Construction Contract for the Miramar Pump Station Rehabilitation Project

Engineering & Operations Committee Meeting
October 22, 2015

Nicola Kavanagh, Senior Engineer
## Bid Summary

**Advertised Bid Range:** $4.5M to $5.5M

<table>
<thead>
<tr>
<th>NO.</th>
<th>GENERAL CONTRACTOR</th>
<th>BID AMOUNT</th>
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<tbody>
<tr>
<td>1</td>
<td>Kiewit Infrastructure West Co.</td>
<td>$4,097,900</td>
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<td>2</td>
<td>L.H. Woods &amp; Sons, Inc.</td>
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<td>Dick Miller Inc.</td>
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<td>8</td>
<td>Pascal &amp; Ludwig Constructors</td>
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</table>
Recommendation

Authorize the General Manager to award a construction contract to Kiewit Infrastructure West Co. in the amount of $4,097,900 for the Miramar Pump Station Rehabilitation Project.
Carlsbad Desalination Projects

- Twin Oaks Valley Water Treatment Plant Desalination Modifications (K0306)
- Pipeline 3 Desalination Relining San Marcos to Twin Oaks (K0304) (27,100 Feet)
- Carlsbad Desalination Plant (K0302)
- Macario Canyon Tunnel
- Desalination Product Water Conveyance Pipeline (K0303) (10 Miles, 54-Inch Pipe)
- San Marcos Vent Desalination Modifications (K0305)

LEGEND
- Desalination Plant
- Desalination Pipeline
- Water Authority Pipeline
- Pipeline 3 Relining
- Portal Location
- Portal Staging Area

SCALE (feet)

0 2,000 4,000 8,200
### Project Elements

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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<td>San Marcos Vent</td>
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<td>Pipeline 3 Relining</td>
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<td>Twin Oaks Plant Modifications</td>
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<tr>
<td>Conveyance Pipeline</td>
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<tr>
<td>Carlsbad Treatment Plant</td>
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<tr>
<td>System Commissioning</td>
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</table>
Conveyance Pipeline Progress to Date

- Safety: (396,000 work-hours) Two lost time injuries.
- Design: 100% complete
- All 53,000 feet pipe installed.
- Current work areas
  - All pipe is installed, welded and hydrostatically tested.
  - Macario Tunnel completed
  - Fiber Optic installation completed
  - Restoration and structure work - Multiple locations (Carlsbad, Vista and San Marcos)
  - Work continues on Pipeline Interconnect Facility
  - Paving Work – work continues in Carlsbad and San Marcos; completed in Vista
Desalination Plant Progress

- Safety: (487,501 man hours) Two lost time injuries
- Total working on project: 270,125
- Amount of concrete poured: 38,300 - 38,482 Cubic yards (97%) (100%)
- Amount of reinforcement steel: 3,880 - 3,882 tons (99%) (100%)
- Amount of conduit/pipe placed: 96,730 - 98,014 feet (98%) (100%)
- Design is 100% complete
- Overall: (94%) (98.6%) complete
Commissioning

- Intake Pump Station
- Pre-treatment
  - Filter Basin/Flocculation
  - Micronic Filters
- Reverse Osmosis Membranes, Booster Pumps w/ Energy Recovery Units
- Post-treatment
  - Chemical Feed
  - Analyzers/Instrumentation
- Product Water Tank, Pumps w/ Venturi Meter
- Conveyance Pipeline
  - Hydrostatically Tested
- Pipeline Interconnect Facility
- Pipeline 3
  - Hydrostatically Tested
- Twin Oaks Treatment Plant Modifications
System Commissioning

- **Loop 1000**: Began October 14
  - Treatment plant operates in total
  - Not connected to pipeline

- **DDW Permits**
  - Twin Oaks: October 12
  - Carlsbad:

- **Loop 900**
  - Product Water Tank pumps begin delivering water to Twin Oaks Valley Treatment Plant (15 miles, 1000 feet elevation)

- **Mechanical Completion**
  - Water Authority provides certification
System Commissioning

- Full System Test
  - 3-7 day test to confirm operation of combined system
  - Product water delivered to Twin Oaks allows for final acceptance of Twin Oaks modifications.
  - Full testing of Pipeline Interconnect Facility (PIF)

- Performance Test
  - 30 day test to confirm sustained plant performance at required flow rates and product quality.
System Commissioning

- Surge Test
  - Product Water Tank Pumps Shut off
- Commercial Operations
  - 120 days to complete non-water production items
  - Water Authority provides certification
- Project Completion
1. Credit: San Marcos Street Improvements not required ($190,000)
2. Credit: Department of Public Health cutoff wall and monitoring wells not required ($125,000)
3. Delete: Property for air release and vacuum valve structures ($100,000)
4. Add: Costs to permit and develop Macario tunnel design ($225,000)
5. Administrative: Schedule of Values No Cost
6. Add: Carlsbad Valve Vault (Reimbursable) $29,300-R
7. Add: Vallecitos 9 Flow Control (Reimbursable) $219,300-R
8. Credit: Reimbursement for Review of Over-pressurized Pipe ($17,390)
9 -12 Add: Flow Meter Test, Pipeline 4 mods, Ammonia analyzer $145,000
13. Add: Additional Carlsbad paving (Reimbursable) $1,228,000-R
14. Add: Changes to Pipeline Interconnect Facility. $?
15. Credit: Baker Coupler Issue (Reimbursement of Costs) $260,000-R
16. Credit: 8-inch Butterfly Valve Replacement (Reimbursement of Costs) $75,000-R
### Carlsbad Desalination Conveyance Facilities

“Contract Administration Memoranda” (cont.)

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<th>Contract Administration Memoranda Number/Description</th>
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<td>Allowance for measures to handle pipeline pressure</td>
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<td>• Final Modification Cost</td>
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<td>(Pipe Thickness, Radiographic Testing, Pipe Coating, Surge Protection)</td>
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<td>Task/Activity</td>
<td>Lifetime Budget ($ Millions)</td>
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<td>Desalination Plant Water Purchase Agreement</td>
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<td>Oversight</td>
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<td>Carlsbad and Vallecitos Reimbursables</td>
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Intake Upgrade – Current Status

- Need to complete construction by the end of 2017
  - Ties to shutting down of Encina Power Plant

- Preparing for CEQA/Permitting (WA to be lead agency)
  - Oceanographic and marine biology studies
  - “Fish-friendly” pump piloting (Hubbs-Seaworld)

- Final Ocean Plan Amendment
  - Adopted by SCRCB on May 6, 2015
  - Sets requirements for construction and operation of seawater desalination and brine discharge facilities.
Intake/Discharge Modifications

- Will be evaluated in Supplemental EIR
  - Water Authority is lead agency for CEQA
  - Complies with new Ocean Plan Amendment
    - Flows, screens, pumps, fish return system, dilution
  - Potential for plant expansion to 60MGD
- Notice of Preparation issued September 18
  - Scoping meeting held October 1
  - Scoping comment period closed October 21
  - Environmental Document and Financing – early 2016
Welded Steel Pipeline Nondestructive Testing Services (Action)

Engineering & Operations Committee
October 22, 2015
Tool Animation
Video – Looking Down
Collected Data

Pipe Joint

Spiral Weld

Metal Loss
Verification – Exterior

Pipe Excavation
Verification – Interior

Ultrasonic Testing
Proactive Repairs

- Remove Lining
- Weld Internal Patch

Internally Welded Steel Patch
Request for Proposals (RFP)

- **Response**
  - Downloaded: 69 Firms
  - Pre-Proposal/Site Visit: 9 Firms

- **Proposals Received**
  1. Pure Technologies
  2. Electromechanical Technologies

- **Panel Review**
Authorize the General Manager to award a professional services contract to Pure Technologies U.S. Inc. for the nondestructive condition assessment of Pipeline 3 from San Marcos to Rancho Peñasquitos, for a not-to-exceed amount of $1,430,252
History and Benefits of the Emergency and Carryover Storage Projects

Engineering & Operations Committee Meeting
October 22, 2015
Sources of San Diego County’s Water Supply

State Water Project (MWD supplies)

Colorado River (Long-term Transfers and MWD supplies)

Local Supplies
300+ Miles of Pipeline
Emergency/ Carryover Storage Project

Four Phases

- $1.5B program
- System of pipelines, pump stations and reservoirs
- Store water locally
- ESP = 90,000 AF
- Carryover Storage (CSP) = 100,000 AF
Agreement with City (San Diego) for Pamo Project

1982

1988
Terminate USACOE 404 Permit for Pamo

1992
Initiate ESP Planning/Screening

1996
Final ESP EIR Certified

1998
ESP Included in CIP

1999
Begin Construction

2003
Olivenhain Dam/CSP in CIP

2005
Olivenhain Pump Station

2008
Final CSP EIR Certified

2010
San Vicente Pumping Facilities

2011
San Vicente Pipeline

2013
Lake Hodges

2014
San Vicente Dam Raise

2008
San Vicente Pipeline

2010
San Vicente Pumping Facilities

2014
San Vicente Dam Raise
ESP/ CSP PROJECTS

OLIVENHAIN
Olivenhain Dam and Reservoir
Olivenhain Pump Station
Olivenhain Pipelines and Interconnect

LAKE HODGES
Lake Hodges Pump Station and Inlet/Outlet
Lake Hodges to Olivenhain Pipeline

SAN VICENTE
San Vicente Dam Raise and Carryover Storage
San Vicente Pipeline & Aqueduct Interconnect
San Vicente Pump Station
San Vicente / MLP Interconnect Pipeline
San Vicente 3rd Pump Drive & Power

OTHER
Operations Center Upgrade
Diversion Structure Modifications
Modifications to Valley Center Pump Station
Pump Station at Twin Oaks Valley Water Treatment Plant
Planning & Support Services
Post Construction Activities
North County ESP Pump Stations
ESP/ CSP PROJECTS

OLIVENHAIN
✓ Olivenhain Dam and Reservoir
✓ Olivenhain Pump Station
✓ Olivenhain Pipelines and Interconnect

LAKE HODGES
✓ Lake Hodges Pump Station and Inlet/Outlet
✓ Lake Hodges to Olivenhain Pipeline

SAN VICENTE
✓ San Vicente Dam Raise and Carryover Storage
✓ San Vicente Pipeline & Aqueduct Interconnect
✓ San Vicente Pump Station
✓ San Vicente / MLP Interconnect Pipeline

San Vicente 3rd Pump Drive & Power

OTHER
✓ Operations Center Upgrade
✓ Diversion Structure Modifications
✓ Modifications to Valley Center Pump Station
✓ Pump Station at Twin Oaks Valley Water Treatment Plant
✓ Planning & Support Services
✓ Post Construction Activities

North County ESP Pump Stations
Project: Olivenhain Dam & Reservoir
Complete: 2003
Benefit: 24,000 AF of storage
Project: Olivenhain Pump Station
Completed: 2005
Benefit: Convey ESP water to the Second Aqueduct
Project: Lake Hodges Projects
Completed: 2013
Benefits: 20,000 AF ESP storage; 40MW power
Project: San Vicente Pumping Facilities
Completed: 2010
Benefit: Convey ESP/ CSP water to the Second Aqueduct
Project: San Vicente Pipeline & Tunnel
Complete: 2011
Benefit: Convey ESP/ CSP water to the Second Aqueduct
Project: San Vicente Dam Raise and Carryover Storage
Completed: 2014
Benefit: Increase reservoir capacity by 152,000 AF
Project: San Vicente Dam Raise and Carryover Storage (Marina Facilities)
Completion date: Early 2016
Benefit: Expanded and enhanced recreational opportunities
Project: San Vicente Dam Raise and Carryover Storage
(By-pass Pipeline)
Completion date: Spring 2016
Benefit: Flexibility to move aqueduct water around reservoir
Enhancing Regional Water Supply Reliability

TOTAL = 196,000 AF

(90K Emergency + 100K Carryover + 6K Operational)

SAN VICENTE
152,000 AF

HODGES
20,000 AF

OLIVENHAIN
24,000 AF
2-Month Event:
All MWD Supply Interrupted

UNTREATED → TREATED at WTPs:
1. Twin Oaks Valley WTP
2. San Dieguito/Santa Fe
3. Escondido/Vista
4. Oceanside
5. Poway
6. Helix
7. Olivenhain
8. Sweetwater
9. City of San Diego

Pump from Carlsbad Desal to 2nd Aqueduct

Water is to Twin Oaks Valley WTP high point at Twin Oaks
.... via Crossover PL to 1st Aqueduct

.... and pump via SVP to 2nd Aqueduct

.... and pump from Olivenhain to 2nd Aqueduct

Pump from Hodges to Olivenhain

Pump from San Vicente to Moreno Lakeside PL
End of 2015 Regular Legislative Session

Legislation, Conservation, and Outreach Committee

October 22, 2015

Glenn Farrel, Government Relations Manager
End of 2015 Legislative Session

- Governor completed action on legislation October 11
- Legislature will reconvene on January 4, 2016 for second year of two-year legislative session

Governor Brown’s Action on Bills

- Chaptered
- Vetoed
End of 2015 Legislative Session

Total Introduced Bills

- Democrats: 1,835
- Republicans: 796
- Committees: 141

Democrats' Bills

- Chaptered: 798
- 2-Year Bills: 1,037

Republicans' Bills

- Chaptered: 212
- 2-Year Bills: 584
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<th>Water Authority Board Position</th>
<th>Number of Bills</th>
<th>Amends Taken?</th>
<th>Chaptered</th>
<th>Vetoed</th>
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Water Authority Sponsored Bills

- AB 149 – Assemblymember Rocky Chavez

- Signed into law on July 6 (Chapter 49, Statutes of 2015)

- Changes the 2020 UWMP approval date from December 31, 2020 to July 1, 2021
Water Authority Sponsored Bills

- SB 208 – Senator Ricardo Lara
- Advance payment of up to 50% of IRWM grant award
  - NGO or disadvantaged community or project benefits a disadvantaged community
  - Grant award is less than $1 million
- Signed into law on October 9 (Chapter 675, Statutes of 2015)
Water Authority Sponsored Bills

- AB 349 – Assemblymember Lorena Gonzalez
- Allows homeowners within common interest developments to install synthetic grass
- Retention of design and aesthetic standards with HOA
- Signed into law on September 4 (Chapter 266, Statutes of 2015)
- Urgency statute – takes effect immediately
Sustainable Landscapes Program (SLP) Update

Legislation, Conservation and Outreach Committee

October 22, 2015
Objectives:

- Provide status update on the program
- Highlight new Sustainable Landscape Guidelines
- Outline next steps, including education and incentives
2009 – Initial application for grant funding (regional process)

2010 – Board authorization for IRWM grant application (state process)

2011 – DWR notice of award

2012 – Execution of DWR grant agreement

2013 – Execution of LPP Implementation Agreement

2014 through 2016 – Program implementation
### SLP Budget

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<td>Combined Local Match</td>
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<td><strong>Total Program Budget</strong></td>
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### Local Match by Partner

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<tr>
<th>SDCWA</th>
<th>County SD</th>
<th>City SD</th>
<th>ACP</th>
<th>Cal Am</th>
<th>Surfrider</th>
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<td>$72,500</td>
<td>$86,000</td>
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<td>$25,000</td>
<td>$64,000</td>
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SLP Scope of Work

1. SLP Guidelines
2. Education & Training
3. Technical Assistance
4. Retrofit Incentives
5. Landscape Materials
6. Outreach
1. Voluntary Alignment with Regulations:
   - Model Water Efficient Landscape Ordinance
   - Municipal Separate Stormwater Sewer System (MS4 Permit) regulations by San Diego Regional Water Quality Control Board

2. Opportunities to pilot “Treatment Control” BMPs - capturing stormwater onsite in the landscape

3. Task Lead for SLP Guidelines development
SLP Guidelines

- Extensively researched
- Tailored to the San Diego region’s needs
- Watershed-based approach
- Multiple benefits
SLP Guidelines – Content Highlights

introduction 2
place 4
soil 10
plants 20
water 38
project 52
Living Soils:

- Organic amendments
- Improved water infiltration & holding capacity
- Reduced need for supplemental water
Rainwater Capture:

- First flush
- Slow it, spread it, sink it
- Consistent with watershed-based approach
SLP Scope of Work

1. SLP Guidelines
2. Education & Training
3. Technical Assistance
4. Retrofit Incentives
5. Landscape Materials
6. Outreach
Homeowner Education & Professional Training

Watershed Wise Landscape Professional Workshop
Audubon Center, Oceanside
Sept. 24-25
Technical Assistance
Projected Participants

- 480 Surfrider/OFG Participants
- 758 WaterSmart Landscape Makeover Participants
SLP Scope of Work

1. SLP Guidelines
2. Education & Training
3. Technical Assistance
4. Retrofit Incentives
5. Landscape Materials
6. Outreach
Previous Landscape Conversion

WaterSmart Turf Replacement Rebate Program

- $1.65M in incentives paid
- 790 participants received rebates
- More than 1.1M square feet of turf replaced
- Grant funds exhausted January 2015
- Final projects in queue
Sustainable Landscape Retrofit

Incentives

- Limited program
- Achieve 272,250 sq. ft. landscape upgrades to SLP standards
  - Plants, irrigation, soil, stormwater retention
- Expected launch spring 2016
- Anticipated program controls:
  - Incentive limits and caps
  - Existing turf, irrigation systems required
  - Inspections & receipts
  - Minimum for plant coverage
  - Visibility (front or side yards)
**SLP Landscape Incentives Budget**

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<th>Service Area</th>
<th>Budget</th>
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<td>San Diego County Water Authority*</td>
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<td>California American Water Company</td>
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<td><strong>Total</strong></td>
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*Grant-funded; no Water Authority operating funds to be used*
Legislative Policy Guidelines

- Annual update for 2016
- Legislative Policy Guidelines direct staff and legislative advocates on issues of importance to the Water Authority, its member agencies, and the San Diego region
  - Provide a framework to evaluate the potential impact of state and federal legislation
- Water Authority staff and member agencies have identified proposed modifications to the Legislative Policy Guidelines
Proposed Changes to Guidelines

Two types of proposed modifications within the draft Legislative Policy Guidelines:

◦ Minor – technical and grammatical proposed modifications
◦ Substantive – more significant proposed modifications based on:
   Board policy direction during course of 2015
   Enhancement or clarification of policy direction based on changing circumstances, environment, or information

Minor proposed modifications found in following sections:

- Local Water Resources
- Water Use Efficiency
- Fiscal Policy and Rates
- Right of Way and Property
- Energy
Proposed Changes to Guidelines

- Under Imported Water Supply, revise LPG relating to preferential rights, consistent with changing fiscal relationship with MWD

- Under Local Water Resources, reshape LPG regarding dual plumbing for recycled water to be consistent with Board’s policy direction

- Under Local Water Resources, add new LPG to reinforce local autonomy with respect to water supply portfolio, including demand management
Proposed Changes to Guidelines

- Under Water Facilities/Facility Improvement, add new LPGs to improve Board’s flexibility and autonomy to choose best contractor procurement method for cost-effectiveness and project/product delivery.

- Under Water Use Efficiency, clarify scope of LPG to most appropriately and directly state Board policy direction relative to water conservation mandates.

- Under Biological and Habitat Preservation, add LPG related to streamlined CEQA noticing, consistent with Board policy direction related to AB 291 (Medina).
Proposed Changes to Guidelines

- **Under Fiscal Policy and Rates:**
  - Add new LPG consistent with Board direction relative to federal funding for water infrastructure projects
  - Add new LPG consistent with Board’s well-established policy direction related to cost-of-service rate-making

- **Under Energy:**
  - Add new LPG to reflect Board’s policy direction related to reducing energy costs for water production, transmission, treatment, and distribution
  - Add new LPG related to creating a market opportunity for large-scale energy storage

- **Under Land Use and Water Management Planning,**
  **add LPG to reflect Board’s policy direction related to “waters of the United States” issue**
Next Steps on Legislative Policy Guidelines

- Staff is requesting suggestions for revisions from Board members and member agencies
- Please return to Glenn Farrel by November 6
- Staff will present the proposed FINAL Legislative Policy Guidelines for the Board’s consideration on December 10
Enterprise Applications

Administrative & Finance Committee
October 22, 2015
Enterprise Applications: Benefits

Compliance  Productivity  Decision-Making
Enterprise Applications

- Proposition 84 Grant Management Webtool
- Primavera - Project Management
- Maximo - Computerized Maintenance Management System (CMMS)
- PeopleSoft - Enterprise Resource Planning (ERP)
## Proposition 84 Grant Webtool

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<th>Grant Award (million $)</th>
<th># of Projects Funded</th>
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<td>Round 1</td>
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<td>Round 2</td>
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<td><strong>Total</strong></td>
<td><strong>$64.6</strong></td>
<td><strong>38</strong></td>
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* Data as of October 2015
Grant Webtool Benefits

- Benefits project sponsors, DWR & Water Authority
- Provides single source online repository
- Simplifies reporting process
- Puts all information in consistent, standardized format
- Streamlines and automates documentation process
- Reduces errors
- Organizes grant files
Primavera

- CIP Program and Project Management Software
- Project Management Success
**Primavera**

**PROJECT EXECUTION**

**Update**

**Monthly**

**Monitor Execution**

---

**C0721 Nob Hill Improvements**

*Data through August 30, 2015*

**Current Phase:** Design

**Schedule**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Approved</th>
<th>Remaining</th>
<th>Var %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appropriation</td>
<td>$126.0</td>
<td>$175.7</td>
<td>-29.9</td>
</tr>
<tr>
<td>Budget</td>
<td>$126.0</td>
<td>$175.7</td>
<td>-29.9</td>
</tr>
</tbody>
</table>

**Calendar**

- Q2 2014
- Q3 2014
- Q4 2014
- FY15
- FY16
- FY17
- FY18

**Risks**

- **$1.6**
- **$1.25**
- **$1.25**

---

**Major Milestones**

<table>
<thead>
<tr>
<th>Milestone Description</th>
<th>Target Date</th>
<th>Current Date</th>
<th>Var</th>
<th>Variance Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTP Construction Confirm</td>
<td>Oct 2015</td>
<td>Oct 2015</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>File for Shutdown</td>
<td>Nov 2016</td>
<td>Nov 2016</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Board Approval SSDOC</td>
<td>Apr 2017</td>
<td>Apr 2017</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Gate 7 - Board Approval to File SSDOC</td>
<td>Apr 2017</td>
<td>Apr 2017</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Gate 8 - Project Completion</td>
<td>Jan 2017</td>
<td>Jan 2017</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
Primavera Benefits

- CIP Program and Project Management
- Schedule, Resource, Budget Development and Monitoring
- Reduces Risk
- Stakeholder Collaboration
- CIP Financial Forecast
Maximo

- Maintenance Tracking
- Monitoring and Reporting
- Work Scheduling

- $3 billion infrastructure
- 6,000 work orders per year
Maximo Benefits

- Regulation Compliance
- Efficient Maintenance Planning
- Monitoring Performance
- Asset Management
PeopleSoft

Financial Services Management
- Auditable
- Internal Controls; SOX, COSO
- Fiscal Compliance; GAAP, GASB
- Financial Reporting
- Budgetary Controls

Purchasing/Vendor Management
- Requisitions and Purchase Orders
- Commitment Control
- Workflow Approval
- Contracts

Human Resources Management
- Enforce Laws and Regulations
- Time Reporting, Payroll
- Tax and Benefit Reporting
- FMLA – Family Medical Leave
- ACA – Affordable Care Act

Security

GASB

Affordable Care Act

IRS
Peoplesoft Benefits

- System of Record
- Integrated Functionality
- Regulatory Compliance
- Data Integrity
- Business Process Standardization
- Security
- Separation of Duties
PeopleSoft Upgrade Costs (millions)

- **2005-2006**: $2.6
- **2009-2011**: $1.8
- **2015-2017**: $0.9
Authorize the General Manager to award a professional services contract to GNC Consulting, Inc. to provide PeopleSoft enterprise resource planning software upgrade services for a total not-to-exceed amount of $900,000 for the period of November 2, 2015 through June 30, 2017.
San Diego County Water Authority

Period Ending
September 30, 2015
Account Profile
Objectives

Consolidated Investment Objectives

The investment policies and practices of the Board of Directors and the Treasurer for the San Diego County Water Authority are based upon limitations placed on it by governing legislative bodies. These policies have three primary goals:

1. To assure compliance with all Federal, State and Local laws governing the investment of monies under the control of the Treasurer.
2. To protect the principal monies entrusted to this organization.
3. To generate the maximum amount of investment income within the parameters of this Annual Statement of Investment Policy.

Chandler Asset Management Performance Objectives

Chandler’s mandate is to invest in corporate and municipal securities with final maturities of 5 years or less.

The performance objective is to achieve a rate of return over a market cycle that equals or exceeds the return on a market index of similar duration and sector allocation.

Strategy

In order to achieve these objectives, Chandler invests in high quality corporate securities consistent with the investment policy and California Government Code.
### COMPLIANCE WITH INVESTMENT POLICY

Assets managed by Chandler Asset Management are in full compliance with State law and the Investment Policy.

<table>
<thead>
<tr>
<th>Category</th>
<th>Standard</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Corporate (MTNs)</td>
<td>AA- or better by one NRSRO; No ratings below A-</td>
<td>Complies</td>
</tr>
<tr>
<td>Municipal Securities</td>
<td>A- or better by one NRSRO; 20% maximum; 5% max issuer</td>
<td>Complies</td>
</tr>
<tr>
<td>Maximum Maturity</td>
<td>5 years maximum maturity</td>
<td>Complies</td>
</tr>
<tr>
<td></td>
<td>09/30/2015</td>
<td>06/30/2015</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td><strong>Benchmark</strong>*</td>
<td>Portfolio</td>
<td>Portfolio</td>
</tr>
<tr>
<td>Average Maturity (yrs)</td>
<td>2.79</td>
<td>3.44</td>
</tr>
<tr>
<td>Modified Duration</td>
<td>2.64</td>
<td>3.27</td>
</tr>
<tr>
<td>Average Purchase Yield</td>
<td>n/a</td>
<td>1.57 %</td>
</tr>
<tr>
<td>Average Market Yield</td>
<td>1.55 %</td>
<td>1.51 %</td>
</tr>
<tr>
<td>Average Quality**</td>
<td>AA</td>
<td>AA+/Aa1</td>
</tr>
<tr>
<td>Total Market Value</td>
<td>24,269,391</td>
<td>20,103,899</td>
</tr>
</tbody>
</table>

* BAML 1-5 Yr US Corporate Rated AAA-AA Index

** Benchmark is a blended rating of S&P, Moody's, and Fitch. Portfolio is S&P and Moody's respectively.
<table>
<thead>
<tr>
<th>Issue Name</th>
<th>Investment Type</th>
<th>% Portfolio</th>
</tr>
</thead>
<tbody>
<tr>
<td>ChevronTexaco Corp</td>
<td>US Corporate</td>
<td>16.74 %</td>
</tr>
<tr>
<td>Berkshire Hathaway</td>
<td>US Corporate</td>
<td>16.73 %</td>
</tr>
<tr>
<td>Microsoft</td>
<td>US Corporate</td>
<td>16.63 %</td>
</tr>
<tr>
<td>Exxon Mobil Corp</td>
<td>US Corporate</td>
<td>16.58 %</td>
</tr>
<tr>
<td>Apple Inc</td>
<td>US Corporate</td>
<td>16.46 %</td>
</tr>
<tr>
<td>Wal-Mart Stores</td>
<td>US Corporate</td>
<td>8.46 %</td>
</tr>
<tr>
<td>Procter &amp; Gamble Company</td>
<td>US Corporate</td>
<td>8.39 %</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>100.00 %</strong></td>
</tr>
</tbody>
</table>
San Diego County Water Authority
Portfolio Compared to the Benchmark as of September 30, 2015

<table>
<thead>
<tr>
<th>Duration</th>
<th>Portfolio</th>
<th>Benchmark*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 0.25</td>
<td>0.0 %</td>
<td>0.3 %</td>
</tr>
<tr>
<td>0.25 - 0.50</td>
<td>0.0 %</td>
<td>0.0 %</td>
</tr>
<tr>
<td>0.50 - 1</td>
<td>0.0 %</td>
<td>1.6 %</td>
</tr>
<tr>
<td>1 - 2</td>
<td>33.2 %</td>
<td>28.3 %</td>
</tr>
<tr>
<td>2 - 3</td>
<td>50.2 %</td>
<td>31.0 %</td>
</tr>
<tr>
<td>3 - 4</td>
<td>16.6 %</td>
<td>27.3 %</td>
</tr>
<tr>
<td>4 - 5</td>
<td>0.0 %</td>
<td>11.6 %</td>
</tr>
<tr>
<td>5+</td>
<td>0.0 %</td>
<td>0.0 %</td>
</tr>
</tbody>
</table>

* BAML 1-5 Yr US Corporate Rated AAA-AA Index
San Diego County Water Authority

Period Ending

September 30, 2015

Total Rate of Return
Since Inception
February 28, 2015

<table>
<thead>
<tr>
<th>Latest 3 months</th>
<th>Since Inception</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Diego County Water Authority</td>
<td>1.01 %</td>
</tr>
<tr>
<td>BAML 1-5 Yr US Corporate Rated AAA-AA Index</td>
<td>0.71 %</td>
</tr>
</tbody>
</table>

Total rate of return: A measure of a portfolio’s performance over time. It is the internal rate of return, which equates the beginning value of the portfolio with the ending value; it includes interest earnings, realized and unrealized gains and losses in the portfolio.
Bay Delta Conservation Plan/
California WaterFix

Imported Water Committee
October 22, 2015

Presented by:
Larry Purcell, Water Resources Manager
Bay Delta Conservation Plan (BDCP)
What is the BDCP?

- The BDCP is a joint Habitat Conservation Plan/Natural Communities Conservation Plan
  - Composed of 22 conservation measures
  - CM1 is the north delta diversion facility
- Purpose is to satisfy to co–equal goals
  - Ecosystem restoration
  - Water supply reliability
- Uses adaptive management and monitoring to adjust to changed conditions and new information for a 50–year period
Unanswered Questions

1. How big does the project need to be?
2. How much water will San Diego get?
3. How much will it ultimately cost? (current est. is $25B)
4. What is San Diego’s cost obligation?
5. Who is going to commit to pay for it?
6. How will Water Authority ratepayers be protected from paying disproportionate share of costs?
7. Will the costs to San Diego ratepayers negatively impact local supply development?
California WaterFix
What is the California WaterFix?

- Makes physical and operational improvements to water delivery system in Delta
  - Basically same facilities as described in BDCP CM1
- PRDEIR/SEIS released July 10, 2015
- Lead agencies:
  - Department of Water Resources (CEQA)
  - Bureau of Reclamation (NEPA)
- Cooperating/Trustee Agencies:
  - National Marine Fisheries Services and US Fish and Wildlife Service (FESA)
  - CA Fish and Wildlife (CESA)
Key Difference Between BDCP and California WaterFix

- **BDCP (Alternative 4)** is a Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP)
  - 50-year permit assurances via IA
    - ESA permits through federal Section 10 and state Section 2835
    - Large-scale regional habitat restoration and new Delta water delivery infrastructure

- **California Water Fix (Alternative 4A)** is a stand-alone project
  - No long-term permit assurances (year–to–year)
    - ESA permits through federal Section 7 and state Section 2081(b)
    - Includes new Delta water delivery infrastructure and required mitigation, but without the HCP/NCCP components
## ESA Permit Options

<table>
<thead>
<tr>
<th>Section 7/Section 2081 (CA Water Fix)</th>
<th>Section 10/Section 2835 (BDCP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid jeopardy</td>
<td>Contribute to recovery</td>
</tr>
<tr>
<td>Consistent with existing compliance approach (BiOps)</td>
<td>New comprehensive compliance approach (NCCP/HCP)</td>
</tr>
<tr>
<td>Shorter term permit (years)</td>
<td>Longer term permit (decades)</td>
</tr>
<tr>
<td>Listed species only</td>
<td>Listed, unlisted and CA fully protected species</td>
</tr>
<tr>
<td>Limited/No regulatory and water supply assurances</td>
<td>Regulatory and water supply assurances (IA)</td>
</tr>
<tr>
<td>Less contractor involvement</td>
<td>More contractor involvement</td>
</tr>
<tr>
<td>Faster to obtain (months)</td>
<td>Slower to obtain (years)</td>
</tr>
<tr>
<td>Less mitigation</td>
<td>More mitigation</td>
</tr>
</tbody>
</table>
What are the risks of addressing Delta Issues without a NCCP/HCP?

- Future planning and permitting for state and federal listed species on case-by-case basis

- Limited options to allow take of species which are listed or may become listed in the future
  - Safe Harbor Agreements
  - Candidate Conservation Agreements (with assurances)

- Any new species added to endangered or threatened list can result in new permit requirements

- No comprehensive way to stabilize future water supply or contain mitigation costs
What’s Changed since the 2013 BDCP Draft EIR/EIS?

- Introduction of three new sub-alternatives
- Design Modifications to Alternative 4
  - Relocate pumping plants
  - Revise tunnel alignment
- Updated environmental analysis
  - Fish and Aquatic Habitat
  - Water Quality
  - Effects Downstream of the Delta
  - Air Quality Health Risk Assessment, Traffic and Noise
  - Geotechnical Investigations
  - Inclusion of Additional NEPA Determinations
- Estimated capital cost: $14.9 billion (2014$)
Key questions about supply and funding:

1. How does the new permitting framework affect water reliability compared to BDCP?
2. What assurances can be given that water will be available once facilities are constructed?
3. What role do the funding entities play in permit development and operational decision-making?
4. How does project mitigation for the new alternative compare to the old alternative and California Eco Restore?
5. Where is the financing plan to pay for the project?
6. Who is going to commit to pay for it and what happens if one or more agencies drop out?
What’s Next?

- Comment letters on recirculated EIR/EIS due by October 30, 2015
- Staff in process of preparing comment letter
- Lead agencies will consider all comments received – even those made with respect to the originally issued EIR/EIS
- Lead agencies will respond to all comments in writing, incorporated into the Final EIR/EIS
- Final approvals – Record of Decision/Notice of Determination
Colorado River Hydrology

Imported Water Committee
October 22, 2015

Kara Mathews, Colorado River Program
April Outlook

Poor Hydrology:
Snowpack 56% of Average
Runoff 63% of Average

Chance of Shortage:
33% in 2016
75% in 2017

Low Reservoirs:
Lake Mead dropping below 1,075 feet
Chance of Shortage:
- 33% in 2016
- 75% in 2017

May – July
- 3.5 MAF runoff
- Filled Upper Basin reservoirs
- Improved Mead outlook

Low Reservoirs:
Lake Mead dropping below 1,075 feet
## Current Water Supply Outlook

**As of October 19**

<table>
<thead>
<tr>
<th>Current Storage</th>
<th>Percent Full</th>
<th>Volume (MAF)</th>
<th>Elevation (Feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake Powell</td>
<td>51%</td>
<td>12.3</td>
<td>3,606</td>
</tr>
<tr>
<td>Lake Mead</td>
<td>38%</td>
<td>9.9</td>
<td>1,078</td>
</tr>
<tr>
<td><strong>Total System Storage</strong></td>
<td><strong>51%</strong></td>
<td><strong>30.2</strong></td>
<td><strong>-----</strong></td>
</tr>
</tbody>
</table>

| Water Year 2015 Precipitation | 93% of Average |
| Water Year 2015 Runoff into Powell | 10.2 MAF |
|                               | 94% of Average |
Reservoir Operations

Lake Mead Elevations

August 2015 Projections

9.0 MAF is most probable release volume from Lake Powell in 2016
## Probability of Lower Basin Shortage

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>April Projections</strong></td>
<td>33%</td>
<td>75%</td>
<td>74%</td>
<td>70%</td>
<td>66%</td>
</tr>
<tr>
<td><strong>August Projections</strong></td>
<td>0%</td>
<td>18%</td>
<td>52%</td>
<td>65%</td>
<td>59%</td>
</tr>
</tbody>
</table>

Reductions under 1\textsuperscript{st} shortage trigger in Lake Mead at 1,075’

- **No Cut**
  - Arizona: 320,000 AF (11%)
  - Nevada: 13,000 AF (4%)
  - Mexico: 50,000 AF (3.5%)
2016 Outlook

Initial Lake Powell Release of 8.23 MAF

April increase to 9.0 MAF

No chance of Lower Basin shortage

Also not likely in 2017

Weather Forecast

El Niño?
Mitigated Negative Declaration for the Proposed Pipeline 4 Relining Project at Lake Murray

Water Planning Committee
October 22, 2015

Presented by: Mark Tegio, Senior Water Resources Specialist
Project Components/Objectives

- Rehabilitate Pipeline 4 to ensure a safe and reliable water supply
- Extends service life by 75 years
Environmental Impacts

- Temporary impacts to biological resources, and residents (noise).
- All identified impacts will be mitigated through adoption of Mitigation Monitoring & Reporting Program.
Public Comment

- No oral comments at the September 24, 2015 public hearing
- No written comment letters received during public review
- Consultation with Viejas Band pursuant to AB52
  - Focused on cultural sensitivity of project area
  - Measure to prepare cultural monitoring and recovery plan added to MMRP
Staff Recommendation

It is recommended the Board adopt a Resolution that:

• Finds that the project will not have a significant effect on the environment;
• Adopts the Final Mitigated Negative Declaration;
• Adopts the Mitigation Monitoring and Reporting Program;
• Approves the Pipeline 4 Relining at Lake Murray Project; and
• Authorizes filing a Notice of Determination.
Update on Supply Conditions and Drought Response Activities

Source: NASA, October 2015

Water Planning Committee
October 22, 2015 Meeting

Presentation by:
Alexi Schnell, Water Resources Specialist
Dana Friehauf, Water Resources Manager
October 2015 - El Niño Advisory

- Issued when El Niño conditions are observed and expected to continue
- +95% chance El Niño will continue through winter and gradually weaken through spring 2016
Current El Niño is Tracking Consistent with Previous Strong Events

[Graph showing sea surface temperature departure from normal for two years, 1997 and 2015, with a box highlighting 'Very Strong El Niño' in 1997 and another line for 'Average Temperature']
California Precipitation Can Vary in Strong El Niño Years

PRISM, Oregon State University
National Weather Service Precipitation Outlook

November - January

December - February

January - March

A = Above Average  B = Below Average  EC = Equal Chances

Made October 15, 2015
National Weather Service Temperature Outlook

November - January

December - February

January - March

A = Above Average  B = Below Average  EC = Equal Chances

Made October 15, 2015
### SWRCB Emergency Regulation Member Agency Conservation Conservation (June - August 2015)

<table>
<thead>
<tr>
<th>Agency</th>
<th>Conservation standard</th>
<th>Conservation achieved toward designated standard</th>
<th>Percent achieved above conservation standard</th>
<th>Percent below conservation standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carlsbad</td>
<td>+16%</td>
<td>-8%</td>
<td>+16%</td>
<td>-8%</td>
</tr>
<tr>
<td>Escondido PUD</td>
<td>+14%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fallbrook PUD</td>
<td>+4%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lakeside WD</td>
<td>-1%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oceanside</td>
<td>+14%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Otay WD</td>
<td>+9%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Padre Dam MWD</td>
<td>+8%</td>
<td></td>
<td></td>
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<tr>
<td>Poway</td>
<td>-8%</td>
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<td></td>
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</tr>
<tr>
<td>Rainbow MWD</td>
<td>+6%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Ramona MWD</td>
<td>+1%</td>
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<tr>
<td>Rincon del Diablo MWD</td>
<td>+11%</td>
<td></td>
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<tr>
<td>San Diego</td>
<td>-6%</td>
<td></td>
<td></td>
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<tr>
<td>San Dieguito WD</td>
<td>+14%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Santa Fe ID</td>
<td>+10%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweetwater Authority</td>
<td>+14%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Valllecitos WD</td>
<td>+7%</td>
<td></td>
<td></td>
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<tr>
<td>Valley Center MWD</td>
<td>+10%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Vista ID</td>
<td>+10%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: SWRCB Conservation Reporting Data
Total Potable M&I Water Use
State Emergency Regulation Reporting Months

Cumulative June - September 2015 is 27% lower than 2013

Source: Member Agency monthly water use reporting to the Water Authority
Update on SWRCB Emergency Regulations

- As part of adoption of regulations, State Water Board agreed to form workgroup to address unresolved issues
  - e.g. investments in drought-resilient supplies

- Next workgroup meeting October 26, 2015

- Provide stakeholders an opportunity to present potential modifications to existing emergency regulations
  - Growth, climate, recycled water
  - Groundwater
  - Regional approach
  - Sustainable supplies