Water Supply Resiliency Planning Board Workshop
May 17, 2018
Water Budget Planning Components

• Demand Projection
  – Current consumption patterns
  – New service connections

• Supply Status
  – Groundwater availability
  – Climate variability impacts

• Funding Implications
  – Fixed operating costs
  – Continued need for infrastructure replacement and improvement
  – Supplemental (diversified) supply project
Demand Projection
SVWD Urban Water Management Plan 2015 Update

• Current service area population 10,774
• 2040 projected service area population 12,470
• 2015-2020 demand projection
  – Based on the Development Projects with existing Service Applications with District
  – Based on 75GPCD for SFR, 45GPCD for MFR
• 2020-2040 demand projection
  – Based on potential projects in the pipeline
Supply Status
SMB Groundwater Modeling Technical Study 2015

• Sustainable yield of SMB in the range of 3,050 to 3,400 AFY
  – Santa Margarita Aquifer 30%
  – Monterey Aquifer 5%
  – Lompico Aquifer 55%
  – Butano Aquifer 10%

• Cumulative SMB storage change -27,850 AFY

• Sustainable yield of SMB Scotts Valley/ Pasatiempo Management Area estimated at 2,600 AFY
  – Affected by climatic variations
  – 10% of additional recharge is attributed to increase in aquifer storage, 50% to increased stream baseflows

• Since early 2000’s groundwater levels in all aquifers have stabilized with no considerable storage change occurring in Scotts Valley/ Pasatiempo Area
Funding Implications

• Operating costs are largely fixed
  – No correlation with water consumption

• Water system needs
  – Sufficient capacity to meet current and future demand
  – Aging infrastructure ($50 million current value) has significant replacement/ improvement cost

• Supplemental supply project to increase water supply resiliency
  – Drought proof source (recycled water)
  – Additional recharge capability
Historical Production and Population
Santa Margarita Basin, Scotts Valley and Pasatiempo Subareas

Historical Production and Population
Santa Margarita Basin, Scotts Valley and Pasatiempo Subareas
Future Projected Production and Population
Santa Margarita Basin, Scotts Valley and Pasatiempo Subareas

<table>
<thead>
<tr>
<th>Year</th>
<th>ACRE FEET PER YEAR (AFY)</th>
<th>SVWD (AFY)</th>
<th>SLVWD-MHA (AFY)</th>
<th>Industrial-Remediation (AFY)</th>
<th>Private (AFY)</th>
<th>SVWD Service Area Population</th>
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<tbody>
<tr>
<td>2015</td>
<td>500</td>
<td>1,133</td>
<td>45</td>
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<td>2020</td>
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The chart above illustrates the projected production and population for the Santa Margarita Basin, Scotts Valley, and Pasatiempo subareas. The data is presented for the years 2015 to 2040, with projections for different categories such as SVWD, SLVWD-MHA, private, and industrial-remediation. The SVWD Service Area Population is also shown, indicating a steady increase over the years.
### Production and Adjusted Recharge

**Santa Margarita Basin, Scotts Valley and Pasatiempo Subareas**

<table>
<thead>
<tr>
<th>Year</th>
<th>Rainfall Adjusted Recharge (AFY)</th>
<th>SVWD Production (AFY)</th>
<th>SLVWD-MHA Production (AFY)</th>
<th>Private Production (AFY)</th>
<th>Industrial-Remediation Pumping (AFY)</th>
<th>SVWD Service Area Population (Population)</th>
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<td>1,410</td>
<td>225</td>
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Funding Implications - Scenarios

• Scenario 1
  – No new connections (no development revenue, no added water revenue)
  – After last 10% increase approved for 2020, yearly inflation matched rate increases through 2040
  – Reserve balance significantly below target

• Scenario 2
  – No new connections (no development revenue, no added water revenue)
  – After last 10% increase approved for 2020, yearly rate increases through 2040 calculated to meet the reserve balance target

• Scenario 3
  – New connections according to UWMP (development revenue and added water revenue projected evenly from 2020 to 2040)
  – After last 10% increase approved for 2020, yearly rate increases through 2040 calculated to meet the reserve balance target
Estimated Net Revenue and Reserve Target

5-year increments

2020 2025 2030 2035 2040

Scenario 1  Scenario 2  Scenario 3  Reserve Target
Projected Rate Increases

Scenario 1 - No new connections, inflation matching increases, reserve balance not meeting target

<table>
<thead>
<tr>
<th>Year</th>
<th>Ending Fund Balance</th>
<th>Annual Rate Increases</th>
<th>Cumulative Rate Increases</th>
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</thead>
<tbody>
<tr>
<td>2020</td>
<td>$685,233</td>
<td>10%</td>
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<td>2021-2025</td>
<td>$1,331,409</td>
<td>3.0%</td>
<td>$1,331,409</td>
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<td>2026-2030</td>
<td>$1,830,549</td>
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<td>$2,161,948</td>
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<td>2031-2035</td>
<td>$2,046,730</td>
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<td>$2,352,224</td>
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<td>2036-2040</td>
<td>$2,352,224</td>
<td>3.0%</td>
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Projected Rate Increases
Scenario 2 - No new connections, rate increases to meet reserve balance target

- Ending Fund Balance
- Annual Rate Increases
- Cumulative Rate Increases

2020
$685,233
10%

2021-2025
$2,777,560
5.0%

2026-2030
$4,471,134
3.0%

2031-2035
$6,071,993
3.0%

2036-2040
$6,860,673
3.0%

Yearly Rate Increases:
- 10%
- 5.0%
- 3.0%
- 3.0%

Cumulative Rate Increases:
- 85%
Projected Rate Increases
Scenario 3 - New connections, rate increases to meet reserve balance target

Ending Fund Balance
Annual Rate Increases
Cumulative Rate Increases

2020: $1,592,333
2021-2025: $3,527,006
2026-2030: $5,318,225
2031-2035: $6,883,424
2036-2040: $8,094,200

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
-$ 1,000,000 2,000,000 3,000,000 4,000,000 5,000,000 6,000,000 7,000,000 8,000,000 9,000,000 $9,000,000

2020 2021-2025 2026-2030 2031-2035 2036-2040

$1,592,333 $3,527,006 $5,318,225 $6,883,424 $8,094,200

10% 2.0% 2.0% 2.0% 2.0%
Change in Hypothetical Monthly Bill
Scenarios 1-3 Period 2018-2040