Presentations from the
November 19, 2018
City Council Meeting
Study Session Regarding Recycled Water Expansion & Other Water Reuse Opportunities

City Council Study Session
November 19, 2018
Agenda

- Purpose of Discussion
- Water Supply Overview
- Recycled Water 101
- Water Reuse Opportunities
  - Regional Transfer
- Discussion
Purpose of Discussion

- Inform and gather feedback on
  - High-level local water reuse opportunities
  - Local versus regional reuse
  - Potential regional water transfer agreement with Santa Clara Valley Water District (District)
Palo Alto’s Water Supply

- 100% potable water supplies from San Francisco Public Utilities Commission (SFPUC) Regional Water System (RWS)
  - 85% Tuolumne River, 15% local reservoirs
- Recycled water used at some City facilities including Greer Park and Municipal Golf Course
- 8 emergency water wells
Recycled Water Consistent with City Sustainability Goals

- S/CAP Framework
  - Right water supply for the right use;
  - Ensure sufficient water quantity and quality;
  - Protect the Bay, other surface waters, and groundwater; and
  - Lead in sustainable water management

- Strategies
  - Verify Ability to Meet City’s long term water needs; and
  - Investigate all potential uses of Recycled Water
NW County Recycled Water Strategic Plan

Water Reuse Opportunities

Regional Transfer
- SCVWD Countywide Water Reuse Master Plan

Indirect Potable Reuse
- Merits Further Evaluation
  - Evaluate further against all potable sources in updated Water Integrated Resources Plan

Next Steps

Facility Onsite Reuse
- Sustainable Silicon Valley efforts; 2016 Public Works White Paper

Nonpotable Reuse
- Merits Further Evaluation
  - Business Plans & feedback from RWQCP Partner agencies regarding level of interest in alternatives

Satellite Nonpotable Reuse
- Unfeasible

Direct Potable Reuse
- Merits Further Evaluation
  - Next Steps
Imported Water Dependence Impact

- Large impact on *Palo Alto’s* imported water dependence achieved via local potable reuse
Potential Agreement with SCVWD

1. Palo Alto Enhanced Recycled Water Facility (ERWF)
   - Referred to as Salt Removal Plant in staff report

2. Regional Transfer of Effluent
Potential New RWQCP Facilities
## Regional Transfer

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<th>PROS</th>
<th>CONS</th>
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<td>• Potential compensation for effluent</td>
<td>• Significant amount of water would no longer be available for City use for contract term (40 years?)</td>
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<td>• Reduces RWQCP discharge to the Bay &amp; future regulatory compliance risks</td>
<td>• ERWF funding tied to regional transfer</td>
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<td>• Assists in meeting county-wide water supply needs</td>
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Potential District Agreement for a Regional Effluent Transfer

1. In light of imported water supply availability uncertainty, is a long-term effluent transfer acceptable?
   - Is 40 years an acceptable timeframe (9 MGD total RWQCP and 3 MGD Palo Alto)?
   - Is a guarantee of replacement water needed?

2. Is $1 million /year (~$100/AF) acceptable for compensation for the water transfer?
   - SFPUC ~$2,000/AF, SCVWD groundwater fee ~$1,300/AF

3. Is Palo Alto amenable to siting a Regional Purification Facility on the Measure E site adjacent to the RWQCP?
Local Water Reuse

1. Should Palo Alto pursue non-potable projects, such as the Phase III Pipeline, or pursue potable projects to meet more demand?

2. Is Palo Alto community likely to accept purified water in a direct potable reuse project in the future?

3. Will Palo Alto community accept groundwater as a future potable supply via indirect potable reuse?
Next Steps

- Incorporate UAC & Council feedback
- Return to UAC & Council early next year
  - Detailed reuse alternatives evaluation
  - Water transfer agreement recommendation
Collaboration on Water Reuse
City of Palo Alto Council Meeting
November 19, 2018
History of Collaboration in Several Areas

Water Conservation and Environmental Efforts

- Rebates on lawn conversion
- Toilet replacements, gray water, waterwise house calls
- Watershed/bayland environmental projects and trails

Flood Prevention

- Matadero Creek
- Adobe Creek
- Upper San Francisquito Creek
- Palo Alto Flood Basin Tide Gates
- Lower San Francisquito Creek
Recycled Water Studies
• Improve water quality in existing recycled water [done]

Update to the City’s 1992 Recycled Water Master Plan
• Planned expansion of recycled water
• Groundwater – assessment
• Potential for groundwater recharge with purified water
• Strategic plan including studies from Palo Alto & others
• Funding strategy including grants
Some Key Aspects

• District supports the smaller purified water project in combination with the City agreeing to commit to the District a larger volume of treated wastewater.

• District is attentive to City staff concerns that the benefits of the treated wastewater supply should be available to Palo Alto in the long term.

• Negotiations between City and District staffs have progressed reasonably well but are not yet complete – a few terms and conditions must still be worked out as part of the entire agreement.
Utilities Smart Grid Assessment and Utilities Technology Implementation Plan

- Results of Smart Grid Assessment & Utility Technology Roadmap

- Investments of $19M in AMI based Smart Grid System

City Council Meeting
November 19, 2018
Examined and accepted the assumptions about AMI economics
- Energy efficiency and conservation related savings projections
- Reduction of existing staff and potential new roles
- Potential to outsource new staffing needs

Emphasized the importance of a good outreach plan to minimize complaints, including a customer opt-out provision. The UAC has also emphasized this.

Discussed that City’s fiber network could be used as a ‘back haul’ service channel for about ‘50 to 100 gatekeeper equipment nodes’ on utility poles

Discussed the Utility Advisory Commission’s perspective (Commissioner Schwartz represented the UAC) – UAC voted 6-0 to support recommendation

Finance Committee recommended approval with a 4-0 vote
Finance Committee Recommends that Council Accept the Utilities Smart Grid Assessment and Utilities Technology Implementation Plan, Including Advanced Metering Infrastructure-based Smart Grid Systems to Serve Electricity, Water, and Natural Gas Utility Customers