

**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	CODE	7. ADMINISTERED BY (If other than Item 6)		CODE

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)	(X)	9A. AMENDMENT OF SOLICIATION 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	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
<i>(Signature of person authorized to sign)</i>		<i>(Signature of Contracting Officer)</i>	

Item 14. Continued.

**CHANGES TO STANDARD FORM 1442**

1. SF 1442, Item 13.A. – Change the Bid Opening time and date from “2 pm local time 24 July 2001” to “**2 pm local time 27 July 2001**”.

**CHANGES TO THE BIDDING SCHEDULE**

2. Replace the Bidding Schedule with the attached new Bidding Schedule, bearing the notation "ACCOMPANYING AMENDMENT NO. 0003 TO SOLICITATION NO. DACW63-01-B-0017:"

**CHANGES TO THE SPECIFICATIONS**

3. Delete Sections – Delete Section 03151 - EXPANSION, CONTRACTION AND CONSTRUCTION JOINTS IN CONCRETE FOR CIVIL WORKS.

4. Replacement Sections - Replace the following sections with the accompanying new sections of the same number and title, each bearing the notation "ACCOMPANYING AMENDMENT NO. 0003 TO SOLICITATION NO. DACW63-01-B-0017:"

SECTION 01000	CONSTRUCTION SCHEDULE
SECTION 02220	DEMOLITION
SECTION 02315	EXCAVATION, BACKFILLING, FLUSHING, AND SAND FILL
SECTION 02621	ABS RELIEF WELL AND COLLECTOR INSERTS, CLEANOUTS, AND UNDERSLAB DRAINS
SECTION 03303	CONCRETE

**CHANGES TO THE DRAWINGS**

5. Replacement Drawings.- Replace the drawings listed below with the attached new drawings(s) of the same number, bearing the notation "AM #0003":

Seq03.cal	Seq 3	OVERALL PLAN & BASE LINE DATA
Seq06.cal	Seq 6	SOD-LINED DITCH - PLAN, PROFILE, &TYP. SECTION
Seq07.cal	Seq 7	STRUCTURAL DETAILS

END OF AMENDMENT

Solicitation No. DACW63-01-B-0017

## BIDDING SCHEDULE

(To be attached to SF 1442)

Item No.	Description	Estimated Quantity	Unit	Unit Price	Estimated Amount
0001	Remove and Replace Concrete Ditch, Sta. 15+00 to Sta. 22+00	Job	Sum	*****	\$ _____
0002	ABS Inserts	47	EA	\$ _____	\$ _____
0003	Underdrain Flushing	Job	Sum	*****	\$ _____
TOTAL Base Bid					\$ _____

Option No. 1.

0004	Remove and Replace Concrete Ditch, Sta. 22+00 to Sta. 25+00	Job	Sum	*****	\$ _____
TOTAL Option No. 1					\$ _____

Option No. 2.

0005	Remove and Replace Concrete Ditch, Sta. 25+00 to Sta. 28+00	Job	Sum	*****	\$ _____
TOTAL Option No. 2					\$ _____

Option No. 3.

0006	Remove and Replace Concrete Ditch, Sta. 28+00 to Sta. 31+00	Job	Sum	*****	\$ _____
TOTAL Option No. 3					\$ _____

Option No. 4.

0007	Remove and Replace Concrete Ditch, Sta. 31+00 to Sta. 34+01.2	Job	Sum	*****	\$ _____
TOTAL Option No. 4					\$ _____

ACCOMPANYING AMENDMENT NO. 0003 TO SOLICITATION NO. DACW63-01-B-0017

Solicitation No. DACW63-01-B-0017

BIDDING SCHEDULE (cont)

Item No.	Description	Estimated Quantity	Unit	Unit Price	Estimated Amount
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Option No. 5.

0008	Remove Concrete Ditch Lining, Grade, and Turf Sta. 34+01.2 to Sta. 37+34	Job	Sum	*****	\$ _____
TOTAL Option No. 5					\$ _____

TOTAL Base Bid and Option Nos. 1 thru 5      \$ \_\_\_\_\_

BIDDING SCHEDULE (cont)

NOTES:

1. ARITHMETIC DISCREPANCIES (EFARS 14.407-2)

- (a) For the purpose of initial evaluation of bids, the following will be utilized in resolving arithmetic discrepancies found on the face of the bidding schedule as submitted by bidders:
  - (1) Obviously misplaced decimal points will be corrected;
  - (2) In case of discrepancy between unit price and extended price, the unit price will govern;
  - (3) Apparent errors in extension of unit prices will be corrected; and
  - (4) Apparent errors in addition of lump-sum and extended prices will be corrected.
- (b) For the purposes 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, extensions, and 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. 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 to 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. Bidders must bid on all items.

4. Costs attributable to Division 01 - General Requirements are assumed to be prorated among bid items listed.

5. For the purpose of this solicitation, the word "item" shall be considered to mean "schedule" as used in Provision 52.214-0019, CONTRACT AWARD--SEALED BIDDING--CONSTRUCTION, in Section 00100 INSTRUCTIONS, CONDITIONS, AND NOTICES TO BIDDERS, excluding additives, deductives, or optional items.

6. EXERCISE OF OPTIONS (SWDR 715-1-1 (16 January 1996))

The Government reserves the right to exercise the option(s) by written notice to the Contractor either singularly or in any combination for up to 60 calendar days after award of the Base Bid without an increase in the Offeror's Bid Price. Completion of added items shall continue at the same schedule as the Base Bid unless otherwise noted in Section 01000 CONSTRUCTION SCHEDULE, paragraph 1, entitled SCHEDULE.

END OF BIDDING SCHEDULE

SECTION 01000

CONSTRUCTION SCHEDULE  
 02/2001  
 AMENDMENT 0003

PART 1 GENERAL

1.1 SCHEDULE

Commence, prosecute, and complete the work under this contract in accordance with the following schedule and Section 00700 CONTRACT CLAUSES COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK and LIQUIDATED DAMAGES:

Item of Work	Commencement of Work (calendar days)	Completion of Work (calendar days)	Liquidated Damages per calendar day [ $\frac{1}{}$ ]
(1) All work Base Bid	Within 10 days after receipt of Notice to Proceed	90	\$ 120.00
(2) All work Option 1	Within 1 day after completion of base bid or option	20 additional	
(3) All work Option 2	Within 1 day after completion of base bid or option	20 additional	
(4) All work Option 3	Within 1 day after completion of base bid or option	20 additional	
(5) All work Option 4	Within 1 day after completion of base bid or option	<b><u>20 additional (am3)</u></b>	
(6) All work Option 5	Within 1 day after completion of base bid or option	<b><u>5 additional (am3)</u></b>	

[\*<sup>3</sup>Options:

(a) Commencement of Work

Work for each option shall start within 10 days of receipt of notice to proceed following the award of the option. See the notes to the bidding schedule concerning award of options.

(b) Completion of Work

The completion time for each option that is exercised shall be calendar days, except the accumulative completion time for any multiple of options shall not exceed 60 days.

(c) Liquidated Damages

See Section 00700 clause LIQUIDATED DAMAGES - CONSTRUCTION. Liquidated damages for the option(s) will be applicable only when the option's completion time falls beyond the original contract period. Liquidated damages are not accumulative.]

1.2 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (OCT 1989)  
(ER 415-1-15)(52.0001-4038 1/96)

a. This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance with the contract clause entitled "Default: (Fixed Price Construction)." In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

(1) The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

(2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the contractor.

b. The following schedule of monthly anticipated adverse weather delays due to precipitation and temperature is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities. Wind is not considered in the Monthly Anticipated Adverse Weather Calendar Day Schedule.

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY WORK DAYS BASED ON (5) DAY WORK WEEK MARSHALL/LONGVIEW, TX AREA (LONGHORN AAP, AND RESERVE CTR AT TYLER)											
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
4	5	4	3	4	6	4	3	4	5	5	6

c. Upon acknowledgment of the Notice to Proceed (NTP) and continuing throughout the contract, the contractor will record on the daily CQC report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the contractor's scheduled work day.

The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous

month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in paragraph "b", above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the contract clause entitled "Default (Fixed Price Construction)."

### 1.3 WORK RESTRICTIONS

#### 1.3.1 Working Hours

Normal working hours are Monday through Friday, 0730 to 1730 hours.

### 1.4 UTILITIES

Water, gas, and electricity are not available from Government-owned and operated systems.

### 1.5 STREET CLOSINGS

The Contractor shall coordinate all requests for street closings with the Contracting Officer in writing 14 days prior to date of requested outage:

a. One lane traffic shall be maintained at all times (except that a total closing may be allowed for specific 8-hour periods).

b. The final street repair shall be completed within 14 days after the start of any street crossing. Any part of the street returned to service prior to final repair shall be maintained smooth with hot-mix cold-lay surface course.

### 1.6 DAMAGE TO WORK (CESWF-CD)

The responsibility for damage to any part of the permanent work shall be as set forth in the Contract Clause entitled "Permits and Responsibilities." However, if, in the judgement of the Contracting Officer, any part of the permanent work performed by the Contractor is damaged by flood or earthquake, which damage is not due to the failure of the Contractor to take reasonable precautions or to exercise sound engineering and construction practices in the conduct of the work, the Contractor will make the repairs as ordered by the Contracting Officer and full compensation for such repairs will be made at the applicable contract unit or lump sum prices as fixed and established in the contract. If, in the opinion of the Contracting Officer, there are no contract unit or lump sum prices applicable to any part of such work an equitable adjustment pursuant to Contract Clause "Changes," will be made as full compensation for the repairs of that part of the permanent work for which there are no applicable contract unit or lump sum prices. Except as herein provided, damage to all work (including temporary construction), utilities, materials, equipment and plant shall be repaired to the satisfaction of the Contracting Officer at the Contractor's expense, regardless of the cause of such damage.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

-- End of Section --

SECTION 02220

DEMOLITION  
12/97  
AMENDMENT 0003

PART 1 GENERAL

This section covers demolition of the existing concrete toe ditch. (am3)

1.1 REFERENCES

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

ENGINEERING MANUALS (EM)

EM 385-1-1 (1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual

1.2 MEASUREMENT AND PAYMENT

Demolition will not be measured for payment purposes. Payment for demolition will be subsidiary to the various contract lump sum prices for "Remove and Replace Concrete Ditch," as applicable. This will constitute full compensation for furnishing all plant, labor, equipment and materials, demolishing the entire section of the existing concrete ditch, hauling and disposal of concrete rubble, and for performing all other operations in connection with the applicable contract drawings and these specifications. (am3)

1.3 GENERAL REQUIREMENTS

The work includes demolition, salvage of identified items and materials, and removal of resulting rubbish and debris. Rubbish and debris shall be removed from the construction site daily to avoid accumulation at the demolition site. The contractor shall stockpile the removed material on Government property within 2 miles of the construction site, as directed by the Contracting Officer's representative. (am1) Materials such as large concrete rubble that cannot be removed daily shall be stored in areas specified by the Contracting Officer. No debris or concrete rubble shall be stockpiled or stored on the slope of the embankment. In the interest of occupational safety and health, the work shall be performed in accordance with EM 385-1-1, Section 23, Demolition, and other applicable Sections. In the interest of conservation, salvage shall be pursued to the maximum extent possible; salvaged items and materials shall be disposed of as specified.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Data

Work Plan; G, RE

The procedures proposed for the accomplishment of the work. The procedures shall provide for safe conduct of the work, including procedures and methods to provide necessary supports, lateral bracing and shoring when required, protection of property which is to remain undisturbed, and coordination with other work in progress. The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations in accordance with EM 385-1-1. (am3)

#### 1.5 DUST CONTROL

The amount of dust resulting from demolition shall be controlled to prevent the spread of dust to occupied portions of the construction site and to avoid creation of a nuisance in the surrounding area. Use of water will not be permitted when it will result in, or create, hazardous or objectionable conditions such as ice, flooding and pollution.

#### 1.6 PROTECTION

##### 1.6.1 Protection of Personnel

During the demolition work the Contractor shall continuously evaluate the condition of the slab being demolished and take immediate action to protect all personnel working in and around the demolition site. No area or section will be allowed to be left unsupported without sufficient bracing, shoring, or lateral support to prevent collapse or movement while workmen remove debris or perform other work in the immediate area.

##### 1.6.2 Protection of Existing Property

Before beginning any demolition work, the Contractor shall survey the site and examine the drawings and specifications to determine the extent of the work. The Contractor shall take necessary precautions to avoid damage to existing items to remain in place, (such as relief well drain pipes, piezometers, cleanouts along the bottom of the ditch, and the existing surface drainage system); any damaged items shall be repaired or replaced as approved by the Contracting Officer. The Contractor shall coordinate the work of this section with all other work and shall construct and maintain shoring, bracing, and supports as required. The Contractor shall ensure that structural elements are not overloaded and shall be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under this contract. (am3)

##### 1.6.3 Protection of Trees

Trees within the project site which might be damaged during demolition or other contractor operations, and which are indicated to be left in place, shall be protected by a 6 foot high fence. The fence shall be securely erected a minimum of 5 feet from the trunk of individual trees or follow the outer perimeter of branches or clumps of trees. Any tree designated to remain that is damaged during the work under this contract shall be replaced in kind or as approved by the Contracting Officer.

##### 1.6.4 Environmental Protection

The work shall comply with the requirements of Section 01410 ENVIRONMENT PROTECTION.

#### 1.7 BURNING

The use of burning at the project site for the disposal of refuse and

debris will not be permitted.

1.8 USE OF EXPLOSIVES

Use of explosives will not be permitted.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 EXISTING STRUCTURES

**The existing concrete ditch, as indicated shall be removed to grade. (am3)**

3.2 DISPOSITION OF MATERIAL

Title to material and equipment to be demolished, except Government salvage and historical items, is vested in the Contractor upon receipt of notice to proceed. The Government will not be responsible for the condition, loss or damage to such property after notice to proceed.

3.2.1 Salvageable Items and Material

Contractor shall salvage items and material to the maximum extent possible.

3.2.1.1 Material Salvaged for the Contractor

Material and concrete rubble salvaged for the Contractor shall be stored as approved by the Contracting Officer and shall be removed from Government property before completion of the contract. Material salvaged for the Contractor shall not be sold on the site.

3.3 CLEAN UP

Debris shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.

3.4 EXISTING DITCH CONCRETE SLAB

**The complete section of existing ditch concrete slab shall be demolished and removed in accordance with the details shown on the drawings and to the limits and depths indicated on the drawings. (am3)**

-- End of Section --

SECTION 02315

EXCAVATION, BACKFILLING, FLUSHING, AND SAND FILL

08/98

Amendment 0003

PART 1 GENERAL

This section covers excavation for the concrete ditch repair, required backfill to restore the surface to receive new concrete, compaction, testing, flushing the existing underdrain system, and placement of sand fill into the lower portion of the existing concrete trench filter.

1.1 REFERENCES

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

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 1556	(1990; R 1996e1) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 1557	(1991; R 1998) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft. (2,700 kN-m/cu.m.))
ASTM D 2167	(1994) Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D 2216	(1998) Laboratory Determination of Water (Moisture) Content of Soil and Rock
ASTM D 2487	(1998) Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D 2922	(1996e1) Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
ASTM D 2937	(1994) Density of Soil in Place by the Drive-Cylinder Method
ASTM D 3017	(1988; R 1996e1) Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)
ASTM D 4318	(1998) Liquid Limit, Plastic Limit, and Plasticity Index of Soils

1.2 DEGREE OF COMPACTION

Degree of compaction is expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D 1557, abbreviated as percent laboratory maximum density.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-09 Reports

Testing; G, RE.

Copies of all laboratory and field test reports within 24 hours of the completion of the test.

1.4 MEASUREMENT

1.4.1 Excavation and Backfill

Excavation and backfill will not be measured for payment purposes.

1.4.2 Underdrain Flushing

Underdrain flushing will not be measured for payment purposes.

1.4.3 Sand Fill

**Sand fill will will not be measured for payment purposes. (am3)**

1.5 PAYMENT

1.5.1 Excavation and Backfill

No separate payment will be made for excavation and backfill. All costs associated with excavation and backfill within a bid item section will be subsidiary to the various contract lump sum price for "Remove and Replace Concrete Ditch." Such payment shall constitute full compensation for all labor, equipment, tools, supplies, testing, filter material, backfill material, and incidentals to complete the work.

1.5.2 Underdrain Flushing

Payment for underdrain flushing will be made at the contract job sum price for "Underdrain Flushing." Such payment shall constitute full compensation for furnishing all labor, materials, removing the existing drain covers, and flushing the underdrain for the entire length (from station 12+00 to station 34+00) of existing concrete ditch as required.

1.5.3 Sand Fill

**No separate payment will be made for sand fill. All costs associated with sand fill within a bid item section will be subsidiary to the various contract lump sum price for "Remove and Replace Concrete Ditch." Such payment shall constitute full compensation for furnishing all labor, materials, water, and sand for placing the sand fill in the locations required. (am3)**

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Satisfactory Materials

Satisfactory materials shall comprise any materials classified by ASTM D

2487 as SW (for sand fill and filter material), and CL (for backfill).

### 2.1.2 Unsatisfactory Materials

Materials which do not comply with the requirements for satisfactory materials are unsatisfactory. Unsatisfactory materials also include man-made fills, trash, refuse, or backfills from previous construction. Unsatisfactory material also includes material classified as satisfactory which contains root and other organic matter, frozen material, and stones larger than 2 inches. The Contracting Officer shall be notified of any contaminated materials.

### 2.1.3 Cohesionless and Cohesive Materials

Cohesionless materials include materials classified in ASTM D 2487 as GW, GP, SW, and SP. Cohesive materials include materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as GM, GP-GM, GW-GM, SW-SM, SP-SM, and SM shall be identified as cohesionless only when the fines are nonplastic.

## PART 3 EXECUTION

### 3.1 TOPSOIL

Topsoil shall be stripped to a depth of approximately 6 inches below existing grade on the dam side of the ditch within the designated excavations and grading lines and deposited in storage piles for later use. Excess topsoil shall be disposed or reused as specified for excess excavated material. No material may be stockpiled on the slope of the embankment at any time. This is to prevent embankment slope slides and to minimize potential contamination of the exposed filter material. (am3)

### 3.2 EXCAVATION

Excavation shall conform to the dimensions and elevations indicated for the new concrete ditch as specified. It is the intent of these specifications to limit excavation to the minimum required for placement of the new concrete ditch. On the dam side of the ditch, where the top of existing filter material is above that required on the drawings, the excess filter material shall be removed and replaced with backfill. On the road side of the ditch, the only required excavation will be to remove some of the existing filter material beneath the upper portion of the existing ditch and then replace with backfill. Excavation shall extend a sufficient distance from new ditch pavement allow for placing and removal of forms. Excavations below indicated depths will not be permitted except to remove unsatisfactory material. Unsatisfactory material encountered below the grades shown shall be removed as directed and replaced with either filter material or backfill; and payment will be made in conformance with the CHANGES clause of the CONTRACT CLAUSES. Satisfactory material removed below the depths indicated, without specific direction of the Contracting Officer, shall be replaced, at no additional cost to the Government, with satisfactory materials to the indicated excavation grade. Satisfactory material shall be placed and compacted as specified in paragraph FILLING AND BACKFILLING. Determination of elevations and measurements of approved overdepth excavation of unsatisfactory material below grades indicated shall be done under the direction of the Contracting Officer. (am3)

### 3.3 DRAINAGE AND DEWATERING

#### 3.3.1 Drainage

Surface water shall be directed away from excavation and construction sites to prevent erosion and undermining of foundations. Diversion ditches,

dikes and grading shall be provided and maintained as necessary during construction. Excavated slopes and backfill surfaces shall be protected to prevent erosion and sloughing. Special care shall be taken to ensure that surface drainage does not carry soil material down the stripped slopes and contaminate the exposed filter material. Should this occur, the contractor shall remove all contaminated filter material and replace it with new uncontaminated filter material at his expense. Excavation shall be performed so that the site, the area immediately surrounding the site, and the area affecting operations at the site shall be continually and effectively drained. (am3)

### 3.3.2 Dewatering

Groundwater flowing toward or into excavations shall be controlled to prevent sloughing of excavation slopes and walls, boils, uplift and heave in the excavation and to eliminate interference with orderly progress of construction. French drains, sumps, ditches or trenches will not be permitted within 3 feet of the foundation of any structure, except with specific written approval, and after specific contractual provisions for restoration of the foundation area have been made. Control measures shall be taken by the time the excavation reaches the water level in order to maintain the integrity of the in situ material.

### 3.4 CLASSIFICATION OF EXCAVATION

Excavation will be unclassified regardless of the nature of material encountered.

### 3.5 BLASTING

Blasting will not be permitted.

### 3.6 BORROW

No borrow may be obtained from on government property and any required backfill material shall be obtained by the contractor from off government property at no additional cost to the government.

### 3.7 SUBGRADE PREPARATION

After stripping of topsoil, removal of any unsatisfactory material, addition of backfill or filter material, the ground surface to receive concrete pavement shall be moistened as needed to facilitate compaction. The final surface shall be brought up to required grade with clay backfill or filter material and then compacted with a hand power compactor or other small piece of compaction equipment. Compaction and moisture preparation shall continue until the require densities are attained. Material shall not be placed on surfaces that are muddy, frozen, or contain frost. Material shall be moistened or aerated as necessary to plus or minus 3 percent of optimum moisture. Minimum subgrade density shall be as specified in paragraph FILLING AND BACKFILLING. (am3)

### 3.8 FILLING AND BACKFILLING

It is the intent of these specifications to minimize the amount of required backfill. Either backfill material or filter material shall be used in bringing the subgrade to the lines and grades indicated and for replacing unsatisfactory materials. On the dam side of the ditch, the existing sand filter shall be maintained for most of the length of new work. See the drawings for the final top of filter material. On the road side of the ditch, the upper portion of the existing sand filter shall be removed and replaced with backfill. Satisfactory materials shall be placed in layers not exceeding 8 inches in loose thickness. After placing, each layer shall

be moistened or aerated as necessary and compacted as specified. Backfill shall be brought to indicated finish grade. Backfill shall not be placed in wet or frozen areas. Heavy equipment for spreading and compacting backfill shall not be operated closer than 3 feet from a piezometer, or existing concrete ditch that is to remain. Backfill shall not be placed against new concrete ditch prior to 7 days after completion of the ditch. Each layer of backfill or filter material shall be compacted to not less than the percentage of maximum density specified below: (am3)

	Percent Laboratory maximum density		
	Cohesive material	Cohesionless material	
<b><u>Backfill and filter material (am3)</u></b>			
Under new concrete ditch	90	95	(am3)

Approved compacted subgrades that are disturbed by the Contractor's operations or adverse weather shall be compacted as specified herein before to the required density prior to further construction thereon.

3.9 TESTING

Testing shall be the responsibility of the Contractor and shall be performed at no additional cost to the Government. Testing shall be performed by an approved commercial testing laboratory or may be performed by the Contractor subject to approval. Field in-place density shall be determined in accordance with ASTM D 1556 ASTM D 2937 shall be used only for soft, fine-grained, cohesive soils. The following number of tests, if performed at the appropriate time, shall be the minimum acceptable for each type operation.

3.9.1 In-Place Densities

In-place density and moisture content test results shall be included with the Contractor's daily construction quality control reports.

3.9.1.1 In-Place Density of Subgrades

One test per bid item of New Concrete Ditch 3.9.1.2 [Enter Appropriate Subpart Title Here]

3.9.2 Moisture Content

In the actual subgrade, a minimum of one test per day per type of material or source of materials being placed is required during stable weather conditions. During unstable weather, tests shall be made and approved moisture content shall be tested in accordance with ASTM D 2216.

3.9.3 Optimum Moisture and Laboratory Maximum Density

Tests shall be made for each type material or source of material, including borrow material to determine the optimum moisture and laboratory maximum density values. One representative test for the material source will be made.

3.10 GRADING

Areas within 5 feet outside of the new concrete ditch shall be constructed

true-to-grade, shaped to drain, and shall be maintained free of trash and debris until final inspection has been completed and the work has been accepted.

### 3.11 SPREADING TOPSOIL

Areas from which topsoil has been removed shall be topsoiled. The surface shall be free of materials that would hinder planting or maintenance operations. Topsoil shall be uniformly spread, graded, and compacted to the thickness, elevations, slopes shown, and left free of surface irregularities. Topsoil shall be compacted by one pass of a cultipacker, roller, or other approved equipment weighing 100 to 160 pounds per linear foot of roller. Topsoil shall not be placed when the subgrade is frozen, excessively wet, extremely dry, or in a condition otherwise detrimental to seeding, planting, or proper grading.

### 3.12 PROTECTION

Settlement or washing that occurs in graded, topsoiled, or backfilled areas prior to acceptance of the work, shall be repaired and grades reestablished to the required elevations and slopes.

### 3.13 UNDERDRAIN FLUSHING

Prior to the start of any ditch demolition, the existing underdrain system shall be flushed with clean potable water. The covers for each of the existing cleanouts along the bottom of the existing concrete ditch shall be removed. Special care must be taken to ensure that no silty water or sediment is allowed to enter the underdrain pipe system through the open cleanouts. Starting with the highest elevation cleanout, clean potable water shall be flushed through the underdrain pipe. A minimum of 100 gallons shall be used and flushing shall continue until clean water is exiting from the next lower cleanout. Move to the next cleanout and repeat the same flushing operation. Continue down the entire length of the ditch in the same manner. Additionally, each collector manhole and its connector pipe shall be flushed in the same manner. Collector manholes are located at approximately station 9+80, station 14+20, station 18+20, station 22+20, station 26+20, and station 30+20.

### 3.14 SAND FILL

#### 3.14.1 Sand Filter Material

Sand filter material shall be obtained from an approved, off-site, commercial source at no additional cost to the Government. Sand filter material shall consist of natural sand and gravel. Crushed stone, limestone, sandstone, gypsum, shale and soft or weathered rock will NOT be approved. Sand filter materials shall be composed of tough, durable particles reasonably free from thin, flat and elongated pieces, corrosive agents, or organic matter, and shall be free from adherent coatings. The Contracting Officer reserves the right to perform such tests as may be considered necessary to determine the acceptability of the material. The material shall be uniformly graded in-place between the limits specified in Table I. Gradation curves shall exhibit no abrupt changes in slope denoting skip or gap grading. Sand filter material found not meeting gradation requirements shall be removed and replaced with material meeting these specific requirements. (am3)

TABLE I - SAND FILTER MATERIAL GRADATION

SIEVE SIZE U.S. STANDARD	PERCENT BY WEIGHT PASSING
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No. 4	100
No. 8	90-100
No. 16	45-85
NO. 30	10-35
No. 50	0-7
No. 100	0-3

3.14.2 Sand Fill

Sand fill material shall be placed and compacted in layers along the top of the underdrain filter material. This underdrain filter material will become exposed after the existing concrete ditch is demolished and removed.

Any existing voids in the underdrain filter material shall be filled in with new compacted sand filter material. Additionally, a minimum of five additional inches of sand fill material shall be placed and compacted along the bottom of the ditch to raise the elevation of the filter material to that required for the bottom of the concrete for the new concrete ditch. Compaction methods normally used for compacting cohesionless material shall be used. The sand fill material shall be flooded with water immediately prior to compaction. The Contractor shall open the existing cleanouts in the bottom of a reach of existing ditch to allow excess water to escape. The fill and compaction process shall start at the most downhill portion of ditch and proceeding uphill. The process shall be continuous over the length of concrete ditch being replaced. (am3)

-- End of Section --

SECTION 02621

ABS RELIEF WELL AND COLLECTOR INSERTS, CLEANOUTS, AND UNDERSLAB DRAINS  
01/98  
Amendment 0003

PART 1 GENERAL

This section covers the procurement of ABS pipe and their installation as inserts into the corroded existing relief well and collector CMP drain pipes, extending the existing cleanouts in the bottom of the existing ditch through the new higher ditch bottom, and procurement and installing underslab drain pipes in the new concrete ditch.

1.1 REFERENCES

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

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 74	(1998) Cast Iron Soil Pipe and Fittings
ASTM D 2751	(1996a) Acrylonitrile-Butadiene-Styrene (ABS) Sewer Pipe and Fittings
ASTM D 3212	(1996a) Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals

1.2 MEASUREMENT AND PAYMENT

1.2.1 ABS Inserts

The unit of measurement for ABS relief well and collector inserts shall be each. Payment for providing and installing relief well and collector inserts will be made at the applicable contract unit price per installation for "ABS Insert." All costs associated with furnishing and installing the inserts to include sealing all ends in place and providing wire covers shall be included in this contract unit price.

1.2.2 Cleanout Extensions

Cleanout extensions will not be measured for payment purposes. No separate payment will be made for cleanout extensions. All costs associated with cleanout extensions within a bid item section will be subsidiary to the various contract lump sum prices for "Remove and Replace Concrete Ditch." Such payment shall constitute full compensation for all labor, equipment, tools, supplies, materials, fittings, forming, and incidentals to complete the work.

1.2.3 Underslab Drain Pipes

Underslab drain pipes will not be measured for payment purposes. No separate payment will be made for underslab ABS drain pipes. All costs associated with underslab drain pipes within a bid item section will be subsidiary to the various contract lump sum prices for "Remove and Replace Concrete Ditch." Such payment shall constitute full compensation for all labor, equipment, tools, supplies, materials, fittings, connections,

forming, geotextile, and incidentals to complete the work.

### 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

#### SD-08, Statements

Sequence of Operations; G, RE.

The Contractor shall design, devise and submit detailed plans for sealing the annular spaces at both ends of each ABS pipe insert. These plans shall show the type of sealant, method of insertion, and quality control procedure used to ensure that a watertight joint is attained.

#### SD-14 Samples

Materials; G, RE.

Two randomly selected samples of each type of pipe and fitting, prior to delivery of materials to the site.

#### SD-13 Certificates

Materials; G, RE.

Certifications from the manufacturers attesting that materials meet specification requirements.

### 1.4 DELIVERY, STORAGE AND HANDLING

Materials placed in storage shall be stored with protection from the weather, humidity and temperature variations, dirt and dust, or other contaminants. Plastic pipe shall not be exposed to direct sunlight for more than 3 months from time of manufacturer to installation.

## PART 2 PRODUCTS

### 2.1 MATERIALS

Pipe shall be of the type and size indicated. Appropriate transitions, adapters, or joint details shall be used where pipes of different types or materials are connected.

#### 2.1.1 Cast-Iron Soil Pipe

Shall conform to ASTM A 74.

#### 2.1.2 [Enter Appropriate Subpart Title Here]

##### 2.1.2.1 Acrylonitrile-Butadiene-Styrene (ABS) Pipe

Shall conform to ASTM D 2751, with a maximum SDR of 35.

##### 2.1.2.2 Pipe Perforations

Water inlet area shall be a minimum of 0.5 square inch per linear foot. Manufacturer's standard perforated pipe which essentially meets these requirements may be substituted with prior approval of the Contracting Officer.

- a. Circular Perforations in Plastic Pipe: Circular holes shall be cleanly cut not more than 3/8 inch) or less than 3/16 inch in diameter and arranged in rows parallel to the longitudinal axis of the pipe. Perforations shall be approximately 3 inches center-to-center along rows. The rows shall be approximately 1-1/2 inches apart and arranged in a staggered pattern so that all perforations lie at the midpoint between perforations in adjacent rows. The rows shall be spaced over not more than 155 degrees of circumference. The spigot or tongue end of the pipe shall not be perforated for a length equal to the depth of the socket, and perforations shall continue at uniform spacing over the entire length of the pipe.
- b. Slotted Perforations in Plastic Pipe: Circumferential slots shall be cleanly cut so as not to restrict the inflow of water and uniformly spaced along the length and circumference of the tubing. Width of slots shall not exceed 1/8 inch nor be less than 1/32 inch. The length of individual slots shall not exceed 1-1/4 inches on 3 inch diameter tubing, 10 percent of the tubing inside nominal circumference on 4 to 8 inch diameter tubing, and 2-1/2 inches on 10 inch diameter tubing. Rows of slots shall be symmetrically spaced so that they are fully contained in 2 quadrants of the pipe. Slots shall be centered in the valleys of the corrugations of profile wall pipe.

#### 2.1.3 Fittings

Fittings shall be of compatible materials for pipe, of corresponding weight and quality, and as specified herein.

#### 2.1.4 Cleanout Extensions

Cleanout pipe and fittings for extensions shall be cast-iron soil pipe. Each cleanout shall have a brass ferrule and a cast-brass recessed socket for wrench.

#### 2.1.5 ABS Inserts and Underslab Drain Pipe

ABS inserts and underslab drain pipe shall be constructed with ABS type pipe materials.

### PART 3 EXECUTION

#### 3.1 GENERAL REQUIREMENTS

##### 3.1.1 ABS Inserts

At each existing relief well and collector there is a corroded CMP pipe that extends from a buried CMP manhole into the slope of the road side of the concrete ditch. After the concrete ditch section has been demolished, this existing CMP pipe shall be cut off approximately even with the exposed surface of the underlying existing filter material. Care shall be taken during concrete demolition not to cause additional damage to the corroded CMP pipes. The Contractor shall insert into this cut off CMP pipe a new ABS pipe until the inserted end is flush with the inside of the vertical manhole. At least six inches of the annular space at this end of the new ABS insert shall be filled with sealant to make the joint watertight. The other end of the new ABS pipe shall be cut off square, leaving six inches of pipe extending into the new concrete ditch slope. (This six inches shall be measured at the bottom flow line of the new ABS pipe.) At least six inches (measured into the sloped surface of the exposed surface of the existing filter material) of the annular space shall be filled with a sealant to make the joint watertight. The new ABS insert shall also be

**sealed around the new concrete ditch slope for watertightness. (am3)**

3.2 INSTALLATION

3.2.1 Jointing

3.2.1.1 ABS Pipe

ABS pipe shall be joined using solvent cement or elastomeric joints and shall be in accordance with ASTM D 2751, with dimensions and tolerances in accordance with TABLE II therein.

3.2.2 ABS Outlet End Covers

The outlet end of each ABS insert shall be covered with a removable wire basket of 3/8 inch copper or bronze wire spaced on 1-inch centers in both horizontal and vertical directions and fastened with brass or wire straps.

3.2.3 Cleanout Extensions

Cleanout extensions shall be extended upward at each of the existing cleanouts in the bottom of the existing concrete ditch. The Contractor shall remove the existing cleanout cover plate and add a short extension. This extension shall be installed waterproof with the existing cleanout pipe. No portion of the extended cleanout and cap shall extend into the plane of the new concrete ditch bottom. A straight edge test shall be performed across each cleanout and any cleanout cap that extends into the plane of the ditch bottom shall be re-constructed at the contractors expense. The caps shall not be over tightened to accomplish this.

3.2.4 Underslab Drain Pipe

The underslab drain pipes shall be installed in accordance with the drawings. The perforations and uphill open ends shall be covered with geotextiles to prevent the filter material from washing through the pipe. The downhill ends shall be cut flush or slightly below the surface of the new concrete slope. This end of the drain pipes shall be open.

-- End of Section --

SECTION 03303

CONCRETE  
03/1994  
AMENDMENT 0003

PART 1 GENERAL

1.1 REFERENCES

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

AMERICAN CONCRETE INSTITUTE (ACI)

ACI 305R	(1991) Hot Weather Concreting
ACI 315	(1980; Rev 1986) ACI Detailing Manual: Section Details and Detailing of Concrete Reinforcement \avail only as part of SP-66
ACI 318	(1989; Rev 1992; Errata) Building Code Requirements for Reinforced Concrete
ACI C 1107	(1991a) Packaged Dry Hydraulic-Cement (Nonsrink)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 615	(1990) Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
ASTM C 94	(1992) Ready-Mixed Concrete

**1.2 MEASUREMENT**

Concrete work will not be measured for payment purposes. (am3)

1.3 PAYMENT

**1.3.1 Ditch Repair**

No separate payment will be made for concrete. All costs associated with concrete within a bid item section will be subsidiary to the various contract lump sum prices for "Remove and Replace Concrete Ditch." Such payments shall constitute full compensation for furnishing all labor and materials for concrete work, re-establishing the grade of the underlying material, placing required filter material, placing reinforcing steel, all formwork, constructing underslab drain pipes, placing and finishing the concrete slope paving, and removing from government property all debris and concrete rubble. (am3)

**1.3.2 Grouting**

Grouting requirements deleted by amendment 0003. (am3)

PART 2 MATERIALS

2.1 CONCRETE

Concrete shall be composed of Portland cement, fine aggregate, coarse aggregate, and water so proportioned and mixed as to produce a plastic workable mixture. The concrete mix conforming to ASTM C 94, shall be designed to secure a minimum compressive strength of 3,000 psi in 28 days. The consistency of any mix shall be that required to produce a slump between 3 and 4 inches. Entrained air content of exterior concrete shall be between 5 and 7 percent by volume.

#### 2.1.1 Reinforcement

Reinforcement shall conform to ASTM A 615, Grade 60. Reinforcement detailing and placement shall conform to ACI 315 and ACI 318.

#### 2.1.2 Water

Water used in mixing and curing concrete shall be fresh, clean, and free from injurious amounts of sewage, oil, acid, alkali, salt, or organic matter.

### **2.2 SAND FILTER MATERIAL**

**Sand filter material shall be composed of commercially provided material that meets the requirements of SECTION 02315 - EXCAVATION, BACKFILLING, AND SAND FILL. (AM3)**

#### 2.3 NONSHRINK GROUT

Nonshrink Grout shall conform to ASTM C 1107 and shall be a commercial formulation suitable for the application proposed.

### PART 3 EXECUTION

#### 3.1 FORMWORK

Formwork shall be provided so that the concrete conforms accurately to the indicated shapes, lines, dimensions, and with surfaces free of offset, waviness, or bulges. Where surfaces are to be exposed or painted, panels shall be manufacturer's stock size material, using smaller panels cut to required dimensions only where required by openings. Exposed corners shall be 3/4" chamfered, beveled, or rounded by moldings placed in the forms. Surfaces shall be thoroughly cleaned and coated before each use. Forms shall be removed at a time and in a manner that will not injure the concrete.

#### 3.2 CONCRETE PLACEMENT

Concrete work shall conform to ACI 318, the part entitled "Construction Requirements" and ACI 305. Concrete shall be placed on clean, damp surfaces free from water, ice, frost, mud, or debris. Unless otherwise approved, concrete shall be mixed and placed only when the temperature is at least 35 degrees F and rising. The concrete shall be spread, tamped, and screeded to a true plane. Unless otherwise indicated, concrete slabs shall be reinforced with #5 bars at 12 inches on center each way located at the center of the slab.

#### 3.3 FINISHING

Exposed concrete other than slabs shall have fins and rough edges removed. Exposed concrete slabs shall have a wood float finish.

#### 3.4 CURING

Concrete surfaces not covered by forms shall be protected against moisture

loss for not less than 7 days by covering with burlap, cotton, or other approved fabric mats or sand, all kept continually wet by covering surfaces with waterproof paper with edges and ends lapped and sealed or by membrane-forming curing compound. Where formed surfaces are cured in the forms, the forms shall be kept continually wet. If forms are removed before the end of the curing period, curing shall be continued as on unformed surfaces using suitable materials.

### 3.5 PROTECTION

There are relief wells and cleanouts along the roadside edge of the existing concrete ditch. The drain lines from these relief wells extend through sections of concrete ditch to be demolished and replaced. Additionally, there are piezometers and surface drainage outlets located within the work area. The contractor shall protect all these items to ensure that they are not damaged. Refer to Section 02110 - PREPARING CONSTRUCTION AREA for repair requirements to damaged relief wells and piezometers. (am3)

-- End of Section --