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SPECIAL PROVISIONS FOR MCMICKEN DAM RESTORATION

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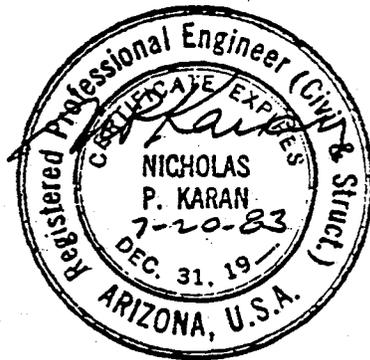
\$2,400,000.00

SPECIAL PROVISIONS  
FOR  
MCMICKEN DAM RESTORATION

James Kraus Contractors

Phil Carosello 839-5538

CONTRACT NO. FCD 83-31



SUPPLEMENTARY TO MARICOPA ASSOCIATION OF GOVERNMENTS UNIFORM STANDARD  
SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION EDITION OF 1979 AND REVISIONS  
AND SUPPLEMENTS THERETO.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CONTRACT NO. FCD 83-31

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INVITATION FOR BIDS  
(Construction Contract)

Project: McMicken Dam Restoration

Ref. Invitation FCD 83-31

Date: July 18, 1983

Issued by: Flood Control District  
Maricopa County

Location: The project is approximately 9 miles long and is accessible from U.S. Route 60, approximately 3 miles northwest from the town of Beardsley. The dam lies south-southwest from U.S. Route 60.

SEALED BIDS, IN SINGLE COPY FOR THE WORK DESCRIBED HEREIN WILL BE RECEIVED UNTIL 2:00 P.M. LOCAL TIME AT THE PLACE OF THE BID OPENING, SEPTEMBER 8, 1983 IN THE OFFICE OF THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY, 3335 WEST DURANGO STREET, PHOENIX, ARIZONA 85009, AND AT THAT TIME PUBLICLY OPENED.

BID SECURITY IN AN AMOUNT OF NOT LESS THAN FIVE PERCENT (5%) OF THE TOTAL BID PRICE MUST BE SUBMITTED WITH EACH BID. THE BID SECURITY MAY BE IN THE FORM OF A BID BOND, CASHIERS CHECK, POSTAL MONEY ORDER, OR CASH. THE BID SECURITY WILL BE MADE PAYABLE TO THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY AS A GUARANTEE THAT IF THE WORK IS AWARDED TO THE BIDDER, HE WILL WITHIN TEN (10) DAYS FROM THE DATE OF SUCH AWARD, ENTER INTO PROPER CONTRACT AND BOND CONDITIONS FOR THE FAITHFUL PERFORMANCE OF THE WORK. OTHERWISE, SAID AMOUNT WILL BE FORFEITED TO THE FLOOD CONTROL DISTRICT. BID SECURITY, WILL BE RETURNED AS PRESCRIBED BY MAG 103.

THE SUCCESSFUL BIDDER SHALL BE REQUIRED TO FURNISH PERFORMANCE AND PAYMENT BONDS IN PENAL SUMS NOT LESS THAN ONE HUNDRED PERCENT (100%) RESPECTIVELY, OF THE ORIGINAL AMOUNT OF THE CONTRACT.

DESCRIPTION OF WORK:

Restoration of the existing embankment by the addition of approximately 475,000 cubic yards of compacted earth fill; installation of a continuous center drain consisting of free draining rock or aggregate fill enclosed in geotextile fabric; installation of outlet drains and other incidentals.

THE WORK SHALL COMMENCE WITHIN TEN (10) CALENDAR DAYS AND BE COMPLETED WITHIN TWO HUNDRED TEN (210) CALENDAR DAYS AFTER RECEIPT OF THE NOTICE TO PROCEED.

SEEDING MUST BE ACCOMPLISHED BETWEEN OCTOBER 15 AND JANUARY 1. THIRTY (30) ADDITIONAL DAYS WILL BE ALLOWED TO DO THIS WORK. CONTRACT TIME WILL ALSO BE EXTENDED TO ACCOUNT FOR ANY LAPSED TIME FROM THE COMPLETION OF CONSTRUCTION UNTIL OCTOBER 15, 1984.

NOTICE: THE BID SCHEDULE, SPECIAL PROVISIONS, INSTRUCTIONS TO BIDDERS, UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1979 EDITION (MAG) AND REVISIONS AND SUPPLEMENTS THERETO, DRAWING LISTED UNDER THE CONTENTS, WILL BE INCORPORATED IN AND BECOME A PART OF THE RESULTANT CONTRACT.

ALL PROSPECTIVE BIDDERS, SUBCONTRACTORS, MATERIAL SUPPLIERS OR OTHER INTERESTED PARTIES ARE INVITED TO PARTICIPATE IN A JOBSITE INSPECTION CONDUCTED BY THE ENGINEER. THIS WILL INCLUDE A BRIEF REVIEW OF THE PLANS AND SPECIFICATIONS AND A GUIDED TOUR OF THE PROJECT SITE. ATTENDEES MAY ASSEMBLE AT THE PARKING LOT OF THE OFFICE OF THE MARICOPA WATER CONSERVATION DISTRICT ON ROUTE 60 IN BEARDSLEY, ARIZONA, AT 10:00 A.M. ON AUGUST 9, OR AUGUST 24, 1983. ATTENDANCE IS RECOMMENDED BUT NOT MANDATORY. IF YOU ARE UNABLE TO ATTEND ONE OF THE SITE SHOWINGS, ARRANGEMENTS MAY BE MADE TO INSPECT THE SITE BY CONTACTING THE FLOOD CONTROL DISTRICT OFFICE AT 602-262-1501.

CHERIE PENNINGTON, CLERK  
BOARD OF DIRECTORS  
FLOOD CONTROL DISTRICT OF  
MARICOPA COUNTY

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
INVITATION FOR BIDS, FCD 83-31  
INSTRUCTIONS TO BIDDERS

1. Explanation to Bidders. Any explanations desired by the bidder, questions, or items for clarification regarding the meaning or interpretation of the invitation for bids, drawings, specification, etc., may be addressed to the Chief Engineer and General Manager, preferably in writing, prior to the pre-bid conference. Any answers, interpretations or clarifications affecting the cost will be addressed to all bidders in an addendum to the invitation. The receipt of an addendum by the bidder must be acknowledged in the space provided on the bid form or by letter or telegram received before the time set for the bid opening. Oral explanations or instructions given before the award of the contract will not be binding.
2. Conditions Affecting the Work. Bidders should visit the site and take such other steps as may be reasonably necessary to ascertain the nature of the work, the general and local conditions which can affect the work and the cost thereof. Failure to do so will not relieve bidders from responsibility for estimating properly the difficulty or cost of successfully performing the work. (See MAG 102.4)
3. Bidder's Qualifications. Before a bid is considered for award, a bidder may be requested by the Chief Engineer and General Manager of the Flood Control District to submit a statement regarding his previous experience in performing comparable work, his business and technical organization, financial resources, and plant available to be used in performing the work.
4. Bid Guarantee. Where a bid guarantee is required by the invitation for bids, failure to furnish a bid guarantee in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.

If the successful bidder, upon acceptance of his bid by the Flood Control District with the period specified herein for acceptance (sixty days if no period is specified) fails to execute such further contractual documents, if any, and give such bond(s) as may be required by the terms of the bid as accepted within the time specified (ten days if no period is specified) after receipt of the forms by him, his contract may be terminated for default. In such event he shall be liable for any cost of procuring the work which exceeds the amount of his bid, and the bid guarantee shall be available toward offsetting such difference.

5. Preparation of Bids. Bids shall be submitted on the forms furnished, or copies thereof, and must be manually signed. If erasures or other changes appear on the forms, each erasure or change must be initialed by the person signing the bid. Unless specifically authorized in the invitation for bids, telegraphic bids will not be considered.

No bid will be considered unless all items in the bid schedule are priced. In case of an error in the extension of price, the unit price shall govern. The quantities listed on the bid schedule on which unit prices are requested are estimates only.

Unless called for, alternate bids will not be considered.

Modifications of bids already submitted will be considered if received at the office designated in the invitation for bids by the time set for opening bids.

6. Submission of Bids. Bids must be sealed, addressed to the Chief Engineer and General Manager, Flood Control District of Maricopa County, 3335 West Durango, Phoenix, Arizona 85009, and marked to identify the bid to the referenced Contract FCD Number. Failure to appropriately identify the bid may result in a premature opening of, or a failure to open, such bid. The name of the bidder shall be on the outside of the envelope. (See MAG 102.9).
7. Withdrawal of Bids or Modifications. Bids may be withdrawn by written request received from the bidder prior to the time set for the opening of bids.
8. Public Opening of Bids. Bids will be publicly opened at the time and place set for the opening in the invitation for bids. Their content will be made public for the information of bidders and others interested, who may be present either in person or by representative.
9. Award of Contract. Award and execution of a contract shall be in accordance with MAG Section 103.
10. Specifications. Specifications referred to herein shall include all revisions and amendments in effect on the date of issuance of the invitation for bids. These instructions, Special Instructions to Bidders, and the herein contained Construction Special Provisions supplement the Uniform Standard Specifications herein referred to by "MAG" section number of paragraph number; however, in case of conflict, these instructions and Special Provisions supersede the Uniform Standard Specifications (MAG).

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
INVITATION FOR BIDS, FCD 83-31  
SPECIAL INSTRUCTIONS TO BIDDERS

Location of the Work

The project is accessible from U.S. Route 60 approximately 3 miles northwest of Beardsley, Arizona and 25 miles from Phoenix. The north end of the dam lies approximately ½ mile southwest of Route 60 and continues approximately 9 miles in a south-southwest direction (see vicinity map).

Contract Plans, Special Provisions and Contract Documents: Plans, Special Provisions, and forms for proposal, Bidding Schedule, Contract Agreement and Performance Bond may be obtained from the Flood Control District of Maricopa County, 3335 West Durango Street, Phoenix, Arizona, upon payment of \$17.50 by check payable to the FLOOD CONTROL DISTRICT OF MARICOPA COUNTY. This payment will not be refunded. Plans sheets only may be purchased separately for a fee of \$12.50, not refundable.

APPROXIMATE QUANTITY

<u>QUANTITY</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
475,000	C.Y.	Embankment
246,200	S.Y.	Geotextiles
94,500	C.Y.	Trench and Outlet Excav.
90,000	C.Y.	Drain Rock Placement
2,010	L.F.	12" PVC Pipe

and such other pertinent items as are necessary for the completion of the project as shown on the plans or as called for in the Special Provisions or in the Maricopa Association of Governments Uniform Standard Specifications for Public Works Construction.

CHERIE PENNINGTON, CLERK  
BOARD OF DIRECTORS  
FLOOD CONTROL DISTRICT OF  
MARICOPA COUNTY

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
(Construction Contract)

BID FORM

Project: McMicken Dam Restoration

Invitation FCD 83-31

Date: July 18, 1983

Location: Approximately 3 miles northwest from the town of Beardsley,  
Arizona (Northwest of Phoenix, Arizona)

To: Chief Engineer and General Manager  
Flood Control District of Maricopa County  
3335 West Durango  
Phoenix, Arizona 85009

The following Proposal is made on behalf of \_\_\_\_\_

\_\_\_\_\_ and no others. The Total contract  
amount of this proposal is (in words) \_\_\_\_\_

\_\_\_\_\_ and \_\_\_\_\_/100 dollars, (in figures)

\_\_\_\_\_. This amount being the sum total of the extended  
amount for each pay item on the Bidding Schedule.

Evidence of authority to submit the Proposal is herewith furnished. The Proposal is in all respects fair and is made without collusion on the part of any person, firm, or corporation mentioned above, and no member or employee of the Flood Control District Board of Directors is personally or financially interested, directly or indirectly in the Proposal, or in any purchase or sale of any materials or supplies for the work in which it relates or in any portion of the profits thereof.

The Undersigned certifies that the approved Plans, Uniform Standard Specifications for Public Works Construction, 1979 Edition (MAG) and revisions and supplements thereto, together with the Special Provisions, forms of Contract and Bond authorized by the Board of Directors and constituting essential parts of this Proposal, have been carefully examined, and also that the site of the work has been personally inspected.

The Undersigned declares that the amount and nature of the work to be done is understood and that at no time will misunderstanding of the Plans, Specifications, Special Provisions, or conditions to be overcome, be plead. On the basis of the Plans, Specifications, Special Provisions, the forms of Contract, and the Bond proposed for use, the Undersigned proposes to furnish all the necessary machinery, equipment, tools, apparatus, and other means of construction, to do all the work and to furnish all the materials in the manner specified and to finish the entire project within the time

hereinafter proposed and to accept, as full compensation therefor, the sum of various products obtained by multiplying each unit price, herein bid for work or materials, by the quantity thereof actually incorporated in the completed project, as determined by the Chief Engineer and General Manager, Flood Control District of Maricopa County.

The Undersigned understands that the quantities mentioned herein are approximate and are subject to increase or decrease and hereby proposes to perform all quantities of work, as either increased or decreased, in accordance with the provisions of the Specifications, at the unit price bid in the Bidding Schedule.

BIDDING SCHEDULE

Project: McMicken Dam Restoration

Contract: FCD 83-31

Item No.	Approximate Quantity	Unit	Description	Unit Cost (in writing) and /100 dollars	Unit Cost	Extended Amount
1	1	L.S.	Mobilization			
2	90,500	C.Y.	Excavation - Centerline Trench			
3	4,000	C.Y.	Excavation - Outlet Trenches			
4	475,000	C.Y.	Earth Fill			
5	90,000	C.Y.	Drain Rock Placement			
6	242,000 6,200	S.Y. S.Y.	Geotextile: (A) Centerline Drain (B) Outlet Drains			
7	46,700	L.F.	Untreated Base			
8	2,010	L.F.	12" PVC Pipe			
9	2	Ea.	Inlet structures and gates			

Total \_\_\_\_\_

BIDDING SCHEDULE

Project: McMicken Dam Restoration

Contract: FCD 83-31

Item No.	Approximate Quantity	Unit	Description	Unit Cost (in writing) and /100 dollars	Unit Cost	Extended Amount
10	97,000	L.F.	4 wire fence - barbed (ADOT C-12.20)			
11	18	Ea.	Type 2 Gates (ADOT C-12.30)			
12	111.2	Acre	Seeding			

The Bidder hereby acknowledges receipt of and agrees his proposal is based on the following Addenda

Total \_\_\_\_\_

The Undersigned further proposes to execute the Contract Agreement and furnish satisfactory Bonds within ten (10) days from the date of award, time being of the essence. The Undersigned further proposes to begin the work as specified in the Contract attached hereto, and to complete the work within the time limits as specified in the Special Provisions and maintain at all times a Contract Bond, approved by the Board of Directors, in an amount equal to one hundred percent (100%) of the total bid. This bond shall serve not only to guarantee the completion of the work on the part of the Undersigned, but also to guarantee the excellence of both workmanship and material and the payment of all obligations incurred, said Bond to be in full force and effect until the work is finally accepted and the provisions of the Plans, Specifications, and Special Provisions are fulfilled.

A Proposal guaranty in the amount and character named in the Invitation for Bids is enclosed amounting to not less than five percent (5%) of the total bid, which Proposal guaranty is submitted as a guaranty of the good faith of the Bidder and that the Bidder will enter into written contract, as provided, to do the work, if successful in securing the award thereof; and it is hereby agreed that if at any time other than as provided in the Proposal requirements and conditions the Undersigned should withdraw this Proposal, or if the Proposal is accepted and there should be failure on the part of the Undersigned to execute the Contract and furnish satisfactory Bond as herein provided, the Flood Control District of Maricopa County in either of such events, shall be entitled and is hereby given the right to retain the said Proposal guaranty as liquidated damages.

Date: \_\_\_\_\_, 19\_\_\_\_.

IF BY AN INDIVIDUAL:

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Address)

IF BY A FIRM OR PARTNERSHIP:

\_\_\_\_\_  
(Firm Name)

\_\_\_\_\_  
(Firm Address)

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

\*Name and Address of Each Member:

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

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

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Date: \_\_\_\_\_, 19\_\_\_\_.

IF BY A CORPORATION:

\_\_\_\_\_  
(Corporate Name)

\_\_\_\_\_  
(Corporation Address)

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

\*\*Incorporated under the Laws of \_\_\_\_\_

Names and Addresses of Officers:

\_\_\_\_\_  
(President)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Secretary)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Treasurer)

\_\_\_\_\_  
(Address)

\*The name and post office address of each member of the firm or partnership must be shown.

\*\*The name of the State under which the laws of the Corporation was chartered and names, title, and business address of the President, Secretary, and Treasurer must be shown.

CONSTRUCTION SPECIAL PROVISIONS  
AND TECHNICAL SPECIFICATIONS  
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
MCMICKEN DAM RESTORATION  
FCD 83-31

Location of Work

The project is located approximately 25 miles northwest of Phoenix, starting in Section 29, T3N, R2W running north and northwest to Section 13, T4N, R2W, all in Maricopa County.

Land Rights

Adequate land rights in order to perform the work under this contract have been acquired by, or on behalf of, the Flood Control District. The right to enter or otherwise make use of adjacent properties shall be the sole responsibility of the contractor.

Proposed Work

The work consists of rebuilding the dam by adding an embankment to the upstream face and top of the dam, and installing a center drain and outlet drains.

Specifications

The work embraced herein and as shown on the plans and specifications shall be performed in accordance with the Maricopa Association of Governments Uniform Standard Specifications for Public Works Construction, latest edition and current revisions thereto, together with these special

provisions and the Technical Specifications. In case of conflict between these Special Provisions or Technical Specifications and the MAG Uniform Standards, the Special Provisions or the Technical Specifications will govern.

#### Contract Time

The Contractor shall complete all work on the project within 210 calendar days after receipt of the Notice to Proceed with the exception of seeding, which must be completed in a 30 day period between October 15 and January 1. The Contract Time may be changed only by a Change Order. Any claim for an extension in the Contract Time shall be based on written notice delivered to the Engineer within 15 days of the occurrence of the event giving rise to the claim. All claims for adjustment in the Contract Time will be determined by the Engineer.

The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of the Contractor. Such delays shall include but not be limited to acts or neglect by the District or the Engineer, fires, floods, labor disputes, abnormal weather or effects of weather, or acts of God.

#### Progress Schedule

The Contractor shall provide his proposed work progress schedule to the Engineer for review and shall not commence work until a schedule is approved.

Soils Design Report

The Geotechnical Investigation Report and the Design Report are available for review at the offices of the Flood Control District. These documents are not available for purchase and cannot be removed from the above office.

Work Standards: The Contractor shall comply with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330) as supplemented by Department of Labor Regulations (20 CFS Part 5).

Water, Light, Power, Heat, Telephone: All water for construction purposes, drinking water, lighting, temporary electric power, heat, and telephone service shall be arranged for and provided for the requirements of the work by the Contractor at his expense.

The Maricopa Water District has indicated that sufficient water for the project could be made available from the Beardsley Canal; however; if the Contractor desires to use water from the Beardsley Canal, he must make prior arrangements with the Maricopa Water District by contacting Mr. Dick Yancy of the Maricopa Water District office. (Tel. (602)975-2151)

Definitions and Terms, Subsection 101.2: Change the definition of Budget Project to read as follows: A project financed by funds set aside in the annual budget or otherwise approved by the Board of Directors of the Flood Control District of Maricopa County.

Change the definition of Engineer to read as follows: The Chief

Engineer and General Manager of the Flood Control District of Maricopa County acting directly or through his duly authorized representative.

Change the definition of Owner to read as follows: The Flood Control District of Maricopa County, acting through its legally constituted officials, officers or employees.

Addenda and Submission of Bidding Schedule - Section 102: It shall be the responsibility of prospective bidders to determine, prior to submission of a bid, if any addenda have been issued. This may be accomplished by calling 602-262-1501. Any addendum issued, if not already bound into the Special Provisions, must be included as a part of the Special Provisions, and any quantities on the Bidding Schedule requiring change shall be adjusted by pen and ink to the new figure.

Bids that do not include appropriate addenda shall be invalid.

Contractor's Insurance - Section 103.6: Concurrently with the execution of the contract, the Contractor shall furnish Certificates of Insurance to the Flood Control District. The types of insurance and the limits of liability shall be as indicated thereon, i.e.

\$1,000,000	bodily injury per person
\$5,000,000	bodily injury each occurrence
\$1,000,000	property damage

Plans and Shop Drawings - Section 105.2: The number of copies of shop drawings required for review and/or approval shall be as follows:

Initial submittal: Three (3) copies. One (1) copy will be

returned to the Contractor.

Final submittal: Five (5) copies. Two (2) copies will be returned to the Contractor.

Cooperation with Utilities - Section 105.6: Should the Contractor's operations result in damage to any utility the location of which has been brought to his attention, he shall assume full responsibility for such damage.

The following phone numbers should put the Contractor in contact with the proper personnel:

Flood Control District	262-1501
Mountain Bell Telephone Company	263-3219
Salt River Project	273-2202
Arizona Public Service	271-7014
Location Staking (A.P.S., Mtn Bell, S.R.P.)	263-1100
Maricopa Water District	975-2151
Maricopa County Highway Department	262-3631

Construction Stakes, Lines and Grades - Section 105.8: The Engineer will provide control surveys including bench marks, monuments, slope stakes for embankment and centerline and offset stakes for trenches and drains. The Contractor is responsible for protecting all bench marks, monuments and survey stakes during the construction period. Bench marks, monuments and survey stakes lost or destroyed during the construction period will be replaced by the Engineer at the Contractor's expense.

Failure to Complete on Time - Section 109.0: The amount of \$350.00 per calendar day, or the actual cost per calendar day incurred by the District for Engineering and Inspection Services on this project, whichever is less, will be added to the daily

charges as indicated by TABLE 108 LIQUIDATED DAMAGES, and will be deducted from monies due or to become due to the contractor for each and every calendar day that work shall remain uncompleted after the time specified for the completion of the work in the proposal, or as adjusted by the Engineer.

Payments to Contractor

Progress payments based on quantities as approved by the Engineer and at the unit prices in the bid schedule will be made monthly as the work proceeds in accordance with the MAG specifications. At the completion and acceptance of all structural items in the contract (Bid Items 1 through 11), final payment, including retained amounts, will be made to the contractor, with the exception that an amount equal to 10 percent of the bid amount for Item 12 - Seeding, will be further retained until the seeding work has been completed and accepted.

## TECHNICAL SPECIFICATIONS

### 1. Mobilization

#### Scope

The work shall consist of the mobilization of the contractor's forces and equipment necessary for performing the work required under the contract.

It shall include the purchase of contract bonds, the transportation of personnel, equipment and operating supplies to the site, establishment of offices and other facilities at the site, and other preparatory work at the site.

#### Payment

Payment will be made as the work proceeds, after presentation of invoices or other evidence showing the costs incurred for mobilization work. If the total of such payments is less than the contract lump sum price for mobilization, the unpaid balance will be included in the final contract payment. Total payment will be the lump sum contract price for mobilization regardless of the actual cost to the Contractor.

#### Clearing, Grubbing & Site Preparation

## Scope

The work shall consist of clearing and grubbing designated areas by removal of trees, shrubs, fences and rubbish. The limits of the area to be cleared will be marked by stakes or flags. Trees, structures, or fences to be left standing or undisturbed will be designated on the plans or with special markings in the field.

## Disposal

Unless otherwise specified, all materials removed in the clearing, grubbing and site preparation will be burned or buried, or otherwise disposed of as approved by the Engineer.

## Measurement & Payment

No separate payment will be made for clearing, grubbing and site preparation. Compensation for this work will be included in other bid schedule items.

## Items of Work

Items of work to be performed in conformance to this specification are:

1. Clear and grub upstream and downstream faces and top of existing dam, working areas as needed (and as approved by the Engineer), and borrow area as needed to provide sufficient borrow material.

Clear and grub downstream face of dam by removing all heavy brush, large plants and trees. Those areas on the downstream face that have only widely scattered trees or bushes shall be cleared by hand methods to minimize disturbance to the surface that might encourage erosion.

### Removal of Water

#### Scope

The work shall consist of the removal of surface water and groundwater as needed to perform the required construction in accordance with the plans and specifications. The Contractor shall build, maintain and operate all necessary diversion or impounding work as needed to protect the construction.

The Contractor shall furnish to the Engineer, in writing, his plan for diverting surface water before beginning of construction works for which the diversion is required. Acceptance of this plan will not relieve the Contractor of responsibility for completing the work as specified.

#### Measurement & Payment

No separate payment will be made for removal of water. Compensation for removal of water will be included in payment for other bid schedule items.

#### Items of Work

This item shall consist of the temporary diversion or

removal of surface water and dewatering of the construction site and borrow areas during the construction period.

2 & 3. Excavation

Scope

The work shall consist of the excavation required by the drawings and specifications and disposal of excavated materials.

Unclassified Excavation

All excavation shall be designated as "unclassified" and shall include all materials encountered in the excavations regardless of their nature or the manner in which they are removed.

Use of Excavated Materials

To the extent that they are needed, all suitable materials from the excavations shall be used in the permanent construction. The suitability of the material will be determined by the Engineer.

Trench Excavation

Trench excavation shall be completed to the lines and grades specified and shall include such bracing and supports as necessary to safeguard the work and workmen.

### Borrow Excavation

Borrow areas as shown on the plans and staked or flagged in the field shall be used by the Contractor to obtain materials to construct the embankment. Depth and extent of the borrow areas shall be as designated by the Engineer.

The material stockpiled in the vicinity of Station 302+00 to 338+00 previously removed from the breach must be removed down to the original surface of the dam. This material may be used as embankment to fill the breach or it may be used elsewhere on the project at the Contractor's option.

At the conclusion of the work, borrow areas shall be dressed and finished in a manner to eliminate unsightly or unsafe conditions.

### Measurement & Payment

For centerline and outlet trench excavation, pay limits will be the neat line dimension as shown on the plans, and depth as staked and measured in the field, using the method of average end areas and measuring to the nearest 1 cubic yard. No separate payment will be made for earth backfill in the trenches.

For borrow excavation, no separate payment will be made. Compensation for borrow excavation will be included in payment for earth fill.

## Items of Work

Items of work to be performed in conformance with this specification are:

1. Trench excavation of the centerline drain trench and the lateral drain trenches as shown on the drawings.
2. Borrow excavation in the designated borrow areas to provide materials to construct the embankment. Removal of the berm along the principal spillway outlet channel will be considered as borrow excavation.

Disposal of unsuitable materials from the excavations, unless otherwise specified, will be in the old borrow area starting near the upstream toe of the dam. After waste operations are completed, the waste fill area shall be graded and dressed to blend with the surrounding terrain as approved by the Engineer.

## 4. Earth Fill

### Scope

The work shall consist of construction of earth embankments required by the drawings and specifications.

### Materials

All fill material shall be obtained from the required excavations and designated borrow areas.

## Foundation Preparation

Foundations for earth fill are composed of the natural grade at the upstream toe of the dam, the upstream slope of the existing dam, the base of the berm along the principal spillway outlet channel between Stations 13+00 and 35+00, and the top of the existing dam where contact will be made between the existing and the new embankment.

Foundation surface shall be graded to remove surface irregularities and shall be scarified parallel to the axis of the fill to a minimum depth of 4 inches unless otherwise specified.

The natural grade receiving new embankment at the upstream toe of the existing dam and at the base of the berm along the principal spillway outlet channel between Stations 13+00 and 35+00 shall be processed to a depth of 2 feet. This may be accomplished by removing the native material to a depth of 1 foot, adjusting moisture in the subsoil as for embankment construction, and compacting the subsoil also the same as for embankment construction. The material previously removed can then be replaced under the same conditions relative to moisture and compaction.

The moisture content of loosened fill shall be controlled as specified for the earth fill, and the surface materials of the foundations shall be compacted with the first layer of earth fill as specified for subsequent layers of earth fill.

### Placement

Fill shall not be placed until the foundation preparation has been completed and has been inspected and approved by the Engineer. Fill shall be placed in approximately horizontal uniform lifts to the thickness specified. The distribution of materials throughout the embankment shall be essentially uniform in quality, gradation, and moisture content as determined by the Engineer.

Proper bond between succeeding layers is essential. If the surface of any layer becomes too hard or smooth to effect proper bond with the succeeding layer, it shall be scarified parallel to the axis of the fill to a minimum depth of 12 inches and moisture shall be established as specified for the earth fill.

### Control of Moisture Content

During placement and compaction of the fill, moisture content of the materials being placed shall be uniformly maintained within the specified range.

### Compaction

The earth fill shall be compacted to a minimum density of 95 percent of the maximum dry density as determined by the laboratory procedure as specified in ASTM D698. The maximum size rock fragments in the fill shall not exceed 6 inches and the thickness of each layer of fill placed shall

not be greater than 9 inches before compaction. The moisture content of the fill material shall be maintained within 2 percentage points below and 3 percentage points above the optimum moisture content. Compaction shall be performed using a self propelled tamping foot compactor of at least 40,000 pounds operating weight.

### Testing

During the course of the work, the Engineer will perform tests as deemed necessary to identify material classification, to determine the moisture content, and to determine the density of the fill in-place. Such tests are performed to provide the Engineer and the owner with the assurance of the adequate quality of the materials and the workmanship and are not intended to relieve the Contractor of quality control activities or the responsibility to properly construct the embankment.

### Measurement & Payment

Pay limits for <sup>*channel excavation*</sup> ~~earth fill~~ shall be to neat lines as determined by the original cross section, slope stakes as established in the field, and finished grades as shown on the plans. Volume will be determined using the average end area method where applicable, calculating quantities to the nearest cubic yard. Payment will be made at the contract unit price and this payment will constitute full compensation for all labor, materials, and equipment and all other items necessary and incidental to the performance of the

work. No separate payment will be made for earth backfill in the centerline drain trench, the outlet drain trenches, or the toe cutoff trench.

#### Items of Work

Items of work to be performed in accordance with this specification are:

1. The earth fill (reworked native materials) in the foundation at the upstream toe of the dam and at the base of the berm along the principal spillway outlet channel between Stations 13+00 and 35+00 to a depth of 2 feet below the original grade.
2. The embankment on the upstream face and on top of the existing dam, excluding the ~~4~~<sup>3</sup> inch layer of untreated base material, the earth materials used to fill the breaches in the existing dam, and the reconstructed berm along the principal spillway outlet channel between Stations 13+00 and 35+00.
3. The embankment placed to fill the two breaches in the dam at approximately Station 482+00 and 320+00.

#### 5. Drain Rock

##### Scope

The work shall consist of placing the drain rock in the centerline trench and in the lateral outlet trenches to the dimensions and elevations as shown on the plans and as staked in the field.

### Materials

Drain rock of suitable quality in sufficient quantity for the work will be stockpiled between the dam and the canal on cleared pads within 100 feet of the downstream toe of the dam in stockpiles spaced not closer than 100 feet nor more than 1,000 feet apart. Care must be taken in removal of rock from the stockpiles in order not to contaminate the rock with the underlying soil. Use of rock that is contaminated by the underlying soil will not be allowed, as determined by the Engineer. The maximum size of rock stockpiled may vary from 100 percent passing a 6-inch square opening sieve to 100 percent passing a 3/8 inch square opening sieve. The rock will be stockpiled by others, no later than 30 days after the notice to proceed for the contract.

### Placement

Drain rock shall not be placed except in the presence of the Engineer or other person designated by the Engineer to inspect the construction. Drain rock placed in trenches lined with geotextile must be placed with care so as not to damage the fabric. Free fall of the rock into the fabric at the bottom of the trench shall not exceed 3 feet until a layer of rock at least 12 inches thick has been placed. At no time shall the drain rock strike the sides of the geotextile

lined trench during free fall. Free fall shall at all times be limited to a height from which the material may be placed without excessive fracturing or spalling as determined by the Engineer.

#### Measurement & Payment

Drain rock will be measured to the neat lines as shown on the plans and staked in the field. Average end area method will be used taking sections at 100 foot stations or less for the center drain. The quantity in the outlet drains will be calculated to neat line dimensions and using the measured profile of the trench. Measurements of drain rock will be made to the nearest 0.5 cubic yard.

#### Items of Work

Items of work to be performed in accordance with this specification are:

1. The drain rock in the centerline drain trench and the lateral outlet trenches.

#### 6. Geotextiles

##### Scope

The work shall consist of furnishing and placing geotextile fabrics in the center drain trench and the outlet drains. The fabric shall be placed to the lines and dimensions as shown on the plans.

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Materials

The following geotextiles have been tested and found suitable for the installation as indicated.

Acceptable Geotextiles

<u>Manufacturer</u>	<u>Geotextile Type</u>
Amoco	Propex 1325 C7305*
Carthage Mills	Polyfilter X
Crown Zellerbach	Fibertex Ten-1
Dominion Textile	Mirafi 140N Mirafi 500X Mirafi MCF500*
DuPont	Typar 3601 Typar T063*
Griffolyn	Transguard 2000

\*Coated impermeable geotextile.

Geotextiles other than those listed above may be used if they meet the requirements of the indicated specifications.

GEOTEXTILE SPECIFICATIONS  
Polypropylene or Polyester Based Geotextiles

<u>Properties</u>	<u>Upstream Center Drain &amp; Downstream Toe Cutoff Geotextile</u>	<u>Coated Center Drain &amp; Outlet Geotextile</u>
Grab Tensile Strength ASTM D1682* (lbs.)	120 Minimum Machine Direction of Roll (warp), 90 Minimum Perpendicular (weft)	130 Minimum Machine Direction of Roll (warp), 90 Minimum Perpendicular (weft)
Trapezoidal Tear ASTM D751* (lbs.)	60 Minimum Machine Direction of Roll (warp), 45 Minimum Perpendicular (weft)	40 Minimum Machine Direction of Roll (warp), 40 Minimum Perpendicular (weft)
Puncture (1" ball) ASTM D751* (lbs.)	180 Minimum	140 Minimum
Equivalent Opening Size (E.O.S.) COE-CW 02215	No Larger than U.S. Standard Sieve No. 20	NA
Pullout Test Elongation at 10 PSI Overburden Load (inches)	1.0 Minimum	1.0 Minimum
Permeability (cm/sec)	$1 \times 10^{-3}$ Minimum	$1 \times 10^{-7}$ Maximum

\*Modified as described in Design Report.

Samples of such materials must be submitted to the Engineers for testing. The cost of this testing will be borne by the Contractor and will be \$1,111.00 for each pair (one permeable, one impermeable) of geotextile samples. Test results will be available ten working days after the Engineer has received the sample.

### Installation

Geotextiles shall be installed in accordance with the details shown on the drawings. Sewn seams may be made in the shop or the field as approved by the Engineer. All sewn seams will be "J" seams using a two thread double locked stitch with five to six stitches per inch and using polypropylene thread. The seam shall develop at least 75 percent of the grab tensile strength of the geotextile as determined by ASTM D1682.

All overlap joints shall be overlapped a minimum of 2 feet. Laps shall be aligned such that upstream or upslope gradient lap is over downstream or downslope lap. Where overlaps do not lie flat against each other and the possibility exists that drain rock could move between the laps, a greater overlap shall be used to insure at least 2 feet of mated overlap.

Geotextiles are sensitive to ultraviolet radiation and must have very limited exposure to direct sunlight. Any geotextile stored at the site shall be covered with an ultraviolet stabilized tarp to protect it. The geotextile shall not be exposed to direct sunlight for more than five

days; this includes any exposure during field sewing of joints. Geotextile shall be dry and clean immediately prior to installation.

#### Certification of Material

Before incorporating any geotextile materials into the project, a certification of materials must be submitted by the manufacturer or supplier. The certificate shall include:

- A. Name of manufacturer.
- B. Name of fabricator.
- C. Chemical composition of geotextile and coating, if any.
- D. Product description and life expectancy.
- E. Statement of specification compliance including the name of this project.
- F. Signature of authorized official attesting to the information presented.
- G. Manufacturer's recommendations for field sewing and repairs.

At least 30 days prior to delivery of geotextile materials to the site, the Contractor shall inform the Engineer of the manufacturer and/or supplier from which he intends to obtain the geotextile materials. The Engineer shall have free access to the site of manufacture and subsequent area of storage for the purpose of obtaining samples for testing. All materials shall be subject to the approval of the Engineer.

#### Measurement & Payment

Geotextile shall be measured to the neat lines of the drain as shown on the plans. No allowances will be made for material in laps or seams at joints. Payment will be made for the overlap along the top of the center drain and outlet drains. Measurement will be made to the nearest 1 square

yard. Payment therefore will be made at the contract unit price for geotextile. This price and payment shall constitute full compensation for furnishing all labor, material and equipment and performing all work related to placing the geotextiles as shown on the plans. No measurement or payment will be made for geotextiles rejected by the Engineer because of contamination or damage due to the fault or negligence of the Contractor.

#### Items of Work

Items of work to be performed in accordance with this specification are:

1. Geotextiles and coated geotextiles in the centerline drain trench and the lateral outlet trenches.

#### 7. Untreated Base

##### Scope

The work shall consist of furnishing and placing a surface course of decomposed granite on the top of the dam as shown on the drawings.

##### Materials

Untreated base materials shall conform to MAG Section 702, Base Material, except as noted herein. The material shall be decomposed granite. The Contractor shall certify to the

District, in writing, that the materials comply with the project specifications. At least 30 days prior to delivery of materials to the site, the Contractor shall inform the Engineer of the source from which he intends to obtain the materials. The Engineer shall have free access to the source for the purpose of obtaining samples for testing, and all material shall be subject to approval of the Engineer.

#### Placement

The aggregate base material shall be placed in accordance with MAG Section 310.

#### Measurement & Payment

Untreated base materials for the untreated base course will be measured in lineal feet to the neat lines as shown on the plans. Length in-place will be calculated to the nearest (1) foot.

#### Items of Work

Items of work to be performed in accordance with this specification are:

1. Untreated base material on the top of the dam within the limits shown on the plans.

#### 8. PVC Outlet Drains

### Scope

The work shall consist of furnishing and placing PVC pipe in the outlet drains as shown on the drawings.

### Materials

Pipe material shall be polyvinyl chloride. Pipe class shall be Class 125 (0.392 inch wall) or Schedule 40 (0.406 inch wall), fitted with caps and screens as shown on the drawings.

### Placement

Pipe shall be placed to the line and grades as shown on the drawings.

### Measurement & Payment

PVC pipe will be measured to the nearest 1 foot but will be limited to the neat dimension shown on the drawings (30 feet per drain). Payment will be made at the contract unit price and will include full compensation for all labor, materials, and equipment including caps and rodent screens.

### Items of Work

Items of work to be performed in accordance with this specification are:

1. PVC pipe and appurtenances in the lateral drains.

9. Inlet Structures & Gates

The work shall consist of the removal of two existing inlet structures, slide gates and appurtenances and the construction of two new concrete inlet structures, extension of corrugated metal pipes, retrofitting two reclaimed slide gates, lift mechanisms and hardware to new stem guide pedestals and lift gate pedestals. The existing slide gates will remain as property of the District after removal from the existing structures. Reclaimed gates and hardware from another project, to be used on this project, are in possession of the District at the Durango Street yard. These gates shall be retrofitted as needed. The operating mechanism at the top of the stem must be modified to provide for a nonprojecting stem. Hardware as needed to affect this modification must be provided by the Contractor. Contractor shall provide shop drawings to the Engineer for review prior to purchasing or fabricating materials or hardware.

Materials

Portland Cement concrete for inlet structures, stem guide pedestals and gate lift pedestal shall conform to MAG Section 725 Class A. Steel reinforcement shall conform to MAG Section 727. Corrugated metal pipe shall conform to MAG Section 760, 24 inch nominal diameter, 16 gauge or heavier. Joints shall be of watertight design using a closed cell neoprene sleeve gasket, skinned all sides, in accordance with ASTM 1056, grade SCE43.

Fabricated metal pipe bends and trash racks shall be provided as shown on the drawings. Trash racks shall be hot dip galvanized after fabrication in accordance the ASTM A-123. Fabricated pipe bends may be uncoated.

#### Installation

Existing corrugated pipe shall be cut off square to the centerline as close as practicable to the existing inlet structure. The new pipe shall be added in sufficient length to meet dimensional requirements of the new inlet structure.

#### Measurement & Payment

Payment will be made at the per each lump sum price in the contract for each of two installations. This price will include full compensation for the removal and disposal (except those items to be salvaged) of existing structures and gates, the construction of new piping and structures including all hardware.

10. & 11. Fencing and Gates

Scope

The work shall consist of furnishing and installing four (4) wire fencing with steel posts and gates adjacent to McMicken Dam.

Materials

All materials and details of fence construction will be in strict accordance with State of Arizona, Department of Transportation, Division of Highways, Standard Drawings C-12.20, Type 1 (4 wire), dated 1/83 and C-12.30, Type 2, dated 1/83 and Standard Specifications for Road and Bridge Construction, Edition of 1982, Section 903 - Wire Fence.

Location

Fencing and gate location and alignment will be as laid out and directed by the Engineer at the time of installation. The fencing will be located within 75 feet of the toe of the slope of the dam, both upstream and downstream, and will be generally parallel to the centerline of the dam.

Schedule

Fencing will not be started until after completion of all earth-moving operations for the project.

Measurement and Payment

Fencing will be measured to the nearest 1 foot. Payment will be made at the contract unit price for both fencing and gates and will include full compensation for all labor and materials.

Items of Work

Items of work to be performed in accordance with this specification are:

1. Fencing and gate construction adjacent to the dam.

## 12. SEEDING

### 1. SCOPE

The work shall consist of preparing the area for treatment, furnishing and placing seed, inoculant, soil amendments and asphalt emulsion as specified.

### 2. MATERIALS

Seed - All seed shall conform to the current rules and regulations of the state where it is being used and from the latest crop available. It shall meet or exceed the standards for purity and germination listed in Section 7.

Seed shall be labeled in accordance with the state laws and the U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act in effect on the date of invitations for bids. Bag tag figures will be evidence of purity and germination. No seed will be accepted with a date of test of more than 9 months prior to the date of delivery to the site.

Seed that has become wet, moldy, or otherwise damaged in transit or storage will not be accepted. The percent of noxious weed seed allowable shall be as defined in the current state laws relating to agricultural seeds. Each type of seed shall be delivered in separate sealed containers and fully tagged unless exception is granted in writing by the contracting officer.

Inoculants - The inoculant for treating legume seeds shall be a pure culture of nitrogenfixing bacteria prepared specifically for the species and shall not be used later than the date indicated on the container or as otherwise specified. A mixing medium, as recommended by the manufacturer, shall be used to bond the inoculant to the seed. Two times the amount of the inoculant recommended by the manufacturer shall be used, except when seed is applied by use of hydraulic seeder, four times the amount of inoculant recommended by the manufacturer shall be used. Seed shall be sown within 24 hours of treatment and shall not remain in the hydraulic seeder longer than 4 hours.

### 3. SEEDING MIXTURES AND DATES OF PLANTING

Seed mixture per acre rates and date of seeding shall be as specified in Section 7.

### 4. SEEDBED PREPARATION AND TREATMENT

Disturbed areas will be treated with seed and sprigs as specified in this construction specification. Areas to be treated shall be dressed to a reasonably smooth, firm surface. The seed mixture or sprigs shall be applied at the rate specified in Section 7 or this specification.

On sites where equipment can operate, (generally slopes flatter than 1-1/2 to 1), the seedbed shall be adequately loosened (4 to 6 inches deep) and smoothed. Disking or cultipacking or both may be necessary as determined by the Engineer.

On sites where equipment cannot operate, the seedbed shall be prepared by hand by scarifying to provide a roughened surface so that broadcast seed will stay in place.

If seeding is to be done immediately following construction, seedbed preparation may not be required except on compacted, polished, or freshly cut areas.

Rocks larger than 6 inches in diameter, trash, weeds, and other debris that will interfere with seeding or maintenance shall be removed or disposed of as directed by the Engineer.

### 5. SEEDING, FERTILIZING, MULCHING, AND STABILIZING

All seeding operations shall be performed in such a manner that the seed is applied in the specified quantities uniformly on the designated areas. The method of seed applications shall be as specified in Section 7 and may consist of any combination of: drilling, hydroseeding, pneumatic seeding, and broadcasting seeding.

### 6. MEASUREMENT AND PAYMENT

For items of work for which specific unit prices are established in the contract, each area treated as specified will be measured to the nearest 0.1 acre. Payment for treatment will be made at the contract unit price for the

designated treatment which shall constitute full compensation for all materials, labor, equipment, tools, and other items necessary and incidental to the completion of the work.

Compensation for any item of work described in the contract, but not listed in the bid schedule, will be included in the payment for the item of work to which they are made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 7 of this specification.

#### 7. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

##### a. Seeding

- (1) This item shall consist of furnishing and placing seed for replanting the following surface areas which are disturbed as a result of construction activities.
  - (a). The side slopes of the dam.
- (2) On slopes flatter than 3 to 1, ripping shall be used to loosen the soil in lieu of discing or cultipacking as required by Paragraph Two, Section 4, Seedbed Preparation and Treatment. Ripping to a maximum depth of 6 inches shall be on 18-inch centers (maximum) and shall be parallel to the dam where practicable.
- (3) Seed shall be applied at the rate of 15.8 pounds of pure live seed (PLS) per acre as specified in the seeding mixture.
- (4) Seed placement shall be 1/4 to 1/2 inch deep on slopes flatter than 3 to 1.
- (5) Seeding on slopes flatter than 3 to 1 shall be done with a rangeland type drill equipped with depth bands and packer wheels. Seeding on slopes of 3 to 1 or steeper may be broadcast or drilled.
- (6) Seeding shall be done between October 15 and January 1.

- (7) Seeding mixture shall be of the species and percentage of mix as shown below.

SEEDING MIXTURE

<u>Common Name</u>	<u>Scientific Name</u>	<u>Lbs/ac needed</u>
brittlebush	Encelia farinosa	2.3 PLS
triangleleaf bursage	Franseria deltoides	9.0 PLS
bufflegrass	Cenchrus ciliare	4.0 PLS
schismus	Schismus barbatus	0.5 PLS

- (8) Fertilizer and soil amendments will not be required.
- (9) Mulching will not be required.
- (10) Payment will be in accordance with Section 6.



CONTRACT

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

of the City of \_\_\_\_\_, County of \_\_\_\_\_, State of \_\_\_\_\_, party of the first part, hereinafter designated the CONTRACTOR, and the FLOOD CONTROL DISTRICT OF MARICOPA COUNTY, acting by and through its BOARD OF DIRECTORS, a political subdivision of the State of Arizona, a body politic with corporate power, party of the second part, hereinafter designated OWNER.

WITNESSETH: That the said Contractor, for and in consideration of the sum to be paid him by the said Owner, in the manner and at the time hereinafter provided, and of the other covenants and agreements herein contained, and under the penalties expressed in the bonds provided, hereby agrees, for himself, his heirs, executors, administrators, successors, and assigns to as follows:

ARTICLE I-SCOPE OF WORK: The contractor shall furnish any and all labor, materials, equipment, transportation, utilities, services and facilities required to perform all work for the construction of Project No. \_\_\_\_\_

and to completely and totally construct the same and install the material therein for the Owner, in a good and workmanlike and substantial manner and to the satisfaction of the Owner through its Engineers and under the direction and supervision of the Engineer, or his properly authorized agents and strictly pursuant to and in conformity with the Plans and Specifications prepared by the Engineers for the Owner, and with such modifications of the same and other documents that may be made by the Owner through the Engineer or his properly authorized agents, as provided herein.

ARTICLE II-CONTRACT DOCUMENTS: The Invitation for Bids, Plans, Standard Specifications and Details, Special Provisions, Addenda, if any, and Proposal, as accepted by the BOARD OF DIRECTORS, Performance Bond, Payment Bond, Certificates of Insurance, and Change Orders, if any, are by this reference made a part of this Contract to the same extent as if set forth herein in full.

ARTICLE III-TIME OF COMPLETION: The Contractor further covenants and agrees at his own proper cost and expense, to do all work as aforesaid for the construction of said improvements and to completely construct the same and install the material therein, as called for by this agreement free and clear of all claims, liens, and charges whatsoever, in the manner and under the conditions specified within the time, or times, stated in the proposal pamphlet.

ARTICLE IV-PAYMENTS: For and in consideration of the faithful performance of the work herein embraced as set forth in the Contract Documents, which are a part hereof and in accordance with the directions of the owner, through its Engineer and to his satisfaction, the Owner agrees to pay the said Contractor the amount earned, computed from actual quantities of work performed and accepted or materials furnished at the unit bid price on the Proposal made a part hereof, and to make such payment within forty (40) days after final inspection and acceptance of the work.

IN WITNESS WHEREOF: Four (4) identical counterparts of this contract each of which shall for all purposes be deemed an original thereof, have been duly executed by the parties hereinabove named, on the date and year first above written.

The Contractor agrees that this Contract, as awarded, is for the stated work, and understands that payment for the total work will be made on the basis of the indicated amount(s), as bid in the Proposal.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
PARTY OF SECOND PART

By: \_\_\_\_\_  
Chairman, Board of Directors

Date: \_\_\_\_\_

RECOMMENDED BY:

ATTEST:

\_\_\_\_\_  
Chief Engineer and General Manager  
Flood Control District  
of Maricopa County

\_\_\_\_\_  
Clerk of the Board

Date: \_\_\_\_\_

STATUTORY PAYMENT BOND PURSUANT TO TITLE 34  
CHAPTER 2, ARTICLE 2, OF THE ARIZONA REVISED STATUTES  
(Penalty of this bond must be 100% of the Contract amount)

KNOW ALL MEN BY THESE PRESENTS:

That, \_\_\_\_\_  
(hereinafter called the Principal), as Principal, and

\_\_\_\_\_ a corporation organized and existing under the laws of the State of \_\_\_\_\_  
\_\_\_\_\_ with its principal office in the City of \_\_\_\_\_,  
(hereinafter called the Surety), as Surety, are held and firmly bound unto the Flood  
Control District of Maricopa County, State of Arizona (hereinafter called the Obligee)  
in the amount of \_\_\_\_\_  
dollars (\_\_\_\_\_), for the payment whereof, the said Principal and Surety  
bind themselves, and their heirs, administrators, executors, successors and assigns,  
jointly and severally, firmly by these presents.

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

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

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said  
Principal shall promptly pay all moneys due to all persons supplying labor or  
materials to him or his subcontractors in the prosecution of the work provided  
for in said contract, then this obligation shall be void, otherwise to remain in  
full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of  
Title 34, Chapter 2, Article 2, of the Arizona Revised Statutes, and all liabilities  
on this bond shall be determined in accordance with the provisions, of said Title,  
Chapter, and Article, to the extent as if it were copied at length herein.

The prevailing party or any party which recovers judgment on this bond shall  
be entitled to such reasonable attorney's fees as may be fixed by the court or a  
judge thereof.

Witness our hands this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_.

\_\_\_\_\_  
PRINCIPAL SEAL

\_\_\_\_\_  
AGENCY OF RECORD

BY: \_\_\_\_\_

\_\_\_\_\_  
AGENCY ADDRESS

\_\_\_\_\_  
SURETY SEAL

BY: \_\_\_\_\_

\_\_\_\_\_  
POWER OF ATTORNEY SEAL

BY: \_\_\_\_\_

CONTRACT NO. FCD 83-31  
PAYMENT BOND

STATUTORY PERFORMANCE BOND PURSUANT TO TITLE 34  
CHAPTER 2, ARTICLE 2, OF THE ARIZONA REVISED STATUTES  
(Penalty of this bond must be 100% of the Contract amount)

KNOW ALL MEN BY THESE PRESENTS:

That, \_\_\_\_\_  
(hereinafter called the Principal), as Principal, and

\_\_\_\_\_ a corporation organized and existing under the laws of the State of \_\_\_\_\_  
with its principal office in the City of \_\_\_\_\_  
(hereinafter called the Surety), as Surety, are held and firmly bound unto the  
Flood Control District of Maricopa County, in the County of Maricopa, State of  
Arizona, in the amount of \_\_\_\_\_  
dollars (\$ \_\_\_\_\_), for the payment whereof, the said Principal and  
Surety bind themselves, and their heirs, administrators, executors, successors and  
assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract with the  
Flood Control District of Maricopa County, dated the \_\_\_\_\_ day of \_\_\_\_\_  
\_\_\_\_\_, 19\_\_\_\_, for \_\_\_\_\_

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

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said  
Principal shall faithfully perform and fulfill all the undertakings, covenants,  
terms, conditions and agreements of said contract during the original term of  
said contract and any extension thereof, with or without notice to the Surety,  
and during the life of any guaranty required under the contract, and shall also  
perform and fulfill all the undertakings, covenants, terms, conditions, and  
agreements of any and all duly authorized modifications of said contract that  
may hereafter be made, notice of which modifications to the Surety being hereby  
waived; then the above obligation shall be void, otherwise to remain in full  
force and effect;

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of  
Title 34, Chapter 2, Article 2, of the Arizona Revised Statutes, and all  
liabilities on this bond shall be determined in accordance with the provisions  
of said Title, Chapter, and Article, to the extent as if it were copied at length  
herein.

The prevailing party in a suit on this bond shall be entitled to such  
reasonable attorney's fees as may be fixed by a judge of the court.

Witness our hands this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_.

\_\_\_\_\_  
AGENCY OF RECORD

\_\_\_\_\_  
AGENCY ADDRESS

CONTRACT NO. FCD 83-31  
PERFORMANCE BOND

\_\_\_\_\_  
PRINCIPAL SEAL

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

\_\_\_\_\_  
SURETY SEAL

BY: \_\_\_\_\_

\_\_\_\_\_  
POWER OF ATTORNEY SEAL

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CERTIFICATE OF INSURANCE

CONTRACT FCD 83-31 PROJECT TITLE McMicken Dam Restoration

NAME AND ADDRESS OF INSURANCE AGENCY	INSURANCE COMPANIES AFFORDING COVERAGES
	Company Letter <b>A</b>
	Company Letter <b>B</b>
	Company Letter <b>C</b>
NAME AND ADDRESS OF INSURED	Company Letter <b>D</b>
	Company Letter <b>E</b>
	Company Letter <b>F</b>
	Company Letter <b>G</b>

THIS IS TO CERTIFY THAT POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE AND ARE IN FORCE AT THIS TIME.

COMPANY LETTER	TYPE OF INSURANCE	POLICY NUMBER	EXPIRATION DATE	LIMITS OF LIABILITY IN \$1,000 MINIMUM each occurrence	
	<input checked="" type="checkbox"/> COMPREHENSIVE GENERAL LIABILITY FORM <input checked="" type="checkbox"/> PREMISES OPERATIONS <input checked="" type="checkbox"/> CONTRACTUAL <input checked="" type="checkbox"/> BROAD FORM PROPERTY DAMAGE <input checked="" type="checkbox"/> EXPLOSION & COLLAPSE <input checked="" type="checkbox"/> PRODUCTS/COMPLETED OPERATIONS HAZARD <input checked="" type="checkbox"/> UNDERGROUND HAZARD <input checked="" type="checkbox"/> INDEPENDENT CONTRACTORS <input checked="" type="checkbox"/> PERSONAL INJURY			BODILY INJURY per person \$1,000  each occurrence \$5,000  PROPERTY DAMAGE \$1,000  OR  BODILY INJURY AND PROPERTY DAMAGE Combined \$5,000	
	<input checked="" type="checkbox"/> COMPREHENSIVE AUTO LIABILITY & NON-OWNED			SAME AS ABOVE	
	<input type="checkbox"/> EXCESS LIABILITY			NECESSARY IF UNDERLYING NOT ABOVE MINIMUM	
	<input checked="" type="checkbox"/> WORKERS' COMPENSATION and EMPLOYERS' LIABILITY			STATUTORY each accident	\$100
	<input type="checkbox"/> OTHER				

The Flood Control District of Maricopa County is added as an additional insured as respects work done for the District by the named insured as required by statute, contract, purchase order or otherwise requested. It is agreed that any insurance available to the named insured shall be primary of other sources that may be available. It is further agreed that no policy shall expire, be cancelled or materially changed to effect the coverage available to the District without fifteen days written notice to the District. THIS CERTIFICATE IS NOT VALID UNLESS COUNTERSIGNED BY AN AUTHORIZED REPRESENTATIVE OF THE INSURANCE COMPANY.

NAME AND ADDRESS OF CERTIFICATE HOLDER  
 FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
 3335 West Durango Street  
 Phoenix, Arizona 85009

DATE ISSUED \_\_\_\_\_

AUTHORIZED REPRESENTATIVE \_\_\_\_\_

It is further agreed that:

The Contractor hereby agrees to indemnify and save harmless the FLOOD CONTROL DISTRICT OF MARICOPA COUNTY, or any of its departments, agencies, officers or employees, from and against all loss, expense, damage or claim of any nature whatsoever which is caused by any activity, condition or event arising out of the performance or nonperformance of any of the provisions of this agreement. The Flood Control District of Maricopa County shall in all instances be indemnified against all liability, losses and damages of any nature for or on account of any injuries to or death of persons or damages to or destruction of property arising out of or in any way connected with the performance or nonperformance of this agreement, except such injury or damage as shall have been occasioned by the sole negligence of the Flood Control District of Maricopa County. The above cost of damages incurred by the Flood Control District of Maricopa County or any of its departments, agencies, officers or employees shall include in the event of an action, court costs, expenses for litigation and reasonable attorney's fees.

Date \_\_\_\_\_

\_\_\_\_\_  
Contractor

ADDENDUM NO. 1

August 2, 1983

Contract No. FCD 83-31

Page 1 of 4

TO CONTRACT DOCUMENTS

ENTITLED: McMicken Dam Restoration

OWNER FLOOD CONTROL DISTRICT of Maricopa County

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The above documents are herein modified. The provisions of said documents applicable to these modifications remain unchanged unless specifically indicated otherwise herein. This Addendum forms a part of the Contract Documents and modifies them as follows:

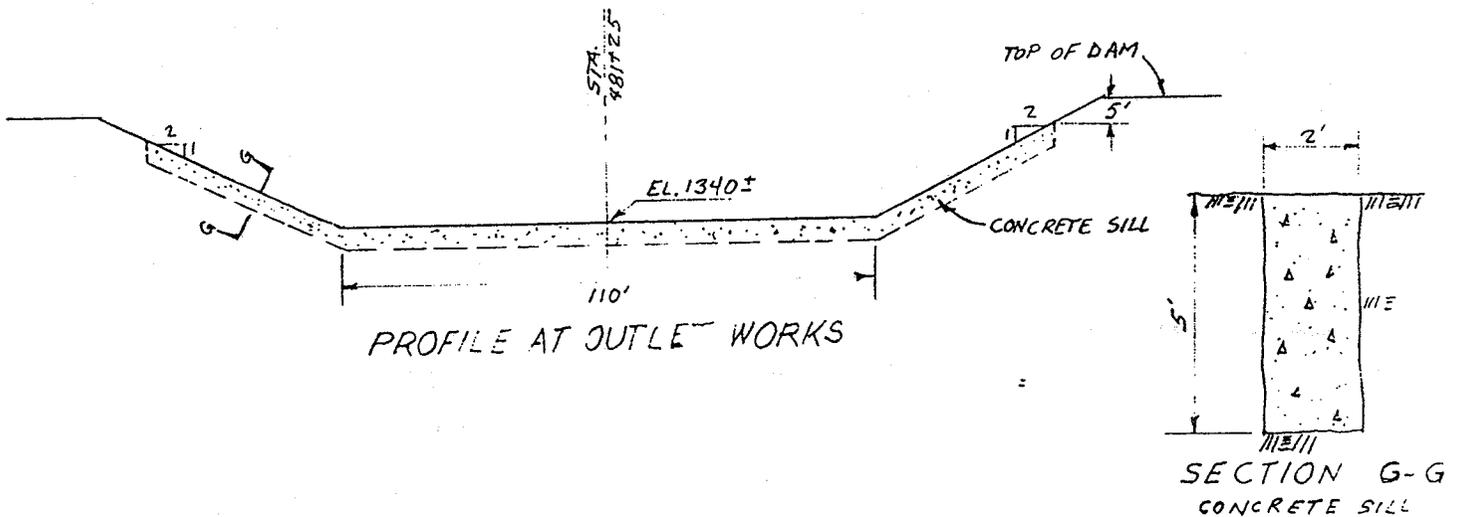
1. On page 5 of the Invitation for Bids, change the quantity of Geotextiles from 246,200 S.Y. to 286,389 S.Y. Add the following new item: "46,700 L.F. Toe Cutoff Trench."
2. Delete the Bidding Schedule, pages 3 and 3a. Substitute the new Bidding Schedule, pages 3 and 3a, attached to and made a part of this addendum.
3. On page 11 of the Construction Special Provisions, under the heading Measurement & Payment, add the following new paragraph:

"Depth of the toe trench may vary within the limits shown on the plans, and trench width will be at the Contractor's option, up to 2 feet maximum. Payment will be made for the actual measured length of trench at the contract unit price measured to the nearest 1 lineal foot. No separate payment will be made for backfill in the trench."
4. On page 12 of the Construction Special Provisions, under the heading Items of Work, delete the paragraph that begins "1. Trench excavation...", and substitute the following new paragraph:

"1. Trench excavation of the centerline drain trench, lateral drain trenches and the toe trench as shown on the drawings."

5. On page 14 of the Construction Special Provisions, under the heading Placement, add the following new paragraphs:

"The two breaches in the dam, at approximately stations 320+00 and 481+25, shall not be filled until after completion of placement of drain rock in the centerline trench and lateral outlet trenches for the entire dam. The two breached sections shall also include provisions for a drain in accordance with the plans and specifications. The drain in the breached sections may be installed during placement of fill in the breaches or after completion of placement of fill in the breaches, at the option of the Contractor. Prior to placement of fill in the breach at approximately Station 481+25, the concrete sill shall be removed. The profile and cross section of the sill are as shown below.



The Contractor will maintain access at Greenway Road (approximately Station 225+50) during placement of fill and excavation of the drain for the project. The top of the dam at Greenway Road will be built up approximately 3-1/2 feet during placement of fill for the embankment. The roadway approach ramp immediately upstream and downstream of the embankment will be built up approximately 3-1/2 feet to accommodate the increased dam height."

6. On page 16 and 17 of the Construction Special Provisions, in Section 5., Drain Rock, delete the paragraphs under the headings entitled Scope and Materials in their entirety and substitute the following new paragraphs:

"Drain Rock

Scope

The work shall consist of furnishing and placing the drain rock in the centerline trench and in the outlet trenches to the dimensions and elevations as shown on the plans and as staked in the field.

Materials

Drain Rock materials shall conform to the following specifications:

1.	<u>Sieve Size</u> <u>(Square Openings)</u>	<u>Percent Passing</u> <u>by Weight</u>
	6 inch	100
	3/8 inch	0-100
	1/4 inch	0-70
	no. 4	0-60
	no. 8	0-2

The wide specification range allowed is provided to make the maximum use of available material, however, the shape of the distribution must be uniformly graded. To insure this, the drain rock must have a uniformity coefficient Cu of less than 4, where

$$Cu = \frac{D60}{D10}$$

2. SO<sub>4</sub> soundness - ASTM C88 - 12 percent maximum
3. Specific gravity (bulk) - ASTM C127-81 - 2.5 minimum
4. Abrasion - ASTM C535 - 50 percent maximum

At least 30 days prior to delivery of materials to the site, the Contractor shall inform the Engineer, in writing, of the source or sources from which he intends to obtain them. The Engineer shall have free access to the source or sources for the purpose of obtaining samples for testing."

7. On page 18 of the Construction Special Provisions, in Section 6., Geotextiles, delete the paragraph under the heading Scope in its entirety and substitute the following new paragraph:

"Scope

The work shall consist of furnishing and placing geotextile fabrics in the center drain trench, the outlet drains, and the downstream toe cutoff trench. The fabric shall be placed to the lines and dimensions as shown on the plans."

8. On page 23 of the Construction Special Provisions, under the heading Items of Work, add the following new paragraph:
- "2. Geotextiles in the toe cutoff trench."
9. On sheets 2, 3 and 4 of the plans, delete all of the notes that say "(By others)".
10. On sheets 3 and 4 of the plans, change the dimension for the minimum depth of the toe drain from "4' Min." to "7' Min."
11. On sheet 2 of the plans, under the cross section entitled OUTLET DETAIL STA. 250+00, in the note that begins "PVC Pipe Slotting...", change "120 Slots" to read "30 Slots".
12. On page 21 of the Construction Special Provisions, under the heading Installation, delete the first paragraph that begins "Geotextiles shall be installed..." and substitute the following new paragraph:

"Geotextiles shall be installed in accordance with the details shown on the drawings. Sewn seams may be made in the shop or the field as approved by the Engineer. All field sewn seams will be "J" seams using a two thread double locked stitch with five to six stitches per inch and using polypropylene thread or approved equivalent. Shop sewn seams may be flat seams or "J" seams subject to the approval of the Engineer, using polypropylene thread or approved equivalent. All sewn seams shall develop at least 75 percent of the grab tensile strength of the geotextile as determined by ASTM D1682."

BIDDING SCHEDULE

ADDENDUM NO. 1

Project: McMicken Dam Restoration

August 2, 1983

Contract: FCD 83-31

Item No.	Approximate Quantity	Unit	Description	Unit Cost (in writing) and /100 dollars	Unit Cost	Extended Amount
1	1	L.S.	Mobilization			
2	90,500	C.Y.	Excavation - Centerline Trench			
3	4,000	C.Y.	Excavation - Outlet Trenches			
3a	46,700	L.F.	Excavation - Toe Trench			
4	475,000	C.Y.	Earth Fill			
5	78,000	C.Y.	Drain Rock: (A) Center Drain			
	3,300	C.Y.	(B) Outlet Drains			
6	224,700	S.Y.	Geotextile: (A) Centerline Drain			
	9,800	S.Y.	(B) Outlet Drains			
	51,889	S.Y.	(C) Toe Cutoff			
7	46,700	L.F.	Untreated Base			
8	2,010	L.F.	12" PVC Pipe			
9	2	Ea.	Inlet structures and gates			

BIDDING SCHEDULE

ADDENDUM NO. 1

Project: McMicken Dam Restoration

August 2, 1983

Contract: FCD 83-31

Item No.	Approximate Quantity	Unit	Description	Unit Cost (in writing) and /100 dollars	Unit Cost	Extended Amount
10	97,000	L.F.	4 wire fence - barbed (ADOT C-12.20)			
11	18	Ea.	Type 2 Gates (ADOT C-12.30)			
12	111.2	Acre	Seeding			

The Bidder hereby acknowledges receipt of and agrees his proposal is based on the following Addenda

Total \_\_\_\_\_