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CITY OF SCOTTSDALE
CAPITAL IMPROVEMENTS DEPARTMENT

SPECIFICATIONS AND CONTRACT DOCUMENTS

FOR

PROJECT NO. FC-7571 R

U.S.C.E. INDIAN BEND WASH UTILITY RELOCATION

OUTLET
(REBID)

COUNCILMEN

William C. Jenkins - Mayor

Mrs. Billie Gentry
Paul Messinger
Charles H. Smith

Dr. Heinz R. Hink
Herbert Drinkwater
Richard Campana

OCTOBER, 1975

A680.515



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NOTICE INVITING PROPOSALS OR BIDS

NOTICE IS HEREBY GIVEN that the Council of the City of Scottsdale, Maricopa County, State of Arizona, ordered: The construction of U.S.C.E. Indian Bend Wash Utility Relocation - Outlet. Work involves placing approx. 3500 L.F. of 24" sewer pipe and manhole adjustment on existing sewer.

SEALED BIDS WILL BE RECEIVED until 10:00 AM, October 14, 1975, by the City Clerk in the Scottsdale City Hall, 3939 Civic Center Plaza, Scottsdale, Arizona. At this time, the bids will be publicly opened and read aloud for furnishing all materials, equipment and labor and performing all the work necessary for the construction of the utility relocation.

The City Council reserves the right, as the interest of the owner may require, to reject any and all bids, to waive any informality in bids received, and to accept, increase or reduce the quantities of any or all items of any bid, unless the bidder qualified such bid by specific limitation, and reserves the right to reject the bid of any person who has been delinquent or unfaithful to any contract with the City of Scottsdale.

Plans, specifications and proposal forms may be obtained from the office of the Director, Capital Improvements Engineering, 3939 Civic Center Plaza, Scottsdale, Arizona, for a sum of \$15.00 Dollars. This fee is nonrefundable.

Each bidder shall state his Arizona State Contractor's License Number and Classification as evidence that he is qualified to contract the work as indicated in the Specifications and Plans for the work to be performed.

Pursuant to the Statutes of the State of Arizona, the wage rates paid all laborers, workmen and mechanics employed in the executing of the contract shall be in accordance with the rates of the latest "Arizona Prevailing Wage Scale" of the Industrial Commission of Arizona, applicable to the location at which the work is to be performed. Wage rates as determined above shall be considered as minimum rates only.

Each bid shall be made out on the proposal form which is attached to the specifications; shall be accompanied by a bid bond acceptable to the City of Scottsdale for penal sum of not less than ten percent (10%) of the amount of the bid made payable to the order of the City of Scottsdale, Arizona.

Bids shall be marked:

Bid of _____, contractor,
for the construction of U.S.C.E. Indian Bend Wash Utility Relocation - Outlet.

Bids received after the time and date specified above will be returned unopened to the bidder. A bid may be withdrawn prior to the time set for opening of bids. No bid may be withdrawn for a period of thirty (30) days after the date set for receipt of bids.

CITY OF SCOTTSDALE, ARIZONA

BY


George Iannella, Director
Capital Improvements Engineering

NOTICE OF AWARD

TO: _____

PROJECT DESCRIPTION:

The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement for Bids dated _____, 19____ and Information for Bidders.

You are hereby notified that your BID has been accepted by the City Council for items in the amount of \$_____.

You are required by the Information for Bidders to execute the Agreement and furnish the required Contractor's Performance Bond and Payment Bond within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said bonds within ten (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned and as a forfeiture of your Bid Bond. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this _____ day of _____, 19_____.

City of Scottsdale

By: _____

Title: _____

ACCEPTANCE OF NOTICE:

Receipt of the above NOTICE OF AWARD is hereby acknowledged

By: _____

this the _____ day of _____,

19_____.

By: _____

Title: _____

NOTICE TO PROCEED

TO: _____ DATE: _____

_____ PROJECT: _____

You are hereby notified to commence work in accordance with the Agreement dated _____, 19____, on or before _____, 19____, and you are to complete the WORK within _____ consecutive calendar days thereafter.

The date of completion of all WORK is therefore _____, 19____. Official time extensions thereto shall be considered and authorized in strict conformance with the applicable General Conditions of the Standard Specifications.

City of Scottsdale

By: _____
George Iannella, Director
Capital Improvements Engineering

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged

By: _____
this the _____ day of _____,
19____.

By: _____
Title: _____

INFORMATION FOR BIDDERS

GENERAL

Plans, specifications, and proposal forms may be obtained from the office of the Director of Capital Improvements Engineering, Scottsdale City Hall, 3939 Civic Center Plaza, Scottsdale, Arizona, upon the payment of \$15.00 Dollars. There will be no refund for plans returned.

BONDS REQUIRED

- a) Each proposal shall be accompanied by a certified check, or bid bond, acceptable to the City, in an amount equal to at least ten (10%) percent of the total amount of the proposal, payable without condition to the City as a guarantee that the bidder, if awarded the contract, will promptly execute such contract in accordance with the proposal and in manner and form required by the Contract Documents, and will furnish good and sufficient bond for the faithful performance of the same.
- b) Bonds in the following amounts will be required at the time of executing the formal contract:
 - (1) Performance Bond - One Hundred (100%) percent of the contract price.
 - (2) Payment Bond - One Hundred (100%) percent of the contract price.

EXECUTION OF CONTRACT

The Contractor shall execute the Contract with the City of Scottsdale within ten (10) days after receiving the Notice of Award for the Contract.

START AND COMPLETION OF WORK

Work shall start within five (5) days after issuance of NOTICE TO PROCEED and shall be completed within sixty (60) calendar days after such issuance.

MEASUREMENT AND PAYMENT

- a) Measurement and payment for all Pay Items in the "Proposal" shall be as indicated in the applicable standard specification and/or in the "Special Provisions".
- b) Measurement of the various items in the "Proposal" shall be of each item of completed work with no allowances for waste.
- c) Payment for various items in the "Proposal" will be made at the unit price bid in the "Proposal" and shall be compensation in full for furnishing all materials, labor, tools, equipment, and appurtenances necessary to complete the work in a satisfactory manner as shown on the plans and as specified, with connections, testing and related work completed. Each item, fixture, piece of equipment, etc., shall be completed with all necessary connections and appurtenances for the satisfactory use and operation of said item. No additional payment will be made for work related to any item unless specifically called for in the "Proposal."
- d) Final payment shall be made within forty (40) days after submittal of a final invoice and a Contractor's Affidavit regarding settlement of claims. The above Affidavit shall be submitted on forms provided by the City.

STANDARD DETAILS AND SPECIFICATIONS

Unless otherwise noted, construction of this Project shall be in accordance with all applicable Maricopa Assn. of Governments' Uniform Standard Specifications for Public Works Construction, latest revision, which may be obtained at the Office of the Maricopa Assn. of Governments, 1820 W. Washington, Phoenix, AZ.; Standard Details shall be City Phoenix Standard Details, latest revision, which may be obtained at the Office of the Phoenix City Engineer, 251 W. Washington, Phoenix, Arizona.

SUBMITTING BIDS

No bid will be considered unless it is made upon the "Proposal" forms contained in and submitted with the Project Specification. No book of specifications shall be disassembled.

INTERPRETATION OF QUOTED PRICES

In case of a difference in written words and figures in a Proposal, the amount stated in written words shall govern.

PLANS AND SPECIFICATIONS TO SUCCESSFUL BIDDER

The successful bidder may obtain five (5) sets of Plans and Specifications for this project from the Office of the Director of Capital Improvements Engineering at no cost. Additional sets will be furnished at cost.

CONTRACTOR'S COVERAGE

The contractor shall furnish satisfactory proof of carriage of insurance, and shall submit to the Engineer a Certificate of Insurance on forms furnished by the City. Neither the contractor nor any subcontractor shall commence work under this contract until the City has approved all insurance policies.

- a) Compensation Insurance: The Contractor shall secure and maintain during the life of the contract, Workmens Compensation Insurance for all of his employees at the site of the project, and in case of any of the work is sublet, the Contractor shall require each subcontractor similarly to provide Workmens Compensation Insurance for his employees unless such employees engaged are covered by the Contractor. In the event any class of employees engaged in the hazardous work under this contract at the site of the Project is not protected by Workmens Compensation Statute, the Contractor shall provide and similarly shall cause each subcontractor to provide special insurance for the protection of such employees not otherwise protected.
- b) Public Liability and Property Damage Insurance: The Contractor shall take out, and maintain during the life of this Contract, such public liability and property damage insurance, both general and automobile liability, as shall protect him, any subcontractor performing work under this contract and the City of Scottsdale from all claims for bodily injury, including accidental death, as well as for all claims for property damage arising from operations under this contract - whether such operations be by himself or by any subcontractor or by anyone directly or indirectly employed by either of them. The Contractor agrees to include the City of Scottsdale as a named insured

in all of the insurance policies required under this contract, and shall submit to the City of Scottsdale the completed certificate of insurance form contained in the contract documents section of these specifications (Pages CI-1 and CI-2).

The minimum limits required are:

Public Liability Insurance

Workmen's Compensation Insurance shall be secured and maintained in accordance with the Workmen's Compensation Law of Arizona.

Contractors Protective Liability Insurance shall be secured and maintained in an amount not less than \$500,000 each occurrence for bodily injury and \$100,000 each accident for property damage.

Contractual liability insurance shall be secured and maintained insuring the contractual agreement in an amount not less than \$500,000 each occurrence for bodily injury and \$100,000 each accident for property damage.

Automobile Bodily Injury and Property Damage Liability Insurance shall be secured and maintained in the amount of not less than \$500,000 each occurrence.

The general contractor subletting any part of the work awarded to him shall provide a contingent liability policy in the same amount as provided for his public liability insurance.

PERMITS

Permits shall be obtained from the City of Scottsdale at no cost to the contractor. All applicable City of Scottsdale requirements for Public Works Construction shall be followed.

GENERAL CONDITIONS

1. SCOPE

The work covered by these specifications consists of furnishing all plant, labor, equipment, materials for construction of the U.S.C.E. Indian Bend Wash Utility Relocation - Outlet,

in accordance with the "STANDARD SPECIFICATIONS & DETAILS," "THE GENERAL CONDITIONS" and the "SPECIAL PROVISIONS." The drawings which show the details of the work specified herein are designated as the "PLANS".

In the event of any conflict between the "GENERAL CONDITIONS AND SPECIAL PROVISIONS" and the requirements of the "STANDARD SPECIFICATIONS AND DETAILS" or "PLANS," these "GENERAL CONDITIONS AND SPECIAL PROVISIONS" shall prevail.

2. STANDARD SPECIFICATIONS AND DETAILS

Construction of this project and all work done under this Contract shall be in accordance with these specifications and all applicable UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION sponsored and distributed by Maricopa Association of Governments (MAG) and STANDARD DETAILS called for on the plans including the latest approved revisions and City of Scottsdale supplements thereto in force at the time of bid advertisement, which shall be referred to hereinafter as the "STANDARD SPECIFICATIONS." In all cases where accepted Standards (AWWA, ANSI, AASHO, ADOT/AHD, ASTM, etc.) are referred to in the "STANDARD SPECIFICATIONS," the latest revisions as of bid advertisement shall prevail. Copies of the STANDARD SPECIFICATIONS and supplements may be obtained at the MAG Office at 1820 West Washington, Phoenix, Arizona, for a charge of ten dollars (\$10.00) and one dollar (\$1.00) respectively.

The GENERAL CONDITIONS and SPECIAL PROVISIONS of these specifications provide for the supplementation, modification and/or amendments to the STANDARD SPECIFICATIONS.

3. DEFINITIONS

Definitions shall be as stated in Section 101.2 of the "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION," Maricopa Association of Governments, with the following additions:

Design Engineer: George Iannella, Director, Capital Improvements Engineering

Owner: City of Scottsdale

4. CONSTRUCTION PRACTICE

All construction practices and procedures shall conform to Section 107 of the Contract Works Hours and Safety Standards Act, (86 Stat. 96; 40 USC 327) the latest revisions shall prevail.

5. TRAFFIC CONTROL

- A) Complete street closures will not be permitted.
- B) Adequate barricades and lighted warning signs will be installed and maintained by the Contractor throughout the duration of the project. All traffic shall be channelized around all construction in accordance with the City of Phoenix Traffic Control Manual.
- C) The Director of Capital Improvements Engineering shall stipulate the traffic restrictions and/or minimum requirements throughout the construction period.
- D) The Contractor shall submit a construction schedule and traffic supplement for "Street Barricading and Channelization" to the Director of Capital Improvements Engineering for approval and/or modification before construction is initiated.

6. RESPONSIBILITY FOR DAMAGE CLAIMS

The Contractor shall indemnify, defend & save harmless the City and its officers, agents, or representatives from all suits, actions, loss, damage, expense, costs, or claims of any character or any nature brought on account of any injuries or damages sustained by any person or property arising out of the work done in fulfillment of the construction of the improvement under the terms of this agreement or on account of any act or commission by the Contractor or his agents or from any claims or amounts arising or recovered under Workmen's Compensation laws or any other law, by-law, ordinance, or order or decree.

The responsibility for damage claims does not apply to claims of flood damage for work done according to the detail plans and specifications under this contract.

7. INSPECTION

- A) Inspectors may be stationed on the work to report to the Director of Capital Improvements Engineering as to the progress of the work, the manner in which it is being performed, and also to report whenever it appears that material furnished and work performed by the Contractor fail to fulfill the requirements of the specifications and contract. The Inspector may direct the attention of the Contractor to such failure or infringement but such inspection shall not relieve the Contractor from any obligation to furnish acceptable materials or to provide completed construction that is satisfactory in every particular.
- B) In case of any dispute arising between the Inspector and the Contractor as to material furnished or the manner of performing the work, the Inspector shall have the authority to reject materials or suspend the work until the question and issue can be referred to and decided by the Director of Capital Improvements Engineering. Inspectors are not authorized to revoke, alter, enlarge, relax, or release any requirements of these specifications. Inspectors shall in no case act as foreman or perform other duties for the Contractor or interfere with the management of the work by the Contractor.

- C) Inspection or supervision by the Director of Capital Improvements Engineering shall not be considered as direct control of the individual workman and his work. The direct control shall be solely the responsibility to the Contractor's foreman and superintendent.

8. HINDRANCES AND DELAYS

No charge shall be made by the Contractor for hindrances or delays from any cause during the progress of any portion of the work embraced in this contract; but such delays, if due to no fault or neglect of the Contractor, shall entitle the Contractor to an extension of time, allowed for the delay, the amount of the delay to be determined by the Engineer, provided the Contractor will give the Engineer immediate notice in writing of the cause of such delay.

9. LOSSES AND DAMAGES

All loss or damage arising out of the nature of the work to be done or from the action of the elements, or from any unforeseen circumstances, in the prosecution of the same, or from any unusual obstructions or difficulties which may be encountered in and/or during the prosecution of the work, or from any casualty whatsoever of every description, shall be sustained and borne by the Contractor at his own cost and expense.

10. PROTECTION OF FINISHED OR PARTIALLY FINISHED WORK

The Contractor shall properly guard and protect all finished or partially finished work, and shall be responsible for the same until the entire contract is completed and accepted by the Director of Capital Improvements Engineering. Estimate of partial payment on work so completed shall not release the Contractor from such responsibility, but he shall turn over the entire work in full accordance with these specifications before final settlement shall be made.

11. CLEANUP

After all work under the contract is completed, the Contractor shall remove all loose concrete, lumber, wire, reinforcing, debris and other materials not incorporated in the work from the site of the work. Cleanup shall include the removal of all excess pointing mortar materials within pipes.

12. FINAL ACCEPTANCE

"Final Acceptance" shall mean a written final acceptance of the work by the Director of Capital Improvements Engineering. The Director of Capital Improvements Engineering or his authorized representative shall make the final acceptance promptly after all work under the contract has been completed in accordance with the contract documents and after final inspection.

13. RIGHTS OF WAY

The Contractor, at his own expense, is responsible for the acquisition of any necessary temporary easements for construction purposes which are required in addition to existing easements and/or rights of way.

14. INTERPRETATION OF GENERAL CONDITIONS

Wherever in the General Conditions that the City is referred to it shall be understood that the City referred to is the City of Scottsdale.

15. DUST PREVENTION

The Contractor shall take whatever steps, procedures or means required to prevent abnormal dust conditions due to his construction operations in connection with this contract. The dust control measures shall be maintained at all times during construction of the project, to the satisfaction of the Engineer, in accordance with the requirements of the "Maricopa County Health Department Air Pollution Control Regulations." This is not a pay item.

16. EXISTING UTILITIES TO BE RELOCATED

If any existing S.R.P., A.P.S., and/or Mountain Bell facilities must be relocated or rebuilt to allow the construction of this project, they shall be relocated by others at no cost to the contractor.

17. DAMAGED DOMESTIC WATER LINES

Any water lines damaged during construction shall be replaced at the Contractor's expense as per the requirements of the M.A.G. Specifications.

18. DAMAGED SEWER LINES

Any sanitary sewer lines damaged during construction shall be replaced by a contractor properly licensed to install sanitary sewers. All work shall be done as per standard M.A.G. Specifications.

19. EXISTING TRAFFIC AND STREET SIGNS AND TRAFFIC SIGNAL EQUIPMENT

The Contractor shall maintain existing traffic and street signs during construction. If signs conflict with proposed construction, relocation shall be coordinated with the City of Scottsdale Traffic Engineering.

20. DOMESTIC WATER FACILITIES

The City of Tempe owns and operates the water system involved. The Contractor shall comply with all requirements of the Water Company regarding adjustments of existing facilities if necessary. It is the responsibility of the Contractor to notify the Water Department of any adjustments necessary.

21. LIQUIDATED DAMAGES AND EXTENSION OF COMPLETION TIME

M.A.G. Specification 108.9 and 108.7 shall apply.

22. DUMPING AND DISPOSAL OF WASTE

The Contractor shall provide for the disposal of all waste products, debris, etc., and shall make necessary arrangements for such disposal.

23. EQUAL EMPLOYMENT OPPORTUNITY

During the performance of this contract the Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer; recruitment, lay-off or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause; and will in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color or national origin.

24. PAYROLL RECORDS

a) Payrolls and basic payroll records will be maintained during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records will contain the name and address of each such employee, his correct classification, rate of pay, daily and weekly number of hours worked, deductions made and actual wages paid.

b) The Contractor and each subcontractor shall furnish the City, within seven days after the regular payment date of the weekly payroll period, a statement with respect to wages paid to each of the contractor's employees. The copy shall be accompanied by a statement indicating that the payrolls are correct and complete. The definition of "employee" shall not apply to persons in classifications higher than that of laborers or mechanics and those who are the immediate supervisors of such employees.

25. SUPERVISION BY CONTRACTOR

The CONTRACTOR will supervise and direct the WORK. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will employ and maintain on the WORK a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR's representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR and all communications given to the supervisor shall be as binding as if given to the CONTRACTOR. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the work.

26. CHANGES IN THE WORK

The OWNER may at any time, as the need arises, order changes within the scope of the WORK without invalidating the Agreement. If such changes increase or decrease the amount due under the CONTRACT DOCUMENTS, or in the time required for performance of the WORK, an equitable adjustment shall be authorized by CHANGE ORDER.

The ENGINEER, also, may at any time, by issuing a FIELD ORDER, make changes in the details of the WORK. The CONTRACTOR shall proceed with the performance of any changes in the WORK so ordered by the ENGINEER unless the CONTRACTOR believes that such FIELD ORDER entitles him to a change in CONTRACT PRICE or TIME, or both, in which event he shall give the ENGINEER WRITTEN NOTICE thereof within three (3) days after the receipt of the ordered change, and the CONTRACTOR shall not execute such changes pending the receipt of an executed CHANGE ORDER or further instruction from the OWNER.

27. CHANGES IN CONTRACT PRICE

The CONTRACT PRICE may be changed only by a CHANGE ORDER. The value of any work covered by a CHANGE ORDER or of any claim for increase or decrease in the CONTRACT PRICE shall be determined by one or more of the following methods in the order of precedence listed below:

- a) Unit prices previously approved
- b) An agreed lump sum.

An agreed lump sum price will be determined by issuance of a bulletin requesting a cost estimate for additional or deleted work for the project. The contractor hereby agrees to execute and return the bulletin to the Owner 7 working days after the date of the bulletin. Non-compliance will result in the establishment of the "lump sum" cost solely by the Owner.

28. CONSTRUCTION STAKES

Survey stakes and marks required for the completion of the construction shown on the plans and described in these specifications will be furnished by the Owner.

Construction stakes will be set one time only. The Contractor shall be held responsible for the preservation of all stakes and marks, and if, in the opinion of the Engineer, any of the survey stakes or marks have been carelessly or willfully destroyed or disturbed, the cost to the Owner for replacing them shall be charged to the Contractor and shall be deducted from the payment for the work.

29. TESTING OF MATERIALS

All tests shall be made and results certified by an independent laboratory approved by the Director of Capital Improvements Engineering. The Contractor shall pay for all tests required to certify the suitability of materials prior to their use in construction. Initial testing of materials used in construction will be paid for by the Owner. Additional tests or retests required as a result of initial test rejections or failures, will be paid for by the Contractor.

Rejected materials shall be immediately removed from the site and shall not be used in any form for any other part of the work.

30. METHOD OF MEASUREMENT AND PAYMENT FOR PAY ITEMS

Measurements and payment for all bid items in the "PROPOSAL FORM" shall be as described in the STANDARD SPECIFICATIONS, subject to the following:

- a) Payment for each item shall constitute payment in full for the furnishing of all excavation, back filling, materials, equipment, appurtenances, labor, plant and tools necessary to provide a complete finished, and serviceable project, as shown by the Plans and described in these Specifications. Each item shall be complete with all necessary connections, testing, and related work accomplished to provide for the satisfactory use and/or operation of the item.
- b) No additional payments will be made for incidental work related to any items unless specifically noted and called for in the Proposal. Payment will be made at the unit price or lump sum price bid in the Proposal.
- c) Measurement of the completed work will be made in place, with no allowance for waste, and as may be more particularly described in the description of the various items of work.
- d) The quantities set forth in the Proposal are used for the purpose of determining the basis of the award of the Contract, and may be varied by the Owner/Engineer to conform to the requirements of the work as set forth in Drawings, and the Contractor agrees to perform the work on the basis of the prices bid for the items contained in the Proposal regardless of whether or not the items or units are decreased or increased.

31. APPROVED EQUALS AND ADDITIONAL ENGINEERING COSTS

Plans and specifications may contain references to equipment and/or materials (patented or unpatented) or "approved equal(s)." Such references shall be regarded as establishing a standard of equality, finish, appearance, performance or as indicating a selection or design based upon compatibility with existing equipment, materials or details of construction inherent to the project design. Such references shall not be construed as limiting the selection to a specified item, source or design detail. The use of an alternate or substitute, item or source as an approved equal will be permitted, subject to the following procedure:

- 1) No consideration will be given a request for substitution prior to award of contract.
- 2) After award and to permit consideration and approval without delaying the work, the Contractor shall submit a written request for substitution to the Director of Capital Improvements Engineering. The request shall include all information necessary for proof of equality and suitability for substitution including benefits, engineering design and data (calculations) and/or detailed plan modifications which may be required by the

substitution. The Contractor shall submit additional information and/or samples when required.

- 3) The Director of Capital Improvements Engineering, or his representative, will evaluate the information submitted, perform tests when necessary and make comparisons.
- 4) The Director of Capital Improvements Engineering will then make the final decision and notify the Contractor in writing as to the acceptability of the proposed substitution.

32. PRIMARY AND ALTERNATE BIDS

Separate total bids shall be submitted for the 24" sewer line and an alternate 21" sewer line. The alternate proposal calls for substitution of 21" pipe of the same kind, and in the same location as the 24" pipe shown on the plans.

SPECIAL PROVISIONS
CONSTRUCTION DETAILS1. Sewer Line and Manhole Construction.

1.1 Sewer pipe and manhole construction shall be in accordance with applicable sections of M.A.G. specifications. Unit price bid per lineal foot of sewer line installed will include trench excavation bedding material, if required, backfilling and compaction. The temporary pavement replacement for the cut across Princess Drive is a separate bid item. Taps into the manhole at the inlet and outlet of the new sewer line are to be done at a time and for a period of construction as approved by the Director of Capital Improvements Engineering. Manhole covers for the new construction shall conform to City of Phoenix Standard Detail 360, except the word "Phoenix" on the cover shall be replaced by the word "Scottsdale." New manholes may be City of Phoenix Std. Det. 370 or 371, or 372 as modified (12" maximum adjusting ring height).

2. Temporary Pavement Replacement

2.1 The temporary pavement placed along the cut across Princess Drive shall be cold mix asphalt concrete conforming to the requirements of Section 336.2.3, M.A.G. specifications.

3. Manhole Rim Adjustments

3.1 Six manhole rims shall be adjusted to the design elevations shown on the plans for each location with watertight manhole covers, City of Phoenix Standard Detail 362, installed. The word "Phoenix" on the covers shall be replaced by the word "Scottsdale." Protective guard railings acceptable to the Director of Capital Improvements Engineering shall be installed around excavated areas over 4 feet deep, while the rim adjustments are in progress. The excavation necessary to accomplish the rim adjustments shall be backfilled as soon as practicable after the acceptance inspection is completed.

4. Material Encountered in Excavation

4.1 The boring logs included in Appendix A of these specifications are for general information only. The inclusion of these boring logs does not imply that the character of material is the same as that shown by these logs at any other location than where the boring was made. The approximate locations of these borings are indicated on the contract drawings and in Appendix A. The City assumes no responsibility for the soil materials encountered or the elevation of any ground water at the actual time of construction.

4.2 The Contractor is also advised that in the vicinity of the existing Indian Bend Wash Channel, unspecified fill material is exhibited. Should unspecified fill material be evident at the bedding elevations of sewer pipe, additional over excavation shall be undertaken to such limits as determined by the engineer, and backfilled with suitable bedding material and compacted in place to the grades shown on the plans to a minimum of 85 percent to the maximum density when tested in accordance with the AASHTO T-99 Method, or T-191, or ASTM D-2922 and D-3017.

5. Sewer Pipe

5.1 Sewer pipe shall be mechanical joint vitrified clay pipe. VCP shall meet the requirements of Section 743 of the M.A.G. Standard Specifications.

*Stationing
changes
computed by
Scottsdale
on new
alignment*

5.2 The proposed 24" sewer line crosses an existing Salt River Project (SRP) 42" irrigation pipe approximately 649 feet east of 16/10 corner, Section 11, T1N, R4E, South of McKellips Road and east of Miller Road (City of Scottsdale sewer station 34 + 55.14). Bottom of sewer pipe at this crossing is to be installed in accordance with City of Scottsdale plans for Project No. FC-7571 which provides for 12" minimum clearance over SRP pipeline.

52.25

10/16

5.3 The proposed 24" sewer line parallels the existing SRP 42" irrigation pipe from approximately 452 feet east of 16/13 corner, Section 11, T1N, R4E, to approximately 649 feet east of 16/10 corner, Section 11, T1N, R4E, North of Weber Road and east of Miller Road (City of Scottsdale sewer station 21 + 32.63 to 34 + 24.13). In paralleling SRP's 42" irrigation pipe, a minimum of 24" clearance measured horizontally is to be maintained between springline of SRP's pipe and open excavation.

13/16

10/16

31.71

19.12

5.4 Trenching, backfilling and compaction for sewer pipe shall be in accordance with Section 601 of the M.A.G. Standard Specifications. Backfill within 8 feet of SRP's pipe to be placed in 6" lifts compacted to minimum 90% Proctor density.

5.5 The Contractor may spoil excess soil to the east of the sewer alignment provided such spoil does not interfere with existing drainage ways or existing roadways or facilities.

6. Special Considerations for SRP Facilities

6.1 All damage to SRP's facilities to be repaired at Contractor's expense to the SRP's satisfaction. Determination of damage shall be solely by SRP. SRP shall have access at all times for inspection of the sewer crossing.

SRP's transmission Watermaster (phone 273-5461) shall be notified prior to construction.

7. Construction Stakes

7.1 The City of Scottsdale will furnish and set all survey stakes and marks required for the completion of the construction shown on the plans and described in these specifications as follows:

(a) Set offset alignment and grade stakes for sewer lines at intervals of 25'.

(b) Set offset location and grade stakes for manholes and cleanouts indicating cut to flow line and top of structure.

7.2 Construction stakes will be set one time only. The Contractor shall be held responsible for the preservation of all stakes and marks, and if, in the opinion of the Engineer, any of the survey stakes or marks have been carelessly or willfully destroyed or disturbed by the Contractor, the cost to the Owner for replacing them shall be charged the Contractor and shall be deducted from the payment for the work.

PROPOSAL

CITY OF SCOTTSDALE, ARIZONA
CAPITAL IMPROVEMENTS ENGINEERING

PROPOSAL to the Director of Capital Improvements Engineering of the City of Scottsdale. In compliance with the Advertisement for Bids, by the Director of Capital Improvements Engineering, the undersigned Bidder:

Having examined the contract documents, site of work, and being familiar with the conditions to be met, hereby submits the following Proposal for furnishing the material, equipment, labor and everything necessary for the completion of the work listed and agrees to execute the contract documents and furnish the required bonds and certificates of insurance for the completion of said work, at the locations and for the prices set forth hereinafter.

Understands that construction of this project shall be in accordance with all applicable Uniform Standard Specifications and Standard Details except as otherwise required by the Project Plans and Special Provisions.

Understands that his proposal shall be submitted with a proposal guarantee of cash, certified check, cashier's check or surety bond for an amount not less than (10%) Ten Percent of the amount bid.

Agrees that upon receipts of Notice of Award, from the City of Scottsdale, he will execute the contract documents.

Work shall be completed within 60 calendar days, beginning with the day following the starting date specified in the Notice to Proceed. The time allowed for completion of the work includes lead time for obtaining the necessary material and/or equipment.

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

PROPOSAL

ITEM NO.	QUANTITY & UNIT	DESCRIPTION (UNIT PRICE IN WRITTEN WORDS)	UNIT PRICES	TOTAL
1.	3,257 L.F.	24" M.J. VCP Sewer Pipe Sum of	Dollars	
			Cents	
		Per L.F.	\$ _____	\$ _____
1A*	3,257 L.F.	*21" M.J. VCP Sewer Pipe (ALTERNATE) Sum of	Dollars	
			Cents	
		Per L.F.	\$ _____	\$ _____
2.	220 L.F.	24" Concrete encased M.J. VCP Sewer Pipe Sum of	Dollars	
			Cents	
		Per L.F.	\$ _____	\$ _____
2A*	220 L.F.	*21" Concrete encased M.J. VCP Sewer Pipe (ALTERNATE) Sum of	Dollars	
			Cents	
		Per L.F.	\$ _____	\$ _____
3.	8 each	Manhole, ring and cover, City of Phoenix Standard Detail 370 or 371, or modified 372 Sum of	Dollars	
			Cents	
		Per each	\$ _____	\$ _____

*Proposed substitution for Bid Items 1 and 2

PROPOSAL

ITEM NO.	QUANTITY & UNIT	DESCRIPTION (UNIT PRICE IN WRITTEN WORDS)	UNIT PRICES	TOTAL
4.	1 each	Drop Manhole Connection, City of Phoenix Standard Detail 320 Sum of		
		_____ Dollars		
		_____ Cents		
		Per Each	\$ _____	\$ _____
5.	2 each	Taps into existing manholes		
		Sum of		
		_____ Dollars		
		_____ Cents		
		Per Each	\$ _____	\$ _____
6.	2 each	Plug for existing abandoned 21" sewer, City of Phoenix Standard Detail 395		
		Sum of		
		_____ Dollars		
		_____ Cents		
		Per each	\$ _____	\$ _____
7.	20 L.F.	Concrete Encasement, City of Phoenix Standard Detail 23		
		Sum of		
		_____ Dollars		
		_____ Cents		
		Per L.F.	\$ _____	\$ _____
8.	35 S.Y.	Temporary Pavement Replacement (Princess Road) M.A.G. Spec. 336.2.3		
		Sum of		
		_____ Dollars		
		_____ Cents		
		Per S.Y.	\$ _____	\$ _____

PROPOSAL

ITEM NO.	QUANTITY & UNIT	DESCRIPTION AND (UNIT PRICE IN WRITTEN WORDS)	UNIT PRICES	TOTAL
----------	-----------------	--	-------------	-------

9	6 each	Manhole Rim Adjustments and Watertight Manhole Covers, City of Phoenix Standard Detail 362		
---	--------	--	--	--

Sum of:

_____ Dollars

_____ Cents

Per each

\$ _____ \$ _____

TOTAL BID - SUM OF ITEMS 1 THROUGH 9 (Exclude Items 1A & 2A)

_____ DOLLARS

_____ CENTS

\$ _____

TOTAL ALTERNATE BID - SUM OF ITEMS 1A, 2A and 3 THROUGH 9 (Exclude Items 1 & 2)

_____ DOLLARS

_____ CENTS

\$ _____

PROPOSAL

THIS PROPOSAL IS SUBMITTED BY _____, a corporation organized under the laws of the State of _____, a partnership consisting of _____ or individual trading as _____ of the City of _____ and is the holder of Arizona State Contractor's License:

Classification _____ No. _____

Respectfully submitted,

FIRM: _____

ADDRESS: _____

TEL. NO.: _____

DATE: _____

BY: _____ OFFICER AND TITLE (SEAL)

ATTEST:

OFFICER AND TITLE

WITNESS: IF BIDDER IS AN INDIVIDUAL

PROJECT NO. FC-7571 -R

BID BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____
_____, as Principal, and _____
_____, as Surety, are held and firmly bound
unto the City of Scottsdale in the penal sum of _____
Dollars (\$ _____) lawful money of the United States of
America, to be paid to the order of the City of Scottsdale, for which payment,
well and truly to be made, we bind ourselves, our successors and assigns, signed
with our seals and dated _____, 1975.

The conditions of the above obligation are such that whereas the City Council of
the City of Scottsdale, on the 18th day of March, 1975, did
order the following works to be done, to wit:

U.S.C.E. Indian Bend Wash Utility Relocation Outlet

PROJECT NO. FC-7571-R

WHEREAS, _____, the principal herein in answer to
the Notice Inviting Proposals or bids issued by the City of Scottsdale, put in
its bid for the making of said improvements.

NOW THEREFORE, if the bid of _____, as
aforesaid be accepted by the City Council of the City of Scottsdale, and
_____ shall enter into a contract to
make said improvements at the price specified in its bid, then this obligation to

(cont'd)

PROJECT NO. FC-7571 -R

be void of no effect, otherwise to remain in full force and virtue.

PRINCIPAL (SEAL)

BY: _____

ATTEST:

SURETY (SEAL)

BY: _____

ATTORNEY IN FACT

AGENCY OF RECORD

AGENCY ADDRESS

AFFIDAVIT OF EMPLOYMENT OF LABOR

STATE OF ARIZONA)
COUNTY OF MARICOPA) ss

_____, being first
duly sworn, on oath, deposes and says;

That he is the _____ of a firm of _____
_____ and as such submitted the attached
proposal or bid for the proposed improvement of certain works, in the City of
Scottsdale, Arizona as described therein.

That, in the event the Contract therefor is awarded his firm, preference
in employment of labor thereon will be given to residents of the City of
Scottsdale who have resided in said City for a period of six (6) months or more
next preceding the time of their employment, and that such citizens will be
employed whenever possible, with the exception of the men necessary to the
bidder for his technical staff of his organization.

CONTRACTOR

BY: _____
NAME AND TITLE (SEAL)

Subscribed and sworn to before
me this _____ day of
_____, 197

NOTARY PUBLIC

My commission expires:

CONTRACT

THIS AGREEMENT, made and entered into this _____ day of _____, 197 by and between _____

of the City of _____, County of _____,

and State of _____, party of the first part hereinafter designated the CONTRACTOR, and the City of Scottsdale, a municipal corporation, organized and existing under and by virtue of the laws of the State of Arizona, party of the second part, thereafter designated the OWNER.

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

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

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

ARTICLE II - CONTRACT DOCUMENTS: The Call for Bids, Plans, Standard Specifications and Details, Special Provisions, Addenda, if any, and Proposal, as accepted by the Mayor and Council per Council Minutes of _____, 19____, Performance Bond, Payment Bond, Certificates of Insurance, and Change Orders, if any, are by this reference made a part of this Contract to the same extent as if set forth herein in full.

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

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 and/or lump sum price on the Proposal made a part hereof, and to make such payment within forty (40) days after final inspection and acceptance of the work.

IN WITNESS WHEREOF, six (6) identical counterparts of this contract each of which shall for all purposes be deemed an original thereof, have been duly executed by the parties hereinabove named, on the date and year first above written.

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

ATTEST:

(CONTRACTOR - PARTY OF THE FIRST PART)

WITNESS: IF CONTRACTOR IS INDIVIDUAL _____
BY: _____
NAME AND TITLE
(CORPORATE SEAL)

CITY OF SCOTTSDALE, A MUNICIPAL CORPORATION
(OWNER - PARTY OF THE SECOND PART)

ATTEST:

CITY CLERK _____
MAYOR

RECOMMENDED FOR APPROVAL: _____
APPROVED AS TO FORM:

DIRECTOR OF CAPITAL IMPROVEMENTS
ENGINEERING _____
CITY ATTORNEY

CONTRACT BOND

STATUTORY PERFORMANCE BOND PURSUANT TO
TITLE 34, CHAPTER 2, ARTICLE 2,
OF THE ARIZONA REVISED STATUTES

(Penalty of this bond must be 100% of the
Contract amount)

KNOW ALL MEN BY THESE PRESENTS:

That, _____ (hereinafter called the Principal)
as Principal, and _____, a corporation organized
and existing under the law 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 City of _____
and the County of Maricopa. State of Arizona in the amount of _____

_____ Dollars (\$ _____), for the payment whereof, the said Principal and
Surety bind themselves, and their heirs, administrators, executors, successors
and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract with the
City of _____, dated the _____ day of _____, 197____
for Proj. FC-7571 U.S.C.E. Indian Bend Wash Utility Relocation Outlet

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.

PROJECT NO. FC-7571-R

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 the _____ day of _____, 1975

PRINCIPAL

BY

SURETY

(SEAL)

BY

AGENCY OF RECORD

AGENCY ADDRESS

PROJECT NO. FC-7571 -R

LABOR AND MATERIALS BOND

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 City of
_____, State of Arizona (hereinafter called the Obligee),
in the amount of _____

Dollars (\$ _____), for the payment whereof, the said
Principal and Surety bind themselves, and their heirs, administrators, executors,
successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract with the
Obligee dated the _____ day of _____, 1975, for
Project FC-7571 U.S.C.E. Indian Bend Wash Utility Relocation Outlet

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

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

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

PROJECT NO. FC-7571-R

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 the _____ day of _____, 1975

PRINCIPAL

BY

SURETY (SEAL)

BY

AGENCY OF RECORD

AGENCY ADDRESS

PROJECT NO. FC-7571-R

CITY OF SCOTTSDALE, ARIZONA

Certificate of Insurance

Project No: FC-7571, Project Title: U.S.C.E. Indian Bend Wash Utility Relocation Outlet

The _____
certifies that the following insurance policies have been issued on behalf of

Name of Insured _____ and the City of Scottsdale as an additional
insured. Address of Insured _____

Type of Insurance	Policy No.	Eff. Date	Exp. Date	Limits of Liability
(1) Workmen's Compensation				Statutory
(2) Contractor's Protective Bodily Injury				\$500,000 Ea. Occurrence
(2) Contractor's Protective Property Damage				\$100,000 Ea. Accident 100,000 Aggregate
(3) Contractual Bodily Injury				\$500,000 Ea. Occurrence
(3) Contractual Property Damage				\$100,000 Ea. Accident 100,000 Aggregate
(4) Automobile Bodily Injury Property Damage				\$500,000 Ea. Occurrence

When the project includes construction of a new, or modification of an existing building (in addition to the above types):

PROJECT NO. FC-7571-R

- (5) Fire and Extended Coverage plus Vandalism and Malicious Mischief - For the Full Amount of the Contract.

Policy No.	Eff. Date	Exp. Date
------------	-----------	-----------

-
- (6) Umbrella Coverage
\$ _____
-

Policy Includes Coverage For:

- (1) a. Damage caused by blasting
b. Damage caused by collapse or structural injury
c. Damage to underground utilities
 - (2) Liability assumed in construction agreements and other types of contracts or agreements in effect in connection with insured operations.
 - (3) All owned, hired or non-owned automotive equipment used in connection with the insured operation.
-

It is agreed that none of these policies will be cancelled or changed so as to affect this certificate until ten (10) days written notice of such cancellation or change has been delivered to City of Scottsdale.

It is further agreed that:

- (1) These policies shall not expire until all work has been completed and the project has been accepted by the City of Scottsdale. (If a policy does expire during the life of the Contract, a renewal Certificate of the required coverage must be sent to the City of Scottsdale not less than five days prior to expiration date.)

The Contractor hereby agrees to and shall indemnify, defend and save harmless the City of Scottsdale and any jurisdiction or agency issuing permits for any work included in the project, their officers, agents and representatives from all suits, actions, loss, damage, expense, cost, or claims of any character or any nature brought on account of any injuries or damage sustained by any person or property arising out of the work done in fulfillment of the construction of the improvement under the terms of this agreement, or on account of any act or omission by the contractor or his agents, or from any claims or amounts arising or recovered under Workmen's Compensation laws or any other law, by-law, ordinance, or order or decree.

This certificate is not valid unless countersigned by an authorized representative of the Insurance Company.

DATE: _____ Countersigned by: _____

Signature

PROJECT NO. FC-7571-R

CITY OF SCOTTSDALE, ARIZONA
CAPITAL IMPROVEMENTS ENGINEERING

CONTRACTOR'S AFFIDAVIT
REGARDING
SETTLEMENT OF CLAIMS

_____, Arizona

Date _____

Project No. FC-7571

To the City of Scottsdale, Arizona

Gentlemen:

This is to certify that all lawful claims for materials, rental of equipment and labor used in connection with the construction of the above project, whether by subcontractor or claimant in person, have been duly discharged.

The undersigned, for the consideration of \$ _____, as set out in the final pay estimate, as full and complete payment under the terms of the contract, hereby waives and relinquishes any and all further claims or right of lien under, in connection with, or as a result of the above described project. The undersigned further agrees to indemnify and save harmless the City of Scottsdale against any and all liens, claims of liens, suits, actions, damages, charges and expenses whatsoever, which said City may suffer arising out of the failure of the undersigned to pay for all labor performance and materials furnished for the performance of said installation.

Signed and dated at _____, this _____ day of _____,

19_____.

Contractor

By

STATE OF ARIZONA)
) ss
COUNTY OF MARICOPA)

The foregoing instrument was subscribed and sworn to before me this _____ day of _____, 19_____.

Notary Public

My Commission Expires _____

PROJECT NO. FC-7571 -R

CITY OF SCOTTSDALE, ARIZONA
CAPITAL IMPROVEMENTS ENGINEERING

_____, Arizona

Date _____

RE: Project No. FC-7571

To The City of Scottsdale, Arizona

Gentlemen:

The final pay estimate of \$ _____, which represents total and complete payment under the terms of the contract, fully and completely reflects the actual quantities of work performed. Said final quantities were mutually measured and agreed upon by authorized representatives of the undersigned and the City of Scottsdale.

Signed and dated this _____ day of _____, 19____.

By: _____

Title: _____

For: _____
Contractor

STATE OF ARIZONA)
) ss
COUNTY OF MARICOPA)

The foregoing instrument was subscribed and sworn to before me this _____ day
of _____, 19____.

Notary Public

My Commission Expires

APPENDIX "A"

SOILS REPORT AND BORING LOGS



ENGINEERS TESTING LABORATORIES, INC.

WARNE ASSOCIATES DIVISION
SOIL MECHANICS & FOUNDATION ENGINEERS

2525 E. Indian School Rd. 957-9050 Phoenix, Arizona 85016

J. J. Wynn, P.E.
J. W. Thomas, P.E.
H. J. Myers, P.E.
J. G. Bennett, P.E.
J. P. Boyel, P.E.
W. J. Rankin, P.E.
J. Mangotich, P.E.
L. M. Sweet, P.E.
D. J. Harris, P.E.
D. N. Wakelind, P.E.
G. K. Copeland, P.E.
H. J. Hottel, P.E.
J. C. Roemer, Ph.D., P.E.
E. G. Larson, P.E.
P. J. Allard, P.E.

CITY OF SCOTTSDALE
CAPITAL IMPROVEMENTS ENGINEERING
3939 CIVIC CENTER PLAZA
SCOTTSDALE, ARIZONA

10 APRIL 1975

ATTENTION: JEFF KRACHT

PROJECT: SEWER MAIN PROJECT FC-7571
INDIAN BEND WASH BETWEEN
PRINCESS DRIVE & MCKELLIPS ROAD
SCOTTSDALE, ARIZONA

Job No. 512-160

IN ACCORDANCE WITH YOUR REQUEST, THIS FIRM HAS CONDUCTED A SOIL INVESTIGATION ALONG THE ROUTE OF THE SUBJECT SEWER MAIN.

THE ACCOMPANYING REPORT INCLUDES THE RESULTS OF THE SUBSURFACE EXPLORATION, LABORATORY ANALYSES, AND THE REASONING SUPPORTING THE CONCLUSIONS AND RECOMMENDATIONS CONTAINED THEREIN.

PLEASE DO NOT HESITATE TO CONTACT US IF FURTHER QUESTIONS ARISE OR IF WE MAY BE OF FURTHER SERVICE TO YOU.

RESPECTFULLY SUBMITTED,
WARNE ASSOCIATES DIVISION

BY: Steven L. Pawlak AND Glen K. Copeland
STEVEN L. PAWLAK, E.I.T. GLEN K. COPELAND, P. E.
4-10-75

/JM

COPIES TO: ADDRESSEE (3)

SEWER MAIN PROJECT FC-7571
INDIAN BEND WASH BETWEEN
PRINCESS DRIVE & MCKELLIPS ROAD
SCOTTSDALE, ARIZONA
JOB No. 512-160

REPRESENTATIVE SUBSOIL SAMPLES OBTAINED DURING THE FIELD INVESTIGATION WERE SUBJECTED TO THE FOLLOWING LABORATORY ANALYSES:

<u>TEST</u>	<u>SAMPLES</u>	<u>PURPOSE</u>
SIEVE ANALYSIS & PLASTICITY INDEX	REPRESENTATIVE SAMPLES (3)	SOIL CLASSIFICATION

SITE AND SOIL CONDITIONS

THE PROPOSED ROUTE IS LOCATED WITHIN THE INDIAN BEND WASH CHANNEL AND ADJACENT TO THE WEST EMBANKMENT GENERALLY BETWEEN PRINCESS DRIVE AND MCKELLIPS ROAD. THE PROPOSED ALIGNMENT GENERALLY CROSSES UNIMPROVED LAND BUT DOES INTERSECT TWO STREET AND ONE IRRIGATION DITCH RIGHTS-OF-WAY (SEE SITE PLAN).

AS DISCLOSED BY THE TEST BORINGS AND AS ILLUSTRATED ON THE "GRAPHICAL BORING LOGS", THE SUBSOIL STRATIFICATION IS RELATIVELY UNIFORM. SURFACE SOILS TO DEPTHS BETWEEN 12 TO 15 FEET OR DEEPER ARE GENERALLY FINE GRAINED CLAYEY SOILS OF LOW TO MEDIUM PLASTICITY AND WHICH CONTAIN OCCASIONAL LIGHT CALCITE CEMENTED ZONES. AT TEST BORING 3, A CORASE, RELATIVELY CLEAN SAND WAS ENCOUNTERED BELOW AN APPROXIMATE 12 FOOT DEPTH AND EXTENDED THROUGHOUT THE REMAINING DEPTH OF THE BORING.

SOIL MOISTURE CONTENTS WERE DESCRIBED AS BELOW THE PLASTIC LIMIT FOR FINE GRAINED SOILS AND AS SLIGHTLY DAMP FOR THE UNDERLYING GRANULAR SOILS. NO GROUNDWATER TABLE WAS ENCOUNTERED IN ANY OF THE TEST BORINGS.

SLOPE STABILITY AND EXCAVATION FACTORS

NO HEAVILY CEMENTED INTERVALS WERE ENCOUNTERED AT TEST BORING LOCATIONS ALTHOUGH ZONES OF LIGHT CALCITE CEMENTATION WERE DETECTED. SUBSOILS SHOULD BE READILY EXCAVATED WITH CONVENTIONAL TRENCHING OR BACKHOE EQUIPMENT.

SEWER MAIN PROJECT FC-7571
INDIAN BEND WASH BETWEEN
PRINCESS DRIVE & MCKELLIPS ROAD
SCOTTSDALE, ARIZONA
JOB No. 512-160

NEAR VERTICAL TEMPORARY EXCAVATED TRENCH SLOPES SHOULD BE POSSIBLE WITHIN THE CLAYEY SURFACE AND SUBSOILS. HOWEVER, LOCALIZED LENSES OR LAYERS OF PREDOMINANTLY GRANULAR MATERIAL MAY BE ENCOUNTERED WHICH COULD RESULT IN CAVING AND UNDERMINING OF THE MORE STABLE OVERLYING CLAY SLOPES. ADDITIONALLY, THE FOLLOWING ITEMS COULD ALSO IMPOSE ADVERSE EFFECTS ON TRENCH STABILITY: (1) SURFACE AND SUBSOILS ADJACENT TO TRENCH EXCAVATION BECOMING INUNDATED AND/OR NEARLY SATURATED, (2) ADDITIONALLY IMPOSED LOADS ADJACENT TO TRENCH FACES (HEAVY EQUIPMENT, TRAFFIC, SOIL SPOIL BANK, ETC. AND (3) CLOSE PROXIMITY OF EXISTING BACKFILLED TRENCHES.

THE FOLLOWING TABULATION PRESENTS ESTIMATED TEMPORARY STABLE SLOPE CONDITIONS FOR VARIOUS SOIL AND/OR MATERIAL TYPES, BUT ARE CONTINGENT UPON RELATIVE UNIFORM SOIL OR MATERIAL CONDITIONS NOT SUBJECT TO IMPOSED CONDITIONS AS OUTLINED ABOVE.

<u>SOIL AND/OR MATERIAL TYPE</u>	<u>ESTIMATED TEMPORARY SLOPES</u>
SANDY CLAY-SILTY CLAY (SURFACE SOILS AND SUBSOILS)	1 TO 2 (HORIZONTAL TO VERTICAL)
COARSE SAND (UNDERLYING SUBSOILS)	1 TO 1 (HORIZONTAL TO VERTICAL)

DUE TO THE ANTICIPATED DEPTH OF TRENCH, ALL PORTIONS OF THE EXCAVATION WILL REQUIRE TEMPORARY BRACING IN ORDER TO ENSURE SAFETY OF PERSONNEL DURING INSTALLATION OF THE PIPELINE.

SOIL CLASSIFICATION ASTM: D2487

COARSE-GRAINED SOIL

MORE THAN 50% LARGER THAN 200 SIEVE SIZE

Symbol	Letter	DESCRIPTION	MAJOR DIVISIONS
	GW	WELL-GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LESS THAN 5% - 200 FINES	GRAVELS More than half of coarse fraction is larger than No. 4 sieve size.
	GP	POORLY-GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LESS THAN 5% - 200 FINES	
	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES, MORE THAN 12% - 200 FINES	
	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES, MORE THAN 12% - 200 FINES	
	SW	WELL-GRADED SANDS OR GRAVELLY SANDS, LESS THAN 5% - 200 FINES	SANDS More than half of coarse fraction is smaller than No. 4 sieve size.
	SP	POORLY-GRADED SANDS OR GRAVELLY SANDS, LESS THAN 5% - 200 FINES	
	SM	SILTY SANDS, SAND-SILT MIXTURES MORE THAN 12% - 200 FINES	
	SC	CLAYEY SANDS, SAND-CLAY MIXTURES MORE THAN 12% - 200 FINES	

FINE-GRAINED SOIL

MORE THAN 50% SMALLER THAN 200 SIEVE SIZE

Symbol	Letter	DESCRIPTION	MAJOR DIVISIONS
	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY	SILTS AND CLAYS Liquid limit less than 50
	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS	
	OL	ORGANIC SILTS AND ORGANIC SILT-CLAYS OF LOW PLASTICITY	
	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS	SILTS AND CLAYS Liquid limit greater than 50
	CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS	
	OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS	
	PT	PEAT AND OTHER HIGHLY ORGANIC SOILS	

NOTE — Soils with 5 to 12 percent minus 200 fines should be classified with dual symbols.

SOIL FRACTIONS

Component	Size Range
Boulders	Above 12 in.
Cobbles	3 in. to 12 in.
Gravel	3 in. to No. 4 sieve
Coarse Gravel	3 in. to 3/4 in.
Fine gravel	3/4 in. to No. 4 sieve
Sand	No. 4 to No. 200
Coarse	No. 4 to No. 10
Medium	No. 10 to No. 40
Fine	No. 40 to No. 200
Fines (silt or clay)	Below No. 200 sieve

DEFINITIONS

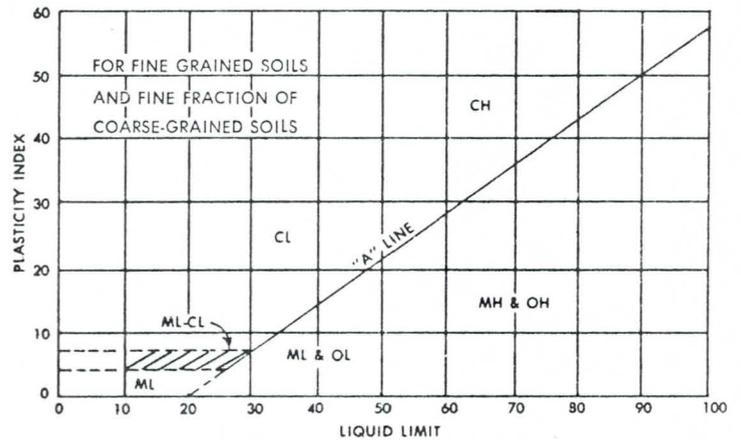
Particle Size

Percentage shown on log denotes visual approximation $\pm 5\%$.

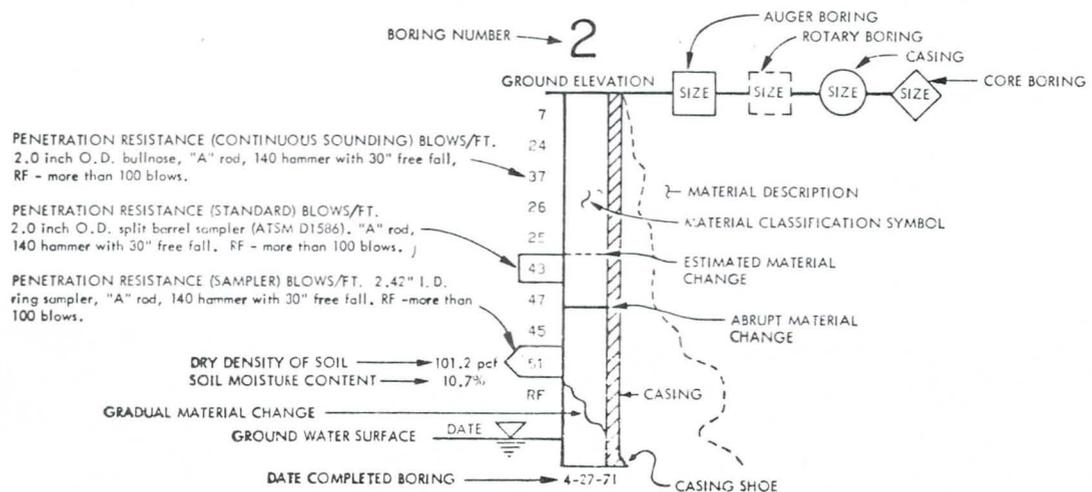
Soil Classification

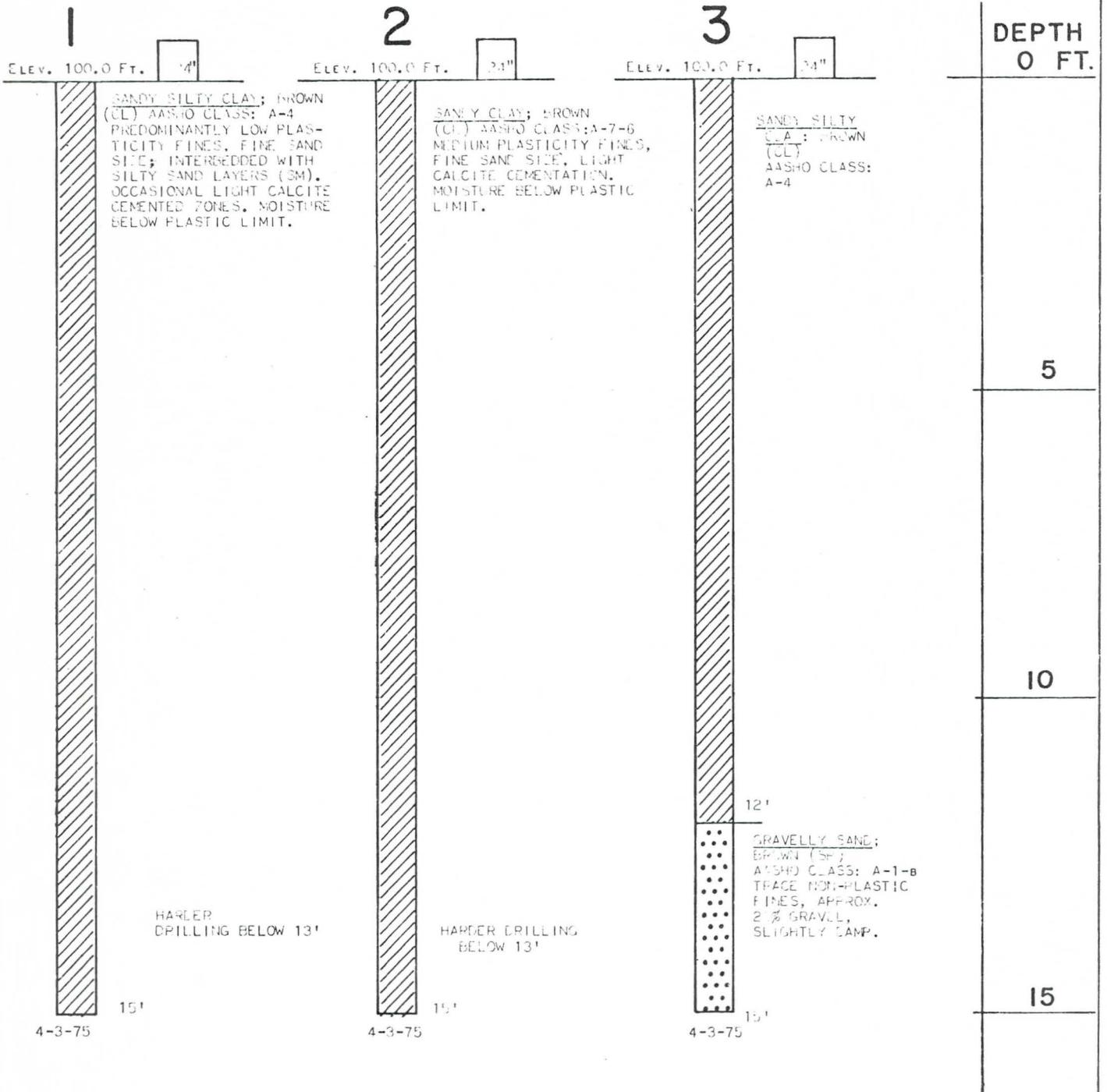
Visual unless accompanied by mechanical analysis and Atteberg limits.

PLASTICITY CHART

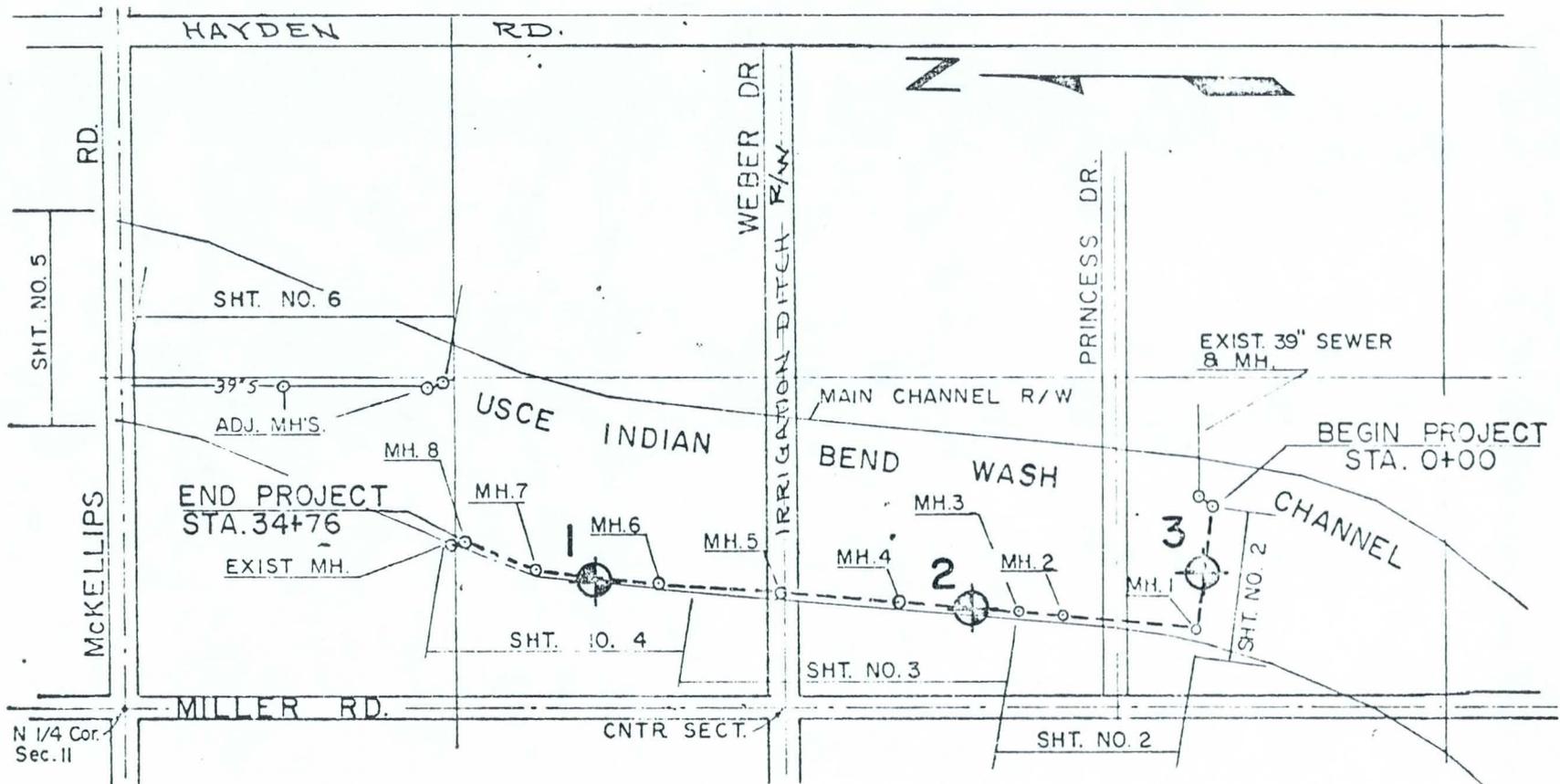


LEGEND OF BORING OPERATIONS





SEWER MAIN PROJECT FC-7571



SITE PLAN

SHOWING LOCATIONS OF TEST BORINGS

SEWER MAIN PROJECT FC-7571
 INDIAN BEND WASH BETWEEN
 PRINCESS DR. & MCKELLIPS RD.

WARNE ASSOCIATES DIVISION

DATE: 4-3-75

JOB NO. 512-160