NOTICE OF REGULAR MEETING OF THE
PROJECT AGREEMENT 22 COMMITTEE
Interregional Landscape Water Demand Reduction Program

Committee Members:
Joe Grindstaff, General Manager, Inland Empire Utilities Agency
Doug Headrick, General Manager, San Bernardino Valley Municipal Water District
Paul D. Jones, General Manager, Eastern Municipal Water District
Michael Markus, General Manager, Orange County Water District
John Rossi, General Manager, Western Municipal Water District

THURSDAY, APRIL 28, 2016 – 8:00 A.M.

AGENDA

1. CALL TO ORDER (Larry McKenney, Convener)

2. PUBLIC COMMENTS
Members of the public may address the Committee on items within the jurisdiction of the Committee; however, no action may be taken on an item not appearing on the agenda unless the action is otherwise authorized by Government Code §54954.2(b).


4. COMMITTEE DISCUSSION ITEMS
A. CONSERVATION-BASED RATES PROJECT SCHEDULING (PA22#2016.6) ....................... 9
   • Staff Memo
   • Schedule
   • Preliminary Presentation

   Recommendation: Approve the June 1, 2016 deadline for accepting additional agencies as participants in the Conservation-Based Water Rates Project.

B. AERIAL MAPPING PROJECT CHANGE ORDER NO. 2 TO TASK ORDER RESO504-301-01 FOR MANAGEMENT AND IMAGE SUPPORT SERVICES (PA22#2016.7)............. 17
   • Staff Memo
   • Task Order RESO504-301-01
   • Change Order No. 1 to RESO504-301-01
   • Change Order No. 2 to RESO504-301-01
   • Preliminary Presentation

   Recommendation: Approve Change Order No. 2 to Task Order RESO504-301-01 with Resource Strategies, Inc., in an amount not to exceed $66,425 to provide management and image support services for the Aerial Imagery and LiDAR Project.
C. WEB-BASED WATER CONSUMPTION REPORTING AND CUSTOMER ENGAGEMENT PROJECT CONSULTANT PRESENTATION (PA22#2016.8) .......................................................... 35
   • Staff Memo

   Recommendation: Receive and file this presentation of the OmniEarth, Inc. retail agency dashboards.

D. METROPOLITAN WATER DISTRICT CONSERVATION PROGRAM FUNDING IN THE FYE 2017 AND FYE 2018 BIENNIAL BUDGET (PA22#2016.9) ................................................. 37
   • Staff Memo

   Recommendation: Discuss the MWD conservation program budget and relationship to PA 22 activities in the next two years.

5. FUTURE AGENDA ITEMS

6. ADJOURNMENT

PLEASE NOTE:
Americans with Disabilities Act: Meeting rooms are wheelchair accessible. If you require any special disability related accommodations to participate in this meeting, please contact (951) 354-4220 or kberry@sawpa.org. Notification at least 48 hours prior to the meeting will enable staff to make reasonable arrangements to ensure accessibility for this meeting. Requests should specify the nature of the disability and the type of accommodation requested.

Materials related to an item on this agenda submitted to the Commission after distribution of the agenda packet are available for public inspection during normal business hours at the SAWPA office, 11615 Sterling Avenue, Riverside, and available at www.sawpa.org, subject to staff’s ability to post documents prior to the meeting.

Declaration of Posting
I, Kelly Berry, Clerk of the Board of the Santa Ana Watershed Project Authority declare that on Thursday, April 21, 2016, a copy of this agenda has been uploaded to the SAWPA website at www.sawpa.org and posted in SAWPA’s office at 11615 Sterling Avenue, Riverside, California.

/s/
Kelly Berry, CMC

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<table>
<thead>
<tr>
<th>2016 – Project Agreement 22 Committee Regular Meetings</th>
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<tbody>
<tr>
<td>(NOTE: Unless otherwise noted, all Committee meetings begin at 8:00 a.m. and are held at SAWPA.)</td>
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<tr>
<td>April 28, 2016</td>
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<td>May 26, 2016</td>
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<td>June 23, 2016</td>
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Meeting date adjusted due to conflicting holiday.
COMMITEE MEMBERS PRESENT

Joe Grindstaff, General Manager, Inland Empire Utilities Agency
Doug Headrick, General Manager, San Bernardino Valley Municipal Water District
Michael Markus General Manager, Orange County Water District
Mallory Gandara, Western Municipal Water District [Non-voting]
Nick Kanetis, Deputy General Manager, Eastern Municipal Water District [Non-voting]
Larry McKenney, Executive Counsel, Santa Ana Watershed Project Authority – Convener [Non-Voting]

COMMITEE MEMBERS ABSENT

John Rossi, General Manager, Western Municipal Water District
Paul Jones, General Manager, Eastern Municipal Water District

STAFF PRESENT

Celeste Cantú, Mark Norton, Ian Achimore, Dean Unger, Rick Whetsel, Mike Antos, Kelly Berry, Zyanya Blancas

1. CALL TO ORDER (Larry McKenney, Convener)
   The meeting was called to order at 8:00 a.m. by Larry McKenney at the Santa Ana Watershed Project Authority, 11615 Sterling Avenue, Riverside, California.

2. PUBLIC COMMENTS
   There were no public comments.

3. APPROVAL OF MEETING MINUTES: DECEMBER 17, 2015
   Recommendation: Approve as posted.

   MOVED, approve December 17, 2015 meeting minutes as posted.

   Result: Adopted (Unanimously; 3-0)
   Motion/Second: Markus/Grindstaff
   Ayes Grindstaff, Headrick, Markus
   Nays: None
   Abstentions: None
   Absent: Jones, Rossi
4. COMMITTEE DISCUSSION ITEMS

A. CONSERVATION BASED RATES PROJECT POLICY STATEMENT NO. 2 (PA22#2016.2)

Larry McKenney noted the Committee previously adopted Policy Statement No. 2, which describes conservation based rates as a rate structure with, “…a customer-specific allocation that follows an increasing block rate structure that includes at least three blocks, with one or more blocks accounting for high or exceeding water use, based on State efficiency standards or more stringent efficiency standards.”

Staff’s interpretation is the Committee’s intent in adopting this language was to encourage individualized water budgets in providing customer-specific allocations, allowing an agency to determine excessive water use. It is expected that grant fund reimbursement related to conservation based water rates would be inclusive of a rate structure comprising parcel-based water budgets with indoor budgets based on per-capita water use and outdoor water budgets based on irrigated area and ET rates.

MOVED, approve staff’s interpretation of Policy Statement No 2.

Result: Adopted (Unanimously; 3-0)
Motion/Second: Grindstaff/Headrick
Ayes: Grindstaff, Headrick, Markus
Nays: None
Abstentions: None
Absents: Jones, Rossi

B. PA22 COMMITTEE BUDGET AMENDMENT (PA22#2016.1)

Mark Norton provided a PowerPoint presentation on the proposed budget amendment. Given the significant cost savings realized in the Aerial Mapping Project, due mainly to lower contract prices than originally estimated, only $730,244 of the $2.6 million initially budgeted amount has been obligated, leaving $1,869,755. Staff does not anticipate that $1.8 million will be needed to complete the Aerial Mapping Project. Staff’s recommendation is to amend the PA22 Committee budget to reallocate $860,120 from the Aerial Mapping Project to the Conservation Based Rates Project, which would support four agencies (in addition to the ten agencies currently under executed agreements) participating in the Conservation Based Rates Project. Agreements would be executed with the two agencies previously approved by the Committee, the City of Garden Grove and Cucamonga Valley Water District, and agreements with the remaining two would be brought before the Committee for authorization at a future meeting.

Concern was raised about keeping $1,009,635 budgeted to a project where it is not needed. Mark Norton noted that while this action leaves $1,009,635 remaining in the Aerial Mapping Project budget, the Committee can consider reallocation of those remaining funds at a future meeting.
MOVED, approve amending the PA22 Committee Budget to move $860,120 from the Aerial Mapping Project to the Conservation Based Rates Project.

Result: Adopted (Unanimously; 3-0)
Motion/Second: Markus/Grindstaff
Ayes Grindstaff, Headrick, Markus
Nays: None
Abstentions: None
Absent: Jones, Rossi

C. TURF REMOVAL PROJECT POLICY STATEMENT NO. 1 (PA22#2016.3)

Ian Achimore provided a PowerPoint presentation on the proposed clarification to Policy Statement No. 1. The Committee previously determined that churches qualify as “institutional” under Policy Statement No. 1. Staff recommended that non-profit organizations also qualify as “institutional,” subject to the same requirement that the site is a highly visible property.

MOVED, clarify that Policy Statement No. 1 and the SAWPA Member Agency Contracts are intended to include institutions in the definition of eligible recipients for turf removal rebates, and institutions shall include highly visible properties of non-profit organizations.

Result: Adopted (Unanimously; 3-0)
Motion/Second: Headrick/Markus
Ayes Grindstaff, Headrick, Markus
Nays: None
Abstentions: None
Absent: Jones, Rossi

D. UPDATE ON AMENDMENT TO SAWPA GRANT AGREEMENT WITH THE STATE (PA22#2016.4)

Ian Achimore provided a PowerPoint presentation on Amendment No. 1 to the SAWPA Grant Agreement. DWR approached SAWPA staff with its desire to amend the SAWPA Grant Agreement to include names of agencies who will be receiving grant funds under the Conservation Based Rates Project. In order to prevent any potential delay in reimbursements, SAWPA staff, working with the conservation coordinators, drafted a proposed amendment, which also included other minor amendments of interest to SAWPA and the member agencies, and submitted the amendment to DWR for review. Following is a list of proposed changes submitted to DWR:

- Contracted agencies and interested agencies are listed
- Extended the Schedule, providing more flexibility (within allowable DWR timeframe)
- Elimination of a website to market turf removal programs
- Clarify definition of “institutional” for turf removal to include non-profit organizations

It was the consensus of the Committee to increase the number of agencies from 10 to 20. If agreement is reached with DWR, Amendment No. 1 will come back before the Committee for approval.
MOVED, receive and file this update on Amendment No. 1 to the SAWPA Grant Agreement.

Result: Adopted (Unanimously; 3-0)
Motion/Second: Markus/Grindstaff
Ayes Grindstaff, Headrick, Markus
Nays: None
Abstentions: None
Absent: Jones, Rossi

E. TASK ORDER FOR WATERSHED-WIDE IMAGE ANALYSIS AND OUTDOOR AREA MEASUREMENT (PA22#2016.5)

Dean Unger provided a PowerPoint presentation regarding proposed Task Order SRI 504-301-02 with Statistical Research Inc. (SRI). An earlier Task Order had been approved for SRI to perform a focused yet expedited analysis of portions of the watershed wherein agencies had already begun the process of working toward conservation based rates. It was inclusive of 9 retail agencies but did not incorporate slope measurements. This additional Task Order complements the earlier in order to complete the originally proposed analysis of (substantially) the entire watershed. Six measurements (turf, trees, shrubs, pools, and other irrigated and non-irrigated vegetation) will be itemized by Meter Service Areas. Anticipated product availability is June for participating agencies and August for the entire watershed.

A discussion ensued regarding allocation of the remaining budgeted amount of $1,009,635. Mike Markus suggested reaching out to other cities and agencies with information about the availability of funding and aerial mapping data, and recommended providing a PowerPoint presentation with talking points to member agencies. Larry McKenney suggested discussion at a future conservation coordinators meeting.

Doug Headrick inquired as to the shelf life of the aerial mapping data; Dean Unger advised industry standard is 3 years. It was the consensus of the Committee that consideration should be given to updating the data in 2017, within the timeframe of the DWR grant.

MOVED, approve Task Order SRI504-301-02 with Statistical Research Inc., Consultant, for $162,204.

Result: Adopted (Unanimously; 3-0)
Motion/Second: Headrick/Markus
Ayes Grindstaff, Headrick, Markus
Nays: None
Abstentions: None
Absent: Jones, Rossi

5. FUTURE AGENDA ITEMS

Designation of voting alternates was discussed. Larry McKenney noted SAWPA’s Joint Powers Agreement is the governing document, not the PA 22 agreement, and that this topic is on the agenda for discussion at the March 8 GM Meeting.
SAWPA is in discussions with the State for the grant agreement relating to the SARCCUP project, and the administration of the turf removal portion will be brought back for discussion at a future meeting.

MWD is in engaged in its budget process; the amount of turf removal matching funds or the fact that it may not be included in MWD’s budget will be brought back for discussion at a future meeting.

6. **ADJOURNMENT**

There being no further business for review, Convener McKenney adjourned the meeting at 8:50 a.m.

Approved at a Regular Meeting of the Project Agreement 22 Committee on Thursday, April 28, 2016.

________________________________

Larry B. McKenney, Convener

Attest:

________________________________

Kelly Berry, CMC
Clerk of the Board
DATE: April 28, 2016

SUBJECT: CONSERVATION-BASED WATER RATES PROJECT SCHEDULING

RECOMMENDATION
Approve the June 1, 2016 deadline for accepting additional agencies as participants in the Conservation-Based Water Rates Project.

DISCUSSION
SAWPA staff has executed ten contracts with retail agencies for the Implementation of Conservation-Based Water Rates Project. In order to meet the Department of Water Resources (DWR) Grant Agreement schedule of December 31, 2017 and not hold up unspent funds, the PA 22 Committee approved a set of milestones for the retailers who had entered into contracts with SAWPA as of November 1, 2015. These milestones include:

- By June 30, 2016, start work on a conservation-based rate study and provide SAWPA a copy of the detailed scope of work and deadlines.
- By December 31, 2016, bring a final draft conservation-based rate study ready before the agency elected board and provide SAWPA a copy.

To maintain consistency with the ten agencies who are held to these deadlines, agencies that were approved after November 1, 2015 are being held to a similar nine month time period between providing SAWPA a letter of interest to providing SAWPA a copy of their detailed scope of work, and a 15 month time period between the letter of interest and bringing a final draft rate study before their board.

There is currently no milestone for approving the rate structure, but it is expected that after an agency brings a draft rate study to its board or council, it will make a decision shortly thereafter. Agencies may not invoice SAWPA for work done after December 31, 2017, as the Grant Agreement is incorporated into the contracts between SAWPA and the agencies.

In order to communicate the eligibility cutoff for rate agencies, SAWPA staff could accept letters of interest until September, 2016, which provides a 15 month time period until December 31, 2017 for the agency to bring a final draft rate study to their board and accept the rate structure. SAWPA could accept letters of interest after September, 2016 and still hold the agency to the same deadlines that an agency would be held to if they submitted a letter of interest on September, 2016. The downside with this timeline is that agencies would not be able to be reimbursed for costs of implementing the rate structure in 2018. It may make sense for an agency that brings its rate study to its board or council after July, 2017, to be accepted under the Santa Ana River Conservation and Conjunctive Use Program (SARRCUP). That ensures a six month reimbursement period between July, 2017 and December, 2017 for implementation costs.
SAWPA staff suggests beginning to phase out accepting letters of interest for the Emergency Drought Grant Program beginning on June 1, 2016 as agencies cannot recoup implementation costs if they approve a rate structure closer to the December 31, 2017 deadline. SAWPA staff will continue to bring letters of interest to the PA 22 Committee on a case-by-case basis, and discuss options for moving these agencies into the SARCCUP grant reimbursement process if they plan to adopt their rate structure after July, 2017.

SARCCUP includes $1,652,000 in funding for Water Use Efficiency and Implementation. The funding is split between two sub-programs:

- Conservation-Based Water Rates - $1,166,000; and
- Smartscape - $486,000.

Under the Conservation-Based Water Rates Work Plan, which will be incorporated into the eventual DWR Grant Agreement, a total of up to two workshops will be held targeting the watershed’s retail water agencies’ elected officials and staff. The Work Plan will also specify that funding will be provided to up to five agencies for items needed to adopt conservation-based rate structures such as a implementation of a rate study, billing support needs, acquisition of weather data, Proposition 218 notices, etc. Tools may be developed to assist retail water agencies to adopt conservation-based water rates. These tools may include information to determine outdoor budgets and local weather data.

It is estimated that $200,000 would be available per participating retail agency. The remaining $166,000 can be used for implementing the outreach, creating policy statements, executing contracts with up to five agencies, reviewing rate studies, rate study scope of works, monitoring agency progress, and developing other tools to determine outdoor water use budgets and local weather data as needed.

**MATERIALS:**
Schedule
## Schedule

**Emergency Drought Grant Program - Conservation-Based Water Rates Project**

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**April Letter Agency**

**Letter of Interest**

**Last Agency**

Implementation costs not reimbursable.

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**DWR Rate Reimbursable Deadline**

Project Ends
Conservation-Based Water Rates Project Scheduling

PA 22 Committee
April 28, 2016

Recommendation
- Approve the deadline for accepting additional agencies as participants in the Conservation-Based Water Rates Project on June 1, 2016.

Emergency Drought Grant: Original Agencies
- Milestones added for agencies entered into contracts before November 2015
  - June 30, 2016: scope of work to SAWPA
  - Dec 31, 2016: final draft rate study to elected board
- 9 month timeline between letter and scope
- 15 month timeline between letter and study
Redlands Update

- City staff brought rate study executive summary to City Council on January 19, 2016
- City Council did not choose budget-based rates option
- City staff asked if they were eligible for reimbursement of executive summary
- SAWPA staff analyzed board action, board memo, rate study, and scope of work
- City Council by own volition chose to cancel participation in SAWPA grant on April 5, 2016

Emergency Drought Grant: New Agencies

- Milestones added for agencies entered into contracts after November 2015
  - Aug 31, 2016: scope of work to SAWPA
  - Mar 31, 2017: final draft rate study to elected board

- 9 month timeline between letter and scope
- 15 month timeline between letter and study
SAWPA Staff Suggestion
- Begin phasing out accepting agencies for Emergency Drought Grant Program on June 1, 2016
  - As agencies cannot recoup implementation costs if they implement closer to December 2017

SARCCUP Budget
- $100,072,900 Total Funding
  - $1,652,000 Water Use Efficiency & Implementation Task
    - Conservation-Based Water Rates SubTask: $1,116,000
    - SmartScape SubTask: $486,000

Emergency Drought Grant: Funding Available
- Ten agencies under contract
- Two executing contract
- Redlands canceled contract
- Three agency funding available
  - $215,030
  - $215,030
  - $215,030
  - Total $645,090
- Staff meeting with Santa Ana
Recommendation

- Approve the deadline for accepting additional agencies as participants in the Conservation-Based Water Rates Project on June 1, 2016.
PA 22 COMMITTEE MEMORANDUM NO. 2016.7

DATE: April 28, 2016

SUBJECT: AERIAL MAPPING PROJECT CHANGE ORDER NO. 2 TO TASK ORDER RESO504-301-01 FOR MANAGEMENT AND IMAGE SUPPORT SERVICES

RECOMMENDATION
Approve Change Order No. 2 to Task Order RESO504-301-01 with Resource Strategies, Inc., in an amount not to exceed $66,425 to provide management and image support services for Aerial Imagery and LiDAR Project.

DISCUSSION
SAWPA staff recommends that Resource Strategies Inc. (RSI) continue support of the OWOW 2014 Emergency Drought Implementation Imagery Project based on RSI’s unique experience and background obtained through their work with the current imagery project. This work is for the conversion and mosaic of aerial imagery by flight day. There are 78 unique flight day areas that require conversion and mosaic work. The work is necessary for the improved accuracy in identifying vegetation. In addition, 25 high resolution images of agency service areas will be provided in ECW format.

Task Order RESO504-301-01 with RSI provides support services for the aerial imagery with tasks that include creating tile mosaic imagery for use in vegetation analysis and the creation of a large single agency wide imager for each agency. Included with this Change Order No. 2 is a project scope of work and budget providing a detailed description of support services to be performed by the consultant, RSI as highlighted below:

**Imagery Compression**
- Creation of 78 data sets in MRSid (MultiResolution Seamless image database) Type 4 compression format for Vegetation analysis
- 25 high resolution images in ECW (Enhanced Compression Wavelet) format of agency retail areas in the watershed as a whole.
- Delivery of images and data sets on high speed drives

This work is additional work reflecting recent discoveries in the vegetation classification of discontinuous aerial flight days and the need to deliver accurate measurements of vegetation across the watershed.

Attachments:
1. Task Order No. RESO504-301-01
2. Change Order No. 1
3. Change Order No. 2
This Task Order is issued by the Santa Ana Watershed Project Authority (hereafter "SAWPA") to Resource Strategies Inc. (hereafter "Consultant") pursuant to the Agreement between SAWPA and the Consultant entitled Agreement for Services, dated November 24, 2014 (expires 12-31-2018).

I. PROJECT NAME OR DESCRIPTION
OWOWW 2014 Emergency Drought Implementation – Phases 1 and 2 of Imagery and LiDAR Project

II. SCOPE OF WORK/TASKS TO BE PERFORMED
Consultant shall provide all labor, materials and equipment for the Project to provide Consulting Services for the procurement of orthorectified imagery and LiDAR acquired elevation data, as detailed in Attachment A.

III. PERFORMANCE TIME FRAME
Consultant shall begin work within five days of the date this Task Order is signed by the Authorized Officer and shall complete performance of such services by or before August 3, 2015.

IV. SAWPA LIAISON
Dean Unger shall serve as liaison between SAWPA and Consultant.

V. COMPENSATION
For all services rendered by Consultant pursuant to this Task Order, Consultant shall receive a total not-to-exceed sum of $26,400 in accordance with the established cost/rates shown herein (Attachment A). Payment for such services shall be made upon reimbursement of grant funds from the Department of Water Resources (DWR). Consultant to provide timely and proper invoices as required by the above-mentioned Agreement. Each such invoice shall be provided to SAWPA by the Consultant within 15 days after the end of the month in which the services were performed.
VI. CONTRACT DOCUMENTS PRECEDENCE

In the event of a conflict in terms between and among the contract documents herein, the document item highest in precedence shall control. The precedence shall be:

a. The Agreement for Services by Independent Consultant/Contractor.
b. The Task Order or Orders issued pursuant to the Agreement, in numerical order.
c. Exhibits attached to each Task Order, which may describe, among other things, the Scope of Work and compensation therefore.
e. Drawings incorporated by reference.

In witness whereof, the parties have executed this Task Order on the date indicated below.

SANTA ANA WATERSHED PROJECT AUTHORITY

[Signature]

Celeste Cantú, General Manager

Date

RESOURCES STRATEGIES INC.

[Signature]

Richard D. Schuman

President

Date

Print or Type Name
SANTA ANA WATERSHED PROJECT AUTHORITY
CHANGE ORDER NO. 1
To Task Order No. RESO504-301-01

CONSULTANT: Resource Strategies Inc.
4809 Clairemont Square #320
San Diego, CA 92117

VENDOR NO. 1297

PROJECT: OWOW 2014 Emergency Drought Implementation – Phase 2 of Imagery and LiDAR Project

COST: $38,050

REQUESTED BY: Dean Unger
Information Systems & Technology Manager

October 19, 2015

FINANCE: 
Karen Williams, CFO 10-20-15

FINANCING SOURCE: Acct. Coding: 504-301CONST-6113-01
Acct. Description: General Consulting

COMMISSION AUTHORIZATION REQUIRED FOR THIS CHANGE: YES ( ) NO (X)
Consultant is hereby directed to provide the extra work necessary to comply with this change order.

DESCRIPTION / JUSTIFICATION OF CHANGE: This Change Order No. 1 to the 3-2-2015 task order is for the continued management work into the next phase (Phase 2) of managing the imagery and elevation data products. This work is thoroughly described in the letter scope-of-work, Attachment A.

CHANGE IN CONTRACT TIME: June 30, 2016

CHANGE IN TASK ORDER PRICE:
Original Task Order Amount: $26,400
Change Order No. 1 Amount: $38,050
Amended Contract Total: $64,450

ACCEPTANCE:
Consultant accepts the terms and conditions stated above as full and final settlement of any claims arising from or related to this Change Order. Consultant agrees to perform the above described work in accordance with the terms and in compliance with applicable sections of the Contract Specifications. This Change Order is hereby agreed to, accepted and approved, all in accordance with the General Provisions of the Contract Specifications.

SANTA ANA WATERSHED PROJECT AUTHORITY

Celeste Cantu, General Manager 10-20-15

RESOURCE STRATEGIES INC.

Signature 10/21/2015 Richard D. Schulman
Date Typed/Printed Name
RESOURCES STRATEGIES INC
3952 Clairemont Mesa Blvd, STE D
San Diego, CA 92117
Tel: (858) 735-7424 Fax: (858) 581-6683

September 30, 2015

Dean Unger
Information Technology Manager
Santa Ana Watershed Project Authority
11615 Sterling Avenue
Riverside, CA 92503

SUBJECT:

Dear Dean,

Resource Strategies Inc is pleased to provide you with this proposal for project management associated with the SAWPA planned acquisition of orthorectified imagery and stereo-pair derived elevation data. The Tasks outlined in this proposal are a direct follow-on to Project Phase One: Orthorectified RGB and CIR Imagery, and Project Phase Two, Part I and Part II. During the initial Task period a primary imagery and elevation vendor was selected (Geophex Surveys) and a primary imagery analysis vendor was selected (Statistical Research Inc). Resource Strategies Inc (Richard Schulman) was selected to serve as SAWPA’s Project Manager for Project Phase One and the Initial Parts of Project Phase Two. THIS PROPOSAL OUTLINES THE ADDITIONAL TASKS TO CONTINUE RSI PROJECT MANAGEMENT of additional critical Phases of the SAWPA Project. The time frame for this proposed agreement is August 4, 2015 through June 30, 2016 in order to insure continuity of supervision of the ongoing work effort by the competitively selected imagery, elevation and analysis vendors as well as SAWPA adjustments of project requirements in the first half of calendar year 2016.

Naming Convention:
Consorita = SAWPA Watershed Partners
Retailers = SAWPA Water Retailers
SAWPA Task Manager = Dean Unger
SAWPA Project Manager/Consultant = RSI/Richard Schulman

Ongoing Task Organization:

PHASE TWO, Part III: Elevation Data Acquisition, Processing and Delivery.
Tasks include refining elevation data specification, negotiation with vendor to insure appropriate ground survey, coordination of ground survey, manage generation of elevation data sets, quality control of delivery, and assignment of priority collection areas and oversee final delivery of elevation data sets.
PHASE TWO, Part IV: Provisional Ortho Imagery Delivery Options, Testing, Processing and Interim Deliveries. Tasks include creating alternative specifications for an provisional, expedited ortho delivery set for the high priority Retailers target areas, conduct extensive, expedited discussions with SAWPA and both selected vendors to insure a usable “early delivery” imagery project for the high priority Retailers, supervise testing of each of the proposed expedited products, assist SAWPA in selecting the most advantage strategy for delivery of the urgently needed interim ortho-imagery sets. Continue monitoring of deliveries of both the imagery vendor and the analysis vendor to insure initial analysis of imagery are being conducted in an efficient manner and provide an effective usable interim output. Assist SAWPA and selected analysis vendor with ground-truth process to insure that computer based analysis produces a retailer useful product. Manage data segmentation to match SAWPA and its Retailers’ requirements for the initial data sets. Structure deliveries to match priority list provided by SAWPA for all participating Retailers.

PHASE THREE: Part I Final Ortho Imagery, Delivery Specification, Processing, Quality Control, Retailers’ Imagery Packaging, Compression and Delivery. The selected imagery and elevation vendor is ortho rectifying the SAWPA 2015 imagery using both conventional auto triangulation and ortho processing as well as creation of and use of a special precision survey which will provide the accuracy needed to correct all area calculation for 360 square miles of Retailers’ highest priority target AOs for turf detections and potential removal. The precision elevation data derived from the survey it to being used to re-rectify the imagery used in the provisional data sets being delivered in September and October 2015. The final ortho imagery data set will be delivered in the January/February 2016 time frame. This data set will include high quality custom ortho imagery for both the 360 square mile high priority AOI as well as ortho imagery for the balance of the 2400 square miles in Riverside, San Bernardino and Orange Counties.

Resource Strategies Inc will assist SAWPA in defining delivery specifications, processing options, quality control and an array of packaging options. RSI will manage delivery priorities, data tiling and tile aggregation for both priority and routine Retailers’ data deliveries. RSI will also handle ecw, and wherever necessary, MrSID, imagery compression processing. Data distribution will be performed by either RSI and/or SAWPA on a case by case basis. There may be as many as 50 Retailer variations on the size and format for the final ortho data delivery. Both geotiff tiles and/or ecw mosaic compression are likely final delivery options to be selected by SAWPA’s Retailers.

PHASE FOUR (Optional): SAWPA Three County Imagery Mosaic, Repackaging and File Compression.  
The entire SAWPA 2015 imagery data set is over 2400 square miles at very high resolution (3inch/pixel) and contains 4 bands. In order to facilitate rapid viewing of the imagery on non-networked devices (e.g. field laptops) as well as non-networked desktop machines it is essential that the very large imagery data set be compressed with universal ecw compression. The pre-compression data set will have an aggregate file size of well over 2 or even 3 Terrabytes. A large 3inch/pixel data set was recently compressed for the Coachella Valley Association of Governments, the data mosaic was 1200 square miles of
color only (3 band data). A single file was created that took 11 days to compress. The SAWPA data mosaic is twice as large and will require 2 compression for each section of the extents in order to have both a color and a separate color infrared ecw file set. Due to the size of the imagery set it is recommend that the 2400 square mile watershed be equally divided into 4 smaller areas. Each area would have two ecw files representing the color and the CIR bands. Each of the eight compressions will take 3 to 4 days to complete. Several compression machines operating simultaneously will cut the delivery time from 32 days to 10 to 16 days after commencement of the processing. Resource Strategies Inc has the high speed processors, software and the expertise to accomplish this challenge in a timely and cost effective manner.

Compensation

PHASE TWO, Part III: Elevation Data Acquisition, Processing and Delivery.
Compensation is $8,250 (55 hours at rate of $150/hour.)

PHASE TWO, Part IV: Provisional Ortho Imagery Delivery Options including development of multiple strategies for processing, feasibility of each option, Testing, Coordination of Processing, Monitoring of Output Efficacy and all Provisional Deliveries.
Compensation is $9,000 (60 hours at rate of $150/hour)

PHASE THREE: Part I Final Ortho Imagery, Delivery Specification, Processing, Quality Control, Discussions with Retailers’, Retailers’ Imagery Packaging, Compression and Delivery. This Phase also includes communications with each Retailer, and tailored imagery sets and compression (either ecw or sid) for each participating Retailer.
Compensation is $15,000 (100 hours at rate of $150/hour)

TOTAL COMPENSATION PHASE TWO (III, IV), PHASE THREE = $32,250

PHASE FOUR (Optional): SAWPA Three County Imagery Mosaic, Repackaging and File Compression. Compensation includes all repackaging, mosaic sections and intense file compression in ecw format. Eight (8) mosaics assembled and compressed at $600/mosaic x 8 (4 color and 4 CIR) = $600x8 = $4,800 Distribution to SAWPA and potentially to 10 other agencies/Retailers = $1,000 includes cost of drives, date transfer, and shipping.

TOTAL COMPENSATION FOR PHASE FOUR = $4,800 + $1,000 = $5,800.

Richard D. Schulman
President and Principal
Resource Strategies Inc. 858 735-7424 resourcestrategies@usa.net Established 1985
RSI Profile

Resource Strategies Inc (RSI) is a California Corporation, founded in 1985. The Corporation is owned and operated by a single principal, Richard Schulman. For the purposes of this project the background and experience of RSI and Richard Schulman are synonymous. Schulman has fifty years' experience in the computer hardware and software industry. He is a pioneer in computer graphics, CAD/CAM, GIS, and Remote Sensing. Educational credentials include a BSEE, an MSEE in Engineering Electronics, an MSCS (eqv), PhD Studies in Computer Science, and an MBA in Marketing and Management. He is a graduate of the Defense Systems Management Collage (Major Project Management). For the past twenty eight years he has focused on GIS and Remote Sensing Data and Applications. His clients and business relationships include every major state agency in California, numerous California cities and counties, and dozens of water and irrigation districts. He has authored feature articles on Imagery and GIS for GIS World, Geo World, GeoInfo Systems, E-Media Professional, Unix World, EOM, Imaging Notes, ERMapper International and ArcNews. He has extensive experience as a consultant, data provider, and project manager. He is the founder and President Emeritus of the National Computer Graphics Association. For three years he was president of a public company, the leading vendor of object recognition software for engineering and mapping applications. Schulman has been an active member of the Association of California Water Agencies (ACWA). He has been served as project manager for numerous custom aerial and elevation data acquisition projects. Schulman is the Aerial Imagery Project Manager and Fiduciary for the Coachella Valley Association of Governments (2008-2017), Sole Source Provider of Radar Satellite Imagery for the State of Arizona, Department of Water Resources (2007-2016), Sole Source Provider of Satellite Radar Imagery for JPL/California Department of Water Resources, and selected imagery vendor for the Federal Bureau of Reclamation (2008-2018). Resource Strategies Inc was the SAWPA Project Manager handling a 36 agency aerial imagery procurement in 2006 and 2007.
REQUEST FOR PROCUREMENT

Check Correct Box: Task Order □, Change Order □, Work Order □, Construction Contract □

If this is a change order, provide the original Document No.: 504-301-01

PROJECT INFORMATION

Project Name: OWOW 2014 Ph 2 of Imagery & LiDar project
Project Manager: Dean Unger
Accounting Code: 504-301CONST
Is Project Grant Funded: Y □ N □ N/A □
Account Description: Consulting - General
Description of Scope of Work or Product (or reason for change order): Phase 2 of project. See attached letter/scope.
Request Date: 10-12-15
Proposed Start Date: 10-19-15
Cost ($): $38,050
Completion Date: 6-30-16
Is this a budgeted expenditure? Y □ N □
Are these expenditures reimbursable from another Agency? Y □ N □ If so, Agency Name: DWR

CONSULTANT/CONTRACTOR/SUPPLIER INFORMATION

Vendor/Consultant Name: Resource Strategies
Address (if new): 4809 Clairemont Square #340
San Diego, CA 92117
Contact Name: Richard Schulman
Phone: 858-735-7424
Fax:
Email:

REQUIRED DOCUMENTATION

Authorization Document (Commission Memo, GM approval, etc.): □ N/A □ Received
Scope of Work (typically shown as Exhibit “A”): □ N/A □ Received
Fee or Rate Schedule (typically shown as Exhibit “B”): □ N/A □ Received
Copies of All Bid Proposals Received: □ N/A □ Received
Manager Approval (Signature):

General Mgr. Approval (if over $50,000 or Sole Source):

SOLE SOURCE JUSTIFICATION (if applicable)

Check appropriate selection below and attach written justification as needed

□ Expert professional services – e.g., appraisers, attorney’s, accountants, auditors, economists, financial advisors, lobbyists, determined by the GM to be in the best interest of the Agency.
□ Expert technical services – e.g., unique skill available to meet the need of the requirements.
□ Existing Contract – continuation of work previously provided; new solicitation would not benefit the Agency.
□ Time/Schedule – Critical to project; does not allow for the solicitation process.
□ Sole Source – One-of-a-kind; not sold through a distributor.
□ Standardization – Integral part of a larger system which must be compatible for operational familiarity.
□ License – Upgrading to existing software.
□ Special Pricing – Quantity discount, one time offer, piggy back solicitation, etc.
□ Other – Please explain and attach any additional info.

Form PP02
CONSULTANT: Resource Strategies Inc.
4809 Clairemont Square #320
San Diego, CA 92117

VENDOR NO. 1297

PROJECT: OWOW 2014 Emergency Drought Implementation -- Phase 3 of Imagery and LiDAR Project

COST: Not to Exceed $66,425

REQUESTED BY: Dean Unger
Information Systems & Technology Manager
April 28, 2016

FINANCE: ____________________________
Karen Williams, CFO Date

FINANCING SOURCE:
Acct. Coding: 504-301CONST-6310-01
Acct. Description: General Consulting

COMMISSION/COMMITTEE AUTHORIZATION REQUIRED FOR CHANGE: YES (X) NO ( )

Consultant is hereby directed to provide the extra work necessary to comply with this change order.

DESCRIPTION / JUSTIFICATION OF CHANGE: The reason for the change is the effect of weather and other uncontrollable factors on the schedule, and the resulting effect on the image analysis process. Due to the weather and topology of the watershed, the efficient aerial imagery flight plan design did not correspond to the retail and wholesale water agency boundaries. Flying each agency individually would have been far more expensive and would have taken longer to implement. The original plan of 15 consecutive flight days was altered due to unusually poor weather conditions and eventually became 19 non-consecutive flight days over the course of 43 days. Under normal conditions, the flights would have covered much larger contiguous areas, avoiding the complication of small narrow strips of shortened same day flights.

During the expedited delivery of aerial imagery to early adopting agencies, SAWPA staff uncovered differences in vegetation classifications where a flight path crossed an agency's territory. To accurately identify vegetation, it was determined that the calibration of the vegetation classification needs to be done against an image flown on the same day, rather than the image of the area of a retail agency. This additional step has increased the cost and time of the calibration effort.

The 78 flight day images were constructed by flight day and by image size to optimize the process efficiency and to ensure high quality vegetation classification.

There are 25 single, large high-resolution images in an Enhanced Compression Wavelet format for each agency's boundary that will allow easy use of the image in most of the various agencies. The 25 images represent the current number of interested parties and may need to be increased at a later date if needed.
The Quote and Imagery Analysis Sub-Areas are shown in Attachment A. This is a not-to-exceed contract.

**CHANGE IN CONTRACT TIME:** September 1, 2016

**CHANGE IN TASK ORDER PRICE:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Original Task Order Amount</td>
<td>$26,400</td>
</tr>
<tr>
<td>Change Order No. 1 Amount</td>
<td>$38,050</td>
</tr>
<tr>
<td>Change Order No. 2 Amount</td>
<td>$66,425</td>
</tr>
<tr>
<td><strong>Amended Contract Total</strong></td>
<td><strong>$130,875</strong></td>
</tr>
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</table>

**COMPENSATION**

For all services rendered by Consultant pursuant to the Task Order, Consultant shall receive a total **not-to-exceed sum of $130,875** on a time and materials basis. Payment for such services shall be made within 120 days upon receipt of timely and proper invoices from Consultant. Each invoice shall be provided to SAWPA by the Consultant within 15 days after the end of the month in which the services were performed. Retention of 10% of the Amended Contract Total shall be withheld pursuant to the State Grant Agreement with SAWPA, and shall be released upon completion of the overall OWOW 2014 Emergency Drought Grant Project.

**ACCEPTANCE:**

Consultant accepts the terms and conditions stated above as full and final settlement of any claims arising from or related to this Change Order, and agrees to perform the above described work in accordance with the terms and in compliance with applicable sections of the Contract Specifications. This Change Order is hereby agreed to, accepted, and approved in accordance with the General Provisions of the Contract Specifications.

**SANTA ANA WATERSHED PROJECT AUTHORITY**

Celeste Cantú, General Manager  
Date

**RESOURCE STRATEGIES INC.**

Richard Schulman, Principal  
Date
Thanks for the opportunity. For additional technical or business information please contact Richard Schulman, 858 581-6682 or email: resourcestrategies@usa.net

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
<th>Ext. Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>THIS DOCUMENT IS A QUOTATION FOR ALL SERVICES ASSOCIATED IMAGERY AND, WHERE NECESSARY, ELEVATION DATA SETS, ASSOCIATED WITH EARLIER TASK ORDERS FOR IMAGERY AND ELEVATION ACQUISITION AND PROCESSING. The primary purpose of this quoted set of Tasks is to (a) provide MrSID compression services critical to the image analysis process by SAWPA and its Consulting Firm, Statistical Research Inc of Redlands California. The quoted Tasks herein are expected to become an amendment to the SAWPA/Resource Strategies Inc Consulting Agreement dated NOVEMBER 24, 2014. Perforance covered by this invoice: PHASE ONE: IMAGERY COMPRESSION SERVICES, SPECIFICALLY LIZARDTECH MRSID TYPE 4 COMPRESSION REQUIRED AS CRITICAL INPUT FOR IMAGE ANALYSIS USING ERDAS SPECIALIZED SOFTWARE. Number of data sets in Riverside, South San Bernardino and Orange Counties are seventy eight (78). These data set boundaries (polygons) have been provided to Resource Strategies Inc by SAWPA shapefiles. Fixed price costs for this Quotation Phase One are calculated as follows: MrSID Type 4 compression services $600/data set x 78 data sets = $46,800 Number of Shipments to SAWPA/SRI 15 (1 or 2 TB) hard drives USB3 Drive cost (Drives to be retained by SAWPA at end of the Phase One. Cost 15 x $100 = $1,500 PHASE TWO IMAGERY COMPRESSION SERVICES, SPECIFICALLY ERMAPPER ECW FOR TWENTY FIVE (25) PARTICIPATING AGENCIES (RETAILERS, WHOLESALERS AND OTHER AUTHORIZED AGENCIES) The three inch/pixel data sets result in 16 times large file sizes than traditional 12inch/pix imagery acquired annually by many of these agencies, particularly the large water agencies in Riverside, San Bernardino and Orange County. Typical compression costs for 1 foot/pixel data is $600 to $1,800 per compression depending on the square miles of 12inch/pixel data. Since 3 inch imager is 16 times larger (total file size) compression cost are significantly higher. Resource Strategies Inc herein agrees to perform the required compression services at a substantial discount due to the number of compressions and the very long standing business relationship with SAWPA. ECW imagery compression for 6 &quot;smaller&quot; participating agencies (primarily municipalities) Cost $600/compression x 7 compressions = $4,300 Retiling of target AOI for each agency in order to provide GeoTiff tiles</td>
<td>$66,425.00</td>
</tr>
</tbody>
</table>
Cost $200/retiling x 7 agencies = $1,400
Cost External USB 3.0 Hard Drives (1 or 2TB) 7 drives x $70/drive = $490

ECW imagery compression for 5 "large" participating agencies (5 water districts)
ECW imagery compression for SAWPA 3 or 4 compressions required to cover Watershed.
Cost $1,200 per compression x (5 + 3) = $9,600
Cost $400/retiling x 5 agencies = $2,000
Note: SAWPA GeoTiffs already tiled, therefore no cost for this item.
Cost for 2TB USB 3.0 external hard drive 3 x $85+1x$60 = $335
TOTAL COST PHASE ONE IMAGERY COMPRESSION:
$46,800 + $1,500 = $48,300 TOTAL PHASE ONE

TOTAL COST PHASE TWO IMAGERY COMPRESSION:
$4,300 + $1,400 + $490 + $9,600 + $2,000 + $335 = $18,125 TOTAL PHASE TWO

TOTAL COST FOR THIS QUOTATION, INCLUDES ALL COMPRESSION SERVICES, RETILING SERVICES AND ALL RELATED SERVICES AND MATERIAL REQUIRED TO INSURE DELIVERY OF ALL DATA SETS IN ACCORDANCE WITH SAWPA REQUIREMENTS.

GRAND TOTAL OF ALL COST FOR THIS QUOTATION = $48,300 + $18,125 = $66,425

For questions please contact Richard Schulman, Resource Strategies Inc 858 735-7424
resourcestrategies@usa.net

| SubTotal | $66,425.00 |
| Sales Tax | $0.00 |
| **Total** | **$66,425.00** |
Below are the 78 data sets needed to be created from mosaic tiles. These data sets are outputted into a compression format known as t MRSID TYPE 4 which is needed to best identify the Vegetation in the Image analysis software known as ERDAS.
Aerial Mapping Project
Task Order with Resource Strategies Inc.
RESO504-301-01 Change Order #2

Recommendation

- Approve the change order to the Task Order Number RESO504-301-01 to Resource Strategies Inc. for the amount of $66,425 for the continued management of the imagery deliverables.

Costs

- Original Estimate of 2.5 Million
- Current Aerial Costs total = $755,000.00
- RSI Costs:
  - Imagery RFP Support $26,400.00
  - Change Order 1 - Data Management $38,050.00
  - Change Order 2 - Flight Areas $66,425.00
  - Total: $130,875.00
- New Aerial Costs $820,500
Overcast weather

- Intermittent June Gloom
- 15 Consecutive flight days become 19 discontinuous flight days over a span of 43 days.
- May 20th – July 2nd

19 Flight Days

Vegetation Analysis against expedited deliveries
Agencies may contain different flight dates

Temperature Highs by Flight Day
- June 7th: 84 degrees / 10 Mile visibility
- June 8th: 96 degrees / 7 Mile visibility
- June 24th: 85 degrees / 10 Mile visibility

78 Flight Areas
Optimized by Flight and Size

Original Process
- Aerial Imagery Tiles
- Tiles mosaic by Service Boundary
- Landscape Analysis
Optimized Process

Aerial Imagery Tiles  →  Tile mosaic by Flight Dates and Image Size  →  Landscape Analysis  →  Tiles mosaic into Service Boundary

Recommendation

- Approve the change order to the Task Order Number RES0504-301-01 to Resource Strategies Inc. for the amount of $66,425 for the continued Management of the imagery deliverables.
DATE:        April 28, 2016

SUBJECT:     WEB-BASED WATER CONSUMPTION REPORTING AND CUSTOMER ENGAGEMENT PROJECT CONSULTANT PRESENTATION

RECOMMENDATION
Receive and file this presentation of the OmniEarth, Inc. retail agency dashboards.

DISCUSSION
OmniEarth, Inc. will provide a demonstration of the water consumption and reporting tools made available to water retailers through proposition 84 grant funding. SAWPA staff, OmniEarth, Inc. and Dropcountr presented the dashboards to the working group of conservation coordinators on March 10, 2016, and it was recommended that they be shared with the PA 22 Committee.

As of April 18, 2016, seven retailers have executed contracts with OmniEarth, Inc. as part of the Emergency Drought Grant Program so far. These include:

- Eastern Municipal Water District
- City of Brea
- City of Fullerton
- City of Loma Linda
- City of Rialto
- City of Tustin
- West Valley Water District.

SAWPA and OmniEarth continue outreach with water retailers in the watershed and are at some level in discussions with a number of retail agencies.

Most participating agencies are interested in personalizing the OmniEarth product, and SAWPA staff must review any modifications to ensure consistency with the conditions of the Department of Water Resources Proposition 84 Grant. In order to meet the goal of 10-15 agencies contracted with OmniEarth, further marketing, presentations and follow-up are required by both SAWPA and OmniEarth. It has taken on average three months to go through the contracting process with each agency.
DATE: April 28, 2016

SUBJECT: METROPOLITAN WATER DISTRICT CONSERVATION PROGRAM FUNDING IN THE FYE 2017 and FYE 2018 BIANNUAL BUDGET

RECOMMENDATION
Discuss the MWD conservation program budget and relationship to PA22 activities in the next two years.

DISCUSSION
On April 12, 2016, the MWD Board decided that approximately $60M in unspent funds from the current fiscal year would carry over for the MWD Conservation Program. This will augment the conservation program budget that was already included in the proposed budget, which included $59 million for the Conservation Credits Program. The carried over funds are allocated in the adopted budget as follows:

- $23M for turf rebate waiting list projects;
- $10M to extend the onsite water recycling retrofit program; and
- $27M additional conservation programs.

Going forward, MWD will decide how to allocate the additional $27M.

As the Emergency Drought Grant Program covers several conservation programs related to turf removal, conservation-based water rates, web-based water consumption reporting, and aerial mapping, it is beneficial to draw upon this experience and consider whether the Committee has ideas that could be suggested to MWD for its conservation program.