

CONSTRUCTION SPECIFICATIONS

FOR

GLENDALE AVENUE BRIDGE AT THE  
ARIZONA CANAL DIVERSION CHANNEL

*page 1*

FCD CONTRACT NO. 89-44

Construction Special Provisions  
Prepared By:

ENTRANCO ENGINEERS, INC.  
2400 West Dunlap Avenue  
Phoenix, Arizona 85021

Property of  
Flood Control District of MC Library  
Please Return to  
2501 W. Durango  
Phoenix, AZ 85009



(Engineer's  
Seal)

Prepared for:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

and

Recommended By: *Nick Karan* Date: *9-18-89*  
Nicholas P. Karan, P.E.  
Chief, Engineering Division

Approved By: *D. E. Sagramoso* Date: *9-18-89*  
D.E. Sagramoso, P.E.  
Chief Engineer and General Manager

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

A118.518

ADDENDUM NO. 1

Date: October 6, 1989

FCD Contract No. 89-44

Page 1 of 1

To Contract Documents

ENTITLED: GLENDALE AVENUE BRIDGE 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:

To Invitation to Bid:

Revise 100 cy of 3,000 psi Concrete as shown on Page 3 of 25 to 50 cy.

Revise 100 cy of Class "A" Concrete, Item No. 505-1, as shown on Page 6 of 25 to 50 cy.

To Special Provisions:

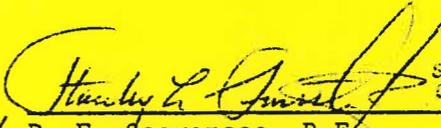
Delete Item T., Page 16 of 37.

Delete the 7th paragraph, Page 31 of 37 which says "The contract unit price ..... sand cement grout".

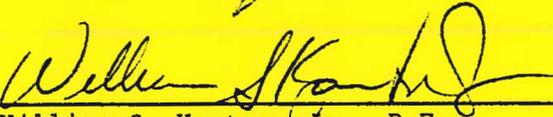
To Construction Drawings:

Revise 100 cy of f'c = 3,000 psi, cast-in-place concrete as shown on Plan and Profile Sheet 3 of 15, under Bridge Quantities Table to 50 cy.

Revise W1.4 X W1.4 - 6 X 6 WWF as shown on Superstructure and Deck Plan, Sheet 6 of 15, Bridge Section (Looking East) to W4 X W4 - 6 X 6 WWF. This quantity shall be paid part of Item 505-3 of Bidding Schedule.

  
STANLEY L. SMITH JR., P.E.  
DEPUTY CHIEF ENGINEER

  
D. E. Sagramoso, P.E.  
Chief Engineer and General Manager  
Flood Control District of Maricopa County

  
William S. Kantor, Jr., P.E.  
Entranco Engineers, Inc.

SEAL



PRINCIPLE ITEMS AND APPROXIMATE QUANTITIES

<u>QUANTITY</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
50	CY	3000 psi Concrete
350	CY	4000 psi Concrete
66,000	LB	Reinforcing Steel
23	EA	Prestressed Concrete Box Girders
1,598	LF	Drilled Shaft, 36" Dia. (Incl. Conc. & Steel)
809	LF	12" VCP Sanitary Sewer Pipe

BIDDING SCHEDULE

PROJECT: GLENDALE AVENUE BRIDGE AT THE  
ARIZONA CANAL DIVERSION CHANNEL

CONTRACT: FCD 89-44

ITEM NO.	APPROXIMATE QUANTITY	UNIT	DESCRIPTION	UNIT COST (IN WRITING) AND /100 DOLLARS	UNIT COST	EXTENDED AMOUNT
206-1	1	LS	Structural Excavation (Approximate Quantity - 1000 CY)			
206-2	1	LS	Structural Backfill (Approximate Quantity - 120 CY)			
310-1	250	TON	Aggregate Base (AB) (Temporary)			
321-1	120	TON	Asphalt Concrete (C-3/4")			
340-1	600	LF	Concrete Curb & Gutter (Det. 220, Type A, H-6")			
340-2	1,500	SF	Concrete Sidewalk (Det. P-1230)			
340-3	760	SF	Concrete Driveway (COP Det. P-1255)			
350-1	800	LF	Sawcut Remove Curb & Gutter and Extruded Curb			
350-2	600	SF	Sawcut Remove Concrete Sidewalk, Driveway and Slabs			
350-3	1,000	SY	Sawcut Remove Asphalt Concrete Pavement (7")			
350-4	1	LS	Miscellaneous Removal & Other Work			
401-1	1	LS	Traffic Control			
401-2	800	HRS	Uniformed Off-Duty Law Enforcement Officer			
505-1	50	CY	Class "A" Concrete (fc = 3,000 psi)			
505-2	350	CY	Class "AA" Concrete (fc = 4,000 psi)			

GLENDALE AVE. BRIDGE AT THE  
ARIZONA CANAL DIVERSION CHANNEL

FCD CONTRACT NO. 89-4 4

Pre-Bid Meeting Minutes  
October 4, 1989

The meeting began with introductions of Flood Control District Staff involved in the contract administration, project management and staff that will be involved in the inspection of the project.

A brief description of the location of the project and major items of constructions were reviewed. The following items were reviewed in detail:

1. Contractors are encouraged to closely review the following Sections in the Construction Special Provisions: Contract Time; 104.1.2; 106.3; 108.5; 350, especially subsections Q through W.
2. Traffic Control - Temporary barricades are to be used on the detours as noted on sheet 2 of 15. A vellum base map will be provided to contractor. Re-stripping is not required.
3. General - This project is subject to the provisions passed in the last legislative session regarding prompt payment to the contractors. The Flood Control District will not have any problem complying to the 14 day payment to the prime contractor. However, the contractor has the responsibility to pay its subcontractors in accordance with the statutes.

- MBE/WBE participation is a desired goal, not a mandatory goal.

4. Addendum - An addendum will be issued. The items of the addendum are as follows:
  - A. Construction Special Provisions:  
Delete paragraph "T" on page 16 of 37.  
Delete the 7th paragraph on page 31 of 37.
  - B. Construction Plans:  
Sheet 3 of 15, Approximate Quantities, Cast-in-Place Concrete, f'c = 3000 psi should be 50 c.t.  
Sheet 6 of 15, the Weld Wire fabric call out in Section "S" should read "w/ 6x6 - W4 x W4 WWF Centered. Fabric Weight shall be a part of Bid Item 505-3.

Glendale Ave. Bridge at the  
Arizona Canal Diversion Channel  
FCD Contract No. 89-44  
Pre-Bid Meeting Minutes  
October 4, 1989

QUESTIONS:

1. If caisson drilling on the weekend is not complete by 6 A.M., Monday, must the holes be plated and the road open to traffic?

Yes. The traffic regulation in 104.1.2 must be adhered to.

2. Is the Weld Wire Fabric weight a part of the reinforcing quantity.

Yes. It is part of Item 505-3 in the Bidding Schedule.

3. Must City of Phoenix off-duty officers only be used?

No. Any off-duty police officer is acceptable.

NAME

COMPANY

PHONE

1. BILL KANTOR ENTRANCO ENGRS INC 264-1228

2. JIM MILNE " "

3. LEANNA CUMBERLAND FCD 262-1501

PROJECT CONTACT

4. Paul Lindgren FCD 269 4269

5. Tom Sankot FCD 262-1501

6. Kumar Hanumaniah FCD 262-1501

7. CURTIS BROUGHTON POLICE CONST. 944-2241

8. Walt Lemov Grammer Const 9570506

9

10

11

12

13

FCD Contract 89-44  
Glendale Avenue Bridge  
Bid Opening: October 18, 1989 - 2:00 pm

1. F.W. Dodge  
997-4772
2. Sun Land Steel, Inc.  
325 East Southern, Suite #4  
Tempe, Arizona 85282  
921-0856  
James Perry
3. J.W.J. Contracting Co., Inc.  
4525 East University Drive  
Phoenix, Arizona 85034  
967-7815  
Laurie Johnson
4. FNF Construction, Inc.  
1921 South Alma School Rd., Suite 101  
Mesa, Arizona 85202  
345-7546  
Clifford Hart
5. Pulice Construction, Inc.  
2033 West Mountain View Rd.  
Phoenix, Arizona 85021  
944-2241  
Mitzi
6. Tanner Construction  
3888 East Broadway  
Phoenix, Arizona 85040  
437-7878  
Estimating Department
7. Nesbitt Contracting Co., Inc.  
P.O. Box 1269  
Mesa, Arizona 85211  
894-2831  
Mary
8. Wheeler Construction  
716 East Rose Garden Lane  
P.O. Box 26840  
Phoenix, Arizona 85068  
254-3179  
Michelle

9. Tanner Companies  
TPAC Division  
P.O. Box 20128  
3052 South 19th Avenue  
Phoenix, Arizona 85036  
262-1365  
Dick Ware
10. Royden Construction, Inc.  
3423 South 51st Avenue  
Phoenix, Arizona 85043  
484-0028  
484-0043 FAX  
Steve Humbert or Pat Fly
11. Judd Drilling, Inc.  
1927 Arnold Industrial Highway  
Concord, California 94520  
415-825-4212  
Dave Judd
12. Grammer Construction Corp.  
2521 East Thomas Rd.  
Phoenix, Arizona 85016  
957-0506  
957-0509 FAX  
Walt Lemon
13. New Construction, Inc.  
P.O. Box 26669  
Tempe, Arizona 85285-6669  
968-7801  
Lowell New
14. Mahaffey Drilling  
5346 West Northern, Suite 119  
Glendale, Arizona 85301  
242-8816  
242-8920 FAX  
Bruce Kenney
15. Arizona Rebar, Inc.  
P.O. Box 6472  
Phoenix, Arizona 85005  
254-0091  
Bill Boren
16. M-A-C Contracting, Inc.  
P.O. Box 23079  
Phoenix, Arizona 85063  
269-3278  
Paul Unger

17. AA Construction Co., Inc.  
223 North Wahsatch  
Colorado Springs, CO 80903  
719-636-5041  
719-636-3145 FAX  
Gay Smith
18. WEI/Urban, Inc.  
One West Deer Valley Road  
Phoenix, Arizona 85027  
254-1418  
Tom Service
19. CS Construction  
22023 North 20th Avenue  
Phoenix, Arizona 85027  
256-7943  
Mike Borden
20. Meadow Valley Contractors, Inc.  
4640 East Elwood St., Suite 2  
Phoenix, Arizona 85040  
731-9021  
Jim Clegg
21. Tanner Companies  
United Metro  
P.O. Box 52140  
Phoenix, Arizona 85072  
220-5605  
Jerry McGerty
22. Becho, Inc.  
2560 South 3270 West  
West Valley City, Utah 84119  
801-973-2035  
801-973-2068 FAX  
No name given
23. Coreslab Structures  
P.O. Box 18150  
Phoenix, Arizona 85005  
237-3875  
237-3459 FAX  
Bill Huntington
24. Ed Logan Contracting Co.  
P.O. Box 2096  
Mesa, Arizona 85204  
844-9756  
Rudy

CONSTRUCTION SPECIFICATIONS

FOR

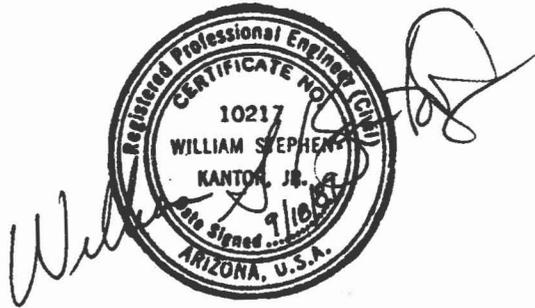
GLENDALE AVENUE BRIDGE AT THE  
ARIZONA CANAL DIVERSION CHANNEL

FCD CONTRACT NO. 89-44

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Construction Special Provisions  
Prepared By:

ENTRANCO ENGINEERS, INC.  
2400 West Dunlap Avenue  
Phoenix, Arizona 85021



(Engineer's  
Seal)

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Prepared for:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

and

Recommended By:

*Nick Karan*

Date: 9-18-89

Nicholas P. Karan, P.E.  
Chief, Engineering Division

Approved By:

*D. E. Sagramoso*

Date: 9-18-89

D.E. Sagramoso, P.E.  
Chief Engineer and General Manager

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 construction projects have not been in complete compliance with Arizona Revised Statutes (A.R.S.).

A.R.S. Sec. 34-201(A)(3) 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 bond 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 nonresponsive bids and will not be accepted or considered for award of contract.

Please take note and submit your bids accordingly.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
FCD CONTRACT 89-44

GLENDALE AVENUE BRIDGE AT THE  
ARIZONA CANAL DIVERSION CHANNEL

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16. Subcontractor Listing	25
17. Construction Special Provisions	SP-01 SP-37
18. Drawings: Glendale Avenue Bridge at the Arizona Canal Diversion Channel, 16 Sheets	Separate



(Area to left reserved for Engineer's Seal)

**FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
INVITATION TO BID**

**BID OPENING DATE:** October 18, 1989

**LOCATION:** This project is located in Phoenix, Arizona, on Glendale Avenue at the Arizona Canal Diversion Channel, approximately 1/8 mile east of 16th Street and immediately east of the Arizona Canal.

**PROPOSED WORK:** The work includes 2 segments:

1. Relocation of a 12" Sanitary Sewer line between Glendale Avenue and 16th Street along the north right-of-way of the ACDC.
2. Construction of a bridge in two phases, including utility relocations on Glendale Avenue.

**BIDS:**

SEALED BIDS for the proposed work will be received by the Flood Control District of Maricopa County, 3335 West Durango Street, Phoenix, Arizona 85009 until 2:00 p.m. (Phoenix time) on the above date and then publicly opened and read at 3335 W. Durango St., Phoenix, AZ 85009. No bids will be received after the time specified for bid opening. All bids must be submitted on proposal forms furnished by the Flood Control District and included in the Proposal Pamphlet. The Board of Directors reserves the right to reject any and all bids and to waive any informality in any bid received.

**ELIGIBILITY OF CONTRACTOR:**

It is the policy of Flood Control District of Maricopa County to endeavor to ensure in every way possible that minority and women-owned business enterprises have every opportunity to participate in providing professional services, purchased goods, and contractual services without being discriminated against on the grounds of race, religion, sex, age, or national origin.

The bidder shall be required to certify that it is appropriately licensed as a Contractor in the State of Arizona for performing the before-mentioned type of work. Verification shall be on the form provided herein.

The bidder may be required to furnish an affidavit as evidence of previous satisfactory performance in the above-mentioned type of work.

In order to determine if bidder is entitled to the provisions of A.R.S. Sec. 34-241, all bidders shall submit, as a part of their proposal, an affidavit stating whether or not taxes have been paid for two successive years as provided in A.R.S. Sec. 34-241. The affidavit shall be in the form provided herein.

In the event a bidder challenges compliance with the tax provision, the successful bidder will be required to provide proof of compliance.

**CONTRACT TIME:**

All work on this Contract is to be completed within one hundred fifty-four (154) calendar days after date of Notice to Proceed.

**MBE/WBE PARTICIPATION:**

For this project, a goal of eighteen (18) percent is desired for Minority/Women-Owned Business Enterprises. Instructions and required forms are included in the Minority and Women-Owned Business Enterprise Program Section.

**PRE-BID CONFERENCE:**

A pre-bid conference will be held on October 4, 1989 at 10:00 a.m. in the Flood Control District conference room, 3335 W. Durango Street, Phoenix, Arizona 85009. It is in the best interest of prospective bidders to attend the Pre-bid Conference.

Questions or items for clarification may be addressed to the Chief, Contracts Branch, in writing, at least ten (10) days prior to bid opening date. Where appropriate, any answers or clarifications affecting the cost may be addressed to all bidders in an addendum. Under no circumstances will verbal interpretations or clarifications be given to individual contractors.

**PROJECT PLANS, SPECIAL PROVISIONS AND CONTRACT DOCUMENTS:**

Plans and Construction Specifications may be obtained from Flood Control District of Maricopa County, 3335 West Durango Street, Phoenix, Arizona 85009 upon payment of \$30.00 by check; payable to the FLOOD CONTROL DISTRICT of MARICOPA COUNTY. This payment will not be refunded. Mail orders for project documents must include an additional \$7.50 for first class U.S. postage and handling. The total \$37.50 will not be refunded. Regardless of circumstances, we cannot guarantee mail delivery. Each bid must be accompanied by a Bid Bond, cashier's or certified check or postal money Order equal to 5 percent (5%) of the bid, made payable to the FLOOD CONTROL DISTRICT OF MARICOPA COUNTY as a guarantee that if the work is awarded to the bidder, the bidder will within ten (10) days of receipt of the Proposal Acceptance, enter into proper contract and bond condition for the faithful performance of the work, otherwise, said amount may be forfeited to the said BOARD OF DIRECTORS as liquidated damages.

All bids are to be marked in accordance with Section 102.9 of the Uniform Standard Specifications and addressed to the Chief Engineer and General Manager, Flood Control District of Maricopa County, 3335 West Durango Street, Phoenix, Arizona 85009.

As provided for in the Agenda Information Form authorizing the Invitation to Bid.

PRINCIPLE ITEMS AND APPROXIMATE QUANTITIES

<u>QUANTITY</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
100	CY	3000 psi Concrete
350	CY	4000 psi Concrete
66,000	LB	Reinforcing Steel
23	EA	Prestressed Concrete Box Girders
1,598	LF	Drilled Shaft, 36" Dia. (Incl. Conc. & Steel)
809	LF	12" VCP Sanitary Sewer Pipe

PROPOSAL

TO THE BOARD OF DIRECTORS  
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
PHOENIX, ARIZONA

Gentlemen:

The following Proposal is made for constructing FCD Contract 89-44: Glendale Avenue Bridge at the Arizona Canal Diversion Channel in the County of Maricopa, State of Arizona.

The following Proposal is made on behalf of

---

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

The Undersigned certifies that the approved Plans, Special Provisions, Forms of Contract, and Bond authorized by the Board of Directors and constituting essential parts of this Proposal, have been carefully examined and also that the site of the work has been personally inspected.

The Undersigned declares that the amount and nature of the work to be done is understood and that at no time will misunderstanding of the Plans, Construction Specifications, Special Provisions, or conditions to be overcome, be pled. On the basis of the Plans, Construction Specifications, Special Provisions, the Forms of Contract, and the Bond proposed for use, the Undersigned proposes to furnish all the necessary machinery, equipment, tools, apparatus, and other means of construction, to do all the work and to furnish all the materials in the manner specified and to finish the entire project within the time hereinafter proposed and to accept, as full compensation therefore, the sum of various products obtained by multiplying each unit price, herein bid for the work or materials, by the quantity thereof actually incorporated in the complete project, as determined by the Engineer or Architect.

The Undersigned understands that the quantities mentioned herein are approximate only 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.

The Undersigned further proposes to perform all extra work that may be required on the basis provided in the Specifications and to give such work personal attention and to secure economical performance.

The Undersigned further proposes to execute the Contract Agreement and furnish satisfactory Bond within ten (10) days of receipt of Notice of Proposal acceptance, **TIME BEING OF THE ESSENCE**. The Undersigned further proposes to begin work as specified in the Contract attached hereto, and to complete the work within 154 calendar days from the effective date specified in the Notice to Proceed, and maintain at all times a Contract Bond, approved by the Board of Directors, in an amount equal to one hundred percent 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 fulfilled.

A Proposal Guaranty in the amount and character named in the Invitation to Bid is enclosed amounting to not less than five (5) percent of the total bid, which Proposal Guaranty is submitted as a guaranty of the good faith of the Bidder and 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 his Proposal, 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.

The Undersigned acknowledges receipt of the following addenda and has included their provisions in the proposal:

Addendum No. _____	Dated _____

The Undersigned has enclosed the required bid security and subcontractor listing to this Proposal.

BIDDING SCHEDULE

PROJECT: GLENDALE AVENUE BRIDGE AT THE  
ARIZONA CANAL DIVERSION CHANNEL

CONTRACT: FCD 89-44

ITEM NO.	APPROXIMATE QUANTITY	UNIT	DESCRIPTION	UNIT COST (IN WRITING) AND /100 DOLLARS	UNIT COST	EXTENDED AMOUNT
206-1	1	LS	Structural Excavation (Approximate Quantity - 1000 CY)			
206-2	1	LS	Structural Backfill (Approximate Quantity - 120 CY)			
310-1	250	TON	Aggregate Base (AB) (Temporary)			
321-1	120	TON	Asphalt Concrete (C-3/4")			
340-1	600	LF	Concrete Curb & Gutter (Det. 220, Type A, H-6")			
340-2	1,500	SF	Concrete Sidewalk (Det. P-1230)			
340-3	760	SF	Concrete Driveway (COP Det. P-1255)			
350-1	800	LF	Sawcut Remove Curb & Gutter and Extruded Curb			
350-2	600	SF	Sawcut Remove Concrete Sidewalk, Driveway and Slabs			
350-3	1,000	SY	Sawcut Remove Asphalt Concrete Pavement (7")			
350-4	1	LS	Miscellaneous Removal & Other Work			
401-1	1	LS	Traffic Control			
401-2	800	HRS	Uniformed Off-Duty Law Enforcement Officer			
505-1	100	CY	Class "A" Concrete (fc = 3,000 psi)			
505-2	350	CY	Class "AA" Concrete (fc = 4,000 psi)			

BIDDING SCHEDULE

PROJECT: GLENDALE AVENUE BRIDGE AT THE  
ARIZONA CANAL DIVERSION CHANNEL

CONTRACT: FCD 89-44

ITEM NO.	APPROXIMATE QUANTITY	UNIT	DESCRIPTION	UNIT COST (IN WRITING) AND /100 DOLLARS	UNIT COST	EXTENDED AMOUNT
505-3	66,000	LBS	Steel Enforcement			
			Concrete Catch Basin			
505-4	2	EA	(COP Std. Det. 1510) (Type 3N)			
505-5	40	CY	12" Reinforced Concrete Street Pavement			
505-6	1,598	LF	Drilled Shaft Foundation (36" Diameter)			
			Precast Prestressed Concrete Box			
506-1	23	EA	Girders (53'-8")			
520-1	142	LF	Ornamental Iron Fence			
610-1	1	EA	Cut/Plug 12" Waterline (Det. P-1343)			
615-1	240	LF	8" PVC Pipe Sleeve			
			Cut & Plug New and Existing 12"			
615-2	3	EA	Sewerline (Det. 427)			
615-3	134	LF	8" VCP Sanitary Sewer Pipe			
615-4	809	LF	12" VCP Sanitary Sewer Pipe			
618-1	112	LF	18" RGRCP Class III Storm Drain			
625-1	6	EA	Sanitary Sewer Manhole (Std. Det. 420)			
625-4	3	EA	Abandon and Fill Manhole (Std. Det. 472)			



SURETY BOND

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. Sec. 34-201(A)(3).

WHEREAS, the said Principal is herewith submitting its proposal for FCD Contract 89-44: Glendale Avenue Bridge at the Arizona Canal Diversion Channel in County of Maricopa, State of Arizona.

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., 1989.

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Title

Witness:  
\_\_\_\_\_

\_\_\_\_\_  
Surety

\_\_\_\_\_  
Title

Witness:  
\_\_\_\_\_





VERIFICATION OF LICENSE

Pursuant to A.R.S. Sec. 32-1169, I hereby state that I hold a current contractor's license, duly issued by the office of the Registrar of Contractors for the State of Arizona, said license has not been revoked, that the license number is: \_\_\_\_\_; that my privilege license number (as required by A.R.S. Sec. 42-1305) is: \_\_\_\_\_; and that, if any exemption to the above licensing requirements is claimed;

(1) The basis for the claimed exemption is: \_\_\_\_\_ and;

(2) The names(s) and license number(s) of any general, mechanical, electrical, or plumbing contractor(s) to be employed on the work are:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

IT IS UNDERSTOOD THAT THE FILING OF AN APPLICATION CONTAINING FALSE OR INCORRECT INFORMATION CONCERNING AN APPLICANT'S CONTRACTOR'S LICENSE OR PRIVILEGE LICENSE WITH THE INTENT TO VOID SUCH LICENSING REQUIREMENTS IS UNSWORN FALSIFICATION PUNISHABLE ACCORDING TO A.R.S. SEC. 13-2704.

DATE: \_\_\_\_\_ SIGNATURE OF LICENSEE: \_\_\_\_\_

COMPANY: \_\_\_\_\_

**MINORITY AND WOMEN-OWNED BUSINESS ENTERPRISE PROGRAM**

- A. The following conditions will apply in the calculation of the percentage attainment:
1. All MBE/WBE firms used in attainment of the goal must be certified with the Maricopa County Minority Business Office which is located in the Maricopa County Highway Department building, 3325 West Durango Street, Phoenix. In addition, only those firms certified at least seven calendar days prior to the bid opening will be considered in the attainment of the goal.
  2. Prime contractor subcontracts to MBE or WBE:  
The MBE/WBE amount to be applied to the goal will be based on that portion (dollar value) of the contract that the MBE/WBE performs. For example, if a prime contractor subcontracts work amounting to \$100,000 of a contract for which the total project cost is \$1,000,000. the MBE/WBE participation will be credited as 10 percent.
  3. Prime Minority Contractor:  
An MBE/WBE prime contractor will be credited with the MBE/WBE participation for that portion of the contract which they themselves perform plus that portions subcontracted to other MBE/WBE firms. For example, if an MBE/WBE prime contractor proposes to perform 50 percent of a project quoted at \$1,000,000 and subcontracts 25 percent to an MBE firm and 25 percent to a non-MBE/WBE firm, MBE/WBE participation will be credited as 75 Percent, or \$750,000.
  4. Minority-Non-Minority Joint Venture:  
A joint venture consisting of MBE/WBE participation and non-MBE/WBE business enterprises, functioning as a prime contractor, will be credited with minority participation on the basis of the percentage of profit accruing to the MBE/WBE firm. For example, if a MBE/WBE and non-MBE/WBE joint venture proposes to perform 50 percent of a \$1,000,000 project and 50 percent of the joint venture profits (\$500,000) are to accrue to the MBE/WBE partner in the joint venture, MBE/WBE participation will be credited at 25 percent or \$250,000.
  5. Lower Tier Non-MBE/WBE Participation:  
MBE/WBE subcontractors proposing to further subcontract to non-MBE/WBE contractors shall not have that portion of subcontracting activity considered when determining the percentage of MBE/WBE participation.

6. MBE/WBE Suppliers:

Any MBE/WBE supplier that manufactures or substantially alters the material or product it supplies will have that portion of activity considered when determining the percentage of MBE/WBE participation. Any MBE/WBE Wholesaler, Distributor, or Jobber that does not manufacture or substantially alter the materials or product it sells will be limited to 20 percent of the sale price when determining the percentage of MBE/WBE participation.

B. Required forms:

An affidavit is included as part of this section. The form must be completed within seven calendar days after the Notice of Award of Contract. The low bidder is required to submit a Minority/Women-Owned Business Enterprise Program MBE/WBE Participation Affidavit listing the MBE/WBE participation by MBE/WBE firm and the related dollar value of the MBE/WBE contract.

C. Requests for Pay:

Each Request for Pay must be accompanied by a Maricopa County Minority/Women-Owned Business Enterprise Program MBE/WBE Participation Report. The final pay request shall include a listing of total contract MBE/WBE participation.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
MINORITY/WOMEN-OWNED BUSINESS ENTERPRISE PROGRAM

MBE/WBE PARTICIPATION ASSURANCES  
AFFIDAVIT

The undersigned, fully cognizant of the Flood Control District of Maricopa County MBE/WBE Program requirements and of the goal established, hereby certifies that in the preparation of this bid,

\_\_\_\_\_  
(the entity submitting the bid)

(CHECK ONE)

- \_\_\_\_\_ Will meet the established goal for participation by Minority/Women-Owned Business Enterprises.
- \_\_\_\_\_ Will provide the necessary documentation to Minority Business Office to establish that a good faith effort was made.
- \_\_\_\_\_ Will not participate in the MBE/WBE Program.

The bidder will specify its MBE/WBE participation on the Intended Participation Affidavit or provide documentation of its good faith efforts not later than 4:00 p.m., the seventh calendar day following the bid opening. The required affidavit shall be obtained by the apparent first and second low bidders from the Minority Business Office, Maricopa County Highway Department Building, 3325 West Durango Street, Phoenix, Arizona 85009, following the opening and reading of bids; a sample affidavit form for reference purposes follows.

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
MINORITY-OWNED BUSINESS ENTERPRISE PROGRAM

MBE/WBE PARTICIPATION AFFIDAVIT  
(To be submitted within seven calendar days of Notice of Award)

Flood Control District of Maricopa County Contract No. FCD 89-44

1. Intended Minority/Women-Owned Business Enterprise Participation (attach additional papers, if necessary.)

Name of Firm	Principal	Address	Item Number(s) or Work Description	Dollar Value of Subcontract
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

MBE/WBE Contract Goal \_\_\_\_\_

Total Dollar Value of Proposed Subcontract(s) \_\_\_\_\_

Contract Bid Total \_\_\_\_\_

Percent of Contract Bid to be Subcontracted \_\_\_\_\_

2. Substitution

I understand that if a Maricopa County certified MBE/WBE (sub)contractor is unable to perform for any part of the intended work, my company should make sufficient efforts to (sub)contract either the same, or other work to an alternative Maricopa County certified MBE/WBE equal to the amount to attain the MBE/WBE goal and that I must document such efforts.

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

cc: Minority Business Office  
Maricopa County Highway Building  
3325 West Durango Street  
Phoenix, Arizona 85009

MARICOPA COUNTY  
MINORITY/WOMEN-OWNED BUSINESS ENTERPRISES PROGRAM

MBE/WBE PARTICIPATION REPORT  
(To be attached with Request for Pay)

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

Contractor: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

Project: Glendale Avenue Bridge at the

Arizona Canal Diversion Channel

Contract Number: 89-44

For Pay Period of: \_\_\_\_\_

Subcontractor: \_\_\_\_\_

Person to Contact: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Type of Firm: \_\_\_\_\_

Class of Work: \_\_\_\_\_

Subcontract Amount: \_\_\_\_\_

Amount Earned \_\_\_\_\_

(Commission) This Period: \_\_\_\_\_

Total Earned by This Subcontractor: \_\_\_\_\_

Total MBE/WBE Contract Goal, %: 18

Total Cumulative MBE/WBE

Participation on This Contract, %: \_\_\_\_\_

MBE/WBE subcontract payment made  
during this reporting period (yes or no): \_\_\_\_\_

cc: Minority Business Office  
Maricopa County Highway Building  
3325 West Durango Street  
Phoenix, Arizona 85009

CONTRACT AGREEMENT

THIS AGREEMENT, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 1989, by and between FLOOD CONTROL DISTRICT OF MARICOPA COUNTY, hereinafter called the OWNER, acting by and through its BOARD OF DIRECTORS, and

\_\_\_\_\_ hereinafter called the CONTRACTOR.

WITNESSTH: That the said CONTRACTOR, for and in the consideration of the sum of \_\_\_\_\_ to be paid to him by the OWNER, in the manner and at the times hereinafter provided, and of the other covenants and agreements herein contained, hereby agrees for himself, heirs, executors, administrators, successors, and assigns as follows:

ARTICLE I - SCOPE OF WORK: The CONTRACTOR shall construct, and complete in a workmanlike and substantial manner and to the satisfaction of the Chief Engineer and General Manager, a project for the Flood Control District of Maricopa County, designated as FCD Contract 89-44; Glendale Avenue Bridge at the Arizona Canal Diversion Channel, and furnish at his own cost and expense all necessary machinery, equipment, tools, apparatus, materials, and labor to complete the work in the most substantial and workmanlike manner according to the Plans and Construction Specifications on file with the Flood Control District of Maricopa County, 3335 West Durango Street, Phoenix, Arizona, and such modifications of the same and other directions that may be made by the Flood Control District of Maricopa County as provided herein.

ARTICLE II - CONTRACT DOCUMENTS: The Construction Specifications (Invitation to Bid, Plans, Standard Specifications and Details, Special Provisions, Addenda, if any, Proposal, Affidavits, Performance Bond, Payment Bond, Certificates of Insurance, and Change Orders, if any,) are by this reference made a part of this Contract and shall have the same effect as though all of the same were fully inserted herein.

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 in accordance with the requirements of A.R.S. Sec. 34-221, as amended. The CONTRACTOR agrees to discharge its obligations and make payments to its subcontractors and suppliers in accordance with A.R.S. Sec. 32-1129.

ARTICLE V - TERMINATION: The OWNER hereby gives notice that pursuant to A.R.S. Sec. 38-511(A) this contract may be cancelled without penalty or further obligation within three years after execution if any person significantly involved in initiation, negotiation, securing, drafting or creating a contract on behalf of the OWNER is, at any time while the contract or any extension of the contract is in effect, an employer agent of any other party to the contract in any capacity or a consultant to any other party of the contract with respect to the subject matter of the contract. Cancellation under this section shall be effective when written notice from the Chief Engineer and General Manager of the OWNER is received by all of the parties to the contract. In addition, the OWNER may recoup any fee for commission paid or due to any person significantly involved in initiation, negotiation, securing, drafting or creating the contract on behalf of the OWNER from any other party to the contract arising as a result of the contract.

ARTICLE VI - NEGOTIATION CLAUSE: Recovery of damages related to expenses incurred by the CONTRACTOR for a delay for which the OWNER 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 OWNER. This provision shall be construed so as to give full effect to any provision in the contract which requires notice of delays, provides for arbitration or other procedure for settlement or provides for liquidated damages.

ARTICLE VII - COMPLIANCE WITH LAWS: The CONTRACTOR is required to comply with all Federal, State and local ordinances and regulation. The CONTRACTOR's signature on this contract certifies compliance with the provisions of the I-9 requirements of the Immigration Reform Control Act of 1986 for all personnel that the CONTRACTOR and any subcontractors employ to complete this project. It is understood that the OWNER shall conduct itself in accordance with the provisions of the Maricopa County Procurement Code.

ARTICLE VIII - MBE/WBE PROGRAM: Flood Control District of Maricopa County will endeavor to ensure in every way possible that minority and women-owned business enterprises shall have every opportunity to participate in providing professional services, purchased goods, and contractual services to the Flood Control District of Maricopa County without being discriminated against on the grounds of race, religion, sex, age, or national origin.

ARTICLE IX - ANTI-DISCRIMINATION PROVISION: The CONTRACTOR agrees not to discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, or handicap and further agrees not to engage in any unlawful employment practices. The CONTRACTOR further agrees to insert the foregoing provision in all subcontracts hereunder.

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.

\_\_\_\_\_  
PARTY OF THE FIRST PART

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
PARTY OF THE SECOND PART

BY: \_\_\_\_\_  
Printed Name

BY: \_\_\_\_\_  
CHAIRMAN, BOARD OF DIRECTORS

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

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

\_\_\_\_\_  
Title  
DATE: \_\_\_\_\_

\_\_\_\_\_  
Tax Identification Number

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: \_\_\_\_\_  
GENERAL COUNSEL, FLOOD CONTROL  
DISTRICT OF MARICOPA COUNTY

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, in the County of Maricopa, 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 Flood Control District of Maricopa County, dated the \_\_\_\_ day of \_\_\_\_\_, 1989, 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 monies 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 was copied at length herein.

The prevailing party or any party which recovers judgement 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 \_\_\_\_\_, 1989.

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

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

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

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

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

\_\_\_\_\_  
BOND NUMBER.

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

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

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 Flood Control District of Maricopa County, dated the \_\_\_\_\_ day of \_\_\_\_\_, 1989, 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 was 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 \_\_\_\_\_, 1989.

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

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

\_\_\_\_\_  
BOND NUMBER

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

SEAL

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

\_\_\_\_\_  
PRINCIPAL

SEAL

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

\_\_\_\_\_  
SURETY

SEAL

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

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CERTIFICATE OF INSURANCE

Glendale Avenue Bridge at the

CONTRACT FGD 89-44

PROJECT TITLE Arizona Canal Diversion Channel

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

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

COMPANY LETTER	TYPE OF INSURANCE	POLICY NUMBER	EXPIRATION DATE	LIMITS OF LIABILITY IN \$1,000 MINIMUM each occurrence	
	<b>COMMERCIAL GENERAL</b> <input checked="" type="checkbox"/> 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  PROPERTY DAMAGE each occurrence	2,000  2,000
	<b>COMPREHENSIVE AUTO</b> <input checked="" type="checkbox"/> LIABILITY & NON-OWNED			SAME AS ABOVE	
	<input checked="" type="checkbox"/> EXCESS LIABILITY			NECESSARY IF UNDERLYING NOT ABOVE MINIMUM	3,000
	<input checked="" type="checkbox"/> WORKERS' COMPENSATION AND EMPLOYERS' LIABILITY			STATUTORY each accident	\$100
	<input type="checkbox"/> OTHER				
	<input checked="" type="checkbox"/> OTHER Entranco Engineers, Inc., Maricopa County, and the City of Phoenix, Arizona shall also be named as Additional Insured and as a Certificate Holder				

Except for Workers' Compensation Insurance, the Flood Control District of Maricopa County is added as an additional insured in respect to liability arising in any manner out of the performance of any contract entered into between the insured and the Flood Control District or liability arising out of any services provided or duty performed by any party as required by statute, law, purchase order, or otherwise required. 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 thirty (30) days written notice to the District. THIS CERTIFICATE IS NOT VALID UNLESS COUNTERSIGNED BY AN AUTHORIZED REPRESENTATIVE OF THE INSURANCE COMPANY.

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, Entranco Engineers, Inc., Maricopa County, City of Phoenix 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, Entranco Engineers, Inc., Maricopa County, and the City of Phoenix 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, Entranco Engineers, Inc., Maricopa County, and the City of Phoenix. The above cost of damages incurred by the Flood Control District of Maricopa County, or any of its departments, agencies, officers or employees, or others aforesaid shall include in the event of an action, court costs, expenses for litigation and reasonable attorney's fees.

\_\_\_\_\_  
Firm

\_\_\_\_\_  
Date

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Title

**SUBCONTRACTOR LISTING**

Following is a listing of Subcontractors and material suppliers that are to be used in the event the undersigned should enter into contract with the Owner. This is not an exhaustive or inclusive list.

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(Signature) \_\_\_\_\_

CONSTRUCTION SPECIAL PROVISIONS  
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
FCD CONTRACT NO. 89-44  
FOR  
GLENDALE AVENUE BRIDGE AT THE ACDC  
AND  
SEWERLINE RELOCATION  
BETWEEN GLENDALE AVENUE AND 16TH STREET



PROPOSED WORK: The work includes 2 segments:

1. Relocation of a 12" Sanitary Sewerline between Glendale Avenue and 16th Street along the north right-of-way of the ACDC.
2. Construction of a bridge in two phases, including utility relocations on Glendale Avenue.

LOCATION OF WORK: This project is located in Phoenix, Arizona, on Glendale Avenue at the Arizona Canal Diversion Channel, approximately 1/8 mile east of 16th Street and immediately east of the Arizona Canal.

A. SPECIFICATIONS: The work embraced herein and as shown on the plans for the construction of this project shall be done in accordance with the Maricopa Association of Governments Uniform Standard Specifications for Public Works Construction dated 1979 and the current revisions thereto, and the Construction Special Provisions contained herein and City of Phoenix 1986 Supplement to the MAG 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 commence work within seven (7) calendar days after the date of the notice to proceed and complete all work within 154 (one hundred and fifty-four) days after the date of the Notice to Proceed.

\*\*\*\*\*  
In the event the Contractor elects to schedule overtime, second shifts, weekend work and generally all work as specified in Section 108.5 of these specifications in order to complete the project, the Contractor is reminded that the costs associated with additional testing time, additional test cost, additional inspection, survey, engineering or other work by the construction administration and/or the Flood Control District of Maricopa County shall be borne by the Contractor in accordance with Section 108.5. These costs shall be deducted from the money due to the Contractor by the Flood Control District of Maricopa County. The cost associated with the items above shall be incidental to the unit price of items in the bid schedule.  
\*\*\*\*\*

B. 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.

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 Engineer for approval before starting the work. Weekly updates to the schedule shall be submitted to the inspector at the weekly coordination meeting.

MATERIAL SOURCES: Concrete, Aggregate Base, Steel Products 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.

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 (FCD/MC)** acting directly or through his authorized representative.

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

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 102.4 - EXAMINATION OF SITE:

The contractor shall visit the site and be familiar with the existing conditions and the proposed construction items of special note.

1. During construction of the 12" sewerline, the Contractor shall be responsible for maintaining the stability and structural integrity of the block fence along the north right-of-way line of the ACDC between Glendale Avenue and 16th Street; adjacent to

the Monteil Townhouses. In addition, the Contractor is responsible for the structural integrity of other structures, especially pools adjacent to above noted block fence.

2. It is anticipated that concurrent with this project's schedule, the Squaw Peak Parkway Project P-856344 will also be under construction. The Contractor shall coordinate with the Resident Engineer and Construction Superintendent in order to avoid any conflict in work area schedule and traffic control.

SECTION 102.5 - PREPARATION OF PROPOSAL: The bidder's Arizona State Contractor's license number and classifications shall be shown on the proposal. The Contractor shall be appropriately licensed as a Contractor in the State of Arizona for performing the work in this project.

SECTION 103.6 - CONTRACTOR'S INSURANCE: Concurrently with the execution of the Contract, the Contractor shall furnish a Certificate of Insurance using the included Certificate or one of equal wording that names the additional insureds as set out in the included Certificate and in 103.6.1(D) below. The certificate shall also name the additional insureds as Certificate Holders. The types of insurance and the limits of liability shall be as indicated on the included form.

SECTION 103.6.1 (D): Add Entranco Engineers, Inc., Maricopa County, City of Phoenix, and other entities as mentioned on the included Certificate of Insurance as additional insureds.

SECTION 103.6.2: The Contractor shall also indemnify and hold harmless the Owner, the Consultant, the Owner's Representative, any jurisdiction or agency issuing permits for any work involved in the project, and their consultants, and each of their directors, officers, employees, and agents from and against all losses, expenses, damages (including damages to the work itself), attorneys' fees, and other costs, including costs of defense which any of them may incur with respect to the failure, neglect, or refusal of Contractor to faithfully perform the work and all of the Contractor's obligations under the contract. Such costs, expenses, and damages shall include all cost, including attorneys' fees, incurred by the indemnified parties in any lawsuit to which they are a party.

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 104.1.2 - TRAFFIC REGULATIONS:

- A. The following shall be considered major streets  
Glendale Avenue  
16th Street
- 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 in the following "Special Traffic Regulations" and SECTION 401, all traffic on this project shall be regulated as specified in Section IV of the Traffic Barricade Manual.

SPECIAL TRAFFIC REGULATIONS: Glendale Avenue from 16th Street to 18th Street: Glendale can be reduced as shown during the time indicated when construction requires:

2 lanes (1 each way) 7 p.m. to 6 a.m. Monday thru Thursday nights and from 9 p.m. Friday to 6 a.m. the following Monday.

4 lanes (2 each way) from 8:30 a.m. to 4 p.m. weekdays.

During other times, 6 lanes (3 each way) with left-turn lanes shall be maintained open to thru traffic at the 16th Street and Glendale intersection.

16th Street From Glendale Avenue to Myrtle Avenue, Sanitary Sewer Relocation: 16th Street can be reduced to 4 lanes (2 each way) from 9 p.m. Friday to 6 a.m., the following Monday on one or more consecutive weekends for manhole installation. During other times, all lanes shall be open to thru traffic.

Pedestrian Access and Bike Path Requirements: Contractor shall provide and maintain clean, safe and adequate pedestrian walkways, sidewalks and crosswalks free of dirt, mud, dust, debris, equipment and material storage at all times.

Contractor shall provide "bike path" detour signing and maintain the bike path open and free of obstructions at all times. A bike path detour plan shall be submitted for approval prior to implementation.

Police Officer Requirements: Contractor shall provide one off-duty police officer at 16th Street and Glendale signalized intersection to assist with traffic control when Glendale is reduced to less than 6 lanes within the intersection.

Two additional officers are required to assist the contractor when it is necessary to flag traffic to allow men and equipment into or out of the work area.

SECTION 104.2 - BORING LOGS AND SOILS REPORT: The soil boring logs are included in the project for the Contractor's information only. No guarantee is made of the accuracy of the boring logs in the soils report. The Contractor shall make his own determination as to soil and subsurface conditions and shall complete his work in whatever material and under whatever condition he may encounter or create, without extra cost (except as modified in MAG). Existing moisture conditions shall be no basis for claim for additional monies or time extensions. The Contractor shall manipulate the existing soil as required to achieve stable soil conditions and the required densities.

SECTION 104.2.2: Due to Physical Conditions: Paragraph \*B). In the first sentence delete the following words:  
"backfill or bedding"

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

The number of copies of plans/shop drawings required for review and/or approval shall be as follow:

Initial submittal: Three (3) copies. One (1) copy will be returned to the Contractor.  
Final submittal: Seven (7) copies. Two (2) copies will be returned to the Contractor.

The Contractor shall furnish the Engineer with these copies of shop drawings, pipe layout diagrams, manufacturer's catalog data, and detailed information, in sufficient detail to show completed 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. Reinforcing Steel
- H. Precast Girders
- I. Metal Railing
- J. False Work Plans and Design Calculations
- K. Structural Design Calculations and Details for All Concrete Structures, as Required.
- L. Utility Protection Plans
- M. 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 FCD/MC 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 requirements 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 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.

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.

Existing overhead electrical will be relocated by APS prior to the Contractor's commencement of work.

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
- S.R.P. Water Operational Support, Bob Maurer.....236-2962
- Arizona Public Service, Lois Winkler.....271-2014
- Location Staking (APS, Mountain Bell, SRP).....263-1100
- City of Phoenix (Water), Steve Schebler.....262-4709
- (Sewer), Bob Rentfro.....262-1864
- (Lift Station), John Shepard.....262-1864
- City of Phoenix (Streets & Traffic).....262-6565
- Maricopa County Highway Department.....262-3631

Flood Control District of Maricopa County.....262-1501  
 Southwest Gas Corporation.....271-4277  
 Dimension Cable Services.....866-0072..Ext. 243

The Contractor shall notify the appropriate entities at the beginning of the job to coordinate any sleeves or inserts provided by the utility.

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.

Survey work shall be performed by a qualified and experienced surveyor under the supervision of a licensed land surveyor or licensed Civil Engineer and/or their bona fide employees working under their direct supervision.

The Contractor shall furnish field books to be used for recording survey data and field notes. These books shall be available for inspection by the Engineer at any time and shall become the property of the Engineer upon completion of the work.

The Engineer reserves the right to make inspections and random checks of any portion of the staking and layout work. If, in the Engineer's opinion, the work is not being performed in a manner that will assure proper control and accuracy of the work, he will order any or all of the staking and layout work redone at no additional cost.

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 105.10 - INSPECTION OF WORK: Work will be subject of City of Phoenix inspection and acceptance prior to final acceptance by the Engineer. City inspectors have the right to visit the site at any time, without notice. All requests or comments from the City will be made to the Engineer and the Contractor will then be notified by the Engineer.

SECTION 105.12 - MAINTENANCE DURING CONSTRUCTION: The Contractor shall maintain the work during construction and until the project is accepted. This maintenance shall constitute continuous and

effective work prosecuted day by day, with adequate equipment and forces to the end so that the roadway or structures are kept in satisfactory conditions at all times.

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 106.3 - PLANT INSPECTION:

Off-Site Inspection: The Contractor shall be responsible for all expenses, including but not limited to travel and per diem expenses, for required inspections by the Engineer and/or the cost of inspection and testing by an independent testing laboratory as required by and at the discretion of the Engineer for any inspection of precast concrete girders manufactured outside of a fifty-mile radius from the City limits of Phoenix, Arizona.

Costs associated with the above work will be deducted from the money due the Contractor as noted in Section 108.5.

Within a fifty mile radius from the City limits of Phoenix, Arizona, costs for inspection of precast concrete girders shall be included in the regular construction contract of the Inspector.

SECTION 106.5 - CONTRACTOR'S MARSHALING YARDS: Contractor shall obtain approval of the Engineer when using vacant property to park and service equipment and store material for use.

- A. The Contractor shall notify adjacent property owners/residents of this proposed use.
- B. Any use of vacant property adjacent to or near the project for parking or servicing equipment and/or storing material will require the Contractor to obtain written approval from the property owner. This approval shall contain any requirements which are a condition of this approval.
- C. A signed letter with the property owner's approval shall be submitted along with the Contractor's request to the Engineer for approval for use of the marshaling yard in connection with the project. An appropriate distance from adjacent property will be set by the Engineer on a case by case basis

- based on the size and type of equipment to be used on the project.
- D. The yard shall be fenced and adequately dust-proofed in a manner as to preclude tracking of mud onto paved City streets.
  - E. Work in yard shall be scheduled so as to comply with the City Noise ordinance.
  - F. Equipment, materials, etc., shall be located so as to minimize impact on adjacent properties. A sound barrier may be required if deemed necessary by the Engineer.
  - G. The Contractor shall clean up property promptly upon completion of the use.
  - H. Contractor's request for approval shall specify in detail how he or she proposes to comply with D through G above.

In the event the Contractor uses Flood Control Property for these uses, he shall obtain a license from FCD/MC.

SECTION 107.2 - PERMITS: The Contractor shall be responsible for obtaining all permits and licenses, pay all charges, fees, taxes, and give 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.

A no charge permit is required from the City of Phoenix. The City of Phoenix Project Review Number (Project No. or FN) is DIS 31621.

A permit from the Salt River Valley Water Users Association for work in their right-of-way will be supplied by the Flood control District.

SECTION 107.10 - CONTRACTOR'S RESPONSIBILITY FOR WORK: The Contractor shall properly guard, protect, and take every precaution necessary against injury or damage to all finished or partially finished work, by the action of the elements or from any other cause until the entire project is completed and accepted by the Engineer. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work before final acceptance at no cost to the Contracting Agency. Partial payment for completed portions of the work shall not release the Contractor from such responsibility.

In case of suspension of the work for any cause whatever, the Contractor shall be responsible for the project and shall take such precautions as may be necessary to prevent damage to the project and shall erect any necessary temporary structures, signs, or other facilities at no cost to the Contracting Agency.

SECTION 108.4 - SEQUENCE OF CONSTRUCTION:

Construction of the 12 inch sewerline shall precede the bridge construction to avoid disruption of service and conflict with the bridge.

Construction of the bridge will be phased as illustrated on the plans. The bridge structure will be constructed in two sections in a manner that will permit traffic to be maintained at all times in accordance with Section 104.1.2 - TRAFFIC REGULATIONS, SECTION 401 TRAFFIC CONTROL and the traffic control shown on the plans.

\*\*\*\*\*  
**SECTION 108.5 - LIMITATION OF OPERATIONS:** Should the Contractor or subcontractor 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, including cost included in SECTION 106.3.  
\*\*\*\*\*

Work performed by the consultant under Section 108.5 shall be subject to an overtime billing rate.

Rates for inspection by the consultant and his subs are on file with the District. Both regular and overtime rates are listed for each class of consultant employee. Rates for subconsultants shall include an additional administration fee of 15%.

SECTION 108.9 - FAILURE TO COMPLETE ON TIME: The actual cost per calendar day incurred by the District for Consultant Administrative and Inspection Services on this project will be added to the daily charges as indicated by TABLE 108, LIQUIDATED DAMAGES, as shown in the MAG Uniformed Standard Specifications (not in the Phoenix Supplement), and will be deducted from monies due or to become due to the Contractor for each and every calendar day that work shall remain incompleated after the time specified for the completion of the work in the proposal, or as adjusted by the Engineer. Nothing contained in this provision shall prohibit the District from deducting from monies due or to become due to the Contractor any other costs incurred by the District directly attributable to the delay in completing this contract.

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.

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 Uniform Standard Specifications.

The Contractor shall provide sheet piling or other means of support for excavation to protect detour road, underground utilities and private property during construction. Structure backfill behind the abutments and wing walls shall be compacted in accordance with Table 601-2, Type III of the Uniform Standard Specifications.

All backfill behind the bridge abutments and wing walls shall consist of free-draining granular material with not more than 5% passing a #200 sieve and a PI less than 7. Backfill shall be placed in horizontal lifts consistent with the maximum material size and type of compaction equipment in use and compacted to a minimum of 95% of the maximum density at the optimum moisture content plus or minus 3% as determined in accordance with ASTM D-2922 and D-3017. Compaction equipment should be maintained at least two (2) feet from the structure.

Backfill against front face of abutment walls and wing walls may consist of selected native soils.

**Structure excavation** shall be paid for at the lump sum contract price bid for **ITEM 206-1 - STRUCTURE EXCAVATION**. **Structure backfill** shall be paid for at the lump sum contract price for **ITEM 206-2 -STRUCTURE BACKFILL**.

SECTION 211 - FILL CONSTRUCTION: The work under this section consists of constructing embankments for the Traffic Control detours, temporary sidewalks and approach roadways. The material required for the construction of the fill shall be suitable material obtained from the ACDC Right-of-Way, the structure excavation or backfill material shall be as defined in SECTION 206. All material shall be free of all debris and vegetation.

Prior to the placement of fill material, all loose soil, vegetation, any roadside debris, concrete pavement, and existing structures within the proposed fill areas shall be completely removed. Depressions and ditches shall be cleaned of all loose or wet soils and widened to accommodate compaction equipment. Sloping surfaces shall be benched to provide a level surface for fill placement.

All exposed subgrade surfaces shall be scarified, brought to the proper moisture content and compacted for a minimum depth of eight (8) inches.

The fill shall be compacted in horizontal lifts to subbase level. The depth of the uncompacted lifts shall not exceed eight (8) inches.

Compaction shall be to a minimum of 95% of the maximum density as determined in accordance with ASTM D-2922 and D-3017 within a moisture content range of plus or minus 3% of optimum.

No separate payment will be made for fill construction and the cost of these items 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 310 - UNTREATED BASE: **ITEM 310-1 AGGREGATE BASE** shall conform in their entirety to the requirements of Section 310 of the Uniform Standard Specifications. Aggregate Base shall be crushed in accordance with Section 702.2.

The Contractor will be required to furnish the Engineer certified weight tickets covering all of the Aggregate Base placed on the project. Final pay quantities will be based upon the scale tickets accepted by the Engineer.

SECTION 321 - ASPHALT CONCRETE PAVEMENT: Asphalt concrete pavement shall consist of furnishing and placing a plant-mixed asphalt concrete road surfacing material to the compacted thickness shown on the plans and in accordance with Section 321 of the Uniform Standard Specifications.

The mineral aggregate shall meet the grading requirements within the range of the specified tolerances for Mix-Designation C-3/4 in accordance with Section 710 of the Uniform Standard Specifications and the City of Phoenix Supplement to the Uniform Standard Specifications.

The Contractor shall furnish certified weight tickets covering all plant-mixed asphalt concrete placed on the project.

Payment for item will be made at the contract unit price bid per ton for **ITEM 321-1 C-3/4 - ASPHALT CONCRETE.**

SECTION 340 - CONCRETE CURB & GUTTER, SIDEWALKS, DRIVEWAYS AND ALLEY ENTRANCES: **ITEM 340-1** through **340-3** of this project shall conform in its entirety to Section 340 of the MAG Standard Specifications.

SECTION 350 - REMOVAL OF EXISTING IMPROVEMENTS: **Item 350-1** through **350-4** of this project shall conform in its entirety to Section 350 of the MAG Standard Specifications. In addition to the items listed in the MAG Standard Specifications, Section 350.3 Miscellaneous Removal and Other Work, the following shall be included:

- K. Restoration of Right-of-way and/or Temporary Construction Easements: The Contractors 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.
- L. Any and all items not specifically set forth as a separate pay item.
- M. Sawcutting and matching existing pavements and curbs, gutters, etc.
- N. Relocating positions of existing signs to be staked by the Inspector.
- O. Relocating positions of existing plants within the right-of-way to be staked by the Inspector.
- P. Removing existing AC, concrete curb and gutter and adjust any existing improvements, if required, and water meter adjustment as directed by the Engineer.

- Q. Remove and replace the concrete spillways along the new 12" sanitary sewerline and adjacent to the block wall on the property line of the Monteil Townhouses.
- R. Remove and replace all damaged concrete sidewalk along the Arizona Canal, now designated as a bike path, including those areas removed for sewer construction on the bike path and along 16th Street. Remove all 2" AC temporary sidewalk along Glendale Avenue.
- S. Install 8 - 5" PVC conduit pipe sleeves as detailed in the project plans in the ACDC Bridge sidewalks and 4 - 4" PVC pipe sleeves in the sidewalks of the north sides of the Arizona Canal Bridge and underpass. PVC conduit shall conform to the following:
1. All work to comply with the APS Underground Distribution Construction Standards (U.D.C.S.) Manual.
  2. Backfill and compaction per APS specifications as defined in the UST01 section of the APS U.D.C.S. Manual.
  3. Five inch E.B. Conduit (UBC1LB) and/or 3" D.B. Conduit (UBC1HA) shall be encased in concrete as specified in the UST01 section of the APS U.D.C.S. Manual.
  4. Minimum 3" concrete envelope required around ducts. Concrete to be per the UST01 section of the APS U.D.C.S. Manual unless otherwise noted.
  5. Maintain minimum 1 foot vertical separation between all APS facilities (i.e., duct bank, conduit and cable) and any underground conflicts.
  6. All conduit to be mandrelled and cleared of all obstructions before installing APS approved, 1/2", woven kevlar, prelubricated, flat strap pull line (UBC7MR) in each conduit run.
  7. Trench depths shown are minimum requirements.
  8. Install spacers and rebar for duct bank per UST90 section of the APS U.D.C.S. Manual.
  9. Trench bottom to be uniformly graded.
  10. Contractor not to trench closer than 2' to APS facilities (except 4' to poles) unless an APS representative is present.
  11. When passing over or under conflicts, trench not to be sloped steeper than 1:12 ratio or minimum radius of 140 times the outside diameter of the conduit.
- T. Install 8" PVC sleeves for future waterline as shown on the project plans, behind the abutments.
- U. Pavement replacement for sewerline and waterline construction.

- V. Remove existing storm drain pipe, Sta. 17+60±, 60± LF, fill and compact trench.
- W. Maintain and protect the stability and structural integrity of the block fence along the property line fo the Monteil Townehouse, adjacent to the proposed 12" sanitary sewer.

SECTION 401 - TRAFFIC CONTROL:

**Items 401-1 and 401-2** shall conform in its entirety to Section 401 of the MAG Standard Specifications.

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. Glendale Avenue and 16th Street shall be considered major streets.

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 all traffic on this project shall be regulated as specified in Section IV of the Traffic Barricade Manual.
- E. Temporary traffic control shall be the responsibility of the Contractor.
- F. The Contractor shall provide a traffic control plan for each barricade installation used for this project.
- G. Special Traffic Requirement - The Engineer shall provide a scaled 24" x 36" base map vellum covering the construction area and traffic control zone. The map will include existing signing, striping and signalization. The Contractor shall provide the traffic control layout and barricade placement, as

provided above, for each phase or subphase. The Contractor shall submit the above layout at least 14 days prior to implementation to the Engineer. The Contractor shall not implement the traffic control plan until approved by the City of Phoenix.

**SECTION 505 - CONCRETE BRIDGE STRUCTURES:** The work under this section shall consist of furnishing all labor, materials and equipment for the construction of the **cast-in-place concrete** portions of the bridge structure, including the approach slabs, reinforced concrete street pavement, bridge sidewalks, and concrete catch basins in accordance with the plans and Section 505 of the Uniform Standard Specifications for Public Work Construction, except as specified in these Construction Special Provisions.

**General:** It shall be the Contractor's responsibility to protect the structure and construction site from damage that may occur during the construction period and until final acceptance of the completed bridge by the Flood Control District.

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

No vehicular loads will be permitted on the bridges before the lapse of twenty-one (21) days from the date of the last pour of concrete for the bridge deck, unless approval is obtained in writing from the Engineer. In no case shall traffic be allowed on the structure until the specified concrete strength has been attained. The Contractor shall take special precautions to keep the area around the bridges properly barricaded, lighted and marked to prevent automotive traffic from crossing the new bridge structures prior to the Engineer's approval.

The installation of any necessary conduits, brackets, or piping or any other facility or work which may be performed for the accommodation of any utility, other than as shown on the plans, 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.

Portland Cement concrete, ITEMS 505-1 and 505-2 shall conform to Section 725 of the MAG Uniform Standard Specifications.

**ITEM 505-1 Class "A" Concrete**  
Sidewalk, Barrier Rail

f'c = 3,000 psi

**ITEM 505-2 Class "AA" Concrete**

f'c = 4,000 psi

Cap Beam,  
Approach Slabs, Wing Walls  
Deck Topping and Reinf. Conc. Street Pavement

The Contractor shall determine the mix proportions and shall furnish concrete which conforms to the requirements of these specifications. All concrete shall be sufficiently workable, at the slump proposed by the Contractor within the specified range, to allow proper placement of the concrete without harmful segregation, bleeding, or incomplete consolidation. It shall be the responsibility of the Contractor to proportion, mix, place, finish, and cure the concrete properly in accordance with the requirements of these specifications.

Admixtures:

The Contractor shall furnish Certificates of Compliance conforming to the requirements of MAG Subsection 106.2 for each type of admixture furnished. Admixtures containing chlorides will not be acceptable for concrete containing uncoated reinforcing steel or embedded metal items.

All concrete admixtures shall be stored in suitable containers in accordance with the manufacturer's recommendations. All liquid admixtures shall be protected from freezing.

Air-entraining admixtures shall conform to the requirements of AASHTO M 154.

Water reducing admixtures shall conform to the requirements of AASHTO M 194.

Fly ash shall conform to the requirements of ASTM C 618 for Class F, except that the pozzolanic activity index with lime shall be reduced to a minimum of 650 pounds per square inch at seven days. The Blaine fineness shall have an average value of at least 2,800 with a minimum value of 2,600 for any one sample. The average value will be determined on the last five consecutive samples. The loss on ignition shall not exceed 3.0 percent.

Design of Concrete Mix:

Portland Cement Concrete shall comply with SECTION 726 of the MAG Uniform Standard Specifications for Public Works Construction.

A fly ash admixture may be used at the option of the Contractor only when portland cement is used. A maximum of 15 percent of the

required weight of portland cement may be replaced with a fly ash admixture. A minimum of 1.2 pounds of fly ash shall replace each 1.0 pound of portland cement removed.

Concrete shall have a compressive strength not less than that shown on the project plans. Unless otherwise shown on the project plans, the ( $f'c$ ) of Class S concrete shall be the required 28-day compressive strength.

The coarse aggregate size designation for concrete shall be chosen by the Contractor and approved by the Engineer and shall conform to the size designation and grading requirements of AASHTO M 43. In choosing the size designation, the maximum size of coarse aggregate shall not be larger than  $1/5$  of the narrowest dimension between sides of adjacent forms, or  $2/3$  of the minimum clear spacing between reinforcing bars, or  $1/3$  the depth of the slab, whichever is least.

The proposed slump shall be chosen by the Contractor. Concrete at the proposed slumps shall be sufficiently workable to allow proper placement without harmful segregation, bleeding, or incomplete consolidation.

Air-entraining admixtures will be required for all classes of concrete. The amount of entrained air in the concrete mixture shall not be less than four percent nor more than seven percent by volume.

Unless specifically required, water reducing admixtures may be used at the option of the Contractor.

At least two weeks prior to the appropriate concreting operation, the Contractor shall furnish a mix design for each strength of concrete for review and approval. More than one mix design for each strength of Class S concrete may be submitted for approval providing specific items and locations of intended uses accompany the mix design. The Contractor shall substantiate each mix design by furnishing test data and providing all details of the mixtures proposed for use.

The complete solid volume mix designs submitted for approval shall include all weights and volumes of all ingredients. The brand, type, and source of hydraulic cement and admixtures, the coarse aggregate size number designation, source of aggregates, the specific gravities of all ingredients, the proposed slump, a code number to identify the mix design, and the intended use of each mix design shall be an integral part of each mix design.

No changes in the approved mix designs or code numbers shall be made by the Contractor except by the approval of the Engineer. A new mix design shall be submitted for approval any time the Contractor requests a change in materials or proportioning of the materials from that given in each approved mix design. In no case shall the approval of a mix design relieve the Contractor of the responsibility for the results obtained by the use of such approved mix design.

Mix designs from previous or concurrent projects may be submitted for approval. The Engineer may waive trial batches at any time.

The Contractor may obtain concrete for each strength of concrete from an approved commercial source.

For each strength of concrete, the Contractor shall furnish an invoice for each batch of concrete. The minimum items required of each invoice shall be the mix design code number, date, time batched, truck identification or number, and name of identification of batch plant.

Testing for consistency shall be in accordance with the requirements of AASHTO T 119 to determine the consistency in slump. The Contractor shall be responsible for furnishing concrete at the slump shown on the approved mix designs with a permissible variation of  $\pm 1$  inch. Concrete that fails to conform to the consistency requirements will be rejected.

#### Bridge Deck:

The placing of concrete will not be permitted until the Engineer is satisfied that the rate of producing and placing concrete shall be sufficient to complete the proposed pour and finishing operations within the scheduled time, that experienced concrete finishers are available to finish the deck and that all necessary finishing tools and equipment are on hand at the site of the work and are in satisfactory condition for use.

Concrete shall be placed for the full width of the panel to be poured. After the concrete has been placed it shall be consolidated and then struck off by means of self-propelled screed equipment.

Screed equipment shall be designed to operate as close as practicable to bridge curbs.

Screed equipment shall travel on steel rails. Rails shall be substantially supported by adjustable steel supports of adequate

size securely fastened in place and spaced at sufficiently close intervals to prevent any appreciable deflection in the rails. Steel supports shall be of such types and installed in such manner that when the rail and adjustable support have been removed, there will be no void in the concrete.

The steel rails for placing and finishing equipment shall be set to the correct elevation shown on the project plans or as established by the Engineer. The rails shall extend beyond both ends of the scheduled length for placement a sufficient distance that will permit the screed and finishing equipment to reach all areas of the concrete placed.

Screed beams or rollers shall be made of metal, or the bottom of the beam shall be metal clad. Roller screeds shall be so constructed and of such length that there will be no sag or deflection in the screeds.

Screed assemblies equipped with vibrators shall be so designed that the vibrating units do not contact any reinforcing steel. Vibration shall be transmitted to the concrete in such a manner that when the motion of the machine is stopped, all vibration will cease.

A slight excess of concrete shall be maintained in front of the screed at all times during the screeding operation. The screed shall make as many passes over the slab as necessary to obtain a uniform surface.

The Contractor shall furnish a minimum of two transverse work bridges from which floating, straightedging, and curing operations may be accomplished. The work bridges shall be reasonably rigid and free of excessive deflections. The self-propelled mechanical bridge used for texturing the bridge deck may be substituted for one of the required work bridges.

The floating operation shall follow the screeding if required. The float shall have a minimum diameter of three inches and have a minimum length of 12 feet. The float shall be constructed so that the surface will be maintained true at all times.

Prior to placing concrete, the screed shall be traversed the length of the proposed pour and the clearance from the screed to the reinforcing steel and deck thickness shall be checked. The method of determining the clearance shall be approved by the Engineer prior to making such checks. The clearance shall be as indicated on the project plans with a permissible variation of plus or minus 1/4 inch. Deflection of the screed rails as a result of the weight

of the screed equipment will not be permitted. All corrections necessary as a result of this operation shall be performed prior to beginning the pour.

The Contractor may submit and alternate for the equipment detailed above. Use of alternate equipment shall not be allowed without approval of the Engineer.

Finishing Bridge Deck:

Bridge sidewalks shall be finished to a light broomed texture.

The bridge deck shall be textured with an artificial turf drag in accordance with the requirements of Section 324.3.7 of the City of Phoenix 1987 supplement to the MAG Uniform Standard Specifications.

Hand brooms shall be provided and available at the job site at all times when texturing plastic concrete.

The finishing operation shall be completed before the water sheen disappears. Water shall not be applied to the deck surface at any time during floating or finishing except in the form of a fog spray.

Fogging equipment shall be capable of applying water to the concrete in form of a fine fog mist in sufficient quantity to curb the effects of rapid evaporation of mixing water from the concrete on the deck resulting from wind, high temperature, or low humidity, or a combination of these factors.

The finished surface of the concrete shall be tested by means of a ten-foot straightedge placed on the deck surface. The surface plane shall not vary more than 1/8 inch, as measured from the bottom of the straightedge, on deck surfaces exposed directly to traffic.

Areas showing deviations greater than those specified shall be corrected in a manner approved by the Engineer. All corrected areas shall be textured to match the finish of the surrounding deck surface.

All areas corrected shall not show deviations in excess of that specified when tested with a ten-foot straightedge.

Concrete curing shall be accomplished with both white pigmented curing compound and water curing in accordance with Section 505 and 726 of the Standard Specifications.

Dimensional Tolerances:

Construction dimensional tolerances shall be in accordance with Section 601-4, Concrete Structures, Tests on Finished Structures, of the Arizona Department of Transportation Standard Specifications for Road and Bridge Construction, Edition of 1982 (revised to date).

Reinforcing Steel:

Reinforcing steel shall be furnished in the sizes, shapes, and lengths shown on the plans and in conformance with the requirements of these Special Provisions. Certificates of Compliance conforming to the requirements of MAG Subsection 106.2 shall be submitted.

When reinforcing steel is delivered to the site of the work, the Contractor shall furnish the Engineer with three copies of all shipping documents. Each shipping document shall show the sizes, lengths and weights of the reinforcing steel separately for each structure.

Steel bars used as reinforcement in concrete shall be deformed and shall conform to the requirements of ASTM A 615.

Where shown on the plans, the bars shall be Grade 60.

Where the Grade of steel is not specified on the plans, Grade 60 shall be used. If Grade 40 is specified but not immediately available, Grade 60 may be used exclusively or in combination with Grade 40 provided that the conditions under which the grades are used in combination are acceptable to the Engineer and further provided that there is no additional cost to the Owner.

Shop drawings and lists showing the bending of reinforcement bars shall be submitted by the Contractor to the Engineer for approval, but such approval shall not relieve the Contractor of responsibility for the correctness of such drawings and lists.

Any discrepancy or error found by the Contractor in checking a bending diagram shown on the project plans or in preparing shop drawings or lists shall be reported immediately to the Engineer, and the discrepancy or error shall be corrected in advance of fabrication and delivery of materials.

When bending is required, it shall be done without the use of heat, and bars having cracks or splits at the bends will be rejected.

Reinforcement shall be accurately fabricated and placed as shown on the plans and shall be firmly held in place by wire ties at all intersections and splices with 16 gauge or heavier tie wire and by using precast mortar blocks or ferrous metal chairs, spacers, metal hangars, supporting wires or other approved supports. Where reinforcement spacing is less than 12 inches in each direction alternate intersections may be tied. Tack welding or reinforcement will not be permitted unless approved in writing by the Engineer.

Distances from the forms shall be maintained so that the reinforcement does not vary from the position indicated on the plans by more than 1/4 inch. Reinforcement in any member shall be placed, inspected and approved before any concrete is placed.

All reinforcement shall be furnished in the full lengths indicated on the project plans. Splicing of bars, except as shown on the plans, will not be permitted without the Engineer's approval. Splices shall be staggered as far as possible. The type and method of splices or connections shall be approved by the Engineer.

In lapped splices, the bars shall be placed in contact with one another and wired together in such a manner as to maintain a clearance of not less than the minimum clear distance to other bars and the minimum distance to the surface of the concrete, as specified in the AASHTO Standard Specifications for Highway Bridges. Lap lengths shall be as shown on the plans.

Structural steel items embedded in the concrete are incidental to concrete unit prices.

Payment for all work under this section will be made at the unit price bid per cubic yard for **ITEMS 505-1 CLASS "A" CONCRETE** and **ITEM 505-2 CLASS "AA" CONCRETE** and the unit price bid per pound for **ITEM 505-3 - REINFORCING STEEL**.

No separate payment will be made for reinforcing steel Grade 40 and Grade 60.

Concrete Catch Basins: **Item 505-4** of the Bidding Schedule shall conform in its entirety to the MAG Uniform Standard Specifications for Public Works Construction.

REINFORCED CONCRETE STREET PAVEMENT: **Item 505-5** Reinforced Concrete Street Pavement shall consist of furnishing and placing portland cement concrete pavement to the thickness and details shown on the plans and in accordance with Section 505 of the City of Phoenix Supplement of the Uniform Standard Specifications.

Payment for this item will be made at the unit price bid per cubic yard for **ITEM 505-5 - REINFORCED CONCRETE STREET PAVEMENT.**

Payment for bridge approach slabs will be in accordance with the appropriate item listed in SECTION 505 - CONCRETE BRIDGE STRUCTURES.

DRILLED SHAFT FOUNDATIONS: **Item 505-6** of the Bidding Schedule shall conform to the following:

Description: The work under this section consists of furnishing all materials and equipment necessary to construct reinforced concrete columns formed within a drilled excavation in reasonably close conformity with the details, dimensions, and locations shown on the project plans and the requirements of these special provisions. These Special Provisions contain requirements for the use of drilling slurry and metal casing. Neither the slurry or the casing is required, unless caving of the shaft occurs.

When the terms "caisson" and "shaft" are used hereinafter or on the project plans, they shall be construed to mean drilled shaft foundation and drilled excavation, respectively.

General Requirements: Prior to constructing any caissons, including any test caissons, the Contractor shall submit to the Engineer a list of all major equipment, with respective capacities, that will be used to construct the caissons and the proposed construction procedure. The submission shall indicate, in detail, the techniques to be used in drilling the shaft and inspecting the completed excavation and reinforcing and concreting the caissons.

The Engineer will review the submission. If at any time during the construction of caissons or test caissons, the Engineer determines that the equipment, materials or procedures, either singly or in combination, are such that defects in the work may occur, the Engineer may stop the work until appropriate changes are made by the Contractor. In no case shall the Contractor be relieved of his responsibility for constructing acceptable caissons.

After constructing one or more caissons or test caissons, the Contractor may make minor modifications to the equipment, materials or procedures, either singly or in combination, and shall advise the Engineer of the changes in writing. The Engineer will review the proposal and may require the Contractor to construct another test caisson in order to test the proposed changes prior to constructing any additional bridge foundation caissons.

An acceptable test caisson (if a test caisson is required) or an acceptable bridge foundation caisson shall be constructed prior to the construction of any other caissons for the bridge foundation.

The decision of the Engineer as to the acceptability of completed caissons is final.

Materials:

Concrete: Concrete shall be Class "AA" ( $f'c = 4,000$  psi) conforming to the requirements of Section 725 for the strength of portland cement concrete shown on the project plans. Where concrete is placed in shafts containing bentonite slurry or water, the cement content of the concrete shall be between 658 and 752 pounds per cubic yard and the size of the coarse aggregate shall not exceed one inch. Water reducing and air entraining agents may be used.

Reinforcing Steel: Reinforcing steel shall conform to the requirements of Section 727.

Metal Casing: Casing shall be of unit or sectional construction and shall prevent seepage of water. Casing shall be of sufficient strength to withstand handling stresses, the pressure of concrete and of the surrounding earth. Casings are not required except as a temporary measure if caving of the shaft should occur.

Shaft Forms: If the size of the shafts adjacent to the channel cannot be maintained within 2" of the shaft diameter as shown on the plans for the depth of the proposed channel or if over drilling will narrow the channel width, sonotube or an approved method shall be used to control the shaft diameter and location shown on the plans.

Construction Requirements:

Excavation: The Contractor shall perform all excavation required for the shafts, rock sockets or belled footings, through whatever substances encountered, to the dimensions and elevations shown on the project plans or required by the site conditions. The maximum deviation from plumb, the maximum variation of the center axis of any shaft at the top, and the maximum deviation in diameter shall be as specified on the project plans.

The anticipated subsurface conditions and depths where satisfactory bearing material may be encountered are indicated on the project

plans; however, no warranty of the subsurface conditions and depths where satisfactory bearing material may be encountered shall be inferred.

The bottom elevation of an caisson may be raised or lowered from that shown on the project plans as ordered by the Engineer. No reinforcing steel or concrete shall be placed in a shaft until the final elevation has been determined.

The Contractor shall protect the shaft from caving in at the surface either by constructing a concrete slab or by placing a temporary casing or by other methods as approved by the Engineer. The Contractor shall either drill or form a circular opening at the center of the slab. The slab shall be broken up and removed at the completion of the caisson construction. If a casing is used, it shall be removed after the concreting of the shaft is completed and while the concrete is still fluid. Casing shall not be left in place except as indicated on the project plans or as approved by the Engineer.

Casing specified on the project plans or approved by the Engineer to remain in place shall be installed in such a manner that there will be no voids between the earth and the casing.

When caving conditions are encountered, drilling shall cease until modifications to the equipment, materials or procedures are made that will prevent such caving. If a steel casing is used, it shall be clean and shall extend to the top of the shaft. The inside diameter of the casing shall not be less than the specified size of the caisson.

Material excavated from shafts and bells and not used elsewhere on the project shall be disposed of as approved by the Engineer.

When the project plans indicate that shafts are to be drilled within embankments, the embankments shall be constructed as shown on the project plans and thoroughly compacted in accordance with the requirements of Section 206 prior to drilling, except as otherwise approved by the Engineer.

Open excavations that are deemed to be potentially hazardous by the Engineer shall be covered at the end of each shaft in a manner approved by the Engineer.

Reinforcing Steel: The reinforcing steel cage shall consist of the longitudinal bar and spiral hoop reinforcement. The cage shall be completely assembled and placed into the shaft as a unit.

Unless otherwise indicated on the project plans, or approved by the Engineer, splicing of reinforcing steel will not be permitted. Lap splices in spiral hoop reinforcement shall be in accordance with the details shown on the project plans or as approved by the Engineer and only at locations approved by the Engineer.

The reinforcing steel cage shall not be placed until immediately before concreting operations are to be started and shall be placed in accordance with the details shown on the project plans.

The cage shall be adequately supported and anchored from the top to prevent movement during the concrete placement and for at least four hours thereafter. The exact length of time will be determined by the Engineer. The support shall be concentric and shall support at least one-half of the vertical bars. Spacers shall be at sufficient intervals along the shaft to insure minimum concrete cover for the entire length of the caisson. The type of spacer used shall be approved by the Engineer.

If the shaft is deepened and the project plans indicate full depth reinforcement, the bars in the lower portion of the caisson shall be extended accordingly, as directed by the Engineer, to the bottom of the shaft. These bars shall be lap spliced, spliced by butt welding or by other connecting procedures approved by the Engineer to the proper length in accordance with the requirements of Section 605. If the project plans indicate spiral or tie reinforcement for the full depth of the caisson, the spiral or the reinforcement shall also be extended to the bottom of the shaft as directed by the Engineer.

#### Concrete:

General: Concrete shall be placed as soon as possible after completion of the shaft and the placement of the reinforcing steel cage. Any sloughage or other loose material shall be machine cleaned from the shaft prior to placing reinforcing steel and concrete. An accumulation of loose soils, muck, etc., at the bottom of the shaft will not be allowed at the time of placing steel or concrete. A flight auger shall not be used for cleaning purposes.

Concrete placement shall be continuous in the shaft to the top elevations or to construction joint shown on the project plans and shall be in accordance with the requirements of Section 505 and as specified herein. Concrete in drilled shafts shall be consolidated by vibration.

Prior to the placing of concrete, the Contractor shall have made all the necessary arrangements to assure the uninterrupted delivery of concrete so that each caisson will be constructed without cold joints.

The Contractor shall exercise care so that no damage to a completed caisson will occur. The Contractor shall not begin construction of the footings, formed columns or cap beams or remove the concrete pad until at least 48 hours after the concreting of the shaft is completed for the respective abutment caisson.

Placement in Dry Excavations: Concrete shall be placed through a suitable tube or tremie to prevent segregation of materials.

Concrete may be placed by the free-fall method provided that water is not standing in the bottom of the shaft and that the fall does not exceed eight feet. The delivery chute shall be positioned so that the concrete does not strike the sides of the shaft or the reinforcing steel. Concrete in drilled shafts shall be consolidated by vibration.

Casing Removal: During removal of any casing, a sufficient head of not less than five feet of fluid concrete shall be maintained above the bottom of the casing except at the top of the shaft. All contaminated concrete below the top of the caisson shall be removed.

If the removal of the casing causes an upward movement of the concrete and/or reinforcing steel cage of one inch or less, the casing may continue to be pulled provided no further movement occurs and if the concrete is vibrated or rodded to reconsolidate the concrete. Vibration or rodding of the concrete shall not be used to attempt to break the casing loose for extraction.

If the upward movement is greater than one inch, the casing shall be left in place as a permanent sleeve at the Contractor's expense. A load test may be required by the Engineer to determine the adequacy and acceptability of the caisson.

Test Caisson: Unless otherwise directed by the Engineer, a test caisson is not required.

Inspection and Tests: After completion of a shaft and prior to placement of the reinforcing steel cage and concrete, the shaft will be inspected by the Engineer. The Contractor shall provide suitable equipment for the Engineer to inspect the completed excavation.

Caisson Repair: If after inspection the Engineer determines that the integrity of the bridge foundation has been compromised, the Engineer will order the Contractor to make such repairs as are deemed necessary by the Engineer.

Method of Measurement: Caissons will be measured by the linear foot. Measurement will be made from the top of the accepted caisson to the bottom, as indicated on the project plans or as directed by the Engineer.

Basis of Payment: The accepted quantities of caissons, including test caissons, if required, measured as provided above, will be paid for at the contract unit price per linear foot for the diameter designated in the bidding schedule, complete in place, including excavation, drilling slurry, metal casing, steel reinforcing, portland cement concrete, concrete slabs, and any needed forming, curing and finishing. No additional payment will be made for metal casing that is to remain in place.

The contract unit price shall also include the cost of exposing, by excavation, the upper length of the test caissons, the drilling and/or backfilling of any additional shafts and the construction of any additional test caissons.

The contract unit price shall also include the cost of the core drilling or exposing of concrete and the subsequent repair of caissons as hereinbefore specified under "Caisson Repairs" for caissons which are deemed to be unacceptable.

The contract unit price shall also include the cost of furnishing all materials, equipment and labor necessary for the splicing of reinforcing steel and for the radiographic testing of welds and the testing of butt splices and threaded splices.

The contract unit price shall also include the cost of furnishing and placing conduit and the subsequent filling with a sand-cement grout.

If the Contractor is ordered by the Engineer to core drill or otherwise expose the caisson for inspection and no voids, unconsolidated concrete or other condition that will compromise the integrity of the bridge foundation is determined by the Engineer to exist, the cost of such work and the cost of the subsequent repairs will be paid for in accordance with the requirements of Subsection 109.04 of ADOT Standard Specifications.

No measurement or direct payment will be made for the reinforcing steel extending from the top of the drilled shaft foundation into the cap, the price being considered as included in the cost of the respective drilled shaft foundation.

When load tests are required by the Engineer to determine the adequacy and acceptability of drilled shafts, payment for load tests for drilled shafts determined to be adequate and acceptable will be made in accordance with the provisions of Subsection 109.04 of ADOT Standard Specifications.

Load tests for drilled shafts determined to be inadequate and unacceptable will be at the Contractor's expense.

SECTION 506 - PRECAST PRESTRESSED CONCRETE GIRDERS: The work under this section shall consist of furnishing and erecting the bridge girders as shown on the plans and in accordance with AASHTO Standard Specifications for Highway Bridges dated 1983 and Section 106.3 of these Special Provisions.

All materials and construction of prestressed bridge girders shall conform to Section 506 of the Uniform Standard Specifications, except as modified by these Construction Special Provisions.

Portland Cement Concrete for Prestressed Girders shall be Class S concrete and shall conform to Section 505 of the Uniform Standard Specifications and these Construction Special Provisions.

Class "S" Concrete                       $f'c = 5,000$  psi

The elastomeric bearing pads shall meet the requirements of Section 25 - Elastomeric Bearings of the AASHTO Standard Specifications for Highway Bridges dated 1983 (revised to date). Bearing pads shall have a durometer hardness of not less than 60. The structural steel anchors shall conform to Section 515 of the Standard Specifications.

No separate payment will be made for the elastomeric bearing pads, structural steel, anchor bolts, prestressing or post-tensioning steel, reinforcing steel or other embedded items necessary to the furnishing of the girders complete-in-place.

Payment will be made at the unit price bid per each for:

**ITEM 506-1- PRECAST CONCRETE BOX GIRDERS (PRETENSIONED)**  
AASHTO TYPE B-1 (D = 27") (Length = 53'-8")

SECTION 520 - PEDESTRIAN HANDRAIL: The work under this section consists of the construction of a pedestrian railing on the bridge decks and abutments as shown on the plans in accordance with

Section 520 of the Uniform Standard Specifications. The railing shall be painted with #4 paint after fabrication in accordance with Section 530 and 790 of the Standard Specifications.

Payment for this item will be made at the contract unit price bid per lineal foot for **ITEM 520-1 - PEDESTRIAN HANDRAIL.**

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 soil 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 increase 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 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 lead 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 increased in cost to the contract."

#### LIMITS OF BACKFILL TYPE

Type I : Canal right-of-way, street right-of-ways and to 10' above pipes in the ACDC right-of-way.  
Type II : Will not be used.  
Type III: For all structures.

- 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 610 - WATER LINE CONSTRUCTION - **Item 610-1** on the Bidding Schedule of this project shall conform in their entirety to Section 610 of the MAG Standard Specification and City of Phoenix Supplements.

SECTION 615 - SEWER LINE CONSTRUCTION: **Items 615-1 through 615-4** of this project shall conform in their entirety to section 615 of the MAG Standard Specifications.

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 615-1 8" PVC Pipe Sleeve** 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 with 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 been 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 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.

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 materials, fittings, collars, bands, or couplings joining the various sections of pipe.

SECTION 618 - STORM DRAIN CONSTRUCTION: **ITEM 618-1** shall conform in its entirety to Section 618 of the MAG Uniform Standard Specifications for Public Works Construction.

SECTION 625 - MANHOLE CONSTRUCTION: **Items 625-1 and 625-4** shall conform in their entirety to Section 625 of the MAG Standard Specifications for Public Works Construction.

The brick work and mortar for **Item 615-3, Sanitary Sewer Pipe Plugs**, shall be constructed in accordance with Section 625 of the MAG Standard Specifications.

Construction of **Item 615-2, Fill and Abandon Manhole and Plug Pipe**, shall be undertaken after the new sanitary sewer 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.

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.