



**PURCHASING ITEM  
FOR  
COUNCIL AGENDA  
Memo No. CA09-022**

**1. Agenda Item Number:** 24  
**2. Council Meeting Date:**  
August 28, 2008

**TO: MAYOR & COUNCIL**  
**THROUGH: CITY MANAGER**

**3. Date Prepared:** July 14, 2008  
**4. Requesting Department:** Municipal Utilities

**5. SUBJECT:** Award a project agreement for Water Mains on Hamilton Street (Frye Road to Galveston Street), Project No. WA0819-201, to Dibble and Associates Consulting Engineers, Inc., in an amount not to exceed \$131,010.

**6. RECOMMENDATION:** Staff recommends Council award a project agreement for Water Mains on Hamilton Street (Frye Road to Galveston Street), Project No. WA0819-201, to Dibble and Associates Consulting Engineers, Inc., in an amount not to exceed \$131,010.

**7. BACKGROUND/DISCUSSION:** This project is a continuation of Municipal Utilities Department's Main Replacement Program targeting aging water distribution pipe in the downtown area. The area chosen by staff for main replacement has experienced a high number of repairs, which resulted in interrupted water service, property damage, and numerous citizen complaints.

This project provides for the design of the replacement of approximately one mile of existing cast iron water lines, ranging from 6 inches to 10 inches in diameter, which were installed as long ago as 1954. The project location is Hamilton Street, from Galveston Street to Frye Road.

**8. EVALUATION PROCESS:** The consultant selection process was conducted in accordance with established City policies and procedures. On May 24, 2007, staff received statements of qualifications from seventeen firms to provide pipeline design services. The selection committee reviewed the qualifications and selected two firms for recommendation of contract award. The selection committee consisted of the following members:

- John Knudson, Senior Engineer, Municipal Utilities
- Tim Krawczyk, Engineer Assistant, Contract Administration
- Wendy Chambers, Utility Systems Manager, Municipal Utilities
- Ray Dubois, Water Distribution Superintendent, Municipal Utilities
- Greg Fischer, Resident

Council approved the selection of Dibble and Associates Consulting Engineers, Inc., on August 23, 2007.

**9. FINANCIAL IMPLICATIONS:**

Cost: \$131,010  
Savings: N/A  
Long Term Costs: N/A

**Fund Source:**

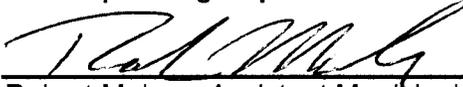
Acct. No.:	Fund Name:	Program Name:	CIP Funded:	Amount:
601.3820.0000.6714.9WA023	Water Bonds	Main Replacements	FY 08/09	\$131,010

**10. PROPOSED MOTION:** Move that Council award a project agreement for Water Mains on Hamilton Street (Frye Road to Galveston Street), Project No. WA0819-201, to Dibble and Associates Consulting Engineers, Inc., in an amount not to exceed \$131,010, and authorize the Mayor to sign the contract documents.

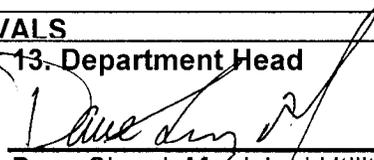
**ATTACHMENTS:** Location Map, Project Agreement

**APPROVALS**

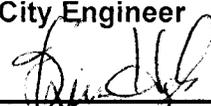
**11. Requesting Department**

  
Robert Mulvey, Assistant Municipal Utilities Director

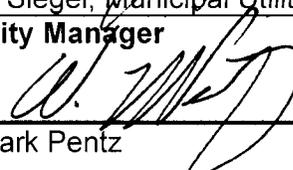
**13. Department Head**

  
Dave Siegel, Municipal Utilities Director

**12. City Engineer**

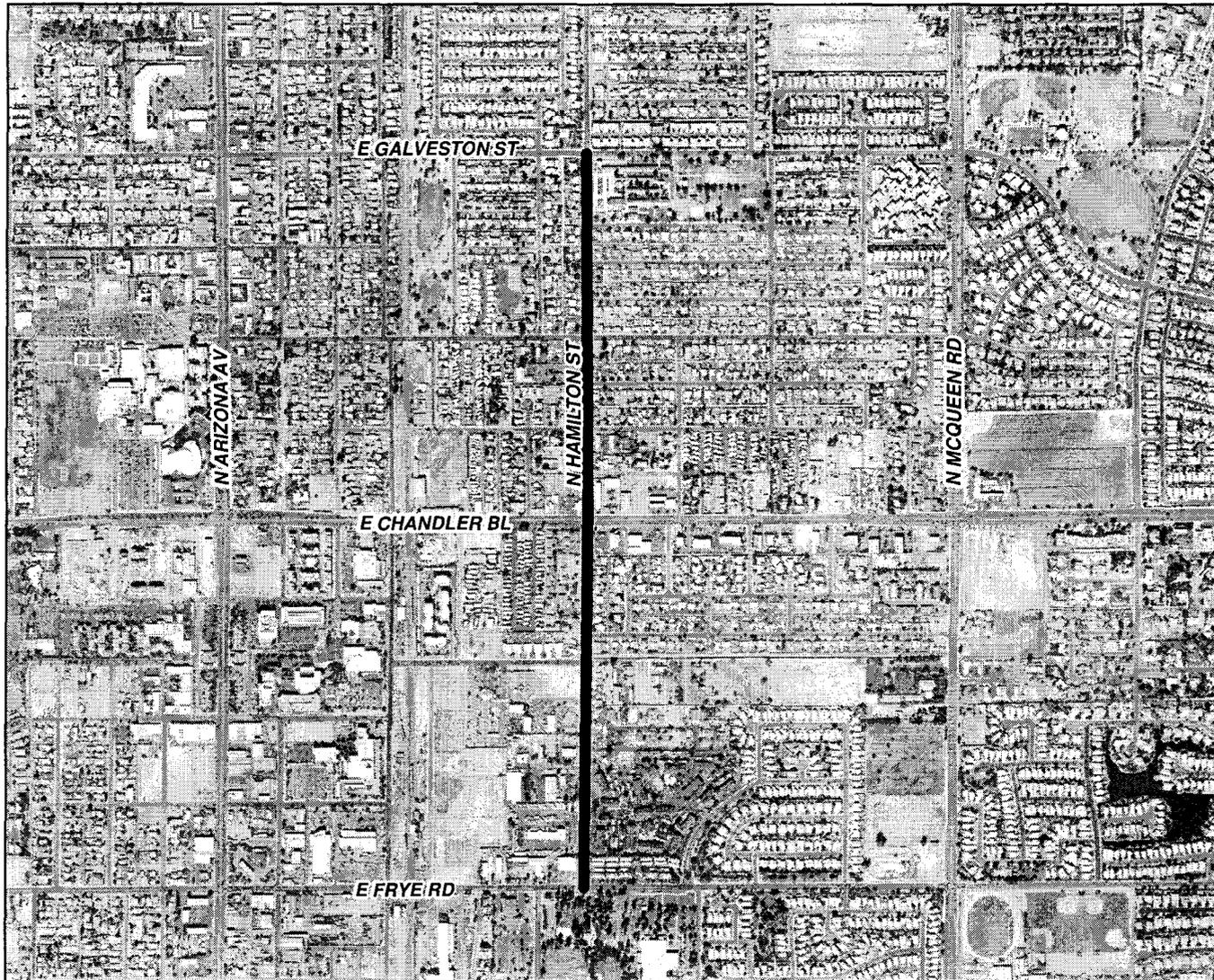
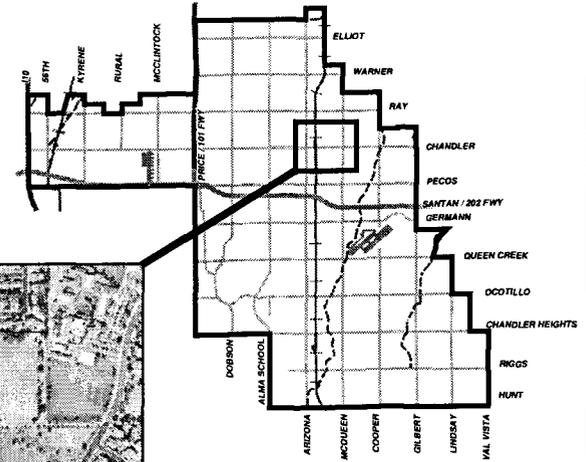
  
Sheina Hughes, Assistant Public Works Director/  
City Engineer

**14. City Manager**

  
W. Mark Pentz



# WATER MAINS ON HAMILTON STREET (FRYE TO GALVESTON) PROJECT NO. WA0819-201



**MEMO NO. CA09-022**

**PROJECT AREA**





## EXHIBIT A SCOPE OF WORK

ANNUAL CONSULTANT shall perform the following tasks:

### Task 1: Data Research/Collection

ANNUAL CONSULTANT will research and obtain all readily available record information pertinent to the design of the potable water mains. This may include the following: construction record drawings for improvements along the project corridor, construction plans for permitted improvements along the corridor, quarter section utility maps, reports, approved master plans, right-of-way, and property ownership documents (excluding obtaining title reports), and other readily available information. A site visit will be performed by ANNUAL CONSULTANT's Project Manager (and applicable design staff) to visually confirm information obtained during the Data Research/Collection and Scoping Task.

### Task 2: Field Survey

ANNUAL CONSULTANT will conduct detailed topographic and control surveys to collect information required for preparation of comprehensive survey control and project base mapping, including the following tasks:

1. Sectional Control Survey– ANNUAL CONSULTANT will provide horizontal location and verification of the controlling corners for Sections 27 and 34 in Township 1 South, Range 5 East, as necessary to establish horizontal control and centerline Hamilton Street and Hamilton Place. Coordinates will be based on Arizona State Plane – GRID and will be provided in a ground format. ANNUAL CONSULTANT will not reset or set any missing or obliterated sectional control, National Geodetic Survey (NGS) Monuments, or property corners.
2. Project Vertical Control Survey - ANNUAL CONSULTANT will provide field run bench level loops along the project route to establish uniform vertical control. Vertical datum will be based on the City of Chandler's vertical datum.
3. Topographic Survey - ANNUAL CONSULTANT will provide a ground based topographic survey utilizing Global Positioning System survey data collection procedures for existing improvements along the existing alignment of Hamilton Street (Right-of-Way to Right-of-Way) beginning at Frye Road and extending north to Galveston Street, including the subject intersections. In addition, topographic survey will be completed for Hamilton Place between Commonwealth Place and the northern cul-de-sac termination. The total linear distance of the mapping area is approximately 6,000 linear feet. A fifty-foot spacing grid surface will be provided to the design team in a three-dimensional format (Digital Terrain Model (DTM)) along with raw survey data points.
4. Utility Location – ANNUAL CONSULTANT will provide detailed locations of visible utilities along the existing alignment of Hamilton Street and Hamilton Place within the defined project limits. Visible utilities to include overhead power, and overhead communications, sanitary and storm manholes (rim and invert elevations), water valves (rim and nut elevations), water meter boxes, concrete irrigation structures (invert elevations), drainage pipes & structures (invert elevations), telephone and cable risers, electric boxes and any existing blue stake markings.

### Task 3: Base Mapping

ANNUAL CONSULTANT will create comprehensive base maps from the information gathered during the field survey and data research/collection. Utilities will be shown based on surface features surveyed as well as mapping information provided by each utility. Base mapping will be created in AutoDesk Civil 3D (AutoCAD) 2008 format in conformance with ANNUAL CONSULTANT's CAD standards.

### Task 4: Utility Coordination

Upon receipt of the notice to proceed, ANNUAL CONSULTANT will contact Blue Stake to obtain a list of the utilities having facilities in the project area and request record drawings from those utilities for inclusion on the

construction plans. ANNUAL CONSULTANT will investigate and confirm facility alignment conflicts associated with the project design, and assist those utilities in conflict with mitigation for clearance.

At the 60% and 90% milestone submittals, ANNUAL CONSULTANT will submit one set of plans to each utility along with a no conflict (clearance) letter. ANNUAL CONSULTANT will provide the City's Project Manager with a receipt indicating the utilities that were sent submittal sets of plans. Final construction documents should not be approved until no conflict (clearance) letters have been received from each utility. ANNUAL CONSULTANT will coordinate with utility companies to identify their future planned improvements prior to start of construction.

In conjunction with the 60% submittal, ANNUAL CONSULTANT will identify underground utilities to be potholed. The City's Project Manager shall review and approve list of utilities to be potholed prior to proceeding with utility investigation. ANNUAL CONSULTANT will contract with a pothole service to perform the on-site utility investigation. Results of potholes will be incorporated into the construction plans prior to the 90% submittal. Utility pothole location results will be sealed by a Professional Land Surveyor, and provided to the City and should be made available to the contractor. Potholing activities will be subject to traffic control and other regulations and applicable permitting requirements of the jurisdictional authorities. Utility potholes will be repaired by backfilling with native material and installing cold patch. Utility potholing will be included in this contract as a direct expense Allowance Item billed based on the number of potholes performed. Twenty-five (25) potholes have been assumed for the basis of estimating the project fee. The City will be billed for the actual number of potholes excavated (not to exceed 25).

#### Task 5: Geotechnical Investigation

Geotechnical investigations will be performed by Ricker, Atkinson, McBee, Morman and Associates, Inc. (RAMM), acting as a sub-consultant to CONSULTANT, according to the following:

- Test borings will be performed to determine subsurface conditions and obtain representative samples for laboratory analyses. Five (5) test borings ten (10) feet in depth are proposed along the water line alignment at approximately ¼ mile intervals.

- Laboratory analyses of representative samples will include:

Moisture Content and Dry Density

Direct Shear

Swell

Minus 200 Sieve and Plasticity Index

Standard Proctor

pH/Minimum Resistivity

- The field and laboratory data will be used in engineering evaluation and analyses to formulate geotechnical recommendations.
- A geotechnical investigation report, sealed by a Registered Geotechnical Engineer, will be provided presenting the results of the field and laboratory testing, and recommendations for site grading and preparation procedures, thickness of replacement pavements, corrosion potential, cut slope configuration, and excavation conditions. One (1) copy will be provided to the City.

#### Task 6: Design Memorandum

Prior to initiating design, ANNUAL CONSULTANT will prepare a Design Memorandum for confirmation of design requests provided by the City. A draft memorandum will outline existing utility information and identify new pipeline alignment options for the City's review.

The memorandum will include the basis of design criteria for the potable water main, including design pressure, acceptable pipeline materials, fittings, valves, appurtenances, trench backfill and pavement restoration. The report will also address potential utility conflicts, impacts on traffic during construction, and potential construction impacts to adjacent properties.

Following submittal of the draft memorandum, ANNUAL CONSULTANT will meet with the City to discuss the potential pipe alignment and any comments the City may have. Following the meeting and incorporation of City comments, a final sealed memorandum outlining the desired alignment will be submitted.

#### Task 7: Construction Plans and Specifications

ANNUAL CONSULTANT will prepare construction plans, technical specifications, bid documents and opinions of probable construction costs for this project. The City will provide electronic (AutoCAD) formats for desired standard plan sheet format and drafting standards. The construction plans will include water main plan and profile view sheets (1" = 20' horizontal scale and 1" = 2' vertical scale) and detail sheets as necessary to provide a complete, clear and concise set of construction plans (see Estimated Plan Sheet Index below). The following progress submittals will be made:

- 60% (Preliminary Engineering) Submittal: ANNUAL CONSULTANT will prepare Preliminary Engineering (60% Design) plans incorporating the Design Memorandum design elements along with table of contents of Technical Specifications and an Engineer's Opinion of Probable Construction Costs. Construction plans will depict horizontal and vertical alignment of proposed pipelines along with valve locations and other pipeline appurtenances.
- 90% (Final Engineering) Submittal: ANNUAL CONSULTANT will prepare final (90% Design) plans incorporating the Preliminary Engineering (60% Design) elements along with an updated Engineer's Opinion of Probable Construction Costs. Drawings will show the final horizontal alignment, pipeline profile, isolation valves, stub-out locations, standard and special detail with cross references, and general and construction notes with cross-references. Final engineering submittal will be suitable for permitting. Technical specifications will be prepared for items not adequately addressed by the standard specifications referenced herein.
- 100% (Construction Document) Submittal: ANNUAL CONSULTANT will prepare final Construction Documents for the pipelines incorporating permit comment revisions, opinion of probable construction costs, Technical Specifications (hard copy and MS Word 2003 format), and AutoCAD 2007 files (on CD-ROM).

#### Estimated Plan Sheet Index

Sheet	No. of Sheets
Cover (Including Vicinity Map)	1
Legend and Notes	1
Survey Control	1
Water Main Plan and Profile (1" = 20')	13
Valve Replacement Diagrams (Plan View)	1
Design Details	2
TOTAL ESTIMATED SHEETS =	19

Following each submittal, CONSULTANT will review the City's comments and complete a comment resolution form. ANNUAL CONSULTANT will incorporate comments as directed unless otherwise directed by the City.

Technical Specifications will be prepared by ANNUAL CONSULTANT and delivered to the City for all items not adequately addressed by the standard specifications referenced above. The City will be responsible for preparing contract general conditions and other "front end" contract documents.

Opinions of probable construction costs will be prepared for each progress submittal using standard unit costs and item descriptions. Item descriptions will be summarized in the Technical Specifications.

#### Deliverables

- Draft Design Memorandum – Five (5) copies
- Final Design Memorandum – Five (5) copies, one (1) electronic copy (PDF format) on compact disc (CD-R).
- 60% submittal – Four (4) full-size (24" X 36" bond) plan sets, One (1) half-size (12" X 18" plain paper) plan set, One (1) copy of Engineer's opinion of probable construction costs, and One (1) copy of Technical Specifications Table of Contents.
- 90% submittal - 60% submittal redline comments and comment resolution form, Four (4) full-size (24" X 36" bond) plan sets, One (1) half-size (12" X 18" plain paper) plan set, Four (4) copies Engineer's Opinion of Probable Construction Costs, and four (4) copies draft Technical Specifications.
- 100% submittal - 90% submittal comments and comment resolution form, One (1) copy 3 mil, double matte mylars, full-size (24" X 36") professionally sealed, Four (4) full size (24" X 36" bond) plan sets. Four (4) copies final Technical Specifications professionally sealed. One (1) bound half-size plan set, and four (4) copies final Engineers opinion of probable construction costs along with one (1) copy of electronic files (on CD-ROM) of all construction bid documents.

#### Task 8: Project Management & Meetings

ANNUAL CONSULTANT's project manager and project engineer will attend project meetings noted in this Scope of Work and will prepare and distribute agenda and meeting minutes to all participants. After receipt of notice to proceed, ANNUAL CONSULTANT's project manager will contact the City's project manager to arrange a kick-off meeting to discuss project schedule, water system operation, and coordinate anticipated City participation efforts. Three (3) submittal review meetings will be held (Design Memorandum, 60% and 90%) design milestones.

ANNUAL CONSULTANT's project manager and project engineer will attend three (3) coordination and/or field visit meetings accompanied by City of Chandler staff familiar with water system operations to coordinate construction sequencing and proposed design features. The City's project manager will be responsible for inviting City staff as required.

ANNUAL CONSULTANT will be responsible for comprehensive project management which will include: plans, technical specifications, bid documents, opinion of probable construction costs, utility coordination, correspondence management, schedule maintenance, and meeting minutes.

#### Task 9: Water Service Relocation

As part of the design, an existing water distribution main installed within an easement between Hamilton Street and Hamilton Place will be abandoned, and a new water distribution main will be installed along Hamilton Place. The new water distribution main alignment will require relocation of existing residential water services along Hamilton Place.

ANNUAL CONSULTANT will perform a field visit with City staff to meet with each affected homeowner along Hamilton Place (five (5) affected residences) to determine the new water meter locations. ANNUAL CONSULTANT will prepare a sketch showing the existing and proposed water meter location for each residence, with City staff and property owner with a signature line for each acknowledging and accepting new water meter and service location.

#### Task 10: Permitting

ANNUAL CONSULTANT will prepare application and submittal packages for the following permitting agencies:

- Maricopa County Environmental Services Department (MCESD): Approval to Construct (expedited review & fee)
- City of Chandler Development Services / Engineering Permit Review
- Maricopa County Air Quality Division – National Emission Standards for Hazardous Air Pollutants (NESHAP) Notification for Renovation and Demolition Activities

ANNUAL CONSULTANT will coordinate submittal of plans to the City Development Services / Engineering department for review with the City’s project manager. It is assumed that City review fees will be waived.

ANNUAL CONSULTANT will submit the required NESHAP notification form, plan review fee and plans to the Maricopa County Air Quality Division (MCAQD) for review. The Contractor will be required to update the notification form and file it with the MCAQD prior to the start of construction and will be responsible for compliance with notification, handling and disposal regulations.

ANNUAL CONSULTANT will incorporate all review comments unless otherwise directed by the City’s Project Manager.

#### Task 11: Bidding Phase Services

It is the ANNUAL CONSULTANT’s our understanding that this project will be constructed under a design-bid-build procurement process, with the project advertised for public bidding. The City will be responsible for preparing contract bidding documents, advertising for public bidding, plan reproduction for bidding, distribution of contract documents to potential bidders, distributing addenda to plan holders, and opening bids.

ANNUAL CONSULTANT shall provide the following bidding phase services:

- Attend the pre-bid meeting.
- Respond to contractor’s questions as necessary.
- Prepare addenda as necessary to clarify construction contract documents.
- Prepare a bid tab and recommendation of award following the bid opening.

#### Design Standards

This project will be designed in accordance with the following standards, listed in order of precedence:

- Arizona Department of Environmental Quality, Engineering Bulletin No. 10, Guidelines for Construction of Water Systems, May 1978
- City of Chandler, WATER SYSTEM DESIGN - Technical Design Manual #1, January 2002
- Maricopa Association of Governments, Uniform Standard Specifications for Public Works Construction, Revisions through 2008.

Maricopa Association of Governments, Uniform Standard Details for Public Works Construction, Revisions through 2008.

#### Estimated Design Schedule

The following schedule estimates project milestone submittal timeframes relative to the Notice to Proceed. Submittal schedule is contingent upon an anticipated two (2) week review time by the City. A final schedule will be provided for review and approval at the project kickoff meeting. Anticipated Notice to Proceed (NTP) is July 1, 2008 based on Council Approval June 26, 2008.

Draft Memorandum Submittal:	NTP + 4 weeks	Estimated July 29, 2008
Final Memorandum Submittal:	NTP + 8 weeks	Estimated August 26, 2008
60% Plan Submittal:	NTP + 8 weeks	Estimated August 26, 2008
Chandler Engineering Review (2 wks)	NTP + 10 weeks	Estimated September 9, 2008
90% Plan Submittal:	NTP + 13 weeks	Estimated September 30, 2008
Chandler Engineering Approval (2 wks)	NTP + 15 weeks	Estimated October 14, 2008
Bid Document Submittal:	NTP + 17 weeks	Estimated October 28, 2008

## Allowances

The following ALLOWANCE items are added to the list of billable tasks above:

- Utility Potholing: Utility pothole investigations will be completed in accordance with Scope of Work Task 4. Utility potholes will be reimbursed as a allowance on a per-hole basis.
- Public Meetings: If requested by the City, CONSULTANT will attend one (1) public meeting. CONSULTANT will prepare presentation boards depicting project alignment and will be available to answer questions from the public.
- Legal Descriptions and Exhibits: It is anticipated that new waterlines will be constructed within existing rights-of-way and/or easements. Should additional right-of-way or easements be required, CONSULTANT will prepare legal descriptions and exhibits. Legal descriptions and exhibits will be billed as an allowance item at a designated cost per legal description.
- Commonwealth Avenue Waterline Design: CONSULTANT will prepare design drawings for new water distribution mains along Commonwealth Avenue between Hamilton Street and the eastern termination of the existing water main. In addition, plans for removal of the existing asbestos cement pipe water distribution main will be prepared. These plans will be prepared for inclusion either in the current water main replacement project or in the Commonwealth Avenue roadway improvement project at the City's direction.
- Owner's Allowance: An allowance is provided for additional services requested by the City. This allowance will be utilized at the City's discretion and based on written direction from the City's Project Manager.

### **Direct Cost Reimbursement**

The following fees and costs are included as direct cost allowances in the Contract:

Maricopa County Environmental Services Department (MCESD), Permit to Construct plan review fee (expedited);

Maricopa County Air Quality Division, NESHAP Notification plan review fee;

Costs incurred for printing, document reproduction, plotting, mylars, and permit application fee.

Any additional work directed by the City not specifically included in this Scope of Work will require an amendment to the contract.

**EXHIBIT B  
FEE SCHEDULE**

<b>Design Phase Services</b>	<b>DIBBLE</b>	<b>SUB-CONSULTANT GEOTECHNIC AL RAMM, Inc.</b>		<b>Total Fee</b>
Data Research / Collection	\$ 1,370.00			\$ 1,370.00
Field Survey	\$ 18,055.00			\$ 18,055.00
Base Mapping	\$ 5,700.00			\$ 5,700.00
Utility Coordination	\$ 1,860.00			\$ 1,860.00
Geotechnical Investigation	\$ 750.00	\$ 4,700.00		\$ 5,450.00
Design Memorandum	\$ 6,680.00			\$ 6,680.00
Construction Plans & Specifications	\$ -			\$ -
Preliminary Plans (60%)	\$ 16,620.00			\$ 16,620.00
Final Plans and Specifications (90%)	\$ 10,980.00			\$ 10,980.00
Bid Documents (100%)	\$ 8,800.00			\$ 8,800.00
Project Management & Meetings (6)	\$ 8,500.00			\$ 8,500.00
Water Service Relocation	\$ 3,780.00			\$ 3,780.00
Permitting	\$ 1,990.00			\$ 1,990.00
Bidding Phase Services	\$ 2,450.00			\$ 2,450.00
	<b>\$ 87,535.00</b>	<b>\$ 4,700.00</b>	<b>\$ -</b>	<b>\$ 92,235.00</b>

<b>DIRECT COSTS</b>				
	<b>Unit</b>	<b>Cost/Unit</b>	<b>No. of Units</b>	<b>Total</b>
MCESD Permit Fees (Expedited)	Each	\$ 1,200.00	1	\$ 1,200.00
Maricopa County Air Quality Division (NESHAP Notification Review)	Each	\$ 425.00	1	\$ 425.00
Reproduction/Plotting/Mylars	Set	\$ 100.00	15	\$ 1,500.00
<b>Subtotal, Direct Costs</b>				<b>\$ 3,125.00</b>

<b>ALLOWANCE ITEMS</b>	<b>Unit</b>	<b>Cost/Unit</b>	<b>No. of Units</b>	<b>Total</b>
ALLOWANCE: Utility Potholes	Each	\$ 650.00	25	\$ 16,250.00
ALLOWANCE: Public Meeting	Each	\$ 2,500.00	1	\$ 2,500.00
ALLOWANCE: Legal Descriptions and Exhibits	Each	\$ 1,100.00	4	\$ 4,400.00
ALLOWANCE: Commonwealth Avenue Waterline Design	Lump Sum	\$ 7,500.00	1	\$ 7,500.00
ALLOWANCE: Owner's Allowance	Lump Sum	\$ 5,000.00	1	\$ 5,000.00
<b>Subtotal, Direct Costs</b>				<b>\$ 35,650.00</b>

**Summary of Fee**

Design Phase Labor = \$ 92,235.00

Direct Costs = \$ 3,125.00

Allowances = \$ 35,650.00

**Total Contract Amount = \$ 131,010.00**