

RE: City of Prescott Contract No. 2014-001, Independent Contractor Agreement, Big Chino Sub-Basin Ephemeral Stream Flow Monitoring System, executed on August 28, 2013 - An Amendment to include Stream-flow Monitoring on the Lower Williamson Valley Wash, October 8, 2013

SUPPLEMENTAL SCHEDULE B

Scope of Work

Capital Equipment Installation and Annual Operation and Maintenance Services

*"Ephemeral Stream-flow Monitoring Proposal within the Big Chino Sub-basin:
Amendment to include Lower Williamson Valley Wash, October 8, 2013"*

Lee W. Ester and Sharon S. Morris

Salt River Project

The parties have executed this amendment to the Independent Contractor Agreement dated August 28, 2013, as of this 30th day of November, 2013.

CLIENT - CITY OF PRESCOTT

THE SALT RIVER VALLEY WATER USERS'
ASSOCIATION

By: *Marlin D. Kuykendall*
MARLIN D. KUYKENDALL

Its: Mayor

By: *Lee W. Ester*
Its: *Manager, Water Measurement*
SRP





Big Chino Sub-basin. Photo Credit: SRP, April 2013.

***Ephemeral Stream-flow Monitoring Proposal within
the Big Chino Sub-basin : Amendment to include
Lower Williamson Valley Wash***

October 8, 2013

Lee W. Ester and Sharon S. Morris

Salt River Project

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I. Introduction

On September 23, 2013, Lee Ester, Manager of SRP Water Measurement, joined the Big Chino Monitoring Committee on a field visit to the Lower Williamson Valley Wash to investigate a potential ninth stream-flow monitoring site. The group successfully identified a location on the wash to be included in the stream-flow monitoring program.

At the conclusion of the field visit, the Monitoring Committee requested that SRP prepare a proposal for an additional monitoring site at the Lower Williamson Valley Wash location. The addition of this ninth site will be included as an addendum to the previously approved stream-flow monitoring agreement, RE: City of Prescott Contract No. 2014-001, Independent Contractor Agreement, Big Chino Sub-Basin Ephemeral Stream Flow Monitoring System, executed on August 28, 2013.

The following proposal identifies the deliverables for monitoring ephemeral stream-flow on the Lower Williamson Valley Wash. The monitoring approach follows directly in line with the previously approved eight sites.

Capital and O&M costs for this site would increase the total stream-flow monitoring project costs by the amounts detailed in this proposal.



II. Additional Surface-Water Monitoring Site Specifications

Lower Williamson Valley Wash



Figure 1 Lower Williamson Valley Wash looking downstream. Photo Credit: SRP, Sept. 2013.

Monitoring Approach: Solinst pressure transducers, Solinst barometric transducer, Stealth Camera (with cellular connection), direct measurement during opportune flow events.

Monitoring priority: To be determined via collaborative discussions between the Big Chino Monitoring Committee and SRP.

Installation timeline: Based on priority as set by the Monitoring committee.

Preliminary Flow Estimates: Using the Slope-Area Method and preliminary survey data collected in the field, an illustrative detailed estimate of potential flow conditions were calculated for channel stages ranging from 0-3 feet only using the Manning's equation. This generated flow estimates then a second order polynomial regression was generated to develop an estimated stream-flow rating curve as shown in Figure 2.

The area shown in green highlights the channel stage/flow conditions where a hydrographic direct measurement could safely be conducted by wading methods (such that stage x velocity < 9).

Figure 3 highlights the stream dimensions on the day of site selection.

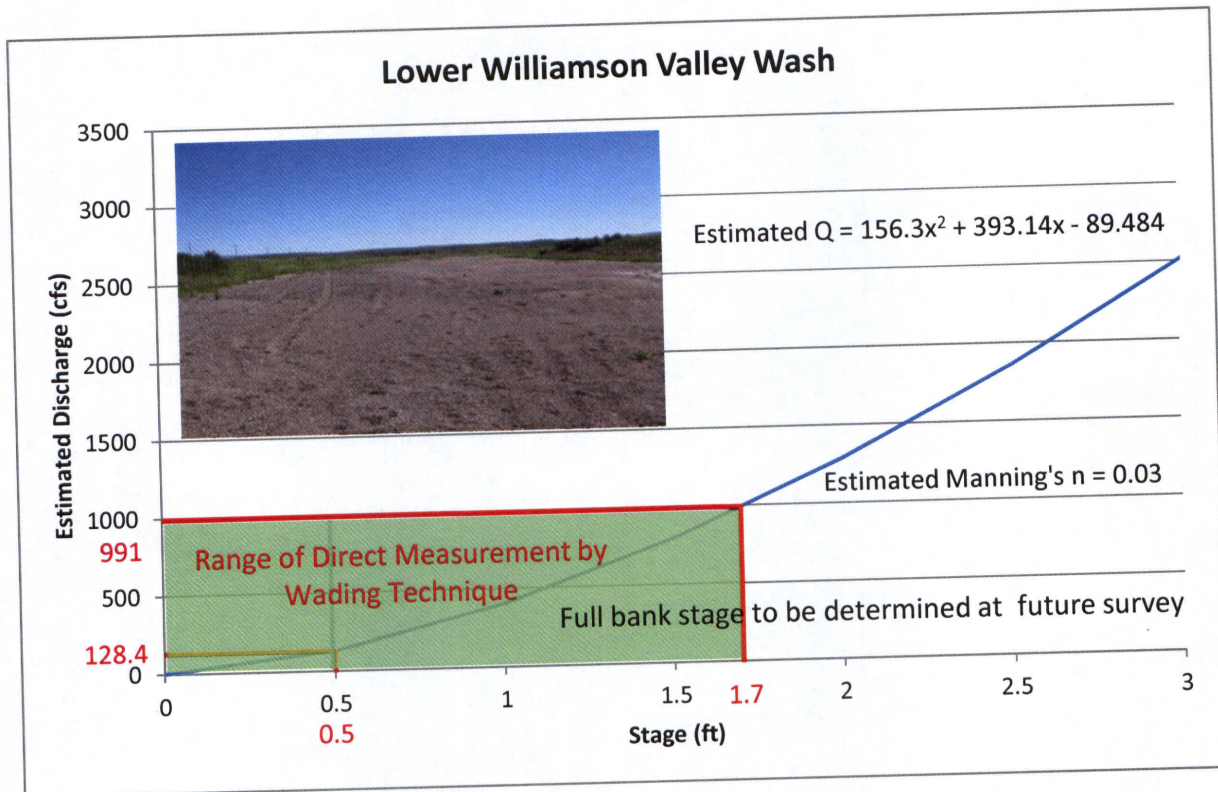


Figure 2 Preliminary stage-discharge estimate for Williamson Valley Wash.

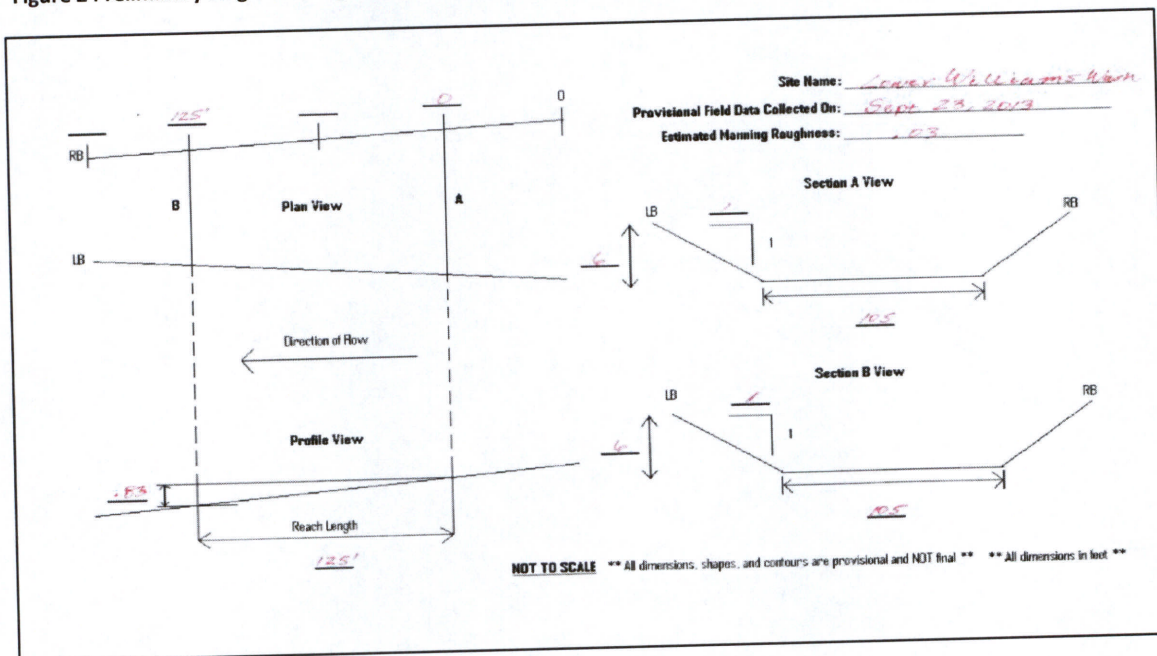


Figure 3 Preliminary Channel Profile at Lower Williamson Valley Wash.

III. Project Capital and O&M Cost Estimates

A. Capital Costs*

Site Name	Solinst Pressure Transducer	Solinst Barometric Logger	Stealth Camera (Cellular)	Cellular Svc Fees	Site Survey	Installation & Calibration	Total
Lower Williamson Valley Wash	Yes, 2ea	Yes, 1ea	Yes, 1ea	Yes	Yes	Yes	\$12,026

* Allow 6 to 8 weeks to purchase and receive materials once notice to proceed with stream-flow monitoring is obtained.

B. Operation and Maintenance (O&M) – Recurring Cost Estimates

The SRP O&M budget will be used to travel, operate and maintain the site; gather direct stream-flow measurements and data from the in-stream devices; manage the data analysis and processing; and host the data website.

To meet the above deliverables, SRP estimates a minimum of **\$9,786 is needed annually**. *This price does not include taxes if applicable.* The actual services provided could vary due to weather, travel methods, site complexity, and site access issues. This site will include the servicing and maintenance requirements as previously detailed for the other eight locations.

SRP proposes to meet with the Monitoring Committee to refine the 1st year's O&M pro-forma budget and site operation schedule to ensure that the project goals and budget are understood by each.

The sum of the site's annual maintenance budget is:

<i>Annual Maintenance Budget</i>	
Lower Williamson Valley Wash	\$ 9,786 / year
Cellular Fees (additional)	\$ 608 (estimated recurring annual cost)

**In the event of any unforeseen circumstances or equipment needs, the following breakdown of SRP costs could apply:*

<i>Transportation – Helicopter</i>	<i>\$ 500 per rotor hour</i>
<i>Transportation – Vehicle - ground</i>	<i>\$ 5 per SRP labor hour</i>
<i>Additional Materials</i>	<i>Actual cost plus 15%</i>
<i>Cellular Network Fees</i>	<i>\$ 45 per site per month</i>
<i>Labor (Professional Services)</i>	<i>\$ 85 per hour</i>
<i>Labor (non-technical if appropriate)</i>	<i>\$ 20 per hour</i>
<i>Data Processing (Professional & Analytical Services)</i>	<i>\$ 85 per hour</i>
<i>Direct Hydrographic Measurement (exclusive of travel costs)</i>	<i>\$ 510 per site</i>
<i>Overnight stay and meal expenses (when required)</i>	<i>~ \$ 166 per day/person</i>

IV. Invoicing

All invoices will be accompanied by a detailed description of equipment and/or services provided by date and purpose as follows.

A. Capital – Initialing Site

During the capital equipment implementation of the project, SRP will invoice in advance for 50% of the total hardware estimate. The funds will be used directly towards the purchase of equipment and preparing site infrastructure. The balance of the capital costs will be invoiced when the site is completed.

B. Operation and Maintenance (O&M) - Recurring Charges

At such time that the initial installation is complete and the site accepted by the Monitoring Committee, the site will enter into the operational and maintenance phase of the project. Invoicing for routine services will occur at regular intervals and will be submitted subsequent to service events.

C. Break-Fix Event (Exception to Planned Schedule)

In the event any special services or equipment requirements are needed, these actions will be invoiced as they occur. A process for seeking Monitoring Committee approval for exceptions to equipment or service events will need to be defined.

D. Special Call Out and Change Orders

Special call-out for pre/post-storm or other servicing (such as collecting direct hydrographic measurements or collect data and photographs) will be charged as a Break-Fix event.

All invoices will be accompanied by a detailed description of equipment or services provided by date and purpose.



V. Notice to Proceed

This proposal outlines SRP's ephemeral stream-flow monitoring methods for the Lower Williamson Valley Wash location. SRP will install, operate, and maintain the stream-flow monitoring site in support of the Big Chino Sub-basin Data Collection and Monitoring Plan.

SRP welcomes a collaborative approach to meeting the needs of the Big Chino Sub-Basin Water Monitoring Program. Through open communication and participation, the Monitoring Committee (and other decision makers) is welcomed to join in the configuration of equipment, field installation efforts, and accompany on future service and monitoring trips to each site.

It is anticipated that the addition of this site will be an amendment to the previously approved Prescott/SRP Independent Contractor Agreement (ICA) executed on August 28, 2013. Upon agreement to the terms and conditions outlined in this proposal, the existing ICA will be amended to include the attached supplemental schedule.

If the Monitoring Committee should have any questions or would like to discuss this project proposal in further detail, please contact:

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Salt River Project
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Attachment: City of Prescott Contract No. 2014-001, Independent Contractor Agreement, Big Chino Sub-Basin Ephemeral Stream Flow Monitoring System, executed on August 28, 2013 – An Amendment to include Stream-flow Monitoring on the Lower Williamson Valley Wash, October 8, 2013; SUPPLEMENTAL SCHEDULE B



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Replace
with original
when
returned

SUPPLEMENTAL SCHEDULE B

Scope of Work

Capital Equipment Installation and Annual Operation and Maintenance Services

***"Ephemeral Stream-flow Monitoring Proposal within the Big Chino Sub-basin:
Amendment to include Lower Williamson Valley Wash, October 8, 2013"***

***Lee W. Ester and Sharon S. Morris
Salt River Project***

The parties have executed this amendment to the Independent Contractor Agreement dated August 28, 2013, as of this _____ day of _____, 20_____.

CLIENT - CITY OF PRESCOTT

THE SALT RIVER VALLEY WATER USERS'
ASSOCIATION

By: _____
MARLIN D. KUYKENDALL

Its: Mayor

By: _____

Its: _____

