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**SPECIAL PROVISIONS
FOR**

**25th Avenue Sanitary Sewer Siphon at the
ARIZONA CANAL DIVERSION CHANNEL**

CONTRACT NO. FCD 87-25



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

A118.521

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

ATTENTION
ALL PROSPECTIVE BIDDERS

Some of the Bid Bonds previously received with bids for Flood Control District construction projects have not been in complete compliance with Arizona Revised Statutes (ARS).

ARS 34-201-A3 requires that every bid be accompanied by a certified check, cashier's check or surety bond for five percent (5%) of the amount of the bid.

In some cases the bonds limit the five percent (5%) to the difference between the low bid and that of the next lowest responsible bidder, to whom a contract could be awarded, in the event that the low bidder failed to enter into contract within the specified time.

Bids received with limitation on the five percent (5%) will be considered as non-responsive bids and will not be accepted or considered for award of contract.

The attached SURETY BOND form is contained in the M.A.G. specifications and must be used for bids to be acceptable to the Flood Control District.

Please take note and submit your bids accordingly.

Any Bid Bond submitted with the wording, or similar wording, as underlined in the following paragraph will be considered unacceptable.

SAMPLE OF LIMITATION IN UNACCEPTABLE BID BOND

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or contract documents with good and sufficient surety for the faithful performance of such contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CONTRACT NO. FCD 87-25

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INVITATION FOR BIDS
(Construction Contract)

Project: 25th Avenue Sanitary Sewer
Siphon at the ACDC

Ref. Invitation FCD 87-25
Date: July 20, 1987
Issued by: Flood Control District
Maricopa County

Location: 25th Avenue at the Arizona Canal, Phoenix, Arizona

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, AUGUST 10, 1987 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:

Construction of a three-barrel sanitary sewer siphon with special inlet and outlet structures, inlet, outlet, and connector pipes with manholes and miscellaneous related items. Provide additional MJDIP Class 54 pipe, fittings and couplings, all coated internally with coal tar epoxy. Also, provide T-lock RGRCP Class 4 pipe. The additional materials are to be delivered to the 25th Avenue jobsite for storage. Reference bid items No. 735-1 and 750-4 thru 750-13.

PRE BID CONFERENCE:

A Pre-bid Conference will be held on August 3, 1987, at 2:00 p.m. in the Flood Control District of Maricopa County Conference Room, 3335 West Durango Street. It is in the best interest of prospective bidders to attend the Pre-bid Conference.

THE WORK SHALL COMMENCE WITHIN SEVEN (7) CALENDAR DAYS AND BE COMPLETED WITHIN ONE HUNDRED TWENTY (120) CALENDAR DAYS AFTER RECEIPT OF THE NOTICE TO PROCEED. IN ADDITION, PORTIONS OF THE WORK AS DESCRIBED IN THE CONSTRUCTION SPECIAL PROVISIONS TO THIS CONTRACT MUST BE COMPLETED NO LATER THAN DECEMBER 12, 1987.

ALSO, ALL ADDITIONAL MJDIP CLASS 54 PIPE, FITTINGS, COUPLINGS AND ALL T-LOCK RGRCP CLASS 4 PIPE SHALL BE DELIVERED TO THE JOBSITE ABSOLUTELY NO LATER THAN NOVEMBER 2, 1987. REFERENCE BID ITEMS NO. 735-1 AND 750-4 THRU 750-13

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

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

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
INVITATION FOR BIDS, FCD
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, specifications, 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. It is in the best interest of the bidders to attend the pre-bid conference. Bidders should visit the site and take such other steps as may be reasonably necessary to ascertain the nature and the location 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 the bid guarantee shall be retained as liquidated damages.

INVITATION FOR BIDS
NO. FCD 87-25

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 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 or paragraph number; however, in case of conflict, these instructions and Special Provisions supersede the Uniform Standard Specifications (MAG).

INVITATION FOR BIDS
NO. FCD 87-25

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
 INVITATION FOR BIDS, FCD 87-25
 SPECIAL INSTRUCTIONS TO BIDDERS

Location of the Work

25th Avenue at the Arizona Canal, Phoenix, Arizona.

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 \$10.00 by check payable to the FLOOD CONTROL DISTRICT OF MARICOPA COUNTY. This payment will not be refunded. Plans sheets may be purchased separately for a fee of \$5.00, not refundable.

APPROXIMATE QUANTITY (MAJOR ITEMS)

<u>QUANTITY</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
182	L.F.	8" Sanitary Sewer
320	L.F.	21" Sanitary Sewer
385	L.F.	12" Air Jumper Line
1	Each	San. Sewer Siphon Outlet Str.
1	Each	San. Sewer Siphon Inlet Str.
355	L.F.	8" Ductile Iron Sewer Pipe
355	L.F.	12" Ductile Iron Sewer Pipe
355	L.F.	16" Ductile Iron Sewer Pipe

ADDITIONAL MATERIALS:

700	L.F.	8" Ductile Iron Sewer Pipe
800	L.F.	10" Ductile Iron Sewer Pipe
400	L.F.	20" Ductile Iron Sewer Pipe
430	L.F.	30" Rubber Gasket Reinforced Concrete Pipe
4	Ea.	11.25° Bends, MJDIP
26	Ea.	22.5° Bends, MJDIP
21	Ea.	Couplings, MJDIP

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

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: 25th Avenue Siphon at the ACDC

Contract: FCD 87-25

Item No.	Approximate Quantity	Unit	Description	Unit Cost (in writing) and /100 dollars	Unit Cost	Extended Amount
336-1	23	S.Y.	Surface Replacement, Type "A", Detail 200			
336-2	23	S.Y.	Surface Replacement, Type "B", Detail 200			
336-3	28	S.Y.	Surface Replacement, Bituminous Bike Path			
336-4	220	S.Y.	Surface Replacement, S.R.P. Channel Lining			
340-1	18	L.F.	Combined Concrete Curb & Gutter, Std. Det. 220, Type "A", H = 6'			
340-2	35	L.F.	Sawcut, Remove, and Replace 6" Extruded Curb			
350-1	1	L.S.	Miscellaneous Removal & Other Work			
401-1	1	L.S.	Traffic Control Devices			

BIDDING SCHEDULE

Project: 25th Avenue Siphon at the ACDC

Contract: FCD 87-25

Item No.	Approximate Quantity	Unit	Description	Unit Cost (in writing) and /100 dollars	Unit Cost	Extended Amount
615-1	182	L.F.	8" Sanitary Sewer			
615-2	320	L.F.	21" Sanitary Sewer			
615-3	385	L.F.	12" Air Jumper Line			
625-1	2	Each	Sanitary Sewer Manhole, Std. Det. 420			
625-2	1	Each	Sanitary Sewer Manhole w/Drop Connection, Std. Det. 420			
625-3	1	Each	Reconstruct Existing Manhole			
625-4	1	Each	Sanitary Sewer Siphon Outlet Structure			
625-5	1	Each	Sanitary Sewer Siphon Inlet Structure			

BIDDING SCHEDULE

Project: 25th Avenue Siphon at the ACDC

Contract: FCD 87-25

Item No.	Approximate Quantity	Unit	Description	Unit Cost (in writing) and /100 dollars	Unit Cost	Extended Amount
625-6	4	Each	Sanitary Sewer Pipe Plugs, Std. Det. 427			
625-7	3	Each	Fill Abandoned Manhole and Plug Pipe			
750-1	355	L.F.	8" Ductile Iron Sanitary Sewer Pipe			
750-2	355	L.F.	12" Ductile Iron Sanitary Sewer Pipe			
750-3	355	L.F.	16" Ductile Iron Sanitary Sewer Pipe			
775-1	342	L.F.	Wall, 6' High			
750-4	700	L.F.	8" Ductile Iron Sanitary Sewer Pipe			
750-5	800	L.F.	10" Ductile Iron Sanitary Sewer Pipe			
750-6	400	L.F.	20" Ductile Iron Sanitary Sewer Pipe			
750-7	4	Each	10"/11.25° MJDIP Bends			
750-8	6	Each	8"/22.5° MJDIP Bends			

BIDDING SCHEDULE

Project: 25th Avenue Siphon at the ACDC

Contract: FCD 87-25

Item No.	Approximate Quantity	Unit	Description	Unit Cost (in writing) and /100 dollars	Unit Cost	Extended Amount
750-9	12	Each	10"/22.5° MJDIP Bends			
750-10	8	Each	20"/22.5° MJDIP Bends			
750-11	3	Each	8" MJ-Solid Sleeves, Long			
750-12	12	Each	10" MJDIP Dresser Coupling			
750-13	6	Each	20" MJDIP Dresser Coupling			
735-1	430	L.F.	30" Rubber Gasket Reinforced Concrete Pipe 'T-lock'			

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

Total _____

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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:

CERTIFICATE OF INSURANCE

CONTRACT FCD _____

PROJECT TITLE _____

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

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 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 _____

CERTIFICATE OF INSURANCE
CONTRACT FCD 87-25

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.

SURETY BOND

FCD No. _____

KNOW ALL MEN BY THESE PRESENTS:

That we, _____, as Principal, (hereinafter called the Principal), and the _____, a corporation duly organized under the laws of the State of _____, as Surety, (hereinafter called the Surety), are held and firmly bound unto the Flood Control District of Maricopa County as Obligee, in the sum of ___ percent (___ %) of the total amount of the bid of Principal, submitted by him to the Flood Control District of Maricopa County, for the work described below, for the payment of which sum, well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, and administrators, successors and assigns, jointly and severally, firmly by these presents, and in conformance with A.R.S.

WHEREAS, the said Principal is herewith submitting its proposal for _____

NOW, THEREFORE, if the Flood Control District of Maricopa County shall accept the proposal of the Principal and the Principal shall enter into a contract with the Flood Control District of Maricopa County in accordance with the terms of such proposal and give such Bonds and Certificates of Insurance as specified in the Standard Specifications with good and sufficient Surety for the faithful performance of such contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter into such contract and give such Bond and Certificates of Insurance, if the Principal shall pay to the Flood Control District of Maricopa County the sum of money set forth above as liquidated damages for failure of the Principal to enter into the contract, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this _____ day of _____, A.D., 19__.

Principal

Title

Witness:

Surety

Title

Witness:

CONSTRUCTION SPECIAL PROVISIONS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FCD CONTRACT NO. 87-25
for
25TH AVENUE SANITARY SEWER SIPHON
at the
ARIZONA CANAL DIVERSION CHANNEL

PROPOSED WORK: The work includes the construction of a three-barrel sanitary sewer siphon with special inlet and outlet structures, inlet, outlet, and connector pipes, and miscellaneous related items required for completion of the project.

LOCATION OF THE WORK: This project is located in Phoenix, Arizona, on 25th Avenue at the Arizona Canal Diversion Channel, approximately 1/4 mile north of Dunlap Avenue.

SPECIFICATIONS: Except as otherwise required in these specifications, construction of this project shall be in accordance with all applicable Maricopa Association of Governments (MAG) Uniform Standard Specifications and Uniform Standard Details, latest revision, and the latest revision of the City of Phoenix Supplements to the MAG Uniform Standard Specifications and Details, together with Maricopa County Highway Department Supplements to the Uniform Standard Specifications.

PRECEDENCE OF CONTRACT DOCUMENT: The City of Phoenix Supplements to MAG Specifications and Details will govern over the MAG Standard Specifications and Details. In case of a discrepancy or conflict, Project Plans will govern over both the City of Phoenix Supplements and MAG Standard Specifications and Details. These Construction Special Provisions will govern over the City of Phoenix Supplements and MAG Standard Specifications and Details and the Project Plans.

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 (29 CFR Part 5).

CONTRACT TIME: The Contractor shall start work within seven (7) calendar days and complete all work on the project within one hundred twenty (120) calendar days after the date of Notice to Proceed.

The contractor shall complete all work from Station 2+60 to Station 4+16 during a dry-up period of the Arizona Canal from November 13 to December 12, 1987.

Also, all additional MJDIP Class 54 pipe, fittings and couplings, and all T-Lock RGRCP Class 4 pipe shall be delivered to the jobsite absolutely no later than November 2, 1987. Reference bid items No. 735-1 and 750-4 thru 750-13.

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.

PROGRESS SCHEDULE: The Contractor shall submit his proposed work progress schedule to the Chief Engineer and General Manager for approval before starting the work.

MATERIAL SOURCES: Concrete, Aggregate Base and Pipe shall be obtained from commercial sources. The Contractor shall pay all royalties, or any other charges or expenses, incurred in connection with the securing and hauling of the material. The Contractor will be required to furnish the Engineer with a list of his proposed commercial sources prior to use, and shall present certificates stating that the material produced from commercial sources is in accordance with the Uniform Standard Specifications and these Special Provisions.

GENERAL COMMENT: The cost of all work required under this contract as shown on the plans for which there are no specific items shown on the Bidding Schedule, shall be included in the prices bid for related items.

SUBSECTION 101.2 - DEFINITIONS AND TERMS: 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 authorized representative.

Change the definition of Owner to read as follows: The City of Phoenix, acting through its legally constituted officials, officers, or employees.

SECTION 102 - ADDENDA & SUBMISSION OF BIDDING SCHEDULE: 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 and show appropriate changes to the Bidding Schedule shall be invalid.

SECTION 102.5 - PREPARATION OF PROPOSAL: The bidder's Arizona State Contractor's License number and classifications shall be shown on the proposal.

SECTION 103.6 - CONTRACTOR'S INSURANCE: Concurrently with the execution of the contract, the Contractor shall furnish a Certificate of Insurance. 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

The Flood Control District of Maricopa County shall be named as coinsured, and a certificate of insurance should be filed with the Flood Control District of Maricopa County.

SUB-SECTION 105.2 - PLANS AND SHOP DRAWINGS: Sub-Section 105.2 of the MAG Standard Specifications is amended to include the following:

The Contractor shall furnish the Engineer with six (6) copies of shop drawings, pipe layout diagrams, manufacturer's catalog data, and detailed information, in sufficient detail to show complete compliance with all specified requirements, covering, but not limited to, the following items:

- A. Fabricated Pipe and Design Data
- B. Pre-Cast Manhole Risers
- C. Reinforcing Steel
- D. Castings
- E. Field Closures
- F. Concrete Mix Designs
- G. PVC Structure Lining
- H. Caulking Materials
- I. Coating Materials
- J. Grating Design Calculations and Details
- K. All Special Fabricated Fiberglass Items: Stop Logs, Ladders, Slide Gates, etc.
- L. Structural Design Calculations and Details for All Concrete Structures, as Required
- M. Hatch Covers and Appurtenances
- N. Waterstops
- O. Detailed Sequence of Construction for Structures

Review: The Contractor, at his own expense, shall make such changes in the drawings as may be necessary to conform to the plans and specifications. Prior to return of such drawings, marked "Furnish as Submitted" or "Furnish as Noted", any work which the Contractor may do on the fabrications covered by the same shall be at his own risk, as the County will not be responsible for any expense or delays incurred by the Contractor for changes required to make the same conform to the drawings as finally reviewed.

One copy of submitted drawings will be returned to the Contractor marked "Furnish as Submitted" or "Furnish as Noted". If the submittal is marked "Revise and Resubmit" or "Rejected", a new submittal shall be made in the same manner as the original submittal.

When submitted for the Engineer's review, shop drawings, line layouts, etc. shall bear the Contractor's certification that he has reviewed, checked, and approved the shop drawings, etc. and that they are in conformance with the re-

quirements of the Contract Documents. The Engineer will not review any submittals which do not bear the Contractor's certification.

After the review has been completed, the above drawings, lists, samples, design calculations, and other data shall become a part of the Contract Documents, and the fabrications furnished shall conform to the submittal.

Review of material and layout drawings consists of review for general conformity to plans and specifications, and in no way relieves the Contractor or the supplier from responsibility for the correctness of the drawings.

Deviations or changes from plans or specifications must be called out as such and will require review by the Engineer for approval or rejection.

Construction of this project shall not begin until the shop drawings and line layouts have been reviewed and approved.

Corrections required on the shop drawings will not constitute a valid reason for delay in the project schedule. The existing contract time provides for 4 weeks for shop drawing preparation and review.

SECTION 104 - SCOPE OF WORK:

104.2.1 General: The cost of all work required under this contract, as shown on the plans, for which there are no specific items shown on the Bidding Schedule, shall be included in the prices bid for related items.

SECTION 105.6 - COOPERATION WITH UTILITIES: An attempt has been made to determine the locations of all underground utilities and drainage pipes, culverts, and structures. The Contractor shall comply with the requirements of the ARS 40-360.21 through 40-360.29 in notification to the interested utility owners prior to the start of construction and shall ascertain the approximate locations of the various underground utilities shown on the plans and as may be brought to his attention. The exact locations of these underground utilities shall be determined by excavations made by the Contractor prior to any trenching operations. It shall be the Contractor's responsibility to cooperate with the pertinent utility companies, so that any obstructing utility installation may be adjusted. 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.

Any facility or work which may be performed for the accommodation of any utility shall be paid for by the utility owner. The Contractor shall make all arrangements that may be necessary for the construction, and any financial agreement shall be solely between the Contractor and the utility owner.

The following phone numbers, as indicated, should place the Contractor in contact with proper personnel:

Mountain Bell Telephone Company.....Ron Catlett.....842-7750
Salt River Project (Overhead Power).....236-8888 or 273-2202
Salt River Valley Water Users Association.....Slavko Jovanovic.....236-5072

Arizona Public Service.....	271-2014
Location Staking (APS, Mountain Bell, SRP).....	263-1100
City of Phoenix (Water).....	Steve Schebler.....268-4709
(Sewer).....	Bob Rentfro.....268-1864
Maricopa County Highway Department.....	262-3631
Flood Control District of Maricopa County.....	262-1501

SECTION 105.8 - CONSTRUCTION STAKES, LINES AND GRADES: The project control line and bench mark elevation are shown on the drawings and will be established by the Engineer. The Contractor shall establish offset stakes and temporary bench marks for referencing the designated construction lines and grades. The Contractor shall provide all rough grade, fine grade, and structural reference lines and shall be responsible for their conformance to the plans and specifications.

The Flood Control District of Maricopa County reserves the right to adjust design grades or the locations of the siphon structures prior to construction if, in the opinion of the Engineer, it should become necessary, without additional cost to the Flood Control District of Maricopa County.

Survey work shall be performed by a qualified and experienced surveyor under the supervision of a licensed land surveyor.

No separate payment will be made for construction surveying, and the cost thereof shall be included in the price bid for related items of work.

SECTION 106 - CONTROL OF MATERIALS:

106.1 Source of Materials and Quality: The Contractor shall guarantee the construction work for one year against faulty materials, faulty workmanship and failure to meet the requirements of the specifications. Said guarantee by the Contractor shall not apply to damage caused by earthquakes or other acts of God, land subsidence, or faulty operations or any abuse of the structures by others.

SECTION 107.2 - PERMITS: The Contractor shall be responsible for obtaining all permits and licenses, paying all charges, fees, taxes, and giving all notices necessary and incidental to the due and lawful execution of the work. Permits for earth moving may be obtained from the Bureau of Air Pollution Control, Maricopa County Department of Health Services, 1845 East Roosevelt, telephone number 258-6381. The Contractor shall obtain a "no fee" permit from the City of Phoenix for construction within the City's right-of-way. The Contractor shall also obtain a permit from S.R.P. for construction within their right-of-way.

SECTION 108.5 - LIMITATION OF OPERATIONS: Should the Contractor elect to perform any work before or after regular working hours, on weekends, or legal holidays, any charges incurred by the District for inspection of the work, surveys, or tests of materials will be deducted from monies due or to become due to the Contractor.

SUB-SECTION 108.7 - DETERMINATION AND EXTENSION OF CONTRACT TIME and
SUB-SECTION 108.9 - FAILURE TO COMPLETE ON TIME: Sub-Sections 108.7 and 108.9
of the MAG Standard Specifications are amended to include the following:

SEQUENCE OF CONSTRUCTION

General: The right to direct the sequence of the work under this contract is a function vested solely in the Engineer. Prior to commencement of the work, the Contractor shall prepare and submit to the Engineer for approval, a written schedule covering the general sequence of the whole work to be performed. The schedule shall be submitted to the Engineer at the Pre-Construction Conference.

The work schedule, when approved, shall not be subject to change without the written consent of the Engineer. Orderly procedure of all work to be performed under this contract shall be the full responsibility of the Contractor. The work schedule must conform to the contract time requirements.

Special Requirements on Segments: The Contractor shall complete all work from Station 2+60 to Station 4+16 during a dry-up period of the Arizona Canal from November 13 to December 12, 1987.

Failure to Complete on Time: Time is of the essence in completing the portion of the project below the Arizona Canal. Therefore, in Sub-Section 108.7, Determination and Extension of Contract Time, and Sub-Section 108.9, Failure to Complete on Time, MAG Table 108 is deleted, and the following paragraphs are substituted:

Station 2+60 to Station 4+16

To assure completion of the work between Stations 2+60 and 4+16 within the scheduled time, a daily review of the construction schedule for this work will be made by the Contractor and the Construction Manager. Should it appear that the remaining time in the schedule will be insufficient to successfully complete the work as required, measures will be taken by the Contractor, at no expense to the Flood Control District, to assure that the work will be completed on time. Payment for this work will be withheld until final inspection and acceptance of this work. Failure to completely install the pipe, including mechanical compaction of the trench and the lining of the canal, in accordance with the plan details, prior to the end of the dry-up period will result in termination of the contract by the Flood Control District and forfeiture of the performance bond by the Contractor. Any further backfilling, compaction, or lining of the Arizona Canal not completed by the Contractor within five days of the end of the dry-up period will be performed by construction forces of the Salt River Valley Water Users' Association. The cost of this work will be negotiated by the Flood Control District with the Salt River Valley Water User's Association and paid for with monies withheld from the Contractor. Any further work required to complete the installation, as shown on the drawings, will be paid for with monies withheld from the Contractor.

SECTION 201 - CLEARING & GRUBBING: The work under this item consists of removal and disposal of all trees, stumps, asphaltic pavement, and structures within the limits of the roadways and easements, as designated on the plans. Materials shall be disposed of off-site.

The Contractor shall note that trees on private property south of the Canal shall not be removed without prior approval of the Owner, and the Contractor will be required to work around trees and protect them from damage during the course of his work.

No separate payment will be made for clearing and grubbing, and the costs thereof shall be included in the price bid for related items of work.

SECTION 206 - STRUCTURE EXCAVATION AND BACKFILL: Structure excavation and backfill shall conform to Section 206 of the MAG Standard Specifications except that no direct payment will be made for this item. The cost of this item shall be included in the contract price bid for related items.

SECTION 225 - WATERING: The work under this item shall be in accordance with Section 225 of the MAG Standard Specifications.

SECTION 336 - PAVEMENT MATCHING AND SURFACING REPLACEMENT: Items 336-1 to 336-3 of this project shall conform in their entirety to Section 336 of the MAG Standard Specifications.

Item 336-4 shall be constructed in accordance with the Salt River Valley Water Users' Association sketch in the License Agreement, which is part of these contract documents, and shall otherwise conform to Section 336 of the MAG Standard Specifications. The ABC supplier shall provide certificates of compliance and test results indicating conformance with MAG Standard Specifications.

SECTION 340 - CONCRETE CURB & GUTTER AND EXTRUDED CURB: Item 340-1 of this project shall conform in its entirety to Section 340 of the MAG Standard Specifications.

Item 340-2 shall consist of sawcutting, removing, and constructing 6" high extruded curb at the locations shown on the project plans or otherwise designated, matching in cross-section, color, and texture the curb removed.

Materials: Portland cement, water, and admixtures shall conform to the requirements of Section 725.

Fine aggregate and coarse aggregate shall conform to the requirements of sub-section 725. Coarse aggregate shall conform to the requirements of Aggregate Base in Table 702 of the MAG Standard Specifications.

The Contractor may add additional fine aggregate to the aggregate for the curb, in order to facilitate finishing. Fine aggregate for this purpose shall be non-plastic and shall conform to the following grading requirements:

Passing No. 4 Sieve	100 per cent
Passing No. 200 Sieve	0-100 per cent

Fine aggregate added for this purpose shall not exceed 25 per cent of the total aggregate for the concrete curb.

Liquid membrane-forming shall conform to the requirements of AASHTO M148, Type I, Class A.

The minimum cement content per cubic yard of concrete shall be 470 pounds.

The Contractor shall be responsible for furnishing, proportioning, and mixing the various ingredients; however, approval of the proposed materials and proportioning and mixing shall be obtained prior to any concrete operations.

There is no maximum temperature limitation on the concrete mixture before placement. The temperature of the mixed concrete immediately before placing shall not exceed 50 degrees F.

Extruded curb shall be constructed either by the use of conventional fixed forms or by slipform curb placing machines. The surface on which the curbs are to be placed shall be cleaned of all loose dirt and debris prior to placing.

The work shall be performed so as not to mar the paved surface. Concrete placed in fixed forms shall be thoroughly consolidated.

If slipform equipment is used to construct extruded curb, such equipment shall be designed specifically for the work. The slipform machine shall be capable of producing curb equal to, or better than, that produced by the use of fixed forms. If the curb produced by such machines is not acceptable, the use of such machines shall be terminated.

Curbs shall present a neat appearance. The finish normally associated with the use of slipform curb placing machines, including the use of moveable forms, will be considered as acceptable for the finishing of concrete extruded curb. Where bituminous material is being applied to the adjacent roadway, curbs shall be protected so that they are not spattered or discolored.

Extruded curb shall be cured by the application of liquid membrane-forming compound. The time at which it is to be applied and the rate of application shall be approved by the Engineer.

Basis of Payment: The accepted quantities of extruded curb will be paid for at the contract unit price per linear foot, complete in place.

SECTION 350 - REMOVAL OF EXISTING IMPROVEMENTS: Item 350-1 of this project, in addition to the items listed in the MAG Standard Specifications, shall include the following:

- K. Curb and gutter, where designated on the plans
- L. Lawn Restoration: Where new sidewalk or bike paths are constructed adjacent to grass-covered yards, the Contractor, after sidewalk construction is complete, shall grade the area behind the sidewalk and reseed with grass identical to the existing grass. Where existing grass cannot be seeded, it shall be restored with sod of the same type grass, in a method approved by the Engineer.

- M. Restoration of Temporary Construction Easements: The Contractor shall leave the easements in as good condition, or better, after work is completed. Special care must be taken to replace any asphalt, trees, sprinklers, lights, walls, fences, etc., which were disturbed as a result of construction. Where grass is located within the easement, such as a lawn, the Contractor shall remove the sod which would be in the path of any construction, store it, keep it moist, and replace it immediately after construction is complete.
- N. Any and all items not specifically set forth as a separate pay item.
- O. Sawcutting and matching existing pavements and curbs, gutters, etc.
- P. Relocating positions of existing signs to be staked by the Inspector.
- Q. Relocating positions of existing plants within the right-of-way to be staked by the Inspector.

SECTION 401 - TRAFFIC CONTROL: Add the following to MAG Sub-Section 401.7, Payments:

Payment for Item 401-1, Traffic Control, will be paid for on a lump sum basis for Traffic Control Devices

401.5 General Traffic Regulations:

- A. 25th Avenue shall be considered a major street. The Contractor shall maintain 25th Avenue open to traffic (one lane in each direction) at all times.
Access to local businesses is required at all times.
- B. All traffic and/or traffic control devices on this project shall be provided, maintained, and/or controlled as specified in the City of Phoenix Traffic Barricade Manual, latest revision.
- C. Permission to restrict City streets, sidewalks, and alleys (street closure permits) shall be requested as specified in Section III of the Traffic Barricade Manual.
- D. Unless otherwise provided for, all traffic on this project shall be regulated as specified in Section IV of the Traffic Barricade Manual.

SECTION 601 - TRENCH EXCAVATION, BACKFILLING, AND COMPACTION:

- A. CITY OF PHOENIX SUPPLEMENT SUB-SECTION 601.2.1 GENERAL: is amended to add the following paragraph:

"No extra compensation or additional time will be authorized for claims that soil conditions differ from those anticipated or those indicated by soils logs and/or reports. It is the Contractor's responsibility to make

his own determination as to actual existing conditions."

- B. SUB-SECTION 601.2.2 TRENCH WIDTH: is amended to add the following paragraph:

"If the Contractor elects to slope the trench walls in lieu of shoring, sheeting or other wall support measures, he shall be responsible for any and all problems encountered and costs incurred as a result of the increased trench width. Furthermore, no increases in contract time will be allowed as a result of sloping trench walls."

- C. SUB-SECTION 601.2.5 OVER EXCAVATION: is amended to add the following paragraph:

"When the Engineer determines that over excavation and backfilling, below the normal foundation and bedding depth, are required as a result of unsuitable material, it will be considered extra work. Payment and construction time extension will be negotiated with the Contractor or as otherwise provided for in these contract documents. As a condition of the Contractor receiving payment, agreement on method of payment and construction time extension shall be reached prior to start of work unless otherwise authorized in writing by the Engineer."

- D. SUB-SECTION 601.2.8 GRADING AND STOCKPILING: Add the following paragraph:

"Excavated material shall not be considered as unsuitable due to an excessive moisture content or an inadequate moisture content for proper compaction. The Contractor shall take whatever measures are required, at his own expense, to add or remove moisture from material to be used as backfill in order that proper compaction can be obtained within the limits set in Section 601.4.

The Contractor may elect, at no cost to the Contracting Agency, to haul off and dispose of excessively wet or dry material and replace it with material conforming to the specifications for backfill.

In either event, the proper compaction shall be obtained.

There will be no additional payment or time extension for this work."

- E. SUB-SECTION 601.4.3 BACKFILL: Delete the fourth paragraph in its entirety, and substitute the following:

"When mechanical compaction is to be used, the Contractor will provide a test section demonstrating his proposed method and equipment to be used. Upon agreement with the Engineer as to the acceptability of the Contractor's proposed method and equipment, they shall not be changed without the prior approval of the Engineer. Mechanical compacted lifts in excess of one foot will not be allowed without the express written consent of the Engineer."

- F. SUB-SECTION 601.4.3 BACKFILL: is amended to add the following paragraphs:

"Backfill material shall be within the range of +2% to -4% of the optimum moisture content, prior to placing the material in the trench. The moisture content shall be uniform throughout the backfill material. Material not meeting these requirements may be required to be removed from the trench and moisture added or removed to correct the deficiencies prior to replacement, all at no increase in cost to the contract.

It shall be the Contractor's responsibility to blend excavated material, removing or adding moisture as may be necessary to meet the requirements of the specifications, all at no increase in cost to the contract.

Excavated material when used for backfill shall meet the requirements of the preceding paragraph.

The moisture content requirements contained herein are waived when granular material is used and water settled.

The Engineer may require all or any part of the trench to be load tested for stability with Contractor's equipment prior to placement of asphalt or Portland cement concrete pavement. Unstable areas as determined by the Engineer shall be corrected by the Contractor at no increase in cost to the contract."

- G. SUBMITTAL: The Contractor shall submit his plan, methods, and procedures for protecting existing utilities prior to beginning construction. Approval of the plan does not limit the Contractor's responsibility for utility protection, and the Contractor shall implement all additional utility protection measures as determined to be necessary in the field.

SECTION 615 - SEWER LINE CONSTRUCTION: Items 615-1 and 615-2 of this project shall conform in their entirety to Section 615 of the MAG Standard Specifications.

All vitrified clay pipe shall be extra strength, conforming to MAG Specifications Section 743.

The trenching, bedding and backfilling of the foregoing items shall be in accordance with Section 601 of the Standard Specifications and the amendments in these special provisions.

Item 615-3, as detailed on the project plans, shall be PVC sewer pipe, conforming to the following specifications:

P.V.C. (Polyvinylchloride) Sewer Pipe: P.V.C. pipe and fittings shall meet the requirements of ASTM Specification D3034 for SDR35.

Prior to installation of the pipe, the Contractor shall obtain and submit a manufacturer's certification that the pipe meets the foregoing specifications and passes the tests described in this section.

Pipe shall be suitable for use as a gravity sewer conduit. Provisions must be made for contraction and expansion at each joint with rubber ring. The bell shall consist of an integral wall section with a solid cross-section rubber ring, factory assembled, securely locked in place to prevent displacement during assembly.

The pipe (6" long section) shall be subjected to impact from a free-falling tup (20-lb. Tup A.) in accordance with ASTM Method of Test D2444. No shattering nor splitting shall be evident when impacted an energy of 220 ft-lbs. (Denting is not a failure.)

All fittings and accessories shall be as manufactured and furnished by the pipe supplier, or approved equal, and have bell and/or spigot configurations compatible with that of the pipe.

One full length of P.V.C. pipe selected from 20 lengths shall be subjected to the following tests, which shall be conducted at 73 degrees F. (+- 3 degrees F.):

a. Pipe Stiffness

Minimum "pipe stiffness" (F y) at 5% deflection shall be 46 psi when tested in accordance with ASTM Method of Test D2411, "External Loading Properties of Plastic Pipe by Parallel-Plate Loading".

b. Joint Tightness

Two sections of pipe shall be assembled in accordance with the manufacturer's recommendation. Joints shall be tested in accordance with ASTM D3212, "Joints for Drain and Sewer Plastic Pipe Using Flexible Elastomeric Seals".

c. Flattening

There shall be no evidence of splitting, cracking, or breaking when the pipe is tested as follows:

Flatten specimen of pipe, six inches long, between parallel plates in a suitable press until the distance between the plates is forty percent of the outside diameter of the pipe. The rate of loading shall be uniform and such that the compression is completed within two to five minutes.

Trenching, bedding, and backfilling of P.V.C. pipe shall be in accordance with Section 601 of the Standard Specifications and the amendments in these special provisions.

The placement and the filter material for the condensate pit shall be Type F3, conforming to Section 605 of the MAG Standard Specifications. No tests are required for the condensate pit.

Prior to the backfilling of the air jumper line and the placing of the material in the condensate pit, the porous section of the line shall be made airtight through a means acceptable to the Engineer, and the entire line shall be pressure-tested in accordance with the optimal testing procedure, as detailed in Section 615 of the MAG Specifications.

All pipe for the air jumper line shall be measured by the linear foot, parallel to the central axis, and shall include lengths of fittings.

The accepted quantities of pipe, measured as provided above, will be paid for at the contract unit price complete-in-place. No measurement or direct payment will be made for furnishing and placing bedding material, condensate pit material, fittings, collars, bands, or couplings joining the various sections of pipe.

SECTION 625 - MANHOLE CONSTRUCTION AND DROP SEWER CONNECTIONS: Items 625-1 and 625-2 shall conform in their entirety to Section 625 of the MAG Standard Specifications.

Construction of Item 625-3 shall be undertaken after the new siphon system has been placed into service and the new 8" service line connection has been installed across 25th Avenue. The existing 8" line, extending to the west from the existing manhole, shall be connected temporarily (either inside or outside the manhole) to the new 8" service line by a Ferrol Loop insert, or any other approved means, before the manhole is filled with aggregate base and the mortar bottom forming is added, in accordance with the plan details. The construction of Item 625-3 shall otherwise conform to Section 625 of the MAG Standard Specifications.

Special Structures: The work described in this section of the Special Provisions involves the general requirements for furnishing and installing the following special structures:

- Item 625-4 - Siphon Outlet Structure (Sta. 2+53.44)
- Item 625-5 - Siphon Inlet Structure (Sta. 6+04.75)

Where called for on the Plans, the general requirements, as follows, shall apply to each of the foregoing special structures.

- A. Structural excavation and backfill shall conform to the requirements of MAG 206. Compaction of backfill around and over the structure shall be by hand-operated equipment only. No operator-mounted equipment shall be used. Jetting of pipe within 10 feet of the structure will not be permitted.
- B. The site work for each special structure shall include the temporary support or relocation of utilities which are disturbed as a part of the work for the special structure. Work done to protect existing utilities shall be in conformance with applicable MAG specifications and Details and shall be done to the satisfaction of the affected utility.

- C. The top 6 inches of undisturbed soil below the structure base slabs shall be compacted to 95 percent of maximum density. Structural sub-base material above structure subgrade and below the slabs shall be ABC, conforming to MAG 701, and shall be compacted to 95 percent of maximum density.
- D. Construction materials for the concrete structures shall conform to the requirements as called for on the plans, specified elsewhere in these special provisions, applicable MAG Specifications, and the following:
1. Concrete: Class A, 3,000 psi
 2. Reinforcing Steel: Grade 40
 3. Structural Steel Fasteners, Supports, Anchors, Bolts, Nuts, Etc.: Stainless Steel type 304, conforming to ASTM Specifications A240, A270, or A479, as appropriate
 4. Concrete Additions: Fly ash may be added to the concrete mix per MAG Specifications and as approved by City of Phoenix Materials Testing Section.
 5. Bearing Pads: Neoprene rubber, ozone-resistant, Shore A hardness to 30 +/- 5
 6. Coal Tar Epoxy: Koppers 300M, or equal, applied in two or more coats for a total dry film thickness of 16 mils, in accordance with manufacturer's application instructions; metal surfaces shall be prepared in accordance with Steel Structures Painting Council (SSPC) Specification SP-10 not more than 12 hours before painting.
 7. Joint Sealant: One component, polyurethane base sealant, as manufactured by Grove International, Inc. (Mono-Caulk 100) or equal.
 8. Epoxy Grout: Pourable, nonshrink, 5,500 psi minimum compressive strength at 24 hours, as manufactured by Master Builders, Inc., or equal
 9. Bituminous Mastic: MAG Section 729.2
 10. Concrete Bonding Agent: Epoxy adhesive, as manufactured by Everbond, Dural bond, or equal
 11. Waterstops shall be PVC, dumbbell type, 3/8" thickness. Waterstops shall be made continuously with all splicing performed in accordance with the manufacturer's recommendations. Waterstops shall be Grace Servicized/Dura-Joint, or equal, and shall be installed in accordance with the details on the plans.

Locations of waterstops shall be as noted in these special provisions and as noted on the plans for the individual structures affected.

12. Where new concrete is poured against existing concrete surfaces, the existing surface (including concrete bricks and pipe walls) shall be sandblasted to remove all earth and foreign material. The existing surface shall then be coated with a bonding agent, applied in accordance with the manufacturer's recommendations. Bonding agents shall be Epoxy Adhesive Engineering Conpressive No. 1 LPL, Hunts Process HB 100 or 151, or equal.
13. Bond breaker for concrete form surfaces shall be white pigmented curing compound, conforming to AASHTO M-148, Type 2.
14. Grout used for the repair of imperfect concrete work, filling of holes left by form bolts or ties, filling of voids around items through the concrete and in setting machinery and anchor bolts shall be five-star, nonmetallic, nonshrink grout, such as POR-ROK, Hallenite Manufacturing Company, Burke Stone, Burke Concrete Accessories, Inc., or equal.
15. Caulking, where indicated on the plans, shall be done with a synthetic rubber sealing compound. The rubber sealing compound shall be a multi-part polyurethane, designed to cure at room temperature, to a firm, highly-resilient rubber. Application shall be in strict accordance with the manufacturer's instructions and by means of a pneumatic caulking tool or other acceptable method.
16. Fillets shall be furnished and installed in each special structure, in accordance with the general flow lines indicated on the plans. Fillets shall be constructed of Class C concrete, in accordance with MAG Section 725, or Course Brick in Mortar.

Fillets shall be hand-shaped and trowel-finished to create a smooth, even flow line which is free of obstructions to the flow.

- E. Precast deck units (roof) shall be fabricated in accordance with the notes and details indicated on the plans. The bottom and all vertical faces of the roof sections, except the outside face, shall be covered with PVC liner plate. Lifting hooks shall be cast into the deck units as indicated on the plans and shall be capable of supporting the entire weight of the roof section. Joints between walls and top sections and between adjacent top sections shall be sealed in accordance with plan details.
- F. Liner plate material for interior faces of concrete structures and roof sections shall conform to Section 741 of MAG and shall be installed on surfaces indicated on the drawings. All PVC liner plate

shall be white in color. Installation shall conform to Section 741 of MAG, where applicable, and to manufacturer's recommendations. The Contractor shall have a technical representative of the PVC liner manufacturer present during initial placement of the liner to ensure that proper application procedures and materials are followed. Section 741 shall be amended to include the following paragraphs:

741.4 Application to Cast-in-Place Concrete Structures: Special Requirements

741.4.1 Liner plate sheets shall be closely fitted and properly secured to the inner forms. Sheets shall be cut to fit curved and warped surfaces, using a minimum number of separate pieces. If liner plate joints are to be Type C-3 joints, as described below, the adjacent sheets shall be butted with not more than 1/8" opening between the sheets. A welding strip shall be fusion-welded on the backs of butt joints to prevent wet concrete from flowing around the edges.

Unless otherwise indicated on the plans, liner plate shall be returned 4" at the surfaces of contact between the concrete structure and items not of concrete. The same procedure shall be followed at joints where the type of protective lining is changed or the new work is built to join existing unlined concrete. At each return, the returned liner plate shall be sealed to the adjacent surface in contact with the plastic-lined concrete using Amercoat No. 19Y adhesive, or equal. If the joint space is too wide or the joint surfaces are too rough to allow satisfactory sealing with this adhesive, the joint space shall be filled with 2" of densely-caulked lead wool or other approved caulking material.

741.4.2 Joints in Liner Plate for Cast-in-Place Concrete Structures

Liner plate at joints shall be free of all mortar and other foreign material and shall be clean and dry before joints are made.

Field joints in the liner plate shall be of the following described types, used as prescribed:

Type C-1: The joint shall be made with a separate 4-inch joint strip and two welding strips. The width of the space between adjacent liner plate sheets shall not exceed 2". The 4" joint strip shall lap over each liner plate a minimum of 1". It may be used at any transverse or longitudinal joint.

Type C-2: The joint shall be made by lapping sheets not less than 1 inch. One welding strip is required. The upstream sheet shall overlap the one downstream.

Type C-3: The joint consists of one welding strip applied to the face of the liner plate sheets butted together, with one welding strip

applied on the back of the joint. It will not be permitted if the gap between the sheets exceeds 1/8".

All welding is to be in strict conformance with liner plate manufacturer's specifications.

- G. Where new concrete is poured against existing concrete surfaces, the existing surface (including concrete bricks and pipe walls) shall be sandblasted to remove all earth and foreign material. The existing surface shall then be coated with a bonding agent applied in accordance with the manufacturer's recommendations. Bonding agents shall be Epoxy Adhesive Engineering Concrete No. 1 LPL, Hunts Process HB 100 or 151, or equal.
- H. Grout fillets shall be furnished and installed in each special structure, in accordance with the general flow lines indicated on the plans. Fillets shall be constructed of Class C concrete, in accordance with MAG Section 725, or Course Brick in Mortar. Fill concrete shall contain an epoxy binder and nonshrink additives containing no metallic particles, as manufactured by Master Builders, Inc., or equal. Fillets shall be hand-shaped and trowel-finished to create a smooth, even flow line which is free of obstructions to the flow.
- I. The access hatch shall be a BILCO Company Type J-SAI, with a 42" square opening or an equivalent. The door shall be 1/4" minimum thickness galvanized steel, diamond-pattern plate, capable of sustaining a 300 Lb./Sq. Ft. minimum live load.
- J. Fiberglass maintenance ladders shall be shipped from the manufacturer's shop complete and ready for installation. The manufacturer shall submit shop drawings for approval, and fabrication shall not proceed until drawings and manufacturer's certifications have been approved by the Engineer.

The ladder shall be clearly identified with a chemical-resistant tag showing the manufacturer's drawing number.

The fiberglass ladder shall meet the following requirements:

Design:

- 1. Design shall be as specified under the OSHA sub-section entitled "Fixed Ladders".
- 2. A minimum safety factor of five (5) shall be applied to loads referenced in OSHA.
- 3. Joints, couplings, etc. shall be bonded with epoxy or mechanically fastened with non-metallic hardware.
- 4. Rung and side rail connections shall utilize a pin and keyway ar-

rangement to prevent rotation of the rungs during climbing.

5. Upper surface of rungs shall have an epoxy/glass bead non-skid coating.
6. The clear rung width shall be 18", with rungs at 12" vertical centers.

Materials:

1. All material supplied under this specification shall be made of premium-grade, chemical-resistant, fire-retardant, glass-reinforced polyester resin, with the following properties:

- a. Fire retardant Class I frame spread of 25 (ASTM E-84)
- b. Color: yellow throughout
- c. Mechanical properties (minimum):

(1) Ultimate tensile strength	30,000 psi
(2) Ultimate compressive strength	30,000 psi
(3) Ultimate shear	5,500 psi
(4) Modulus of elasticity	2.5×10^6
(5) Barcol Hardness	50

2. Side rails shall have a polyurethane coating.

Workmanship:

1. All cut edges and holes shall be sealed with a compatible resin system.
2. Side rails shall run square and true, without warp, twist, sag, or buckle.
3. Surfaces shall be free of fiber blemish.

K. The fiberglass grating shall be Irving type, or equivalent, and installed within the structure, as shown on the plans. Each section of the grating shall be held in place with four (4) stainless steel studs and saddle clips. The grating shall have 1 1/2-inch-deep sections, with a minimum safe load rating of 300 pounds per square foot.

L. Stop log grooves, stop logs, and gates shall consist of fiberglass material, as detailed on the construction plans. All fiberglass material shall be made of premium-grade, chemical-resistant, fire-retardant, glass-reinforced, polyester resin, which shall be fire-retardant Class I - frame spread of 25 (according to ASTM Specification E-84) and have a Barcol hardness of 50.

- M. The plastic staff gauges shall be of 1 1/2" diameter, white PVC pipe, which shall be capped and installed in the mortar lining of the structure, as shown on the project plans. The water level markings shall be etched and the gauges then painted with black lines and numerals, as shown on the plans, with corrosion-resistant paint, as approved by the Engineer, or be formed with pieces of black PVC pipe, as detailed on the construction plans.
- N. All open excavations for construction of the structures shall be securely and completely fenced during nonworking hours. The excavations shall be barricaded at all times, in accordance with the Maricopa County Highway Department Barricade Manual.
- O. Shop Drawings: Prior to the manufacture and/or installation of any items in the special structures noted, the Contractor shall submit eleven (11) copies of shop drawings for review. The shop drawings shall consist of setting plans, details, materials of manufacture, and such other information as may be required to verify that the proposed material or equipment meets the requirements of the project documents. These shop drawing submittals are in addition to any other submittal requirements noted in other parts of the contract documents, and apply to all materials and equipment furnished for each of the special structures previously noted.
- P. Measurement and payment for each special structure shall be on a lump sum basis. The prices bid shall include all necessary excavation, backfill, and compaction to install each structure, concrete reinforcing steel, PVC lining, coatings as specified, grout fillets, and all other miscellaneous items necessary to complete the work on each structure.
- Q. The Contractor shall submit his proposed detailed method of construction for each structure for review by the Engineer one month prior to construction of each structure.

The brick work and mortar for Item 625-6, Sanitary Sewer Pipe Plugs, shall be constructed in accordance with Section 625 of the MAG Standard Specifications.

Construction of Item 625-7, Fill and Abandon Manhole and Plug Pipe, shall be undertaken after the new sanitary sewer siphon and connector pipes have been placed into service and accepted by the Engineer. Prior to installation of any plugs, filling in, removing, or abandoning any manholes, the abandoned sewer lines will be dewatered and aerated by the Contractor as will not cause damage to public property nor constitute any nuisance or menace to the public. The Contractor shall plug all pipes entering and exiting the manhole, remove and salvage the frame and covers, fill and compact all manholes with aggregate base up to the frame and cover base.

The aggregate base used shall comply with Table 702 in the MAG Standard Specifications.

The surface replacement for the manhole to be abandoned in 25th Avenue to the south of the ACDC bridge shall be Type C, 12" thick, as shown in Detail 200 of the MAG Uniform Standard Details.

The surface replacement for the manhole to be abandoned in 25th Avenue to the north of the ACDC bridge shall be Type B, as shown in Detail 200 of the MAG Uniform Standard Details.

The surface replacement for the manhole to be abandoned in the service road north of the Arizona Canal and west of 25th Avenue shall be Type F, as shown in Detail 200 of the MAG Uniform Standard Details.

Removed frame and covers shall become the property of the City of Phoenix, and the Contractor shall load, haul, and stockpile the frame and covers, as directed, at the City of Phoenix Maintenance Yard, 2301 W. Durango Avenue.

Measurement and payment will be on a unit basis for each manhole filled and will include surface replacement, salvaging of frames and covers, delivery to the City, and plugging pipes.

SECTION 735 - RUBBER GASKET REINFORCED CONCRETE PIPE (Bid Item 735-1): The work described in this section is the purchase, delivery and protective storage of "T-lock" RGRCP pipe and incidental joint materials. Also, the Contractor shall provide access to the storage area for subsequent contractors to acquire their piping materials, required for other sewer projects.

The 30" pipe shall be considered mainline sewer pipe and shall be reinforced concrete pipe as noted below:

Reinforced Concrete Pipe shall be P.V.C. lined reinforced concrete rubber gasket pipe conforming to MAG Section 735. R.C.P. shall have a minimum D-load of 2000 (Class 4).

P.V.C. lining of the pipe shall cover the upper 300 degrees of the concrete pipe and shall conform to Section 741 of MAG.

Rubber gaskets for concrete pipe shall conform to MAG Section 765.

Payment for the P.V.C. lined RGRCP pipe and joint materials will be made at the unit price bid per linear foot, and shall be full compensation for the furnishing, delivery and protective storage of the new pipe and all incidental joint materials. The Flood Control District of Maricopa County reserves the right to delete all or part of the RGRCP pipe, within one week of award of contract, without cost to the Flood Control District of Maricopa County.

SECTION 750a - IRON WATER PIPE AND FITTINGS (Bid Items 750-1, 750-2, 750-3):
Sanitary sewer line construction for Items 750-1, 750-2, and 750-3 shall conform to Section 615 of the MAG Standard Specifications, the City of Phoenix Supplement, and the project plans, except that the lower 4 feet of the backfill, including the compaction, shall be in accordance with the plans special details. In addition, the upper portion of the backfill, between Sta. 2+60 and Sta. 4+16, shall be compacted and lined with concrete, in accordance with the sketch in the Salt River Valley Water Users' Association license agreement, which is included in these contract documents. All other trenching, bedding and backfilling of the ductile iron pipe shall be in accordance with Section 601 of the Standard Specifications and the amendments in these special provisions. All ductile iron pipe shall be minimum Class 54, conforming to Section 750 of the MAG Standard Specifications, shall be polywrapped in accordance with Section 610.5 of the MAG Standard Specifications, and shall be fully lined with the following system:

Materials:

The material shall be a catalyzed coal tar epoxy, supplied by a reputable manufacturer, having a proven history in water and waste service.

All materials shall be delivered to the application plant in the original unopened containers. Handling and storage shall be in accordance with the manufacturer's recommendations and adequate to prevent damage or deterioration.

The material supplier shall supply test results and certification showing that the delivered materials meet the manufacturer's specifications.

Any material found to be non-conforming, damaged, or deteriorated shall be immediately removed from the application plant.

The manufacturer's recommendations and specifications for this material shall be furnished to the Engineer by the Contractor.

Application:

All interior barrel and joint surfaces which will be exposed to the sewer liquids and gases shall be prepared for lining so as to remove all loose foreign materials which would adversely affect the bond of the compound to the pipe surface. Since some oxides present after the manufacture of the ductile iron pipe are tightly adhering to the surface and thus become an integral part of the surface, the intent of this specification is that these tightly-adhering oxides be left on the surface and only loose oxides be sandblasted away. Specifically, surface preparation shall consist of sandblasting to the extent that the entire surface is struck by the blast media. All prepared surfaces shall receive at least one coat of the specified protective compound prior to any deterioration of the prepared surface.

The lining compound shall be applied by a competent firm, with a demonstrated ability for lining ductile iron. The workmen employed by the applicator shall be experienced and competent in the application of pipe lining and shall have been trained in the application and inspection of the lining compound.

All application equipment, including a special high-speed centrifugal airless device, shall be as recommended by the supplier of the lining compound. Suitable spray equipment or brush shall be utilized to coat the joint surfaces and the exterior of the pipe. All equipment used shall be maintained in good working condition. Materials and brushes shall be delivered to the job site for field application of lining sections damaged during installation.

The pipe surface areas to be lined shall be blown off with air to remove all abrasives, dust, or other contaminants. Any grease or oil shall be removed by solvent cleaning. The lining shall not be applied under adverse atmospheric conditions which would cause loss of integrity of the applied coating and, in no event, when the ambient temperature is less than 40 degrees F.

Lining Thickness:

The lining compound shall be thoroughly mixed, in accordance with the manufacturer's instructions. After blasting and cleaning, the lining compound shall be applied to all barrel surface areas which will be exposed to sewer liquids and gases. The lining compound shall be applied to the barrel of the pipe, utilizing a suitable application device so as to obtain a continuous and relatively-uniform and smooth integral lining in three or more coats. The first coat shall consist of (20 mils wet) 16 mils minimum dry film thickness, and the finish coat(s) shall be applied

to yield a total minimum dry film thickness of 40 mils for the complete system. The material supplier's recoat instructions shall be strictly followed. After coating the barrel surfaces, special care shall be given to assure that all joint surfaces exposed to sewer liquids and gases are given a prime and finish coat resulting in a minimum dry film thickness of 30 mils. Because of the extremely rough profile of ductile iron pipe and to insure adequate protection, the amount of the material required to achieve the desired film thickness shall be calculated, and that amount shall be applied to the surface. When measured with a properly-calibrated magnetic film thickness gauge, the cured coating shall not read less than 36 mils for the barrel surfaces and joint surfaces.

Each day's production shall be marked with the date that the lining system is completed and inspected, using a suitable permanent marker.

Holiday detection on the cured coating shall be performed using a high voltage, dry conductive probe, similar to Tinker and Razor Model AP/W adjusted to 7500 volts for each pipe section and fitting.

All damaged areas, holidays, and insufficient millage shall be repaired in accordance with the manufacturer's recommendations, so that the repaired area is equal to the undamaged areas in all respects. This shall be the responsibility of the contractor for all piping items supplied.

Equipment used to handle and transport the lined pipe shall be suitably designed and operated so as not to damage the coating. Should damage occur, the damaged areas shall be repaired so that the repaired area is equal to the undamaged areas in all respects. This shall be the responsibility of the contractor for all piping items supplied.

Lined surfaces of the pipe shall have as long a drying time as practicable. In any event, the finished coating shall have dried at least 5 days at 70 degrees F. All phases of the lining process and repair procedure shall conform to the manufacturer's recommendations.

Measurement will be made horizontally from the inside wall of the siphon inlet and outlet structures for the various sizes of pipe called for on the plans and in the bidding schedule.

Payment for the various sizes of ductile iron sewer pipe will be made at the unit price bid per linear foot, and shall be full compensation for furnishing and installing new pipe and fittings complete-in-place, as specified, including excavating, concrete encasement, backfilling, bedding, compacting, sheeting and bracing testing, and all incidental work not specifically covered in other pay items.

SECTION 750b - IRON WATER PIPE (Bid Items 750-4 thru 750-13): The work described in this section is the purchase, delivery and protective storage of additional Class 54 mechanical joint ductile iron sewer pipe, fittings and flex couplings all with internal coal tar epoxy lining, and all incidental joint materials. Also, the contractor shall provide access to the storage area for subsequent contractors to acquire their piping materials, required for other sewer projects. Reference Section 750a for pipe material and lining requirements.

Payment for the various MJDIP pipe, fittings, couplings and all joint materials will be made at the unit price bid per linear foot or per item, and shall be full compensation for the furnishing, delivery and protective storage of all pipe, fittings, couplings and incidental joint materials. The Flood Control District of Maricopa County reserves the right to delete all or part of the additional MJDIP materials, within one week of award of contract, without cost to the Flood Control District of Maricopa County.

SECTION 775 - BRICK AND CONCRETE BLOCK: Wall construction for Item 775-1 shall conform to Section 775 of the MAG Standard Specifications and the project plans, with the following amendments:

Materials: All materials shall conform to the details in the construction drawings. The supplier shall provide certificates of compliance indicating conformance to MAG Standard Specifications.

Gate: The existing gate frames shall remain on this project. The chain link fencing and barbed wire gate materials shall be removed and replaced with wood link fence, Part No. 20023, as provided by Ocotillo Lumber Sales, Inc. or by an equivalent as approved by the Engineer.

Construction: Where it is necessary to cut masonry units, such cuttings shall be done with a carborundum wheel and all junctions and joints carefully and accurately fitted.

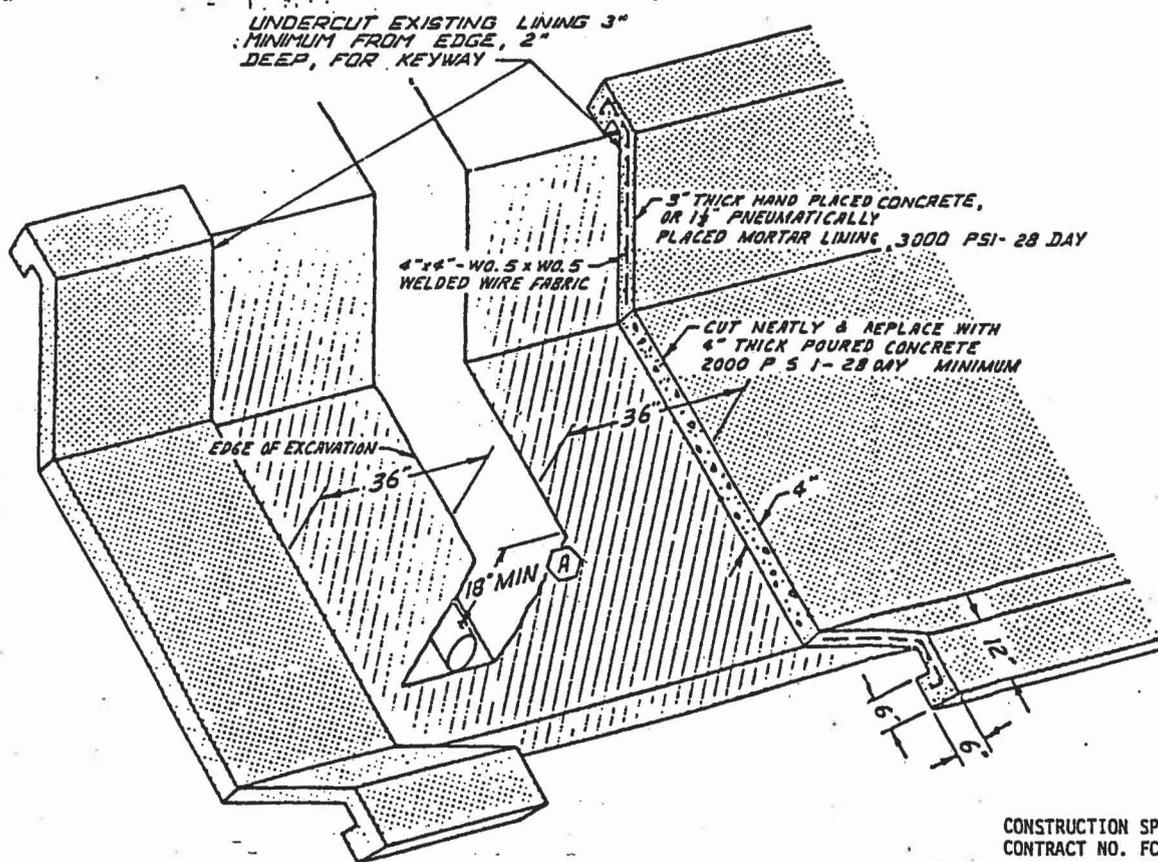
Measurement and Payment: Payment for Item 775-1 will be made at the unit bid per linear foot, measured along the outer periphery of the wall, and shall be full compensation for constructing and installing the wall in place, as specified, including replacing the gate materials, removing approximately 230 linear feet of existing fencing, excavating, backfilling, compacting, and all incidental work not specifically covered in other pay items.

General Comments: The term "or equal" when used in the description of any construction materials, shall be understood to mean "or approved equal", as determined by the Engineer.

The Flood Control District of Maricopa County reserves the right to adjust design grades or the location of the sewer lines and structures prior to construction, if it should become necessary in the opinion of the Engineer, without additional cost to the Flood Control District of Maricopa County.

The Contractor shall exercise care to prevent damage to any existing facilities.

Upon completion of the construction, the Contractor shall clear the work area of all debris to the satisfaction of the Engineer.



SPECIFICATIONS FOR LINED CANAL UNDERCROSSINGS

1. LINED BANKS TO BE NEATLY CUT AND REMOVED 36" (EACH SIDE) FROM EDGE OF EXCAVATION AND REPLACED WITH A MINIMUM 3" THICK HAND PLACED CONCRETE OR 1-1/2" PNEUMATICALLY PLACED MORTAR LINING, APPLIED OVER 4"x4"-W0.5xW0.5 WELDED WIRE FABRIC.
2. LINED FLOOR TO BE NEATLY CUT AND REMOVED 36" (EACH SIDE) FROM EDGE OF EXCAVATION AND REPLACED WITH 4" THICK 2000 P.S.I. (28 DAY) POURED CONCRETE.
3. A WHITE PIGMENTED CURING COMPOUND SHALL BE APPLIED TO ALL NEWLY PLACED CONCRETE.
4. BACKFILL TO BE NATIVE MATERIAL COMPACTED IN LAYERS TO A MINIMUM OF 90% PROCTOR DENSITY. WHEN NATIVE MATERIAL IS PREDOMINANTLY OF NON-COHEISIVE, GRANULAR CONSISTENCY, IT SHALL BE REPLACED WITH A SUITABLE MATERIAL APPROVED BY THE ASSOCIATION INSPECTOR.
5. CANAL ROADWAY SURFACES TO BE RESTORED TO THEIR ORIGINAL CONDITION.
6. NO MANHOLES, RISERS, OR OTHER ABOVE-GROUND FACILITIES TO BE PLACED IN ANY PORTION OF CANAL RIGHT-OF-WAY.
7. TOP OF INSTALLATION IN ANY PORTION OF CANAL RIGHT-OF-WAY TO BE A MINIMUM OF 36 INCHES BELOW GROUND SURFACE.
8. DIRT AND ANY DEBRIS PLACED IN CANAL FOR ANY REASON TO BE COMPLETELY REMOVED UPON COMPLETION OF CROSSING.

(A) MINIMUM OF 18" TO TOP OF PIPE OR TOP OF CONCRETE ENCASEMENT.

NOTE:

PROCTOR DENSITIES TO BE DETERMINED IN ACCORDANCE WITH ASTM D 698.

CONSTRUCTION SPECIAL PROVISIONS
CONTRACT NO. FCD 87-25

REVISED	BY	CHECKED	APPROVED	DESCRIPTION
SALT RIVER VALLEY WATER USERS' ASSOCIATION PHOENIX, ARIZONA				
LINED CANAL UNDERCROSSING AND REPLACEMENT DETAILS				
DESIGNED	MSV	DESIGNED	BG	APPROVED
SCALE	NONE	CHECKED	JJA	TAC TO CA
SHEET		6-18-79	8-54-225	Y4

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: _____

LEGAL REVIEW

Approved as to form and within the powers and authority granted under the laws of the State of Arizona to the Flood Control District of Maricopa County.

By: _____

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 87-25
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

PRINCIPAL SEAL

By: _____

AGENCY ADDRESS

SURETY SEAL

BY: _____

CONTRACT NO. FCD 87-25
PERFORMANCE BOND

POWER OF ATTORNEY SEAL

FLOOD CONTROL DISTRICT of Maricopa County

200-30

TABULATION OF BIDS

25th Avenue Sanitary Sewer

FCD 87-25

PROJECT: Siphon at the ACDC

DATE OPENED: 10 AUGUST 1987

SH. 1 OF 2

PAY ITEM NO.	DESCRIPTION	APPROX. QUANTITY & UNIT	NIKKO CONSTR.		LUNDELL CONSTR. CO., INC.		LLOYD BROS. CONSTR.							
			UNIT PRICE	BID TOTAL	UNIT PRICE	BID TOTAL	UNIT PRICE	BID TOTAL	UNIT PRICE	BID TOTAL	UNIT PRICE	BID TOTAL	UNIT PRICE	BID TOTAL
336.1	SURFACE REPLACEMENT TYPE "A", DETAIL 200	23 SY	\$33.00	\$759.00	\$34.10	\$781.30	\$28.00	\$644.00						
336.2	SURFACE REPLACEMENT TYPE "B", DETAIL 200	33 SY	\$39.00	\$1,287.00	\$75.00	\$2,475.00	\$70.00	\$2,310.00						
336.3	SURFACE REPLACEMENT BITUMINOUS BIKE PATH	28 SY	\$33.00	\$924.00	\$11.35	\$317.80	\$18.00	\$504.00						
336.4	SURFACE REPLACEMENT S.R.P. CHANNEL LINING	220 SY	\$137.00	\$30,140.00	\$68.70	\$15,114.00	\$26.00	\$5,720.00						
340.1	COMBINED CONCRETE CURB & GUTTER, STD. DET. 220, TYPE "A", H=6'	18 LF	\$16.00	\$288.00	\$17.50	\$315.00	\$30.00	\$540.00						
340.2	SAWCUT, REMOVE, AND REPLACE 6" EXTRUDED CURB	35 LF	\$18.00	\$630.00	\$12.50	\$437.50	\$24.00	\$840.00						
350.1	MISCELLANEOUS REMOVAL & OTHER WORK	1 LS	\$2,300.00	\$2,300.00	LS	\$3,150.00	\$1,400.00	\$1,400.00						
401.1	TRAFFIC CONTROL DEVICES	1 LS	\$2,600.00	\$2,600.00	LS	\$4,200.00	\$6,000.00	\$6,000.00						
615.1	8" SANITARY SEWER	182 LF	\$25.00	\$4,550.00	\$61.25	\$11,147.50	\$65.00	\$11,830.00						
615.2	21" SANITARY SEWER	320 LF	\$57.00	\$18,240.00	\$79.60	\$25,472.00	\$121.00	\$38,720.00						
615.3	12" AIR JUMPER LINE	385 LF	\$54.00	\$20,790.00	\$129.80	\$49,973.00	\$167.00	\$64,295.00						
625.1	SANITARY SEWER MANHOLE STD. DET. 420	2 EACH	\$1,650.00	\$3,300.00	\$2,000.00	\$4,000.00	\$2,000.00	\$4,000.00						
625.2	SANITARY SEWER MANHOLE CONNECTION, STD. DET. 420 W/DROP	1 EACH	\$2,400.00	\$2,400.00	\$2,350.00	\$2,350.00	\$2,500.00	\$2,500.00						
625.3	RECONSTRUCT EXISTING MANHOLE	1 EACH	\$870.00	\$870.00	\$290.00	\$290.00	\$1,000.00	\$1,000.00						
625.4	SANITARY SEWER SIPHON OUTLET STRUCTURE	1 EACH	\$39,060.00	\$39,060.00	\$18,600.00	\$18,600.00	\$32,000.00	\$32,000.00						
625.5	SANITARY SEWER SIPHON INLET STRUCTURE	1 EACH	\$39,060.00	\$39,060.00	\$55,000.00	\$55,000.00	\$30,000.00	\$30,000.00						
625.6	SANITARY SEWER PIPE PLUG, STD. DET. 427	4 EACH	\$160.00	\$640.00	\$110.00	\$440.00	\$200.00	\$800.00						
625.7	FILL ABANDONED MANHOLE AND PLUG PIPE	3 EACH	\$651.00	\$1,953.00	\$575.00	\$1,725.00	\$400.00	\$1,200.00						
750.1	8" DUCTILE IRON SANITARY SEWER PIPE	355 LF	\$82.00	\$29,110.00	\$152.65	\$54,190.75	\$185.00	\$65,675.00						
750.2	12" DUCTILE IRON SANITARY SEWER PIPE	355 LF	\$90.00	\$31,950.00	\$161.70	\$57,403.50	\$200.00	\$71,000.00						
750.3	16" DUCTILE IRON SANITARY SEWER PIPE	355 LF	\$102.00	\$36,210.00	\$177.70	\$63,083.50	\$214.00	\$75,970.00						
775.1	WALL, 6' HIGH	342 LF	\$30.00	\$10,260.00	\$12.60	\$4,309.20	\$8.00	\$2,736.00						
750.4	8" DUCTILE IRON SANITARY SEWER PIPE	700 LF	\$22.50	\$15,750.00	\$16.10	\$11,270.00	\$17.00	\$11,900.00						
750.5	10" DUCTILE IRON SANITARY SEWER PIPE	800 LF	\$27.00	\$21,600.00	\$20.25	\$16,200.00	\$23.00	\$18,400.00						

FLOOD CONTROL DISTRICT of Maricopa County

TABULATION OF BIDS

25th Avenue Sanitary Sewer

FCD 87-25

PROJECT: Siphon at the ACDC

DATE OPENED: 10 AUGUST 1987

SH. 2 OF 2

PAY ITEM NO.	DESCRIPTION	APPROX. QUANTITY & UNIT	NIKKO CONSTRUCTORS		LUNDELL CONSTR CO, INC		LLOYD BROS. CONSTR.		UNIT PRICE	BID TOTAL	UNIT PRICE	BID TOTAL	UNIT PRICE	BID TOTAL
			UNIT PRICE	BID TOTAL	UNIT PRICE	BID TOTAL	UNIT PRICE	BID TOTAL						
750.6	20" DUCTILE IRON SANITARY SEWER PIPE	400 LF	\$54.00	\$21,600.00	\$48.45	\$19,380.00	\$55.00	\$22,000.00						
750.7	10"/11.25" MJDIP BENDS	4 EACH	\$168.00	\$672.00	\$243.50	\$974.00	\$130.00	\$520.00						
750.8	8"/22.5" MJDIP BENDS	6 EACH	\$125.00	\$750.00	\$181.75	\$1,087.50	\$100.00	\$600.00						
750.9	10"/22.5" MJDIP BENDS	12 EACH	\$155.00	\$1,860.00	\$243.50	\$2,922.00	\$130.00	\$1,560.00						
750.10	20"/22.5" MJDIP BENDS	8 EACH	\$750.00	\$6,000.00	\$362.00	\$7,696.00	\$850.00	\$6,800.00						
750.11	8" MJ- SOLID SLEEVES, LONG	3 EACH	\$110.00	\$330.00	\$133.00	\$399.00	\$100.00	\$300.00						
750.12	10" MJDIP DRESSER COUPLING	12 EACH	\$91.00	\$1,092.00	\$318.50	\$4,182.00	\$250.00	\$3,000.00						
750.13	20" MJDIP DRESSER COUPLING	6 EACH	\$343.00	\$2,058.00	\$621.00	\$3,726.00	\$500.00	\$3,000.00						
735.1	30" RUBBER GASKET REINFORCED CONCRETE PIPE 'T-LOCK'	130 LF	\$70.00	\$30,100.00	\$51.40	\$22,102.00	\$48.00	\$20,640.00						
				378,473		493,966		520,304						

AGROGENERAL 16-8-14	3.5	EACH	8.50	1487.50
TURF SUPREME 16-6-8	60.5	EACH	7.48	452.54
MULCH	10.5	EACH	1.90	19.95
ZONALITE VERMICULITE	2.5	EACH	4.63	208.35

" DUCTILE IRON PIPE & FITTINGS "				
20"/22.5 DEGREE MJDIP BENDS	4	EACH	750.00	3000.00
DUCTILE IRON SANITARY SEWER PIPE - 20"	23	L.F.	54.00	1242.00
20" MJDIP DRESSER COUPLINGS	12	EACH	343.00	4116.00
10"/22.5 DEGREE MJDIP BENDS	10	EACH	155.00	1550.00
DUCTILE IRON SANITARY SEWER PIPE - 10"	43.5	L.F.	27.00	1174.50
10" MJDIP DRESSER COUPLING	21	EACH	91.00	1911.00
DUCTILE IRON SANITARY SEWER PIPE - 8"	34.5	L.F.	22.50	776.25
8" MJ-SOLID SLEEVES, LONG	1	EACH	110.00	110.00

=====

77177.21

Waterhouse Inventory " 7/5/88

Ductile Iron Pipe & Fittings

4	20" x 22½° ells ✓	11	20" gaskets ✓
1	Joint 20" pipe ✓		
11	20" slip flanges ✓		
1	20" hub ✓		
1	3' piece of 20" pipe ✓		
10	10" x 22½° ells ✓	20	10" gaskets ✓
1	Joint 10" pipe ✓	20'	
1	13' piece 10" pipe ✓		
1	8' piece 10" pipe ✓		
1	2½' piece 10" pipe ✓		
21	10" slip flange ✓		
6	Joints 8" pipe ✓		
1	8' piece of 8" pipe ✓		
2	4' pieces of 8" pipe ✓		
1	2½' piece of 8" pipe ✓		
1	8" x 12" straight coupling ✓		
1/3 box	bolts /		



SALT RIVER PROJECT
LICENSE TO USE RIGHT-OF-WAY

CSR# B3362-62

LICENSE# _____

SEQ# 8705430

DATE August 25, 1987

The Salt River Valley Water Users' Association (hereinafter referred to as Salt River Project) hereby grants a License to install facilities within the right-of-way of the Salt River Project for the following purpose(s):

Installing sewer siphon in SRP Canal right-of-way.

The Licensee, having read and understood the Special Conditions below (and attached) and the General Conditions on the reverse, agrees to these conditions for the installation at the following location(s):

UNDERCROSSING - EAST OF 25TH AVENUE ON THE ARIZONA CANAL.
(11.3E-13.25N) Approximately 379 feet East of the 16/17 Corner of Section 25; T-3N, R-2E.

SPECIAL CONDITIONS

A. CONSTRUCTION ITEMS:

<u>QUANTITY</u>	<u>ITEM</u>
1	Sanitary Sewer Siphon

B. DRAWINGS:

<u>PROJECT</u>	<u>CONSULTANT</u>
Flood Control District 25th Avenue Sanitary Sewer Siphon at the ACDC	Erikson-Salmon, Inc.

FLOOD CONTROL DISTRICT
25th Ave. Sanitary Sewer

APPROVED:

ACCEPTED:

Salt River Valley
Water Users' Association

Licensee _____

Owner/Agent
3335 W. Durango St.

Address
Phoenix, AZ. 85009

CALL FOR ASSISTANCE:

Inspection Irrigation
236- 2609 236-5632

City _____ Telephone _____



**SALT RIVER PROJECT
LICENSE CONTINUATION**

2 3
____ OF ____

CSR# B3362-62
8705430
SEQ# _____
JOB# _____

LICENSE# _____
DATE August 25, 1987

C. SPECIFICATIONS: OPEN CUTTING-LINED/UNLINED CANALS

1. Clearance between the utility line and the bottom of the canal shall be 18 inches for lined canals and 48 inches for unlined canals.
2. Canal banks and floor are to be concrete lined as specified in Salt River Project's drawing #B-5458.

D. SPECIFICATIONS: HORIZONTAL BORING-CANALS

1. Bore pits shall be no closer than 20 feet from the top of the slope of the canal bank.
2. Pits shall be shored in compliance with local, state and federal regulations.
3. Pits and disturbed areas shall be barricaded.
4. Clearance between bore hole and the bottom of the canal shall be 18 inches for lined canals and 48 inches for unlined canals.
5. Any void between the outside of the pipe/conduit and the bore hole shall be pressure grouted.

E. SPECIFICATIONS: OPEN CUT AND HORIZONTAL BORING

1. The utility line in any portion of the canal right-of-way shall have a minimum of 36 inches of cover.
2. Manhole, valves, etc., shall not be located on the canal right-of-way.



**SALT RIVER PROJECT
LICENSE CONTINUATION**

3 OF 3

CSR# B3362-62
8705430
 SEQ# _____
 JOB# _____

LICENSE# _____
 DATE August 25, 1987

3. Canal right-of-way is to be restored to original condition as determined by Salt River Project's Inspector. Care shall be taken to prevent any dirt or debris from falling into the canal.
4. Salt River Project assumes no responsibility for damage to Licensee's installation in operation and maintenance of irrigation facilities.
5. Access to right-of-way shall be available to Salt River Project's personnel at all times.
6. Backfill is to be native material or material approved by the Inspector and compacted in lifts to a minimum of 90% proctor density.
7. The contractor assumes sole responsibility for dust control.

D. CONSTRUCTION CLEARANCE:

Work to be done after securing a construction clearance from TRANSMISSION DIVISION, phone 236-5836, a minimum of 72 hours in advance. A CONSTRUCTION CLEARANCE DOES NOT ASSURE A DRYUP.

ADDENDUM NO. 1
DATE: August 4, 1987

FCD Contract No. 87-25

Page 1 of 5

To Contract Documents

ENTITLED: 25th Avenue Sanitary Sewer Siphon at the Arizona Canal Diversion Channel

OWNER: Flood Control District of Maricopa County

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. Invitation For Bids Page 2 of 5, modify the first paragraph to read: "The work shall commence within seven (7) calendar days after the date of the Notice To Proceed. All work on the project shall be completed by January 15, 1988. The Notice To Proceed will be granted no later than September 8, 1987. In addition, portions of the work as described in the Construction Special Provisions to this contract must be completed no later than November 2, 1987 and December 12, 1987."
2. Construction Special Provisions Page 1 of 24, modify the 1st paragraph of the section entitled "Contract Time" to read: "The contractor shall start work within seven (7) calendar days and shall complete all work on the project by January 15, 1988. The Notice To Proceed will be granted no later than September 8, 1987."
3. Construction Special Provisions page 1 of 24, insert the following section between the sections entitled "Contract Time" and "Water, Light, Power, Heat, Telephone".

"Negotiation Clause

Recovery of damages related to expenses incurred by the Contractor for a delay for which the Flood Control District of Maricopa County is responsible, which is unreasonable under the circumstances and which was not within the contemplation of the parties to the contract, shall be negotiated between the Contractor and the Flood Control District of Maricopa County. This provision shall not be construed to void any provision in the contract which requires notice of delays, provides for arbitration or other procedure for settlement or provides for liquidated damages."

4. Construction Special Provisions Page 5 of 24, add the following sentence to the end of section 108.5 Limitation Of Operations: "This requirement will not be enforced during the Arizona Canal dry-up (November 13, 1987 to December 12, 1987)."
5. Construction Special Provisions page 6 of 24, delete the paragraph entitled "Failure to Complete on Time" and substitute the following:

"For all portions of the work except those noted below, Sub-Section 108.7, Determination and Extension of Contract Time, Sub-Section 108.9, Failure to Complete on Time, and MAG Table 108 will be enforced.

Time is of the essence in completing the portion of the project below the Arizona Canal. Therefore, for the portion of work between stations 2+60 and 4+16 Sub-section 108.7, Determination and Extension of Contract Time, Sub-section 108.9, Failure to Complete on Time, and MAG Table 108 are deleted, and the following paragraph is substituted.

Station 2+60 to Station 4+16

To assure completion of the work between Stations 2+60 and 4+16 within the scheduled time, a daily review of the construction schedule for this work will be made by the Contractor and the Construction Manager. Should it appear that the remaining time in the schedule will be insufficient to successfully complete the work as required, measures will be taken by the Contractor, at no expense to the Flood Control District, to assure that the work will be completed on time. Payment for the work between these stations will be withheld until final inspection and acceptance of the work. Failure to completely install the pipe, including mechanical compaction of the trench and the lining of the canal, in accordance with the plan details, prior to the end of the dry-up period will result in termination of the contract by the Flood Control District and forfeiture of the performance bond by the Contractor. Any further backfilling, compaction, or lining of the Arizona Canal not completed by the Contractor within five days of the end of the dry-up period will be performed by construction forces of the Salt River Valley Water Users' Association. The cost of this work will be negotiated by the Flood Control District with the Salt River Valley Water Users' Association and paid for with monies withheld from the Contractor. Any further work required to complete the installation as shown on the drawings, will be paid for with monies withheld from the Contractor.

Material Delivery

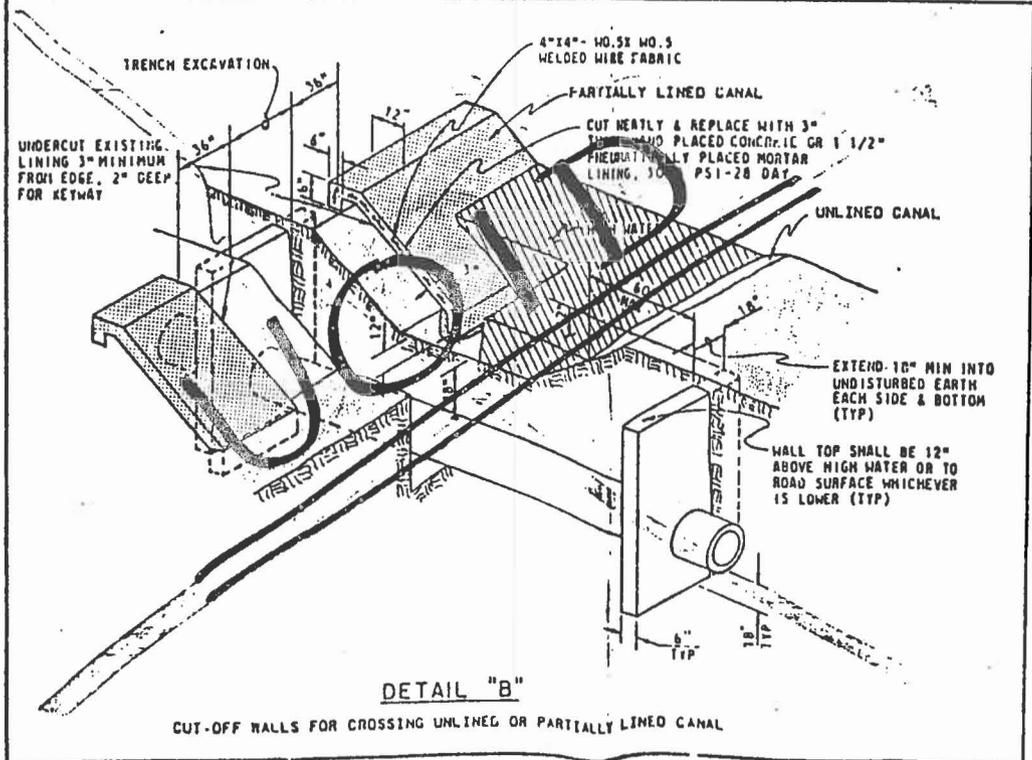
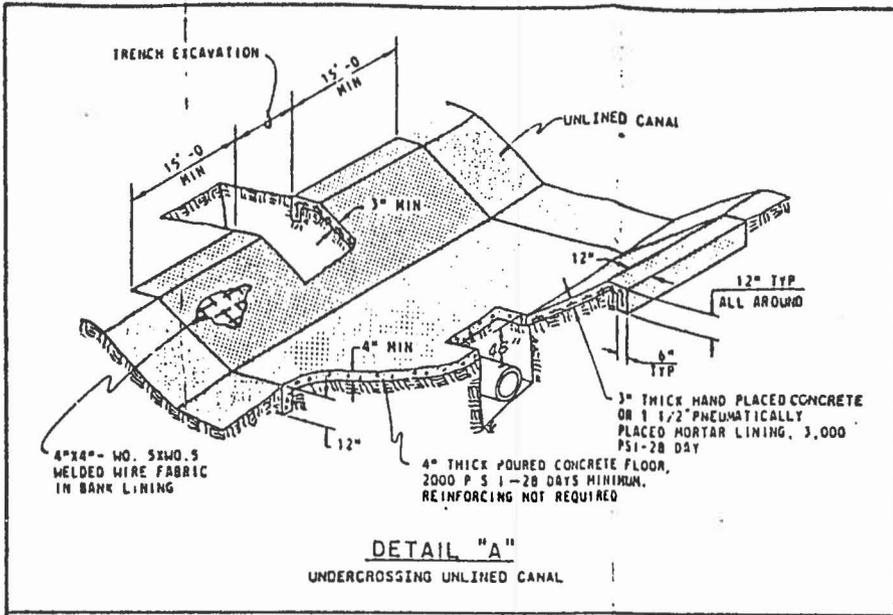
Time is of the essence in delivering the additional materials to the jobsite. (reference bid items No. 735-1 and 750-4 thru 750-13). These materials will be used in three other siphon contracts which must also be completed during the canal dry-up. Therefore, Sub-Section 108.7, Determination and Extension of Contract Time, Sub-Section 108.9, Failure to Complete on Time, and MAG Table 108 are deleted, and the following paragraphs are substituted.

If the materials for bid items No.735-1 and 750-4 thru 750-13 are not delivered to the jobsite in acceptable condition on or before November 2, 1987, the contractor shall be charged at the following rates: From November 2 thru November 9, actual damages incurred by the Flood Control District (caused by change orders to the other siphon contracts resulting from the pipe material delays), not to exceed \$2,000 per calendar day. From November 10 until such time as the materials are delivered to the jobsite, actual damages incurred by the Flood Control District not to exceed \$5,000 per day."

6. Construction Special Provisions page 21 of 24, the ductile iron pipe bid items 750-1, 750-2, 750-3 as called for in Section 750a, all shall be mechanical joint ductile iron pipe (MJDIP).
7. Construction Special Provisions page 24 of 24, in Section 750b, the following "...sewer pipe, fittings and flex couplings..." shall be changed to "...sewer pipe, fittings and couplings..."
8. Delete the page which follows page 24 of 24 of the Construction Special Provisions, entitled "Lined Canal Undercrossing and Replacement Detail", and replace it with the attached pages entitled "Open cutting-lined/Unlined Canals" and "Unlined & Partially Lined Canal Undercrossing".
9. Construction Plans sheet 3 of 9, modify the limits of Type II compaction as follows:
 - from Station 2+79 to Station 4+16 use Type I compaction.
 - from Station 4+16 to Station 5+50 use Type I compaction to a minimum depth of 10 feet above the pipes, the remaining compaction to be Type II.
 - from Station 5+50 to Station 6+20 use Type II compaction.
10. Construction Plans sheet 7 of 9, Condensate Pit Detail, calls for a 12" PVC perforated pipe. This pipe section shall be of the same material as the rest of the airjumper line and shall be field drilled with the following perforation pattern: 3/8" diameter holes at 90 degrees around the pipe, each set of four holes being spaced at 6" center to center along the length of the pipe within the condensate pit.

OPEN CUTTING-LINED/UNLINED CANALS

1. Clearance between the utility line and the bottom of the canal shall be 18 inches for lined canals and 48 inches for unlined canals.
2. Backfill is to be native material or material approved by the Inspector and compacted in lifts to a minimum of 90% proctor density.
3. The utility line in any portion of the canal right-of-way shall have a minimum of 36 inches of cover.
4. Manhole, valves, etc., shall not be located on the canal right-of-way.
5. Canal right-of-way is to be restored to original condition as determined by Salt River Project's Inspector. Care shall be taken to prevent any dirt or debris from falling into the canal.
6. Canal banks and floor are to be concrete lined as specified in Salt River Project's drawing #B-5458.
7. Salt River Project assumes no responsibility for damage to Licensee's installation in operation and maintenance of irrigation facilities.
7. Access to right-of-way shall be available to Salt River Project's personnel at all times.
8. The contractor assumes sole responsibility for dust control.



SPECIFICATIONS FOR UNLINED OR PARTIALLY LINED CANAL UNDERCROSSING

~~PARTIALLY LINED-(BANKS ONLY)~~

1. LINING SHALL BE CAREFULLY CUT 36" EACH WAY FROM EDGE OF EXCAVATION OR PERIMETER OF DAMAGED PORTION AND REPLACED AS SPECIFIED FOR UNLINED CANAL, ITEM #1.
2. IF DETAIL "B" IS USED, CUT-OFF WALLS TO BE INSTALLED AS SHOWN.
3. IF DETAIL "A" IS USED, BOTTOM LINING TO BE TYPICALLY UNDISTURBED EXCEPT BANK LINING AS DIRECTED BY ASSOCIATION INSPECTOR.

- UNLINED CANAL**
- BOTTOM AND/OR BANKS TO BE REPLACED AS SHOWN IN DETAIL "A" OR "B" WITH THE FOLLOWING ADDITIONAL SPECIFICATIONS.
1. IF DETAIL "B" IS USED, UNLINED BANKS TO BE PROVIDED WITH CUT-OFF WALLS AND LINED 36" EACH SIDE OF DISTURBED PORTION OF BANK. LINING TO EXTEND TO TOP OF BANK UNLESS OTHERWISE DIRECTED BY ASSOCIATION INSPECTOR AND KEPT IN WITH A 12" DEEP CUTOFF LIP FULL PERIMETER OF LINING OR TIED TO EXISTING LINING. LINING SPECIFICATIONS TO BE AS SHOWN.
 2. UNSUITABLE MATERIAL FROM BOTTOM OF CANAL TO BE REMOVED TO 2" MAX. DEPTH, REPLACED WITH COHESIVE MATERIAL AT OPTIMUM MOISTURE CONTENT, SHAPED AND COMPACTED TO MIN. 85% PROCTOR DENSITY. BOTTOM ELEVATION TO BE SET BY THE ASSOCIATION INSPECTOR.
 3. BACKFILL TO BE NATIVE MATERIAL COMPACTED IN LAYERS TO A MINIMUM OF 90% PROCTOR DENSITY. WHEN NATIVE MATERIAL IS PREDOMINANTLY OF NON-COHESIVE, GRANULAR CONSISTENCY, IT SHALL BE REPLACED WITH A SUITABLE MATERIAL APPROVED BY THE ASSOCIATION INSPECTOR.
 4. UNLINED SIDES OF CANAL TO BE SHAPED ON A SLOPE TO BE DETERMINED BY THE ASSOCIATION INSPECTOR. THEY WILL NOT BE STEEPER THAN 3/4:1 AND MAY NOT MATCH EXISTING SLOPE.
 5. WHITE PIGMENTED CURING COMPOUND SHALL BE APPLIED TO ALL NEWLY PLACED CONCRETE.
 6. AFTER PLACEMENT OF LINING (DETAIL "A" OR "B"), TRANSITION FROM EXISTING DIRT BOTTOM AND/OR BANKS TO NEW LINING TO BE 4:1 OR FLATTER.
 7. NO MANHOLES, RISERS OR OTHER ABOVE-GROUND FACILITIES TO BE PLACED IN ANY PORTION OF CANAL RIGHT-OF-WAY.
 8. TOP OF INSTALLATION, EXCEPT CANAL PROTECTION, IN ANY PORTION OF CANAL RIGHT-OF-WAY TO BE A MINIMUM OF 36" BELOW GRADE SURFACE.
 9. DIRT OR ANY DEBRIS PLACED IN CANAL FOR ANY REASON TO BE COMPLETELY REMOVED UPON COMPLETION OF CROSSING.
 10. ANY EXISTING GOPHER WALLS DAMAGED OR DESTROYED TO BE REPAIRED OR REPLACED TO ASSOCIATION SPECIFICATIONS.
 11. CANAL ROADWAY SURFACES AND RIGHT-OF-WAY TO BE RESTORED TO THEIR ORIGINAL CONDITION.

NOTE:
PROCTOR DENSITIES TO BE DETERMINED IN ACCORDANCE WITH ASTM D 698.

REVISED NOTES & SPECIFICATIONS				
1-200-100 / 1-16-78 / 1-16-78				
REVISIONS				
NO.	REV	DATE	BY	CHKD
SALT RIVER PROJECT				
WATER & POWER PROJECTS, ARIZ.				
UNLINED & PARTIALLY LINED CANAL UNDERCROSSING				
DESIGNED	BY	CHKD	BY	BY
DRAWN	BY	CHKD	BY	BY
DATE	6-22-78	RECOMMENDED	BY	BY
SCALE	NONE	APPROVED	BY	BY
B-54-58				REV

9-9-87

25th Ave. Siphon Under The ACDC
 PRECONSTRUCTION CONFERENCE
 ATTENDANCE

<u>NAME</u>	<u>ORGANIZATION</u>	<u>TELEPHONE</u>
Dal Wakefield	Western Tech's Inc.	437-3737
GORDON R. BUFORD	NIKKO CONSTRUCTORS	897-7689
ROLF ERIKSON	ERIKSON & SALMON INC	437-0330
Earl Kirby	Flood Control	262-1501
SLAVKO IOVANOVIĆ	SRP - WATER	236-5072
JULIA SHEPHERD	SRP - WATER	236-2843
Ed Raleigh	Flood Control Dist.	262-1501
ERNIE COTA/L.W.	APS	371-6837
SHARLIE KHAN	FLOOD CONTROL DIST	262-1501
JAN WARRINER	" " "	262-1501
Miguel Gutierrez	^{Engineering} C.O.P. Storm Drain Sec.	262-4967
Ernest Arakaki	C.O.P. Water & Wastewater	261-8229
ROY CATT	NIKKO CONSTR. INC.	897-7689

NIKKO CONSTRUCTORS, INC.
5235 SOUTH KYRENE ROAD
SUITE 219
TEMPE, ARIZONA 85283

(602) 897-7689

CORPORATE OFFICERS

PRESIDENT	ROY W. CATT 1709 WEST EL ALBA WAY CHANDLER, ARIZONA 85224	899-1816
VICE PRESIDENT	J. W. CATT GRAND JUNCTION, COLORADO	
SEC-TREASURER	DENNIS A. KOS 538 NORTH SANDSTONE ST. GILBERT, ARIZONA 85234	892-7549
PROJECT ESTIMATOR	GORDON R. BUFORD 2861 SOUTH STANDAGE MESA, ARIZONA 85202	820-7384
PROJECT FORMAN	MARK PRIKE	985-6241
PROJECT FORMAN	DOUG STOCK	
PROJECT FORMAN	RICHARD DAVIS	968-6863

NIKKO CONSTRUCTORS, INC.
5235 SOUTH KEYRENE ROAD
SUITE 219
TEMPE, ARIZONA 85283

NIKKO PROJECT NO.: 2052

25TH AVENUE SANITARY SEWER SIPHON AT
THE ARIZONA CANAL DIVERSION CANNEL

CONTRACT NO. FCD 87-25
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

SUBCONTRACTORS AND SUPPLIERS

VALVES, FITTINGS	WATER PRODUCTS COMPANY
DUCTILE IRON PIPE	WATER PRODUCTS COMPANY
VETRIVIED CLAY PIPE	BUILDING PRODUCTS COMPANY
REINFORCED CONC. PIPE	CANYON CONCRETE
PRECAST MANHOLES	ARIZONA PRECAST
ASPHALT	SANNER CONTRACTING COMPANY
SURVEYING	VALLEY ENGINEERING & SURVEYING CO.

