San Diego Region
Stormwater Capture & Use
Feasibility Study (SWCFS)

IRWM RAC Update
TAC Meeting #4: Cost and Implementation (Prioritization) Approach
June 6, 2018

Presented by Stephanie Gaines, County of San Diego

Steps & Status of the Feasibility Study

1. Identification of Potential Capture and Storage Sites
2. High-Level Estimated Total Potential Stormwater Storage
3. Identification of Stormwater Use Alternative
4. Identification, Development, & Quantification of Concept Projects
5. Refine Parcel List and Match to Potential Beneficial Uses
6. Apply Quantities and Cost to Refined Parcel List
7. Develop and Apply Criteria to List of Use Alternatives
8. Prioritize Use Alternatives

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- ✔
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Cost Analysis Results

- Assumptions & concept costs presented in Tech Memo
- Conceptual costs developed for “modeled” parcels for Use Alternatives
- Costs per volume basis - **wide range**
  - Dry weather flows increase total annual volume
  - More effective drainage area vs. capture design
  - Matching demand/discharge restrictions with storage
  - Pre-treatment requirements

Unit Cost Analysis Results

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Project Type</th>
<th>Cost per Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative A</td>
<td>Infiltration, Injection</td>
<td>$20,000 - $33,000, $3,600 - $9,800</td>
</tr>
<tr>
<td>Alternative B</td>
<td>Infiltration, Bio-Infiltration</td>
<td>$17,000 - $20,300, $29,300 - $37,000</td>
</tr>
<tr>
<td>Alternative C</td>
<td>Irrigation</td>
<td>$118,700 - $186,100</td>
</tr>
<tr>
<td>Alternative D</td>
<td>Rain Barrels</td>
<td>$2,500</td>
</tr>
<tr>
<td>Alternative E</td>
<td>Restoration and Treatment Wetlands</td>
<td>$740 - $990</td>
</tr>
<tr>
<td>Alternative F</td>
<td>Dry-Weather Diversion</td>
<td>$9,600 - $21,400</td>
</tr>
<tr>
<td>Alternative G</td>
<td>Treatment for Recycled Water</td>
<td>$99,300 – $173,000</td>
</tr>
<tr>
<td>Alternative H</td>
<td>Treatment for Potable Water</td>
<td>$101,244 – $172,500</td>
</tr>
<tr>
<td><strong>Desalination</strong></td>
<td></td>
<td><strong>$2,131 - $2,397</strong></td>
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</tbody>
</table>
Alternative Prioritization

1. Potential Volume: acre-feet/year
2. Unit Cost: $/acre-foot (annual volume)
3. Additional Benefits (number of benefits)
4. Constraints and Opportunities
   (qualitative assessment of constraints and opportunities developed by TAC)

Eight Stormwater Use Alternatives

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Direct discharge to groundwater aquifers for potable use</td>
</tr>
<tr>
<td>Discharge to groundwater to reestablish natural hydrology, to restore biological uses</td>
</tr>
<tr>
<td>Irrigation to be used on-site on public parcels</td>
</tr>
<tr>
<td>Small scale, private on-site use for irrigation and other private use</td>
</tr>
<tr>
<td>Natural treatment system (wetland treatment) and/or restoration sites</td>
</tr>
<tr>
<td>Next 3 - Controlled discharge to waste water treatment plants: Solids management during low flows</td>
</tr>
<tr>
<td>Indirect potable use</td>
</tr>
<tr>
<td>Recycled water use</td>
</tr>
</tbody>
</table>
Draft Feasibility Timeline

Next Steps

- Draft Feasibility Study: **End-August 2018**
- Final TAC Meeting #5: **Mid-September 2018**
- Presentation of Final Study: **Late-October 2018**
Thank you!

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*Watershed Protection Program*

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