



Sewer Authority Mid-Coastside

**SAM**

# Recycled Water Facilities Study Update

**Board Meeting  
June 29, 2015**

# Background and Purpose

SAM, in cooperation with CCWD, developed the Recycled Water Project (RWP) to:

- Utilize its WWTP effluent for beneficial use; and
- Secure irrigation water supply for Ocean Colony Golf Courses (OCGC).

# Coastside RWP History

- Recent History: 2005-2010, various studies by SAM and CCWD
- Critical New Developments
  - **Recycled Water Committee** has made significant progress in the RWP development
  - **OCGC** is interested in being RW user
  - **CCWD** is interested in being RW distributor
  - New Grant and Low-Interest Loan Funding



# RWP 2015 Update Goals

- Update the 2010 recommended RWP, including:
  - Project description and cost estimate;
  - Implementation schedule;
- Develop a plan to produce RW by ***March 1, 2016***

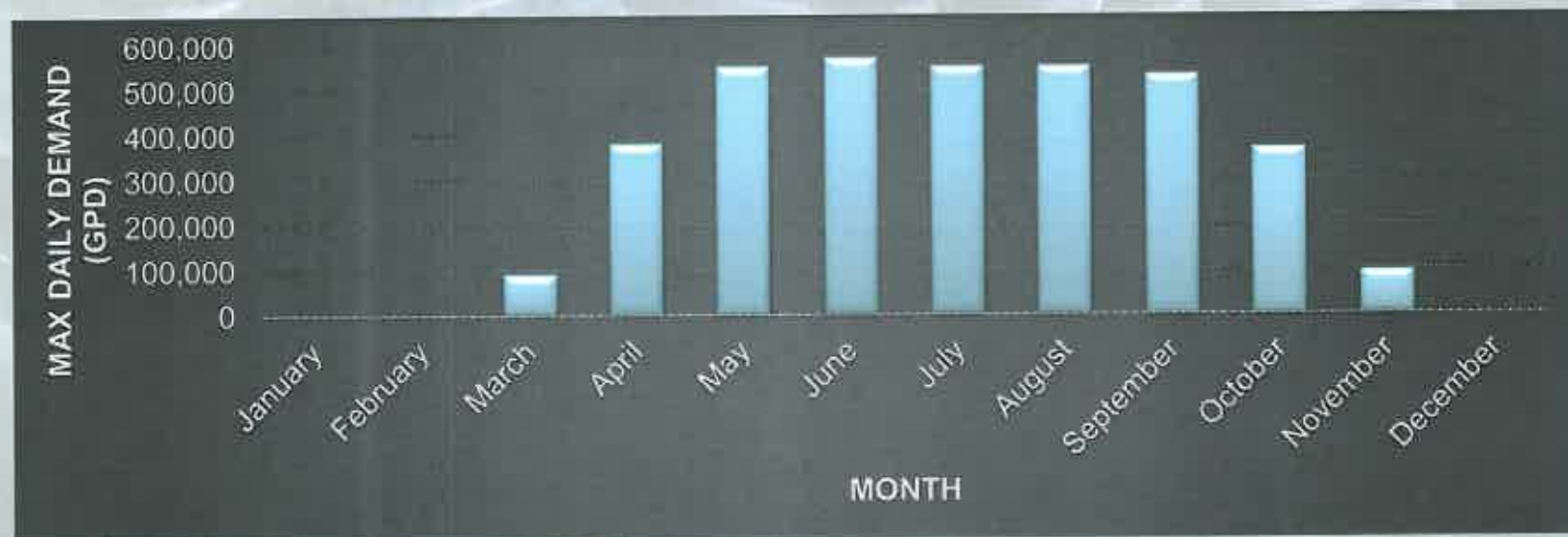
# 2015 Update Key Assumptions

- RW Producer: SAM
- RW Distributor: CCWD
- RW Customer: OCGC
- RW Storage: Utilize Existing
- Treatment Process: Micro/Ultrafiltration & UV disinfection



# OCGC Current Demand

- ADD: 550,000 gal/day (347 acre-feet per year)
- MDD: 800,000 gal/day (unchanged from 2010 Study)



**OCGC confirmed interest in receiving 300 AFY RW**



# OCGC Water Conservation Efforts

- Reduced annual irrigation demand by 30% since 2009
- Expects an additional 9% reduction implemented in 2015



# RWP Treatment Goals

- Produce reliable RW supply that satisfies OCGC demands and water quality parameters;
- Produce Title 22 tertiary unrestricted use RW that is required for irrigation.



# Recycled Water Quality Criteria

- Title 22 tertiary unrestricted use

Parameter (units)	Limit
<b>Total Coliform (MPN/100 mL)</b>	240, max
	23, max in 30 consecutive days
	2.2, median in 7 consecutive days
<b>Turbidity (NTU)</b>	10, max
	5, max 5% of time
	2, max daily average
<b>Disinfection (% removal)</b>	99.999% min removal of bacteriophage MS2 and poliovirus

- OCGC water quality criteria

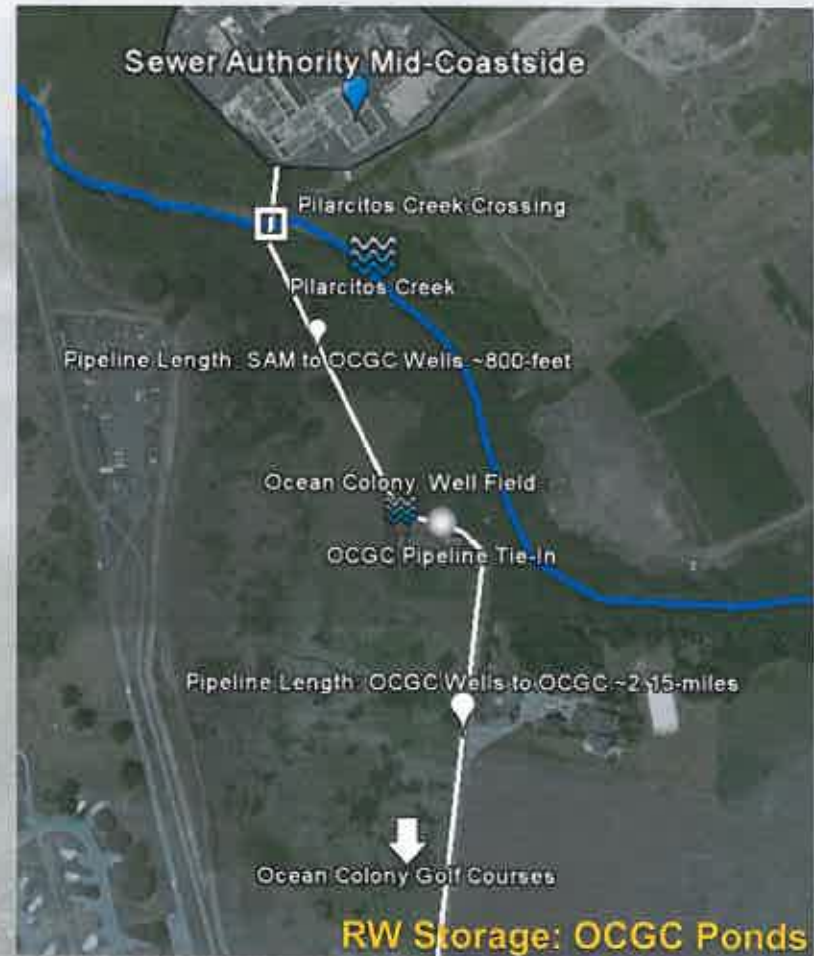
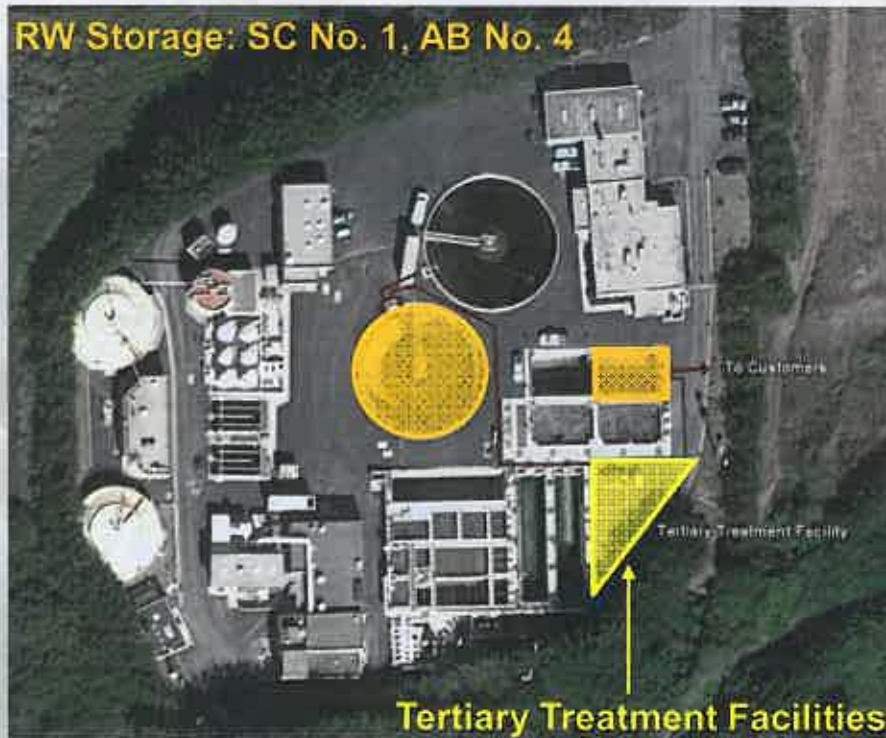
Parameter (units)	Limit
<b>Acceptable pH Range</b>	6.5 - 7.5
<b>TDS (mg/L)</b>	≤ 700
<b>Electrical Conductivity (dSM)</b>	≤ 1.1
<b>Boron (mg/L)</b>	≤ 1.0
<b>Chloride (mg/L)</b>	≤ 100
<b>Sodium (mg/L)</b>	≤ 70
<b>Adjusted Sodium Adsorption Rate (aSAR)</b>	≤ 3.0
<b>Bicarbonate, HCO<sub>3</sub><sup>-</sup> (mg/L)</b>	≤ 250



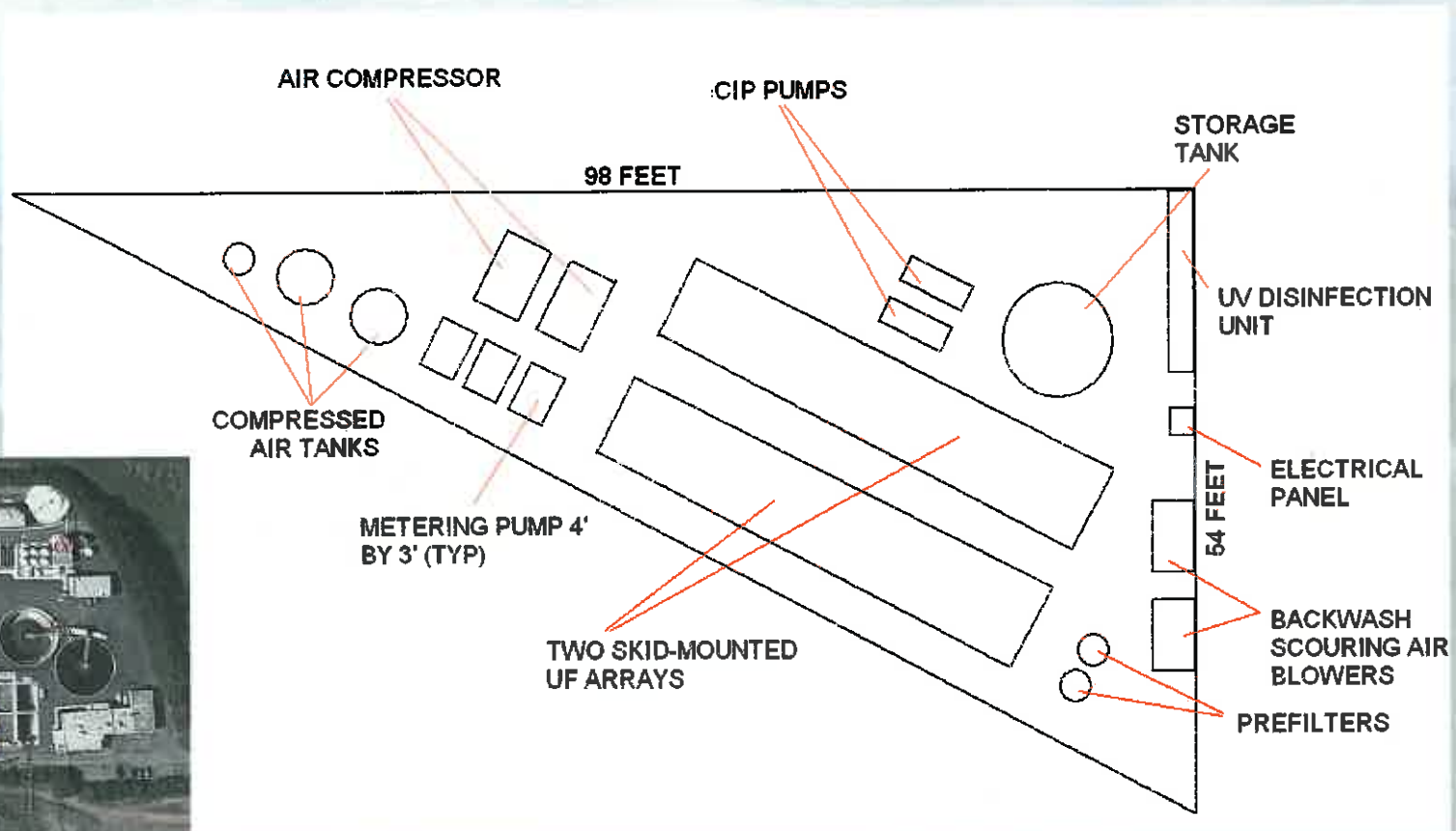
# RWP Design Assumptions

- 0.8 MGD capacity to address OCGC peak-day demand
- Treatment:
  - Inside-Out Polyethersulfone (PES) fiber membranes – newer, more robust and less energy intensive with 100% redundancy
  - UV disinfection
- Storage: existing at SAM and OCGC
- Transmission Pipeline: combination of existing OCGC and new CCWD

# 0.8 MGD RWP



# 0.8 MGD RWP Site Plan



~ 3,000 ft<sup>2</sup> footprint



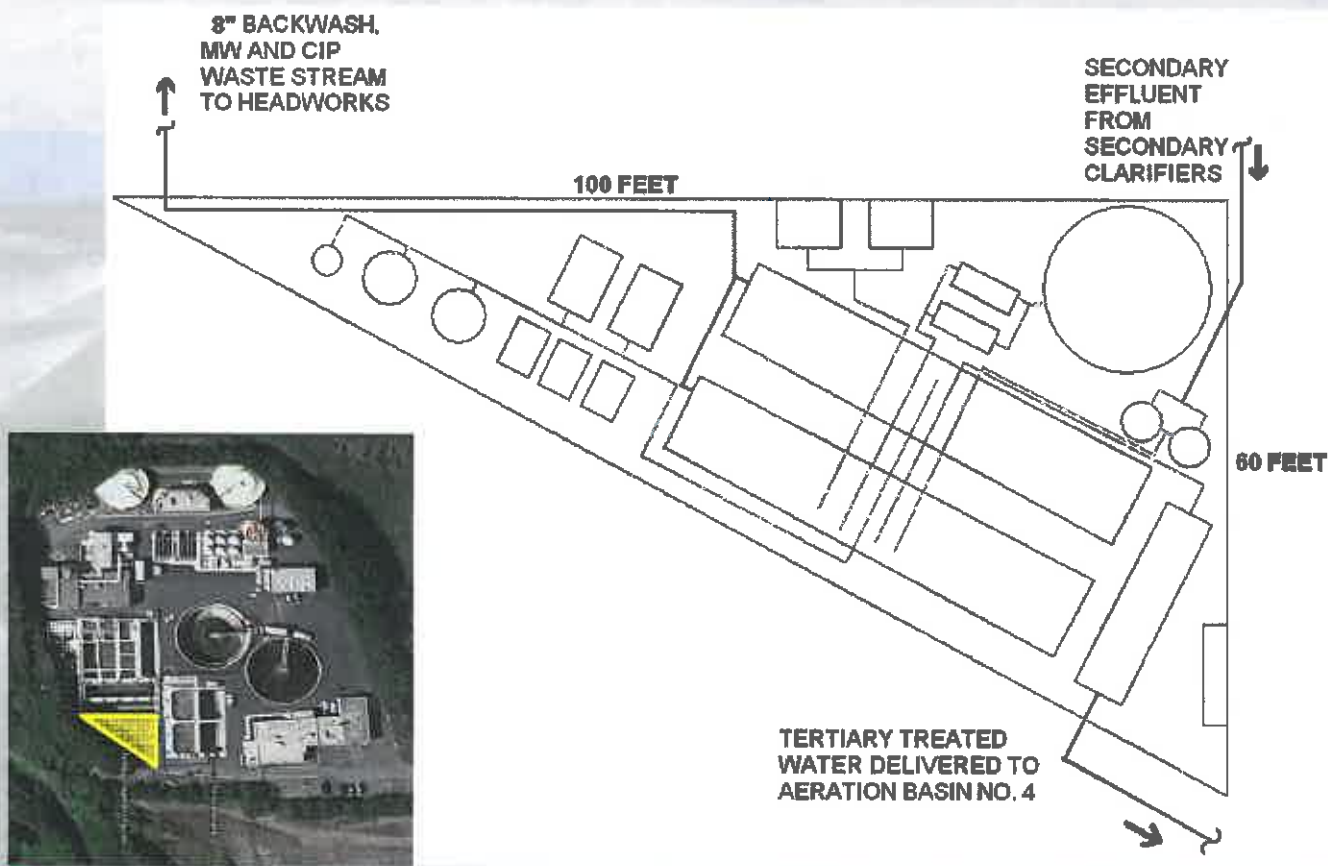
**S R T**  
consultants

June 29, 2015

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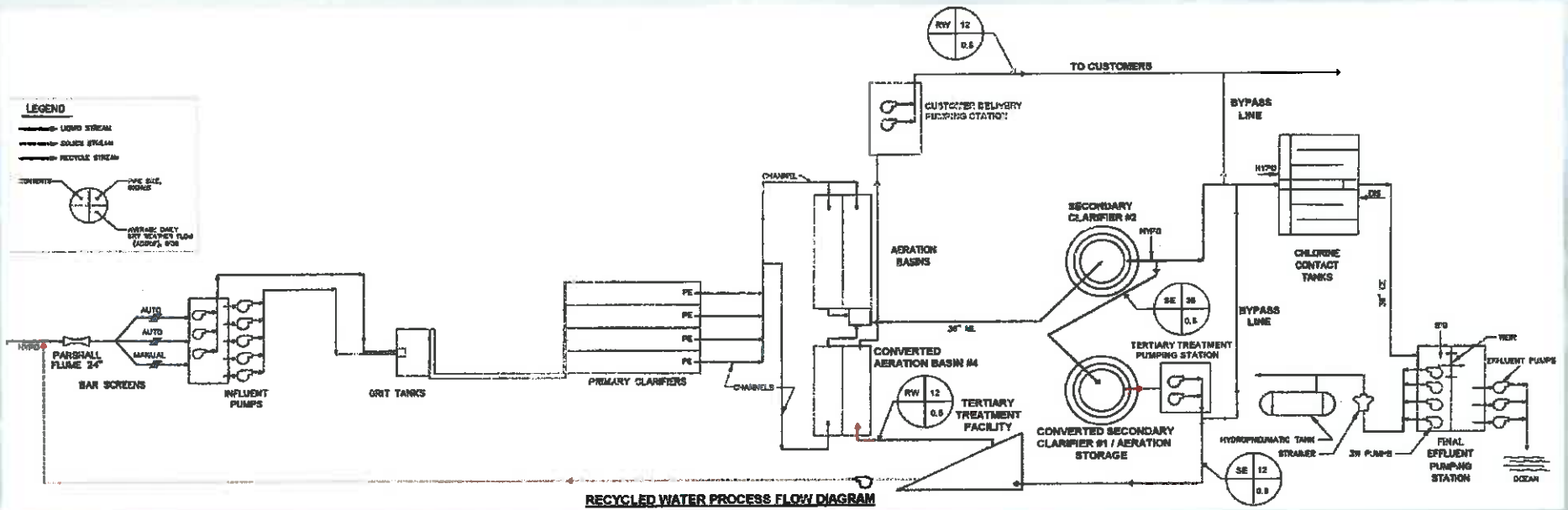
# 0.8 MGD RWP Piping Layout



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# 0.8 MGD RW-1 Process Flow Diagram



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# RWP Transmission Line



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# RWP Cost Estimate Basis

- 300 AFY sales to OCP over 30-40 years
- 25% estimating contingency
- 40% markup for legal, administrative, design, and project management costs
- Based on the highest of 11 Title 22-certified manufacturers' quotes
- O&M costs include purchased power, maintenance, chemicals, and labor





# RWP Cost Analysis

- RWP Present-Worth Cost Range  
**\$2.8M - \$4.6M**
- Unit Cost Range  
**\$1,624/AF - 1,908/AF**
- Financing Basis
  - Range of 3% to 6% financing, and
  - Range of 30-year to 40-year financing



# Next Steps

- Develop SAM/CCWD RW Agreement
- Secure RW Market Assurances
  - End-User Contract - CCWD/OCGC
  - Mandatory Use Ordinance – CCWD
- Initiate Permitting: CEQA, LCP, State Water Board, other resource agencies

# Next Steps (cont.)

- Submit RWP Project to the SWRCB's Project List
- Develop a financing plan
- Hold public meetings and workshops to inform community about RWP and solicit input
- Design and construct facilities

# Implementation Plan Assumptions

- The following activities will be concurrent:
  - Permitting
  - SAM/CCWD/OCP coordination and contract negotiations
  - Financing plan development
- SAM is aiming to produce recycled water by March 1, 2016

# New Development: SB 88 - passed June 19, 2015

- SB 88 exempts a project from CEQA if it:
  - Mitigates drought conditions;
  - Is for construction or expansion of a RW pipeline, and any directly related infrastructure within existing right-of-way that does not impact wetlands or sensitive habitat and where construction impacts are fully mitigated;
  - or certain projects related to groundwater replenishment.
- Exemption expires January 1, 2017 or when state of emergency due to drought expires



# Implementation Milestones

- SAM Board approves CEQA Exemption for the RWP Treatment – **07/27/15\***
- Exemption posted for 30 days by County
- SAM Board authorizes staff to issue an RFP to procure a turn-key contractor to install the RWP Treatment – **07/27/15\***

*\* or sooner, if possible*



# Implementation Milestones (cont.)

- File for a CDX with the City **September 2015**
- Issue turn-key contractor RFP **08/01/15**
- Bid opening at SAM **10/02/15**
- Board award of turn-key contract **10/26/15**
- Notice to proceed to contractor **11/16/15**
- RW treatment startup **03/01/16**



# Summary

- Significant previously completed work would assist to expedite RWP
- New legislature (SB 88 and others) would help expedite environmental review and permitting
- Inter-agency and customer coordination is key to success