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ENGINEERING & ARCHITECTURAL SERVICES
CITY OF PHOENIX, ARIZONA



PROJECT SPECIFICATIONS AND CONTRACT DOCUMENTS

ST-813873

W.O. #00553

STORM DRAIN IN CENTRAL AVENUE FROM THE ACDC TO HATCHER ROAD

W-891440

W.O. #59500

WATERLINE IN CENTRAL AVENUE FROM DUNLAP AVENUE TO HATCHER ROAD

P-793869

W.O. #08621

PAVING OF INTERSECTION OF DUNLAP AVENUE AND CENTRAL AVENUE

MAYOR

PAUL JOHNSON

CITY COUNCIL

DISTRICT NO. 1 - SKIP RIMSZA
DISTRICT NO. 2 - THELDA WILLIAMS
DISTRICT NO. 3 - ALAN KENNEDY
DISTRICT NO. 4 - JOHN B. NELSON

DISTRICT NO. 5 - HOWARD ADAMS
DISTRICT NO. 6 - LINDA NADOLSKI
DISTRICT NO. 7 - MARY ROSE WILCOX
DISTRICT NO. 8 - CALVIN C. GOODE

CITY MANAGER

MARVIN A. ANDREWS



A118.525

PREQUALIFICATION REQ. D.

PRE-BID CONFERENCE AND QUESTIONS ON PLANS AND SPECIFICATIONS

No Pre-Bid Conference will be held.

Neither the Engineer nor the City of Phoenix shall be held responsible for any oral instructions. Any changes to the plans and specifications will be in the form of an addendum which will be furnished to all plan holders.

Should you desire additional information prior to submitting your bid, please call the following for questions on:

Plans, Technical/Special Provisions, or Proposal:
Project Engineer: Mr. Roger Olsen, 256-3441.

General Conditions, Bid Bonds, Insurance, Payment and Performance bonds and Contracts: Specifications, 262-6652.

Equal Employment Opportunities and Affirmative Action Programs:
Human Relations Division, 262-6790.

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S E A L

CALL FOR BIDS

BIDS WILL BE OPENED
TUESDAY, MAY 1, 1990 AT 4:00 P.M.

INDEX NO. ST-813873, W-891440 & P-793869

Sealed bids will be received at the office of the City Engineer, Plaza Municipal Building, 125 East Washington Street, Phoenix, Arizona 85004, until the hour indicated for a storm drain in Central Avenue from ACDC to Hatcher Road, a waterline in Central Avenue from Dunlap Avenue to Hatcher Road and paving of the intersection of Dunlap Avenue and Central Avenue.

Prospective bidders may examine and/or purchase plans, special provisions, and proposal pamphlets at the City Engineer's office. These documents may be purchased for \$15.00 per set.

Pursuant to City of Phoenix Ordinance G-2772, on Prequalification of Contractors, all bidders must be prequalified to bid on this project.

This project is subject to the City of Phoenix's Code, Chapter 18, Article IV, as amended pertaining to non-discrimination in employment by Contractor's and sub-contractors. The Affirmative Action Requirements are included as a part of the specification on pages AAR - 1 through AAR - 8.

Pursuant to ARS 34-253, the lowest and/or best responsible bidder shall provide a noncollusion affidavit.

No proposal will be read unless accompanied by a proposal guarantee of cash, certified check, cashier's check or on the surety bond provided, for an amount not less than 5 percent of the amount bid.

The Council of the City of Phoenix reserves the right to award the contract to the lowest and/or best responsible bidder, or all bids will be rejected, as soon as practicable after the date of opening bids.

MARVIN A. ANDREWS
City Manager

By Kenny W Harris
KENNY W. HARRIS P.E.
City Engineer

Published: Arizona Business Gazette
April 13, 1990
(3)

INFORMATION FOR BIDDERS

.01 REFUNDS FOR PLANS AND SPECIFICATIONS

No refunds will be made for the return of plans and/or specifications by prospective bidders--either before or after the bid opening date.

.02 PREQUALIFICATION OF CONTRACTORS

This project IS subject to the City of Phoenix Ordinance G-2772, Prequalification of Contractors. All bidders must be prequalified in one of the following categories to bid on this project.

CATEGORIES: C-3 or C-10

NOTE: Any bidders who are not prequalified, as stated above, will have their proposal rejected as a non-qualified proposal.

.03 SUBMITTING BIDS

No proposal will be read unless accompanied by a proposal guarantee of cash, certified check, cashier's check or on the surety bond provided, for an amount not less than five (5) percent of the amount bid.

The entire specification, containing the completed proposal with the five (5) percent proposal guarantee shall be submitted in a sealed envelope. The outside, lower righthand corner of which shall be marked as follows:

Bid of (Firm's Name, Address and Phone Number

For Storm Drain in Central Avenue from ACDC to Hatcher Road, waterline in Central Avenue from Dunlap Avenue to Hatcher Road and paving of the intersection of Dunlap Avenue and Central Avenue.

City of Phoenix Index Number ST-813873, W-891440 & P-793869.

Sealed bids shall be delivered to the Administrative Section counter of the Engineering Department prior to the time and date specified for bid opening.

This project is subject to the City of Phoenix's Code, Chapter 18, Article IV, as amended pertaining to non-discrimination in employment by Contractors. The Affirmative Action Requirements are included as a part of the specification on pages AAR - 1 through AAR - 8.

.04 CONTRACT AWARD

Contract award will be made either on the low total base bid or on the low combination of the total base bid and the additive alternate(s), whichever is in the best interest of the City.

.05 CANCELLATION OF CONTRACT

All parties hereto acknowledge that this agreement is subject to cancellation by the City of Phoenix pursuant to the provisions of Section 38-511, Arizona Revised Statutes.

.06 NONCOLLUSION AFFIDAVIT

The lowest and/or best responsible bidder shall provide the attached noncollusion affidavit (page ABC - 1), within 24 hours after bid opening.

.07 EQUAL ECONOMIC OPPORTUNITY CLAUSE

Pursuant to City of Phoenix Code, Chapter 18, Article IV as amended, on Equal Employment Opportunity, all prime Contractors and sub-contractors are required to take affirmative action toward equal employment opportunity. All prime Contractors must have Affirmative Action reports on file with the Equal Opportunity Department prior to bid.

.08 PRE-CONSTRUCTION CONFERENCE

After completion of the contract documents, to include bonds, insurance and signatures, and prior to the commencement of any work on the project, the Field Engineering Inspection Section, (telephone 495-2050), will schedule a Pre-Construction Conference. Normally, this will be held at the Field Engineering Building, 1034 East Madison, Phoenix, Arizona.

The purpose of this conference is to establish a working relationship between the Contractor, utility firms and various City agencies. The agenda will include critical elements of the work schedule, submittal schedule, cost breakdown of major lump sum items, payment application and processing, coordination with the involved utility firms, emergency telephone numbers for all representative involved in the course of construction and establishment of the notice to proceed date. On major airport projects there will be a requirement for additional Pre-Construction Conferences with airport users.

Minimum attendance by the Contractor shall be a responsible company/corporate official, who is authorized to execute and sign documents on behalf of the firm, the job superintendent, and the Contractor's safety officer.

.09 ALLOCATION OF ADD/DEDUCT PROPOSAL ITEM

Determination of proportionate distribution of add or deduct will be calculated as follows and unit prices will be adjusted accordingly. Adjusted unit prices will be used to determine payment for all units of work completed under that item.

A. Total sum of extended unit bid prices for items 2 and 3.

B. Divide extended unit bid prices for each item number by the sum of these items to determine the percentage of the lump sum, add or deduct, adjustment which will be applied to the individual bid item number.

C. The new unit price for each affected item will be determined by adding or subtracting the lump sum adjustment for that item from the total extended amount listed in the bid for that item. This amount will then be divided by the number of "quantity units" listed in the bid proposal for that item to determine the new adjusted unit bid price for that item.

D. Any minor deviation in total bid cost using new unit prices may be corrected by adjusting any one or more of the items to correct deviation.

SUB-TOTAL (Items 1 through 44, Inclusive) \$ _____

*ADDITION (+) OR DEDUCTION (-) \$ _____

*Provision is made for the bidder to include an addition or deduction in his bid, if he wishes, to reflect any last minute adjustment in prices. The addition or deduction, if made, will be proportionately applied to the prices bid for items 2 and 3, payment made therefore.

TOTAL AMOUNT OF BID, ITEMS 1 THROUGH 44, INCLUSIVE \$ _____

_____ & _____ /100 Dollars
Written Words

.10 IMMIGRATION REFORM AND CONTROL ACT

Compliance with the Immigration Reform and Control Act of 1986 (IRCA) Required. Contractor understands and acknowledges the applicability of the IRCA to him. Contractor agrees to comply with the IRCA in performing under this agreement and to permit City inspection of his personnel records to verify such compliance.

.11 CONTRACTOR'S LICENSE AND PRIVILEGE LICENSE

Each bidder shall include, on the proposal sheet, his Contractor's License Classification and Number (ARS Title 32, Chapter 10). In addition, the bidder must include his City of Phoenix Privilege License Number (ARS 42-1305).

Failure to provide this information will be just cause for declaring the bid non-responsive.

.12 CONTRACTOR'S TAX LIABILITY

The successful bidder shall be liable for payment of all State of Arizona and Maricopa County Transaction Taxes (ARS 41-1305) and City of Phoenix Privilege Taxes (Phoenix City Code 14-415) on the successful bidders' construction contracting receipts. Failure to remit the proper taxes to the City may result in the withholding of payment until all delinquent privilege taxes, interest and penalty have been paid.

.13 AWARD OF CONTRACT

MAG Section 103.3 Award of Contract, paragraph two is changed to read, "No proposal shall be withdrawn for a period of fifty (50) days after opening without the consent of the Contracting Agency".

I M P O R T A N T N O T I C E

INTERIM AFFIRMATIVE ACTION REQUIREMENTS

Each business entity, entering a business relationship with the City of Phoenix, as a result of responding to either a Request for Proposal or a bid, must comply with the City of Phoenix Ordinances G-1901 or G-1372 as appropriate. Failure to comply with the affirmative action requirements outlined in the above ordinances will be cause for a bid to be irregular and may be grounds for rejection. **IT SHOULD BE EXPRESSLY UNDERSTOOD THAT THE BURDEN FOR COMPLIANCE RESTS FULLY WITH EACH PROPOSER OR BIDDER.** The City cannot be responsible for insuring compliance. The affirmative action forms required are:

1. An affirmative action plan (attached).
2. A combination equal employment questionnaire/employer information report (attached).

If your firm employs less than 15 people, and is not a construction contracting firm, the only requirement is that you fill out the Certification of Less Than 15 form (attached).

If you employ 15 or more, or are a construction contracting firm, you are required to fill out the affirmative action plan and the combination equal employment questionnaire/employer information report.

However, either the Certification of Less Than 15 or the affirmative action plan and the combination form must be submitted to the Equal Opportunity Department, 550 West Washington Street, Phoenix, AZ 85003-2107 prior to bid time. Forms will be date and time stamped.

Any questions regarding this policy may be directed to the Equal Opportunity Department at (602) 262-6790.

AFFIRMATIVE ACTION REQUIREMENTS

Policy

The City of Phoenix maintains a policy of non-discrimination in employment by Contractors, sub-contractors or suppliers and they adhere to a policy of equal opportunity and demonstrate an affirmative effort to recruit, hire and promote its employees regardless of race, color, religion, gender or national origin.

Bid Conditions

A prime Contractor submitting a bid for a City construction contract shall have on file with the Equal Opportunity Department at or before the time of submission of bid the following Affirmative Action reports:

1. EEO Questionnaire
2. Employer Employment Questionnaire
3. An Affirmative Action Plan

IMPORTANT: Failure to have the above-mentioned reports on file at or before the submission of the bid will cause the bid to be considered irregular and may be grounds for rejection.

All construction sub-contractors performing work on a City construction contract must have the above-described reports on file with the Equal Opportunity Department five (5) days subsequent to the award of the contract to the prime Contractor.

Suppliers who employ fifteen (15) or more employees shall have all the above-described reports on file with the Equal Opportunity Department prior to establishing a business relationship with the City or prime Contractor. In bid situations with the City, prior to bid time.

Suppliers who employ fourteen (14) or fewer employees shall submit the certificate of less than 15 to the Equal Opportunity Department prior to establishing a business relationship with the City or prime Contractor. In bid situations with the City, prior to bid time.

The City Council may, in its discretion, waive a construction Contractor's failure to comply with these reporting requirements and accept their proposal.

Contract Requirements

The City shall include the following clause in all contracts and shall require that the clause also appear in all contracts entered into between prime Contractors and sub-contractors involving work performed for the City of Phoenix.

"Any Contractor, sub-contractor in specific reference to performance under this contract and in reference to its entire workforce in the metropolitan Phoenix area, shall not discriminate against any employee or applicant for employment, any sub-contractor or employee of a sub-contractor, or any member of the public, because of race, color, religion, gender or national origin. The Contractor or sub-contractor will take affirmative action to ensure the applicants are employed and that employees are dealt with during employment without regard to their race, color, religion, gender or national origin. Such action shall include, but not be limited to the following: employment, promotion, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training including apprenticeship."

Objections to Awards

Any person who objects to the award of a contract to any bidder by the City of Phoenix upon the grounds that the aforementioned reporting requirements have not be satisfied, shall lodge that protest, in writing, with the City Clerk not later than 5:00 p.m. of the third business day following the day on which the bids/proposals were opened by the City of Phoenix. The City shall reject all protests not filed within this timeframe.

Penalties

Failure by a Contractor, sub-contractor or supplier to comply with the provisions of its affirmative action plan as submitted and incorporated into its contract, shall submit it to all sanctions allowed by law, including but not limited to, cancellation, termination, suspension of the contract, or exclusion from bid privileges or from entering into future business relationships with the City of Phoenix for a period up to two years.

Reference: City Code, Chapter 18, Articles IV; City Ordinances G1901 and G1372.

Reports and inquiries should be directed to: City of Phoenix, Equal Opportunity Department, Affirmative Action Division, 550 West Washington Street, Phoenix, AZ 85003-2107, telephone number 262-6790.

Index No.

AFFIRMATIVE ACTION REQUIREMENTS

I, _____, as an authorized representative of _____, acknowledge that the reporting requirements of Chapter 18, Article IV, Section 13.1 of the City Code have been or will be met prior to bid submission.

I understand the firm's compliance status may be verified by contacting:

Equal Opportunity Department
Affirmative Action Division
550 West Washington Street
Phoenix, AZ 85003

(602) 262-6790

It is expressly understood that failure to comply with the reporting requirements will be cause for a bid to be considered irregular and may be grounds for rejection.

Name

Title

Name of Business

Subscribed and sworn to before me
this _____ day of _____, 19____.

My commission expires:

Notary Public

GUIDELINE FOR AFFIRMATIVE ACTION PROGRAM

(Use Your Company Letterhead)

Instructions: If your firm has its own Affirmative Action Plan, please submit a copy of it; if not, please utilize this plan as a sample for generating your own document. Your firm will be reviewed by city staff to determine if you are complying with your plan. A copy of your plan must be filed with the:

CITY OF PHOENIX
EQUAL OPPORTUNITY DEPARTMENT
550 W. WASHINGTON STREET
PHOENIX, AZ 85003-2107

If you have any questions or require assistance, telephone the Equal Opportunity Dept. at:
(602) 262-6790

AFFIRMATIVE ACTION PROGRAM

In order to comply with the requirements of the City of Phoenix Ordinances G-1372 and G-1901 with their amendments and to insure equal employment opportunity, the following measures will be taken:

1. Equal and fair treatment will be provided to all employees regardless of race, color, religion, ancestry, national origin or sex.
2. A complete up-to-date record of employees classified by ethnic distribution, sex, and job classification will be maintained and annual reports will be submitted to the Equal Opportunity Department.
3. All employees will be advised at time of employment that we are an Equal Opportunity Employer and that hiring, promotion or demotion is based only on the individual's qualifications and ability to perform the work.
4. The company will cooperate with and support apprenticeship training programs based on strict non-discrimination.
5. The company has appointed _____ to serve as the Equal Employment Officer who is authorized to supply reports and represent this company in all matters regarding this affirmative action program.
6. The name, address and telephone number of the Equal Employment Officer will be posted in a conspicuous place or places. This Officer will be responsible for:
 - a. Seeking to utilize minorities and females to the same degree as all others, based on the following factors.
 - (1) Percentage of minority workforce as compared with the total workforce in the area.
 - (2) Local availability of minorities having the skills we employ.
 - (3) Availability of promotable minority employees in our company.
 - (4) Existence of training institutions capable of training minorities in the area.
 - (5) The internal skills training for which our company is capable of offering minorities for required job categories.
 - b. Supervision of periodic audits of employment practices including: (1) applicant flow (2) promotion (3) training.
 - c. Contacts with all minority recruitment sources who will be notified when this company has vacancies. Notification to all eligible employees regarding promotions or vacancies to insure equal opportunity.
 - d. Instruction of all supervisory personnel regarding their responsibility for equal opportunity and non-discrimination requirements.
 - e. Periodic reviews with all supervisory personnel to insure that the program is being implemented at all levels.
 - f. Making specific efforts to encourage present minority employees to recruit their friends and relatives.

FIRM NAME _____

SIGNATURE AND TITLE _____

EQUAL EMPLOYMENT OFFICER _____

DATE _____

CERTIFICATE OF LESS THAN 15

Instructions: If your firm employs less than fifteen (15) employees, complete this form *only* and return to:

CITY OF PHOENIX
EQUAL OPPORTUNITY DEPARTMENT
550 W. WASHINGTON STREET
PHOENIX, AZ 85003-2107

If you have any questions or require assistance, telephone the Equal Opportunity Department at:

(602) 262-6790

Please print or type.

NAME OF COMPANY: _____

STREET ADDRESS: _____

MAILING ADDRESS: _____

CITY/STATE/ZIP CODE: _____

TELEPHONE NO.: _____

TYPE OF BUSINESS: _____

In accordance with Section 18-24 of the City of Phoenix Suppliers and Vendors Affirmative Action Ordinance G-1372, I hereby certify that the above named company currently employs _____ (insert number of employees).

AUTHORIZED SIGNATURE OF COMPANY OFFICER

TITLE

DATE

COMBINATION EEO QUESTIONNAIRE/EMPLOYER INFORMATION REPORT

Instructions:

Completed forms should be returned to the City of Phoenix Equal Employment Department, 550 W. Washington Street, Phoenix, Arizona, 85003-2107. If you have any questions or require assistance, telephone the Equal Opportunity Department at Area Code (602) 262-6790.

PART A EQUAL EMPLOYMENT QUESTIONNAIRE

Company Name: _____

Corporate Street Address: _____

Corporate Mailing Address: _____

Local Street Address (if different than above): _____

Local Mailing Address (if different than above): _____

Corporate phone: _____ Local Telephone Number: _____

Type of Business: _____

Name, title and telephone number of company's Equal Employment Opportunity Officer/person responsible for personnel:

Corporate: _____ Local: _____

So that your record may be properly cross referenced in our file, in the space provided below, please indicate other company names used:

(SEE REVERSE SIDE)
FOR PART B

**PART B
EMPLOYER INFORMATION REPORT**

FOR OFFICE USE ONLY

SIC CODE		COMPANY I.D.					-15	Comp	YR.

Instructions:

If your firm is located *outside* the Phoenix metropolitan area and you have *no* employees in the Phoenix metropolitan area, please complete this report for TOTAL number of employees. Your latest Federal EEO-1 may be substituted for only this form.

If you have employees in the *Phoenix metropolitan area* (includes Phoenix, Tempe, Mesa, Chandler, Scottsdale, Paradise Valley, Glendale, Peoria, Tolleson, Litchfield, Avondale, Buckeye and Goodyear), complete this form to reflect *only* these employees.

JOB CATEGORIES	NUMBER OF EMPLOYEES										
	OVERALL TOTALS (SUM OF COL B THRU K)	MALE					FEMALE				
		WHITE (NOT OF HISPANIC ORIGIN)	BLACK (NOT OF HISPANIC ORIGIN)	HISPANIC	ASIAN OR PACIFIC ISLANDER	AMERICAN INDIAN OR ALASKAN NATIVE	WHITE (NOT OF HISPANIC ORIGIN)	BLACK (NOT OF HISPANIC ORIGIN)	HISPANIC	ASIAN OR PACIFIC ISLANDER	AMERICAN INDIAN OR ALASKAN NATIVE
A	B	C	D	E	F	G	H	I	J	K	
Officials and Managers											
Professionals											
Technicians											
Sales Workers											
Office and Clerical											
Craft Workers (Skilled)											
Operatives (Semi-Skilled)											
Laborers (Unskilled)											
Service Workers											
TOTALS											
Total Employees reported in previous EEO-1 report											
NAME OF AUTHORIZED OFFICIAL				TITLE		SIGNATURE			DATE		

SUPPLEMENTARY CONDITIONS

.01 STANDARD SPECIFICATIONS AND DETAILS

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

.02 PRECEDENCE OF CONTRACT DOCUMENTS

The City of Phoenix Supplements will govern over the MAG Standard Specifications and Details. In case of a discrepancy or conflict, plans will govern over both the City of Phoenix Supplements and MAG Standard Specifications and Details; Supplementary Conditions, Technical Provisions, Special Provisions, will govern over the City of Phoenix Supplements, the MAG Standard Specifications and Details and Plans.

.03 PARTIAL PAYMENTS

The Contracting Agency will make a partial payment to the Contractor on the basis of an estimate prepared by the Engineer for work completed and accepted through the preceding month. The notice to proceed date, which is designated for the specific project involved, will be used as the closing date of each partial pay period. Payment will be made no later than twenty (20) days after mutual acceptance of the Engineer's Estimate.

.04 INDEMNIFICATION OF CITY AGAINST LIABILITY

The Contractor agrees to indemnify and save harmless the City of Phoenix, its officers, agents and employees, and any jurisdiction or agency issuing permits for any work included in the project, their officers, agents and employees, hereinafter referred to as indemnitee, from all suits, including attorney's fees and cost of litigation, actions, loss, damage, expense, cost or claims, of any character or any nature arising out of the work done in fulfillment of the terms of this contract or on account of any act, claim or amount arising or recovered under Workmen's Compensation Law, or arising out of the failure of the Contractor to conform to any statutes, ordinances, regulation, law or court decree. It is the intent of the parties to this contract that the indemnitee shall, in all instances, except for loss or damage resulting from the sole negligence of the indemnitee, be indemnified against all liability, loss or damage of any nature whatever for or on account of any injuries to or death of person or damages to or destruction of property belonging to any person arising, out of or in any way connected with the performance of this contract, regardless of whether or not the liability, loss, or damage is caused by, or alleged to be caused in part by the negligence, gross negligence or fault of the indemnitee. It is agreed that the Contractor will be responsible for primary loss investigation, defense and judgement costs where this contract of indemnity applies.

.05 CONTRACTOR'S INSURANCE REQUIREMENTS

Concurrently with the execution of the contract, the Contractor shall furnish the City of Phoenix a Certificate of Insurance on a standard insurance industry ACORD form. The minimum limits of liability shall be *\$1,000,000.00 for General Liability and Automobile Liability and \$100,000.00 for Workmen's Compensation. The ACORD form shall be issued by an insurance company authorized to transact business in the State of Arizona, or one that is named on the List of Unauthorized Insurers maintained by the Arizona Department of Insurance.

The Contractor shall maintain during the life of the contract such public liability and property damage insurance, both general and automobile liability, as shall protect him and any sub-contractor performing work under the contract from all claims for bodily injury, including accidental death, as well as for property damage arising from operations under the contract--whether such operations be by himself or by any sub-contractor or by anyone directly or indirectly employed by either of them. These policies shall not expire until all the work has been completed and the project has been accepted by the City of Phoenix. If a policy does expire during the life of the contract, the contractor shall provide a renewal certificate of the required insurance coverage to the City of Phoenix not less than five (5) days prior to the expiration date.

The City of Phoenix, a municipal corporation, its officers, agents and employees shall be named as additional insureds on all Public Liability and Property Damage Insurance and Builder's Risk/Course of Construction Insurance, when required, and this shall also be indicated on Certificates of Insurance issued to the City. The Contractor's coverage shall be primary for any and all losses arising out of the performance of this contract.

*8-25-85

.06 PERFORMANCE AND LABOR AND MATERIAL BOND

Prior to the execution of the contract, the successful bidder must provide a performance bond and a labor and material bond each in an amount equal to the full amount of the contract.

.07 MODIFICATION TO MAG UNIFORM STANDARD DETAIL 240 - VALLEY GUTTER

Reference Note 1 which reads, "All concrete to be Class 'B' unless otherwise approved. (Section 725)"

Change this note to read:

1. All concrete to be Class "A" unless otherwise approved.
(Section 725)

.08 PRESSURE MANHOLE COVERS

MAG Detail 523, change the Note (upper right corner) that reads, "For a 30-inch manhole opening...noted on the sheets", to read:

"For a 30-inch manhole opening, use the standard watertight 30-inch manhole frame and cover in accordance with Notes 1 through 12 listed below on this sheet."

.09 ALUMINUM MANHOLE COVERS

The Water and Wastewater Department has the following stated policy, "MAG Standard Detail 425 - 24-inch aluminum manhole frame and cover is not approved by the City of Phoenix."

.10 DISPOSAL OF SURPLUS MATERIAL

All surplus and/or waste material may be disposed of at the Contractor's discretion subject to the following conditions:

A. If the City landfills are used, the Contractor shall pay the normal dumping fee.

B. If private property within the City limits is used, the Contractor shall obtain written permission from the property owner and deliver a copy of this agreement to the Engineer prior to any hauling or dumping. All disposal and grading shall be in strict conformance with the City of Phoenix Grading and Drainage Ordinance. The Contractor shall obtain and pay for the necessary permit(s).

C. If the surplus material is disposed of outside the City limits, the Contractor shall comply with all applicable laws/ordinances of the agency concerned and be responsible for all cost incurred.

No measurement or direct payment will be made for the hauling and disposal of surplus and/or waste material, the cost shall be incidental to the cost of the project.

.11 MODIFICATION TO MAG UNIFORM STANDARD DETAIL 522 - MANHOLE SHAFT

Reference Note 5 which calls for installation of manhole steps as required by the agency. The Engineering Department has adopted the policy that manhole steps are NOT to be installed in any storm sewer manhole. If steps are provided, they shall be removed and the hole filled with Class "B" concrete.

.12 CONTRACTOR'S MARSHALING YARDS

Contractors shall obtain approval of the City Engineer when using vacant property to park and service equipment and store material for use on City construction contracts.

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 of 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 copy of the property owner's approval shall be submitted along with the Contractor's request to the City Engineer for approval for the use of the marshaling yard in connection with the project. An appropriate distance from adjacent property will be set by the City 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 such 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 City Engineer.

G. The Contractor shall clean up property promptly upon completion of use.

H. Contractor's request for approval shall specify in detail how he or she proposes to comply with D through G above.

.13 HAUL PERMIT

On any project when the quantity of fill or excavation to be hauled exceeds 10,000 C.Y. or when the duration of the haul is for more than twenty (20) working days, the Contractor shall:

A. Obtain a written (no fee) haul permit from the Development Services Department.

B. Obtain approval of the proposed haul route, number of trucks, etc., by the Street Transportation Department.

NOTE: Obtaining the haul permit and the approval by Street Transportation does not release the Contractor from strict compliance with MAG Subsection 108.5 Limitation of Operations.

.14 DEFINITIONS - MAJOR ITEMS

Section 101, page 10A of MAG Specifications - The definition of major item is changed to read:

MAJOR ITEM: A major item is any bid item of work having an original dollar value equal to or greater than the amount shown below.

CONTRACT AMOUNT

Up to \$1 million

\$1 million to \$3 million

MAJOR ITEM IS DEFINED AS
ANY ITEM EQUAL TO OR
GREATER THAN THE FOLLOWING

\$15,000 or 3%, whichever is greater

3% of the original contract amount
to a maximum of \$75,000.00

\$3 million to \$5 million

2.5% of the original contract amount
to a maximum of \$90,000.00

Over \$5 million

1.5% of the original contract amount
to a maximum of \$125,000.00

CONTINGENCY ITEMS

Contingency items which fall under the definition of a major item are subject to negotiation if decreased by more than 20%.

Contingency items shall not increase more than 20% without being subject to renegotiation, regardless of the percentage of that item relative to the total contract amount.

.15 NOTIFICATION OF BUSINESSES AND RESIDENTS

MAG Subsection 107.6 Public Convenience and Safety is modified to add:

107.6 Notification of Businesses and Residents: Prior to the start of work, the Contractor shall notify, by letter, all affected businesses, tenants, residents, and property owners of construction plans and schedules. The letter, as a minimum, shall contain the following information:

- a. Contractor name and complaint phone number (24 hour coverage required)
- b. Name of Project Manager and Superintendent
- c. City of Phoenix Engineering Department 24 hour phone number
- d. Name of District Engineer
- e. Name of Area Supervisor
- f. Brief description of Project
- g. Construction schedule including anticipated work hours.
- h. Traffic Regulations including lane restrictions
- i. Information concerning the time and place for the progress meetings.

NOTE: An answering machine/service may be used to insure that the 24 hour telephone coverage is obtained.

107.6.2 PROGRESS MEETING: The Contractor shall schedule and conduct a weekly progress meeting with the affected businesses, tenants, and property owners.

.16 PUBLIC INFORMATION AND NOTIFICATION (ALLOWANCE ITEM)

The City will pay, based upon invoices, an amount not to exceed ten thousand dollars (\$10,000.00) for work performed in notifying and coordinating with the local population impacted by the project.

The Contractor shall submit a Public Information and Notification Plan in such a manner that the public pre-construction meeting shall be held prior to start of construction. No payments shall be made to the Contractor for this item until the City approves the above plan.

Work which is eligible for reimbursement includes: pre-construction meeting(s), weekly progress meetings, and construction meetings with impacted businesses, residents, schools, churches, etc.; scheduling; newsletter when necessary (at least biweekly); temporary signs; and maintaining a twenty-four hour telephone hot line for complaints. The Contractor shall coordinate with the City to determine the population to be notified of meetings.

The Contractor shall submit a final report/evaluation of the Public Information and Notification process performed for this project. This report shall be submitted before the Contractor receives his final payment.

SPECIAL PROVISIONS

.01 TRAFFIC REGULATIONS

A. The following shall be considered major streets:

Central Avenue
Dunlap Avenue
Hatcher Road

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" all traffic on this project shall be regulated as specified in Section IV of the Traffic Barricade Manual.

.02 SPECIAL TRAFFIC REGULATIONS

Central Avenue from Arizona Canal to Hatcher Road

Central can be reduced to two lanes (one each way) when construction requires, in 600' sections. During mainline storm drain and waterline construction, Central Avenue traffic may be maintained on the opposite half of the street provided access is maintained to driveways on the other side and temporary signals are installed for offside traffic at Central and Dunlap and at Central and Hatcher intersections. When traffic is being maintained on the wrong side of the median, the Contractor's work area shall not exceed 600'.

During mainline storm drain and waterline installation in the Hatcher intersection at night and on weekends, Central can be closed to through traffic from Dunlap to Hatcher from 7 p.m. to 6 a.m. weeknights and 24 hours on weekends.

Dunlap Avenue at Central Avenue Intersection

Dunlap Avenue can be reduced as shown, during the times indicated, when construction requires:

Two lanes (one each way) 8:30 a.m. to 4:00 p.m. weekdays, 7:00 p.m. to 6:00 a.m. weeknights and during working hours on weekends.

Three lanes (two west, 1 east) with left-turn lanes open 6:00 a.m. to 8:30 a.m. weekdays.

Four lanes (two each way) with left-turn lanes open 4:00 p.m. to 7:00 p.m. weekdays.

During construction activities that do not restrict the intersection, all existing lanes shall be maintained open to through traffic.

Hatcher Road at Central Avenue Intersection

Open Central and Dunlap to normal traffic prior to restricting Hatcher at Central.

Hatcher can be reduced to two lanes (one each way) when construction requires.

During mainline storm drain and waterline installation in the immediate intersection at night and on weekends, Hatcher can be closed to through traffic from 7th Avenue to 7th Street from 7:00 p.m. to 6:00 a.m. weekdays and 24 hours on weekends.

Special Pedestrian/School Crosswalk Access Requirement

Contractor shall maintain clean, safe and adequate pedestrian sidewalks and walkways free of dirt, mud, dust, debris, equipment or material storage at all times including maintaining the school crosswalk at Central and Townley during all hours of use by students attending Sunnyslope High School by constructing a pedestrian footbridge, complete with handrails when necessary.

Special Transit/Bus Stop Access Requirement

Contractor shall maintain access to all transit facilities including access to bus stops by providing temporary BUS STOP signs where necessary. Contractor shall coordinate with Phoenix Transit 48 hours prior to any restriction of Central, Dunlap or Hatcher and restore access as soon as possible.

Special Hospital/Fire Station Notification Requirement

Contractor shall maintain emergency access to John C. Lincoln Hospital and the fire station located at 3rd Street and Hatcher and notify the on-duty Captain and the hospital administrator 72 hours prior to any restriction that will effect access to either and restore access as soon as possible.

Special Police Officer Requirements

Contractor shall provide one off-duty police officer at each of the following signalized intersections 6:00 a.m. to 7:00 p.m. weekdays and during all night and weekend restrictions.

Central and Dunlap
Central and Hatcher

During operations that do not restrict an intersection, police officer hours may be reduced to peak traffic hours or suspended at the direction of the Traffic Engineer.

.03 START OF CONSTRUCTION

The NTP for this project will be coordinated with the Corps of Engineers construction of the ACDC.

The intent is to have this project under construction at the same time that the west half of the ACDC and Central Avenue box culvert crossing is under construction.

The anticipated start of construction is early July 1990. The actual start of construction date should be coordinated between the successful bidder and Gary Patterson of Pulice Construction (678-0064) and must be approved by City of Phoenix.

All construction south of Dunlap Avenue, including the paving of the Central Avenue and Dunlap Avenue intersection, must be completed by the time the west side of the Central Avenue box culvert crossing is complete, currently expected to be late August, 1990.

.04 SEQUENCE OF WORK

Sequence of work shall be such as to comply with Special Traffic Regulations. Construction on storm sewer lines will begin at the downstream end and proceed upstream to project termination.

A. Special Construction Requirements

1. No more than 400 feet of open trench will be allowed at any one location as defined in Section 601.2.10 of the City of Phoenix Supplements.
2. Median Islands on Central Avenue - The Contractor is responsible for preserving the median islands. During mainline storm drain construction, it may be necessary to sheet, shore, or brace the trench. When installing connector pipe and water services, disruption to the islands shall be minimized. If the median islands are damaged or disturbed during construction, the Contractor shall repair the islands and landscaping to the condition it was before being disturbed. The repairs shall be made at the Contractor's expense.
3. Schedule all construction on Central Avenue during the summer months when Sunnyslope High School is in recess. See Special Provision .03 for possible exception.
4. Install temporary signal equipment at the intersections of Central and Dunlap and at Central and Hatcher for offside traffic prior to channelizing traffic across the median.
5. Maintain all traffic lanes and crosswalks on Dunlap during the tunneling operation.
6. The following work shall be coordinated with Corps of Engineers construction of the Central Avenue storm drain outfall. The Central Avenue storm drain outfall construction must be completed before the following items can be done. The estimated date for beginning the following work is October 1, 1990. The Contractor shall perform the following work if the outfall is

ready prior to the end of the allowed construction period. Payment shall be made by bid item "EXTRA WORK IF OUTFALL IS READY".

1. Install an 18-inch pipe plug in 7th Street just north of Dunlap Avenue.
2. Remove an existing 24-inch pipe plug from the storm drain in 7th Street just north of Dunlap Avenue.
3. Remove all inlet plugs from inlets located on Dunlap Avenue between Central Avenue and 7th Street (approximately 13 inlet plugs).
4. Remove an existing 36-inch pipe plug from the storm drain in Dunlap Avenue at the first manhole located east of 1st Street.

.05 NIGHT WORK (NPI)

All night work shall be done in accordance with all City of Phoenix ordinances.

The Contractor shall submit a comprehensive plan at the pre-construction conference that details the steps and methods of noise reduction during night working hours. This plan shall address, but not be limited to, the following: Back-up alarms, equipment noise, scheduling of excessively noisy construction phases and material delivery items.

.06 CORRUGATED STEEL PIPE OPTION - MAINLINE STORM SEWER

The inside diameter shall be increased by six inches over the inside diameter specified for reinforced concrete pipe.

Type F Pipe - Coated and Concrete Lined Corrugated Steel Pipe per Section 760 of the 1987 City of Phoenix Supplement to MAG Uniform Standard Specifications shall be the only allowable Corrugated Steel Pipe product on this project. This pipe material option shall utilize the slurry bedding per Section .10. The slurry shall be placed from the bottom of the pipe to the springline of the pipe. Bedding above the springline of the pipe and below the bottom of the pipe shall be per MAG and the City of Phoenix Supplement to MAG.

If the Contractor elects to utilize the Corrugated Steel Pipe option, he shall be responsible for any utility or any other conflicts caused by the increase in the size of the pipe. There shall be no extension of time granted or recovery of damages related to the expenses incurred by the Contractor for a delay resulting from the Contractor's decision to utilize the Corrugated Steel Pipe option.

Where a change in diameters occurs in the mainline pipe (i.e., 78" to 84") as a result of utilizing the above pipe options prefabricated transition at least two times the diameter in length shall be utilized. Concrete collars shall be utilized in joining the transition to the mainline pipes. These costs shall be included in the cost of the mainline pipe (largest diameter).

The joints shall conform to the City of Phoenix Supplement to MAG Section 621 with the following modifications. Pipe sections shall be joined together with annular corrugated type bands locking in at least one annular corrugation and shall be designed to form a leak-resistant joint under pressure. The annular corrugated type band shall be rubber gasketed. The connecting band shall be

manufactured of the same material and in the same manner as the mainline pipe. The connecting band shall be asphalt dipped. The annular space between abutting pipe sections shall not exceed 1 (one) inch and shall not be filled with bituminous mastic after joining. Mastic will also not be allowed on the outside of the joint. For the concrete lined pipe, all internal joints shall be mortared to a smooth trowel finish around the entire pipe. The leakage test will be performed before internal joints have been mortared. A shop drawing detail of the joint shall be submitted for review and approval to the Storm Drain Design Section before pipe installation begins. Approval of the joint detail shall be subject to a hydrostatic leakage test conducted at the manufacturing plant, this is in addition to the leakage test conducted at the construction site. The leakage test conducted at the manufacturing plant shall follow the procedure outlined in the special provisions of these specifications with the following modifications. Only two joints will be required to evaluate the joint design and bedding to one foot above the top of the pipe will not be required. Any deviation or change from an originally approved joint design will require a leakage test at the manufacturing plant.

Payment will be made at the contract unit price bid per linear foot, to the nearest foot, for each size and type of pipe and shall be compensation in full for furnishing and installing the corrugated steel pipe as specified, including removal of obstructions, excavation, bedding, backfilling, compacting, leakage tests, provisions for compaction test as required, and all incidental cost not specifically covered in other items in the proposal.

.07 LEAKAGE TEST

Corrugated steel storm sewer pipelines, except culverts and catch basin connector pipes, shall be subjected to a test for leakage conducted in accordance with the following criteria:

- (1) After bedding (1 foot above pipe), the first eight joints of each size of mainline pipe shall be tested in accordance with the following procedure:
 - (a) Testing shall be accomplished by plugging the pipe test section and all branch lines and filling the pipe with water. Equipment for the test shall be furnished by the Contractor, and shall include a metal standpipe, a suitable meter, or other acceptable method of measuring the quantity of water used. A period of at least one hour shall be allowed for absorption before making the test.
 - (b) The allowable water loss for corrugated steel storm sewers shall not exceed 1.0 gallons per hour per 100 feet of pipe per inch of diameter of pipe under a minimum test head of 4 feet above the top of the pipe at the upper end of the test section. A minimum test time of one hour (60 minutes) shall be required after the initial one hour for absorption.
 - (c) The leakage test shall be made by the Contractor in the presence of the Engineer.

- (2) If the first test is within the specific leakage limit, the Engineer may require one additional leakage test at some point during the course of construction.
- (3) If the first test exceeds the specified leakage limit, the Contractor shall repair or replace all sections that fail the leakage test at no additional cost to the City of Phoenix. All repaired or replaced pipe sections shall be retested for compliance. The Engineer will require such additional test that is deemed necessary during the course of construction to ensure that the remainder of the pipeline is leak resistant.
- (4) There will be no separate payment for the leakage tests. Payment for leakage tests shall be included in the cost of the pipe.

.08 STORM SEWER CONSTRUCTION MATERIAL AND LAYOUT SUBMITTALS

Prior to the manufacturing of the pipe, the Contractor shall submit material and layout drawings to the Engineer in accordance with the procedures contained in the City of Phoenix Supplement, latest edition.

Submittals shall show layout, stationing, laying length of all pipe, D-load or gauge thickness, detailed drawings of any pipe used to construct a curve, and other pertinent data. Fabrication drawings shall be submitted for concrete pipe. Catch basin connector pipe need not be included in the pipe layout, however, pipe stubs shall be included. In lieu of including catch basin connector pipe in the pipeline layout, a list of catch basin connector pipe shall accompany the layout. The connector pipe list shall contain the following information:

- A. Inside diameter and type of material to be used. (R.C.P., C.S.P.)
 - (1) If R.C.P. is used for connector pipe, the D-load rating shall be shown.
 - (2) If C.S.P. is used for connector pipe, the gauge shall be shown.
- B. Station at which pipe joins mainline
- C. Number of sections of pipe and laying length of sections.

.09 SELECT MATERIAL

Select material specified on the plans and Standard Details shall be Type B in accordance with Section 702, Table 702.

.10 STORM SEWER PIPE BEDDING

A. Compaction

Compaction of the select material Type B or Aggregate Base as per Table 702, bedding material from springline of the pipe to one foot over outside top of pipe shall be in accordance with MAG 601 and the following:

Jetting shall be performed without damage to the pipe and surrounding material in situ, and in such a manner that water will not be impounded. Jetting methods shall be supplemented by the use of internal vibrators or other vibratory compaction equipment. Bedding material compaction by jetting shall use the least amount of water that will properly consolidate the material.

The Contractor shall provide sufficient equipment to ensure uninterrupted and continuous vibration of the bedding. Re-vibration of the bedding may be required at anytime as directed by the Engineer.

The Contractor shall excavate holes in the compacted bedding and backfill material to the depths and at the locations designated by the Engineer. These holes shall be of such size as to allow the required density testing to be performed in a safe manner as determined by the Engineer. This shall include shoring or any other trench wall support measures as required by O.S.H.A.

B. Reinforced Concrete Pipe

SLURRY BEDDING

The Contractor shall utilize a cement enriched slurry A.B.C. bedding for the precast concrete pipe. The slurry A.B.C. will consist of 1.0 sack of Type II Portland Cement per cubic yard of A.B.C. The slurry shall be placed at a minimum from the outside bottom of the pipe to the springline of the pipe. The slurry must have a minimum of an 8-inch slump. The slurry shall meet a minimum of 25 psi compressive strength and a maximum of 100 psi, based on a 28 day test.

The Contractor at his option, may excavate a trench having a cross-section with a rounded bottom rather than a flat bottom. If this option is chosen, the trench cross-section must maintain the minimum 6 inches required between the outside wall of the pipe and the trench wall.

The minimum trench width of the springline for each side of the pipe, as shown in Table 601-1 in Section 601 of the MAG Specifications, may be reduced to 6 inches for all pipe sizes.

If the Contractor installs raised bell pipe the initial granular bedding thickness shall be per MAG. If the Contractor installs flush bell pipe the initial granular bedding may be reduced to 4 inches thick. The initial granular bedding shall be select material Type B or Aggregate Base as per Table 702.

Bedding from the springline of the pipe to one foot over outside top of pipe shall be per MAG Section 601 or slurry.

C. Corrugated Steel Pipe

SLURRY ALTERNATE

The Contractor, at his option, may utilize a cement enriched slurry A.B.C. bedding for the coated and concrete lined corrugated steel pipe. The slurry A.B.C. will consist of 1.0 sack of Type II Portland Cement per cubic yard of A.B.C.

The slurry shall be placed at a minimum from the bottom of the pipe to the top of the pipe. The slurry must have a minimum of an 8-inch slump. The slurry shall meet a minimum of 25 psi compressive strength and a maximum of 100 psi, based on a 28 day test. The leakage test will not be required only for this option.

The Contractor, at his option, may excavate a trench having a cross-section with a rounded bottom rather than a flat bottom. If this option is chosen, the trench cross-section must maintain the minimum 6-inches required between the outside wall of the pipe and the trench wall.

The initial granular bedding shall be a minimum of 4-inches thick.

The initial granular bedding shall be per Section 601.

Bedding from the outside top of the pipe to one foot over outside top of pipe may be slurry or per Section 601.

D. Measurement and Payment

The cost of all bedding, backfill, compaction, leakage tests and provisions for compaction tests as required shall be included in the cost of the pipe.

Payment will be made at the contract unit price bid per linear foot, to the nearest foot, for each size and type of pipe and shall be compensation in full for furnishing and installing the corrugated steel pipe as specified, including removal of obstructions, excavation, bedding, backfilling, compacting, leakage tests, provisions for compaction test as required, and all incidental cost not specifically covered in other items in the proposal.

.11 CAST-IN-PLACE CONCRETE PIPE

Cast-in-place, non-reinforced concrete pipe shall be an allowable storm sewer pipe material on this project. It shall be installed in accordance with MAG Standard Specification 620, all City of Phoenix Supplements to MAG Specifications and the following special provisions.

1. Revise Subsection 620.1 of the MAG Specifications by adding the following to the end of the section:

"(E) Approval of the use of CIPP is no warranty or guarantee, express or implied, that conditions will be suitable for the use of CIPP. Any costs incurred and/or time required to provide suitable conditions or to substitute an alternate pipe acceptable to the Engineer, in whole or in part, shall be the responsibility of the Contractor."

2. Revise the third and fourth sentences of Subsection 620.3.1 Excavation to read:

"Departure from and return to established grade for the finished trench and the invert of the installed pipe shall not exceed 1 inch per 10 linear feet with a maximum allowable departure of 0.10 feet. Departure

from and return to specified alignment for the trench and pipe shall not exceed the allowable tolerances specified herein for the grade."

3. Delete the third and fourth paragraphs of MAG Specification 620.3.1. The contents of these paragraphs are adequately addressed in Section 620.1.

4. Revise Subsection 620.3.1 of the MAG Specifications by adding the following paragraph to the end of the section:

"Excavated trench shall be checked for compliance with requirements for grade and alignment prior to placement of concrete. The Contractor shall submit his proposed method of grade and alignment control and checking of same for conformance with specifications to the Engineer for his approval prior to start of work. The Contractor shall supply manpower, equipment and materials, as are required, to provide and confirm compliance with grade and alignment requirements. This is a non-pay item and all costs incurred shall be included in the bid item(s) for the pipe installation."

5. Revise Subsection 620.3.2 of the MAG Specifications by adding the following paragraphs after the third paragraph of the section:

"Under no circumstances will the Contractor be allowed to continue the pipe installation if the vibrators of the cast-in-place machine are inoperable. Portable vibrators or 'stingers' shall only be used to supplement internal vibrators on the machine and not as a sole source to consolidate and distribute the concrete mix.

The Contractor shall make provisions for removing sloughed material, debris and any foreign objects from trench before and during placement of concrete such that buildup of material does not occur ahead of the machine. In addition, small transverse trenches shall be dug across trench bottom, at distances not to exceed 25 linear feet, to receive soil built up and pushed ahead of the slipform."

6. Revise Subsection 620.3.2, (A) Construction Joints, of the MAG Specifications as follows:

- (a) Delete the first four sentences of this subsection and replace them with:

"When pipe placement stops in excess of ninety (90) minutes, a construction joint shall be formed. The ends of the pipe that are to be in butt contact shall be left in rough condition with a slope between 20 and 45 degrees. Number 4 reinforcing bars shall

be embedded 12 inches in the previous pour and 12 inches into the next pour and shall be placed 12 inches on center for pipe 42 inches in diameter or less and shall be placed 18 inches on center for pipe diameters in excess of 42 inches."

7. Revise Subsection 620.3.2 of the MAG Specifications by adding the following at the end of the section:

"(c) Pipe Placement

- (1) It is essential that concrete placement be done in a smooth and steady manner with as few starts and stops as is possible. The Contractor shall schedule materials and operate the pipe machine at speeds and in a manner that will achieve this.
- (2) The Contractor shall provide an anchoring system for pull of the machine in a manner which will provide the least probability of causing deviations in grade and/or alignment. Adjustments to or modifications in anchoring system, when required in the opinion of the Engineer, shall be made at no additional cost to the project."

8. Revise the second sentence of the first paragraph of Subsection 620.3.3 to read as follows:

"Final backfill and compaction shall not be started until concrete has developed a compressive strength of at least 3000 psi.

9. Delete the last sentence of the first paragraph of Subsection 620.3.3, "The Contractor . . . described below:

10. Delete Subsections 620.3.3 (A), (B), and (C) of the MAG Specifications, and modify (D) by deleting the last sentence and substituting the following:

"The trench shall be completely backfilled as soon as the pipe attains 3000 psi compressive strength, except that the pipe shall be checked for compliance with grade and alignment and thickness requirements prior to placement of backfill."

11. Revise the last paragraph of Subsection 620.3.3 Curing and Backfilling to read as follows:

"A humid atmosphere within the pipe, as evidenced by condensation on the interior surface, shall be maintained for at least seven (7) days following placement, except for a maximum period of 24 hours which is allowed for removing forms and making all repairs. To prevent air drafts which may dry the pipe and to maintain a humid atmosphere inside the pipe, all openings (ends, manholes, connector pipes) shall be kept closed or securely covered at all times except when actual work on the inside of the pipe is in progress. The pipe shall also be partially filled with water during the curing period, to allow higher humidity, when actual work is not being performed on the inside of the pipe."

12. Delete Subsections 620.3.4 and 620.3.5 of the MAG Specifications and substitute the following Subsections:

"620.3.4 Repair: Immediately after removal of the forms, the inside of pipeline will be inspected for required repairs and conformance with all dimensional requirements including alignment and grade.

The Engineer shall be the sole judge as to the repairability of deficiencies. He shall require removal and replacement of those sections of pipeline which he judges to be non-repairable or which are not within required dimensional tolerances, including alignment and grade.

When concrete placement is done by a method requiring the use of metal inner forms, the Contractor shall schedule his work force, by extended, staggered or multiple shifts, as required, to provide for removal of forms within 4 to 6 hours of placement of concrete and start of repairing, patching and finishing of pipeline to conform with specification requirements.

When concrete placement is done by methods using pneumatically inflated inner liner, the Contractor shall schedule his work force, by extended, staggered or multiple shifts, as is required, to provide for removal of the pneumatic inner liner within 12 hours of placement of concrete and start of repairing, patching and finishing of pipeline to conform with specification requirements.

All rock pockets, non-longitudinal cracks or indentations shall be cleaned out, moistened and filled with 1:2 cement grout or approved epoxy material. Except where, in the opinion of the Engineer, the width and/or length of the crack may indicate a structural deficiency, repairs shall be made as required for longitudinal cracks.

Longitudinal cracks exceeding 0.01 inches in width and 12 inches in length may be cause for rejection and removal and replacement of that portion of the pipe at the discretion of the Engineer. Subject to the approval of the Engineer, cracks exceeding these limits may be repaired using a pressure applied epoxy compound capable of providing structural correction to the area in addition to sealing the void. A longitudinal crack shall be defined as one which has the general direction of a 30 degree angle or less with the alignment of the pipe.

Irrespective of concrete placement method, all repairs, patches and finishing shall be completed within 24 hours of concrete placement.

The Contractor, prior to start of concrete placement on project shall submit a written schedule of his proposed work activities and work time schedules for the Engineer's review and approval. No time schedule requiring overtime by the Engineer's staff is authorized without specific written approval of the Engineer.

Compliance with this section is a non-pay item and any costs incurred shall be included in the bid proposal item(s) for the pipe.

620.3.5 Finishing: Except for the form offsets, the interior surface of the pipe shall be equivalent to or better than a wood float finish.

Form offsets shall be trimmed so as to provide a reasonably tapered slope from surface to surface. The bottom of the pipe below the metal forms shall be finished in a workmanlike manner and shall conform to the general circular circumference of the pipe without sags, dips and humps. All extraneous concrete shall be removed from the interior surface."

13. Revise the title of Subsection 620.4 of the MAG Specifications from "Methods of Tests" to "Tests."

14. Delete the first paragraph of Subsection 620.4 of the MAG Specifications, and substitute the following:

"Random tests shall be made of the wall thickness at the top, bottom and sides, approximately every 100 feet, on a daily basis by probes

through fresh concrete or small holes drilled through the concrete. Holes shall be properly and permanently closed and sealed, flush with the inside surface of the pipe, after measurements are made, in accordance with the requirements of the fifth paragraph of MAG Subsection 620.3.4, contained herein."

.12 CONSTRUCTION UNDER DUNLAP AVENUE

A. Options

For placing the storm drain pipe under Dunlap Avenue the Contractor may use one of the following options.

1. Jacking Pipe

If the Contractor chooses this option, work shall be performed in accordance with Section 618.4 and as specified below.

2. Tunneling Operation

If the Contractor chooses this option, work shall be performed in accordance with Section 602 and as specified below.

B. Special Provisions for Jacking and Tunneling

The following specifications shall apply to both options.

1. Preliminary Site Work - Preliminary site work shall consist of, but not be limited to, the following items.

a. Provide and set up traffic barricades and warning devices as may be required, in conformance with the City of Phoenix Traffic Barricade Manual, latest revision.

b. Install the new temporary chain link fence in accordance with these specifications.

2. Access Shaft - The access shaft shall be constructed at the south side of Dunlap Avenue. The access shaft shall be excavated to allow adequate room for tunnel liner plate installation, removal of excess material and all other operations pertinent to the construction of the tunnel. Adequate shoring shall be used to retain the shaft walls and to prevent any trench wall cave-ins in the access shaft area.

Throughout the jacking/tunneling operation, the Contractor shall provide the means for maintaining adequate drainage in the work site area and preventing surface water from any source from entering the access shaft and tunnel. The Contractor shall provide an adequate means to enter and exit the access shaft for the Engineer.

The Contractor shall leave the access shaft open and leave required shoring, barricades, and fences in place until the installation and grouting of the storm drain carrier pipe has been completed.

3. Chain Link Fence - The fence shall be a chain link fence installed 6-feet high and shall also include a locking gate to permit access of men and equipment to the tunnel shaft.
 - a. The chain link fence to be installed shall conform to MAG Specifications 420 and 772.
 - b. The concrete for setting the fence posts shall be Class C concrete conforming to MAG 725.

4. Surveying and Tolerances

General - The Contractor shall provide the surveying necessary for establishment and control of line and grade. Surveying may be accomplished by experienced Contractor personnel or by a registered private surveyor. The survey crew shall maintain close coordination with the Engineer and may be required to perform checks on line and grade as directed by the Engineer.

The bench marks and 31st Avenue monument line alignment information for this project are shown on the plans.

5. Portland Cement Grout (Backpacking) - Grout shall be a mixture of Portland Cement and sand, proportioned to produce a mixture of the required consistency with admixtures to accelerate setting and minimize shrinkage. The grout shall be fluid for sufficient time to be injected through the lining and fill all voids, but shall set up readily to avoid leakage through the seals provided. The grout shall not contain ingredients corrosive to steel. The Contractor shall submit his grout mix specifications to the Engineer for approval at least 10 days prior to grouting. The grout used for backpacking shall meet the following specifications:

- a. Portland cement shall be Type II conforming to the requirements of ASTM Designation C 150.
- b. Water shall be potable and shall contain nothing deleterious to the chemical action of the cement.
- c. Admixtures shall conform to ASTM Designation C 494. The types of admixtures to be used shall be submitted with the grout specifications for approval.
- d. Fine aggregate shall be either natural sand, manufactured sand, or both, and shall conform to ASTM Designation C 33 and shall be free from deleterious coatings, organic matter, and other extraneous material. Fine aggregate shall be graded within the following limits:

Sieve Size	Percentage Passing
3/8"	100
No. 4	95 - 100
No. 16	45 - 95
No. 50	8 - 30
No. 100	1 - 100

C. Special Provisions for Tunneling

1. Description of Work

The Contractor shall construct 90 L.F. of 90-inch tunnel, including the installation of a 66-inch storm drain carrier pipe under Dunlap Avenue at the Central Avenue crossing. The tunnel shall be constructed using steel liner plate and excavated by the Shield Method, Poling Plate Method, Poling Board-Bulkhead Method, or other tunneling methods that may be appropriately based on actual soil conditions at the tunnel face. The work includes construction of temporary chain link fencing; construction of access shaft with adequate shoring; disposal of excess excavated material; pressure grouting of the annular voids between the liner plate and the excavated material and between the liner plate and the 66-inch carrier pipe. The work shall be done in accordance with these specifications.

Construction of the tunnel shall be carried on in such a manner that settlement of the ground surface above the tunnel shall be held to an absolute minimum. Where ground conditions are unstable, poling plates or poling boards shall be used to prevent caving of material above the tunnel before the liner plates can be installed. Steel liner plates shall be installed as soon after the excavation is removed as possible. Excavation shall be carried on in such a manner that voids behind the liner plates will be held to a minimum. Such voids as remain, which in the opinion of the Engineer, are likely to produce harmful settlement of the material over the tunnel, shall be filled with a suitable

material and grouted with Portland cement grout placed under pressure. All working operations of the Contractor, sub-contractor and/or their agents or employees must be subordinate to the free and unobstructed use of Dunlap Avenue for the passage of traffic without delay or danger to life, equipment, or property.

The Contractor shall inspect the location where the tunnel is to be installed and familiarize himself with the conditions under which the work will be performed and with all necessary detail as to the orderly prosecution of the work.

2. Materials

Steel Liner Plates - Cold-formed steel liner plates shall be furnished having the minimum sectional data and dimensions shown in the special provisions. The design and shape of the liner plates shall be such that erection and assembly of the liner plate structure can be completely and readily effected from inside the tunnel. Plates shall be accurately curved to suit the tunnel cross-section, and all dimensions be of such size and accuracy that plates may be either similar curvature will be interchangeable. The liner plates may be either 4-flange or 2-flange type as manufactured by the Commercial Shearing Company, Armco Corporation, or equal. Grout holes 2-inches in diameter shall be provided as indicated on the drawing contained in these specifications to permit grouting as the erection of the tunnel liner plates proceeds.

- a. All plates shall be formed to provide longitudinal and circumferential joints. Plates shall be punched for bolting on both longitudinal and circumferential joints in accordance with the manufacturer's standard spacing. Grout holes shall be tapped, flat flanged, or welded half-couplings.
- b. Bolts and nuts shall conform to ASTM Specification A307, Grade A, and shall be of diameter and length to conform with the recommendation of the steel liner plate manufacturer.
- c. The Contractor may require heavier tunnel liner plate sections than the minimum specified on the plans, or the addition of longitudinal members to the liner plates, to provide for jacking resistance. The necessity for such additional strength shall be determined by the Contractor based on his experience and knowledge of soil conditions. Furnishing liner plate sections heavy enough to resist jacking forces shall be entirely the responsibility of the Contractor, and the cost of such liner plates shall be included in the unit price bid.

3. Conventional Tunneling and Backpacking - Between Station 26+35 and 27+25, the Contractor shall install 90 L.F. of steel liner plate utilizing at the Contractor's option, the Shield Method, Poling Plate Method, Poling Board-Bulkhead Method, or other tunneling methods that may be appropriate based on actual soil conditions at the tunnel face. The tunnel method chosen by the Contractor shall be reviewed by the Engineer. Liner plate rings shall be rotated such that longitudinal joints are not continuous. The tunneling method shall incorporate methods for breasting the face of the excavation as required. The entire tunnel face and exposed portion of the walls shall be completely breasted at the end of the last shift if work is to be discontinued overnight or on weekends.

Whatever method of conventional tunneling is used, it may be necessary to hand excavate large cobbles or boulders from the tunnel face. If cobbles or boulders extend beyond the circumference of the liner plate, the resultant void shall be tightly backpacked with straw, excelsior or similar material which will readily accept grout. Backpacking of the annular void between the tunnel liner plate and the excavated surface shall be done immediately after the shield tail, poling plates, or boards have cleared each ring of plates. The Contractor shall provide means to prevent the escape of grout beyond the ring of liner plates to be grouted. Grouting pressures shall be sufficient to fill all voids outside the liner plate without causing liner plate movements or deformation. Grouting shall begin at the lowest grout hole in the liner plate circumference and continue until grout appears at the adjacent holes.

In the event the nature of the materials and the progress of the excavation permit, backpacking may, at the discretion of the Engineer, be performed after installation of two or more liner plate rings or at the end of an 8-hour shift. Any decision to reduce the frequency of backpacking operations shall be solely the Engineers.

The excavation of the tunnel and the installation of the liner plates shall not cause any settlements that may be detrimental to the structures and facilities above the tunnel. Every effort shall be made to prevent loss of soil outside the perimeter of the liner plate and cave-in at the tunnel face. If a cave-in at the tunnel face occurs or excessive roadway settlements are detected, which can be attributed to the tunneling operation, the Engineer may direct the Contractor to suspend all work until the problem has been resolved. Any damage to the roadway and its appurtenances that, in the opinion of the Engineer, are caused by the tunneling operation will be satisfactorily repaired at the Contractor's expense.

4. Pressure Grouting (Backpack) - The extent and types of grouting at all locations shall be subject to review by the Engineer. Grout consistency, grouting mixes, pressures, the pumping rate

and sequence shall be determined in the field and shall be acceptable to the Engineer.

- a. Equipment - Grouting equipment shall be of a type that will deliver the grout at all times in a smooth even flow without surge at the pressure and volumes required to perform the specified grouting procedures. The Contractor shall submit a detailed description of the equipment and method he proposes to use to the Engineer for review. The grout mixer shall be equipped with a suitable water-measuring device calibrated to read in tenths of a gallon and so designed that after each batch the indicator can be conveniently set back to zero. In addition to the grout mixer, mechanical agitator sumps, equipped with suitable screens shall be provided. The agitator sumps shall have a capacity equal to 3 times the output of the pump per minute when pumping at maximum discharge.

Two pressure gauges of a range adequate and appropriate for the pressures to be encountered in grouting shall be provided, one at the grout pump, and the other in the manifold hookup at the collar of the hole being grouted. These gauges shall be periodically checked for accuracy by the Contractor with an accurately calibrated, high-precision pressure gauge furnished by the Contractor. The grouting circuit shall contain a return line to allow continuous circulation of the grout from the nozzle to the agitator sump.

- b. Mixing Grout - Grout shall be mixed to a consistency suitable for the work in hand and constantly agitated. Grout shall be prepared in such quantities that will be entirely used before the grout attains its initial set. All materials shall be entirely free from lumps when put into the mixer.

The Contractor may supply a plant pre-mix grout that shall satisfy these specifications.

- c. Making Connections for Grouting - The Contractor shall make hose connections from the pumps to any grout pipes set for grouting voids between the steel lining and the soil. Connections shall prevent leakage of grout under the required grouting pressures. Each grout pipe shall be provided with a valve or stopcock with a free opening of area equal to the bore of the pipe. The Contractor shall remove such valve or stopcock when the grout has sufficiently set and shall install cast iron screw plugs.
- d. Pressure Grouting (Backpacking) - The filling of voids shall be by primary grouting with sand-cement grout. Secondary grout injection may be required to fill any remaining voids. Grouting shall be done in the presence of the Engineer. The

Contractor shall exercise special care not to allow grouting pressures to cause damage or misalignment to the tunnel liner plate or surface facilities. All grout, which is not injected into a hole within 2 hours after mixing, shall be removed from the mixer, sump and supply line and shall be wasted. Grouting shall be performed progressively from lower to higher holes until the escape of grout from these holes until the escape of grout from these holes indicates satisfactory filling of voids. Generally, grouting will be considered to be completed when no more grout of the required mix and consistency can be forced in under the required pressure. Frequency of grouting operations shall be as that previously specified. Pressures for grouting shall not exceed the maximum recommended by the manufacturer of the linings. The Contractor shall provide to the Engineer all facilities necessary for the inspection of the grouted tunnel lining to ensure complete filling of the annular void. These facilities shall include removing of grout plugs as required for the purpose of inspecting behind the grout plug. Inspection shall be done not later than 24 hours after, nor more than 60-feet behind the initial injection. Any soft spots or voids detected shall be completely grouted by a second injection performed immediately after the inspection.

5. 66-Inch Storm Drain Carrier Pipe - Between Station 26+35 and 27+25, the Contractor shall install 90 L.F. of 66-inch reinforced concrete carrier pipe within the tunnel to the line and grade shown on the plans. The pipe shall be supported on a continuous rail system welded to the liner plate as indicated on the plans. Line and grade tolerances for the carrier pipe shall be as specified in MAG Specification Section 618.3.

Following installation of the 66-inch carrier pipe in the tunnel, the intervening annular space between the pipe and the liner plate shall be filled with lean grout. The grout composition shall be as specified in Section 5.; the grout consistency, pressure, and pumping equipment shall be as specified in these specifications. It shall be the Contractor's responsibility that the grout shall be applied in such a manner as to completely fill all voids between the liner plate and carrier pipe in conformance with the detail shown in these specifications.

6. Line and Grade - The Contractor shall establish reference points to enable him to maintain a close check on the tunnel alignment and grade. In the event that tunneling departs from the specified tolerances allowed for line and grade, the Contractor shall promptly notify the Engineer. The maximum allowable horizontal deviation of tunnel liner from plan shall be 6-inches below grade and 1-inch above grade. The rate of departure from plan line and grade shall not exceed 1-inch in 10-feet. In the event of deviation from either grade or alignment, beyond the

above allowable tolerances, it shall be the Contractor's responsibility to correct such condition to the satisfaction of the Engineer.

.13 PERMANENT PAVEMENT REPLACEMENT

Central Avenue

The bid schedule and the specifications have provisions for two methods of permanent pavement replacement. The first alternative is the MAG pay width pavement replacement as defined in MAG 336 and the City of Phoenix Supplement to MAG 601 along with a full width overlay. The second alternative is to replace pavement on the west side from lip of gutter to lip of gutter not including turning lanes and to overlay the remaining roadway. Both alternates include overlaying the east half of Central Avenue, and all turning lanes. The pavement replacement for the waterline shall be MAG pay width.

.14 ASPHALT CONCRETE PAVEMENT PERMANENT ROADWAY SECTION

A. Central Avenue and Dunlap Avenue (P-793869)

The asphalt concrete pavement section shall consist of 1 1/2-inches compacted (Type D-1/2) dense graded asphalt concrete laid in one lift over 3 1/2-inches compacted (Type A-1 1/2) dense graded asphalt concrete laid in one lift.

Type "A" pavement replacement shall be modified from 24-inches to 11-inches A.B.C. material. From the top of the pipe bedding to the A.B.C. for pavement replacement, backfill shall consist of native material.

As an alternate to the above two paragraphs, the pavement section may be 1 1/2-inches dense graded asphalt concrete (D-1/2) laid in one lift over 6 1/2-inches dense graded asphalt concrete (A 1 1/2) laid in one 3 1/2-inch lift and one 3-inch lift.

Type "B" pavement replacement shall be per MAG Detail 200.

The cost of the A.B.C. material for Type A and Type B pavement replacement shall be included in the cost of the pavement replacement.

B. Central Avenue (ST-813873)

The pavement replacement section for Central Avenue shall be as described in paragraph A above with the exception that there will not be a 1 1/2-inch surface course placed. There will be a 1 1/2-inch overlay for Central Avenue as described in Special Provisions Section .20.

C. Residential Streets

The asphalt concrete pavement section shall consist of 2-inches compacted (Type C-3/4) dense graded asphalt concrete, laid in one course.

Type "A" pavement replacement shall be modified from 24-inches to 8-inches A.B.C. material. From the top of the pipe bedding to the A.B.C. for pavement

replacement, backfill shall consist of native material.

As an alternate to the above two paragraphs, the pavement section may be 1 1/2-inches dense graded asphalt concrete (D-1/2) laid in one lift over 3-inches dense graded asphalt concrete (A 1 1/2) laid in one lift over native backfill.

Type "B" pavement replacement shall be per MAG Detail 200.

The cost of the A.B.C. material for Type "A" and Type "B" pavement replacement shall be included in the cost of the pavement replacement.

.15 SUBGRADE PREPARATION

The work under the item "Subgrade Preparation" shall be per Section 301 of MAG and the City of Phoenix Supplements with the following modifications.

This work shall consist of all excavation and grading work necessary to bring the existing surface to the pavement section specified prior to the covering of the prepared subgrade with base materials.

MAG Specification, page 63, subsection 301.3, Relative Compaction, delete the sentence which reads, "B) Other streets and traffic ways...90 percent.", and substitute the following:

"Other streets and traffic ways...95 percent."

Measurement and payment will be made at the unit price bid per square yard, and such payment shall be compensation in full for the item complete in place, including stripping, excavation, hauling, filling, compacting, and disposing of excess or unsuitable materials, together with all costs incidental thereto. This measurement shall exclude the area over the pipe which shall be defined by the MAG pay width. The above items of work in the MAG pay width shall be included in the unit prices bid per linear foot for furnishing and laying pipe.

.16 PIPE SUPPORTS AND WATERLINE REPLACEMENTS (ST-813873)

All pipe supports called out on the plans as Detail MAG 403 are listed in the bid schedule as "Permanent Pipe Support".

All pipe supports called out on the plans as Detail MAG 403-3 are listed in the bid schedule as "Waterline Replacement" which is explained in City of Phoenix Supplement 601.2.10.

.17 MATERIALS LOG

The materials logs included in these specifications are not part of the Contract Documents and are included for the Contractor's convenience only. It is not intended to imply that the character of materials is the same as that shown in the logs at any point other than where the boring was made.

.18 MEASUREMENT AND PAYMENT

Measurement and payment for all pay items in the Bid Proposal shall be as indicated in the applicable Standard Specification, City of Phoenix Supplement,

Special Provision and the Proposal Sheet.

A. Traffic Control

Payment for traffic control will be paid for on a lump sum basis as quoted in the bid proposal for bid item "TRAFFIC CONTROL DEVICES".

B. Prefabricated Tees and Wyes

The cost of the basic pipe and material required to construct and install prefabricated tees and wyes is included in the unit price bid for main and connector pipes. Bid item for Prefabricated Tees and Wyes is for cost of manufacturing only.

C. Catch Basins

Add to Subsection 505.10 the following:

Storm sewer catch basins shall be paid for at the unit price bid for each type of catch basin, as represented by the respective bid item, regardless of dimensional or other differences occurring within a particular type. The unit price to be paid under these items shall be compensation in full for furnishing and placing catch basin structures as shown on the plans and as specified, including, when applicable, all removal and replacement of existing curb, gutter and sidewalk, concrete, reinforcing steel, forming, vibrating, finishing, curing, access opening frame and cover, embedded angles, grating, anchor bolts, structural excavation, backfill, compaction, pavement replacement, and any necessary modifications of catch basin structures during construction. Where shown on the plans, the Contractor shall install 3-inch diameter standard strength iron pipe through the catch basin. This pipe shall project a minimum of 6 inches past the outside wall.

Catch Basin Access Frame and Cover Detail

City of Phoenix Detail P-1577 Catch Basin Access Frame and Cover, will be used in lieu of City of Phoenix Detail P-1561.

D. Manholes

Storm sewer manholes shall be paid for at the unit price bid for each type, as represented by the respective bid item, regardless of dimensional or other differences occurring within a particular type. The unit price to be paid under these items shall be compensation in full for furnishing and placing manhole structures as shown on the plans and as specified, including concrete, reinforcing steel, forming, vibrating, finishing, curing, cast iron manhole frame and cover, frame adjustment to grade, structural excavation, backfill, compaction, and any pavement replacement in excess of the applicable pay widths assigned to the adjacent pipes.

E. Concrete Pipe Collars

The cost of collars required for construction as determined by the Engineer or as specified on the plans, shall be included in the cost of the pipe.

F. Permanent Pipe Supports and Pipe Plugs

The cost for construction and/or removal of pipe plugs shall be included in the cost of new storm drain pipe.

Permanent pipe supports shall be paid for at the unit price bid for each unit installed regardless of dimensional or other differences occurring within particular type. The unit price bid shall be compensation in full for furnishing and placing permanent pipe supports, including brick work, concrete, reinforcing steel, forming, vibrating, grouting, curing, and any required earthwork.

G. Pipe Support Option

Where sanitary sewer lines (vitrified clay pipe 12 inches or smaller) cross the mainline construction, the Contractor has the option of permanently supporting the sanitary sewer line per MAG Detail 403, or replacing it with mechanical joint ductile iron pipe, Class 52, and fittings. Replacement sections shall extend five feet beyond trench walls.

Interior coating of the ductile iron pipe shall be either Type 1 or Type 2, as listed below:

Lining Type No. 1

Catalized coal tar epoxy applied centrifugally to all barrel surface areas which will be exposed to sewer liquids and/or gases. The lining compound shall be applied to obtain a uniform and smooth integral surface of two or more coats. The first coat shall be 16 mils minimum dry film thickness and the finish coat(s) shall be applied to yield a total minimum dry film thickness of 40 mils for the complete lining system. All joint surfaces exposed to sewer liquids and/or gases shall be given a prime and finish coat resulting in a 30 mils minimum dry film thickness. (Koppers 300M, or equal, coal tar epoxy.)

Lining Type No. 2

Polyethylene lining material complying with ANSI/ASTM D 1248 heat fused to cover the inner surface of pipe or fitting from the plain or beveled end to the rear of the gasket socket. Lining shall be 40 mils nominal thickness through the barrel and taper for a distance of 4 inches to a minimum of 10 mils thickness and hermetically sealed at the ends of pipe and fittings.

There shall be no separate pay item for this option. Replacement of sanitary sewer crossings with ductile iron pipe shall be paid for at the unit price bid for pipe supports.

H. Permanent Pavement Replacement (Asphalt Concrete)

Measurement and payment for permanent pavement replacement will be by the square yard. In computing the pay quantity, the field measurement along the centerline of the trench and the trench pay width as listed in MAG 336 will be used. When the longitudinal trench is only partially in the pavement, adjustments in the pay width will be made by the Engineer.

There will be no separate measurement and payment for trench backfill. The cost of the backfill will be included in the cost of the pipe.

I. Driveway and Sidewalk Slab Connections

This work shall consist of constructing concrete driveway and sidewalk slab connections to match existing at locations shown on the plans or requested by the Engineer. The slab thickness shall conform to the applicable driveway or sidewalk detail.

Measurement and payment for this work shall be made per square foot complete and in place for the appropriate pay item "DRIVEWAY ENTRANCE" or "CONCRETE SIDEWALK."

J. Traffic Signal Loop Detectors

Payment for this item shall be at the unit price bid for each standard 5-foot by 40-foot unit and its connecting wiring.

The unit price to be paid under this item shall be compensation in full for furnishing and installing traffic signal loop detectors, including hook-up to the traffic signal controller, pavement saw cutting, sealing of saw cuts, and any other work required for proper operation.

K. Miscellaneous Removal and Other Work

This item includes furnishing all labor, material, tools and equipment to complete the removal and disposal of the items specified on the plans, listed in MAG Section 350 and City of Phoenix Supplement thereto and other work of a minor nature which may develop during course of construction.

Payment will be made at the lump sum price quoted in the bid proposal for bid item "MISCELLANEOUS REMOVAL AND OTHER WORK".

L. Removal of Pipe, Backfill and Compact

The work under these items shall consist of the removal of existing pipe as specified in plans or as necessary. The work also consists of the disposal of all pipe, any broken concrete and debris, and backfilling and compacting the void. Backfill shall be in accordance with C.O.P. Subsection 336.3. Compaction shall be in accordance with C.O.P. Section 601.

Measurement shall be by the linear foot and payment will be made at the unit price stated in the bid proposal.

M. Removal of Structures, Backfill and Compact

The work under this item shall consist of the removal of irrigation structures, storm water inlets, headwalls, catch basins, ditch lining, and manholes at the locations designated on the plans and/or as necessary for the construction of this project and shall include the disposal of the broken concrete and debris, backfilling and compacting. Backfill shall be in accordance with C.O.P. Subsection 336.3. Compaction shall be in accordance with C.O.P. Section 601.

Payment will be made at the lump sum price quoted in the bid proposal for bid item "REMOVE STRUCTURE, BACKFILL AND COMPACT".

N. Sidewalk Ramps

Sidewalk ramps shall be constructed in accordance with Phoenix Standard Details or special details called out on the plans.

Payment will be made under the bid items for "SIDEWALK" and "CURB AND GUTTER" and shall include all cost for forming and finishing. The cost of the special curb at the back of sidewalk ramp shall be measured and paid for as "SIDEWALK".

O. Asphalt Concrete Replacement

Asphalt concrete shall be removed and replaced to match existing asphalt concrete frontage in back of new sidewalk, as detailed and noted on the plans and as directed by the Engineer. Existing asphalt concrete shall be trimmed and removed in accordance with Section 336.2.2. The new asphalt concrete shall be two inches of compacted, single course Type D-1/2 dense grade per Section 710.

Payment shall be made at the bid price per ton for "ASPHALT CONCRETE SURFACE COURSE D-1/2" complete-in-place within the area as specified above, and shall include removal and disposal of existing materials and subgrade preparation. Aggregate base materials, where required, will be paid under that proposal item.

.19 ALTERNATE PIPE APPURTENANCES (ST-813873)

All appurtenances listed in the bid schedule are listed assuming R.C.P. pipe sizes. If C.I.P.P. or C.S.P. pipe is installed, the Contractor is responsible for furnishing the appropriate size appurtenances at no additional cost to the bid price.

.20 SCOPE OF WORK FOR OVERLAY

A. The work shall consist of placing a 1 1/2-inch dense graded asphalt concrete (D-1/2) overlay over paving fabric. Overlay placed at 2nd Street, 3rd Street and 5th Street (with P-793869) to create sump conditions for catch basins will vary in thickness from 2-inches to 4-inches. Drawings included in the specification show the approximate overlay area at each of these locations.

After installation of the overlay course, all necessary frame and cover adjustments for manholes, valves, survey monuments, sewer clean-outs, etc., shall be completed by the Contractor within the given segments being surfaced. Straddles for survey frames and covers will be placed by the City.

The City of Phoenix will patch and crack seal in selected areas. The Contractor will then be responsible for milling, cleaning, tack coat, placing a paving fabric, and overlaying the streets in the project.

Grinding

The Contractor will grind asphalt adjacent to existing gutters to a point approximately 1-inch below the gutter lip. Depth of grinding shall be measured

from the top of the concrete gutter. The grinding will taper to 0" at a line 6-feet from the gutter lip. All existing material built up over the gutter shall be removed as part of this bid item. The Contractor will grind across intersecting streets (including termini) in the same manner using the extended gutter line to ensure a smooth transition to the overlaid surface.

The Contractor shall be required to protect all milled surfaces from deterioration and repair subsequent damage prior to seal coating.

Portions of the roadway with no curb and gutter will NOT require edge milling in these areas.

The Contractor shall clean-up and deliver the tailings to the 19th Avenue landfill located on 15th Avenue south of Lower Buckeye Road. Contact Dale Henderson at 256-3307 to arrange for delivery.

Other areas - Some additional grinding may be required as called for by the Engineer. This grinding shall include grinding to match overlay with existing pavements at side streets, end of projects, obstructions, etc. Also, high points, as called for by the Engineer, will be ground down to provide a smoother overlay.

Overlay

The asphalt concrete overlay shall be applied in accordance with Section 321 and 322, except as modified herein.

The spreading equipment, in accordance with Section 321.5.2 shall be equipped with a ski-type control device of not less than 30-feet in length or other method of control approved by the Engineer.

Add to MAG Specification 321.5.4 ASPHALT BASE AND SURFACE COURSE, on page 85, paragraph 3:

"An acceptable surface in the transverse direction shall not vary more than plus-minus 1/2-inch from the grade of the crown."

The asphalt concrete overlay shall be applied from gutter lip to gutter lip except the edges shall be feathered as necessary. If no gutter line or curb and gutter exists, the asphalt concrete overlay shall be applied to the edge of pavement. Overlay passes shall be no longer than 1/2 mile.

The Contractor will place the overlay to a minimum of 1/4-inch above the existing gutter lip, where applicable.

The overlay shall be feathered as necessary at catch basins to provide drainage and driving comfort.

Any bench marks or City of Phoenix monuments disturbed by the Contractor shall be re-established by the Contractor at the direction of the Engineer. The Contractor shall replace in kind survey monument frames and covers damaged during construction at the Contractor's expense.

Adjustment of Existing Manholes, Valves and Cleaning Covers

The Contractor will be responsible for the tie-out of all water valves, manholes, etc., for location and adjustment after the overlay except for survey monuments. The method used shall be approved by the Engineer prior to starting work.

The Contractor shall adjust all existing frames and covers in the project area to the new pavement elevation with the possible exception of utility company manholes. The Contractor shall drill a 3/4-inch hole near the center of all sanitary sewer manholes encountered on this project. Contractor shall keep rings and covers matched and shall replace them to their original locations.

Surface survey monument straddles will be set by the City of Phoenix.

The Contractor shall remove asphalt and chip seal material from this or prior work from all metal covers encountered within the limits of this project. The method for removal of this material must be approved by the Engineer prior to its being used. This work shall be completed prior to adjusting the frame.

Missing covers will be supplied by the City of Phoenix or the affected utility and shall be replaced by the Contractor.

The frames and covers shall be adjusted according to MAG Standard Detail 422 and these special provisions, except that the concrete collar shall extend up to finished grade.

NOTE (1) Arizona Public Service Company manholes must be grouted on the inside and the outside for a waterproof seal.

NOTE (2) A company representative must be present at all times when adjusting Arizona Public Service Company manholes and Salt River Project (water) manholes.

The Contractor will coordinate with the Engineer and with representatives of the various utilities regarding the adjustment and inspection of their manholes. Utility companies specifications shall be adhered to during adjustment. The Contractor shall be responsible for obtaining any additional specification requirements from the utility companies.

The individual utility companies have the right to accept or reject the Contractor's bid for their portion of the frame and cover adjustment. If the Contractor's bid for frame and cover adjustment is rejected, the utility company will perform their own adjustment and the bid item quantity will be adjusted accordingly.

Southwest Gas shall adjust their own manholes and valves. The Contractor shall provide an approved schedule to Southwest Gas and notify them two (2) weeks prior to any work required. See S.W.G. - 1 for contact persons.

Salt River Project (water) structures shall be adjusted by the Contractor. The Contractor shall utilize construction details provided by Salt Rive Project. Contact Robert Maurer, 237-2962 two weeks prior to any work required.

Salt River Project (power) shall adjust their own manholes. The Contractor shall provide an approved schedule to Salt River Project (power) and notify them two (2) weeks prior to any work required. Contact Chuck Hughes, 236-2090 when work is required.

Arizona Public Service Company may utilize the Contractor to adjust manholes. The Contractor shall adjust to A.P.S. standards. The Contractor shall provide an approved schedule to A.P.S. and notify Lois Winkler two (2) weeks prior to any work required. (371-6837)

U.S. West shall adjust their own manholes. The Contractor shall provide an approved schedule to U.S. West and notify Curt Sayer, 831-4777 two (2) weeks prior to any work required.

Adjust Existing Unexposed Water Valve Frames and Covers

The Contractor will raise and adjust existing unexposed water valve frames and covers. Unexposed covers will be identified by the eight (8)-inch solid painted circle. Paint color will be "Water Department Blue".

In an attempt to locate a valve box, the Contractor will remove the existing asphalt surface a minimum distance of eighteen (18)-inches from the valve lid marking and to a depth of the total pavement surface. Final adjustment to the frame and cover will be in accordance with Standard Detail 270.

Replacements for uncovered frames or lids that are found missing, defective or damaged will be supplied by the Water Department at no cost to the Contractor.

If, after an adequate attempt, no valve box is found, the Water Department is to be notified. The Contractor will be paid for the work whether or not the valve box is found.

Paving Fabric

The streets indicated in the specifications will have a fabric applied, such as Petromat or Amopave, before the new asphalt surface course is placed. The paving fabric shall be a non-woven polypropylene material. Prior to fabric placement, a tack coat of A.C.-20 shall be applied to the clean pavement. The tack coat shall be applied at a rate of 0.20 gallons per square yard. The width of the A.C. tack distribution shall be a minimum of 6-inches wider than the width of fabric. Fabric placement shall occur after applying the tack coat. Work shall be scheduled such that no fabric will be left overnight on the pavement. The fabric shall be placed into the tack coat with a minimum of wrinkles. As directed by the Engineer, wrinkles sever enough to cause "fold" shall be slit and laid flat. Overlap of fabric joints should be minimal, although an overlap of 1 to 3-inches is recommended to insure full closure of joint. Transverse joints should be "shingled" in the direction of paving. Placement of the overlay should closely follow fabric laydown. Care should be taken so that construction equipment will not pick up the fabric when driving over it. The proposed paving fabric shall be a non-woven polypropylene material and meet all Task Force No. 25 property requirements. The proposed fabric and installation procedures will be submitted for the Engineer's approval before contract work begins.

Power Broom

The equipment used by the Contractor shall include a power broom on the job site at all times during the overlay operation to assure clean joints and to maintain a clean street prior to overlay or other work. This work is a NPI.

Payment

Payment for the 1 1/2-inch A.C. overlay with fabric shall be paid for at the unit price bid for "OVERLAY".

This bid item shall include the cost for all labor, equipment, and materials required for the overlay, including grinding, fabric water, sand, etc.

.21 WATER MAIN REALIGNMENT

In the event of unavoidable conflict between pipeline construction with an existing water main, the Contractor shall vertically and/or horizontally realign the water main in accordance with Standard Detail 370 and Section 610. The water main realignment shall include, but not be limited to, excavation, backfill, compaction, pipe, fittings, offsets, couplings, sleeves, blocking, joint restraint and hardware. The realigned water main shall be visually inspected for leaks under line pressure prior to backfilling.

The Contractor shall arrange with the Engineer to have the line shut down in order to perform his work. Representatives of the Water and Wastewater Department will take the line out of service, provide necessary valve cut-ins and flush the line prior to placing it back in service at no cost to the Contractor.

Materials for water main realignment shall be cast iron or ductile iron in accordance with Section 610.3.

Measurement will be made per each realignment constructed for the various water main sizes encountered.

Payment for realignment of water mains will be made at the unit price bid per each under proposal items "WATER MAIN REALIGNMENT."

.22 SPECIAL MANHOLE COVERS

Grated manhole covers with frames are required on project ST-813873 at Station 14+00 and 20+60. The manhole covers shall be NEENAH, R-2580-A. Payment for the special covers with frames shall be included in the cost of the manholes.

.23 WATERLINE CONSTRUCTION

All waterline construction shall be in accordance with Section 6 10 of the MAG Specifications and City of Phoenix Supplements.

All water valves shall be in accordance with Section 630 of the MAG Specifications and City of Phoenix Supplements.

The 6-inch, 8-inch and 12-inch D.I.P. waterline shall be ductile iron pipe with restrained joints in accordance with Sections 610 and 750.

When preparing the construction schedule the Contractor shall indicate all construction to be done during shut-downs.

A. Water Valves

The Contractor shall be responsible for maintaining continuous access during construction to the valve operating nut for all water valves within project boundaries. Failure by Contractor to do so relieves the Water and Wastewater Department of responsibility for any resultant claim.

B. Water Main Shutdown

For shutdowns that are necessary to accomplish the work, the Contractor shall make a written request to Water Distribution at least three (3) calendar weeks before the shutdown. Requests shall specify for each shutdown, location, size of line, duration, date and time. Within one week Water Distribution will schedule shutdown and give written notification to Contractor. Any schedule revisions requested by Contractor must be written, Water Distribution's revised schedule will be available within one week.

The Contractor shall be responsible for maintaining accessibility to the valve operating nut for all valves, within project boundaries. Failure to maintain accessibility to valves shall be cause for canceling shutdown and the Contractor must properly request a schedule revision.

The Water and Wastewater Department is indemnified for any and all resultant costs incurred by the Contractor such as, but not limited to, traffic control, delays, loss of incentives, standby and penalties if the Contractor did not properly request a shutdown; or failed to maintain accessibility to valves; or on the scheduled date work had not progressed to the point at which the shutdown was needed.

C. Interruption of Transmission Water Main Service

Waterlines 16-inch and larger (transmission mains) are to remain in continuous service through all phases of the project. Should a transmission main, for any reason, need to be removed from service during the project, the Water and Wastewater Department will define the time parameters during which a shutdown would be allowed. The Water and Wastewater Department is indemnified for any and all resultant costs incurred by the Contractor such as, but not limited to, alternate construction methods, traffic control, delays, loss of incentives, standby and penalties.

D. Work By City Forces

Fees for wet taps, shut-downs and water valve cut-ins have been waived.

E. Restraint Joints for Ductile Iron Pipe

Restraint joints shall be in accordance with Section 750.2 of the City of Phoenix Supplements, except that the Ebbor Iron, Inc. Series 1100 Megalug shall be restricted to pipe 12-inches in diameter and smaller.

.24 SLURRY SEAL COAT

A. Modification of MAG Specifications Scope of Work (Section 104)

104.1.4 is modified to add: Clean-up shall include the removal of slurry seal material from manhole covers, valve covers, gutters, curbs, etc., in the job area on a daily basis. Cover shall be sprayed with diesel oil prior to slurring.

B. Modification of MAG Specifications Asphalt Emulsion Slurry Seal Coat (Section 332)

1. 332.2 Materials:

Add: Type II slurry seal shall be used on all streets in this contract unless otherwise indicated in these specifications or as directed by the Engineer.

2. 332.5 Preparation of the Surface

332.5.1

1. The Contractor shall have a power kick broom on the job equipped with an operating strobe light or rotating beacon.

C. Dust Prevention

The Contractor shall take whatever steps, procedures, or means to prevent abnormal dust condition 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".

D. Modification to MAG Specifications, Control of Materials (Section 106)

1. 106.1 is modified to add: Any deviation from the approved source or quality of materials shall be resubmitted to the Engineer for approval or rejection.

2. 106.2, second paragraph, delete "Contracting Agency" and substitute "Contractor".

3. 106.3, third paragraph, modify to read, "...ASSHTO, ASTM and ISSA...".

E. Joints, Lines and Handwork

No excessive build-up, uncovered areas or unsightly appearance shall be permitted on longitudinal or transverse joints. An excessive overlay will not be permitted on longitudinal joints. The Contractor shall provide suitable width spreading equipment to produce a minimum number of longitudinal joints throughout the project. Half passes and odd width passes will be used only when necessary.

Care should be taken to insure straight lines along curbs and shoulders. No runoff will be permitted. Lines at intersections will be kept straight. A minimum of 0.5 inches and a maximum of 2.5 inches overlap along curbs shall be maintained.

Areas which cannot be reached with the slurry seal machine shall be surfaced using hard squeegees to provide complete and uniform coverage. The area to be handworked shall be lightly dampened prior to mix placement and the slurry worked immediately. The same finish as applied by the spreader box shall be required. Handwork shall be complete during the machine applying process.

.25 HAUL PERMIT

Hauling Fill or Excavation Permit: Fee and Clean-Up Bond: Load Leaks

(a) It shall be unlawful to haul or cause to the hauled fill or excavation by truck on streets and highways within the City of Phoenix when the quantity of fill or excavation to be hauled exceeds 10,000 cubic yards, or when the duration of the haul is for more than 20 working days, i.e., Monday through Friday inclusive, except upon written application for permit and the issuance of a special permit by the City Engineer upon such conditions as may be reasonably necessary to prevent creation of a nuisance or hazard to the public. Such conditions may include, but not be limited to:

- (1) Designation of specific routes to be used;
- (2) Designation of specific locations and times of day access will be made to and from public right-of-way;
- (3) Provision for safety precautions, such as the use of barricades, warning or traffic signs, flagmen or police officers for traffic control;
- (4) Payment of a cash bond in the amount of five hundred dollars (\$500.00) in order to secure the cost of the removal of any spillage of fill or excavation and the cleaning of the right-of-way by the City. Such bond shall be returned to the applicant if no spillage occurs or if any spillage is removed and the right-of-way cleaned by the applicant to the satisfaction of the City Engineer;
- (5) Any violation of the terms or conditions of the permit shall be sufficient grounds for the City Engineer to revise the permit.

(b) Before issuance of a grading permit, the City Engineer shall collect the fees set forth below. Such fees shall be paid in lawful money of the United States or by collectible draft or check. Should such draft or check be uncollectible within a reasonable time, the permit shall be null and void. The application for permit shall state the quantity of excavation and fill involved. For excavation and fill on the same site, the fee shall be based on the volume of the excavation or fill, whichever is greater.

Any person doing work under contract with the City of Phoenix shall be exempt from payment of a fee.

.26 FIRE HYDRANT RELOCATION

Fire hydrant relocations shall be paid for at the unit price bid per each. The unit prices bid shall be full compensation for removing and reinstalling the fire hydrants at the new locations shown on the plans and in accordance with new construction standards. Prior to removing the fire hydrant from service and prior to reactivating the fire hydrant, the Contractor shall notify the Engineer. The Contractor shall minimize the time the fire hydrant is out of service but in no event shall the out-of-service time exceed 24 hours. If in the opinion of the Engineer, the fire hydrant should be replaced, Water Distribution (Division) will provide a replacement fire hydrant at no cost to the Contractor. It shall be the Contractor's responsibility to pick up the replacement hydrant and to return all old hydrants to the Water Distribution (Division), 3045 South 22nd Avenue.

.27 EXISTING WATER SERVICES AND METERS

A. The Contractor shall replace or/and extend existing water service lines at the stations listed in these specifications or on the plans in accordance with Detail P-1342. The Engineer will determine when the existing lines are unsatisfactory and must be replaced. Generally, existing copper in good condition with sufficient cover will be extended.

The water service shall include, but is not limited to, locating the present tap, trenching, bedding, backfilling, disconnecting the existing service pipe from the corporation stop, furnishing and installing new service pipe, new appurtenant fittings, new curb stop and new meter coupling. The existing tapping saddle and corporation stop shall remain, but the Contractor shall not use any other salvaged service connection components.

Inserts or adapters required to connect to the corporation stop are available at the Water and Wastewater Department yard at no cost to the Contractor. The Contractor must obtain a written order (AVO) from the Engineer before picking up said items.

Bedding and backfill shall be full depth A.B.C. Payment for furnishing and compacting the A.B.C. shall be included in the bid item for replacing or extending existing water services.

The Contractor shall schedule his work so that no open trenches are left overnight.

Materials for water service connections shall conform to MAG Section 754 and City of Phoenix Supplement 610.4.4 and 610.4.5. Joints in the copper tubing shall be made by the use of approved fittings, properly soldered or by means of approved compression fittings such as flared joints or pack joints.

- B. Water meter relocation consists of disconnecting the meter, moving the meter, meter box and cover from the existing location to the new location and reconnecting in accordance with Details P-1342 and P-1363. The meter box and cover shall be set to match the grade at the new location.

Any water meter boxes and/or covers damaged by the Contractor during course of construction shall be replaced in kind at his expense.

It is anticipated that some water meter boxes and/or covers may require replacement due to prior damages not due to the fault of the Contractor. The Water and Wastewater Department will furnish replacement water meter boxes and covers at no cost, however, the Contractor must obtain a written order (AVO) from the Engineer and pick up said items at a Water and Wastewater Department yard at his expense.

Water meter boxes and covers shall be Type 1, 2 or 3 in accordance with MAG Details 310, 311, 312, and 320 and P-1315.

All materials and fittings shall conform to the requirements of Section 754 and Phoenix Supplement 610.4.4 and 610.4.5. No salvaged service connection components shall be used.

- C. All valve shutdown fees will be waived for work on water services and meters under these specifications. When it becomes necessary to shut down existing water mains and services to conduct replacements, no main shall be left out of service for more than one (1) hour and no individual service will be disrupted for more than five (5) continuous hours. Main valves shall be operated by representatives of the City's Water and Wastewater Department. Shutdowns will not begin before 8:00 a.m. and will not extend past 4:00 p.m.

When it becomes necessary to shut down an existing water service in order to construct a replacement, it shall be the Contractor's responsibility to notify all customers in advance that the water service will be turned off. The customers shall be notified in writing at least 24 hours in advance and also verbally the day the shutdown will occur. Initial notification shall include the reason for the shutdown, the date, the time and duration the water service will be shut off. A copy of the notification shall be given to the Engineer.

When any construction encroaches into an improved yard area, in or outside the right of way, the Contractor shall leave these areas in as good a condition or better after work is completed.

For grass areas, the Contractor shall remove the sod in the construction area, store it, keep it moist and replace it immediately after construction is completed. At his option, the Contractor may elect to resod the area in kind instead of storing and maintaining the original sod.

For desert landscaped areas, the Contractor shall restore the decomposed granite and rock-covered areas using material to match the existing in type and quality.

All sprinkler systems disturbed during construction, shall be restored to an operational system covering the same area as before.

- D. Measurement for extending and/or replacing water services will be made to the nearest linear foot from the point of connection to the existing line or corporation stop, whichever is applicable, to the curb stop.

Payment for extending and/or replacing water services will be made at the unit price bid per linear foot under the proposal items "WATER SERVICE (3/4" AND 1")" and "WATER SERVICE (1-1/2" AND 2")."

- E. Measurement for water meter relocation will be made per each water meter regardless of size up to and including two-inch.

Payment for water meter relocation will be made at the unit price bid per each under the proposal item "RELOCATE WATER METER" which shall include all sizes encountered on the project up to and including two-inch.

.28 TRAFFIC SIGNAL LOOP DETECTORS - CONTINGENT ITEM

1. Inductive Loop Installation

a. Materials

Loop lead-in shielded cable shall be Beldon 8720, Clifford of Vermont 16-2PE30ALM-1X-J30-19T (style 2106), or approved equal.

Loop conductors shall be #14 AWG stranded, XHHW single-conductor.

Slot sealant shall be 3M detector Loop Sealant.

Installation and Testing

Lead-in cables shall be installed continuous and unbroken as indicated on the conductor schedule and the approved project plans, from the designated junction box into the controller cabinet. A minimum of five (5) feet of slack shall be provided in the controller cabinet and a minimum of three (3) feet of slack shall be provided in each junction box.

Slots shall be saw cut into the pavement in the manner depicted on the Quadropole Loop Configuration Detail and positioned in

accordance with the approved project plans. Slots shall be one-fourth (1/4)-inch wide and deep enough to provide a minimum of two-inches of sealant coverage. Slots shall be blown out and dried before installing loop conductors.

Loop conductors shall be installed and tested ONLY in the presence of an authorized representative of the City of Phoenix Electrical Facilities Section. Conductors installed without said representative in attendance, for any reason, shall be removed from the pavement and new conductors installed, all at the developer's expense. Each loop slot shall have the number of conductors laid in the directions indicated on the loop configuration detail. The beginning conductor shall be banded in the junction box with the symbol "S" and a minimum of three (3) feet of slack for each conductor shall be provided in each junction box.

Loop installations shall be made permanent (sealed) ONLY after successful testing. The loop conductors shall be temporarily spliced to the lead-in cables, as directed by the City representative, and each loop circuit shall then be tested at the controller cabinet.

1. Megger: A 600-volt megger test shall measure not less than ten (10) megohms resistance to ground.
2. Continuity: Loop circuit resistance shall not exceed two (2) ohms.

After successful testing, the loop conductor/lead-in cable splices shall be made permanent and the loop slots sealed. Conductor/lead-in splices shall be secured with wire nuts and then injected with a clear silicon sealant. Sealant shall be injected into all slots and, before setting, surplus sealant shall be struck off flush with and removed from the roadway surface.

The developer shall warrant both materials and installation of all loop conductors and lead-ins for a period of twelve (12) months following date of initial installation.

.29 TREE GRATES

1. General: Tree grates and frame shall be of cast iron as shown in the detail included in the plans or may be substituted with an approved equal. See plan detail for size and configuration.
2. Material: Gray iron castings shall conform to ASTM A-48-76, Class 30 or better.
3. Material: All castings shall be manufactured true to pattern; component parts shall fit together in a satisfactory manner. They shall be of uniform

quality; free from blowholes, porosity, hard spots, shrinkage, distortion or other defects. They shall be smooth and well cleaned.

4. Finish: Frames are to be painted with primer prior to installation. Grate is to retain a natural finish.

5. Submittals: Manufacturer's shop drawings shall be submitted to the Engineer for approval prior to manufacture. The Engineer shall retain the right to reject castings not conforming to this specification and/or approved submittal drawings.

The Contractor shall install the tree grates according to manufacturer's specifications, plan details and the following procedures:

1. One piece iron frame sections shall be set into the concrete surround (See detail). The frames must be set level and the seat for the grate must be in a true, flat plane to prevent the grate from rocking once it is positioned. Frame is to be set so that grate will sit flush with adjacent concrete surround and sidewalk. Maximum tolerance of grate set to adjacent concrete is to be 1/16".

2. The grate or a template must be installed in the frame when the concrete surround is poured. Care must be taken to prevent concrete from adhering to the surface or the grate during the pour. The seat for the grate shall be cleaned prior to setting the grate.

3. Grate halves shall be bolted together on the under side of the grate. Clean any foreign matter from grates prior to setting.

4. Contractor shall repair any damage to paint that may occur during transporting or installation. Paint shall match manufacture applied paint exactly.

5. Security Bolting: Tree grates shall be bolted or screwed together, and securely to the frame. Drilling and tapping by the manufacturer. For flush fastening use properly sized Blue Devil tamperproof socket screw as manufactured by Safety Socket Screw Corporation, Chicago, Illinois, or approved equal.

.30 PLANT ESTABLISHMENT GUARANTEE AND MAINTENANCE

The Contractor shall insure that all plant materials remain in a sound, healthy, vigorous condition free from insects, bark abrasions, or other objectionable disfigurements and shall immediately replace any plant which is unacceptable at any time up to and including final acceptance of the project or completion of the plant establishment period, whichever occurs later.

Unless otherwise authorized by the Engineer, the Contractor shall maintain all landscaped areas on a continuous basis as they are completed during the course of work and until the final Plant Establishment Guarantee and Maintenance acceptance. Maintenance shall include keeping the landscaped areas free of debris on a weekly basis, chemical control of weeds and fertilization as needed, and cultivating the planted areas. The Contractor shall maintain the irrigation system and make any necessary repairs regardless of cause to assure a complete

operational system as originally designed and constructed. Chemical mixing and method of application for weed control shall be done in the presence of the Engineer.

The Contractor shall provide adequate personnel to accomplish the required maintenance. Pruning and restaking is to include removal of any growth conflicting with vehicular traffic or pedestrian movement.

The Contractor shall request an inspection by the Engineer whenever completion of the planting and related work has been accomplished. After this initial inspection, and subject to his approval of the work, the Engineer will issue a written field notification to the Contractor setting the effective beginning date for Plant Establishment Guarantee and Maintenance Period which will last for 120 days. Inspections shall occur monthly, the date being the same as the effective beginning date for the Plant Establishment Guarantee and Maintenance Period. The 120 day Plant Establishment Guarantee and Maintenance Period is subject to extension by the Engineer if the landscape areas are improperly maintained, if appreciable plant replacement is required or other corrective work becomes necessary.

At the end of the Plant Establishment Guarantee and Maintenance Period a final acceptance inspection of the planted areas will be made by the Engineer. Any plants which need to be replaced, regardless of the cause, shall be replaced prior to final acceptance. Payment for Plant Establishment Guarantee and Maintenance Period shall be 4 equal pro-rated payments for the item Plant Establishment and Maintenance Period based on monthly inspections subject to extensions where the Contractor fails to comply with previously stated requirements. Payments may or may not be supplemental to final project payment.

.31 DECORATIVE PAVEMENT, CONCRETE PAVING STONES

The concrete paving stones shall have a tested compressive strength of 6,500 psi. The Contractor shall submit a sample of the paver proposed to be used on the job to the City of Phoenix Landscape Architect.

The Contractor shall lay a sample of each pattern and color combination as indicated on project plans to be approved by the City of Phoenix Landscape Architect.

.32 CONCRETE BROOM FINISHES

The Contractor shall provide a 5'x10' section of the broom finish for approval by the City of Phoenix Landscape Architect. No further concrete work shall be done until sample work is approved. The broom finished treatment shall be applied to the top slab of catch basins and to concrete that is constructed as a part of the decorative pavement. There will be no separate payment for broom finished concrete. It shall be measured and paid for as "CONCRETE SIDEWALK, STANDARD DETAIL P-1230".

.33 CONTRACT ALLOWANCE ITEM

Contract allowance items are provided for the purpose of encumbering funds to cover the costs of possible change order work. The amount of the allowance item is determined by the Engineer and is not subject to individual bid pricing. All

bidders shall incorporate the amount pre-entered in the bid proposal and shall reflect the same in the total amount bid for this project.

This allowance item provides an estimated funding to cover unforeseen changes that may be encountered and corresponding extra work needed to complete the contract per plan. Unforeseen extra work, if any, shall be as approved by the Engineer; for example, extension of unit bid prices, negotiated price or time and material, in accordance with MAG Specification Section 109.4 and 109.5.

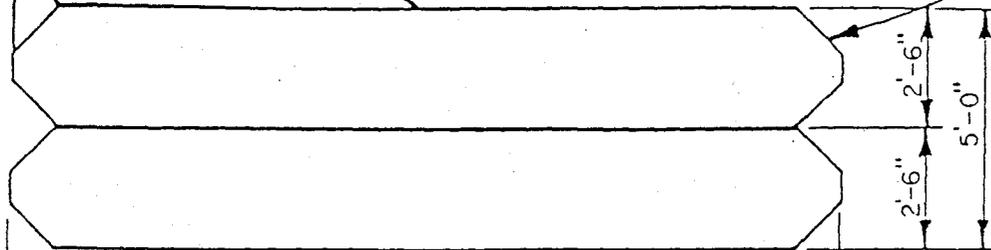
It shall be understood that this allowance item is an estimate only and is based on change order history of similar projects. It shall not be utilized without an approved contract change order. It is further understood that authorized extra work, if any, may be less than the allowance item.

JUNCTION BOX

1" PVC

SAW CUTS

CORNER CUT 12" x 12"
TRIANGLE, (45°) TYP.



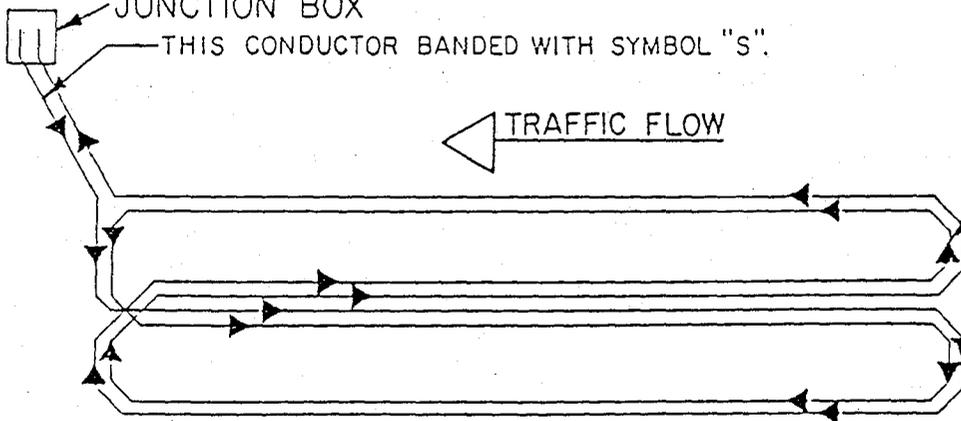
LENGTH
(AS REQUIRED)

SAW CUT DETAIL

JUNCTION BOX

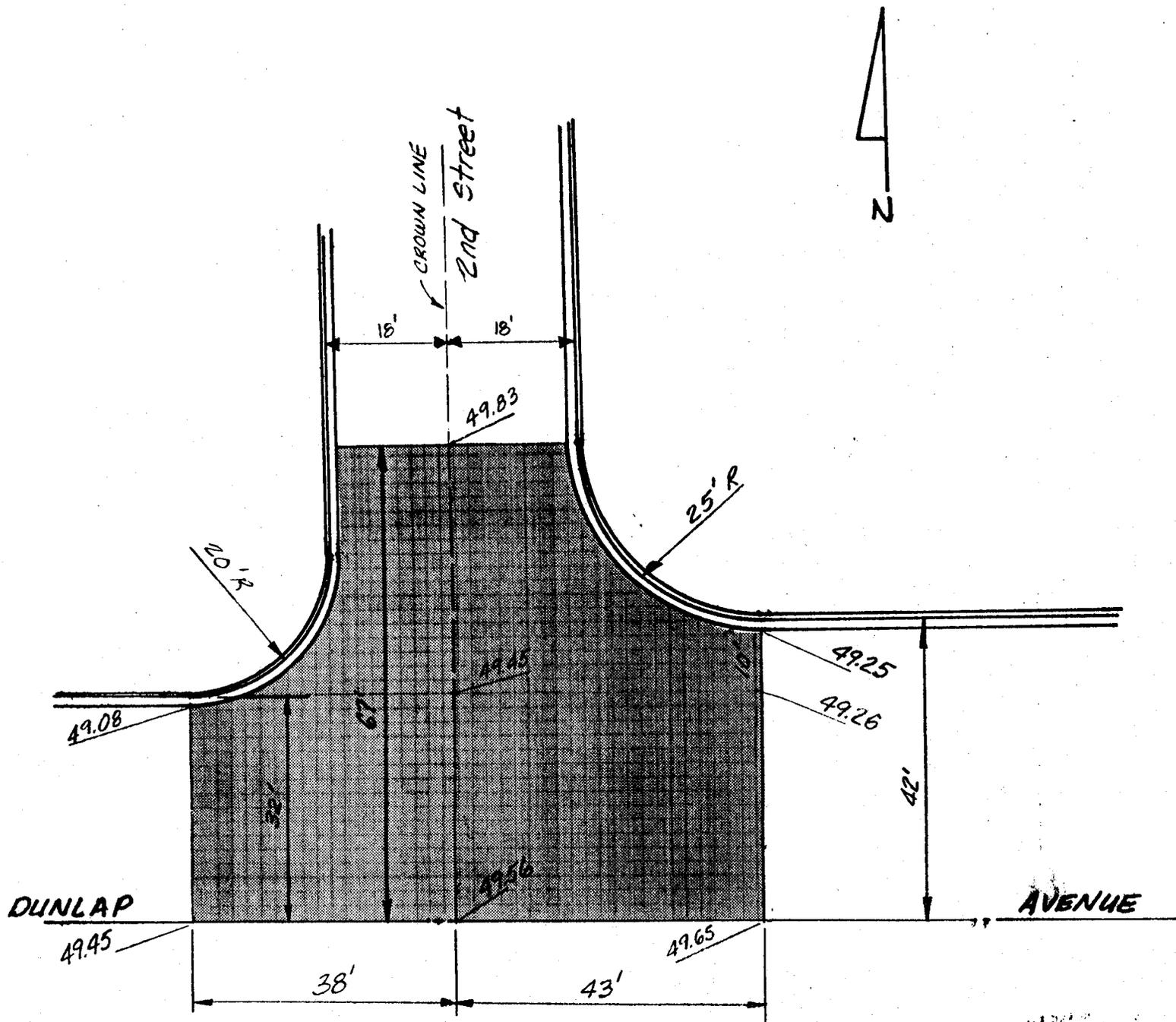
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TRAFFIC FLOW

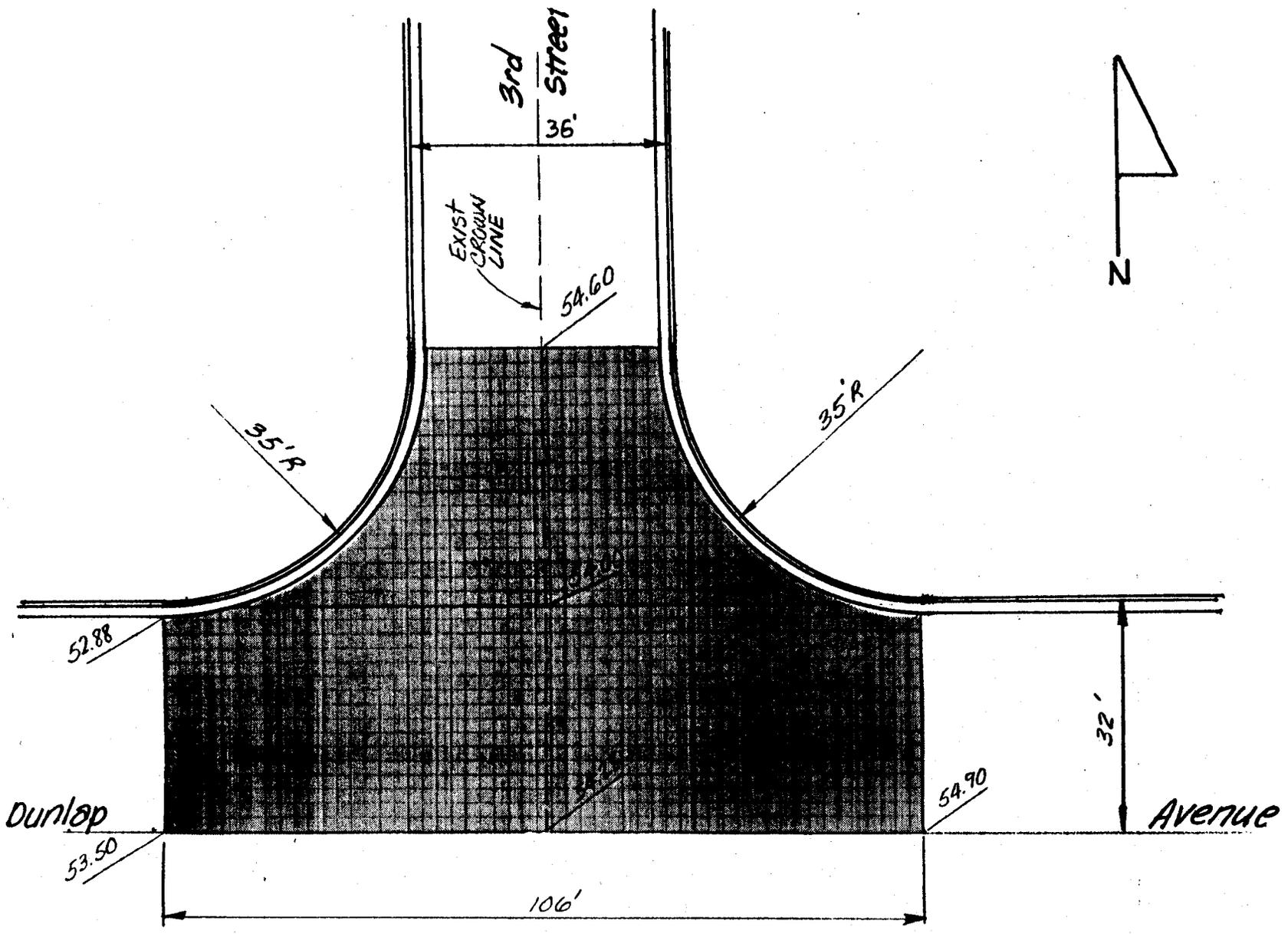


CONDUCTOR PLACEMENT DETAIL

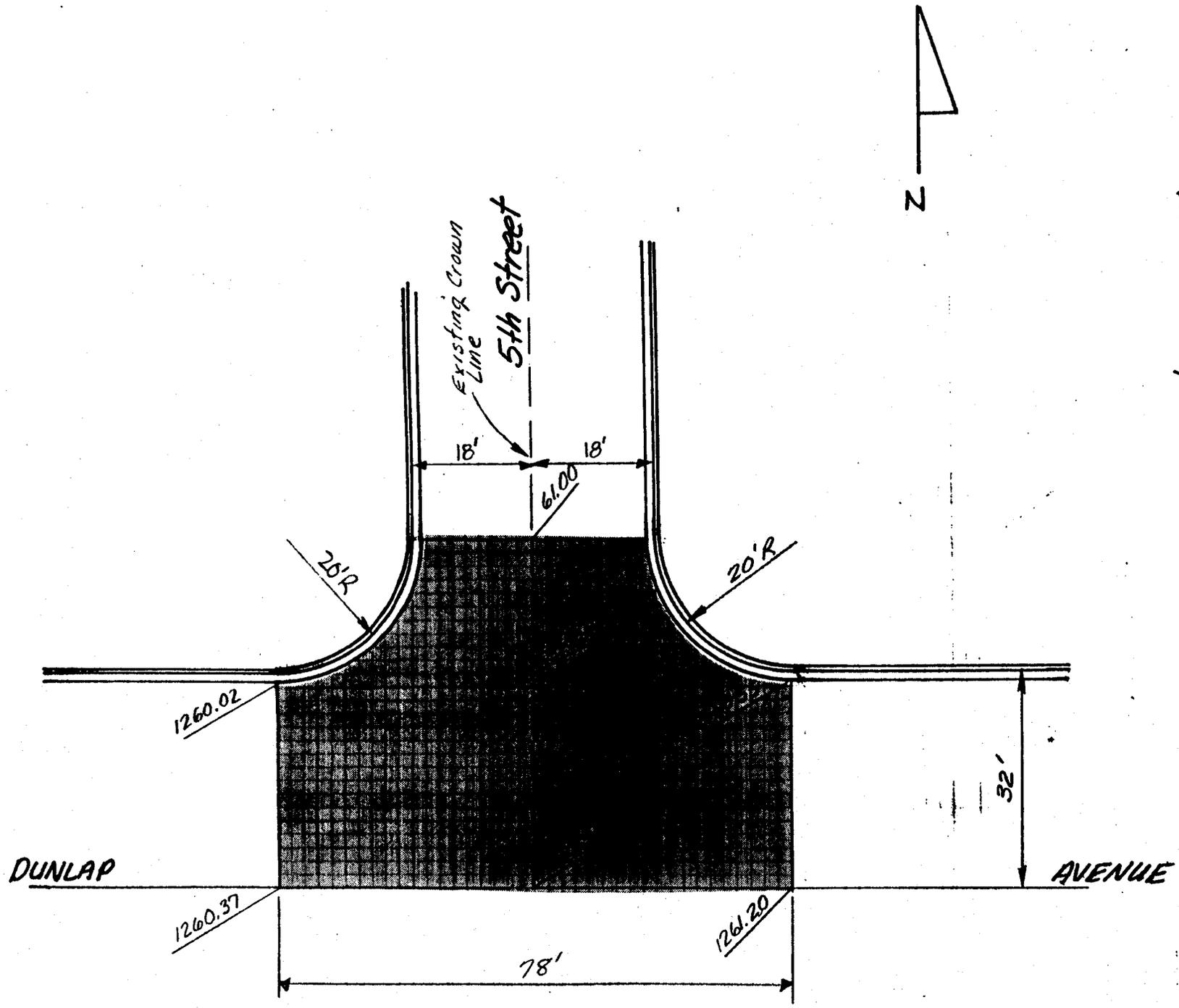
QUADRUPOLE LOOP CONFIGURATION
DETAILS



DUNLAP AVENUE & 2nd Street
Overlay



DUNLAP AVENUE & 3rd Street
 Overlay



DUNLAP AVENUE & 5th STREET
 OVERLAY

BOND ISSUE OR BUDGET PROJECT
CITY OF PHOENIX, ARIZONA
ENGINEERING DEPARTMENT

PROPOSAL to the City Engineer of the City of Phoenix.

In compliance with the Advertisement for Bids, by the City Engineer, 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 on the inside pages of this form.

Understands that construction of this project shall be in accordance with all applicable Maricopa Association of Governments' (MAG) Uniform Standard Specifications and Uniform Standard Details, latest revision, and the City of Phoenix Supplements, latest revision to the MAG Uniform Standard Specifications and Details, except as otherwise required by the project plans and specifications.

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 5 percent of the amount bid.

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

Work shall be completed within 90 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 materials and/or equipment.

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

BID PROPOSAL

PAY ITEM NO.	DESCRIPTION	APPROX. QUANTITY & UNIT		
			UNIT PRICE	AMOUNT
<u>ST-813873</u>				
1.	84-Inch R.C.P. or 90-Inch C.S.P. or 90-Inch C.I.P.P. Storm Sewer Pipe	175 L.F.		
2.	78-Inch R.C.P. or 84-Inch C.S.P. or 84-Inch C.I.P.P. Storm Sewer Pipe	1,235 L.F.		
3.	66-Inch R.C.P. or 72-Inch C.S.P. or 72-Inch C.I.P.P. Storm Sewer Pipe	1,557 L.F.		
4.	36-Inch R.C.P. or 42-Inch C.S.P. or 42-Inch C.I.P.P. Storm Sewer Pipe	245 L.F.		
5.	24-Inch R.C.P. Storm Sewer Pipe	79 L.F.		
6.	15-Inch Storm Sewer Connector Pipe	700 L.F.		
7.	Storm Sewer Manhole, Standard Detail P-1520 and 522	2 Ea.		
8.	Storm Sewer Manhole, Standard Detail P-1560 and 522	2 Ea.		
9.	Storm Sewer Manhole, Standard Detail 521 and 522	2 Ea.		
10.	Concrete Catch Basin, Type "M-1, L=6'", Detail P-1569	1 Ea.		

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BID PROPOSAL

PAY ITEM NO.	DESCRIPTION	APPROX. QUANTITY & UNIT		
			UNIT PRICE	AMOUNT
11	42-Inch R.C.P. or 48-Inch C.S.P. or 48-Inch C.I.P.P. Storm Sewer Pipe	65 L.F.		
12.	Concrete Catch Basin, Type "M-1, L=10'", Detail P-1569	3 Ea.		
13.	Concrete Catch Basin, Type "M-1, L=17'", Detail P-1569	13 Ea.		
14.	Concrete Catch Basin, Type "Q, Single", Detail P-1572	1 Ea.		
15.	Concrete Catch Basin, Type "Q, Triple", Detail P-1572	1 Ea.		
16.	84" x 84" x 36" Prefabricated 45° Wye	1 Ea.		
17.	78" x 78" x 24" Prefabricated 45° Wye	1 Ea.		
18.	66" x 66" x 42" Prefabricated 45° Wye	1 Ea.		
19.	84" x 84" x 15" Prefabricated Tee	1 Ea.		
20.	78" x 78" x 15" Prefabricated Tee	6 Ea.		

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BID PROPOSAL

PAY ITEM NO.	DESCRIPTION	APPROX. QUANTITY & UNIT		
			UNIT PRICE	AMOUNT
21.	66" x 66" x 15" Prefabricated Tee	10 Ea.		
21A.	36" x 36" x 15" Prefabricated Tee	1 Ea.		
22.	24" x 24" x 15" Prefabricated Tee	1 Ea.		
23.	Permanent Pipe Support, Standard Detail 403	4 Ea.		
24.	Waterline Replacement, City of Phoenix Supplement to MAG, Section 601.2.10	5 Ea.		
25.	Watermain Realignment (4-Inch)	3 Ea.		
26.	66" Jacked or Tunneled Pipe	90 L.F.		
27.	Sawcut, Remove and Replace Concrete Curb and Gutter	266 L.F.		
28.	Sawcut, Remove and Replace Concrete Sidewalk	872 S.F.		
29.	Sawcut, Remove and Replace Concrete Driveway	280 S.F.		
30.	Combined Concrete Curb and Gutter, Standard Detail 220, Type "A"	9 L.F.		

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BID PROPOSAL

PAY ITEM NO.	DESCRIPTION	APPROX. QUANTITY & UNIT		
			UNIT PRICE	AMOUNT
31.	Concrete Sidewalk, Standard Detail P-1230	150 S.F.		
32.	Concrete Driveway Entrance, Detail P-1255	89 S.F.		
33.	Survey Marker, Standard Detail 120-1, Type "B"	1 Ea.		
34.	Sawcut, Remove and Replace A.C. Pavement, Type "A", Including A.B.C. and Subgrade Preparation (Central Avenue)	608 S.Y.		
35.	Permanent Pavement Replacement, Type "A"	3,115 S.Y.		
36.	Permanent Pavement Replacement, Type "B"	403 S.Y.		
37.	Public Information and Notification (Allowance)	1 Job	L.S.	10,000.00
38.	Uniformed, Off-Duty Police Officer	140 Hrs.	Contractor's Current Hourly Rate	
39.	Traffic Control Devices	1 Job		
40.	Traffic Signal Loop Detectors, Contingent Item	2 Ea.		
40A.	Miscellaneous Removal and Other Work	1 Job	L.S.	
40B.	Extra Work If Outfall is Ready, See Special Construction Requirement #6	1 Job	L.S.	

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BID PROPOSAL

PAY ITEM NO.	DESCRIPTION	APPROX. QUANTITY & UNIT		
			UNIT PRICE	AMOUNT
41.	Manhole Bulkheads, Detail Sheet 2	8 Ea.		
42.	Sawcut, Remove and Replace A.C. Pavement (Residential Streets), Including Necessary A.B.C. and Subgrade Preparation	270 S.Y.		
43.	Overlay, See Special Provisions	17,546 S.Y.		
44.	Adjust Existing Water Valve Covers and Manhole Frames	1 Job	L.S.	
44A.	Contract Allowance Item	Allowance	50,000.00	50,000.00
Sub-Total of Bid Items 1 through 44, Inclusive for ST-813873			\$	
<u>W-891440</u>				
45.	12-Inch Water Pipe and Fittings	1,288 L.F.		
46.	12-Inch D.I.P. With Restraint Joints	460 L.F.		
47.	8-Inch D.I.P. With Restraint Joints	72 L.F.		
48.	6-Inch D.I.P. With Restraint Joints	428 L.F.		
49.	3-Inch Water Pipe and Fittings	38 L.F.		
50.	2-Inch Water Pipe and Fittings	110 L.F.		

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BID PROPOSAL

PAY ITEM NO.	DESCRIPTION	APPROX. QUANTITY & UNIT	UNIT PRICE	
			UNIT PRICE	AMOUNT
51.	Valve Box and Cover, Type "A"	28 Ea.		
52.	6-Inch Tapping Sleeve and Valve	3 Ea.		
53.	Install Fire Hydrant, Furnished by City of Phoenix	4 Ea.		
54.	Water Service Pipe, 3/4-Inch	237 L.F.		
55.	Sawcut, Remove and Replace Concrete Curb and Gutter	16 L.F.		
56.	Sawcut, Remove and Replace Concrete Sidewalk	107 S.F.		
57.	Permanent Pavement Replacement, Type "A"	349 S.Y.		
58.	Permanent Pavement Replacement, Type "B"	230 S.Y.		
59.	Water Valve Manhole	2 Ea.		
60.	Uniformed, Off-Duty, Police Officer	40 Hrs.		

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BID PROPOSAL

PAY ITEM NO.	DESCRIPTION	APPROX. QUANTITY & UNIT		
			UNIT PRICE	AMOUNT
61.	Traffic Control Devices	1 Job	L.S.	
62.	Miscellaneous Removal and Other Work	1 Job	L.S.	
63.	12-Inch Valve	8 Ea.		
64.	8-Inch Valve	2 Ea.		
65.	6-Inch Valve	11 Ea.		
66.	3-Inch Valve	1 Ea.		
67.	2-Inch Valve	3 Ea.		
Sub-Total of Bid Items 45 through 67 Inclusive for W-891440			\$	
<u>P-793869</u>				
68.	Subgrade Preparation	2,890 S.Y.		
69.	Asphalt Concrete Surface Course (D-1/2)	310 Ton		
70.	Asphalt Concrete Base Course (A 1-1/2)	1,110 Ton		

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BID PROPOSAL

PAY ITEM NO.	DESCRIPTION	APPROX. QUANTITY & UNIT			
			UNIT PRICE	AMOUNT	
71.	Emulsified Asphalt for Tack coat, Type SS-1h	1.5 Ton			1 2 3 4 5
72.	Overlay (See Special Provisions)	1,428 S.Y.			6 7 8
73.	Combined Concrete Curb and Gutter, Standard Detail 220, Type "A", H=6"	570 L.F.			9 10 11
74.	Concrete Sidewalk, Standard Detail P-1230	330 S.F.			12 13 14
75.	Concrete Driveway Entrance, Detail P-1255	1,200 S.F.			15 16 17
76.	Concrete Median	20 S.F.			18 19 20
77.	Survey Marker, Standard Detail 120-1, Type "A"	1 Ea.			21 22 23
78.	Adjust Existing Type "A" Water Valve, Standard Detail 391-1	12 Ea.			24 25 26
79.	Adjust Existing Water Meter Box & Cover	2 Ea.			27 28 29
80.	Adjust Existing Manhole Frame & Cover, Standard Detail 422	3 Ea.			30 31 32
					33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

BID PROPOSAL

PAY ITEM NO.	DESCRIPTION	APPROX. QUANTITY & UNIT		
			UNIT PRICE	AMOUNT
91.	15-Inch Catch Basin Connector Pipe	98 L.F.		
92.	Type A Signal Pole Foundation	3 Ea.		
93.	Type M Signal Pole Foundation	3 Ea.		
94.	No. 3-1/2 Junction Box	4 Ea.		
95.	No. 5 Junction Box	3 Ea.		
96.	1-Inch P.V.C. for Traffic Signal	260 L.F.		
97.	2-Inch P.V.C. for Traffic Signal	145 L.F.		
98.	3-Inch P.V.C. for Traffic Signal	390 L.F.		
99.	Concrete Curb (MAG Standard Detail 222-B Modified 5" x 6" See Landscape Plans	200 L.F.		
100.	Bubbler and Riser Assembly	38 Ea.		

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BID PROPOSAL

PAY ITEM NO.	DESCRIPTION	APPROX. QUANTITY & UNIT		
			UNIT PRICE	AMOUNT
101	Electric Control Valve and Assembly (3/4")	2 Ea.		
102	Electric Controller and Assembly	1 Ea.		
103	Pressure Backflow Prevention Unit (3/4")	1 Ea.		
104	P.V.C. Irrigation Pipe (SDR 13.5)(1/2")	780 L.F.		
105	P.V.C. Irrigation Pipe (SDR 21)(3/4")	300 L.F.		
106	P.V.C. Irrigation Sleeve (Schedule 40)(2")	100 L.F.		
107	P.V.C. Irrigation Sleeve (Schedule 40)(3")	240 L.F.		
108	Tree Grates	6 Ea.		
109	Trees (24" Box)	9 Ea.		
110	Shrubs (1 Gallon)	29 Ea.		

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BID PROPOSAL

PAY ITEM NO.	DESCRIPTION	APPROX. QUANTITY & UNIT		
			UNIT PRICE	AMOUNT
111.	Decorative Pavement	3,000 S.F.		
112.	Decomposed Granite Type "A"	5 C.Y.		
Sub-Total of Bid Items 68 through 112 Inclusive for P-793869			\$	
TOTAL OF BID ITEMS 1 THROUGH 112 INCLUSIVE FOR ST-813873, W-891440 & P-793869			\$	

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BID PROPOSAL

PAY ITEM NO.	DESCRIPTION	APPROX. QUANTITY & UNIT		
			UNIT PRICE	AMOUNT
ST-813873				
	Half Width Pavement Replacement for Hatcher Road and Overlay the Remainder of Hatcher Road			
	ADD ALTERNATE #1 (Delete Items 35, 36, 43 and 44)			
1.	Half Width Permanent Pavement Replacement, 5-Inch A.C. Over 11-Inch A.B.C., Including A.B.C. Required for Type "B" Pavement Replacement	8,727 S.Y.		
2.	Subgrade Preparation	5,209 S.Y.		
3.	Overlay, See Special Provisions	8,818 S.Y.		
4.	Adjust Existing Water Valve Covers and Manhole Frames	1 Job	L.S.	
	ADD ALTERNATE #1 TOTAL		\$	

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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 _____.

Arizona License - Classification _____ No. _____

City of Phoenix Privilege License No. _____

FIRM _____

ADDRESS _____

CITY _____ STATE _____

ZIP CODE _____

* BY _____

Officer and Title

Date

Phone Number

ATTEST:

Officer and Title

Witness: If Bidder is an
Individual

* By signing this proposal, I certify that I have read and understand the prequalification requirements in the Information for Bidders (page I.B.-1) and the firm, for whom I am signing, has a current approved category as listed.

* See page I.B.-3 for section on Contractor's License.

S U R E T Y B O N D

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
City of Phoenix as Obligee, in the sum of five percent (5%) of the total
amount of the bid of Principal, submitted by him to the City of Phoenix 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, administrators, successors and assigns, jointly and severally,
firmly by these presents, and in conformance with A.R.S. #34-201.

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

NOW, THEREFORE, if the City of Phoenix shall accept the proposal of the
Principal and the Principal shall enter into a contract with the City of
Phoenix 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 Bonds and Certificates of Insurance, if the Principal
shall pay to the City of Phoenix the sum of money set forth above as
liquidated damages for failure of the Principal to enter into the contract,
then this obligation shall be null and void, otherwise to remain in full force
and effect.

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

Principal

Title

WITNESS:

Surety

Title

WITNESS:

AFFIDAVIT BY CONTRACTOR
CERTIFYING THAT THERE WAS
NO COLLUSION IN BIDDING
FOR CONTRACT

STATE OF ARIZONA)
 -)-ss
COUNTY OF MARICOPA)

(Name of Individual)

BEING DULY SWORN, DEPOSES AND SAYS:

That he is _____
(Title)

of _____
(Name of Business)

That Pursuant to Section 34-253 of the Arizona Revised Statutes, he certifies as follows:

That neither he nor anyone associated with the said _____

(Name of Business)

has directly, or indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this project.

(Name)

(Title)

(Name of Business)

Subscribed and sworn to before me this _____ day of _____ 19____.

My Commission Expires:

(Notary Public)

AN IMPORTANT FIRST STEP

FOR ALL CONSTRUCTION CONTRACTORS, AND THEIR SUB-CONTRACTORS

Prior to bidding on construction contracts in excess of \$10,000, all prime Contractors and their sub-contractors must submit three reports to the Equal Opportunity Department, 550 West Washington Street, Phoenix, Arizona 85003, telephone (602) 262-6790.

The reports are:

- An Affirmative Action Plan
- An Employers Information Report
- An Equal Employment Questionnaire

These forms are included in the specification book, pages AAR - 1 to AAR - 7. In addition, you may pick up the report forms at the above office or call and the reports forms will be mailed.

These reports are required by City Code Chapter 18-31.1, enacted by the City Council in the interest of equal employment opportunity City wide. To demonstrate that it provides equal opportunities to minorities and women, a firm should have an Affirmative Action Program. Such a program establishes positive procedures that will assist the firm achieve employment parity.

Your firm's Affirmative Action Program should be designed to achieve equal employment opportunity within your employee ranks which includes: Blacks, Hispanics, Asians, Native Americans and Women.

DON'T RISK THE LOSS OF A CONTRACT: FOR EVERYONE'S CONVENIENCE, SUBMIT YOUR REPORTS NOW TO THE EQUAL OPPORTUNITY DEPARTMENT.

If you have any questions, call (602) 262-6790.