



**PURCHASING ITEM  
FOR  
COUNCIL AGENDA  
MEMO NO. CA13-016**

**1. Agenda Item Number:**

**29**

**2. Council Meeting Date:**  
August 16, 2012

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

**3. Date Prepared:** July 26, 2012

**4. Requesting Department:** Transportation & Development

**5. SUBJECT:** Approve revised contract agreement with Roosevelt Water Conservation District (RWCD) for additional design work for utility infrastructure improvements on Gilbert Road (Queen Creek Road to Hunt Highway), Project No. ST0809-301, in an amount not to exceed \$56,111.25 and a revised contract price of \$317,427.25.

**6. RECOMMENDATION:** Staff recommends Council approve the revised contract agreement with Roosevelt Water Conservation District (RWCD) for additional design work for utility infrastructure improvements on Gilbert Road (Queen Creek Road to Hunt Highway), Project No. ST0809-301, in an amount not to exceed \$56,111.25 and a revised contract price of \$317,427.25.

**7. BACKGROUND/DISCUSSION:**

RWCD has incurred reimbursable design costs for the relocation and undergrounding of existing irrigation facilities within the project area. The original agreement for reimbursement cost was approved by Council on October 22, 2009. Since then, a number of changes have been made requiring additional design work. These changes include:

- Modifications to the original design of the new facilities at Appleby Road.
- Modifications to the original design of the existing pump-back structures on Ocotillo and Queen Creek Roads.
- Additional design survey and drafting of construction plans and as-built plans.

This agreement compensates RWCD for the additional costs incurred.

**8. EVALUATION:** RWCD provides their own design and inspection services and is respectfully requesting reimbursement.

**9. FINANCIAL IMPLICATIONS:**

Cost: \$56,111.25  
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>
415.3310.6517.0.6ST596	IMPACT FEE	GILBERT RD – QUEEN CREEK TO HUNT HWY	Yes	\$56,111.25

**10. PROPOSED MOTION:** Move Council approve the revised contract agreement with Roosevelt Water Conservation District (RWCD) for additional design work for utility infrastructure improvements on Gilbert Road (Queen Creek Road to Hunt Highway), Project No. ST0809-301, in an amount not to exceed \$56,111.25 and a revised contract price of \$317,427.25.

**ATTACHMENTS:** Location Map

**APPROVALS**

**11. Requesting Department**



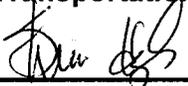
Bob Fortier, Capital Projects Manager

**13. Department Head**



R.J. Zeder, Transportation & Development Director

**12. Transportation & Development**



Sheina Hughes, City Engineer

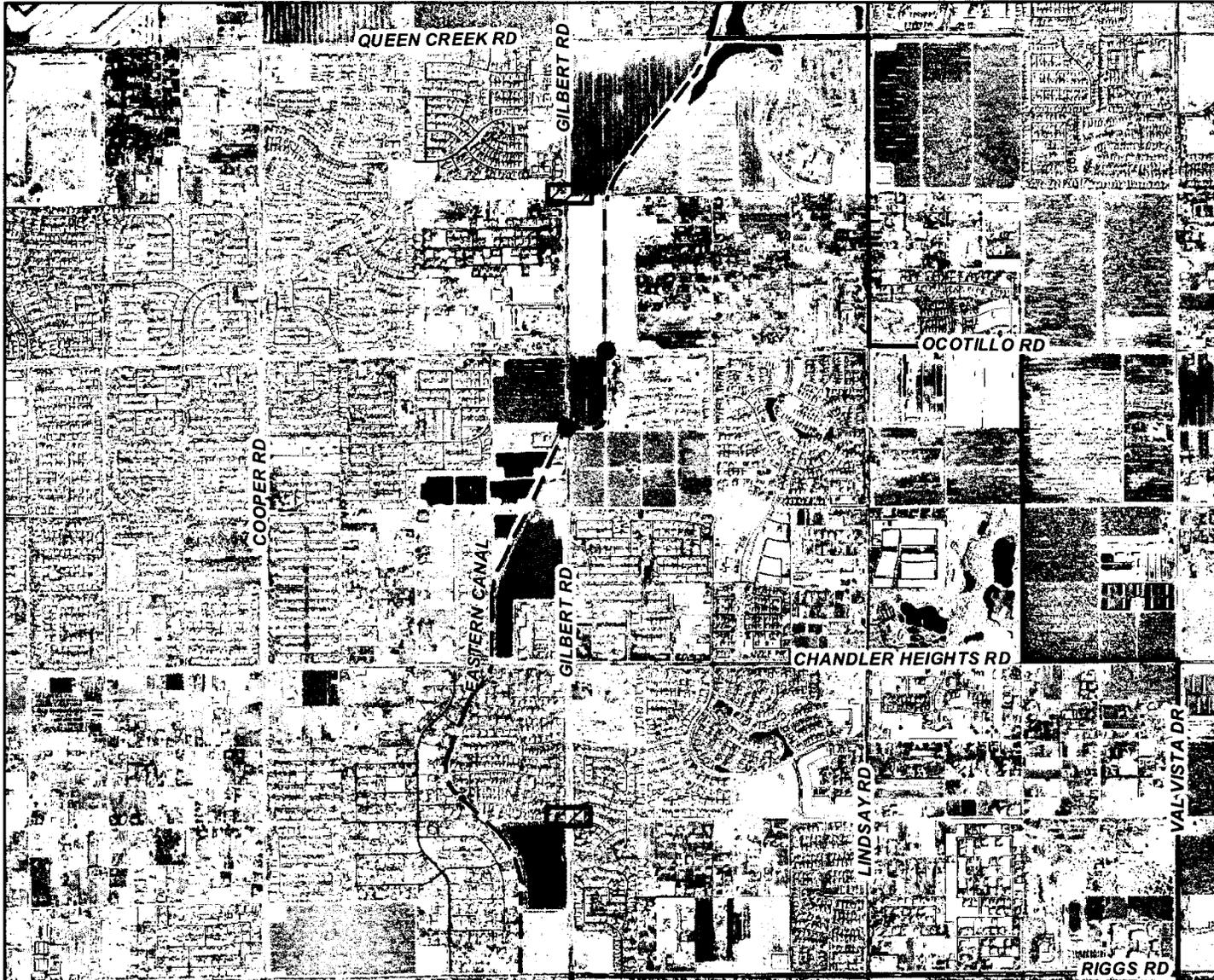
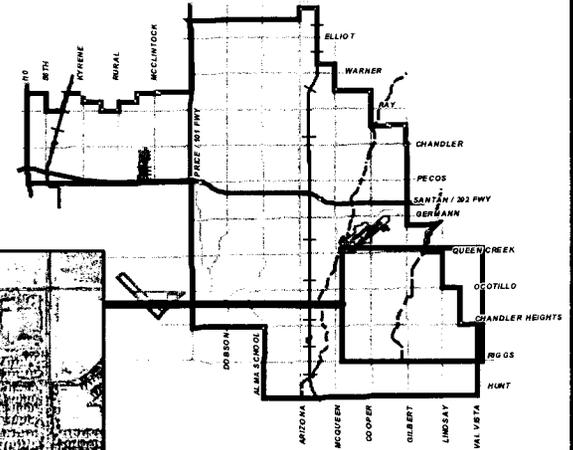
**14. City Manager**



Rich Dlugos



**GILBERT ROAD IMPROVEMENTS - RWCD  
AMENDMENT NO. 1  
PROJECT NO. ST 0809-301**



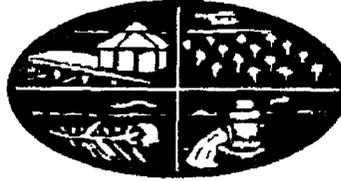
**MEMO NO. CA13-016**

- CANALS
- PROPOSED BRIDGE IMPROVEMENTS
- ▨ PROPOSED CANAL UNDERGROUNDING



# ROOSEVELT WATER CONSERVATION DISTRICT

**R. Brad Strader, P.E.**  
District Engineer and  
Water Operations Manager  
PO Box 100  
Higley, AZ 85236



(480) 988-9586  
(480) 707-0940  
(480) 988-9589 (FAX)  
b.strader@rwcd.net

5 June 2012

VIA USPS  
Mr. Ray Buglion  
City of Chandler  
Mail Stop 411  
PO Box 4008  
Chandler, AZ 85244-4008

RE: ST0809 - Gilbert Rd. Improvements  
RWCD File No. 50159

Dear Mr. Buglion:

eps group, Inc. has submitted the following scope modification and fee proposal:

<u>Scope</u>	<u>Additional Fee</u>
Appleby Road Irrigation Modifications	\$6,000.00 LS
Appleby Road Potholes	\$5,884.25 LS
Pump Back Relocation - Ocotillo Road	\$7,560.00 LS
Electrical Design for Pump Back Relocation - Ocotillo Road	\$5,620.00 LS
Pump Back Relocation - Queen Creek Road	\$21,900.00 LS
Topo Survey for Pump Back Relocation - Queen Creek Road	\$2,636.00 LS
Electrical Design for Pump Back Relocation - Queen Creek Road	\$5,620.00 LS
Relocation As-builts - Queen Creek Road Pump Back	\$891.00 LS

Please send the payment of \$56,111.25 to my attention at RWCD, P.O. Box 100, Higley, AZ 85236. If you require formal billing, you may consider this letter as a formal bill and that 86-6007668 is this entity's correct Federal Taxpayer Identification Number.

If you have any questions regarding the additional work and/or fee, please contact me at 480.988.9586 or b.strader@rwcd.net.

Sincerely,

ROOSEVELT WATER CONSERVATION DISTRICT

Brad Strader  
District Engineer/Water Operations Manager



**Roosevelt Water Conservation District**  
Attn: Mr. Brad Strader  
P.O. Box 100  
Higley, Arizona 85236

May 30, 2012

**Re: Scope Modification #1 for RWCD Facility Relocation Modifications in Coordination with City of Chandler Streets Project ST0809-402 Gilbert Road Improvements from Queen Creek Road to Hunt Highway, Chandler, Arizona.**

Dear Mr. Strader,

EPS Group, Inc. (the "Consultant") is under contract to design the RWCD facility modifications as part of the City of Chandler (COC) Streets Project ST0809-402 Gilbert Road Improvements from Queen Creek Road to Hunt Highway. During the course of work the scope has been modified from the original contract. The tasks below are a reflection of the changes in scope.

**1. Appleby Road Irrigation Modifications Lump Sum Fee \$ 6,000**

The original scope allowed for one pipe to cross Gilbert Road with a delivery structure on the west side of the road. A five foot stub was to be provided from the delivery structure and the continuation of the private irrigation design would be by others. After 30% plans had been prepared it was determined that the delivery structure needed to be located on the east side of Gilbert Road to address the operational and maintenance concerns. EPS was directed to shift the location of the structure and add plan and profile sheets for the two private delivery pipes crossing Gilbert Road.

**2. Appleby Road Potholes Lump Sum Fee \$ 5,884.25**

Pothole information was needed on existing utilities that would be crossed by the proposed irrigation pipes at the Appleby Road alignment. Obtaining the actual potholes was not included in the original scope, they were to be obtained by the City. In April 2011 it was time to obtain the potholes. The City had already completed their potholes. At that time only the design for the Appleby Road crossing was moving forward and it was believed that the other locations would not go forward. Based on this understanding and discussions with Tim Krawczyk with COC and RWCD, budget funds were reallocated from the design task to the reimburseables (\$5884.25) for the actual potholing. Subsequently, the design of the other locations where RWCD facilities are affected by this project have come back and are part of the design. The funds that were used for the potholes needs to be put back into the budget for the design task items.

**3. Pumpback Relocation – Ocotillo Road Lump Sum Fee \$ 7,560**

The original scope for the RWCD Extension Canal at Ocotillo Road indicated that the existing pumpback structure would remain at the existing location on the south side of the roadway. After the 30% plans were prepared it was determined that the pumps would be relocated to the north side of

Ocotillo Road. A new wet well structure detail has been developed to address the operational and maintenance concerns for the specific location. The plans for the RWCD Lateral 16 east of the Extension Canal were modified to eliminate the crossing of Ocotillo Road, design for connection to the Extension Canal on the north side of Ocotillo Road. Additionally the plans were modified to shift the location of the Radial Gate north to allow for the pump back structure to be located between the box culvert and the Radial Gate.

**4. Electrical Design for Pumpback Relocation – Ocotillo Road Lump Sum Fee \$ 5,620**

Design for the relocation of the electrical service and pump controls at Ocotillo Road and the Extension Canal for the Pumpback system is included in this task. See attached scope of work from Wright Engineering.

**5. Pumpback Relocation – Queen Creek Road Lump Sum Fee \$21,900**

Based on recent meetings with the District and the City of Chandler, a scope task item is to be included for the design of the relocation of the existing pumps on the south side of Queen Creek Road to the north side of Queen Creek Road. The design shall include a new pump structure to be located between the north end of the existing Queen Creek Road box culvert and the existing radial gate structure approximately 100' north of the culvert, relocation of the existing pumps, design of the tie-in connection from the pumps to the existing pumpback lines on the north side of Queen Creek Road, removal of the existing pumpback structure, replace the canal lining at the existing pumpback structure and replacement of the canal liner between the box culvert and the radial gate structure on the north side of Queen Creek Road. The design for the pumpback relocation at Queen Creek Road is anticipated to include a cover sheet, notes quantity and horizontal control sheet, three detail sheets, removal sheet and a plan and profile sheet. This task includes management of the design and subconsultants for the work at Queen Creek Road and the Extension Canal related to the pumpback relocation.

**6. Topo Survey for Pumpback Relocation – Queen Creek Road Lump Sum Fee \$2,636**

Locations and elevations will be obtained on canal structures, pipes, pump facilities radial gates and access roads north and south of Queen Creek Rd. Elevations will be on Town of Gilbert Datum (consistent with the original design of the radial gate structure north of Queen Creek Road) and the project will be tied horizontally to local section corners. An electronic drawing will be prepared to be utilized in design plans. Utility locations based on record drawings will be added to the base file. No formal topographic survey drawing will be provided.

**7. Electrical Design for Pumpback Relocation – Queen Creek Road Lump Sum Fee \$ 5,620**

Design for the relocation of the electrical service and pump controls at Queen Creek Road and the Extension Canal for the Pumpback system is included in this task. See attached scope of work from Wright Engineering.

**8. Relocation As-builts – Queen Creek Road Pumpback Lump Sum Fee \$ 891**

Consultant will field verify and prepare as-built plans for the relocated irrigation facilities for the District including the following items: Verify location and elevation of pumpback structure rim and invert and verify canal lining elevations. The manhole lids shall be pulled and replaced by the project surveyors, as approved by RWCD. The as-built locations and elevations will be recorded on a bond set of relocation design plans. One hard copy and an electronic (.pdf format) copy of the as-builts will be provided to RWCD.

**Total Amount of the Scope Modification: Lump Sum Fee \$ 56,111.25**

The following items are not included in this proposal: Design of a relocated well site, Equipment Testing, Equipment Suppliers Inspection Fees, Compaction and Density Testing, Water Quality Testing, Pavement Testing, Geotechnical Reports, Traffic Studies, Traffic Control Plans, Traffic Control, Title Reports, Landscape Plans, Street Lighting Plans, Noise Study or Environmental/Biological/Archeological Studies. Any reports, calculations or fees not specifically included in task items listed in the scope of work are excluded from the proposal.

The client shall pay all inspection fees, review fees, processing fees, development fees, impact fees, recordation fees and other fees that may be required by the municipalities and other agencies required for the completion of this work.

Your signature of acceptance of this proposal shall serve as our notice to proceed. Our company is dedicated to providing quality service and communication. If you should have any questions concerning this proposal, please do not hesitate to call.

Sincerely,



Bruce Hallsted, P.E.  
EPS Group, Inc.

Accepted by: \_\_\_\_\_ Date: \_\_\_\_\_

For: \_\_\_\_\_ Title: \_\_\_\_\_



#5902

May 24, 2012

EPS Group, Inc.  
2045 S. Vineyard Ave,  
Suite 101  
Mesa, Arizona 85210

Re: **RWCD Pump Modifications at Ocotillo Road and Queen Creek Road**

Attn: Bruce Hallsted

Dear Bruce,

Wright Engineering appreciates this opportunity to submit a proposal for electrical engineering services on the above referenced project. The following services will be performed in a professional manner to meet City of Chandler requirements:

**Ocotillo Road & RWCD Canal Electrical Design Scope of Services:**

1. Coordinate design with owner, Power Company, civil engineer, and/or architect as required.
2. Visit the site to determine existing conditions Up to (1) one visit.
3. Review Existing Electrical Drawings and Load Calculations for site.
4. Determine Existing Peak Demand loads and Coordinate Future loads with Power Company.
5. Design the electrical power system for a Water System to meet local codes and requirements.
6. Prepare 24" X 36" demolition electrical plans to show the following existing equipment to be removed, including:
  - a. Existing SES
  - b. Existing Distribution Equipment
  - c. Existing Motor Control Equipment
7. Prepare 24" X 36" electrical drawings including an overall site plan showing all new equipment to include the following:
  - a. SES
  - b. Distribution Equipment
  - c. Motor Control Equipment
8. Prepare a conduit and wire table showing all power conduits and wire for equipment listed above.
9. Prepare necessary elevation views of the equipment listed above to help determine layout and size.
10. Prepare load calculations and single line diagram.

11. Prepare panel schedule and other electrical installation details as required.
12. Prepare system fault current and voltage drop calculations as required.
13. Prepare schematics for control of all motors listed above.
14. Prepare telephone auto-dialer alarming control system for the water system, so that remote indication of trouble alarms can be acknowledged.
15. Prepare electrical and instrumentation specifications to be included in the general provisions.
16. Prepare an engineers estimate of probable electrical construction costs upon request.
17. Perform in-house QAQC review and modifications.
18. The above plans will be provided to EPS Group at 90% and 100% levels for review and comment. Submittals will include one print of electrical drawings and specifications and a soft copy in electronic format. EPS Group will copy and submit to owner as needed.
19. All redlines whether internal, EPS Group, or municipality will be responded to and addressed.

**Queen Creek Road & RWCD Canal Electrical Design Scope of Services:**

1. Coordinate design with owner, Power Company, civil engineer, and/or architect as required.
2. Visit the site to determine existing conditions Up to (1) one visit.
3. Review Existing Electrical Drawings and Load Calculations for site.
4. Determine Existing Peak Demand loads and Coordinate Future loads with Power Company.
5. Design the electrical power system for a Water System to meet local codes and requirements.
6. Prepare 24" X 36" demolition electrical plans to show the following existing equipment to be removed, including:
  - a. Existing SES
  - b. Existing Distribution Equipment
  - c. Existing Motor Control Equipment
7. Prepare 24" X 36" electrical drawings including an overall site plan showing all new equipment to include the following:
  - a. SES
  - b. Distribution Equipment
  - c. Motor Control Equipment
8. Prepare a conduit and wire table showing all power conduits and wire for equipment listed above.
9. Prepare necessary elevation views of the equipment listed above to help determine layout and size.
10. Prepare load calculations and single line diagram.
11. Prepare panel schedule and other electrical installation details as required.
12. Prepare system fault current and voltage drop calculations as required.

13. Prepare schematics for control of all motors listed above.
14. Prepare telephone auto-dialer alarming control system for the water system, so that remote indication of trouble alarms can be acknowledged.
15. Prepare electrical and instrumentation specifications to be included in the general provisions.
16. Prepare an engineers estimate of probable electrical construction costs upon request.
17. Perform in-house QAQC review and modifications.
18. The above plans will be provided to EPS Group at 90% and 100% levels for review and comment. Submittals will include one print of electrical drawings and specifications and a soft copy in electronic format. EPS Group will copy and submit to owner as needed.
19. All redlines whether internal, EPS Group, or municipality will be responded to and addressed.

#### **Responsibilities of Others**

1. Provide Wright Engineering Corp. electronic base files in an AutoCAD format which includes all proposed and existing utilities, all proposed improvements, and any existing conditions that affect this scope.
2. Wright Engineering will submit plans to the civil engineer or landscape architect for submittal to the local government agencies for approval and permits.
3. Designation of electrical service location will be determined by the local utility company. The owner is responsible for coordination of the design of all electrical utility power services during the design process.

#### **Final Deliverables**

1. Upon completion of the design, we will provide one set each of final sealed documents bearing the signature of a registered electrical engineer in the State of Arizona.

### **Engineering Fee**

The above services will be provided as follows:

Ocotillo Road & RWCD Canal Design Services: **\$5,620.00** (Five Thousand Six Hundred Dollars Lump Sum)

Queen Creek Road & RWCD Canal Design Services: **\$5,620.00** (Five Thousand Six Hundred Dollars Lump Sum)

Please Note: Services as stated above can be provided in whole or part to meet client needs.

### **Additional Services**

Any services not specifically included in the Scope of Services section shall be additional services payable at an hourly fee at the following rates:

Principal	\$130.00/hour
Senior Engineer	\$115.00/hour
Engineer	\$105.00/hour
Designer	\$85.00/hour
Draftsman	\$75.00/hour
Secretary	\$45.00/hour

### **Printing Charges**

The following printing and deliveries are included in this scope of services:

- 12 sets of blacklines
- 5 standard deliveries

Additional printing and delivery will be charged as follows:

Blacklines	\$ 2.00 each
Mylar Sepia	\$18.00 each
Delivery Cost	cost

We will bill you on a monthly basis for these services. Payment terms are Net 30 days. This proposal will be valid for the next 90 days. If you have any questions, please contact us at your earliest convenience.

I look forward to working with you on this project. Please show your acceptance of this proposal by signing below and returning one copy for my records.

Sincerely,



Wade T. Williams P.E.  
Wright Engineering Corporation

I have received and read Appendix 'A' and agree to all terms and conditions as outlined in Appendix 'A' and this proposal. By signing, the proposal becomes the agreement and is executed.

Accepted this \_\_\_\_\_ day of \_\_\_\_\_ 2012

\_\_\_\_\_  
(Company Name)

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

\_\_\_\_\_  
(Print or Type Name)

\_\_\_\_\_  
(Title)

*The Client agrees that the technical methods, techniques, and pricing information contained in any proposal submitted by Wright Engineering pertaining to this project or in this Agreement or any addendum thereto, are to be considered confidential and proprietary, and shall not be released or otherwise made available to any third party without the express written consent of Wright Engineering.*



# INVOICE

Cardno TBE  
2236 W. Shangri-La Rd  
Phoenix, AZ 85029

DATE	5/10/2011
TBE Project Number	AZ104-020-00
INVOICE NUMBER	85619

PROJECT NAME: Gilbert Rd Improvements / RWCD  
JOB No.: 09-066

BILL TO: Mr. Bruce Holsted, P.E.  
EPS Group, Inc.  
2046 South Vineyard Avenue  
Suite 101  
Mesa, AZ 85210

DATE	DESCRIPTION OF WORK	AMOUNT DUE
May-11	Utility locating services per our Proposal dated April 11, 2011 for services performed thru May 6, 2011.	
	<b>Summary of Utility Locating Services</b>	
	<u>Eight (8) Testholes @ \$525.00 Each</u>	\$4,200.00
	<u>One (1) Testhole Surveyed but not Excavated @ \$90.00 Each</u>	\$90.00
	<u>Extra Depth Surcharge 1.78' @ \$45.00/Foot (T.H. #8 &amp; #9)</u>	\$80.10
	<u>Temporary Traffic Control (Invoice Attached)</u>	\$287.72
	<u>City of Chandler Permit (Receipt Attached)</u>	\$478.92
	CONTRACT AMOUNT	\$5,700.00
	PREVIOUSLY INVOICED	\$0.00
	REMAINING AMOUNT	\$5,700.00
	DUE THIS INVOICE	\$5,116.74
	TOTAL AMOUNT DUE	\$5,116.74
	<b>TOTAL AMOUNT DUE</b>	<b>\$5,116.74</b>
	PLEASE PAY FROM THIS INVOICE	
	TERMS - DUE UPON RECEIPT	
<b>REMITTANCE ADDRESS:</b>		
TBE Group Inc. DBA Cardno TBE Dept 2805 PO Box 122805 Dallas, TX 75312-2805		
For Inquiries Please Call (602) 749-8550		

  
David Huacher  
Branch Manager

\$5116.74 \* 1.15% = \$5884.25  
Total for Appleby Rd Potholes  
as listed in May 2012 EPS  
Scope Modification

AZ104-020-00



**Southwest Barricades**  
 3014 E. Mohawk Ln.  
 Phoenix, AZ 85050

Tel: (602) 788-2222  
 Fax: 602-867-1155  
 ROC# 241648

**INVOICE**

Invoice Date	Invoice No.
05/09/11	00006622

Terms: Net 30 Days

**Cardno TBE Group, Inc.**  
 Heather Hodgden x1536  
 2236 W. Shangri La Road  
 Phoenix, AZ 85029

**Job ID: 004691**  
 Gilbert RD & Appleby RD  
 Chandler

Customer	Customer Job No.	Customer P.O. Number	Period Covered			Foreman Name / Phone#		
TBE		john	05/06/11 - 05/06/11			John (602) 721-2122		
Date	Description	From - To	Qty	Days	Units	Price	Total	
----- RENTALS -----								
05/06/11	Vertical Panel	05/06 05/06	10	1	10	0.18	1.80	
05/06/11	Type I Barricade w/flasher	05/06 05/06	2	1	2	0.38	0.76	
05/06/11	Small Sign	05/06 06/06	16	1	16	0.25	4.00	
05/06/11	Sign Stand	05/06 05/06	16	1	16	0.24	3.84	
05/06/11	28" Cones	05/06 05/06	15	1	15	0.20	3.00	
05/06/11	Hi-Level Flagtree	05/06 05/06	2	1	2	0.52	1.04	
----- SALES / ONE-TIME CHARGES -----								
05/06/11	Sand Bags		28		28	1.00	28.00	
----- LABOR -----								
05/06/11	Delivery/Pickup Port to Port 1Man 1 Truck		3		3	45.00	135.00	
05/06/11	1 Man 1 Truck Reg. Time		1.5		1.5	45.00	67.50	

**EQUIPMENT RENTAL TOTAL** \$14.44  
**SALES/ONE-TIME CHARGES** \$28.00  
**SALES TAX** \$22.78  
**LABOR TOTAL** \$202.50  
**TOTAL CHARGES** \$267.72

Please note; a 2% late payment fee per month will automatically be applied to all amounts not paid on time.

**PLEASE PAY THIS AMOUNT** \$267.72

\*\*\* Job Complete \*\*\*

**FACT OF THE WEEK**

Southwest Barricades now offers saw cutting and core drilling. Call today to find out about our amazing rates.

Ar 104-020-00



**Chandler + Arizona**  
*Where Values Make The Difference*

City of Chandler, Planning & Development  
215 East Buffalo Street  
Chandler, AZ 85225

Building Inspections: (480) 782-3100  
Sign Inspections: (480) 782-3065  
Water Meter Installs: (480) 782-3700

**PAID**

**RECEIPT**

RECEIPT NUMBER: 147011      APPLICATION NUMBER: EP811-0072

APPLICATION TYPE: Encroachment  
TRANSACTION DATE: APRIL 29, 2011  
PAYMENT RECEIVED FROM: JOHN PESAKOVICH  
DESCRIPTION OF WORK: COC/GILBERT RD IMPROVEMENTS - 8 UTILITY POTHoles  
ON THE NORTH SIDE OF APPLEBY ROAD ON GILBERT RD.  
SITE ADDRESS: 3201 S GILBERT RD, SCHOOL#, CHANDLER, AZ 85286

PAYMENT METHOD	COMMENT	AMOUNT
CASH		\$478.92

CASHIER: ELIZABETH PALMER

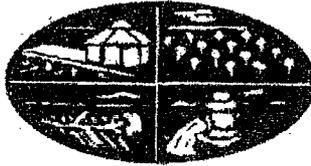
**PAYMENT DETAILS**

INVOICE	FEE ITEM	AMOUNT
125424	EP8 APPLICATION FEE	\$97.00
125424	UTILITY PAVEMENT CUT	\$381.92

**TOTAL PAID: \$478.92**

# ROOSEVELT WATER CONSERVATION DISTRICT

Post Office Box 100  
Higley, Arizona 85236



Water Department  
(480) 988-9581

Administration  
(480) 988-9586

FAX  
(480) 988-9589

September 24, 2009

City of Chandler  
Attn: Tim Krawczyk  
215 E. Buffalo St.  
Chandler, AZ 85236

RE: Gilbert Rd. Improvements  
(Queen Creek to Hunt Highway)

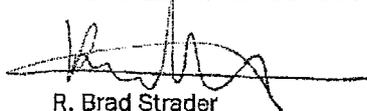
Dear Mr. Krawczyk:

Based upon our review of the above-referenced project, we have determined that the cost for engineering services, legal services and the administrative review fee are \$247,816, \$10,000 and \$3,500, respectively. The scope of services is enclosed for your review. The preliminary engineering services have been performed by Atwell-Hicks (\$13,000) and the remaining engineering services will be performed by EPS Group, Inc (\$234,816). The cost for legal services is an estimate based on the scope of the project. If at the end of the project there are unused legal funds, they will be reimbursed at that time. If however, more funds are needed, all work will be suspended until additional funds are received. The administrative review fee is set by RWCD's Board of Directors and is based on the size of the project (see attached Development Plan Review Administrative Fee Schedule).

Please remit the total fee of \$261,316. If you have any questions or comments, do not hesitate to contact us.

Sincerely,

ROOSEVELT WATER CONSERVATION DISTRICT



R. Brad Strader  
District Engineer

Enclosure



**Roosevelt Water Conservation District**  
Attn: Mr. Brad Strader  
P.O. Box 100  
Higley, Arizona 85236

September 9, 2009

**Re: Proposal for Engineering and Surveying Services  
RWCD Facility Modifications Design in Coordination with City of Chandler  
Streets Project STO-809 Gilbert Road Improvements from Queen Creek  
Road to Hunt Highway, Chandler, Arizona.**

Dear Mr. Strader,

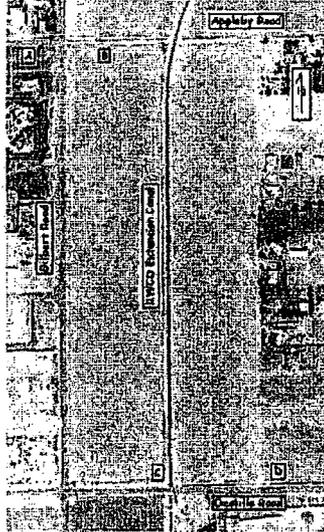
EPS Group, Inc. (the "Consultant") presents the following scope of work and fee proposal to provide Engineering and Surveying Services for the Roosevelt Water Conservation District (RWCD) Facility Modifications Design in coordination with the City of Chandler (COC) Streets Project ST0809 Gilbert Road Improvements from Queen Creek Road to Hunt Highway (the "Project"), Chandler, Arizona.

**Project Description and Limits**

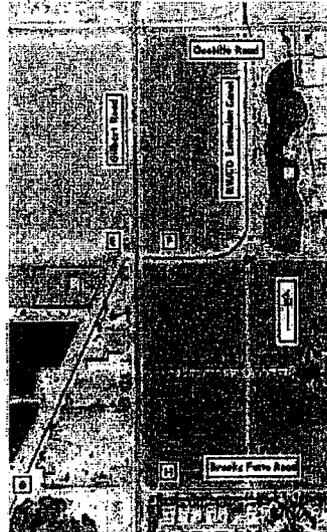
The Project is located in Chandler, Arizona on Gilbert Road between Queen Creek Road and Hunt Highway. The RWCD facility relocations will be designed in coordination with the work that the City of Chandler is planning with the STO809 Gilbert Road improvement project. This fee proposal is based on verbal discussions with RWCD regarding the proposed system modifications that are needed to allow for the proposed City of Chandler road project. The RWCD relocations are located in five distinct areas. Those areas are:

- **Lateral 15 ½ (Appleby Road)** – Lateral Crossing of Gilbert Road approximately 200 LF of lateral relocation with a relocated delivery structure.
- **Lateral 16 (Ocotillo Road) at the RWCD Extension Canal** – Relocation of a radial gate structure in the canal, design of a box culvert canal crossing of Ocotillo Road and relocation of approximately 640 LF of lateral 16 east of the Extension Canal.
- **RWCD Extension Canal at Gilbert Road** – Design of a box culvert for the Extension Canal crossing of Gilbert Road. The RWCD facility modifications will extend approximately 100' east and west of the road centerline.
- **Lateral 16 ½ (Brooks Farm Road Alignment)** – Design of the irrigation lateral crossing Gilbert Road extending approximately 610 LF west of the Gilbert Road centerline and discharge to the RWCD Lake 2 and extending approximately 100 LF east of the Gilbert Road centerline.
- **Lateral 17 (Chandler Heights Road)** – Design of the irrigation lateral relocation from the existing pipe on the east side of Gilbert Road to the existing pipe approximately 440 LF east.

The following maps show the approximate project limits.



LOCATION MAP A



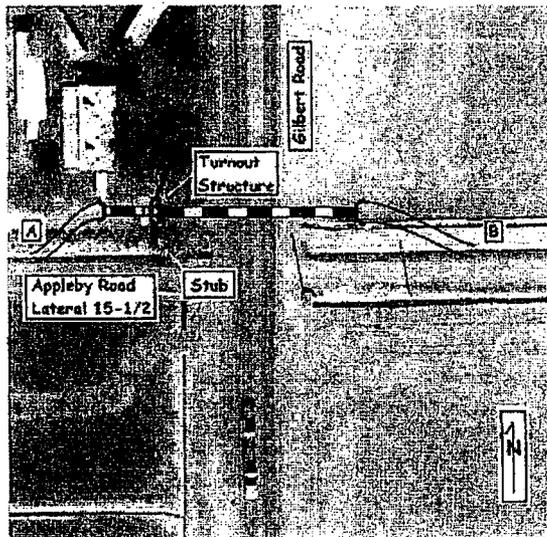
LOCATION MAP B



LOCATION MAP C

A more detailed scope of work for each of these project locations is defined in the specific task items in this proposal.

Location 1 – Lateral 15 1/2 Appleby Road Alignment – See Detail Map 1



DETAIL MAP 1

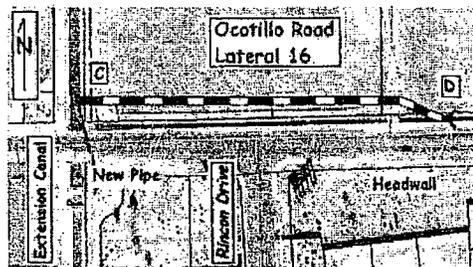
Design at Location 1 will include approximately 150 LF of RGRCP Irrigation pipe, an RWCD irrigation delivery turnout structure with deliveries to the north and south, 8' delivery pipe stubs, headwalls to transition from pipe to ditch and temporary ditch segments to transition from the relocated lateral alignment to the existing ditch. It is anticipated that Gilbert Road will be improved to its full width within a 130' right of way (65' half street) with full curb returns east and west for future extension of Appleby Road. It is anticipated that the proposed roadway improvements will end at the curb returns without additional pavement or tapers beyond the returns. The RWCD facility relocations will be coordinated with the proposed roadway improvements. The existing private irrigation facilities to the north and south of Lateral 15 may also require relocation along with the private irrigation facilities that extend north and south from the delivery structure along the west side of Gilbert Road. Relocation design, if needed, for the private irrigation facilities shall be part of the COC project design and is not included with this proposal.

Additional topographic survey will be provided by the consultant at Location 1 to provide the following items:

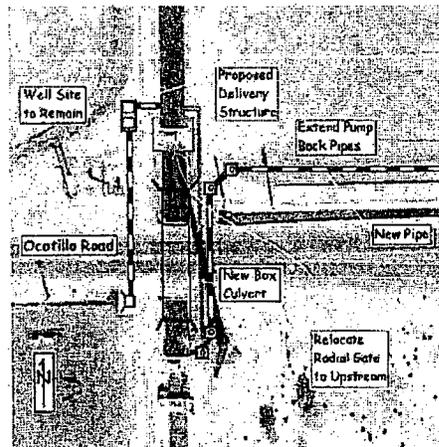
- cross-sections of the existing RWCD ditch at an interval of 25 feet on-center (OC) for a distance of 100 feet each side of the proposed points of connection
- measure additional pipe inverts, structure rim elevations, structure board seat elevations, and cross section on the private irrigation facilities to include inverts, apparent normal high water mark and top of ditch liner with sufficient detail to establish the existing hydraulic grade line.

The consultant shall prepare two (2) legal descriptions and exhibits for the abandonment of existing RWCD easements and two (2) legal descriptions and exhibits for new RWCD easements.

Location 2 – Lateral 16 Ocotillo Road at the RWCD Extension Canal – See Detail Maps 2 & 3



**DETAIL MAP 2**



**DETAIL MAP 3**

The COC will widen Ocotillo Road both north and south of centerline. The road widening will extend approximately 550' east of the RWCD Extension Canal. The Consultant shall provide a lateral relocation pipe design that will connect to the Extension Canal downstream of the proposed box culvert, cross Ocotillo Road and turn east. The lateral relocation design will extend east approximately

600 LF where it will connect to the existing open ditch lateral with a headwall beyond the limits of the proposed road widening.

The existing canal pipe crossing of Ocotillo Road will be replaced with a box culvert. It is assumed that standard ADOT design details can be used and that a structural subconsultant is not required. The box culvert floor will match the canal floor and will not be located in a sump. The size of the box culvert will be set by RWCD to meet the flow and maintenance needs. The length of the box culvert will be set to accommodate the proposed roadway improvements and RWCD's maintenance needs. Any approach slab design shall be prepared by COC's design consultant and are specifically excluded from this proposal.

Per direction from RWCD, this proposal assumes that the existing radial gate located south of Ocotillo Road will be relocated north of the new box culvert on the north side of Ocotillo Road. This will be done to reduce the amount of siltation that will occur in the box culvert crossing. The siltation will collect instead upstream of the radial gate where conventional equipment can be used to remove it. The existing pump back facilities shall remain in their current location south of Ocotillo Road, except that pump back lines shall be extended across Ocotillo Road to discharge upstream of the relocated radial gate structure. Design of a new radial gate structure and associated appurtenances is included with this proposal. It is assumed that prior design details of RWCD radial gate structures shall be used for dimensioning, steel size and placement, slab thickness etc., and that a structural sub-consultant is not required. The design shall include replacement of the canal liner associated with the relocation of the radial gate and new box culvert.

The existing pump back equipment (pumps, electrical cabinets) will remain in its existing location, except that the pump back lines will be extended across Ocotillo Road to discharge into the Extension Canal north of the relocated radial gate. Design of the pump back line extension and discharge are included in this proposal.

There is an existing canal turnout and measure structure immediately upstream from the radial gate structure. This canal turnout and measure structure will be relocated north of the relocated radial gate. Design shall include a new canal turnout, new measure structure, extension of a pipe across Ocotillo Road and headwall to connect to the private irrigation facility on the south side of the road. Design of the private irrigation facilities on the south side of Ocotillo Road (except for the extension of this pipe to the south side of Ocotillo Road) are excluded from this proposal.

The COC roadway improvements will likely impact the existing RWCD well site and the Intel effluent line that historically discharged to the vault associated with the well site located at the northwest corner of the Extension Canal crossing of Ocotillo Road. Per discussion with RWCD, the Intel effluent line is no longer active. Modification of the Intel effluent line shall be designed by the COC roadway designer to allow for the new delivery pipe discussed above. The Consultant shall research the existing system, including the existing well site operation, the location of the Intel line, and the operation of the pump back system through interviews with RWCD staff, field observation and reviews of record drawings where available. The Intel line must be removed from the RWCD right of way. It is anticipated that the well shaft will remain in its current location. Relocation of the well shaft is not included with this proposal. Design of a modified well discharge pipe and discharge structure to allow well discharge to be directed to the Extension Canal or the delivery is included with this proposal.

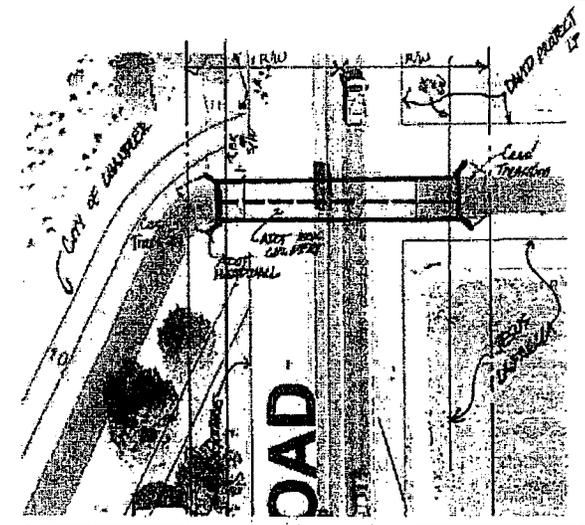
The Consultant shall prepare detailed hydraulic calculations for flow capacity in the Extension Canal from downstream of the Gilbert Road crossing to upstream of the Ocotillo Road crossing.

Additional topographic survey will be provided by the consultant at Location 2 to provide the following items:

- Five (5) cross-sections of the existing RWCD Extension Canal upstream and no more than five (5) cross sections downstream at locations to be determined. It is assumed that these cross sections cannot be obtained during canal dry-up, so they must be done with water in the canal.
- Measure weirs, invert, board seat and dimensions of the existing radial gate structure and the pump back system.

The Consultant shall prepare four (4) legal descriptions and exhibits for the abandonment of existing RWCD easements and four (4) legal descriptions and exhibits for new RWCD easements or right-of-way. The Consultant shall provide a boundary survey for the RWCD right-of-way associated with the Extension Canal that will cover an area from just downstream of the Extension Canal/Gilbert Road crossing to just upstream of the Extension Canal/Ocotillo Road Crossing.

Location 3 – RWCD Extension Canal at Gilbert Road Crossing – See Detail Map 4



DETAIL MAP 4

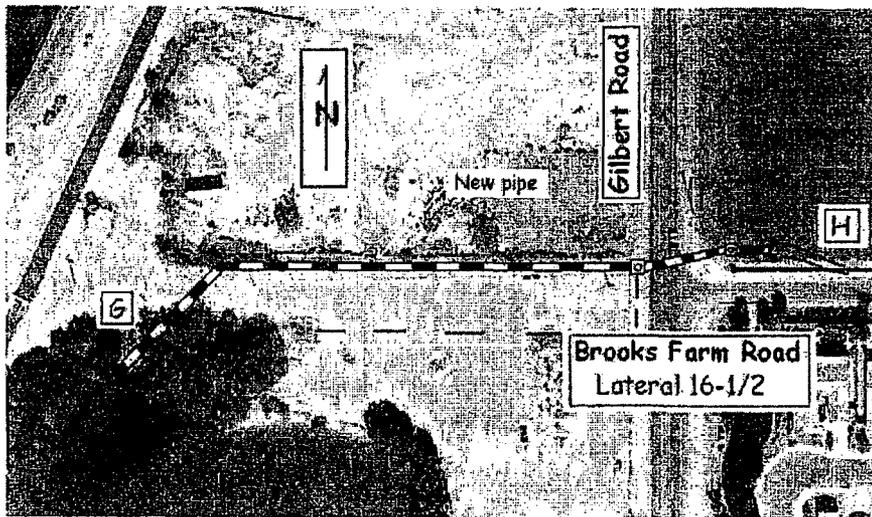
The COC road project will widen Gilbert Road within a 65' half street right of way. The roadway centerline will not coincide with the construction centerline. The proposed roadway alignment may cause the box culvert to be located on a skew with the roadway. An analysis will be needed to determine if the location/alignment of the existing box culvert can be preserved or if a new crossing or canal realignment will be required. The Consultant will provide preliminary evaluation of up to three (3) alternatives for the alignment of the new box culvert crossing. These alignments will be coordinated with RWCD and COC. Once an alignment is agreed-upon in writing, the final design will begin. It is anticipated that standard ADOT design details can be used and that a structural subconsultant is not required for the box culvert design. The box culvert floor will match the canal floor and will not be located in a sump. The size of the box culvert will be set by RWCD to meet the flow and maintenance needs. The length of the box culvert will be set to accommodate the proposed roadway improvements and RWCD's maintenance needs. Any approach slab design shall be prepared by COC's design consultant and are specifically excluded from this proposal. Design of canal transitions to tie back into the existing canal lining is included in this proposal.

Additional topographic survey will be provided by the consultant at Location 3 to provide the following items:

- Five (5) cross-sections of the existing RWCD Extension Canal both upstream and downstream at locations to be determined. It is assumed that these cross sections cannot be obtained during canal dry-up, so they must be done with water in the canal.
- Measure weirs, inverts and dimensions of the existing crossing.

The Consultant shall prepare four (4) legal descriptions and exhibits for the abandonment of existing RWCD easements and four (4) legal descriptions and exhibits for new RWCD easements or right of way. The Consultant shall provide a boundary survey for the RWCD right of way associated with the Extension Canal that will cover an area from just downstream of the Extension Canal Gilbert Road crossing to just upstream of the Extension Canal/Ocotillo Road Crossing. Title reports for the boundary survey shall be provided by RWCD.

Location 4 – Lateral 16 ½ (Brooks Farm Road Alignment)



DETAIL MAP 5

The COC will widen Gilbert Road and provide fully developed curb returns for Brooks Farm Road on the east side of the road. On the west side of Gilbert Road, about 60 feet of RWCD pipe runs parallel to Gilbert Road, along with the associated structure and manholes, will be impacted by the widening of Gilbert Road. Per RWCD direction, this non-linear pipe configuration will be replaced with a pipe that will extend west for approximately 610 feet and discharge into the RWCD tailwater pond (see Detail Map 5). This proposal includes design of approximately 750 LF of irrigation pipe from the lake discharge to the pond at Point G east across Gilbert Road to a headwall and temporary ditch transition to tie back into the existing ditch lateral on the east side of Gilbert Road at Point H. It is assumed that the existing open junction structure can be replaced with a manhole. The relocation of private irrigation facilities is not included in this fee proposal.

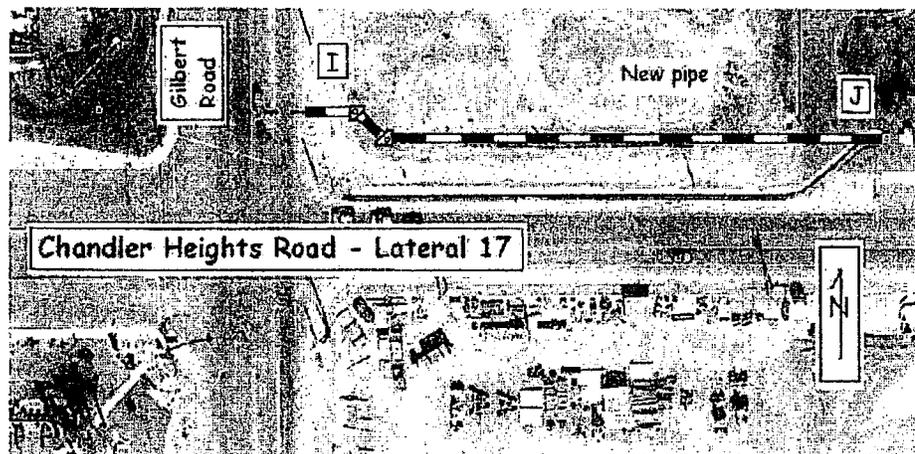
Additional topographic survey will be provided by the consultant at Location 4 to provide the following items:

- Cross section on the existing RWCD lateral at 50 ft intervals for a distance of 100 feet each side of the proposed point of connection.
- Measure additional invert and structure elevations upstream and downstream to establish the hydraulic grade line.
- Measure the invert and rim elevations for two (2) manholes downstream of Gilbert Road. Locating and digging up buried manholes, if any, is not included in this proposal.
- Provide topographic surveys for the length of proposed pipeline west of Gilbert Road, including measurements at the. This does not include measurements in the lake.

Provide a boundary survey for RWCD right of way along the northern boundary of the property containing the tailwater pond. The client shall provide title reports for the RWCD lake parcel.

The consultant shall provide two (2) legal descriptions and exhibits for the abandonment of existing RWCD easements and three legal descriptions and exhibits for new RWCD easements or right of way.

Location 5 – Lateral 17 (Chandler Heights) – See Detail Map 6.



DETAIL MAP 6

The COC Gilbert Road project will widen Chandler Heights Road east of Gilbert Road. The Consultant will design the RWCD facility relocations from the existing pipe on the east side of Gilbert Road, Point I, east approximately 430-LF to the existing headwall west of the delivery structure at Point J. The proposed right of way on Chandler Heights will be at 65' north of the roadway centerline. It is anticipated the existing pipes at Note I to Note J were constructed to allow a straight-graded pipe to drain to the west. It is anticipated that the delivery out of the existing turnout structure at Point J will remain. The relocation design of private irrigation facilities is not included in this fee proposal.

Additional topographic survey will be provided by the consultant at Location 3 to provide the following items:

- Measure manhole and headwall, inverts and structure rim and board seat elevations east and west to establish the hydraulic and to verify as-built elevations.

The Consultant shall provide one (1) legal description and exhibit for the abandonment of an existing RWCD easement and two (2) legal descriptions and exhibits for new RWCD easements.

**I. Irrigation Relocation Design**

**Lump Sum Fee \$ 123,480**

This project includes the design of relocations and modifications of the RWCD irrigation facilities in coordination with the City of Chandler ST0809 Gilbert Road Improvement Project. The RWCD facility relocations that have been identified and included in this proposal are located at five different areas within the COC project limits. Each of these areas will be packaged as a stand alone plan set. The client shall provide electronic base files in ACAD 2004 format for the City of Chandler ST0809 project including all of the proposed roadway improvements (pavement, curbs, sidewalks, ramps, driveways, medians, curb returns, street lights, traffic signals etc) , existing and proposed rights of way, existing and proposed utility information, and topographical survey prepared for the COC project showing all existing above ground features including pavement limits, curbs, lip of gutter, sidewalks, power poles, utility boxes and pedestals, contours, ditches, signs, trees and landscaping vegetation, structures, fences and any other features within the limits of the topographical survey prepared for the COC project). All items provided shall be cleaned up and ready for design purposes without further verification by the Consultant.

The base files described above shall be provided prior to starting work on the preliminary engineering phase at each location. The District shall provide the design flows and/or instruct the Consultant on the size of pipes and box culverts to be used on the project as part of the preliminary engineering phase. The Consultant shall provide a preliminary evaluation of up to three (3) alternatives for the alignment of the new box culvert crossing at Location 3 - Gilbert Road and the Extension Canal and coordinate these alignments with RWCD and the COC. Once an alignment is agreed upon in writing the final design can begin. The Consultant shall provide a single preliminary alignment drawing for review by RWCD and COC. This alignment shall receive approval by RWCD and COC prior to progressing with the final design. It is assumed that minor review comments can be carried forward into the final design. If additional preliminary alignments are required or if the alignment changes during subsequent reviews by the Client or the Municipality the Consultant is entitled to a change order.

The Consultant will prepare final engineering drawings for the detailed scope of work at each area location, 1 - 6, as outlined previously in this proposal. The final product will be six (6) stand alone plan sets. There will be one plan set for each location except location 4. Location 4 will be split up into two plan sets, one for the crossing of Gilbert Road and the second for the RWCD proposed pipe work west of Gilbert Road. It is anticipated for the purposes of this fee proposal that the design of facility modifications at all five locations will run concurrently.

The final design will not begin until the Consultant has both received from RWCD approval of the preliminary alignment with a written notice to proceed on final design and received hard copies and electronic base files of the final water, sewer, grading, paving, lighting, streetlight and landscape plans. This fee proposal does not include design for the relocation of water, sewer, or other utilities. Consultant is entitled to a change order if Consultant is required to provide utility relocation design or coordination specific to the relocation of existing utilities.

RWCD has existing facilities approximately 1/2 mile south of Chandler Heights Road that cross Gilbert Road. This crossing is a pipe crossing. It is anticipated that the roadway improvements can be constructed without removing and replacing this lateral. No design is included in this proposal for this

lateral. Review of this lateral for coordination with the COC roadway improvements is included in the plan reviews listed in the project management task of this proposal.

RWCD has an existing lateral on the south side of Riggs Road. The south leg of the Riggs Road and Gilbert Road intersection is constructed to the ultimate condition. It is anticipated that the existing irrigation facilities will remain in their current location without relocation. No design for this location is included in this proposal. Review of this lateral for coordination with the COC roadway improvements is included in the plan reviews listed in the Project Management task of this proposal.

The roadway widening may impact the RWCD reservoirs. However, it is assumed that the roadway design by the City will include retaining walls or other provisions to mitigate any impacts to the reservoirs so that storage volume is not diminished. This fee proposal does not include the design of any improvements to the RWCD reservoirs. It does include evaluation of proposals by the City to mitigate impacts. It is also assumed that the City will provide the legal descriptions for and exhibits for any roadway easements or right-of-way that may be acquired from RWCD. The Consultant's fee for evaluating COC plans and proposals is included in the items listed in the Project Management task description.

This task will be billed monthly as the work progresses on a lump sum basis.

## **2. Topographical Survey**

**Lump Sum Fee \$ 21,000**

As requested by RWCD, Consultant shall provide a topographical survey of the existing irrigation facilities through out the five (5) location areas as defined in the detailed scope of work. The Consultant shall acquire horizontal and vertical topographic information on existing RWCD facilities to supplement the topographic surveys provided by the Client for the COC Gilbert Road project, such as pipe inverts, board seat elevations, grate elevations, rim elevations, etc. where proposed facilities connect to existing facilities.

The finished product of the topographical survey will be an electronic file of the topo in ACAD 2004 format. The lettering height shall be 0.10' when plotted at 1"=20' scale. The graphics and information shall be cleaned up such that 1"=20' scale plots will be clear and legible and of a neat quality. The client shall provide the required local municipal benchmarks consistent with the topo survey that is being prepared by the COC design consultant working on the Gilbert Road Project. Benchmarks shall be provided within 200 feet of each area location on the local municipal datum.

## **3. Legal Descriptions and Exhibits**

**Lump Sum Fee \$ 28,000**

The Consultant shall provide two (2) Boundary Surveys for RWCD right of way: the first associated with the Extension Canal that will cover an area from just down stream of the Extension Canal/Gilbert Road intersection extending upstream of the Ocotillo Road/Extension Canal intersection, and the second along the north boundary of the RWCD property at Lateral 16 1/2 Brooks Farm Road west of Gilbert Road.

The Consultant will prepare legal descriptions and exhibits for termination of those portions of the existing RWCD easement to be abandoned. It is anticipated that legals and exhibits for up to fifteen (15) easement abandonments will be required. The Consultant will prepare legal descriptions and exhibits for new or replacement easements over the relocated RWCD facilities. It is anticipated that a separate legal description and exhibit will be prepared for an RWCD easement on each parcel. It is anticipated that legals and exhibits for up to fifteen (15)

**6. Post Design Services**

**Lump Sum Fee \$ 10,800**

Post Design Services shall include the following items: Attend the pre-construction notice-to-proceed meeting upon RWCD request, respond to RFI's during construction as requested by RWCD (time has been allotted for response to 2 RFI's for each of the 5 phases), make two site visits during construction to respond to questions (time has been allotted to make two (2) site visits during construction on each phase) and make a final walk through review of the relocated facilities at the completion of each phase. Additional post design services above and beyond those items listed above shall be considered additional scope and subject to additional fees.

**7. Relocation As-builts**

**Lump Sum Fee \$ 6,150**

Consultant will field verify and prepare as-built plans for the relocated irrigation facilities for the District including the following items: Verify location and elevation of rim and pipe inverts at all new or modified manholes, verify location and elevation of structure rims, board seats and pipe inverts, verify canal lining and box culvert elevations. The manhole lids shall be pulled and replaced by the project surveyors, as approved by RWCD. The as-built locations and elevations will be recorded on a bond set of relocation design plans prepared for each of the 6 design phases/locations. One hard copy and an electronic (.pdf format) copy of the as-builts will be provided to RWCD for each of the 6 design phases/locations. It is anticipated that each design phase will be done separately on separate trips to the field over the next four years.

**8. Printing and Deliveries**

**Lump Sum Fee \$ 3,926**

Consultant will reproduce the irrigation relocation phased plan sets and distribute for review. It is anticipated that the 6 plan sets will contain 36 sheets. It is anticipated that there will be three submittals made during the design process and plans distributed to the District (two copies), the City (two sets), the City's roadway designer (one set), the City's CM@R (2 sets) and one set each to the franchise utilities (SRP Power, Qwest, Cox, SW Gas). One final distribution of the final plans will be made including a mylar copy for the City of Chandler. It is anticipated that these plan distributions will require 32 deliveries. The task does not include printing and distribution for bidding purposes. It is assumed that the distribution of the plans for bidding or construction will be made by others.

**Total Amount of the Proposal:**

**Lump Sum Fee \$ 234,816**

The following items are not included in this proposal: Equipment Testing, Equipment Suppliers Inspection Fees, Compaction and Density Testing, Water Quality Testing, Pavement Testing, Geotechnical Reports, Traffic Studies, Traffic Control Plans, Traffic Control, Title Reports, Landscape Plans, Street Lighting Plans, Noise Study, Environmental/Biological/Archeological Studies, or Obtaining an Assured Water Supply. Any reports, calculations or fees not specifically included in task items listed in the scope of work are excluded from the proposal.

The client shall pay all inspection fees, review fees, processing fees, development fees, impact fees, recordation fees and other fees that may be required by the municipalities and other agencies required for the completion of this work.

Your signature of acceptance of this proposal and our attached Standard Terms and Conditions shall serve as our notice to proceed. Our company is dedicated to providing quality service and communication. If you should have any questions concerning this proposal, please do not hesitate to call.

Sincerely,



Bruce Hallsted, P.E.  
EPS Group, Inc.

Accepted by: \_\_\_\_\_ Date: \_\_\_\_\_

For: \_\_\_\_\_ Title: \_\_\_\_\_