Adoption of Bureau of Reclamation Agreement

Ian Achimore, Senior Watershed Manager
PA 22 Committee | January 23, 2020
Item No. 4.A.
Agreement Purpose

- Allows Reclamation to provide $597,500 worth of in-kind staff time/resources to implement the Watershed-Wide Water Budget Decision Support Tool (Project)

Project Description

- Will create budgets based on efficiency at the customer and retail water agency scale;
- Budgets will be shared with retail water agencies through a web-based tool;
- Retail agencies will target inefficient customers and use tool for compliance with 2018 water conservation legislation* requirements.

What Reclamation staff will help with.

*Assembly Bill 1668 and Senate Bill 606
Scope of New Water Conservation Requirements

Require the following data to calculate agency-wide “objectives” (water budgets):

A. Indoor residential.
B. Outdoor residential.
C. Outdoor dedicated irrigation meters.
D. Efficient water losses (pipe leaks).
E. Approved variances (water use by horse corrals).

Project will help agencies with these categories.
Comparison Between Budget and Consumption Data

<table>
<thead>
<tr>
<th>Residential Customer A, B, C...</th>
<th>Water Used</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dedicated Landscape Customer A, B, C...</td>
<td>Water Used</td>
<td>Budget</td>
</tr>
<tr>
<td>Approved Variances</td>
<td>Water Used</td>
<td>Budget</td>
</tr>
<tr>
<td>Efficient Water Losses</td>
<td>Water Used</td>
<td>Budget</td>
</tr>
</tbody>
</table>

\[ \text{Sum} \leq \text{Sum} \]

The legislation also allow a bonus budget increase for agencies that use potable reuse water. Agencies will receive an additional up to 10% or 15% of total water use objective based on when the reuse facility was established.
SAWPA will use flight or satellite imagery to create the landscape measurement database.

- Will then use California Irrigation Management Information System (CIMIS) weather stations to calculate water needs of landscapes.

- Will group dates and flight time to minimize shadows.

- Note: SAWPA is lead for acquiring imagery while Reclamation will lead the analysis.
Decision Support Tool Functionality

- Turf: 49%
- Trees and Shrubs: 18%
- Pools: 6%
- Dead Vegetation: 27%
Recap of Project Development
Milestones

- **March 28, 2019:** PA 22 Committee supported application to DWR for Proposition 1 funding and Bureau of Reclamation for in-kind Reclamation staff time/resources.

- **July 15, 2019:** SAWPA submitted project proposal to Reclamation.

- **September 23, 2019:** Reclamation announces SAWPA successful in proposal.

- **November 1, 2019:** SAWPA submitted project proposal to Department of Water Resources for Proposition 1 Round 1 IRWM.

- **Winter 2020:** DWR to announce draft funding awards for Proposition 1 Round 1 IRWM grant.
Project Budget

<table>
<thead>
<tr>
<th>Prop 1 Grant Amount</th>
<th>Reclamation Support</th>
<th>Cost Share</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$500,000</td>
<td>$597,500</td>
<td>$367,500</td>
<td>$1,465,000</td>
</tr>
</tbody>
</table>

Project Schedule

<table>
<thead>
<tr>
<th>Flight and Creation of Imagery</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Qtr 1</td>
<td>Qtr 2</td>
<td>Qtr 3</td>
</tr>
<tr>
<td>Analysis and Budget Calculations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality Control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision Support Tool</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Budget By Task

<table>
<thead>
<tr>
<th>Task</th>
<th>Task Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Imagery</td>
<td>$560,000</td>
</tr>
<tr>
<td>2</td>
<td>Analysis</td>
<td>$565,000</td>
</tr>
<tr>
<td>3</td>
<td>Decision Support Tool</td>
<td>$340,000</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>$1,465,000</strong></td>
</tr>
</tbody>
</table>

### Funding Sources

<table>
<thead>
<tr>
<th>Sources</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prop 1 Grant Share</td>
<td>$500,000</td>
</tr>
<tr>
<td>Bureau of Reclamation Share</td>
<td>$597,500</td>
</tr>
<tr>
<td>Cost Share</td>
<td>$367,500</td>
</tr>
</tbody>
</table>
Benefits to SAWPA and Member Agencies

- Use the Reclamation’s Geographic Applications and Analysis Group expertise and software to:
  - Analyze the imagery, and
  - Conduct quality control on the imagery analysis.
- Save staff time from going through RFP for imagery analysis and quality control;
- Save an estimated 4,775 acre-feet per year;
- Reduce local cost shares by over $590 K for an estimated $1.4 M project; and
- Further strengthen the long-term SAWPA/Reclamation partnership.
Recommendation

Authorize the General Manager to execute the Memorandum of Agreement by and between the Department of Interior, Bureau of Reclamation (BOR) and the Santa Ana Watershed Project Authority (SAWPA) for the Santa Ana River Watershed-Wide Water Budget Decision Support Tool.
Recap of the 2015 Aerial Imagery

- SAWPA contracted with Geophex Ltd. and Statistical Research Inc. (SRI) to acquire 3-inch, four band imagery;
- Activities funded by grant with Department of Water Resources - Prop 84 IRWM Drought Round grant;
- Analysis by SRI created water budgets for 2,473 square mile area that includes 1.5 m parcels;
- Water budgets provided to interested retail water agencies and uploaded to a web-viewer tool that is maintained by ESRI;
- SAWPA done outreach to DWR (Peter Brostrom) and presented at ACWA conference.
DWR and State Water Board Activities Related to the 2018 Water Conservation Legislation

- Per 2018 water conservation legislation, urban water agencies will calculate water use objectives and compare water consumption to water use;
  - Agencies can use DWR’s 2018 aerial imagery data that is currently being analyzed by Eagle Aerial/Quantum
- State Water Board is working on a rulemaking that will define certain standards that will affect the calculation of the objectives;
  - As part of rulemaking, the Water Board is using various imagery to understand the impact of these standards.
State Water Board’s Rulemaking Process

- Per California Environmental Quality Act requirements, their rulemaking requires an economic/environmental impact analysis;

- They have the 2015 Santa Ana River Watershed aerial imagery data, as well as data from East Bay Municipal Utilities District, Padre Dam Municipal Water District, the cities of Santa Rosa and Benicia, and Sacramento Regional Water Authority to assist in this analysis;

- They will also analyze potential changes in water use trends across the State, such as water use declining to drought-era levels.
Calculation of a Water Budget (State Water Board May Use)

\[ \text{PPH} \times \text{GPCD} + \left( \text{LA} \times (0.62 \times \text{ETo} \times \text{ETAF}) \right) = \text{Total Water Efficiency Budget} \]

Indoor Budget

Outdoor Budget

Landscape Area

Indoor Use

Weather Station

Meter
Determining Standards

\[
[PPH \times GPCD] + [(LA \times 0.62 \times ETo \times ETAF)] = \text{Total Water Efficiency Budget}
\]

Currently 55

Depends on plant type in landscape area
Next Steps

- DWR to provide 400+ urban water agencies with irrigable land measurements by January 1, 2021;
  - DWR has convened a workgroup of water agency and environmental representatives to provide feedback on imagery process.

- State Water Board to begin formal rulemaking in 2021.
  - Staff and the Water Board’s consultant team will communicate results and allow members of the public to explore conservation scenarios through a tool.
Questions
Conservation-Based Water Rates Update

Ian Achimore, Senior Watershed Manager
PA 22 Committee | January 23, 2020
Item No. 4.C.
Cities Participating

**Chino**
- Prop 218 Hearing: June 19, 2018
- Implement rates: December 1, 2019

**Chino Hills**
- Prop 218 Hearing: May 8, 2018
- Implemented rates: October 1, 2018

**Hemet**
- Final Rate Study Draft: January 3, 2020
## Status of funding by agency

<table>
<thead>
<tr>
<th>Retail Water Agency</th>
<th>Invoiced to DWR</th>
<th>Estimated Future Invoice Costs</th>
<th>Final Costs (sum of invoiced and future invoices)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chino</td>
<td>$94,595</td>
<td>$133,602</td>
<td>$228,197</td>
</tr>
<tr>
<td>Chino Hills</td>
<td>$1,052,304</td>
<td>$20,000</td>
<td>$1,072,304</td>
</tr>
<tr>
<td>Hemet</td>
<td>$75,036</td>
<td>$ -</td>
<td>$75,036</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,221,934</strong></td>
<td><strong>$153,602</strong></td>
<td><strong>$1,355,537</strong></td>
</tr>
</tbody>
</table>
Chino

- City launched budget-based rates billing structure December 1, 2019.
- Under a grace period, customers will be charged the Tier 2 rate for any Tier 3 usage for the first two water bills under the new system.

<table>
<thead>
<tr>
<th>Customer Class</th>
<th>Tier 1 Usage</th>
<th>Tier 2 Usage</th>
<th>Tier 3 Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family</td>
<td>Indoor use based on people per household</td>
<td>Outdoor use based on irrigation area</td>
<td>Usage above Tier 2</td>
</tr>
<tr>
<td>Multi-Family</td>
<td>Indoor use based on people per household</td>
<td>Outdoor use based on irrigation area</td>
<td>Usage above Tier 2</td>
</tr>
<tr>
<td>Commercial</td>
<td>Flat Rate</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Landscape</td>
<td>Budget based on irrigated area</td>
<td>Usage above Tier 1</td>
<td>No Tier 3</td>
</tr>
<tr>
<td>Recycled Water</td>
<td>Flat rate</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
City adopted budget-based rates for residential customers (3 tiers);
City is still incurring costs for:
- minor billing software issues,
- educating customers on the new billing structure, and
- addressing variances.
Costs are able to be covered by grant savings.
New City management feedback in May 2019 was to not move forward with finalizing rate study.

City finalized draft rate study on January 3, 2020.
Questions
Smartscape Update

Ian Achimore, Senior Watershed Manager
PA 22 Committee | January 23, 2020
Item No. 4.D.
Program Development and Task List

- Smartscape is a partnership between SAWPA member agencies and OC Coastkeeper, developed in 2015 during SARCCUP initial grant application effort;
- Supports water customers that have transitioned from turf grass to drought tolerant landscaping through specific tasks:
  - Landscape site visits
  - Develop written training materials
  - Workshops, training, etc.
- Makes physical improvements to irrigation systems (prevents leaks and overwatering)
Program Overview

- Program descriptions contained in Sub-Agreement and SAWPA Member Agency Roles/Responsibilities

  Memo:
  - Defines two-year schedule (March 2020 end date)
  - Defines scope and qualifications for OCCK training and outreach personnel
  - Task list and their specific costs
  - Deliverables:
    - Photo verification;
    - Customer forms; and
    - Reports on work completed.
Examples of Tasks Implemented

Landscape Designs - WMWD

Irrigation Improvements - IEUA
## Smartscape Budget

<table>
<thead>
<tr>
<th>Coastkeeper Sub-Agreement Amount</th>
<th>Grant Amount</th>
<th>Local Match*</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$122,000</td>
<td>$278,000</td>
<td>$400,000</td>
</tr>
</tbody>
</table>

*OCWD’s SARCCUP local cost share funding originally intended for Smartscape was added to Conservation-Based Water Rates portion of SARCCUP based on Pa 22 Committee direction and OCWD request.*
## Smartscape Spending to Date (Dec 2019)

<table>
<thead>
<tr>
<th>Agency:</th>
<th>EMWD</th>
<th>IEUA</th>
<th>SBMVWD</th>
<th>WMWD</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allocation</td>
<td>$96,509</td>
<td>$96,509</td>
<td>$96,509</td>
<td>$96,509</td>
<td>$386,034</td>
</tr>
<tr>
<td>Invoiced</td>
<td>$96,875</td>
<td>$96,349</td>
<td>$65,775</td>
<td>$47,050</td>
<td>$306,049</td>
</tr>
<tr>
<td>Remaining</td>
<td>($366)*</td>
<td>$160</td>
<td>$30,734</td>
<td>$49,459</td>
<td>$79,985</td>
</tr>
</tbody>
</table>

*Symbols:

- **$** indicates currency.
- **( )** indicates a negative amount.
- **$** with an asterisk (*) indicates a contingency for minor overages.

- **79% Implemented**

*SAWPA has small contingency to handle minor overages.*
Questions