



**PURCHASING ITEM  
FOR  
COUNCIL AGENDA  
Memo No. CA11-172**

**1. Agenda Item Number:** 21  
**2. Council Meeting Date:** June 23, 2011

**TO: MAYOR & COUNCIL**

**3. Date Prepared:** June 7, 2011

**THROUGH: CITY MANAGER**

**4. Requesting Department:** Municipal Utilities

**5. SUBJECT:** Award a project agreement to Wilson Engineers for design of a wastewater lift station and junction structure, Project No. WW1104-201, in an amount not to exceed \$854,200.

**6. RECOMMENDATION:** Staff recommends Council award a project agreement to Wilson Engineers for design of a wastewater lift station and junction structure, Project No. WW1104-201, in an amount not to exceed \$854,200.

**7. BACKGROUND/DISCUSSION:** Staff identified the need for a lift station and sewer force main to transfer increasing volumes of wastewater flows from the Ocotillo Water Reclamation Facility (OWRF) to the Airport Water Reclamation Facility (AWRF) for treatment. The need for increased pumping capacity is the result of Intel's expansion on South Dobson Road. This new lift station will also add system redundancy to the City's smaller existing pump back and force main system. The lift station will be constructed using the Construction Manager @ Risk method and will be contracted separately.

Design and construction of the connecting force main will be completed under separate contracts.

**8. EVALUATION:** On May 26, 2011 Council approved annual contract EN1003-101 to Wilson Engineers for permitting, assessment, and design of water and wastewater facilities. Staff reviewed the scope of work, billing rates, and total fee for this project, compared them to historical costs, and determined they are reasonable.

**9. FINANCIAL IMPLICATIONS:**

Cost: \$854,200  
Savings: N/A  
Long Term Costs: N/A

**Fund Source:**

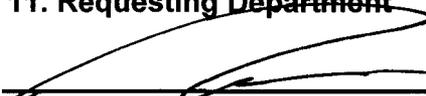
<u>Acct. No.:</u>	<u>Fund Name:</u>	<u>Program Name:</u>	<u>CIP Funded:</u>	<u>Amount:</u>
615.3910.0000.6814.12S022	Wastewater Operating	Water Reclamation Facility Expansion	FY 11/12	\$854,200

**10. PROPOSED MOTION:** Move Council award a project agreement to Wilson Engineers for design of a wastewater lift station and junction structure, Project No. WW1104-201, in an amount not to exceed \$854,200 and authorize the Mayor to sign the contract documents.

**ATTACHMENTS:** Project Agreement, Location Map

**APPROVALS**

**11. Requesting Department**

  
John Knudson, Senior Engineer

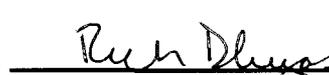
**13. Department Head**

 / EB  
Dave Siegel, Municipal Utilities Director

**12. City Engineer**

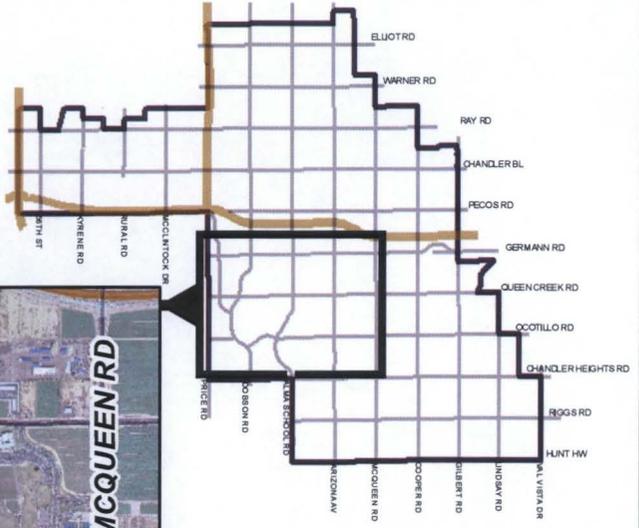
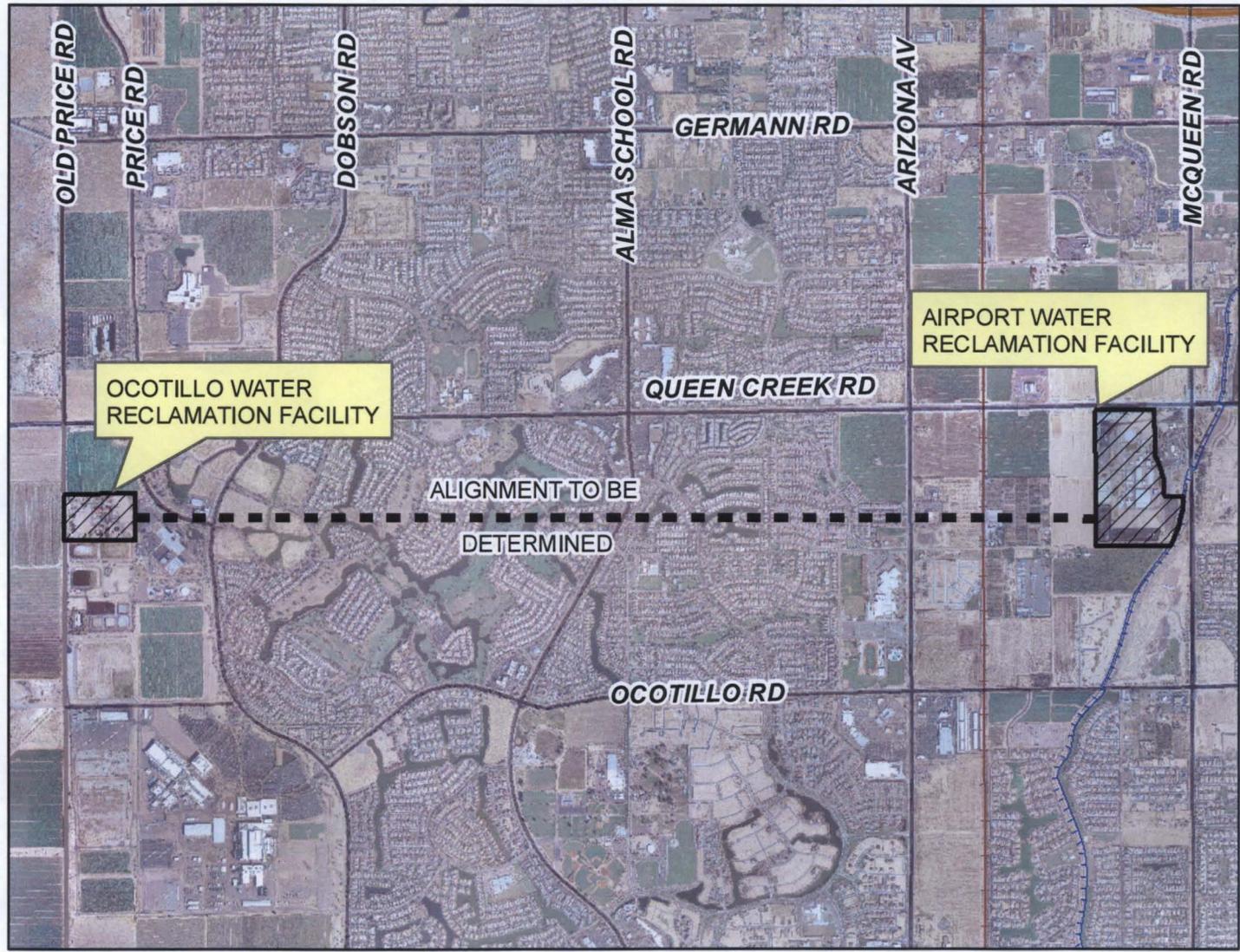
  
Sheina Hughes, City Engineer

**14. City Manager**

  
Rich Dlugas



# WASTEWATER LIFT STATION AND JUNCTION STRUCTURE PROJECT NO. WW1104-201



MEMO NO. CA11-172

 PROJECT AREA



**PROJECT AGREEMENT  
PURSUANT TO ANNUAL CONTRACT NO. EN1003-101**

**AGREEMENT NO: WW1104-201**

This AGREEMENT is made this \_\_\_\_\_ day of \_\_\_\_\_ 2011, by and between the City of Chandler, a municipal corporation (hereinafter referred to as "CITY") and Wilson Engineers, LLC, registered in the state of Arizona (hereinafter referred to as "Annual Consultant") and is a project agreement entered into pursuant to Annual Contract No. EN1003-101.

CITY and Wilson Engineers, LLC, in consideration of the mutual covenants herein set forth, agree as follows:

**ARTICLE 1. DESCRIPTION OF WORK**

This project is Ocotillo Water Reclamation Facility (OWRF)/Airport Water Reclamation Facility (AWRF) Lift Station Design, Project Number WW1104-201. The scope of work consists of engineering services related to a lift station at the Ocotillo Water Reclamation Facility and receiving structure at the Airport Water Reclamation Facility, all as more particularly set forth in Exhibit A attached hereto and incorporated herein by reference.

The Annual Consultant shall not accept any change of scope, or change in contract provisions, unless issued in writing, as a contract amendment and signed by the Contract Administrator.

**ARTICLE 2. CONTRACT PRICE**

CITY shall pay Annual Consultant for completion of the Work in accordance with the Contract Documents a fee not to exceed Eight Hundred Fifty Four Thousand Two Hundred Dollars (\$854,200) determined and payable as set forth in Annual Contract EN1003-101 and Exhibit B attached hereto and made a part hereof by reference.

**ARTICLE 3. CONTRACT TIME**

The contract time is one hundred eighty days and Annual Consultant agrees to complete all work within one hundred eighty (180) days of the date CITY issues a Notice to Proceed.

**ARTICLE 4. GENERAL**

This Project Agreement is entered into pursuant to Annual Contract No. EN1003-101 and the terms and conditions contained therein are incorporated herein by reference as if set forth in full.

**ARTICLE 5. ARIZONA PROCUREMENT LAW**

Compliance with A.R.S. § 41-4401. Pursuant to the provisions of A.R.S. § 41-4401, the Consultant hereby warrants to the City that the Consultant and each of its subcontractors ("Subconsultants") will comply with all Federal Immigration laws and regulations that relate to the immigration status of their employees and the requirement to use E-Verify set forth in A.R.S. §23-214(A) (hereinafter "Consultant Immigration Warranty").

A breach of the Consultant Immigration Warranty (Exhibit D) shall constitute a material breach of this Contract that is subject to penalties up to and including termination of the contract.

The City retains the legal right to inspect the papers of any Consultant or Subconsultant employee who works on this Contract to ensure that the Consultant or Subconsultant is complying with the Contractor Immigration Warranty. The Consultant agrees to assist the City in the conduct of any such inspections.

The City may, at its sole discretion, conduct random verifications of the employment records of the Consultant and any Subconsultant to ensure compliance with Contractors Immigration Warranty. The Consultant agrees to assist the City in performing any such random verifications.

The provisions of this Article must be included in any contract the Consultant enters into with any and all of its subcontractors who provide services under this Contract or any subcontract. "Services" are defined as furnishing labor, time or effort in the State of Arizona by a consultant or subconsultant. Services include construction or maintenance of any structure, building or transportation facility or improvement to real property.

In accordance with A.R.S. §35-393.06, the Consultant hereby certifies that the offeror does not have scrutinized business operations in Iran.

In accordance with A.R.S. §35-391.06, the Consultant hereby certifies that the offeror does not have scrutinized business operations in Sudan.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first written above.

This Agreement will be effective on this \_\_\_\_\_ day of \_\_\_\_\_, 2011.

CITY OF CHANDLER

FOR THE ANNUAL:

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

By: Steve Todd  
Title: PRINCIPAL

ADDRESS FOR NOTICE  
City of Chandler  
P.O. Box 4008, Mail Stop 407  
Chandler, AZ 85244-4008  
480-782-3307

ADDRESS FOR NOTICE  
Mr. Steve Todd  
Wilson Engineers  
9633 S. 48<sup>th</sup> St., Ste. 290  
Phoenix, AZ 85044-5658

APPROVED AS TO FORM:

Phone: 480-893-8860  
Fax: 480-893-8908

ATTEST: City Attorney By: [Signature]

\_\_\_\_\_  
City Clerk

## EXHIBIT A SCOPE OF WORK

The purpose of this project is to build a new 20 million gallon per day (MGD) sewage lift station within the Ocotillo WRF to provide redundancy to the City of Chandler wastewater collection and conveyance system, and also accommodate flows from a large industrial customer. The new lift station will convey flows from the existing 66-inch diameter sewer located on the Ocotillo WRF site, as well as from the new 42-inch gravity sewer line that is currently in design to receive flows from the industrial customer. The lift station wetwell structure, influent splitter structure, and supporting electrical equipment are planned to be located adjacent to an existing lift station within the Ocotillo WRF. The design will encompass a small section of the planned forcemain that will be located within the Ocotillo WRF. This lift station will deliver flows to the Airport WRF located at Queen Creek Road and McQueen Road Intersection. As part of this project, the design will encompass a receiving structure at the existing Airport WRF Headworks Building and a section of the forcemain between the Headworks Building and the property line to the south.

The Airport Lift Station Project Scope of Services will consist of design and preparation of contract documents for construction. No post design services are included at this time. It is anticipated that the project will be executed using a Construction Manager at Risk (CMAR) delivery method and coordination with the contractor is intended during the design. In addition, the project requires a new electrical service to be installed at the Ocotillo WRF. Coordination with the power company, Salt River Project (SRP), is needed throughout the design of the lift station to ensure power service is available towards the completion of the project.

An 18-month initial design and construction time frame is anticipated for completion of this project, and it is also anticipated that the project design and construction will be performed in several phases. A preliminary schedule is included as an attachment to this scope of services in Exhibit C. The following major facility components will be included in the design:

- A new wet well structure complete with submersible pumps, discharge valves, access hatches, overhead crane system (5 ton), and discharge manifold with a magnetic flowmeter.
- The new wet well structure will be equipped with an odor control system. It is anticipated that a Vapex Ion Fog type system is preferred, which will be mounted within a pre-fabricated environmentally controlled fiberglass enclosure.
- A new electrical service from SRP incorporated into a new service entrance section, automatic transfer switch, stand-by diesel generator, and motor control center. The electrical equipment will be located outside on a concrete pad with a shade canopy structure. The stand-by diesel generator will be located adjacent to the electrical equipment on a suitable concrete pad within a manufacturer provided weather proof enclosure. The stand-by diesel generator will include an integral fuel tank capable of 24-hours of runtime without refueling and a critically silenced exhaust system.
- A new diversion structure from the existing 66-inch diameter sewer line to the Airport Lift Station complete with isolation slide gates and an internal weir structure.
- A new mixing chamber upstream of the 66-inch diversion structure to provide adequate mixing between City's gravity sewer flows and flows from the industrial customer.
- A new receiving structure at the existing Airport WRF Headworks Building, which will accommodate the forcemain from the new lift station, as well as the discharge pipelines from the adjacent Influent Pump Station.
- Approximately 1,600 linear feet of 36-inch HDPE forcemain will be stubbed-out from the Ocotillo WRF and Airport WRF to the nearest street right-of-way. The closest right-of-way to the Ocotillo WRF is Price Road to the east and Airport WRF is Appleby Road to the south.
- The new lift station will incorporate instrumentation and controls for automatic operation from a programmable logic controller located within a RTU cabinet next to the lift station electrical equipment. The RTU cabinet will be environmentally controlled and be connected via SCADA radio to communicate to the Airport WRF. Incorporation of the lift station controls into the existing Foxboro distributed control system.

In addition to the major facility components, the following specific services are included in the Scope:

- **Geotechnical services.** A geotechnical investigation completed at the new lift station wet well and the receiving structure.
- **Computational fluid dynamic modeling.** The modeling to verify the mixing of flows from the City and industrial customer within the 66-inch sewer.
- **Topographical survey services.** Topographical surveying services for the portion of work within the Airport WRF. The surveying services completed for the 42-inch gravity sewer will be utilized for the lift station at the Ocotillo WRF.
- **Utility potholing.** It is anticipated that during the design some utilities will need to be located. This scope of services assumes 10 potholes will be needed.

The following specific services are not included in this Scope:

- **Landscaping and irrigation design services.** It is assumed that landscape design services will not be required for this project, therefore not included in the scope of services.
- **Construction phase engineering services.** It is assumed that a separate contract will be executed to define the Scope and Budget for any Engineering Services during Construction as desired by the City for this project.

ANNUAL CONSULTANT shall perform the engineering services under this Project as follows:

#### TASK 1.0 PRELIMINARY DESIGN

Subtask 1.1 Data Collection and Review. Collect and review background information including:

- The current As-Built information identifying existing piping, electrical, etc.
- Buried facility maps from other utilities in the project area.
- As-Built information from both the Airport WRF and Ocotillo WRF.

Subtask 1.2 Survey Services. Perform a field survey for the portion of work within the Airport WRF.

Subtask 1.3 SRP Coordination. This task will include contacting and coordination with Salt River Project to facilitate a new service entrance section for the Airport Lift Station at the Ocotillo WRF. As part of this task ANNUAL CONSULTANT shall provide the information sufficient for SRP to determine the correct size of the service entrance and transformers for the service entrance section. Review of the information provided by SRP will also be part of this task. This shall include a review of the SRP agreement and any fees associated with the new service entrance.

Subtask 1.4 Design Basis Report / 30% Design. Prepare a design report for submittal to the City. Based on the available data, site investigations, and the City's design standards, ANNUAL CONSULTANT shall prepare a design report for Airport Lift Station and other ancillary improvements. The report will include the following information:

- Design criteria and standards for pipelines, pumps, structures, and other critical items of equipment.
- Equipment preferences
- Operating and control strategies
- Preliminary P&ID's
- Estimated site power requirements
- Preliminary construction cost estimate
- Identification of any additional design issues and recommendations

ANNUAL CONSULTANT shall submit six (6) copies of the Design Basis Report for review. ANNUAL CONSULTANT shall conduct a review meeting to discuss comments on the Design Basis Report and prepare a final copy of the report to incorporate the comments received. ANNUAL CONSULTANT shall distribute six (6) copies of the Final Design Report.

#### TASK 2.0 CONTRACT DOCUMENT PREPARATION

Preparation of the contract documents will be provided under this task. The following subtasks have been estimated based on the anticipated drawing list.

Subtask 2.1 Preparation of 60% Plans. Prepare preliminary (60%) construction documents (plans only) for the site. The 60% plans shall include the following detailed design areas for the Airport Lift Station and other ancillary facilities:

- Civil: Site plan and piping locations.
- Mechanical: Submersible pumps, discharge piping, valves, and piping appurtenances.
- Electrical and Instrumentation: Preliminary Process & Instrumentation Diagrams.

ANNUAL CONSULTANT shall submit five (5) copies of the preliminary 60% plans for review to the City's Engineering and Operations Department. ANNUAL CONSULTANT shall conduct one review meeting to discuss any comments received from the City.

Subtask 2.2 Preparation of 90% Plans and Specifications (Agency Review Set). Prepare preliminary (90%) construction documents including plans and specifications. The plans shall incorporate the comments received on the 60% submittal. ANNUAL CONSULTANT submit six (6) copies of the 90% plans and specifications for review. ANNUAL CONSULTANT shall prepare an Engineer's Opinion of Probable Costs based upon the 90% plans and specifications. ANNUAL CONSULTANT shall conduct a review meeting with the City to review and discuss all comments received on the 90% Plans.

Subtask 2.3 Preparation of 100% Plans and Specifications. ANNUAL CONSULTANT shall prepare the final 100% plans and specifications incorporating City's and MCESD's comments. ANNUAL CONSULTANT shall prepare one (1) reproducible set of plans and specifications to produce the construction sets.

### TASK 3.0 PERMITTING SERVICES

Subtask 3.1 Maricopa County Environmental Service Departments. ANNUAL CONSULTANT shall submit one set of the agency review plans and specifications to the Maricopa County Environmental Services Department for an expedited review to obtain the Approval to Construct. ANNUAL CONSULTANT shall conduct one review meeting to discuss any comments received from the County.

Subtask 3.2 City of Chandler. ANNUAL CONSULTANT shall submit to and meet with the City of Chandler Development Services for their approval.

**\*\* Note:** The MCESD expedited review fee is included within this scope of services. The City permit fees are not included within this scope of services.

### TASK 4.0 BID SERVICES

ANNUAL CONSULTANT's effort to coordinate with the CM at Risk will consist of:

- Solicit CM at Risk input during design development as appropriate;
- Provide information for cost estimating;
- Provide input to construction management plan and schedule;
- Provide assistance with long-lead procurement activities;
- Evaluate alternative systems suggested by CM at Risk;
- Respond to constructability review comments;
- Attend subcontractor pre-selection meetings conduct by CM at Risk;
- Prepare addenda as required;
- Assist and review during GMP development;
- Perform GMP proposal review and prepare recommendation to City;
- Assist City with review of the subcontractor/supplier bid and selection process.

The City may request the CM at Risk to proceed with early construction of certain Project features before full Project design is complete and request a GMP for that portion of the work. ANNUAL CONSULTANT shall prepare the appropriate construction documents for such work.

**EXHIBIT B  
FEE SCHEDULE**

TASK No.	TASK DESCRIPTION	Engineers Staff Hours								TOTAL HOURS	Labor COST
		Principal E-7 \$ 195	Sr Proj Mgr E-6 \$ 180	Project Mgr E-5 \$ 150	Project Engr E-4 \$ 125	Design Engr E-3 \$ 105	Senior Design D-4 \$ 125	CADD Tech T-3 \$ 70	Clerical A-3 \$ 65		
<b>Task 1.0 - Preliminary Design</b>											
1.1	Data Collection and Review			4	8	8	8			28	\$3,440
1.2	Site Survey			4	8	8	0			20	\$2,440
1.3	SRP Coordination	8	40	16	16		80	24		184	\$24,840
1.4	Design Basis Report	16	24	40	80	120	40	120	80	520	\$54,640
<b>Subtotal - Design Development</b>		<b>24</b>	<b>64</b>	<b>64</b>	<b>112</b>	<b>136</b>	<b>128</b>	<b>144</b>	<b>80</b>	<b>752</b>	<b>\$85,360</b>
<b>Task 2.0 - Contract Document Preparation</b>											
2.1	60% Construction Documents	8	40	120	200	320	80	320	60	1148	\$121,660
2.2	90% Construction Documents	16	80	160	480	720	320	640	120	2536	\$269,720
2.3	Final Submittal	16	66	80	400	800	240	280	120	2002	\$218,400
<b>Subtotal - Final Design</b>		<b>40</b>	<b>186</b>	<b>360</b>	<b>1080</b>	<b>1840</b>	<b>640</b>	<b>1240</b>	<b>300</b>	<b>6686</b>	<b>\$609,780</b>
<b>Task 3.0 - Permitting Services</b>											
3.1	MCESD Approval to Construct	2		8	16	24	16			66	\$ 8,110
3.2	City of Chandler Permit	2		8	16	24	16			66	\$ 8,110
<b>Subtotal - Preliminary Design</b>		<b>4</b>	<b>0</b>	<b>16</b>	<b>32</b>	<b>48</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>132</b>	<b>\$16,220</b>
<b>Task 4.0 - CMAR Coordination</b>											
4.0	CMAR Coordination	16	24	80	120	80	16	40	40	416	\$50,240
<b>Subtotal - CMAR Coordination</b>		<b>16</b>	<b>24</b>	<b>80</b>	<b>120</b>	<b>80</b>	<b>16</b>	<b>40</b>	<b>40</b>	<b>416</b>	<b>\$50,240</b>
<b>Subtotal - Labor Summary</b>		<b>84</b>	<b>274</b>	<b>520</b>	<b>1344</b>	<b>2104</b>	<b>816</b>	<b>1424</b>	<b>420</b>	<b>6986</b>	<b>\$761,600</b>

**II. Other Direct Costs**

Task No.	Expense Description	Unit	Total Units	Cost / Unit	Total
1.2	Surveying Services (Allowance)	LS	1	\$10,000	\$10,000
1.3	Potholing Services (Allowance)	EA	10	\$ 600	\$6,000
2.0	Structural Engineering Services	LS	1	\$51,500	\$51,500
2.0	Geotechnical Services	LS	1	\$7,100	\$ 7,100
2.0	Fluid Dynamics Modeling	LS	1	\$15,000	\$15,000
3.1	Maricopa County Env. Service Fees	LS	1	\$ 3,000	\$ 3,000
<b>Subtotal - Other Direct Costs</b>					<b>\$ 92,600</b>

**III. TOTAL FEE PROPOSAL**

I	LABOR SUMMARY	\$ 761,600
II	OTHER DIRECT COSTS	\$ 92,600
III	<b>TOTAL FEE</b>	<b>\$ 854,200</b>

**EXHIBIT C  
SCHEDULE**

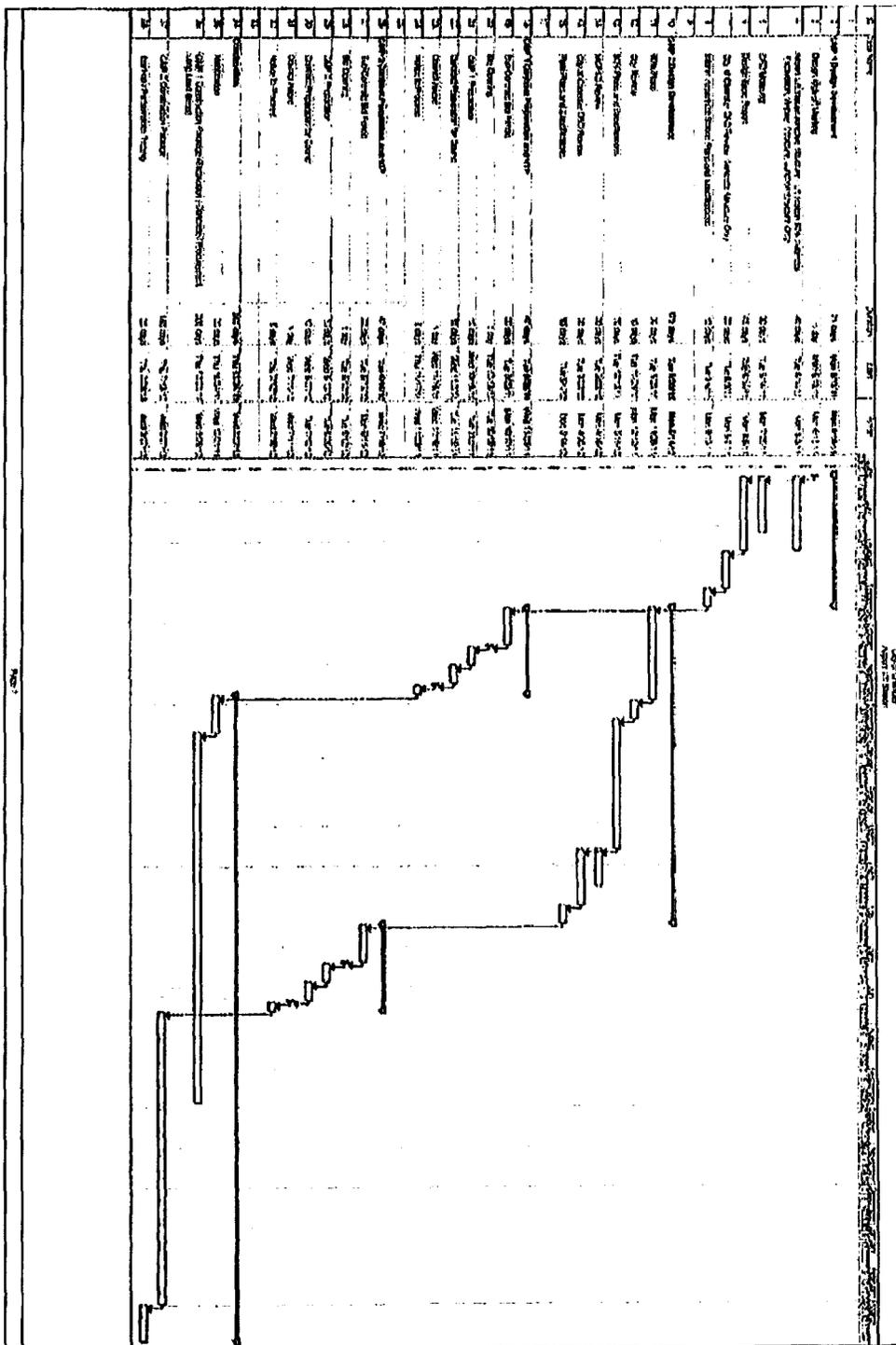


EXHIBIT D

**Contractor Immigration Warranty  
To Be Completed by Consultant Prior to Execution of Contract**

A.R.S. § 41-4401 requires as a condition of your contract verification of compliance by the consultant and subconsultants with the Federal Immigration and Nationality Act (FINA), all other Federal Immigration laws and regulations, and A.R.S. § 23-214 related to the immigration status of its employees.

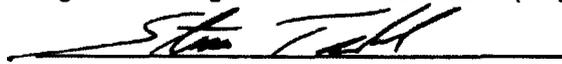
By completing and signing this form the Engineer/Annual Consultant shall attest that it and all subconsultants performing work under the cited contract meet all conditions contained herein.

Project Number: WW1104-201		
Name (as listed in the contract):		
Street Name and Number:		
City: Chandler	State: AZ	Zip Code:

I hereby attest that:

1. The Engineer/Annual Consultant complies with the Federal Immigration and Nationality Act (FINA), all other Federal Immigration laws and regulations, and A.R.S. § 23-214 related to the immigration status of those employees performing work under this contract;
2. All subconsultants performing work under this contract comply with the Federal Immigration and Nationality Act (FINA), all other Federal Immigration laws and regulations, and A.R.S. § 23-214 related to the immigration status of their employees; and
3. The Engineer/Annual Consultant has identified all consultant and subconsultant employees who perform work under the contract and has verified compliance with Federal Immigration and Nationality Act (FINA), all other Federal Immigration laws and regulations, and A.R.S. § 23-214.

Signature of Engineer/ Annual Consultant (Employer) or Authorized Designee:

  
Printed Name: STEVE TODD  
Title: PRINCIPAL  
Date (month/day/year): 6/2/11