Escondido Space Needs
Subcommittee Report Out

Engineering & Operations Committee
April 25, 2019

Marty Miller
E&O Committee Chair
Space Needs Study and Subcommittee Process

- October 2018: O&M issued a consultant contract to The Miller Hull Partnership, LLP (Miller Hull) to perform a space needs study.
- January 2019: Chair Madaffer created the Escondido Space Needs Subcommittee.
- March 6, 2019: Miller Hull presented the space needs study results to the Subcommittee.
- March 25, 2019: Subcommittee met to discuss and finalize decision on the adequacy of O&M’s current facilities and current/future space needs.
O&M - Current Property

Leased Property (NCTD)
15,000 SF

San Diego County Water Authority Operations and Maintenance (Fee Property)
Property History Improvements

- 1968
- 1990
- 1992
- 2002
- 2005
- 1990
- 1968
- 2011
- 2011
- 2011
- 1977
Purpose of the study was to determine if the current Escondido site (including the leased lot) may serve the purposes of the Water Authority in the long term.
Space Needs Study - Collaborative Approach

- **LISTEN & GATHER**: Identify and agree on the goals for future vision, understand existing conditions.
- **ANALYZE & RECOMMEND**: Align on an approach to program elements and space projections through design iteration and feedback.
- **DEVELOP & REFINE**: Develop key project concepts and layouts, and get user group feedback.
- **DELIVER**: Formulate actionable document.
- **FINALIZE**: Finalize design based on owner feedback.
Space Needs Study - Building Survey

An Existing Building Survey was performed to review the general state of the facilities, with a focus on future potential and deficiencies. The survey included a cursory look at zoning requirements and ADA accessibility.
Space Needs Study - Survey

Quality of Existing Workspaces

<table>
<thead>
<tr>
<th></th>
<th>Poor</th>
<th>Average</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Desk</td>
<td>2.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communal Spaces</td>
<td>2.2</td>
<td></td>
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<tr>
<td>Workshop Space</td>
<td>2.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conference &amp; Meeting Space</td>
<td>2.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Break Spaces</td>
<td>2.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parking</td>
<td>2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>2.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restrooms &amp; Locker Rooms</td>
<td>2.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workout Space</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Space Needs Study - Survey

#### Important Future Spatial Qualities

<table>
<thead>
<tr>
<th>Qualitative Feature</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy Access to Public</td>
<td>12%</td>
</tr>
<tr>
<td>Natural Ventilation</td>
<td>36%</td>
</tr>
<tr>
<td>Access to Views or Green Space</td>
<td>42%</td>
</tr>
<tr>
<td>Collaborative Space</td>
<td>45%</td>
</tr>
<tr>
<td>Personalization of Workspace</td>
<td>67%</td>
</tr>
<tr>
<td>Natural Light</td>
<td>76%</td>
</tr>
</tbody>
</table>
Create space for collaborations between all divisions in one building

- Test the ability to meet all space needs (including storage) on the main site
- Modernize the main building and facilities to meet code, ADA and current technologies
- Create efficiency for day to day functions of divisions
- Consider phasing of space plan so that the Control Center remains 100% operational throughout any future construction
Space Needs Study - Priorities

MUST HAVE
- Larger and sufficient Control Center
- Larger and sufficient office space
- Larger and sufficient workshop space
- Larger and sufficient parking area

HIGH PRIORITY
- Larger hazmat storage and hazmat waste storage
Space Needs Study - Priorities

MEDIUM PRIORITY

- Designated Emergency Operations Center
- Design Control Center and Emergency Operations
- Center to be an Essential Facility
- Higher bays at Vehicle Maintenance Building
- Enlarged vehicle wash area
## Space Needs Study - Results

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>EXISTING AREA (SF)</th>
<th>PROPOSED AREA (SF)</th>
<th>DELTA (SF)</th>
<th>DELTA (%)</th>
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</thead>
<tbody>
<tr>
<td>OPERATIONS</td>
<td>14,670</td>
<td>17,500</td>
<td>2,830</td>
<td>19%</td>
</tr>
<tr>
<td>VEHICLE REPAIR</td>
<td>7,638</td>
<td>6,000</td>
<td>(1,638)</td>
<td>(21%)</td>
</tr>
<tr>
<td>SUPPORT</td>
<td>4,670</td>
<td>5,000</td>
<td>330</td>
<td>7%</td>
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<tr>
<td>WORKSHOPS</td>
<td>1,853</td>
<td>4,000</td>
<td>2,147</td>
<td>115%</td>
</tr>
<tr>
<td>STORAGE</td>
<td>8,633</td>
<td>10,000</td>
<td>1,367</td>
<td>16%</td>
</tr>
<tr>
<td>OTHER</td>
<td>1,390</td>
<td>2,115</td>
<td>725</td>
<td>52%</td>
</tr>
<tr>
<td>TOTAL AREA</td>
<td>38,854</td>
<td>44,615</td>
<td>5,761</td>
<td></td>
</tr>
</tbody>
</table>
Space Needs Study - Results: Program

EXISTING vs PROPOSED PROGRAM

- Operations
- Vehicle Repair
- Support
- Workshop
- Storage
- Other

Area (square feet)

Proposed vs Existing
Space Needs Study - Results: Parking

EXISTING vs PROPOSED PARKING

<table>
<thead>
<tr>
<th>Category</th>
<th>Proposed</th>
<th>Existing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visitor</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Equipment</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Fleet</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Staff</td>
<td>70</td>
<td>60</td>
</tr>
</tbody>
</table>

Number of Parking Spaces

- **Green**: Proposed
- **Blue**: Existing
Conclusion

- Subcommittee agrees with the study results

- Understand that General Manager has included a new project in the FY2020/2021 proposed budget for our consideration in June

- Site Tour Dates
  - May 1, 2019 - 10:30-12:00
  - May 13, 2019 - 1:00-2:30
    - RSVP to Maria Rose (760) 233-3200
History of Asset Management and Use of Technology and Tools
Why Asset Management?

- Prevent Failures
- Reliable Service to Member Agencies
- Cost-Effective
  - Proactive Repairs
  - Long Term Rehabilitation Plan
History - Failures

1947: 1\textsuperscript{st} Pipeline Completed

1979: Pipe Failure (19 years old)

1990: Pipe Failure (Water Crisis)

2006: Pipe Failure (Damage/\$)

1960: 1\textsuperscript{st} Prestressed Concrete Cylinder Pipeline (PCCP)
Huge Pipeline Bursts, Two Homes Flooded

A major pipeline of the San Diego Aqueduct near the Sweetwater Reservoir burst yesterday morning as it passed the homes of two Spring Valley residents.

The underground pipeline, 69 inches in diameter and carrying water from the Colorado River to the reservoir, ruptured at about 10:30 a.m. with a roar like a tornado, survivors said.

Robert C. Shelley of 356 Lakeway St. said he and his family were in bed when the huge pipe burst, sending water high into the air.

Shelley, a computer systems analyst, said no one was injured. "It sounded like a total wave or tornado," said Shelley.

He said the water flooded his five-bedroom home, liters it about 100 feet from the break, and he and his family were forced to leave.

Water in one of the rooms reached a level of more than two feet. Shelley's next-door neighbor, Albert Gomez of 198 Lakeway St., also reported flood damage to his home.

Pete Ross, public information officer for the San Diego County Water Authority, said the force of the water from the pipeline caused a hole 20 feet across, 50 feet deep and at least six feet deep.

Ross said one man was injured when the water hit him and that water flow was brought under control in a matter of minutes through the use of valves along the line and at the reservoir.

Repair crews, operating with rescue, pumping, and clean-up equipment and bulldozers, were repairing a 20 feet section of damaged line and will replace it with new one.

Ross estimated it would take from four to five days to repair the line. He said water will be supplied through alternate lines.

Dave Jones, left, and Bob Ornskoeld of the Otay Water District help dig out a section of a main pipeline of the San Diego Aqueduct that burst yesterday morning near the Sweetwater Reservoir in Spring Valley. Two homes were damaged by water when the 69-inch water line ruptured.
400,000 face water crisis here

Three S.D. Districts Placed on Strict Water-Use Rules

- Emergency: Break in major pipeline triggers Stage 4 alert; outdoor watering and washing of cars forbidden.

East County and South Bay could run dry.
Failure - 2006

- 8-Foot Diameter Pipeline
- Pipe Failure
- Erosion Damage
- People
History - Asset Management

1947: Infrastructure Development

1985: 1st PCCP Reline Projects Completed

1991: Aqueduct Protection Program Established

1993: PCCP Relining CIP Established

2001: 1st Reline CIP Complete

2009: Asset Management Program Established

2019: Complete
Data Analytics

1. Collect
2. Analyze
3. Visualize
4. Prioritize
Rehabilitation Example

Carlsbad 1 Facility
High Risk

New Carlsbad 6 Facility
Why Technology?

- Strategic
  - Large Scope - Many Assets
  - Doing More with Less
- More Information
- Better Decisions

Water Authority Technology Award
History - First Use of Technology

1947

1999: Remote Field Eddy Current Scan

2006: Acoustic Fiber Optic Monitoring Installed

2007: Live Leak Detection

2011: Magnetic Flux Leakage Scan

2017: Remote Field Technology Scan

2019
Remote Field Eddy Current Scanning
Acoustic Fiber Optic Monitoring
Live Leak Detection
Magnetic Flux Leakage (MFL) Scanning
MFL Pipe Cutaway View

External Mortar Coating

Steel Pipe Wall

Internal Mortar Lining

SENSOR
MFL Pipe Cutaway View - Corrosion

- External Mortar Coating
- Steel Pipe Wall
- Internal Mortar Lining

SENSOR

Our Region’s Trusted Water Leader
San Diego County Water Authority
Tool Animation
Remote Field Technology

Cross-section through pipe wall
Remote Field Technology

Remote Field Signal Flow Path

Exciter Coil  Detector Coil
In-House Technology Applications/Tools

Pipe Camera
- Inspection
- GoPro Cameras
- Virtual Reality

Drones
- ROW Inspection
- Construction Documentation
- High Resolution Aerial Imagery

LIDAR
- Pipe Diameter
- Light/Radar
- High Resolution

Rope Tools
- Automated Rope Retrieval
- Deploys rope with carts
- Pull tools through pipe
Future

- Continue Innovating
  - Motorized Inspection Carts
  - Laser Profilometry
  - Electro Magnetic Acoustic Transducer (EMAT)

- Look for New Technologies

- Regional Collaboration

Technology Display
Update on Water Quality Conditions

Engineering & Operations Committee
April 25, 2019

Jim Fisher
Director of Operations and Maintenance
Agenda

- SWP Blend

- Nitrification
  - What is Nitrification?
  - Current Situation
  - Free Chlorine
SWP Blend % (2011 - Present)
Agenda

- SWP Blend

- Nitrification
  - What is Nitrification?
  - Current Situation
  - Free Chlorine
What is Nitrification?

- Nitrification is a microbial process by which reduced nitrogen compounds (primarily ammonia) are sequentially oxidized to nitrite and nitrate.
- All water systems experience some level of nitrification
- Nitrification is more pronounced in:
  - Warmer water
  - Older water
  - Depending on source blend
- Nitrification can cause residual loss in chloraminated systems
Levels of Nitrification - August 2017

Levels of Nitrification

- Low
- Moderate
- High
Free Chlorine Status

- Member Agency request in Fall 2017
- MWD supports
  - Concerns from MWD MA’s
- Participating in discussions with MWD and MWD MA’s
- Summer 2020 - Potential Free Chlorine Conversion
Preliminary Calendar Year 2020
Rate & Charge Assessment

Administration and Finance
April 25, 2019

Lisa Marie Harris, Director of Finance/Treasurer
Pierce Rossum, Rate & Debt Manager
Agenda

- Review of Water Authority Cost of Service Activities
- CY 2020 Rate and Charge Drivers
- Preliminary CY 2020 Rate & Charge Assessment
- Next Steps
Revenue Requirement Analysis

- Review total revenues required to fund operations, capital, debt service and coverage and policy requirements

Functional Allocation by Rate Category

- Allocate revenue requirements and offsetting revenues to the Water Authority’s five water rate and charge categories in a fair and equitable manner

Water Rates & Charges

- Set rates to recover the revenue requirements from member agencies based on water sales projections

Member Agency Allocation

- Allocate expenditures to each member agency based on water demand patterns and other key metrics
Water Authority Cost of Service Review Process

- Comprehensive Cost of Service Review by Carollo
  - Rate Methodology
  - Board Policies
  - Compliance with CA law
  - Concluded Water Authority in full compliance

- Preparation of new Rate Modeling Program
  - 9 Month process (June 2018 - March 2019)
  - Streamline entire process, including the removal of circular calculations and macros
  - Will continue to be regularly maintained for continued cost of service compliance
Recommended Increases to IAC

Infrastructure Access Charge provides funding for at least 25% of the Authority’s fixed costs, when added to the standby availability charge and property tax revenues

- IAC to increase over two-year period *(CY 2020 & CY 2021)*
- Supports transition to PAYGO CIP
- Greater revenue stability affords ability to draw reserves and limit future increases
Previous Untreated Rate Guidance High/Low

All-In Untreated Rate Guidance

<table>
<thead>
<tr>
<th>Year</th>
<th>High Rate</th>
<th>Low Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYE2019</td>
<td>5.5%</td>
<td>1.4%</td>
</tr>
<tr>
<td>CYE2020</td>
<td>6.9%</td>
<td>5.0%</td>
</tr>
<tr>
<td>CYE2021</td>
<td>4.5%</td>
<td>2.4%</td>
</tr>
<tr>
<td>CYE2022</td>
<td>3.6%</td>
<td>2.6%</td>
</tr>
<tr>
<td>CYE2023</td>
<td>2.4%</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

M&I Untreated All-In Rate ($/AF)
Update Rate Guidance High - Untreated (2019) ($/AF)
Updated Rate Guidance Low - Untreated (2019) ($/AF)
Previous Treated Rate Guidance High/Low

All-In Treated Rate Guidance

<table>
<thead>
<tr>
<th>CY2019</th>
<th>CY2020</th>
<th>CY2021</th>
<th>CY2022</th>
<th>CY2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>M&amp;I Treated All-In Rate ($/AF)</td>
<td>Updated Rate Guidance High - Treated (2019) ($/AF)</td>
<td>Updated Rate Guidance Low - Treated (2019) ($/AF)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Rate Stabilization Target Forecast* ($M)

- FYE 2019: RSF Minimum Target - $126, Previous Methodology - MAX - $145, Previous Methodology - Target - $128
- FYE 2020: RSF Minimum Target - $100, Previous Methodology - MAX - $113, Previous Methodology - Target - $113
- FYE 2021: RSF Minimum Target - $85, Previous Methodology - MAX - $97, Previous Methodology - Target - $97
- FYE 2022: RSF Minimum Target - $69, Previous Methodology - MAX - $69, Previous Methodology - Target - $69
- FYE 2023: RSF Minimum Target - $69, Previous Methodology - MAX - $71, Previous Methodology - Target - $71
- FYE 2024: RSF Minimum Target - $71, Previous Methodology - MAX - $71, Previous Methodology - Target - $71

* RSF Target reflects amended RSF Policy (Ordinance No. 2018-03)
Baseline CY 2020 Assumptions

- ~397,000 AFY Deliveries, down 7% from CY‘19
- Proposed FY’20 & ‘21 O&M Budgets
- $81M Annual CIP for FY 2020 and FY 2021
- 32,500 AF increase to IID Deliveries
- Use of 10,000 AFY of Operational Storage
- Funding of temporary intake operations
- Capacity Charge Revenue of $17M/yr
- $22M RSF draw in FY 2019 (forecasted)
- 2 Year IAC Ramp Up
CY 2020 Rate and Charge Drivers

- Water Sales Demand Forecast
- MWD Rate Adjustments
- Ramp-up of IID deliveries
- Increased CIP expenditures
- Carlsbad Intake Costs
Revenue Impact:
- In 2008 $1/AF = $620,000
- In 2015, $1/AF = $500,000
- In 2019, $1/AF = $395,000
  - 56% increase ($1.56/AF) to generate 2008 levels ($620,000)
## MWD’s Rates and Charges

<table>
<thead>
<tr>
<th>Proposed MWD</th>
<th>CY 2019</th>
<th>CY 2020</th>
<th>%Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1 Supply ($/AF)</td>
<td>$209</td>
<td>$208</td>
<td>(0.5)%</td>
</tr>
<tr>
<td>System Access</td>
<td>$326</td>
<td>$346</td>
<td>6.1%</td>
</tr>
<tr>
<td>Water Stewardship (N/A to QSA)</td>
<td>$69</td>
<td>$65</td>
<td>(5.8)%</td>
</tr>
<tr>
<td>System Power</td>
<td>$127</td>
<td>$136</td>
<td>7.1%</td>
</tr>
<tr>
<td>Treatment</td>
<td>$319</td>
<td>$323</td>
<td>1.3%</td>
</tr>
<tr>
<td>Tier 1 Untreated</td>
<td>$731</td>
<td>$755</td>
<td>3.3%</td>
</tr>
<tr>
<td>Tier 1 Treated</td>
<td>$1,050</td>
<td>$1,078</td>
<td>2.7%</td>
</tr>
<tr>
<td>Readiness-to-Serve ($M)</td>
<td>$133</td>
<td>$136</td>
<td>2.3%</td>
</tr>
<tr>
<td>Capacity Charge ($/cfs)</td>
<td>$8,600</td>
<td>$8,800</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

### Transportation
- 4.8% ↑ on MWD supply
- 6.4% ↑ on QSA Supply
Ramp-up of IID Deliveries

IID & Canal Lining Deliveries 2003-2024

Deliveries:
- CY 2019 - 160,000 AF
- CY 2020 - 192,500 AF
- CY 2021 - 205,000 AF
- CY 2020 - 202,500 AF
- CY 2021+ 200,000 AF

Our Region’s Trusted Water Leader
San Diego County Water Authority
Preliminary CY 2020 Untreated Rates

All-In Untreated Rate Guidance

<table>
<thead>
<tr>
<th>CY</th>
<th>M&amp;I Untreated All-In Rate ($/AF)</th>
<th>Update Rate Guidance High - Untreated (2019) ($/AF)</th>
<th>Updated Rate Guidance Low - Untreated (2019) ($/AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYE2019</td>
<td>$1,341 (2.9% $1,291)</td>
<td>$1,500 (6.9% $1,604)</td>
<td>$1,604 (4.8% $1,676)</td>
</tr>
<tr>
<td>CYE2020</td>
<td>$1,406 (5.0% $1,355)</td>
<td>$1,676 (4.5% $1,736)</td>
<td>$1,736 (3.6% $1,778)</td>
</tr>
<tr>
<td>CYE2021</td>
<td>$1,423 (2.4% $1,387)</td>
<td>$1,778 (2.4% $1,778)</td>
<td>$1,778 (2.9% $1,778)</td>
</tr>
<tr>
<td>CYE2022</td>
<td>$1,443 (1.4% $1,423)</td>
<td>$1,778 (1.4% $1,443)</td>
<td>$1,778 (2.9% $1,778)</td>
</tr>
<tr>
<td>CYE2023</td>
<td>$1,443 (1.4% $1,443)</td>
<td>$1,778 (1.4% $1,443)</td>
<td>$1,778 (2.9% $1,778)</td>
</tr>
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</table>
Preliminary CY 2020 Treated Rates

All-In Treated Rate Guidance

<table>
<thead>
<tr>
<th>CYE2019</th>
<th>CYE2020</th>
<th>CYE2021</th>
<th>CYE2022</th>
<th>CYE2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,617</td>
<td>$1,613</td>
<td>$1,654</td>
<td>$1,692</td>
<td>$1,716</td>
</tr>
<tr>
<td>0.9%</td>
<td>4.1%</td>
<td>2.5%</td>
<td>2.3%</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

- M&I Treated All-In Rate ($/AF)
- Update Rate Guidance High - Treated (2019) ($/AF)
- Updated Rate Guidance Low - Treated (2019) ($/AF)
# Preliminary CY 2020 Cost of Water Breakdown

<table>
<thead>
<tr>
<th></th>
<th>Approved CY 2019</th>
<th>Preliminary CY 2020</th>
<th>$\Delta$</th>
<th>%Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation *</td>
<td>$120.00</td>
<td>$132.00</td>
<td>$12.00</td>
<td>10.0%</td>
</tr>
<tr>
<td>Supply Reliability *</td>
<td>$80.00</td>
<td>$104.00</td>
<td>$24.00</td>
<td>30.0%</td>
</tr>
<tr>
<td>Storage *</td>
<td>$171.00</td>
<td>$181.00</td>
<td>$10.00</td>
<td>5.8%</td>
</tr>
<tr>
<td>Customer Service *</td>
<td>$61.00</td>
<td>$64.00</td>
<td>$3.00</td>
<td>4.9%</td>
</tr>
<tr>
<td>Melded M&amp;I Treatment Rate</td>
<td>$276.00</td>
<td>$280.00</td>
<td>$4.00</td>
<td>1.4%</td>
</tr>
<tr>
<td>Melded M&amp;I Supply Rate</td>
<td>$909.00</td>
<td>$925.00</td>
<td>$16.00</td>
<td>1.8%</td>
</tr>
<tr>
<td>Untreated Water Cost</td>
<td>$1,341.00</td>
<td>$1,406.00</td>
<td>$65.00</td>
<td>4.8%</td>
</tr>
<tr>
<td>Treated Water Cost</td>
<td>$1,617.00</td>
<td>$1,686.00</td>
<td>$69.00</td>
<td>4.3%</td>
</tr>
</tbody>
</table>
RSF provides smooth and predictable rates

- Mitigating upward rate and charge pressures
  - prolonged low water sales environment
  - Increasing MWD costs
  - IID ramp up
  - Cost of desalinated water
- Reflects updated RSF methodology and target
- Utilizing the RSF
  - Projected fiscal year draw of:
    - $22M in FY 2019
    - $38M in FY 2020
  - Rate smoothing forecasted into FY 2022
RSF Forecast reflects conservative assumptions

Forecasted balances to fall below target, with plans to rebuild the fund starting in FY 2023.

*Forecasted draws as of April 2019
Financials assume **planned** draw of Reserves (PayGo & RSF), while maintaining sufficient Cash on Hand.
## Preliminary CY 2020 Rates & Fixed Charges

<table>
<thead>
<tr>
<th></th>
<th>CYE 2019</th>
<th>CYE 2020</th>
<th>%Δ</th>
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<tbody>
<tr>
<td><strong>Variable Rates</strong></td>
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<tr>
<td>Melded M&amp;I Supply Rate</td>
<td>$909.00</td>
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</tr>
<tr>
<td>Untreated SAWR&lt;sup&gt;1&lt;/sup&gt;</td>
<td>$731.00</td>
<td>$755.00</td>
<td>3.3%</td>
</tr>
<tr>
<td>Treated SAWR&lt;sup&gt;1&lt;/sup&gt;</td>
<td>$1,050.00</td>
<td>$1,078.00</td>
<td>2.7%</td>
</tr>
<tr>
<td><strong>Fixed Charges</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer Service</td>
<td>$25.60</td>
<td>$25.60</td>
<td>0.0%</td>
</tr>
<tr>
<td>Storage</td>
<td>$65.00</td>
<td>$65.00</td>
<td>0.0%</td>
</tr>
<tr>
<td>Supply Reliability</td>
<td>$30.20</td>
<td>$37.43</td>
<td>23.9%</td>
</tr>
<tr>
<td><strong>Other Charges ($M)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrastructure Access Charge ($/ME)&lt;sup&gt;2&lt;/sup&gt;</td>
<td>$3.01</td>
<td>$3.66</td>
<td>21.6%</td>
</tr>
<tr>
<td>Standby Availability Charge ($)&lt;sup&gt;3&lt;/sup&gt;</td>
<td>$10</td>
<td>$10</td>
<td>0.0%</td>
</tr>
<tr>
<td>System Capacity Charge ($/ME)&lt;sup&gt;2&lt;/sup&gt;</td>
<td>$5,267</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>Treatment Capacity Charge ($/ME)&lt;sup&gt;2&lt;/sup&gt;</td>
<td>$146</td>
<td>TBD</td>
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</tr>
<tr>
<td>Annexation Application Fee ($)</td>
<td>$10,681</td>
<td>TBD</td>
<td></td>
</tr>
</tbody>
</table>

1. Per current Board Policy, SAWR is set to end December 31, 2020.
2. ME means meter equivalent as defined in the resolution establishing the Infrastructure Access Charge.
3. Per parcel or acre, whichever is greater
4. Two year IAC ramp up. CY 2021 IAC forecasted at $4.43. In future years the IAC is forecasted to level.
Summary

- **Rate and Charge Drivers**
  - MWD rate and charge increases
  - Persistent low sales environment
  - Smoothing the rate impact of supply reliability

- **Proactive financial management**
  - Highlights how essential the Rate Stabilization Fund is to rate and charge smoothing
  - IAC ramp up to provide greater revenue predictability

- **Rate and charge increases inline with guidance**
  - Treated increase 4.3%
  - Untreated increase 4.8%

- **Overall rate and charge increase will vary by member agency depending upon the fixed charge allocations**
Next Steps

Rates will continue to be finalized based on feedback and continued validation of assumptions/inputs

Key Board Dates:
- Setting Public Hearing Date & Presentation on Proposed Rates and Charges (May 23rd)
- Public Hearing, adoption of CY 2020 Rates and Charges (June 27th)
1. Lewis Carlsbad Desalination Plant Contract Administration Memorandum (CAM) for Temporary Stand-Alone Operations

2. Resolution to Submit Application under Department of Water Resources Water Desalination Grant Program’s Continuous Application Process
Agenda

1. Lewis Carlsbad Desalination Plant Contract Administration Memorandum (CAM) for Temporary Stand-Alone Operations

2. Resolution to Submit Application under Department of Water Resources Water Desalination Grant Program’s Continuous Application Process
Lewis Carlsbad Desalination Plant

- Owned and operated by Poseidon Water
- 30-year contract
- $1 billion investment
- 48,000 - 56,000 acre-feet/year
- Largest, most advanced seawater desalination facility in North America
- Co-located with Encina Power Station
Status of Plant Operations

- Began commercial operations on December 23, 2015

- Over 45 billion gallons of desalinated ocean water produced to date

- Permitting and procurement under way for planned intake and discharge modifications

- Currently operating under Temporary Stand-Alone Operations (TSOP)
Transition to Stand-Alone Operations

- Drivers
  - Closure of Encina Power Station requires new, permanent stand-alone intake for the CDP
  - 2015 Ocean Plan Amendment

- Contemplated and addressed in the Water Purchase Agreement
  - Water Authority responsible for incremental cost
  - WPA provided a cap for closure related costs
  - Ocean Plan Amendment requirements do not apply against the closure cap

- New intake and discharge facilities require new permits and approvals
Need for Phasing of Intake Modifications

- Power Plant shutdown schedule
- Regulatory delays in development of the NPDES permit
- Additional permitting and pilot testing for regulatory-driven intake design
  - ACOE permitting
  - New intake technology and siting validation
Current/Temporary Stand-Alone Operations

INTAKE

DISCHARGE
Interim Operations

Power Plant Discharge Feed

≤ 35.5 ppt

Agua Hedionda Lagoon (35.5 ppt)

Desalination Plant

KEY:

MGD= million gallons per day
ppt= parts per thousand
Phasing Schedule

December 11, 2018
Encina Power Station ceases power generation

December 12, 2018 thru May 2020
Temporary Stand-Alone Operations Period (TSOP)

May 2020
Commission new, fish-friendly pumps

June 2020 thru December 2023
Interim Operations Period

January 2024 thru WPA Completion
Permanent Operations Period

December 2023
Commission new, OPA-compliant intake screens
Temporary Stand-Alone Operations (TSOP)

- Includes responsibilities and costs to operate, maintain and replace existing EPS equipment
- Multiple workshops conducted with Poseidon to review four Key Areas:
  1. Risk Transfer
  2. Duration
  3. Cost Components
  4. Total Cost Adjustment

Validation of terms and costs thoroughly reviewed by Water Authority staff and technical and legal support.
## TSOP Key Area 1 - Risk Transfer

<table>
<thead>
<tr>
<th>Risk Description</th>
<th>Poseidon</th>
<th>SDCWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permitting</td>
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<tr>
<td>Financing</td>
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<td>Interest Rate</td>
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<td>Operating Performance</td>
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<tr>
<td>Pipeline Operating Risk</td>
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<tr>
<td>Electricity</td>
<td>Consumption</td>
<td>Pricing</td>
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<tr>
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<tr>
<td>Regulation</td>
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## TSOP Key Area 1 - Risk Transfer

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<tr>
<td>Regulation</td>
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</tr>
</tbody>
</table>
Initiated with the cessation of power generation at the Encina Power Station on December 11, 2018

Continues until the commissioning of new Interim Operations improvements

Initial discussions with City of Carlsbad and NRG regarding potential schedule impacts related to Encina Power Station demolition plan

- Current commitment is to initiate demolition of above-grade structures by the end of 2019
Administrative (incremental cost)
- Condition assessment of existing equipment
- Oversight of NRG’s operation of intake/discharge facilities
- Management of TSOP

Electricity
- Power consumption to circulate process and brine dilution water (low and high capacity pumps)

Operations, Maintenance and Repairs
- Routine O&M costs to maintain operations
Contingency

- Extraordinary maintenance or replacement costs associated with existing condition of equipment
- Water production relief accounts

Dredging

- Dredging costs are not included in the TSOP cost adjustment

NOTE: No capital costs associated with TSOP
## TSOP Key Area 4 - Total Cost Adjustment

<table>
<thead>
<tr>
<th>Cost Components</th>
<th>Annual Cost Adjustment ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative</td>
<td>$240,458</td>
</tr>
<tr>
<td>Electricity</td>
<td>$3,310,101</td>
</tr>
<tr>
<td>Operations, Maintenance and Repairs</td>
<td>$2,462,438</td>
</tr>
<tr>
<td>Contingency</td>
<td>$450,000</td>
</tr>
<tr>
<td><strong>Total Cost Adjustment</strong></td>
<td><strong>$6,462,997</strong></td>
</tr>
</tbody>
</table>

- Resulting unit price adjustment is $135 per acre-foot
- Incorporated into proposed CY 2020 Rates & Charges
- Dredging **not** included in TSOP cost adjustment
  - Staff will assess dredging costs as part of Interim and Permanent Operations
Cap Provisions in the WPA

- The Water Purchase Agreement contains two separate cost cap provisions
  1. Baseline Unit Price Cap (10% annual/30% cumulative)
  2. Specific capital and operating caps associated with the intake modifications

- TSOP is the first unit price adjustment applicable to the Baseline Unit Price Cap provisions

- Specific caps associated with intake modifications only include “closure” costs
Draft Permit Overview

- Recognizes phased-operation with five-year compliance schedule for permanent facilities
- Covers intake screens in Aqua Hedionda lagoon for process flow and discharge flow augmentation
- San Diego Water Board hearing scheduled for May 8, 2019
- Water Authority and Poseidon met with State Water Board Chair and staff on April 17, 2019 on unresolved permit issues
Next Steps

**Poseidon**
- San Diego Water Board permit hearing May 8, 2019
- Secure Design-Build contractor for improvements to support Interim Operations - July/August 2019
- Secure financing for Interim improvements - August 2019
- Initiate Interim Operations Period - June 2020

**Water Authority**
- Board update on Regional Board permit - May 23, 2019
- Board action on Interim Operations CAM and WIFIA loan closing documents - August 2019
- Board update on FY 2019 plant performance - Sept. 2019
Recommendation 1.A

- Authorize the General Manager to execute a Water Purchase Agreement Contract Administration Memorandum (CAM) between the Water Authority and Poseidon Resources (Channelside) LP to support Temporary Stand-Alone Operations of the intake and discharge facilities at the Lewis Carlsbad Desalination Plant (CDP)
1. Lewis Carlsbad Desalination Plant Contract Administration Memorandum (CAM) for Temporary Stand-Alone Operations

2. Resolution to Submit Application under Department of Water Resources Water Desalination Grant Program’s Continuous Application Process
DWR Desalination Grant Program

- Provides grants to local agencies for brackish and ocean water desalination projects

- Prop 1 funding opportunity released June 16, 2017
  - Requires Board resolution to apply for and administer funding
  - Requires matching funds equal to 50% of the total project

- Remaining funds being distributed under a Continuous Application Process

- Requesting up to $1,250,000 in grant funding to support the Intake Screen Demonstration Project
Recommendation 1.B

a) The General Manager is authorized to sign and file for, on behalf of the Water Authority, a grant application for funding from the Department of Water Resources Desalination Grant Program (Continuous Application Process) in an amount not to exceed $1,250,000 for the Lewis Carlsbad Desalination Plant (CDP) Wedgewire Screen Demonstration Project.

b) The Water Authority will comply with all applicable state and federal statutory and regulatory requirements related to any federal and state funds received.

c) The General Manager or designee is authorized to negotiate and execute a funding agreement and any amendments thereof, and certify funding disbursements on behalf of the Water Authority.
A Strategic, Regional Approach

- Focus on drivers of local economy and quality of life
- Collaborate with member agencies
- Promote the value of water
- Re-energize stakeholders
- Expand educational opportunities
Agriculture Makes $4.8 Billion Local Impact

- **Dates:** Mid-April to mid-June
- **Distinctives:** No. 1 in small farms and organic farms; tops in flowers/nursery crops; $4.8 billion economic impact
- **Key Partners:** SD County Farm Bureau, Resendiz Brothers, Del Rey Avocado, Go Green Agriculture, Jimbo’s, Specialty Produce
Water Authority Efforts Benefit Ag Sector

- Free ag water system assessments
  - More than 2,300 irrigation evaluations since 1991
  - Partnership with Mission Resource Conservation District
Overview of Quarterly Activities

- Events
- Community outreach
- Social media
- Third-party support
- News pitches
- Testimonial videos
- Promotional items
- Member agency and community partner tools
- Coordination with key industry partners
Graze at the Flower Fields

- Sponsorship of SD Farm Bureau’s farm-to-table dinner at the Carlsbad Flower Fields
  - Local chefs prepare local foods for up to 300 guests
  - Tickets, prominent logo display on promo materials, recognition at the event and Farm Bureau magazine, display booth, promo item handout
Promotional Items & Partnerships

- Promotional shopping bags
- Farmers Markets & Festivals
  - Provide bags, materials for member agencies
- Partnership with Jimbo’s markets
  - In-store bag giveaways & displays
  - Video/social media
  - Onsite radio host
  - Prizes for social contest
- Community garden volunteer event with Employee Association
Specialty Produce Lends Support

- Partnership with Specialty Produce
  - In-store bag giveaways
  - In-store video displays
  - Podcast invitation
  - Event venue space
  - Social media support with 30,000+ followers on Instagram
Media and Social Media

- Water Awareness Month Instagram contest
  - Focus on local food and farm photos
- Feature local farmers & farmers markets
  - Social toolkit for member agencies
- Media pitches and commentaries
- WNN stories
Video Testimonials

- Ag videos
  - Farm Bureau
  - Go Green Lettuce
  - Resendiz Flowers
  - Del Rey Avocados
- Targeted ads on CBS8 late-April through late-June
Video Testimonials

Agriculture brought to you by water...
Additional Outreach

- Airport signage
- Times of San Diego ads
- JPIC presentation by Farm Bureau (June 3)
- Water Academy alumni event at Specialty Produce
Summer of Social Influence

- Social media campaign with Switchfoot lead singer Jon Foreman
- Short videos showcase water facilities, promote water-use efficiency
- Launch June 17 and run through fall on social, web and email
Summer of Social Influence

- Switchfoot Bro-Am surf-music event in Encinitas
  - June 29
  - 17,000+ people
  - Charity fundraiser

- Package includes
  - Sponsored water stations
  - Reusable water bottle contest
  - Public service announcements from the stage
  - Promotional radio spots, social media, and online ads with 94.9 & 105.3

- Water bottle stickers
Upcoming Industry Opportunities

- Defense
- Biotech/life sciences
- Higher education
- Healthcare
- Action sports/lifestyle
- Aerospace
Sacramento Update

Legislation and Public Outreach Committee
April 25, 2019

Glenn Farrel, Government Relations Manager
Legislature

- Legislature’s spring recess concluded on April 22
  - One week remaining for policy committee hearings
  - Last day for fiscal committees to meet: May 17
- May 31: Last day for bills to pass from house of origin
- June 15: Budget bill must be passed by Legislature
- July 12: Summer recess begins
Sponsored Legislation - AB 1588 (Gloria/Gray)

- AB 1588 is co-sponsored by the Water Authority and the Otay Water District

- AB 1588 is intended to address the lack of satisfactory crediting and equivalency standards for military veterans transitioning into civilian water and wastewater system operator occupations

- April 9 - Passed out of Assembly Environmental Safety and Toxic Materials Committee
  - 9-0 unanimous vote
  - Referred to Appropriations Committee
Support for AB 1588

**Industry associations:**
- ACWA
- CASA
- California Water Association
- Council of Water Utilities
- Northern CA Water Assn
- Rural County Reps of CA

**Water agencies:**
- Eastern MWD
- Irvine Ranch WD
- Mesa WD
- Otay WD
- Padre Dam MWD
- Rainbow MWD
- San Diego CWA
- Santa Clara Valley WD
- Sweetwater Authority
- Turlock Irrigation District
- Valley Center MWD

**Business/Labor/Civic:**
- AFSCME
- Chula Vista Chamber
- East County EDC
- Escondido Chamber
- Oceanside Chamber
- San Diego North EDC
- SD Workforce Partnership
- San Marcos Chamber
- San Ysidro Chamber
- South County EDC
- Spring Valley Chamber
- Vista Chamber

**Veterans’ groups:**
- American GI Forum
- AMVETS – CA
- CA Assn of County Veterans’ Svc Officers
- CA State Commanders Veterans’ Council
- Veterans Chamber of Commerce
- Veterans Village of San Diego
- Vietnam Veterans of America
Outstanding Issues Regarding AB 1588

- Co-sponsors have been approached by several interests - some with potential concerns

- Co-sponsors met with all interest groups/organizations
  - Made commitments to work out any remaining issues

- U.S. Navy/U.S. Marines
  - Concerned with specific identification of military occupation specialties as surrogate for qualified experience
  - Co-sponsors suggesting amendments to use the MOS’ as examples for experience and education crediting

- MWD
  - Proposed clarifying amendments and language requiring a mandated regulatory proceeding by SWRCB to implement crediting program
  - Co-sponsors accepting clarifying amendments but have concerns about fiscal impact of mandated regulatory proceedings
Safe and Affordable Drinking Water

- **AB 134 (Bloom) - Assembly Appropriations**
  - Transparency and accountability provisions
- **AB 217 (Garcia) - Assembly Appropriations**
  - Water trust fund
  - Water tax
  - Production agricultural taxes
  - Administrative structure at SWRCB
- **SB 200 (Monning) - Senate Appropriations**
  - Administrative structure at SWRCB
Safe and Affordable Drinking Water

- SB 414 (Caballero) - Senate Appropriations
  - Small water system consolidation authority

- SB 669 (Caballero) - Senate Governmental Organization
  - Safe drinking water trust fund

- Budget Trailer Bill - Open items in Budget Subcommittee
  - Water tax
  - Production agricultural taxes
  - Administrative structure at SWRCB

- Alternative funding proposals being considered in lieu of water tax