THE BOARD OF SUPERVISORS OF THE COUNTY OF STANISLAUS
BOARD ACTION SUMMARY

DEPT: Public Works BOARD AGENDA #: *C-1

AGENDA DATE: May 2, 2017

SUBJECT:
Authorization of a Contract Change Order to E-PUR, LLC for the Development of Two Water Exploratory Boreholes for the Crows Landing Industrial Business Park

BOARD ACTION AS FOLLOWS:

No. 2017-223

On motion of Supervisor DeMartini , **Seconded by Supervisor** Withrow
and approved by the following vote,
Ayes: Supervisors: Olsen, Withrow, Monteith, DeMartini, and Chairman Chiesa
Noes: Supervisors: None
Excused or Absent: Supervisors: None
Abstaining: Supervisor: None

1) X **Approved as recommended**
2) _____ **Denied**
3) _____ **Approved as amended**
4) _____ **Other:**

MOTION:

ATTEST: **PAM VILLARREAL, Assistant Clerk**

File No.

THE BOARD OF SUPERVISORS OF THE COUNTY OF STANISLAUS
AGENDA ITEM

DEPT: Public Works
Urgent ○ Routine ⊙

BOARD AGENDA #: *C-1

AGENDA DATE: May 2, 2017

CEO CONCURRENCE:

4/5 Vote Required: Yes ⊙ No ○

SUBJECT:
Authorization of a Contract Change Order to E-PUR, LLC for the Development of Two Water Exploratory Boreholes for the Crows Landing Industrial Business Park

STAFF RECOMMENDATIONS:

1. Authorize the Director of Public Works to execute a contract change order with E-PUR, LLC for the extra work summarized as: additional drilling quantities at a cost of $30,852.

2. Direct the Auditor-Controller to make necessary budget adjustments per the attached financial transaction sheet.

DISCUSSION:

In October 2013, the Board of Supervisors approved an agreement with AECOM Technical Services, Inc. for land use, engineering, and environmental consultant services for the Crows Landing development project. This effort includes a review and analysis of needed infrastructure to insure the viability of this business park. Water supply is a critical feature of this needed infrastructure. California Environmental Quality Act (CEQA) guidelines require a detailed analysis of potential water supply sources. Groundwater supply will be an essential part of the supply plan for this industrial project.

On September 20, 2016 the Board of Supervisors awarded a contract to E-PUR in the amount of $312,879 to develop two water exploratory boreholes for the Crows Landing Industrial Business Park. The contract approval included 10% contingency authority. The purpose of the exploratory borehole program is to gain adequate knowledge of the underlying groundwater system. It is good practice that exploratory boreholes are drilled and water samples be taken to determine quality and quantity of groundwater supplies in this area. The work to be accomplished includes construction of exploratory boreholes that will allow evaluation of the suitability of the proposed site for the installation of future drinking water supply wells based on the results of the geophysical exploration and water quality sampling of the test hole.

This concept is a seven task process:

- Task 1 - Assess Existing Geologic Information and Project Kickoff
- Task 2 - Water Quality Review and Proposed Well Location Submittal to State Water Resources Board Division of Drinking Water
- Task 3 - Exploratory Borehole Drilling and Zonal Monitoring Well Installation

- Task 4 - Monitoring Well Development, Groundwater Quality Sampling and Aquifer Testing (for two separate locations)
- Task 5 - Develop Production Well Designs (one for each well location)
- Task 6 - Exploratory Borehole Report with Production Well Design Technical Specifications (one for each location)
- Task 7 - Preparation of Water-Supply-Well Construction Bid Specifications and Contract Documents (for each well location)

In early February 2017, field work began and was concluded in March. Overall the project progressed very well with around the clock drilling. A change order is needed to address the favorable and actual geologic findings for water supply production at the two drilling locations outlined in the Scope of Services for the Agreement. During drilling, soil conditions resulted in varied quantities from the forecasted quantities. Additional borehole footage beyond the 650 feet scoped (720 feet) was needed for Test Well 2 and less borehole footage was needed for Test Well 1 (600 of 650 feet). Added total footage for casing and grout was needed for six test wells. All changed quantities are noted on the attached schedule of Roadrunner Drilling Contracted Quantities and Costs. Roadrunner is entitled to these additional material fees in accordance with Attachment C to Exhibit A of the Agreement. The change order is summarized below:

Roadrunner Drilling Contracted Quantities and Costs vs. Actual Quantities and Costs*					
Item (Units are Footage unless otherwise noted)	Rate	Forecast Quantity	Actual Quantity	Difference in Quantity	Cost Difference
Drill 6.25" Pilot Borehole	$18.00	1,300	1,320	20	$360.00
Ream 6.25" Borehole to 12.25"	$12.00	1,300	1,270	(30)	$(360.00)
Drill 12.25" Borehole	$24.00	1,200	1,831	631	$15,144.00
Furnish & Install 4" Blank Sch 40 Steel Casing	$10.50	2,260	2,816	556	$5,838.00
Furnish & Install 4" Sch 40 PVC Perforated Well Casing 0,050" Slot	$13.00	180	150	(30)	$(390.00)
Furnish & Install 4" Sch 40 PVC Blank Casing	$9.80	-	30	30	$294.00
Furnish & Install 4" LCS Crossover Adapter (each)	$67.55	-	6	6	$405.30
Furnish & Install SRI #8 Filter Pack	$13.00	480	315	(165)	$(2,145.00)
Furnish & Install Cetco Hole Plug - Transition Seal	$13.00	-	30	30	$390.00
Furnish & Install Annular Cement Seal	$17.00	1,960	2,756	796	$13,532.00
Install & Remove Test Pump	$3.00	1,400	1,484	84	$252.00
Test Pumping (hours)	$125.00	60	29	(32)	$(3,937.50)
Total Cost Difference for Change Order					**$29,382.80**
* Items Listed are only those with differing quantities from Roadrunner Drilling Original Scope					

and Cost Estimate, Attached C to E-PUR Scope and Cost Estimate in Exhibit A to Contract 8068

The change order is in the amount of $30,852 for additional footage of drilling, well casing, and annular materials and 5% overhead per the contract. The 5% overhead is the difference between $29,382.80 and the change order amount of $30,852.00. Attached are details and backup information for the change.

This change order value surpasses the approved contingency of 10% for this project, therefore requiring Board approval.

POLICY ISSUE:

Per Public Contract Code Section 20137 and Section 20142 Board authority is required for contract change orders.

FISCAL IMPACT:

Cost of recommended action:		$ 30,852
Source(s) of Funding:		
Agricultural Lease Revenue	$ 30,852	
Funding Total:		30,852
Net Cost to County General Fund		-
Fiscal Year:	2016-2017	
Budget Adjustment/Appropriations needed:	**Yes**	

BOARD OF SUPERVISORS' PRIORITY:

The recommended actions are consistent with the Board's priorities of A Well Planned Infrastructure by developing a reliable and sustainable water supply for the Crows Landing Industrial Business Park.

STAFFING IMPACT:

Existing Public Works staff is overseeing this project.

CONTACT PERSON:

Matt Machado, Director of Public Works Telephone: (209) 525-4153

ATTACHMENT(S):

1. Change Order Description and Backup Documentation
2. Budget Journal

ATTACHMENT 1

CHANGE ORDER DESCRIPTION AND BACKUP DOCUMENTATION

E-PUR
Safe Water for All®

Change Order
Under Master Contract
Terms and Conditions for
E-PUR Project 0624-001-01

Change Order No.: 4

Client Contract No: 8068 (Resolution 2016-479)

Capitalized terms in this Work Order shall have the meaning assigned in the Consulting Contract between E-PUR, LLC. and Stanislaus County dated September 20, 2016 (the "Agreement").

Execution of this Work Order by Client and Consultant will serve as authorization for Consultant to carry out and complete the Services set forth below in accordance with the referenced Agreement.

Scope of Services:

Favorable geologic findings for water supply production at the two drilling locations outlined in the Scope of Services for the Agreement recommend a prospective increase in overall linear footage of borehole drilling and well installation depths. Additional borehole footage beyond the 650 feet scoped (720 feet) was needed for TW-2 and less borehole footage was needed for TW-1 (600 of 650 feet). Added total footage for casing and grout was needed for six test wells. All changed quantities are noted on the attached schedule of Roadrunner Drilling Contracted Quantities and Costs bs. Actual Quantities and Costs. Roadrunner is entitled to these additional material fees in accordance with Attachment C to Exhibit A of the Agreement and verbal authorizations in early February 2017.

List of Deliverables:

Two exploratory boreholes by footage and drilling and installation of six test wells in the original scope with reduction in total screen length

Time Schedule for Performance Services:

As approved orally Feb. 10, 2017 for added footages the work was completed between Feb. 10th and Feb. 22nd, 2017

Fee for Services:

Estimated Fee is $30,852 per the attached E-PUR Cost Estimate Worksheet

Additional Provision:

Roadrunner's vendor subcontract fee schedule Attachment C Roadrunner Drilling and Pump, is attached hereto. Additional cost allowances for changed conditions are addressed in separate work change orders

E-PUR, LLC	**Stanislaus County Public Works**
John Lambie, PE, PG	
Print	*Print*
Managing Principal	
Title	*Title*
March 23, 2017	
Date	*Date*

EPUR
Safe Water for All

COST ESTIMATE WORKSHEET

Client	Stanislaus County Public Works	**Date**	4/18/2017
Project Name	Crows Landing Airport Test Wells	**Project Number**	624-001-01
Task	Change Order 4 for Added Footage and Quantities for Test Borehole Drilling and Zonal Monitoring Well Installation	**Estimate By**	JML

		Rate	*Units*	*Quantity*	*Cost*	
Labor	Principal II	$225	Hours	0	$ -	**$0**
	Principal Engineer	$205	Hours	0	$ -	
	Associate	$185	Hours		$ -	
	Senior	$165	Hours	0	$ -	
	Project	$145	Hours		$ -	
	Staff	$125	Hours	0	$ -	
	Assistant Engineer/GIS Technician	$105	Hours		$ -	
	Field Technician/CAD Drafting	$90	Hours		$ -	
	Project Coordinator	$80	Hours	0	$ -	
	Clerical	$65	Hours		$ -	

Direct Expenses	Ground Travel	$	0.5400	Miles	0	$ -	**$0**
	Field Costs/ Day	$	30.00	Days	0	$ -	
	Subsistence, Overnight	$	75.00	Nights	0	$ -	
	Transducer Rental	$	45.00	Days		$ -	
	Water Level Sounder	$	35.00	Days	0	$ -	
	Well Depth Sounder	$	30.00	Days		$ -	
	GPS Rental	$	45.00	Days	0	$ -	
	Materials (as % of ODCs)		+10%	Total		$ -	

Outside Expenses	Provost & Pritchard		**$30,852**
	Roadrunner Drilling (additional footage and materials at TW-1 and TW-2 locations)	$ 29,383	
	Laboratory Analysis for TCP (6 @ $200 each)	$ -	
	Overhead Administrative Time (5%)	$ 1,469	

TOTAL FOR TASK	**$**	**30,852**

E-PUR
Safe Water for All

Roadrunner Drilling Contracted Quantities and Costs vs. Actual Quantities and Costs*					
Item (Units are Footage unless otherwise noted)	Rate	Forecast Quantity	Actual Quantity	Difference in Quantity	Cost Difference
Drill 6.25" Pilot Borehole	$ 18.00	1,300	1,320	20	$ 360.00
Ream 6.25" Borehole to 12.25"	$ 12.00	1,300	1,270	(30)	$ (360.00)
Drill 12.25" Borehole	$ 24.00	1,200	1,831	631	$ 15,144.00
Furnish & Install 4" Blank Sch 40 Steel Casing	$ 10.50	2,260	2,816	556	$ 5,838.00
Furnish & Install 4" Sch 40 PVC Perforated Well Casing 0.050" Slot	$ 13.00	180	150	(30)	$ (390.00)
Furnish & Install 4" Sch 40 PVC Blank Casing	$ 9.80	-	30	30	$ 294.00
Furnish & Install 4" LCS Crossover Adapter (each)	$ 67.55	-	6	6	$ 405.30
Furnish & Install SRI #8 Filter Pack	$ 13.00	480	315	(165)	$ (2,145.00)
Furnish & Install Cetco Hole Plug - Transition Seal	$ 13.00	-	30	30	$ 390.00
Furnish & Install Annular Cement Seal	$ 17.00	1,960	2,756	796	$ 13,532.00
Install & Remove Test Pump	$ 3.00	1,400	1,484	84	$ 252.00
Test Pumping (hours)	$ 125.00	60	29	(32)	$ (3,937.50)
Total Cost Difference for Change Order					**$ 29,382.80**

* Items Listed are only those with differing quantities from Roadrunner Drilling Original Scope and Cost Estimate, Attachment C to E-PUR Scope and Cost Estimate in Exhibit A to Contract 8068

Attachment C – Roadrunner Drilling and Pump Company
Scope of Work and Associated Fees

Roadrunner Drilling & Pump Co., INC

80 Bee Jay Way
Woodland, CA 95776

Estimate

Date	Estimate #
7/12/2016	E16-0111R...

Name / Address
E-PUR Water John Lambie

Terms	Rep
Net 30	PLB

Description	Qty	Rate	Total
Location: Patterson, CA (Stanislaus County) Task: Drill, Construct, Develop & Test, Six Monitoring Wells-Two Locations (1 mile apart), Three Wells per Site Estimated 40 Days to Complete			
Permits & Records - Each	6	750.00	4,500.00
Mobilization - Lump Sum	1	16,000.00	16,000.00
Site to Site Mobilization - Lump Sum	1	1,000.00	1,000.00
Drill 6.25" Borehole 1300' x 2	1,300	18.00	23,400.00
Ream 6.25" Borehole to 12.25" 1300' x 2	1,300	12.00	15,600.00
Drill 12.25" Borehole (2 x 400' & 2 x 200')	1,200	24.00	28,800.00
Geophysical Log (West Coast Well Logging) Each	2	1,890.00	3,780.00
Furnish & Install 4" Blank Sch 40 Steel Casing with Collars - Foot	2,260	10.50	23,730.00
Furnish & Install 4" Double Row Sch 40 .050 Slot Perforated Steel Casing - Foot	180	16.50	2,970.00
Furnish & Install SRI #8 Filter Pack - Foot	480	13.00	6,240.00
Furnish & Install 10.3 Sack Sand Cement Slurry - Foot	1,960	17.00	33,320.00
Initial Well Development x 6 Each	6	1,900.00	11,400.00
Install & Remove Test Pumping Equipment - Foot (2" Drop Pipe) (6 Wells)	1,400	3.00	4,200.00
Test Pumping (6 Wells) Hour	60	125.00	7,500.00
Surface Completion - 3' x 3' Cement Pad; Lockable Well Lids - Each	6	800.00	4,800.00
		Total	

Phone # 530-406-8559 Fax # 530-666-7854 rdrunnerdrilling@aol.com

Roadrunner Drilling & Pump Co., INC

80 Bee Jay Way
Woodland, CA 95776

Date	Estimate #
7/12/2016	E16-0111R...

Name / Address
E-PUR Water John Lambie

Terms	Rep
Net 30	PLB

Description	Qty	Rate	Total
Conditions: ***Drilling Fluids and Cuttings to remain on site** ***If Hard Rock Drilling is encountered, an additional hourly rate of $300.00 will be added to footage price** ***Water to be within close proximity to drilling site (300')** ***Noise mediation is not required** ***24 Hour Drilling and Construction is allowed** ***Drilling location is flat with no adverse terrain** ***Formation Samples will be collected every 10' or at formation changes** **Terms:** **1. Net 30 Days - Invoices are due in full 30 days from invoice date;** **2. If any legal actions is commenced to recover damages for the breach of any term of this Agreement, the prevailing party shall be entitled to recover reasonable attorney's fees incurred in connection with that action, in addition to costs of suit.** **Customer Signature:_____** **Acceptance of Terms, Conditions and Costs**			
		Total	**$187,240.00**

Phone # **530-406-8559** Fax # **530-666-7854** **rdrunnerdrilling@aol.com**

ATTACHMENT 2

BUDGET JOURNAL

Database		FMSDBPRD.CO.STANISLAUS.CA.US.PROD	DO NOT CHANGE
Balance Type		Budget	DO NOT CHANGE
Data Access Set		County of Stanislaus	DO NOT CHANGE
Ledger	List - Text	County of Stanislaus	DO NOT CHANGE
Budget	List - Text	LEGAL BUDGET	DO NOT CHANGE
Category	List - Text	Budget - Upload	DO NOT CHANGE
Source	* List - Text	PW JAS	
Currency	List - Text	USD	DO NOT CHANGE
Period	List - Text	MAY-17	ENTER AS MMM-YY ALL CAPS FOR MMM EX NOV
Batch Name	Text	Crows Landing Water Wells	
Journal Name	Text	JV102456	
Journal Description	Text	To move the budget into Engineering from CEO's Crows Landing for the CCO'S to the E-PUR, LLC contract.	
Journal Reference	Text	J Serrano 5-4119 w/questions	
Organization	List - Text	Stanislaus Budget Org	DO NOT CHANGE
Chart Of Accounts		Accounting Flexfield	DO NOT CHANGE

Upl	Fund (4 char) * List - Text	Org (7 char)	Account (5 char)	GL Project (7 char)	Location (6 char)	Misc. (6 char)	Other (5 char)	Debit incr appropriations decr est revenue * Number	Credit decr appropriations incr est revenue * Number	Line Description Text
	0100	0016046	73500	0000000	0000000	0000000	0000000	30852		
	0100	0016046	66401	0000000	0000000	0000000	0000000		30852	
	1202	0040200	38000	0000000	0000000	0000000	0000000		30852	
Totals:								30852	61704	

Tip: This is not the end of the Template. Unprotect the sheet and insert as many rows as needed.

Explanation: To move the budget into Engineering from CEO's Crows Landing for the CCO'S to the E-PUR, LLC contract.
Board Item #2017-XXX, dated 5/2/17

Requesting Department		CEO	Data Entry	Auditors Office Only	
Julie A Serrano					
Prepared by	Approved By	Supervisor's Approval	Keyed by	Prepared By	Approved By
4/24/2017		4/26/17			4/25/17
Date		Date	Date	Date	Date

STANISLAUS COUNTY

First Amendment to Professional Design Services Agreement
Crows Landing Industrial Business Park Project

This Amendment is made and entered into this 19th day of September, 2017, in the City of Modesto, State of California, by and between the County of Stanislaus ("County") and E-PUR, LLC, ("Consultant"), for and in consideration of the promises, and the mutual promises, covenants, terms, and conditions, hereinafter contained.

WHEREAS, on September 20, 2016, the Stanislaus County Board of Supervisors awarded a Professional Design Services Agreement ("Agreement") to Consultant for the Crows Landing Industrial Business Park project in the amount of $312,879, and authorized the Director of Public Works to make change orders up to 10% of the contract value;

WHEREAS, the Director of Public Works has exercised his authority to make change orders totaling $31,287.50;

WHEREAS, on May 2, 2017 the Stanislaus County Board of Supervisors approved an additional change order of $30,852;

WHEREAS, now there is a need for new and additional services as shown in "Exhibit 1-A", attached hereto and made a part of this Amendment;

WHEREAS, the Director of Public Works has determined that the additional services are necessary;

WHEREAS, an increase of One Hundred Seventy-Three Thousand Seven Hundred Fifty Dollars ($173,750) to the Agreement is necessary to cover the additional services;

$312,879.00	Agreement
+31,287.50	Initial Change Orders under 10%
+30,852.00	Additional Change Order
+173,750.00	First Amendment
$548,768.50	Total

WHEREAS, Consultant has continued to diligently perform the services requested to support this project in good faith; and,

NOW THEREFORE, the parties agree as follows:

1. Section 1.1 Scope of Services is amended to include additional services as shown in "Exhibit 1-A" attached hereto and made a part of this Amendment.

2. Section 3.1 Compensation is amended to include additional fees of One Hundred Seventy-Three Thousand Seven Hundred Fifty Dollars ($173,750) as shown in "Exhibit 1-A" attached hereto and made a part of this Amendment. Consultant's compensation shall in no case exceed Five Hundred Forty-Eight Thousand Seven Hundred Sixty-Eight and 50/100 Dollars ($548,768.50)

3. All other terms and conditions of the Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the parties have executed this First Amendment effective on the date written above.

COUNTY OF STANISLAUS

By: _____
Matt Machado, Director
Department of Public Works

E-PUR, LLC

By: _____
John Lambie, PE, PG, CEG
Principal Hydrogeologist

APPROVED AS TO FORM
John P. Doering, County Counsel

By: _____
Amanda DeHart
Deputy County Counsel

EXHIBIT 1-A

E/ PUR
Safe Water for All®

September 5, 2017

Mr. Matt Machado, P.E., L.S.
Director, Stanislaus County Department of Public Works
1716 Morgan Road
Modesto, CA 95358

SUBJECT: AMENDMENT TO STANISLAUS COUNTY CONTRACT 2016-479 TO PREPARE AN ASSESSMENT OF WATER SUPPLY ALTERNATIVES FOR CROWS LANDING INDUSTRIAL BUSINESS PARK

Dear Matt:

The water supplies for the Crows Landing Industrial Business Park (CLIBP) require further assessment beyond the preliminary work done by AECOM in 2016 in preparing an Environmental Impact Report (EIR). Two things have changed as that project has evolved. The regulations on creating a new water system have changed and groundwater data gathered for water-supply-well design has changed the configuration of water-supply alternatives. The following letter proposal provides a scope of work and fee estimate that could be amended to Stanislaus County Contract 2016-479 to provide this assessment.

California Senate Bill 1263 passed into law in June 2016 mandates that any proposed new potable water supply system within a 3-mile radius of any portion of an existing water supply system's service area look rigorously at water system consolidation. For the CLIBP this includes both the City of Patterson's system and the Crows Landing Community Services District (CSD). The authority under the law is provided to the State Water Resources Control Board's Division of Drinking Water (DDW).

As for the water supply alternatives, the EIR assessed that potable water supply would need to come from a groundwater source since surface water is not reliable and available in the region. That EIR water supply assessment still holds.

The EIR evaluated the needed flow rates and yearly quantities of potable water supply from water producing zones beneath a region wide thick clay layer, the Corcoran Clay, and the same evaluation was done for non-potable water supply from water producing zones above the Corcoran Clay. This strategy of supplies was done because it was believed that the zone beneath the Corcoran Clay is a more reliable source for water quality and quantity. E-PUR's Technical Memorandum (TM) of May 17, 2017 documents our field findings of sufficiency of quantity beneath the Corcoran Clay at the north end of the airstrip but with concentrations of sulfate that necessitate either blending or treatment or both to produce potable water. Thus the configuration and conceptual engineering designs of water supplies to the CLIBP from groundwater zones beneath the CLIBP must be revisited if on-site groundwater is to be utilized in whole or in part for the CLIBP potable water supply. Other prospective water supply alternatives include connecting to groundwater sourced in Crows Landing CSD and/or the City of Patterson for the entire water supply.

26 East Wyandotte Street
Stockton, California 95204
(209) 451-5933

As a result of both these legal and technical findings, an assessment of water supply alternatives to the CLIBP is warranted. Such an assessment will provide the best available information to Stanislaus County as it begins the required dialogue with DDW and the two nearby water systems. It will also provide needed information for subsequent engineering design of a reliable water system. We recommend further evaluation of on-site groundwater as the primary or sole source of both potable and non-potable water supply to the CLIBP. Collection of water quality (and quantity) data for groundwater zones immediately above the Corcoran Clay is essential to developing a thorough assessment of what may be both an affordable and a drought reliable water supply from on-site wells. The on-site alternative would involve blending water from wells completed in different aquifer zones to mitigate sulfate concentrations to below secondary drinking water standards; the most desirable outcome is to eliminate the need for sulfate treatment but the resulting outcome may be a reduction of the need for sulfate treatment. Regardless of the water quality and quantity associated with an on-site water supply alternative, this feasibility evaluation and engineering assessment must also be done in conjunction with an evaluation of the feasibility of consolidating with one or both of the nearby water systems, City of Patterson and Crows Landing CSD. This feasibility evaluation is required to comply with SB 1263. We recommend in the approach and scope meeting with DDW early in the process; this will enable the County staff to ascertain DDW's thinking on the options available and the required evaluations for them to grant a permit for a new public water system at the CLIBP. Similarly it is recommended to meet with Crows Landing CSD and the City of Patterson separately early in the process to describe the process and intended steps for Stanislaus County to evaluate with them how to they would see the feasibility of a water system consolidation and what coordination of system design and development is warranted.

For the scope of work we have developed a recommend sequencing to guide the project efforts as rapidly as practical to a resolution of the probable water supplies to CLIBP. This has been done in order to provide information to the County's EIR consultancy, AECOM, as soon as possible to aid in getting a comprehensive Draft EIR (DEIR) out for public comment. To that end we have developed a process to identify a limited range of water supply alternatives after initial meetings with DDW and the two public water systems. That range of alternatives will be described in an interim TM ahead of preparing a feasibility study and conducting secondary discussions with DDW and the two public water systems to arrive at a preferred water supply alternative. Production of an interim TM that identifies the range of alternatives enables the EIR to move forward and assess each one as to their potential environmental impacts. The resulting recommended sequencing is for three (3) steps to this next phase of work on identifying a viable water supply to CLIBP.

STEP 1 PRE-FEASIBILITY STUDY (FS) ACTIONS

STEP 2 FEASIBILITY STUDY OF VIABLE WATER SUPPLY ALTERNATIVES

STEP 3 PREPARE CONCEPTUAL DESIGN OF PREFERRED WATER SUPPLY ALTERNATIVE

The structure of tasks we have developed in our internal discussions and in conjunction with you have been built out to fit within the three Steps. The outline of eighteen (18) tasks that fit within the three Steps is provided. There are recognizable but less well defined project work in this phase of water supply development for the CLIBP such as AECOM support for the DEIR comments. We have scoped this phase

through the Final EIR and conceptual design process. All project design work beyond that point is reserved to a later phase and scope of work.

Step	Task Descriptions
Step 1 Pre-Feasibility Study (FS) Actions	Task 1 - Test Groundwater Quality from Existing Shallower Wells
	Task 2 - Collect and Compile Water-system Water-quality Data for Crows Landing CSD, City of Patterson, and Auxiliary Well for Western Hills Water District
	Task 3 - Meet with DDW to Review Supply Options and Discuss Prospective Feasibility Study Alternatives and DDW Requirements
	Task 4 –Meet with Public Works and AECOM to Review Supply Options
	Task 5 – Hold Initial Meetings with Crows Landing CSD and City of Patterson
	Task 6 – Develop a TM for EIR Analyses of Potential Water-supply Alternatives to be considered in the Feasibility Study
Step 2 Feasibility Study (FS) of Water Supply Alternatives	Task 7 (For Future Consideration) – Perform Additional Field Characterization of Groundwater Laterally and Vertically
	Task 8 - Investigate Feasibility of On-Site Supply Only via Blending of Shallow and Deep Groundwater or Limited Treatment
	Task 9 - Investigate Feasibility of a Blending System for Crows Landing CSD and CLIBP Sources
	Task 10 - Investigate Feasibility of a Blending System for City of Patterson and CLIBP Sources
	Task 11 – Prepare Initial FS Report of Supply Alternatives that identifies County preferred alternative
	Task 12 – Conduct Second Meetings with Crows Landing CSD and City of Patterson to discuss feasibility of consolidation or annexation
	Task 13 – Hold Second Meeting with DDW to Review Supply Alternatives and Feasibility of Annexation, Consolidation with Neighboring Systems

Step	Task Descriptions
Step 3 Prepare Conceptual Design of Preferred Alternative	Task 14 – Perform Background Investigation of Agency Data
	Task 15 – Preliminary Water Supply Engineering
	Task 16 – Develop Project Alignments for Water Supply System(s)
	Task 17 – Prepare Preliminary Engineering Report of the Preferred Water Supply Alternative
	Task 18 –Coordinate with AECOM on EIR input and response to comments on DEIR

Scope of Work

STEP 1 PRE-FEASIBILITY STUDY ACTIVITIES

The scope of work described for Step 1 is to perform an assessment of potential water supply alternatives. The sequence proposed is to first collect additional background data on water chemistry prior to meeting with DDW to assess what they will require in looking at the feasibility of consolidation with Crows Landing CSD and the City of Patterson. We would then meet with those two public water supply operators and confer on the range of a feasibility study alternative(s) to be evaluated. This assessment would be handed off in a TM to AECOM to proceed with preparation of an updated EIR as early as possible.

Task 1 – Collect Existing Well Samples for Shallow Groundwater

There are a number of existing wells that can be used to evaluate the suitability of shallow groundwater. There are four existing irrigation water-supply wells at the airfield that will be sampled, two above the Corcoran Clay and two screened above and below the Corcoran Clay. These wells with their different depth horizons can provide general mineral chemistry of groundwater for sulfates. E-PUR will sample these wells by purging the well casings with existing pumps and collecting samples from the active discharge after parameters stabilize. These samples will be submitted for general mineral chemistry analysis. In addition to testing agricultural supply wells at CLIBP, there are on-site wells related to the pollution studies for the Navy and NASA. We propose that samples be collected from these wells by coordinating with the Navy and its contractors to acquire the samples. E-PUR has contacted the Navy and requested that they provide access for our field staff to sample for general mineral analyses. E-PUR will send those samples to our lab, California Laboratory Services analysis.

There are two or more off site wells to the east on Perez Farms' and Escobar Farms' property that would provide valuable information on general mineral chemistry of the combination of groundwater units above and below the Corcoran Clay. Identification of these well records indicate that they are screened in both intervals. The proposed scope of work includes a request by E-PUR for general mineral chemistry and dissolved metals data from both farm groups, if it can be provided.

E-PUR will prepare an evaluation of water quality projected from the combined aquifer units irrespective of whether samples can be provided by the Navy and whether Perez and Escobar can and will provide samples or data.

TASK 2 - COLLECT AND COMPILE WATER QUALITY DATA FROM CROWS LANDING CSD, THE CITY OF PATTERSON, AND WESTHILLS WATER DISTRICT

The project team will collect background water chemistry data on Crows Landing CSD and City of Patterson from the DDW website for public records. Additionally the project team will contact West Hills Water District to request data on their auxiliary water supply well that they have available to them as a backup for their water supply via a contract for water from the California Aqueduct.

TASK 3 - MEET WITH STATE BOARD DIVISION OF DRINKING WATER TO DISCUSS OPTIONS AND PROSPECTIVE SUBMITTALS

The project team will hold a meeting with regional DDW staff in their Stockton office to review water quality data and Stanislaus County's goals for a water supply system for CLIBP. It is anticipated that County staff will join the meeting. The discussions in the meeting and the data will be summarized in a Technical Memorandum of Water Quality Findings and DDW Meeting.

TASK 4 –MEET WITH AECOM TO REVIEW SUPPLY OPTIONS UNDER CONSIDERATION

This task consists of a key project meeting with Stanislaus County and its consultant for the CLIBP Environmental Impact Report (EIR), AECOM. The meeting will provide for a discussion of the options available under DDW's input regarding existing systems, on-site water quality, and their focus under SB 1263. This meeting will guide subsequent meetings with City of Patterson and Crows Landing CSD.

TASK 5 – CONDUCT INITIAL MEETINGS WITH CITY OF PATTERSON AND CROWS LANDING CSD

These meetings will identify the SB 1263 requirements and identify water supply alternatives to be addressed by Stanislaus County in a Feasibility Study. A separate meeting with each entity is scoped. The discussion will focus on CLIBP's need for a water supply and the County's intent to develop a water supply system at the site in conjunction with State requirements. Graphics will be prepared for the meeting describing the areas and intended focus within them. Input from each entity will be solicited regarding what possibilities they see for coordination and/or consolidation in accord with project findings to that point. Meetings will be documented into the TM of Task 6.

TASK 6 – DEVELOP A TM FOR THE EIR ANALYSES OF THE ASSESSMENT OF POTENTIAL WATER SUPPLY ALTERNATIVES FOR THE CLIBP

The overall deliverable for Step 1 will be a Technical Memorandum (TM) to document these background data findings and the discussions with these entities in the Pre- Feasibility Study Actions. This TM is scoped to form the basis for the EIR evaluations to move forward rapidly in the fall of 2017 to consider three (3) conceptual alternatives for water supply. The conceptual water supply layouts to connect to the existing AECOM/VVH pre-design assessment will be developed and presented in this preliminary assessment of water supply alternatives. The systems layouts will be general in nature and will follow general County requirements for access easements and other linear alignment and setoff requirements. This Pre-FS TM will not provide any preferred alternative as the three alternatives will not yet have been further developed with external entities and the timeframe does not allow for their feasibility and costs to have

been considered. It will form the basis for the scope of work conducted in Step 2, a feasibility study of the water supply alternatives to the CLIBP. The FS will engage the DDW requirements for evaluating the feasibility of consolidation with either Crows Landing CSD and/or City of Patterson under SB 1263. The FS will also address desired or required DDW pre-treatment water quality standards for potable water system raw water influent.

STEP 1 SCHEDULE

The schedule depicted in Figure 1 indicates an aggressive schedule to first confer with DDW in late September 2017 accompanied by County staff. This is then followed by a meeting with AECOM on October 6, 2017 to identify concepts available for assembly to alternatives ahead of E-PUR's team and the County meeting with Crows Landing CSD and the City of Patterson to develop the water supply alternatives. The meeting on October 6th will enable AECOM to develop questions and information needs to be provided by E-PUR. October 24 is scheduled as the key date for production of a TM of the EIR ready description of the alternatives that will be further evaluated in Step 2.

STEP 2 FEASIBILITY STUDY OF WATER SUPPLY ALTERNATIVES

The water supply planning needs to move toward an engineering and hydrogeologic assessment of both potable and non-potable water supplies to the CLIBP from groundwater. Surface water was not available in AECOM's assessment for the programmatic EIR and that does not appear to have changed. Water supplies for the CLIBP are dependent upon suitable groundwater availability and water of suitable quality with or without treatment. We recommend preparing a focused engineering feasibility study of groundwater supply alternatives for the CLIBP with blending and treatment options. The pressing need for the CLIBP water supply is to evaluate more broadly the needs for both potable and non-potable supply sources. This evaluation needs to incorporate additional sources and approaches to those described by AECOM/VVH and Jacobsen James & Associates.[1,2] Those documents described a phased build out of construction for the CLIBP using untreated groundwater with a focus on quantity and rate of water production. In those earlier assessments, potable water supply from groundwater without treatment was projected to come from below the Corcoran Clay and non-potable water supply groundwater was projected to come from above the Corcoran Clay. While those source concepts are still viable the DDW will also require evaluation of consolidation with the two other systems nearby which notably are also wholly dependent on groundwater. The scope of our engineering Feasibility Study (FS) will be limited to evaluation of three water supply alternatives.

Alternative 1. On-site wells only with blending (and treatment),
Alternative 2. Combined on-site system with Crows Landing CSD, and
Alternative 3. Combined on-site system with City of Patterson.

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[1] *VVH, 2015 and 2016, "Crows Landing Industrial Business Park, Water Supply (Potable and Non-Potable) Infrastructure and Facilities Study, February 27, 2015 and Updated September 27, 2016.*

[2] *JJA, 2016, "Groundwater Resources Impact Assessment, Crows Landing Industrial Park, Stanislaus County, California", Draft August 19.*

These are the broad outlines of three conceptual alternatives for the FS. The number of alternatives will be fixed at three but the conceptual aspects of the three alternatives is likely to be influenced by the Pre-FS findings on blending options and combination vs. consolidation options with the neighboring systems.

For the current phase of the project we have scoped developing and evaluating each of the three alternatives. We provide an outline of the scope of work for developing each of the alternatives in Tasks 8 to 10.

For the alternatives analysis the project team will develop conceptual descriptions of the principal components for each supply alternative. The conceptual description will describe components needed to produce water to common point(s) of water-system supply for CLIBP Phase 1 and subsequent build out phases to address both potable and non-potable water needs.

The alternatives will be screened or ranked based upon implementability, reliability, cost, ease of administration, and public/consumer acceptance. Estimated construction and O&M costs for each alternative will be developed to an AACE Class 4 standard for feasibility study analysis. Estimated costs for each of the alternatives will be incorporated to a ranking criteria matrix and table for alternative screening. We note that alternatives involving consolidation/blending with other water systems involve highly uncertain real and administrative costs (e.g. legal costs and costs for improvements to existing water system facilities). To the extent these costs can be reasonably anticipated, they will be included in the opinions of probable cost.

E-PUR and Provost & Pritchard will work closely together on this phase of the project as it relies upon both companies' knowledge and expertise.

Task 7 (For Future Consideration) – Additional Test Borehole Drilling and Zonal Monitoring Well Installation to Support Assessment of On-Site Water Supply Alternative(s)

If the Pre FS Steps identify on-site blending and/or treatment is viable then additional field characterization is recommended to identify, the number of supply locations and their specific characteristics by area to ensure a blending solution is as reliable and inexpensive as possible; this work has been identified as Task 7 but due to the uncertainty of need and scope it is identified as an item for future consideration. If this confirmatory field work is deemed necessary then it could delay completion of the FS as it will take 7 to12 weeks to complete.

Task 8 – Investigate Feasibility of On-Site Supply Only via Blending of Shallow and Deep Groundwater or Limited Treatment

The project team will evaluate the water quality and supply potential of groundwater in the northern and northeastern portions of the CLIBP. The project team will develop conceptual well designs at the feasibility study level for extraction from zones above and below the Corcoran Clay along with conceptual pipeline alignments to supply Phase 1 areas and subsequent Phases. A conceptual water supply layout to connect to the existing AECOM/VVH pre-design assessment will be developed. The conceptual well design will be done in keeping with County and State requirements. We will evaluate groundwater aquifer characteristics to assess probable water production capacity of the combined units and make general design recommendations on the depth, number and spacing of wells screened in both intervals.

The project team will also assess the cost and practicalities of treating high sulfate source water to potable water quality before blending and after blending. Treatment technologies would be pre-screened to identify the best technology for CLIBP. A potable water supply system could be conceptualized based on the most applicable of the treatment technologies for the high sulfate water found in the deeper aquifer units beneath the CLIBP. The probable configurations of a production wellfield and treatment plant(s) would be evaluated in the northern area of the CLIBP to supply Phase 1 in the south and subsequent phases. Those elements would be developed to a conceptual design for potable supply.

The project team will:

- Establish drinking water treatment goals for CLIBP supply
- Conduct client meetings to discuss technology types and project concepts prior to FS Level evaluation
- Develop an alternative for analysis with conceptual project layout
- Identify items requiring further study if the alternative is taken forward

In addition a non-potable water supply system conceptual design would be developed based upon the earlier water supply assessments by AECOM and VVH. A conceptual layout of non-potable wells and piping to a system of non-potable piping would be developed.

A technical memorandum on the treatment technology and alternative screening which will contain: a water quality table for before and after treatment as well as projected water quality in waste brine or residuals from treatment, and capacity rating data. Other alternative related information will be integrated into the FS report in Task 11 such as conceptual production well layout(s) and system configuration description, alternative ranking for project specific screening criteria.

Task 9 – Investigate Feasibility of a Blending System for Crows Landing CSD and CLIBP Sources

Under this task Provost & Pritchard will lead the E-PUR project team efforts and develop concepts of piping water from Crows Landing to the CLIBP area and water from a CLIBP to a water treatment facility to blend and treat water to potable standards. This water would then be distributed to both the CLIBP and to Crows Landing CSD. The target for this conceptual alternative is to produce sufficient quantity of water to blend the sulfates at CLIBP to within target secondary MCL(s) for drinking water and to blend Crows Landing CSD water for hexavalent chromium, Cr(VI), to below the primary MCL.[3]

In this alternative, non-potable water will be supplied by onsite groundwater.

The project team will:

- Conduct a site area visit for project layout concepts
- Evaluate existing Crows Landing CSD water quality and supply capability
- Conduct a client meeting to discuss project concepts prior to FS evaluation

[3] *For the purposes of this proposal it is assumed that the current California MCL for Cr(VI) will remain in effect despite recent court rulings requiring the State Water Resources Control Board to prepare an economic impacts assessments as compared to the cost-benefit analysis they did in promulgating the current MCL.*

- Contact the Division of Drinking Water for further discussions about proposed blending arrangements
- Contact Crows Landing CSD for discussions of supplying water via blending or otherwise
- Establish required system improvements for Crows Landing CSD to reliably supply blending water to the CLIPB
- Identify water system connections points
- Evaluate blending water concepts

Additionally the expansion of Crows Landing CSD to include all of the CLIBP would be evaluated as part of the development of this conceptual alternative. This evaluation will include the practical steps required for an expansion.

A technical memorandum on the specific alternative components for potable water supply which will contain: water quality tables, conceptual pipeline alignments and water treatment plant location, mass balance calculations, and a list of required system improvements required for the Crows Landing CSD water supply alternative to be considered. The balance of the information developed for the alternative such as non-potable supply layouts and costs and then overall ranking of this blending alternative against project specific screening criteria, will be incorporated to the FS Report in Task 11.

Task 10 – Investigate Feasibility of a Blending System for City of Patterson and CLIBP Sources

Under this task Provost & Pritchard will lead the E-PUR project team efforts and develop concepts of piping water from City of Patterson to the CLIBP area and water from CLIBP to a water supply facility to blend and supply water to southern portions of the City of Patterson's service area. This water would then be available to distribute to both CLIBP and the City of Patterson. The target for this conceptual alternative is to produce sufficient quantity of water to blend the sulfates at CLIBP to within target secondary MCL(s) for drinking water and to augment City of Patterson supplies and alleviate water quality concerns for hexavalent chromium, Cr(VI), and total dissolved solids.[4]

In this alternative, non-potable water will be supplied by onsite groundwater.

The project team will:

- Conduct a site area visit for project layout concepts
- Conduct a client meeting to discuss project concepts prior to FS Level evaluation
- Contact the Division of Drinking Water for discussion about the proposed blending arrangement
- Contact City of Patterson for further discussions of supplying water
- Contact the Division of Drinking Water for discussion about the potential water supply alternative under consideration
- Evaluate existing City of Patterson water quality and supply capability
- Establish required system improvements for City of Patterson to reliably supply blending water to the CLIPB

[4] *For the purposes of this proposal it is assumed that the current California MCL for Cr(VI) will remain in effect despite recent court rulings requiring the State Water Resources Control Board to prepare an economic impacts assessments as compared to the cost-benefit analysis they did in promulgating the current MCL.*

- Identify water system connections points
- Evaluate blending water feasibility

Additionally the expansion of the City of Patterson system to include all of the CLIBP would be evaluated as a potential alternative prior to proceeding with the FS in Task 11. This evaluation will include the practical steps required for the expansion.

A technical memorandum on the specific alternative components for potable water supply which will contain: water quality tables, conceptual pipeline alignments and water treatment plant location, mass balance calculations, and a list of required system improvements required for the City of Patterson water system alternative. The balance of the information developed for the alternative such as non-potable supply layouts and costs and then overall ranking of this blending alternative against project specific screening criteria, will be incorporated to the FS Report in Task 11.

TASK 11 – PREPARE FEASIBILITY STUDY REPORT OF WATER SUPPLY ALTERNATIVES

The scope of this task encompasses summarizing the findings from the preceding task evaluations of specific water supply alternatives. The alternatives will be screened or ranked based upon implementability, reliability, cost, ease of administration, and public/consumer acceptance. Estimated construction and O&M costs for each alternative will be developed to an AACE Class 4 standard for feasibility study analysis. Estimated costs for each of the alternatives will be incorporated to a ranking criteria matrix and table for alternative screening.

E-PUR and Provost & Pritchard will work closely together on this phase of the project as it relies upon both companies' knowledge and expertise.

The scope for this task includes time for telephonic meetings to review preliminary findings and to develop a review draft feasibility study report assessing the water supply alternatives. These efforts will culminate in the delivery of a working draft FS Report suitable for presentation which describes the County's preferred alternative and rationale, probable costs, and recommendations.

Deliverables: Summary of study and cost assumptions, alternative ranking table for project specific screening criteria, project conceptual layouts of the best concept identified for each water supply alternative considered, a review draft FS Report describing project alternatives and the summary evaluation of matrix criteria for review and discussion, a project meeting to review the draft FS Report, followed by production of a working draft FS Report for subsequent presentation, discussion and meetings with various stakeholders and interested parties.

TASK 12 – FOLLOW UP MEETINGS WITH CROWS LANDING CSD AND CITY OF PATTERSON

Two separate meetings are again scoped for discussion with the nearby public water systems. These meetings would provide a copy of the working draft FS Report to each entity. The meetings would focus on further developing a preferred alternative between each party. An agenda would be developed for each meeting to guide the discussion, and subsequent meeting minutes would be prepared to document outcomes and any agreed upon actions.

TASK 13 – HOLD SECOND MEETING WITH DDW TO REVIEW SUPPLY ALTERNATIVES AND OPTIONS

A meeting with regional DDW staff is scoped to discuss the working draft FS Report and its findings on water quality and water supply alternatives. The meeting will also serve to update the DDW on evaluative efforts of the feasibility of annexation and/or consolidation with the two neighboring systems. The meeting will seek to gain the DDW's buy in on the alternatives assessment and the direction being taken for finalizing a preferred water supply alternative for the CLIBP.

An agenda would be developed for each meeting to guide the discussion, and subsequent meeting minutes would be prepared to document outcomes and any agreed upon actions.

STEP 2 SCHEDULE

Figure 1 depicts the estimated schedule for developing a Feasibility Study report. The schedule depicts delivery of a review draft FS Report by the end of November with a review period to December 13, 2017. After finalizing a working draft of the FS Report the second meetings with Crows Landing CSD and City of Patterson are targeted for before the end of the calendar year followed by an update meeting with DDW on a preferred alternative for the CLIBP. This schedule may be delayed if additional characterization data of the groundwater aquifer zones from Task 7 is deemed essential to completion of the FS Report. This would delay completion of the FS Report by 6 to 8 weeks into the February to March 2018 timeframe.

The project is anticipated to require routine telephonic meetings with Stanislaus County Public Works to review work progress, as well as to discuss in meetings where the findings of the project are moving the development of water supply alternatives in relation to the EIR, the FS, and the discussions with the other parties (i.e., DDW, Crows Landing CSD, and City of Patterson). The scope provided envisions two in-person meetings within the roughly seven meetings depicted on the Figure 1 schedule. The meetings will address next steps in the projects as well as the other future work items and information needs such as LAFCO and DDW requirements.

STEP 3 PREPARE CONCEPTUAL DESIGN OF PREFERRED ALTERNATIVE

Following meetings with DDW and the neighboring water systems the assessment of water supply alternatives Step 3 of this phase of the project will develop a more detailed conceptual design of the preferred water supply alternative at the 5-10% design level. This will encompass reviewing additional system needs for information to guide the overall water supply program toward a water supply system alternative around which a preliminary technical report under SB 1263 can be developed. However this phase of the project and this Step 3 are not scoped to produce the preliminary technical report. For context the contents and requirements of a preliminary technical report are provided in Attachment A.

Step 3 will result in a conceptual design of sufficient detail that LAFCO requirements can be addressed and other requisite information needs identified for a full system design to be developed in a subsequent phase. The conceptual design will identify outstanding information needs for developing an SB 1263 preliminary technical report in a subsequent phase of work.

TASK 14 – PERFORM BACKGROUND INVESTIGATION OF AGENCY DATA

A variety of additional information may need to be considered in further assessment of the preferred alternative. This would include Urban Water Management Plans, Water Master Plans, more detailed information on water quality data, water system flow characteristics, and existing hydraulic models such

as those done by VVH for the CLIBP or for those in adjoining City of Patterson and/or Crows Landing if warranted by the preferred alternative.

TASK 15 – PRELIMINARY ENGINEERING OF ALTERNATIVE

This preliminary engineering step would evaluate the point of connection location(s) to potable and non-potable water distribution systems. It would determine the locations for water storage and footprint as well as the approximate pumping needs and pipe sizes necessary to augment VVH's hydraulic modeling of both potable and non-potable water supplies based on the preferred alternatives source locations for water to the systems. The scope of this preliminary engineering does not encompass performing additional hydraulic modeling. It will produce information sufficient for subsequent hydraulic modeling and subsequent pump location and sizing into an eventual project design.

TASK 16 – PROJECT ALIGNMENT EVALUATION AND PRELIMINARY DESIGN

This task will further refine the project piping alignments to the point(s) of connection and evaluate right of way issues. This will be taken to a level suitable for a subsequent Project Design. This Task and Step 3 will produce a water supply system Conceptual Design. It will not produce Technical Specifications and Drawings of a Project Design.

TASK 17 – PREPARE CONCEPTUAL DESIGN REPORT OF PREFERRED ALTERNATIVE

A full conceptual design will be developed of the preferred alternative suitable for incorporation to a Final EIR. The conceptual design report will identify information needs for the development of a preliminary technical report suitable for submittal to DDW and the County.

TASK 18 –COORDINATE WITH AECOM AND STANISLAUS COUNTY REGARDING EIR

This task is provided for as needed discussions with AECOM regarding the potential impacts on the EIR from the Feasibility Study portion of the project, Step 2, beyond the initial handoff and meetings at the conclusion of Step 1. It also provides as needed support to AECOM to respond to comments on the Public Draft EIR.

STEP 3 SCHEDULE

Figure 1 depicts engineering evaluations beginning in mid-December 2016 and requiring 9 weeks to complete. This schedule start is dependent upon conclusion of Step 2 to a working draft FS Report. Thus it may be delayed by completion of Step 2.

SCHEDULE OF COST AND FEES

From a budget authorization standpoint we are providing you the full budget for all the activities scoped. However, based on those same discussions we anticipate work being authorized by you incrementally for Steps 1, 2, and 3 as the needed scope elements become clearer during Step 1 for the subsequent Steps 2 and 3. The scope of this phase of project will require significant internal and external coordination and project administration to keep the project team efficient on work execution. Time has been budgeted for internal efforts to keep the team focused on the short term objectives and the project overall goals. We have made every effort to be comprehensive on the scope herein including a Project Coordination set of tasks intended to guide the project throughout implementation.

E-PUR can perform these services under an Amendment to our current contract, Stanislaus County Contract 2016-479. The work would be performed and invoice monthly on a time and materials basis in accordance with our Standard Fee Schedule in effect for this Stanislaus County Contract 2016-479. Our estimated costs inclusive of subcontracted activities are approximately $173,750 as shown in the following table.

Scope Sequence	E-PUR Labor	Direct Expenses	Subcontracted Expenses	Subtotals by Task
Step 1 – Pre-Feasibility Study Actions	$28,200	$750	$25,850	$54,800
Step 2 – Feasibility Study Actions	$30,000	$400	$44,350	$74,750
Step 3 – Prepare Conceptual Design of Preferred Alternative	$12,140	$260	$31,800	$44,200
TOTAL ESTIMATED FEE				$173,750

Fees will be invoiced monthly as they are accrued. Reimbursable expenses will be invoiced in addition to professional fees and are included in the estimate above. If it appears we will need to exceed the estimate above, we will notify you in writing before we do so, and will provide a revised estimate. We will not continue work beyond the initial budget without additional authorization.

PROJECT SCHEDULE

A detailed schedule of the anticipated task duration, with key milestones and task interdependencies is provided in the attached Figure 1. The full schedule for this phase of the project is projected to be 23 weeks. However, this could be lengthened by as much as 6 to 8 weeks if the need for a field investigation (Task 7) delays completion of Step 2 which then delays the start of Step 3 by that same number of weeks.

ASSUMPTIONS

Cost Estimating for CLIPB utility infrastructure is beyond the scope of this study including:

- Potable and/or Non-Potable CLIPB distribution systems.
- Power for CLIBP well or treatment locations.
- Paving costs for new CLIPB roads. Repaving in existing roads will be included in the unit price for new piping.

Hydraulic modeling of water distribution systems for the Feasibility Study alternatives and the Conceptual Design of the Preferred Alternative is beyond the scope of this study.

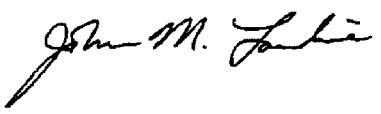
CLOSING

E-PUR and Provost & Pritchard can efficiently provide Stanislaus County a screening-level feasibility study of this focused subset of water-supply alternatives for the CLIBP. We want to continue to demonstrate the enthusiasm and the rigor with which we do our work to you and to Stanislaus County Public Works.

We are happy to discuss any aspects of the proposed work for assessing the availability of groundwater to meet the water supply needs for the CLIBP.

Sincerely,

E-PUR, LLC



John M. Lambie, PE, PG, CEG
Principal Hydrogeologist

cc: Alex Bargmeyer, PE, E-PUR
Dena Traina, PE, Provost & Pritchard
Kevin Berryhill, PE, Provost & Pritchard
David McGlasson, PE, Provost & Pritchard

Attachments:
Figure 1: Steps and Task with Execution Timeline
Attachment A: SB 1263 Requirements for an Engineer's Preliminary Technical Report

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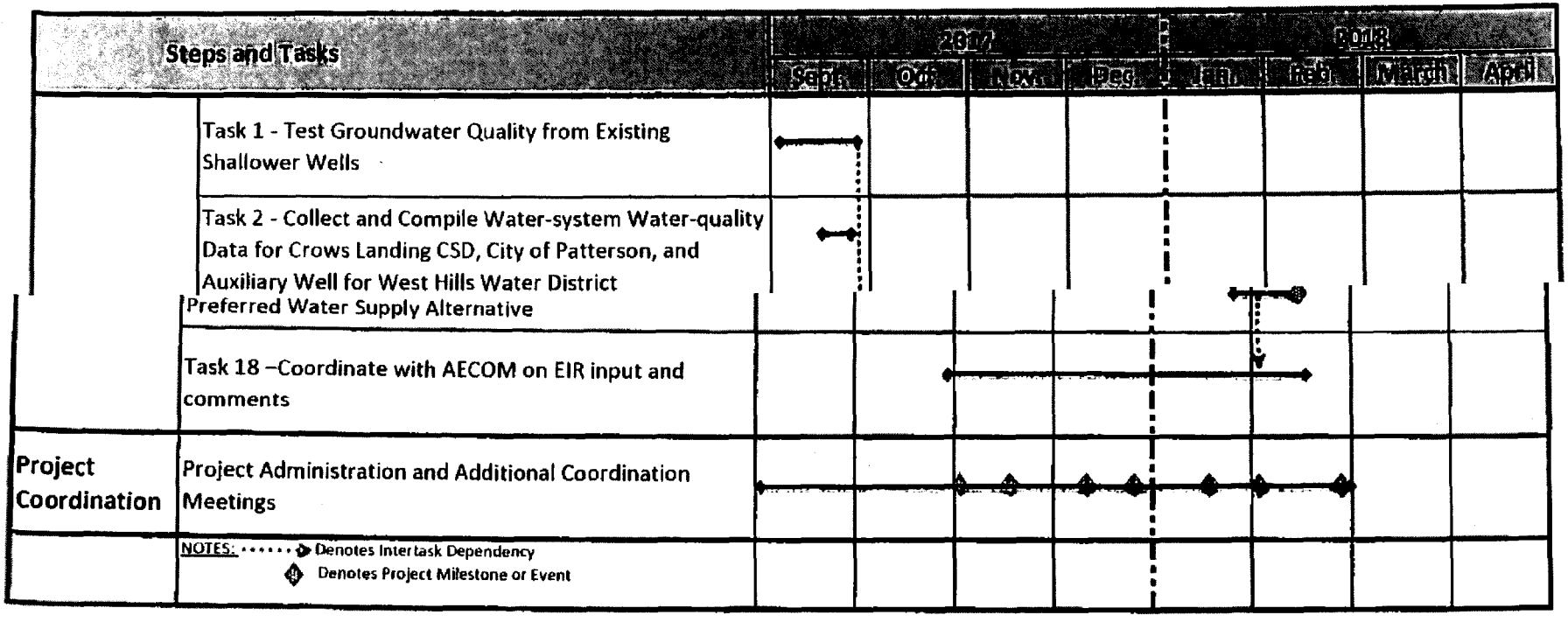
Figure 1
Steps and Tasks with Execution Timeline
for Assessment of Water Supply Alternatives for the CLIBP



ATTACHMENT A

CALIFORNIA SENATE BILL 1263 REQUIREMENTS FOR AN ENGINEER'S PRELIMINARY TECHNICAL REPORT

Health and Safety Code 116527.

(b) (1) Before a person submits an application for a permit for a proposed new public water system, the person shall first submit a preliminary technical report to the state board at least six months before initiating construction of any water-related improvement.

The preliminary technical report shall include all of the following:
(1) The name of each public water system for which any service area boundary is within three miles, as measured through existing public rights-of-way, of any boundary of the applicant's proposed public water system's service area.

(2) A discussion of the feasibility of each of the adjacent public water systems identified pursuant to paragraph (1) annexing, connecting, or otherwise supplying domestic water to the applicant's proposed new public water system's service area. The applicant shall consult with each adjacent public water system in preparing the report and shall include in the report any information provided by each adjacent public water system regarding the feasibility of annexing, connecting, or otherwise supplying domestic water to that service area.

(3) A discussion of all actions taken by the applicant to secure a supply of domestic water from an existing public water system for the proposed new public water system's service area.

(4) All sources of domestic water supply for the proposed new public water system.

(5) The estimated cost to construct, operate, and maintain the proposed new public water system, including long-term operation and maintenance costs and a potential rate structure.

(6) A comparison of the costs associated with the construction, operation and maintenance, and long-term sustainability of the proposed new public water system to the costs associated with providing water to the proposed new public water system's service area through annexation by, consolidation with, or connection to an existing public water system.

(7) A discussion of all actions taken by the applicant to pursue a contract for managerial or operational oversight from an existing public water system.

(8) An analysis of whether a proposed new public water system's total projected water supplies available during normal, single dry, or multiple dry water years during a 20-year projection will meet the projected water demand for the service area.

(9) Any information provided by the local agency formation commission.