiring expeditious handling will be submitted on a separate form.
5. Separate transmittal form will be used for submittals under separate sections of the specifications.
6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".
7. Form is self-transmittal, letter of transmittal is not required.
8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.
9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

### THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

- |      |  |       |   |
|------|--|-------|---|
| A -- | Approved as submitted.   | E --  | Disapproved (See attached).   |
| B -- | Approved, except as noted on drawings.   | F --  | Receipt acknowledged.   |
| C -- | Approved, except as noted on drawings.<br>Refer to attached sheet resubmission required. | FX -- | Receipt acknowledged, does not comply<br>as noted with contract requirements. |
| D -- | Will be returned by separate correspondence.   | G --  | Other (Specify)   |
10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

**SECTION 02379 - GEOTEXTILE TUBES**

<b><u>PARAGRAPH</u></b>	<b><u>TITLE</u></b>	<b><u>PAGE NOS.</u></b>
<b>PART 1 - GENERAL</b>		
1.1	SCOPE OF WORK .....	02379-01
1.2	REFERENCES. ....	02379-01
1.3	SUBMITTALS. ....	02379-02
1.4	DELIVERY, STORAGE, AND HANDLING .....	02379-04
1.5	MEASUREMENT. ....	02379-04
1.6	PAYMENT. ....	02379-04
<b>PART 2 - PRODUCTS</b>		
2.1	SAND FILL MATERIALS. ....	02379-05
2.2	GEOTEXTILE MATERIALS .....	02379-05
2.3	MANUFACTURING AND FABRICATION DETAILS. ....	02379-07
2.4	TESTS, INSPECTIONS, AND VERIFICATIONS. ....	02379-09
<b>PART 3 - EXECUTION</b>		
3.1	CONSTRUCTION PLAN ..	02379-09
3.2	SURFACE PREPARATION. ....	02379-10
3.3	INSTALLATION. ....	02379-10
3.4	GEOTEXTILE TUBE JOINTS .....	02379-11
3.5	PROTECTION. ....	02379-11
3.6	REPAIRS. ....	02379-11
3.7	BORROW EXCAVATION .....	02379-12
3.8	SURVEYS. ....	02379-12
3.9	GEOTEXTILE TUBE ACCEPTANCE. ....	02379-13
3.10	MAINTENANCE OF CONTAINMENT STRUCTURE. ....	02379-13
3.11	CONTRACTOR QUALITY CONTROL. ....	02379-13

**SECTION 02379 - GEOTEXTILE TUBES****PART 1 - GENERAL**

**1.1 SCOPE OF WORK.** The work covered in this Section consists of furnishing plant, labor, material, and equipment and performing the operations required to install the required geotextiles tubes.

**1.2 REFERENCES.** The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designations only.

American Society for Testing and Materials (ASTM) Publications.

D 2487-00	Classification of Soils for Engineering Purposes (Unified Soil Classification System)
D 3786-87	Hydraulic Bursting Strength of Knitted Goods and Non-woven Fabrics - Diaphragm Bursting Strength Test Method
D 4533-91 (R 1996)	Trapezoid Tearing Strength of Geotextiles
D 4595-86 (R 2001)	Tensile Properties of Geotextiles by the Wide- Width Strip Method
D 4632-91 (R 1996)	Grab Breaking Load and Elongation of Geotextiles
D 4751-99A	Determining Apparent Opening Size of a Geotextile
D 4759-88 (R 1996)	Determining the Specification Performance of Geosynthetics
D 4833-00	Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products
D 4873-01	Identification, Storage, and Handling of Geosynthetic Rolls

**1.3 SUBMITTALS.** Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with the SECTION entitled SUBMITTAL PROCEDURES.

1.3.1 SD-01 Data.

1.3.1.1 Geotextiles: GA. Manufacturer's data for each proposed geotextile shall be submitted prior to purchase of the geotextile materials for this contract. The data shall include details regarding reinforcement around fill port openings, as specified herein.

1.3.1.2 Construction Plan: GA. The Construction Plan shall include description and details of proposed installation procedures for each of the component parts of the geotextile tube containment system, including but not limited to, the following:

- (1) Location and sequential numbering of tubes.
- (2) Planned tube layout and sequence of installation.
- (3) Equipment and a listing of personnel experienced in installation of geotextile tubes.
- (4) Anchoring technique, and filling procedures.

1.3.1.2 Quality Control Plan: GA. The Contractor's Quality Control Plan shall include details of the required testing of geotextiles. The Plan shall include identification and information regarding the Geotextile Testing Laboratory selected by the Contractor, including certification, personnel, experience, and description of testing equipment.

1.3.2 SD-13 Certificates.

1.3.2.1 Geotextiles: GA. A written certificate of compliance shall be submitted prior to delivery of the geotextiles. The certificate shall state that geotextiles to be shipped to the site meet the chemical, physical, and manufacturing requirements specified herein.

1.3.2.2 Geotextile Seams: GA. A written certificate of compliance for geotextile factory seams shall be submitted prior to delivery of the geotextile.

1.3.3 SD-14 Samples. The Contractor shall arrange for the geotextile manufacturer to provide the geotextile material samples to be tested for Contractor Quality Control and Government Quality Assurance. Delivery of samples shall be sufficiently in advance of start of construction to allow for completion of testing prior to tube installation. Additionally, the Contractor shall provide one (1) sample each of permanent anchorage or other construction materials to remain on-site after installation.

1.3.3.1 Geotextile Fabric Samples: FIO. Upon delivery of geotextile material samples, each full-width sample shall be cut in half along the primary weave direction, to obtain two (2) samples. One (1) of the sample halves shall be submitted for Quality Assurance testing and the second sample shall be delivered to the Contractor's independent Geotextile Testing Laboratory, for Quality Control testing. Each sample shall be marked with a sample ID number, and lot and roll number. Submitted fabric samples shall be as specified below:

- (1) Geotextile, Type I. The manufacturer shall provide two (2) samples, to be taken from two (2) different material rolls. If material to be used for this contract comes from a single roll, the samples shall be taken from opposite ends of material used to fabricate the tubes. The samples shall be full manufactured width of the geotextile and each shall be a minimum of 5 feet long.
- (2) Geotextile, Type II, III, and IV. The manufacturer shall provide one (1) sample of Type II material and one (1) sample of Type IV material. The samples shall be the full manufactured width of the geotextile and each shall be a minimum of 5 feet long.

1.3.3.2 Samples of Factory Seams: FIO. For samples of sewn seams, the manufacturer shall provide two (2) each of the requested types of seams, with one (1) used for Quality Assurance testing and one (1) for Quality Control testing.

- (1) Geotextile Tube Seam. The manufacturer shall submit two (2) samples of the factory seam to be used to fabricate the geotextile tubes for this contract. Each seam sample shall consist of two 4-foot by 4-foot pieces of Type I material, sewn together in a typical seam, along the same weave direction as is sewn for the geotextile tube fabrication. Alternate sample sizes shall be approved in advance.
- (2) Anchor Tube Seam. The manufacturer shall provide two (2) samples of the typical factory anchor tube seam. Each seam sample shall consist of two 4-foot by 4-foot pieces of material, sewn together in a typical seam, along the same weave direction as is sewn for the anchor tube fabrication. Alternate sample sizes shall be approved in advance.

#### 1.3.4 SD-18 Records.

1.3.4.1 Surveys: FIO. The original survey field book, requiring plotted data and other survey data shall be submitted within 7 calendar days of survey data collection.

1.3.4.2 Results of Contractor Quality Control Testing. GA. Two (2) copies of the results from required material testing by the Independent Geotextile Testing Laboratory shall be submitted.

## **1.4 DELIVERY, STORAGE, AND HANDLING.**

1.4.1 General. Geotextiles shall be labeled, shipped, stored, and handled in accordance with ASTM D 4873 and as specified herein. Each roll shall be wrapped in an opaque and waterproof layer of plastic during shipment and storage. The plastic wrapping shall be placed around the geotextile roll in the manufacturing facility and shall not be removed until installation. Each roll shall be labeled with the manufacturer's name, geotextile type, lot number, roll number, and roll dimensions, including length, width, or gross weight. Additionally, rolls of sewn geotextile tubes shall be labeled with the Geotextile Tube Number, as assigned by the Contractor and as shown. The Geotextile Tube Number shall be indicated both on the manufacturer's label, and marked on the outside of the plastic wrapping. Geotextile or plastic wrapping damaged as a result of delivery, storage, or handling, prior to receipt by the Contractor, shall be repaired or replaced, as directed, at no additional cost to the Government.

1.4.2 Handling. No hooks, tongs, or other sharp instruments shall be used to handle the geotextiles. Geotextiles shall not be dragged along the ground.

1.4.3 Storage. Geotextiles shall be stored in areas where water cannot accumulate, elevated off the ground, and protected from conditions that will affect the properties or performance of the geotextile. Geotextile shall not be exposed to temperatures in excess of 140 degrees F, or a lesser maximum temperature, if recommended by the manufacturer. Outdoor storage shall not exceed the period recommended by the manufacturer or 6 months, whichever is less.

## **1.5 MEASUREMENT.**

1.5.1 Geotextile Tubes. The geotextile tubes shall be measured in linear feet along the centerline, to the nearest linear foot of acceptably filled geotextile tubes in place.

1.5.2 Surveys shall not be measured for payment.

## **1.6 PAYMENT.**

1.6.1 Geotextile Tubes. Payment will be made at the contract unit price per linear foot for "Geotextile Tubes". The price shall constitute full compensation for furnishing plant, labor, material, and equipment and for furnishing and satisfactorily placing the geotextile tubes, scour apron with sand filled anchor tube, and related earthwork and foundation preparation.

1.6.3 Testing. Required testing of geotextiles, as specified herein, will be considered a subsidiary cost of the Contractor. Payment for additional tests, if directed by the Contracting Officer and not listed in the Table of Required Tests, will be paid for in accordance with the CONTRACT CLAUSE entitled CHANGES.

1.6.4 Surveys. Payment will be made at the contract lump sum price for "Surveys," which payment shall include the cost associated with establishing control points, completing surveys, plotting, and submitting the data.

## **PART 2 - PRODUCTS**

**2.1 SAND FILL MATERIALS.** Fill for tubes shall consist of materials predominately classified as SM, SC, SP, SP-SM or SW in accordance with ASTM D 2487. The Contractor shall further investigate materials at the locations that it plans to obtain material for tube filling, and determine in advance the loss of material that can be expected during the filling process.

### **2.2 GEOTEXTILE MATERIALS.**

2.2.1 General. The Type I geotextile shall be used for fabricating the geotextile tubes. Type II geotextile shall be used for the geotextile scour apron, and anchor tube. Type IV geotextile shall be used as the anchor tube liner. The Type I and II geotextiles shall be woven pervious sheets of polymeric yarn. The Type IV geotextile shall be non-woven polypropylene materials. Fibers used in the manufacture of the geotextiles shall consist of long-chain synthetic polymers composed of at least 85 percent by weight polyolefins, polyesters, or polyamides. Stabilizers and inhibitors shall be added to the base polymer of the geotextiles, if necessary, to make the filaments resistant to deterioration by ultra-violet light and heat exposure. Reclaimed or recycled fibers or polymer shall not be added to the formulation. Geotextiles shall be formed into a network so that the filaments or yarns retain dimensional stability relative to each other, including the edges. The geotextile shall be manufactured to the largest loom width possible. Geotextile tube seams shall be factory sewn.. The non-woven geotextile shroud shall be factory sewn to the upper half of geotextile tube, along the tube seams, with openings for the inlet sleeves. The geotextile physical properties shall equal or exceed the Minimum Average Roll Values (MARV) listed in TABLES 1, 2, and 4 below. Acceptance of geotextiles shall be in accordance with ASTM D 4759.

**TABLE 1 - GEOTEXTILE, TYPE I (GEOTUBE) PHYSICAL PROPERTIES  
(WOVEN)**

<b><u>PROPERTY</u></b>	<b><u>TEST METHOD</u></b>	<b><u>UNIT</u></b>	<b><u>MINIMUM TEST VALUE</u></b>
Apparent Opening Size (U.S. Sieve)	ASTM D 4751	U.S Sieve	#70
Puncture Strength	ASTM D 4833	lbs.	130
Wide Width Tensile -In any principal direction	ASTM D 4595	lbs./in	1,000
Wide Width Tensile Elongation-In any principal direction	ASTM D 4595	%	15

**TABLE 1 - GEOTEXTILE, TYPE I (GEOTUBE) PHYSICAL PROPERTIES  
(WOVEN) (Cont'd)**

<b><u>PROPERTY</u></b>	<b><u>TEST METHOD</u></b>	<b><u>UNIT</u></b>	<b><u>MINIMUM TEST VALUE</u></b>
Mullen Burst Strength	ASTM D 3786	psi	480
Trapezoid Tear Strength	ASTM D 4533	lbs.	75
Seam Strength	ASTM D 4884	lbs./in	500

**TABLE 2 - GEOTEXTILE, TYPE II (SCOUR APRON) PHYSICAL PROPERTIES  
(WOVEN)**

<b><u>PROPERTY</u></b>	<b><u>TEST METHOD</u></b>	<b><u>UNIT</u></b>	<b><u>MINIMUM TEST VALUE</u></b>
Grab Tensile Strength	ASTM D 4632	lbs	300
Grab Tensile Elongation	ASTM D 4632	%	15
Apparent Opening Size (U.S. Sieve)	ASTM D 4751	U.S Sieve	#50
Puncture Strength	ASTM D 4833	lbs	120
Mullen Burst Strength	ASTM D 3786	psi	600
Trapezoid Tear Strength	ASTM D 4533	lbs.	120
Seam Strength	ASTM D 4884	lbs./in	100
Wide Width Tensile -In any principal direction	ASTM D 4595	lbs./in	200
Wide Width Tensile Elongation-In any principal direction	ASTM D 4595	%	15

**TABLE 4 - GEOTEXTILE, TYPE IV PHYSICAL PROPERTIES  
(ANCHOR TUBE LINER)  
(NON WOVEN)**

<b><u>PROPERTY</u></b>	<b><u>TEST METHOD</u></b>	<b><u>UNIT</u></b>	<b><u>MINIMUM TEST VALUE</u></b>
Apparent Opening Size (U.S. Sieve)	ASTM D 4751	U.S Sieve	70

**2.3 MANUFACTURING AND FABRICATION DETAILS.**

2.3.1 Scour Apron. The scour apron anchor tube shall have fill port sleeves as specified herein. The anchor tube, which shall consist of an outer layer of Geotextile Type II, lined with Geotextile Type IV, shall be continuously attached to the remainder of the scour apron by a seam verified to be in conformance to the strength requirement specified in TABLE 2. The anchor tube filling sleeves shall have a minimum diameter of 8 inches, and minimum length of 18 inches, sewn at each end, and at a minimum 50-foot intervals along the entire anchor tube. The Contractor shall require the manufacturer to add additional fill ports, if needed for full filling of the entire anchor tube. If requested by the Contractor, loops shall be sewn along the edges of the scour apron, at a requested interval, to facilitate handling and anchoring. As an alternative to using a sand-filled anchor tube, the Contractor may include in the Construction Plan, a proposal for an alternative anchorage system. The anchorage shall consist of continuous anchorage at 30 pounds per lineal foot of scour pad edge, or individual, 90-pound anchorage weights, placed at intervals not to exceed 3 feet along the edge of the scour pad. The individual weights can be concrete bags or some other smooth non-corrosive, degradable objects that are securely attached to the edge of the scour pad. Pockets sewn along the edge of the scour pad or some other approved method of ensuring the weights remain attached to the scour pad edges shall be provided.

2.3.2 Geotextile Tube.

2.3.2.1 General. When required, the non-woven shroud shall be attached so that it will cover the upper one half of the geotextile tube after placement. The shroud shall be attached by a continuous seam to the woven geotextile tube material along both sides and ends of the tube. The composite seam, which includes both the woven and non-woven material, shall be designed and manufactured so that it complies with the wide width strength requirement, when tested by tensile stress applied to the two (2) woven material pieces. If the Contractor elects to use butt joints, the manufacturer shall provide fabrication of adequate number and size of loops or straps at the ends of the tubes to facilitate handling and tie down. The material used for the straps, loops, and the attachment to the tube, stitched or otherwise attached, shall be similar in strength to the geotextile tube material, and of adequate strength to hold the end of the tubes together prior to completion of filling. Manufacturer- or Contractor-suggested alternate means of maintaining initial contact between tube ends, instead of the six (6) ties, shall be submitted for approval in advance of manufacture of the tubes, and documented in the Construction Plan.

2.3.2.2 Long Tubes. The term “long tube” refers to tubes of 50 or 100-foot length, to be placed at specific locations shown. No short “circulation tubes” are included in this contract. The lengths of long tubes shall be determined by the Contractor, in consultation with the manufacturer. The Contractor shall be responsible for obtaining tubes of sufficient length to complete the placement, as shown on SKETCH NO. 1 enclosed at the end of this Section . This includes ensuring allowance for typical reduction in the length of the filled tube, as compared to the flat, measured length, allowance for joints, or other possible length reduction that can occur during placement. The tube number and corresponding length and location of the long tubes shall be included in the Construction Plan. The number and size of filling sleeves (ports) on the long tubes shall be determined by the Contractor, along with manufacturer recommendations and shall be appropriate for the type of equipment to be used and proposed plan for execution of the filling. In addition to fill ports, each tube shall have a “pressure relief and end refill” port located within 5 feet of the ends of each tube, to assist with initial filling and refilling of ends of tubes at joints. Details and spacing of the ports shall be included in the Construction Plan. Fill ports shall consist of a geotextile sleeve having a length of at least 3 feet and a minimum 10-inch diameter. The port sleeves shall be fabricated of the same geotextile as the tubes. Loops or straps may be incorporated along the sides of the tube to facilitate installation and anchoring.

2.3.3 Port Opening Reinforcement. The manufacturer shall provide additional layers of Type 1 geotextile material sewn around each of the port openings, using a method that reinforces the edges of the opening against tears and rips at the port opening edge during and after filling. The manufacturer shall provide details of this reinforcement as specified in the Paragraph: SUBMITTALS above. Prior to filling of the tubes, the Contractor shall ensure that the ports have been reinforced properly.

## **2.4 TESTS, INSPECTIONS, AND VERIFICATIONS.**

2.4.1 Manufacturer. If minimum test-value requirements are not included in the standard manufacturer certification, for example: for the anchor-tube seam, the results from a minimum of five (5) tests conducted by the manufacturer shall be submitted to verify compliance.

2.4.2 Contractor. The Contractor shall employ the services of a fully qualified, approved Geotextile Testing Laboratory to perform the required testing, listed in the TABLES OF REQUIRED TESTING, below. The laboratory shall be capable of performing each test, and providing results within a reasonable period of time so the Construction Schedule is not impacted. The tests shall be performed on the samples provided to the Contractor by the Manufacturer, as specified in the Paragraph: SUBMITTALS above. The Contractor shall notify the Contracting Officer when samples have been delivered to the Laboratory. Following notification, the required tests will be assigned by the Contracting Officer and the assignments provided in writing, by FAX transmission, within 2 working days of Contractor notification. The Contractor shall be responsible for arrangements necessary to accomplish the following number of tests:

## TABLE OF REQUIRED TESTING

<u>Property</u>	<u>Test Method</u>	<u>Number of Tests</u>
Grab Tensile Strength	ASTM D 4632	1
Apparent Opening Size	ASTM D 4751	2
Puncture Strength	ASTM D 4833	1
Trapezoid Tear Strength	ASTM D 4533	1
Seam Strength	ASTM D 4884	2
Wide Width Tensile	ASTM D 4632	1

Additional tests, beyond those listed above, may be directed, to ensure compliance with material specifications.

### **PART 3 - EXECUTION**

**3.1 CONSTRUCTION PLAN.** The Construction Plan, containing the information specified herein, shall be submitted within 10 days after receipt of the Notice to Proceed and shall be approved prior to commencement of installation of the geotextile tubes. Fabrication details or installation techniques that differ from those specified herein shall be documented in the Construction Plan and submitted for consideration. However, rejection of alternative methods suggested by the Contractor shall not constitute a basis for claim against the Government.

**3.2 SURFACE PREPARATION.** The underlying surface to receive the geotextile scour apron shall be graded, as required, to achieve the required elevation, at locations shown on SKETCH NO. 1 enclosed at the end of this Section. Foundation surfaces shall be prepared to a relatively smooth condition free of ruts, erosion rills, obstructions, depressions, or debris. A shallow swale or cradle may be constructed along the centerline, if required to prevent geotextile tubes from rolling during the filling operation.

### **3.3 INSTALLATION.**

3.3.1 General. The Contractor shall visually inspect the geotextiles prior to installation, for damage and imperfections. Defective geotextiles shall be marked and repaired in accordance with manufacturer specifications. Trimming shall be performed using only an upward cutting hook blade. The scour aprons and geotextile tubes shall be placed at the locations indicated in the Construction Plan. Deviations from the work as outlined in the Construction Plan shall be requested in writing, and approved in advance. The Contractor shall not commence placement of the geotextile scour apron or a geotextile tube until completion of the assigned Quality Control test on the corresponding materials or numbered sample. A scour apron or tube inadvertently installed by the Contractor, that is

determined to be fabricated of material or seams which do not meet the required test values shall be removed and replaced as directed.

3.3.2 Scour Pad Placement. The geotextile scour apron, also referred to as scour pad by some manufacturers, shall be laid smooth to minimize tension, stress, folds, wrinkles, or creases. The ends of each individual pad sheet shall be overlapped a minimum of 10 feet. Prior to filling an anchor tube, the pad shall be held in place by anchor-weights or stakes along the front and back edges of the sheets. Stakes shall be used in conjunction with pre-sewn loops along the edge of the scour pad. At no time shall stakes be driven through the scour pad material.

3.3.3 Anchor Tube or Alternative Anchorage. The anchor tube shall be filled only by using the port sleeves. No slits shall be made on the anchor tube for any reason. After filling, the sleeve shall be securely tied with an approved cord as specified. Alternative Anchorage that meets specified criteria shall be installed as delineated in the Construction Plan.

3.3.4 Geotextile Tube Placement. When placed on the scour pad the geotextile tubes shall produce a smooth plane surface in continuous contact with the scour pad.

3.3.5 Filling Geotextile Tubes. Sandy material for filling geotextile tubes shall be obtained from the interior of the encircled area or other approved locations located at least 100 feet from the geotextile tube alignment. Borrow excavation depths shall not exceed 8 feet without prior approval. The inlet sleeve shall be secured to the injection pipe and the pipe extended into the tube prior to pumping fill material. Before and during filling, the geotextile tubes shall be prevented from rolling or shifting from the alignment shown on SKETCH NO. 1 enclosed at the end of this Section. The geotextile tubes shall be filled until the required elevations have been achieved, the sleeves shall be temporarily tied, and excess water then allowed to drain. The tubes shall be monitored for settlement and deterioration for 2 weeks after initial filling is complete. After the 2-week monitoring period, settled areas shall be refilled to bring them up to the required elevations and tolerance. Care shall be taken not to puncture or damage the tube during this process, and at no time shall mechanical or hydraulic powered equipment be used to move, tamp or compress the filled tube. If approved, small tears or minor failures shall be repaired, and tubes refilled to the required elevation. Tubes with major tears or ruptures shall be replaced, as specified herein. The port sleeves shall remain tied until it is clear to the Contractor that no further re-filling of the tubes will be required. Prior to completion of this contract, the Contractor shall fold and secure excess sleeve material, and cover the port opening with a glued patch cover, in accordance with the Manufacturer's recommendations.

### **3.4 GEOTEXTILE TUBE JOINTS.**

3.4.1 General. Joints of the ends of two (2) geotextile tubes shall be accomplished using an "Overlap Joint" or an approved "Butt Joint", as specified herein. Joints shall maintain an elevation within the required tolerance across the joint. For joints where the elevation falls below tolerance, placing of sand bags or other an approved method shall be employed to bring the elevation to within tolerance.

3.4.2 Overlap Joint. Geotextile tubes to be placed end to end shall have an overlap length of a minimum of 10 feet. The overlying tube shall be completely filled before filling of the underlying tube begins.

3.4.3 Butt Joints. Butt joints require no overlap. Rather the end of the second tube is firmly tied or held in place by an approved alternative method and then filled so that the ends have full and continuous contact between the two (2) aligned ends.

**3.5 PROTECTION.** The geotextile shall be protected during installation from blinding, clogging, penetrations, tears, or other damage. The geotextiles shall not be exposed to sunlight for more than 14 days during installation.

**3.6 REPAIRS.** Damaged or defective geotextiles shall be replaced or repaired. Repair shall be made by placing a patch of the same type of geotextile and extending it a minimum of 18 inches beyond the edge of the damage or defect. Patches shall be continuously fastened using a sewn seam or an other approved method recommended by the manufacturer. The machine direction of the patch shall be aligned with the machine direction of the geotextile being repaired. Geotextiles that are not approved for repair shall be replaced.

### **3.7 BORROW EXCAVATION.**

3.7.1 Excavation for Geotextile Tube Placement. At locations required shown on SKETCH NO. 1 enclosed at the end of this Section, excavation for geotextile tube placement shall be to the elevations shown and to a width not to exceed that necessary for tube placement. Excavated material shall be placed adjacent to the tube alignment, outside of the area not to be covered by the scour apron.

### **3.8 SURVEYS.**

3.8.1 General. The Contractor shall maintain full surveying capabilities at the construction site during this contract. The Contractor shall perform surveys as specified, or directed during construction to support and accomplish site layout, Quality Control, and provide information required for acceptance of completed work.

3.8.2 Surveys Prior to Layout of Geotextile Tube Alignment. The approximate alignment of the new geotextile tubes is shown on SKETCH NO. 1 enclosed at the end of this Section. An adjusted, final actual alignment, will be determined by the Government Area Office, based on cross section surveys to be performed and plotted by the Contractor. Within 7 days of completion of contract dredging and placement of material as specified herein and in the Section entitled DREDGING, the Contractor shall take cross sections at 100-foot at the locations shown on the drawings and SKETCH NO. 1 enclosed at the end of this Section. The cross sections shall be extended to the length necessary to locate the -1-foot MLT elevation contour. Additional cross sections shall be taken as directed, if necessary to allow sufficiently accurate and precise plotting of the contour line in the vicinity of the new geotube. The Contractor shall plot "spot" elevations along the cross sections on a scaled plan drawing. The Government Area Office will then make adjustments and determine final alignment to be provided to the Contractor for layout.

These surveys shall be adequate to allow the majority of the geotextile tubes to be placed in areas with a bottom elevation of approximately -1-foot MLT.

3.8.3 Layout. Within 7 days of receipt of the plan drawing and spot elevations specified in the previous Subparagraph, the Government will provide the final geotextile tube alignment to the Contractor for field layout. The final layout will consist of adjusted PI locations but will not change the lengths of the individual straight reaches of the alignment, and will therefore not impact geotextile tube lengths that were selected based on the approximate alignment shown on SKETCH NO. 1 enclosed at the end of this Section. The Contractor shall survey and stake the final layout, and place stakes or buoys at all PI's along the perimeter, and at 200-foot intervals along the alignment and the PI's and end points of the discharge corridors, and other locations shown or specified. Buoys or stakes shall be clearly marked and identified, and shall be maintained until after construction and acceptance is completed.

3.8.4 Profile Surveys. "Before-Construction" elevation profile surveys shall be taken along the final geotextile tube alignment before placing the scour apron. "As-Built" elevation profile surveys shall be taken after filling of the tube to the required elevation. Elevation shots shall be taken every 50 feet, as a minimum, with additional shots taken at joints, uneven areas and other locations required to produce an accurate, continuous top-of-tube profile. Station locations of joints shall be determined and recorded. Additional elevation shots shall be taken along the tubes during filling for elevation control; however, only the final survey elevations shall be included in the "as-built" profile. The final "as-built" profile, for acceptance of the tubes, shall be taken after a minimum of 2 weeks for settlement of the pumped fill has been allowed. Plots of before-construction and as-built elevations shall be submitted for review prior to request for acceptance of completed work as specified herein.

**3.9 GEOTEXTILE TUBE ACCEPTANCE.** The installed geotextile tubes will be accepted based on the "as-built" elevation profile, and Quality Control and Quality Assurance documentation of work being performed as specified and shown.

**3.10 MAINTENANCE OF CONTAINMENT STRUCTURE.** The Contractor shall maintain the integrity and required elevation of the geotextile tube containment structures throughout the contract, which includes the geotextile tubes, joints between tubes, and earth dikes. If portions of the containment structure slump or slide, so that the elevation falls below the allowable tolerance, it shall be immediately repaired. The Contractor shall take the measures necessary to accomplish the repair, including replacing the tube, refilling the slumped portion of the tube, building up height with sand bags, or other approved methods to provide the required containment elevation and containment structure integrity. No maintenance of discharge mounds or borrow (circulation) ditches is required after performing required cross section surveys for acceptance.

### **3.11 CONTRACTOR QUALITY CONTROL.**

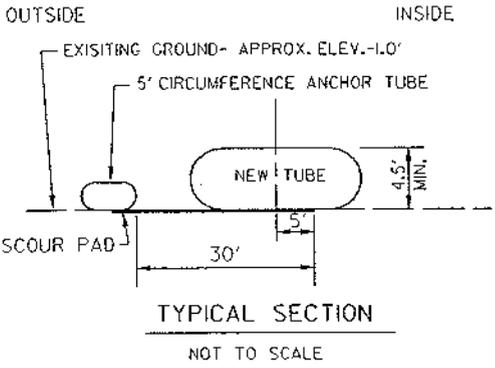
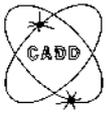
3.11.1. General. The Quality Control Plan shall include the information and details regarding the conduct of Quality Control, required by these specifications, including Quality Control surveys and the conduct of required geotextile testing. The Contractor shall ensure that materials meet the specified standards, and that Quality Control surveys, verification testing and inspections for compliance with contract requirements are carried out and documented as specified. Records of verification testing and inspections, and survey data shall be provided as scheduled and specified. Inspection of work to ensure conformance to specifications shall include, but not be limited to:

- (1) Construction Plan submitted and approved.
- (2) Surveys completed as specified.
- (3) Correct alignment and location of layout of geotextile tube alignment, and staking.
- (4) Placement of tubes in sequence according to Construction Plan.
- (5) Joints between geotextile tubes.
- (6) Elevations of top of tubes within tolerance.
- (7) Closure and sewing or adhering of port sleeves covers.
- (8) Anchor tube filling is done through ports, no slits in anchor tubes.

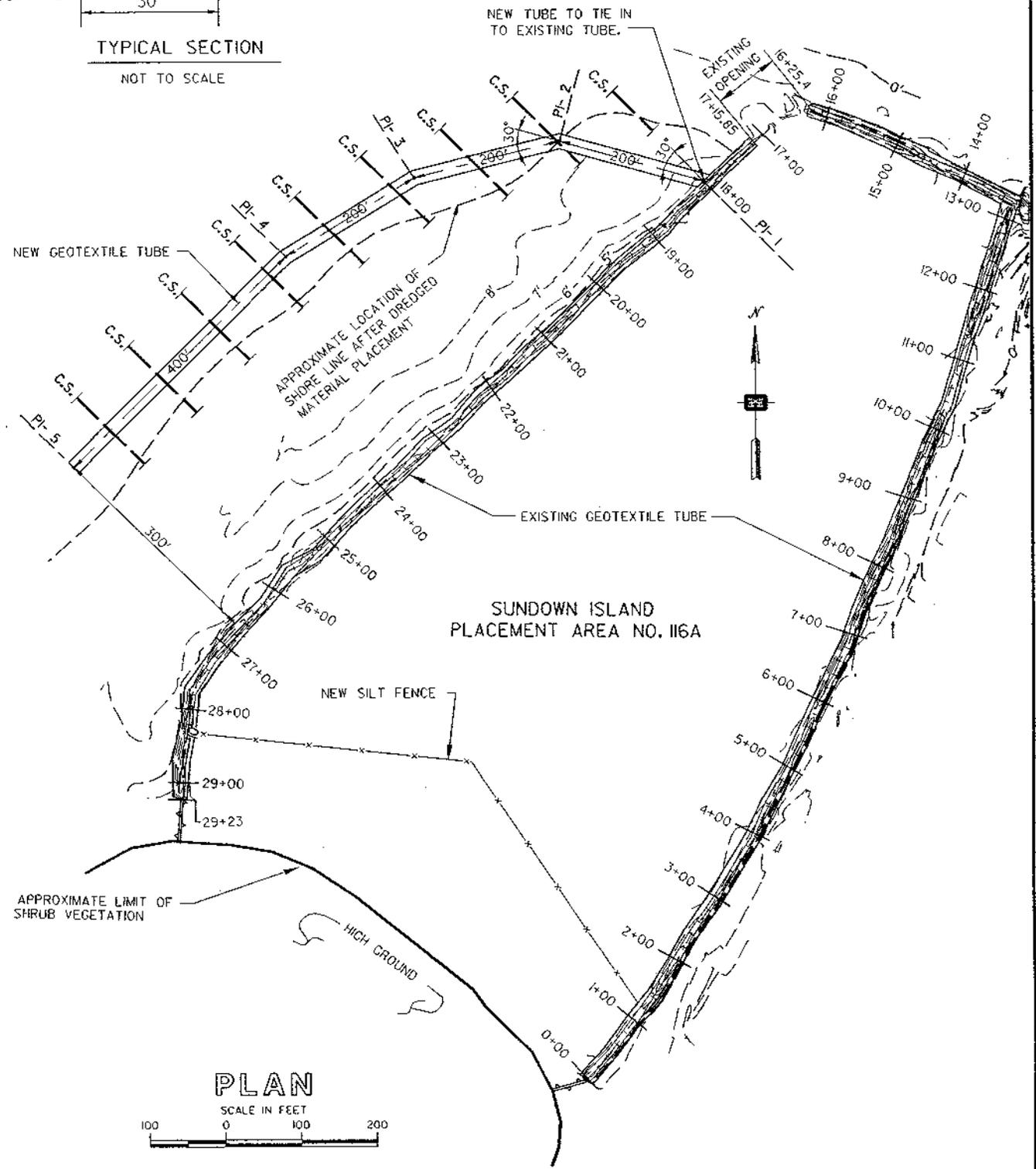
3.11.2 Contract Specifications. The on-site Quality Control Supervisor shall have a copy of these specifications at the site continually for use in performance of Quality Control activities. The specifications shall be referenced directly during Government Quality Assurance inspections with regards to questions or discussions about performance of work or quality requirements.

3.11.3 Records. Copies of records of inspections, as well as the records of corrective actions taken, shall be furnished as specified or directed.

-- o O o --



- NOTES:
1. LOCATIONS OF PI NO'S. 1 THRU 5 WILL BE DETERMINED BY THE GOVERNMENT AREA OFFICE AS SPECIFIED.
  2. A MINIMUM OF NINE CROSS SECTIONS SHALL BE TAKEN, AT 100-FOOT INTERVALS, AS SHOWN, TO DETERMINE LOCATION OF THE 1-FOOT M.L.T. ELEVATION CONTOUR, AS SPECIFIED.



"THIS SKETCH ACCOMPANIES AMENDMENT NO. 0002 TO INVITATION NO. DACW64-02-B-0002."

GULF INTRACOASTAL WATERWAY, TEXAS  
MAIN CHANNEL AND NATURAL BAY  
BOTTOM ROUTE IN MATAGORDA BAY  
NEW GEOTEXTILE TUBE  
AT SUNDOWN ISLAND

SKETCH NO. 1